

ENVIRONMENTAL ASSESSMENT COVER SHEET

DS-251

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APR 24 1992

ENVIRONMENTAL  
QUALITY COUNCIL

APPLICANT Montana Department of State Lands, Southwestern Land Office

TYPE OF OPERATION Timber Harvest, Game Range Salvage Sale, 690 acres

LOCATION Sections 23, 24, 25 and 26; Township 15N; Range 14W

PERSON PREPARING EA Robert Ethridge *RE* ( ) DRAFT EIS  
(X) NO DRAFT EIS

DATE PREPARED February 26, 1992 EXPECTED IMPLEMENTATION DATE June 15, 1992

REVIEWED BY *[Signature]* RECOMMENDATION ( ) DRAFT EIS  
(X) NO DRAFT EIS

REVIEWED BY *[Signature]* RECOMMENDATION ( ) DRAFT EIS  
(X) NO DRAFT EIS

REVIEWED BY *[Signature]* RECOMMENDATION ( ) DRAFT EIS  
(X) NO DRAFT EIS

ADMINISTRATOR'S SIGNATURE *[Signature]* RECOMMENDATION ( ) DRAFT EIS  
(X) NO DRAFT EIS

SUMMARY OF POTENTIAL IMPACTS

| PHYSICAL ENVIRONMENT                              | SIGNIFICANT |           | INSIGNIFICANT WITH MITIGATION |           | INSIGNIFICANT AS PROPOSED |           |
|---|-------------|-----------|-------------------------------|-----------|---------------------------|-----------|
|   | SHORT TERM  | LONG TERM | SHORT TERM                    | LONG TERM | SHORT TERM                | LONG TERM |
| 1. <u>TOPOGRAPHY</u>                              |             |           |                               |           | X                         | X         |
| 2. <u>GEOLOGY</u> : stability                     |             |           |                               |           | X                         | X         |
| 3. <u>SOILS</u> : Quality, distribution           |             |           | (See Soils Report)            |           | X                         | X         |
| 4. <u>WATER</u> : Quality, quantity, distribution |             |           | (See Hydrology Report)        |           | X                         | X         |
| 5. <u>AIR</u> : Quality                           |             |           |                               |           | X                         | X         |

PHYSICAL ENVIRONMENT (continued)

SIGNIFICANT

INSIGNIFICANT WITH MITIGATION

INSIGNIFICANT AS PROPOSED

|   | SHORT TERM | LONG TERM | SHORT TERM | LONG TERM | SHORT TERM | LONG TERM |
|---|------------|-----------|------------|-----------|------------|-----------|
| 6. <u>UNIQUE, ENDANGERED, FRAGILE, or LIMITED</u> environmental resources |            |           |            |           | X          | X         |

BIOLOGICAL ENVIRONMENT

|  |  |  |                                   |  |   |   |
|--|--|--|-----------------------------------|--|---|---|
| 1. <u>TERRESTRIAL, AVIAN, and AQUATIC</u> ; species and habitats |  |  | (See Wildlife Report)             |  | X | X |
| 2. <u>VEGETATION</u> ; quantity, quality, species                |  |  | (See Silvicultural Prescriptions) |  | X | X |
| 3. <u>AGRICULTURE</u> ; grazing, crops, production               |  |  |                                   |  | X | X |

HUMAN ENVIRONMENT

|  |  |  |  |  |   |   |
|--|--|--|--|--|---|---|
| 1. <u>SOCIAL</u> ; structures and more           |  |  |  |  | X | X |
| 2. <u>CULTURAL</u> ; uniqueness, diversity       |  |  |  |  | X | X |
| 3. <u>POPULATION</u> ; quantity and distribution |  |  |  |  | X | X |
| 4. <u>HOUSING</u> ; quantity and distribution    |  |  |  |  | X | X |
| 5. <u>HUMAN HEALTH &amp; SAFETY</u>              |  |  |  |  | X | X |
| 6. <u>COMMUNITY AND PERSONAL INCOME</u>          |  |  |  |  | X | X |

