J Bowers

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file 95

Cyprus Anvil Mining Corporation

Post Office Box 1000
Faro, Yukon Territory
Y0B 1K0
Telephone 403) 994-2600

Telex 036-8-208

May 10, 1985

P.J. Savoie
Head, Land Use Section
Dept. Indian and Northern Affairs
200 Range Road
Whitehorse, Yukon
Y1A 3V1

Dear Sir;

Re: Land Use Permit YA1D913
Deferral of Reclamation

Please consider our request to defer the reclamation of the Tantalus Butte open pit coal workings for an additional two years. Your letter of November 2, 1983 had specified July 15, 1985 as the completion date.

Our reasons for this request are two-fold. First, the reclamation plan approved by your office calls for backfilling the mined out phases using the waste rock to be stripped during the next session of mining. Backfilling before the coal is recovered would result in loss of the coal. Phases two and three are currently exposed and are ready for the final year of mining. Secondly, upon resumption of operations at Faro the coal remaining at Carmacks would likely be required. It would be more logical to finish the reclamation once the coal has been recovered.

Presently Cyprus Anvil Mining Corporation is not in a position to say just when operations at Faro might resume. Because of this we feel an additional two years would provide a sufficient time frame for resolution of some of the problems we now face.

Cyprus Anvil Mining Corporation does recognize its obligation for completing the reclamation agreed to at the Tantalus Butte - Carmacks property and is committed to doing so. Once a decision has been made concerning future operations the company will be in a better position to advise D.I.A.N.D. - Land Use of its intentions.

Please feel free to contact myself if further clarification is necessary.

Sincerely,
Cyprus Anvil Mining Corporation

M.J. Nicholson
Manager of Operations

cc N. Cornish
D. Hogan
G. Webster

CYPRUS

cc Gary Webster / N Carmack [redacted] for information Mike

Indian and Northern Affairs Canada / Affaires indiennes et du Nord Canada

LAND USE SECTION
200 Range Road
Whitehorse, Yukon
Y1A 3V1

Your file / Votre référence

May 30, 1985

Our file / Notre référence

M.J. Nicholson
Manager of Operations
Cyprus Anvil Mining Corporation
P.O. Box 1000
Faro, Yukon
Y0B 1K0

YA1D913

Dear Sir:

Re: Deferral of Reclamation
Land Use Permit YA1D913

Thank you for your letter of the 10 May 1985 requesting deferral of reclamation at Tantalus Butte Coal Mine. We have reviewed and discussed your request.

Based on the company's recognition of reclamation responsibilities and the current uncertainty of the future of Cyprus Anvil we have decided to extend deferral of reclamation for a period of up to two years to 15 July 1987. However, should the uncertainty of the current situation change we ask that Cyprus Anvil advise us immediately of their intentions.

Furthermore should the mine recommence operations and coal be required the remaining coal obtainable from Tantalus Butte should be mined prior to opening up any additional new deposits.

Should you wish to discuss this action please contact the undersigned.

Yours truly,

P.J. Savoie
Head, Land Use

cc - R.M.F.O.
- R.M.O., Carmacks

PJS/mm

Canada

Indian and Northern Affairs Canada
Affaires indiennes et du Nord Canada

LAND USE SECTION
200 Range Road
Whitehorse, Yukon
Y1A 3V1

Your file Votre référence

Our file Notre référence Curragh Resources - General

March 9, 1987

Curragh Resources
117 Industrial Road
Whitehorse, Yukon
Y1A 2T8

Attention: Marvin Pelly
Vice President, Transportation and Engineering

Dear Sir:

Re: Open pit coal mine and road
Coal Lease 2959, Tantalus Butte, Carmacks

I have cancelled expired Land Use Permit YA1D913 issued to Cyprus Anvil Mining Corp. to cover the open pit coal mining operation on Coal Lease 2959 which has subsequently been transferred to Curragh Resources.

Cyprus Anvil carried out some reclamation work and was given approval to defer the remainder until all mineable coal had been removed. They ceased operations before all mineable coal had been removed. The remaining reclamation consists of:

1) Spreading a layer of till over the disturbed land and applying an acceptable seed mixture and fertilizer to restore vegetative cover.

2) Construct off-take ditches along part of the road to retard excessive erosion.

3) Fell leaners along the road and around the perimeter of the mine site.