| HUMAN ENVIRONMENT (continued)   | SIGNIFICANT |           | INSIGNIFICANT WITH MITIGATION |           | INSIGNIFICANT AS PROPOSED |           |
|---|-------------|-----------|-------------------------------|-----------|---------------------------|-----------|
|   | SHORT TERM  | LONG TERM | SHORT TERM                    | LONG TERM | SHORT TERM                | LONG TERM |
| 7. <u>EMPLOYMENT</u> ; quantity and distribution                                    |             |           |                               |           | X                         | X         |
| 8. <u>TAX BASE</u> ; local and state revenue  |             |           |                               |           | X                         | X         |
| 9. <u>GOVERNMENT SERVICES</u> ; demand on   |             |           |                               |           | X                         | X         |
| 10. <u>INDUSTRIAL</u> , <u>COMMERCIAL</u> and <u>AGRICULTURAL</u> activities        |             |           |                               |           | X                         | X         |
| 11. <u>HISTORICAL</u> and <u>ARCHAEOLOGICAL</u>                                     |             |           | (See Archaeological Report)   |           | X                         | X         |
| 12. <u>AESTHETICS</u>   |             |           |                               |           | X                         | X         |
| 13. <u>ENVIRONMENTAL PLANS</u> and <u>GOALS</u> local and regional                  |             |           |                               |           | X                         | X         |
| 14. <u>DEMANDS</u> on <u>ENVIRONMENTAL RESOURCES</u> of land, water, air and energy |             |           |                               |           | X                         | X         |
| 15. <u>TRANSPORTATION</u> networks and traffic flows                                |             |           |                               |           | X                         | X         |

GAME RANGE SALVAGE SALE

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ENVIRONMENTAL ASSESSMENT  
GAME RANGE SALVAGE SALE

I. Project Description

In October of 1991 the Game Range Wildfire burned approximately 7,000 acres of land on the Blackfoot-Clearwater Wildlife Management Area (BCWMA). This game range is the primary winter range for elk in the Blackfoot River drainage. An estimated 1,100 elk use the area each year. Land ownership within the game range is primarily Montana Department of Fish, Wildlife and Parks (DFW&P), Montana Department of State Lands (DSL), and Champion International Corporation (CIC). At the time of the fire DSL was involved in a land exchange with DFW&P. DFW&P is interested in acquiring DSL lands within the BCWMA so that they can better manage this important winter range. DSL, on the other hand, is interested in acquiring DFW&P lands west of the Clearwater River which can be managed for a greater range of Forestry purposes. The fire destroyed a large portion of the timber resource on DSL lands planned for exchange, as well as timber on adjacent CIC lands. The value of the burned lands has been greatly reduced.

In order to minimize the land exchange value lost to DSL as a result of the Game Range Fire, DSL proposes to salvage from Sections 22,23,24,25, and 26, T15N-R14W (See Exhibit A, Vicinity Map) that portion of the dead and dying timber that is accessible by ground based skidding operations. Approximately 1.280 million board feet of sawtimber would be harvested. CIC is also in the process of salvaging some of the burned timber on their property.

II. Issue Development

A. Scoping and Public Involvement

In the early planning stages of this salvage sale, specialists within DSL and DFW&P were contacted and solicited for their comments regarding this action. Representatives from DSL and DFW&P have met on numerous occasions to discuss, in detail, specific issues, and to formulate alternatives. In addition, the Blackfoot-Clearwater Wildlife Management Area Citizens' Advisory Council, a public interest group, was contacted for input and issues regarding the proposed sale. Prior to finalizing the list of alternatives, DSL representatives attended an Advisory Council meeting. The purpose of the meeting was to inform council members of DSL's management intentions and to identify and discuss issues council members might have pertaining to those intentions (Exhibit E).

B. Issues

The following issues were generated:

1. Hydrology: DSL hydrologist Gary Frank conducted a field review of the sale area during the early planning stages of the

project. His written comments can be found in Exhibit F. Gary's concerns centered around providing adequate road drainage, protection of numerous wet areas and streams within the sale area and the location of skid trails. For a complete description of these concerns see Exhibit F.

2. Soils: DSL Soil Scientist, Jeff Collins, conducted a field review of the sale area during the early planning stages of the project. His written comments can be found in Exhibit G. Jeff's concerns centered around season of use, protection of wet sites, operations on steep slopes, and the location of designated skid trails. For a complete description of these concerns see Exhibit G.
3. Archaeology: DSL Archaeologist, Dori Passmann, was contacted during the early planning stages of the project. Her written comments may be found in Exhibit H. Dori's primary concern was for possible archaeological sites in areas where new road construction might occur.
4. Wildlife:

- a. Big Game Animals:

DFW&P biologist, Mike Thompson, was contacted during the early planning stages of this project. His written comments can be found in Exhibit I.

If harvesting activities occur during the winter months, Mike's primary concern is for minimizing disturbance to the wintering elk herd. Mule deer also winter on the Game Range and minimizing disturbance to this herd is a concern, although less so than for elk.

The Game Range Fire has destroyed a large portion of this year's traditional winter forage for the elk. DFW&P was uncertain as to how the elk would respond to this reduction of forage. It is the concern of adjacent landowners, as well as DFW&P, that the elk will migrate off the game range and onto their properties. Mike has requested that we not create disturbances that may contribute to this outcome.

If harvesting activities occur during the summer months Mike has requested that we do not begin operations until June 15 (personal communication). When spring green-up begins, the elk will likely move into the sale area to take advantage of forage opportunities. Delaying harvest activities until June 15 will give the elk sufficient time to graze this area.

The June 15 date is even more important to the mule deer. Indications, to date, are that the mule deer are being negatively impacted by the reduction of winter forage. As a result of this forage reduction it is anticipated that the mule deer will come out of winter in poor physical condition. Not giving them the opportunity to graze the green-up may significantly impact mule deer survival. As there is no certainty about the mule deer response to harvesting activities, Mike has requested we delay operations until June 15 (personal communication).

Mike has also requested that we keep any new road construction to a minimum, not construct any new roads across rough fescue grasslands, and block or gate newly constructed roads.

DFW&P is currently conducting a research study which includes a series of established transects on DSL property. Mike requests that we make every effort to protect the sample plots located on these transects.

b. Fire Adapted Birds:

Upon the recommendation of Mike Thompson, University of Montana Professor of Biology, Richard Hutto, was contacted for specialist input concerning potential environmental impacts on bird species which appear to be biologically adapted to a post canopy fire habitat (See Exhibit J for Professor Hutto's written comments). Of primary concern is maintaining sufficient habitat for the Black-backed Woodpecker. Research data, to date, indicate that this species is found only in recently burned forests. They feed on larva within the dead trees. Other bird species, such as the Mountain Bluebird and Olive-sided Flycatcher also appear to be adapted to a post fire environment. They are secondary nesters, using vacated Black-backed cavities.

There currently is no consensus as to how many residual trees, which species and of what size provide the most critical habitat. Preliminary research indicates that the larger diameter ponderosa pine, Douglas-fir and western larch are preferred. Although Black-backs tend to feed directly below perch and nest sites it appears they will travel short distances from these sites to feed. Black-backs tend to occupy a burn site for from five to seven years before searching out new habitat. This cycle may be tied to insect population dynamics.

Professor Hutto pointed out that the post fire stand conditions, i.e.; the standing dead trees, play an integral role in the dynamic cycle of post fire wildlife succession. The residual trees are used as nesting and perch sites for

bird and animal species. The Black-backs are early inhabitants, providing nesting sites for subsequent or secondary inhabitants. Black-backs and secondary species may play a critical role in controlling post fire insect populations. The larger standing trees also provide perch sites for small mammal predators such as owls, hawks and eagles.

There is little published research which directly addresses these hypotheses. However, field work is in process. There is enough preliminary to indicate that a post fire management plan should consider management for these post fire species.