The point I want to make is Curragh Resources will need a land use permit prior to undertaking any coal mining operation on Coal Lease 2959. If and when Curragh Resources do apply for a Permit, reclamation of the disturbed land will be a subject of negotiation.

If you have any questions about this matter please call me at 667-3173.

Yours truly,

J.B. Ballantyne
Head, Land Use

cc - R.M.F.O.
- R.M.O., Carmacks
EJB/mm

Canada

DRAFT COPY

CYPRUS ANVIL MINING CORPORATION

CARMACKS COAL PROJECT

RECLAMATION PLAN

Prepared for:

John Purkis, Chief Engineer

Cyprus Anvil Mining Corporation

Prepared by:

John Bowers, Mine Engineer

Cyprus Anvil Mining Corporation

September, 1981

SUMMARY

Reclamation costs are a direct cost of mining, to be accounted for when developing any orebody. Planning a mine with reclamation as a guideline instead of an afterthought will, undoubtedly, lower the ultimate mining cost per tonne.

Direct reclamation costs for Carmacks are estimated at $193,250.00, or $1.87 per tonne of coal delivered to Faro. An estimated 19 acres can be reclaimed at a cost of $10,170.00 per acre.

The reclamation carried out at Carmacks will be our first effort at reclaiming an abandoned mine site, and a first for the Yukon as well. The experience gained at the conclusion of the Carmacks reclamation project will undoubtedly be of value in refining our Faro property abandonment plan.

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1. INTRODUCTION

We at Cyprus Anvil recognize the importance of reclamation, and acknowledge its being an integral part of the act of mining. The mine plan in operation at the Carmacks project was conceived with the reclamation of disturbed land as one of the limiting factors.

A total of 25.5 acres were disturbed during the past four years by active mining, of which 18.8 acres, or 74% of all disturbed land is deemed reclaimable.

The reclamation plan put forth proposes to reclaim the disturbed land in four stages. The first stage includes the 1979 and 1980 waste dumps, which will be re-covered with till and contoured before the completion of this year's project. Seeding and fertilizing will be conducted in spring and fall sessions of 1982.

The remaining three stages will be back-filled, re-covered with till, and contoured during the final year of the mine project. Seeding and fertilizing would commence the following spring. Fertilizing, and if need be, re-seeding, would be continued for three years to ensure sufficient vascular cover has been re-established.

2. GENERAL RECLAMATION PLAN

A total of fifty to sixty thousand tonnes of coal will have been recovered by mining the north extension of the Carmacks coal, which required the movement of five hundred thousand cubic yards of waste material.

The surface till, including vascular cover, soils, and sub-soils, was removed down to bedrock and stockpiled in strategic locations for future reclamation use.

Waste rock management was handled in such a way as to provide backfilling for those areas deemed to be mined to their lowest foreseeable economic depth, by surface mining methods. The nature of the coal seam lends itself to the partial restoration of disturbed land, however, mine sequencing, techniques, and other economic factors make it unfeasible to achieve similar topography to that which existed prior to the beginning of mining operations.

Table I indicates the volumes and percent distribution of materials removed and/or relocated from/to each pit or waste dump. The net area totals reflect net gains or losses versus percent variance of each area's volume change.

2.1 RECLAMATION IN STAGES:

After an area or stage of backfilling a mined phase or waste dump is completed, a two foot cover of till is placed as a suitable host to re-establish a vegetative cover. Re-establishing this cover early will limit water and wind erosion and reduce fugitive dust levels from exposed rock and till areas. For this purpose, the following stages of reclamation are recommended.

2.1.1 Stage One - 1979 and 1980 Waste Dumps:

Both the 1979 and 1980 waste dumps will be covered with till, contoured, and ready for re-seeding before this year's project is completed. The prescribed seed mix and fertilizer application rates (see Table II) will be applied at the earliest practical time, the following spring. A second application of fertilizer, and if need be, re-seeding, will be applied later that summer or fall, depending upon the vigor of the new growth. Fertilizer will be applied in decreasing amounts once each year for two years thereafter.

2.1.2 Stages Two, Three and Four:

Following the final year of coal mining at Carmacks, proposed reclamation of the remaining disturbed areas can begin. The first phase waste rock is scheduled to be used as backfill for the 1978-79 pit. Once Phase One mining is completed, a till cover can be placed over the backfilled portion of the 1978-79 pit (see Figure I).

Waste rock from Phase Two is then used as backfill in Phase One and filled to the 2,600 foot elevation, and a till cover placed over that portion of the completed mine. The hanging wall is left as an apparent "natural cliff" and the foot wall is to slope east and upward at a 2:1 slope. This slope is included in the reclaimed portion and contour tillage will be used to retard soil erosion until a vegetative cover is established (see Figure 2).

Phase Two is proposed as the fourth and final stage of reclamation. Waste rock from Phase Three will be backfilled to the 2,600 foot elevation up to Section 613,600N and sloped downward at ten percent grade to the 614,100N Section. Backfill from that section will be left at the angle of repose, connecting with the southern end of the Phase Three pit. The hanging wall of the reclaimed Phase Two will be similar to that of Phase One. Portions of the Phase Two foot wall will remain intact, while the southern and northern extremities will slope up and eastward from the pit at a maximum of a 2:1 slope (see Figure 3).

Phase Three will not be backfilled or reclaimed. Its access will be blocked at completion and a barrier fence erected around its perimeter (see Figure 4).

FIGURE I TYPICAL 1978-79 MID-OPEN PIT CROSS SECTION

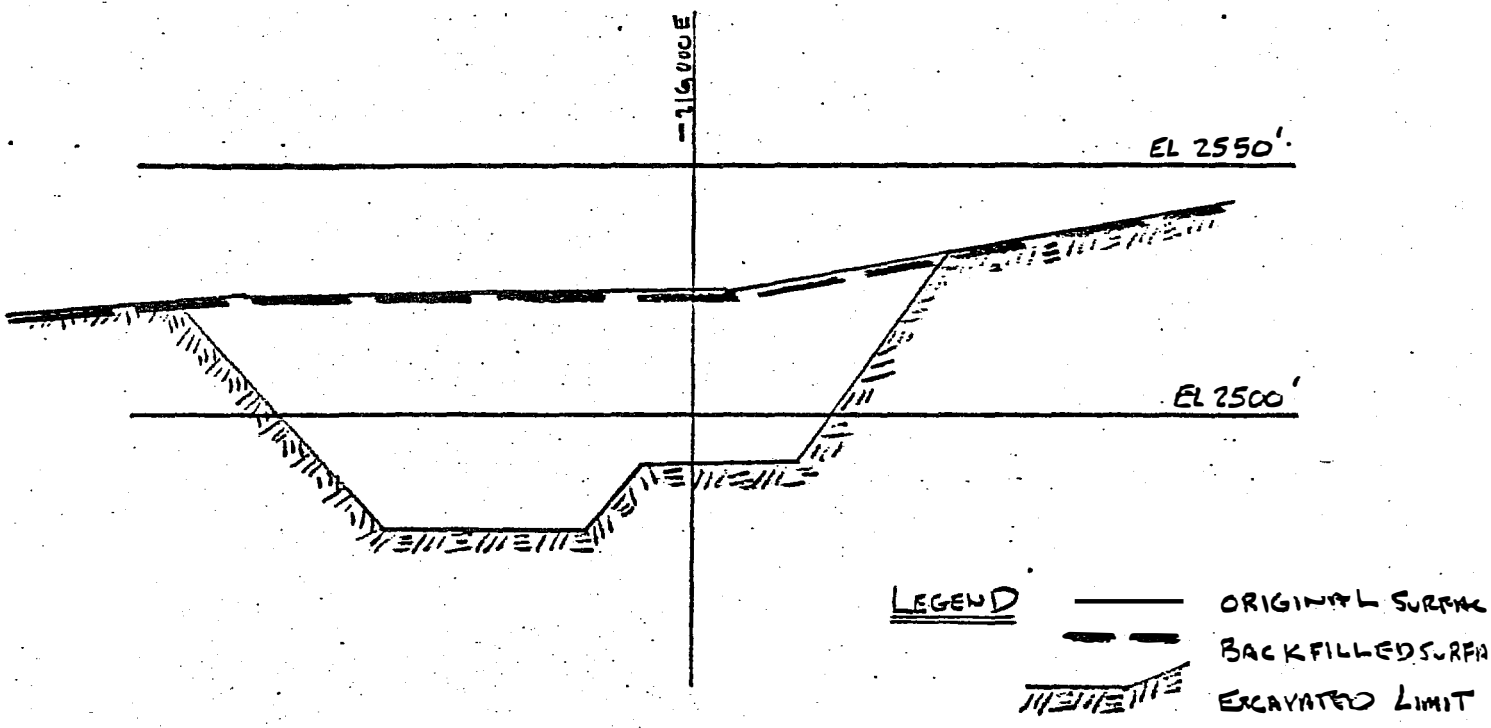


FIGURE II TYPICAL MID PHASE ONE CROSS SECTION

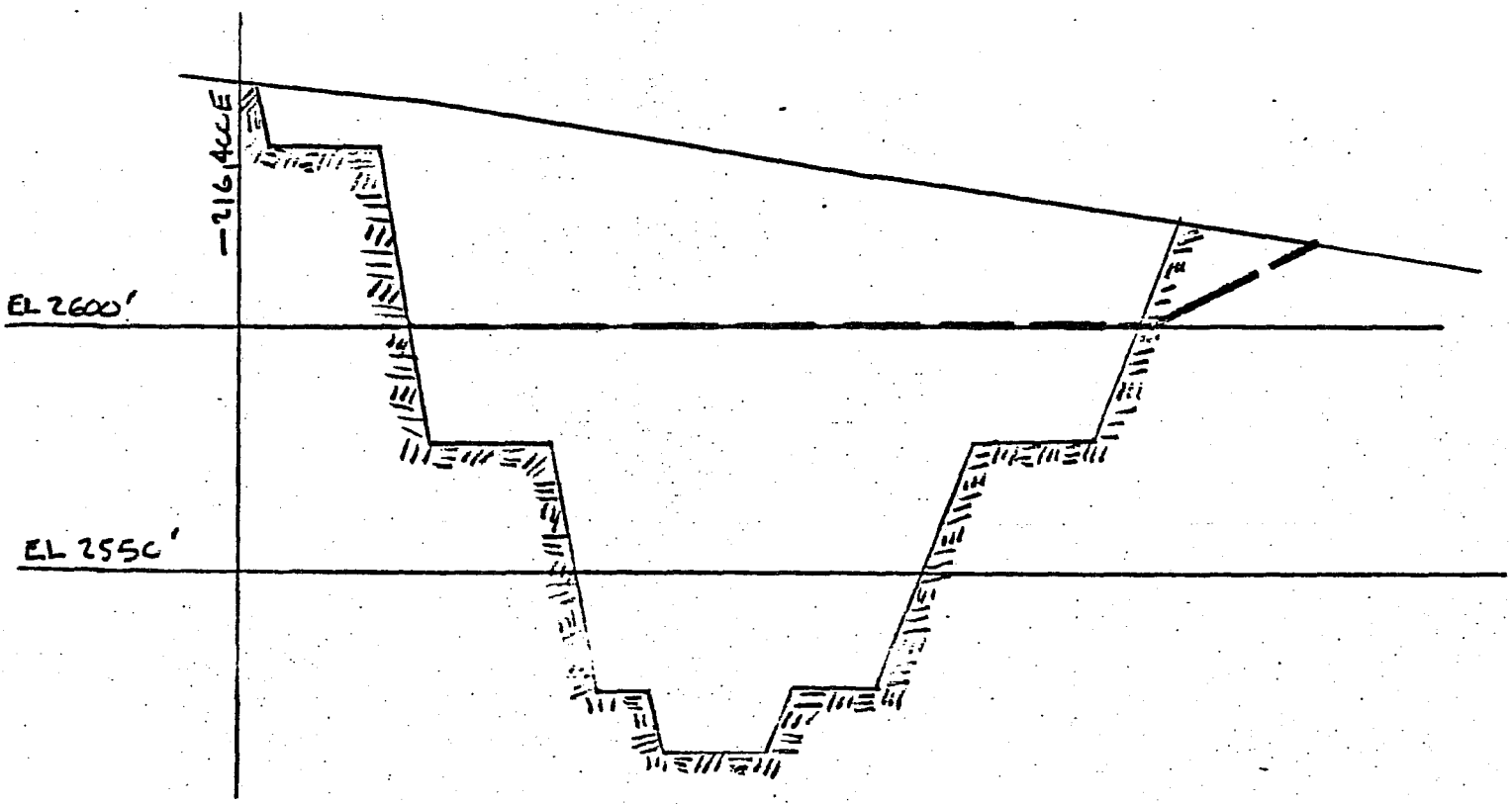


FIGURE III TYPICAL MID PHASE TWO CROSS SECTION

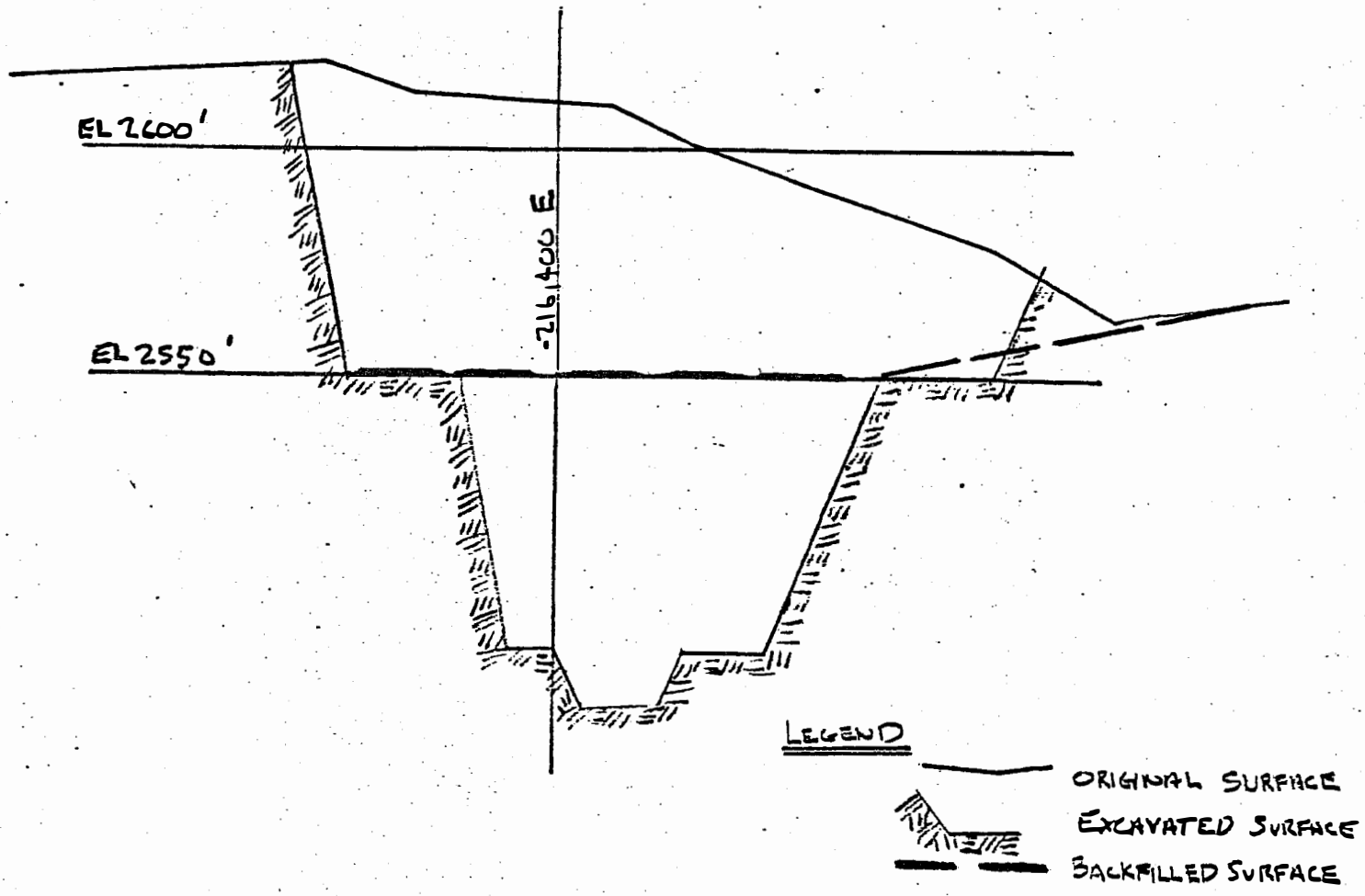
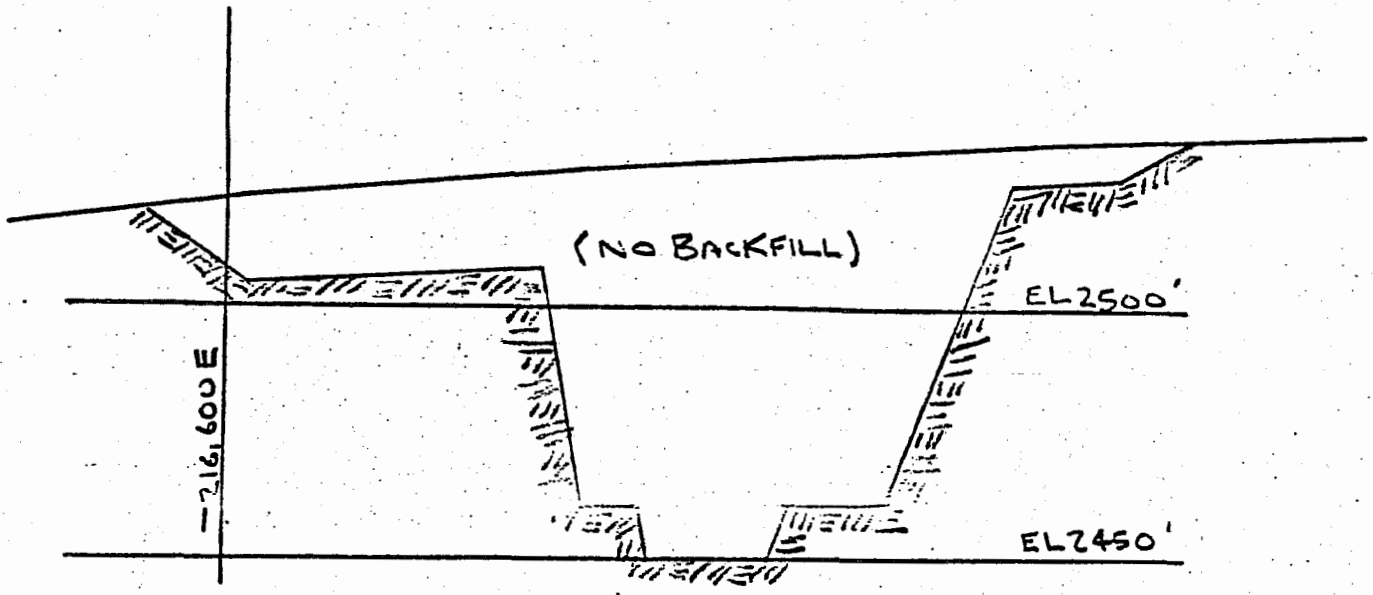