Professor Hutto's specific concerns are as follows:

- (1) Maintain larger diameter trees to supply nesting, perch and feeding sites for the variety of post fire bird species.
- (2) Avoid winter harvesting activities.
- (3) Avoid harvesting activities until after the nesting season which should be over by July 15.
- (4) Consider the cumulative effects associated with the fact that Champion International is also harvesting its burned over lands.
- (5) This area, because of the ease of access, offers an excellent research opportunity. He would like to see non harvest areas retained.
- (6) Timber: DSL's immediate concern is recovering the value from the burned timber. To meet this objective, ponderosa pine must be harvested an expedient manner. If dead trees are not salvaged by the Spring of 1993 there is a strong probability of losing significant value due to weathering and blue stain fungus.

#### C. How Issues Were Addressed

Upon receipt of responses to initial scoping, DSL developed a list of issues regarding this proposal. Issues were then developed and clarified through a series of telephone conversations, meetings with concerned parties and additional field trips. The purpose of these activities was to gain mutual understanding of the issues, goals and objectives of all parties. DSL then evaluated the issues and, developed mitigation measures which both addressed the issues and satisfied the project objectives. Following development of mitigations each party was contacted for verification of the appropriateness of the proposed mitigations.

The following is a listing of the specific issues raised and a discussion of how they were addressed. All mitigations listed below, with the exception of II.C.4.a.(3), have been incorporated into all action alternatives.

1. Hydrology: Refer to Exhibit F for the specific issues raised by DSL hydrologist Gary Frank. The issues will be discussed in the same order as they appear in the Exhibit.

Roads:

Site #1: The Sale Agreement will contain language specifying drain dip installation at the standard spacing.

Site #2: The segment of road crossing the wet meadow will not be used.

Site #3: The steep segment of road will be used only for skidding. Drain dips will be installed.

Site #4: The Sale Agreement will contain language requiring the purchaser to armor the CMP inlet and outlet.

Harvest Units:

Site #5: A 50 foot streamside management zone has been marked on the ground. Equipment will not be allowed within this zone.

Site #6: The Sale Agreement will require that skid trails in this area be approved by the sale administrator prior to use.

Site #7: The area containing these isolated wet areas has been removed from the harvest unit.

Site #8: The 25 foot equipment restriction zone has been designated on the ground. The landing location will be approved by the sale administrator prior to use. The location will be as recommended by the hydrologist.

Site #9: The low and potentially wet area has been removed from the harvest unit. A designated skid trail will be approved by the sale administrator in compliance with hydrologist recommendation.

Site #10: This area has been removed from the harvest plan.

Site #11: This area has been removed from the harvest plan.

Site #12: This draw will be used for skidding as approved by the hydrologist.

DSL hydrologist Gary Frank anticipates no significant hydrologic environmental impacts resulting from this action if all hydrologic recommendations and Best Management Practices are incorporated into sale plans. All hydrologic recommendations have been incorporated into all action alternatives. Best Management Practices will be applied.

2. Soils: Refer to Exhibit G for specific issues raised by DSL Soil Scientist Jeff Collins. The issues will be discussed in the same order as they appear in the Exhibit.
  - a. Season of use: All sale activities are scheduled for the summer of 1992. No operations will be conducted unless soils are relatively dry, as determined by the Sale Administrator. If there is any question as to the operability of the soils the Soil Scientist will be contacted for his input. The section of road designated as point B, in the soils report, will not be used in conjunction with this sale. Road segment A will only be used during the summer months.
  - b. Wet sites and poorly drained soils in section 23 and 26: All wet areas have been removed from harvest units. Designated skid trail recommendations will be incorporated into the harvest plan by the Sale Administrator. The Sale Agreement will require the logger to have skid trail locations approved by the Sale Administrator prior to felling any trees.
  - c. Operations on steep ground: Operations will be limited to slopes of 45% or less, except for a few areas where slope approach 50% for short distances. The locations have been discussed with, and approved by the soil scientist.
  - d. Site E: The steep draw will be marked as an area where equipment restrictions apply. No equipment will be allowed to skid down the draw. A designated skid trail may transect the draw as approved by the soil scientist.
  - e. Site G: The steep draw, designated as point G, will be used for skidding and waterbarred after use.

DSL Soil Scientist, Jeff Collins, anticipates no significant soils related environmental impacts resulting from this action if all soils recommendations are incorporated into sale plans. All soils recommendations have been incorporated into all action alternatives.

3. Archaeology: DSL Archaeologist, Dori Passmann, has completed a review of the sale area for cultural resources. No sites were recorded within the sale area (Exhibit H). The Timber Sale

Agreement contains a clause which protects cultural resources should they be discovered during operations.

4. Wildlife:

a. Big Game Animals:

DFW&P's Biologist, Mike Thompson, responded to initial scoping efforts with a letter (Exhibit I) which outlined his issues and recommendations. DSL responded to this letter with a request for a meeting to clarify and discuss these issues and recommendations. As a result, Rob Ethridge, Southwestern Land Office Area Silviculturist; and Steve Wallace, Clearwater Unit Manager, met with Mike Thompson. The following list discusses each issue in the order they appear in the Exhibit.

- (1) Logging should be completed in the shortest possible time: The contract period for this sale will be June 15, 1992 through October 15, 1992. These dates were acceptable to DFW&P. We will not extend this contract without input from DFW&P.
- (2) All logging should be completed by January 15, or delayed until June 1, 1992: The reasoning behind these dates is that most of the elk will have migrated onto the game range by January 15 and most of the elk will have left the range by June 1. Mike is concerned that harvest activities, especially those in Sections 22, 23 and 26, might cause the elk to migrate off the game range. DSL will designate the contract period to be June 15, 1992 through October 15, 1992. By June 15 the elk and mule deer will have had ample opportunity to graze the spring green-up. The June 15 start up date will reduce the potential for significant impacts to elk and mule deer to an acceptable level (personal communication, Mike Thompson).
- (3) No logging in section 22 or the northwest quarter of 23: This issue is the basis for the development of Alternative 3. See Alternative discussion in part III. below.
- (4) Logging in sections 23 and 26: This is the same basic issue as discussed under II.C.4.a.(2). The same mitigations apply.
- (5) Logging in sections 24 and 25: Again, the same mitigations apply as discussed under II.C.4.a.(3).
- (6) Logging and administrative access: If DSL conducts hauling activities during the winter months DFW&P's is

requesting that we do not haul to the west via the East-West road. This area was not burned by the fire and elk that winter on the Game Range will congregate in this area. Because DSL will not begin hauling until after June 15, this issue is no longer a concern to DFW&P. Through personal communication, Mike Thompson has approved the use of this portion of the East-West road for logging and administrative access between June 15, 1992 and October 15, 1992.

- (7) New road construction: New road construction will be limited to a 1,500 foot section in Section 23 (Exhibit B, Road System Map). Because of the location and short length of new construction, Mike Thompson has withdrawn his recommendation for road closure upon completion of sale activities. No new road construction will occur in rough fescue grasslands.
- (8) Ross Baty project: The Sale Agreement shall contain language which defers from cutting all trees used as sample plot locators.

If all wildlife recommendations are incorporated in the sale plans, DFW&P Wildlife Biologist, Mike Thompson, anticipates no significant environmental impacts to elk or mule deer populations resulting from this action. All recommendations, with the exception of II.C.4.a.(3), have been incorporated into all action alternatives.

b. Fire Adapted Birds:

Upon receipt of Professor Hutto's comments, DSL requested a meeting to discuss his concerns. This meeting was attended by Professor Hutto, Rob Ethridge, Steve Wallace, Allan Wood, DSL Wildlife Biologist; and Mike Thompson. Professor Hutto also field reviewed portions of the salvage area. The following list discusses each of Professor Hutto's issues in the order they appear in II.B.4.b.