FIGURE IV TYPICAL MID PHASE THREE CROSS SECTION



3. REVEGETATION

The soils and sub-soils found within the scope of the project area are of a light, silty nature, with limited characteristics visible to distinguish one soil horizon from another. This type of soil tends to be low in nitrogen, phosphorous, and potash, as well as being slightly acidic. Where the till depth was greater than four feet, permafrost is usually encountered.

All possible surface till was salvaged as topsoil, mixed with surface trash cover (containing some ecotype seed), and stockpiled for future use. The contained seed should remain dormant until the soils are re-spread and a proper mixture of temperature, moisture, and nutrients occur for germination to take place.

A ten metre x ten metre naturally re-established test plot near the project area contained some fifteen different species of vegetation (Foothills Pipelines - 1980), including seven different kinds of grasses. Five agronomic cultivar grasses of northern variety, similar to native species found within the test plot, along with a Yukon variety of yellow sweet clover will be seeded in the reclaimed stages (see Table II).

A complete fertilizer, 14-14-7, will initially be applied to each stage at a rate of 25 lb./acre following the spring seeding, and again in the summer or fall, depending on plant vigor. Fertilizer applications of 20 lb./acre and 15 lb./acre will be applied each successive spring.

TABLE II

PROPOSED SEED MIXTURES

(Alberta Farm Guide - 1976)

Kind	Variety	Application Rate
Creeping Red Fescue	Boreal or Arctared	3 lb./acre
Crested Wheatgrass	Fairway	2 lb./acre
Intermediate Wheatgrass	Chief	2 lb./acre
Slender Wheatgrass	Revenue	2 lb./acre
Kentucky Bluegrass	(to be decided)	2 lb./acre
Yellow Sweet Clover	Yukon	6 lb./acre