- (1) Maintain large diameter trees: DSL will not harvest all trees on its ownership. Upon reviewing an orthophoto (an airphoto with a topographic map superimposed on top) with salvage units and the fire parameter overlaid, Professor Hutto felt the post harvest environment would be suitable for bird species to inhabit. There would also be ample non-harvested stands for research purposes.
- (2) Avoid winter harvesting activities: No winter activities will occur in conjunction with this salvage operation.

- (3) Avoid harvesting until after July 15: During sale preparation field work crews did not site any woodpeckers. One tree was observed which had been heavily feed upon by woodpeckers. It was not determined whether this tree was dead prior to the fire. Because the fire occurred late in the fall (October 1991) insect populations may not have had the opportunity to build up. Professor Hutto feels that the concentrations of woodpeckers may not occur until the summer of 1992 and critical nesting would then not occur until the Spring of 1993. Because of the current sparse Blacked-back activity Professor Hutto has told DSL that harvest activities prior to July 15, 1992 will not have a significant environmental impact on Black-backed Woodpeckers.
- (4) Cumulative effects on fire adapted bird species associated with Champion and DSL harvesting activities: Upon reviewing the anticipated post logging fire stand conditions Professor Hutto does not foresee any significant cumulative effects on fire adapted bird species.

In summary, after reviewing a draft Environmental Assessment and discussing the salvage operations plan with DSL Professor Hutto anticipates no significant environmental impacts on fire adapted bird species if harvest activities are conducted as detailed in the Environmental Assessment.

5. Timber: A primary issue for DSL is to harvest burned timber as rapidly as possible. The contract period of June 15, 1992 to October 15, 1992 adequately mitigates DSL's concerns associated with this issue.

### III. Alternatives

- A. Alternative 1 - No Action: This alternative would defer salvage operations. Implementation of this alternative will result in an irretrievable loss of revenue to the Trust. Our best estimate of the monetary loss is between \$60,000 and \$125,000. If the dead and dying material is not salvaged immediately, the wood will begin a deterioration process that will significantly reduce the value of the timber, eventually (within approximately two years) to a point where no value remains.
- B. Alternative 2: See Exhibit C, Alternative 2 Map. This alternative represents DSL's initial proposal for salvage operations on the burned portion of its ownership within the BCWMA. With implementation of this alternative DSL would harvest all merchantable dead and dying trees that can be accessed with ground based harvesting methods. With the exception of those trees inadvertently damaged during harvesting operations, all

submerchantable trees would be left standing. Approximately 1,500 feet of new road construction would occur. All mitigation measures discussed in II.C., with the exception of II.C.4.a.(3) (on page 10) would be incorporated into this alternative.

This alternative would involve 9 cutting units totaling approximately 845 acres. Three units (Units 4,5 and 9, 184 acres) would be marked to leave. All trees not killed outright by the fire and those trees that have sustained damage but are anticipated to survive would be left. Five units (Units 1,2,6,7,and 8, 480 acres) would have all merchantable trees harvested. These areas were burned so intensively that all trees were killed. One unit (Unit #3, 181 acres) contains 37 acres where leave trees would be marked and 173 acres where all merchantable trees would be harvested.

Estimated net volume removed through implementation of this alternative is approximately 1.472 MMBF.

New road construction would total .30 miles. In addition, approximately 18 miles of existing road will have erosion control measures applied. These measures will include road surface blading, installation of approximately 100 drain dips and application of grass seed and fertilizer (grass mix approved by DFW&P).

- C. Alternative 3: See Exhibit D, Alternative 3 Map. Following interaction with the public, DSL specialists and DFW&P, and in response to the issues which were discovered as a result of this interaction, Alternative 3 was developed. The purpose of this alternative is to incorporate mitigation measures which address the generated issues. This alternative is identical to Alternative 2, with the exception that Unit 9 (155 acres) is withdrawn from harvest. This unit, located in the northeast quarter of section 22 and the northwest quarter of section 23, would be withdrawn to mitigate disturbance impacts on wintering elk. This withdrawal would be incorporated with the understanding that DFW&P will compensate DSL for the loss of salvage value resulting from the removal of these areas from the sale.

All mitigations discussed in II.C. would be incorporated into this alternative.

Net volume is estimated at 1.280 MMBF. Total acres for this alternative is 690.

Road construction and erosion control measures will be the same as those listed in Alternative 2.

For a comparison of Alternatives See Table 1.

#### IV. Environmental Impacts

##### A. Hydrology:

1. Cumulative watershed effects: DSL hydrologist, Gary Frank, has determined that the salvage operations within the sale area will not increase water yields over present residual conditions. No cumulative hydrologic effects are anticipated with implementation of this action if all hydrologic recommendations are incorporated in to the sale plan (Exhibit F). All such recommendations have been incorporated into all action alternatives.

Table 1.

ALTERNATIVES COMPARISON TABLE

|                                    | No Action | Alternative 2    | Alternative 3    |
|------------------------------------|-----------|------------------|------------------|
| Non-Harvested Acres, DSL Ownership | 2,720     | 1,875            | 2,030            |
| Acres Harvested                    | 0         | 845              | 690              |
| Volume Harvested MBF               | 0         | 1,472            | 1,280            |
| Trust Revenue Generated Dollars    | 0         | \$65,000-135,000 | \$60,000-125,000 |
| New Road Construction Miles        | 0         | .30              | .30              |
| Erosion Control Applied Road Miles | 0         | 13               | 13               |

B. Wildlife:

1. Cumulative effects: CIC is salvage harvesting burned timber on their property. Due to the location of their harvest relative to the wintering elk the cumulative impact on displacement of elk is judged to be non-significant.
2. With implementation of Alternative 3, the harvesting of dead and dying trees will have no significant environmental impact on elk or mule deer populations (personal communication with Mike Thompson). The only potential significant impacts would be incurred through activities on the rough fescue grasslands. All such grasslands identified by DFW&P's biologist have been removed from the sale area. There may be a non-significant impact to other small animals and birds. Retention of sub-merchantable material and large dead and dying trees not in

harvest units will mitigate this impact to an acceptable level (personal communication with Mike Thompson).

V. Recommendations:

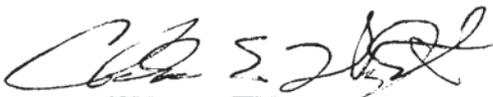
Alternative 3 has been selected ~~is recommended~~ as the preferred alternative. This alternative was developed through an interactive process which incorporated recommendations from the public and specialists from DSL and DFW&P. Each of these parties was contacted during the scoping phase of the planning process and solicited for comments, concerns and issues. Following receipt of comments, DSL foresters contacted each person who responded to initial scoping to discuss their concerns and design mitigation measures. Using the information gathered from these discussions DSL foresters developed an alternative which incorporated the mitigation measures suggested. At this point a first draft of the Environmental Assessment (EA) was written. This document was circulated to all concerned parties for comment. Subsequent comments were incorporated into later drafts of the EA. The result of these efforts is a co-operatively designed alternative which address the issues raised by all involved resource management specialists, DSL foresters and other concerned parties and meets with their approval.

VI. Finding On The Need For An EIS:

Through implementation of Alternative 3, all issues would be resolved or mitigated with no anticipated significant environmental impacts. For this reason DSL finds no need for an EIS.

VII. Decision Statement:

Alternative 3 has been selected as the preferred alternative. As stated in the recommendations section of Environmental Assessment, Alternative 3 was developed to mitigate the specific issues raised by resource management specialists of Department of State Lands and Department of Fish, Wildlife and Parks. The mitigations incorporated into Alternative 3 have been reviewed and approved by those specialists.



CHARLES E. WRIGHT  
Area Manager  
Southwestern Land Office

March 23, 1992  
Date

GAME RANGE SALVAGE SALE

VICINITY MAP

Sections 23-26, T15N-R14W

LEGEND

Haul Route = - - - -



Scale: 1 Mile = 1/2"



GAME RANGE SALVAGE SALE

Legend

- Existing Roads      = = =
- New Construction      - - - -
- Designated Skid Trail      x x x x
- Culvert      X

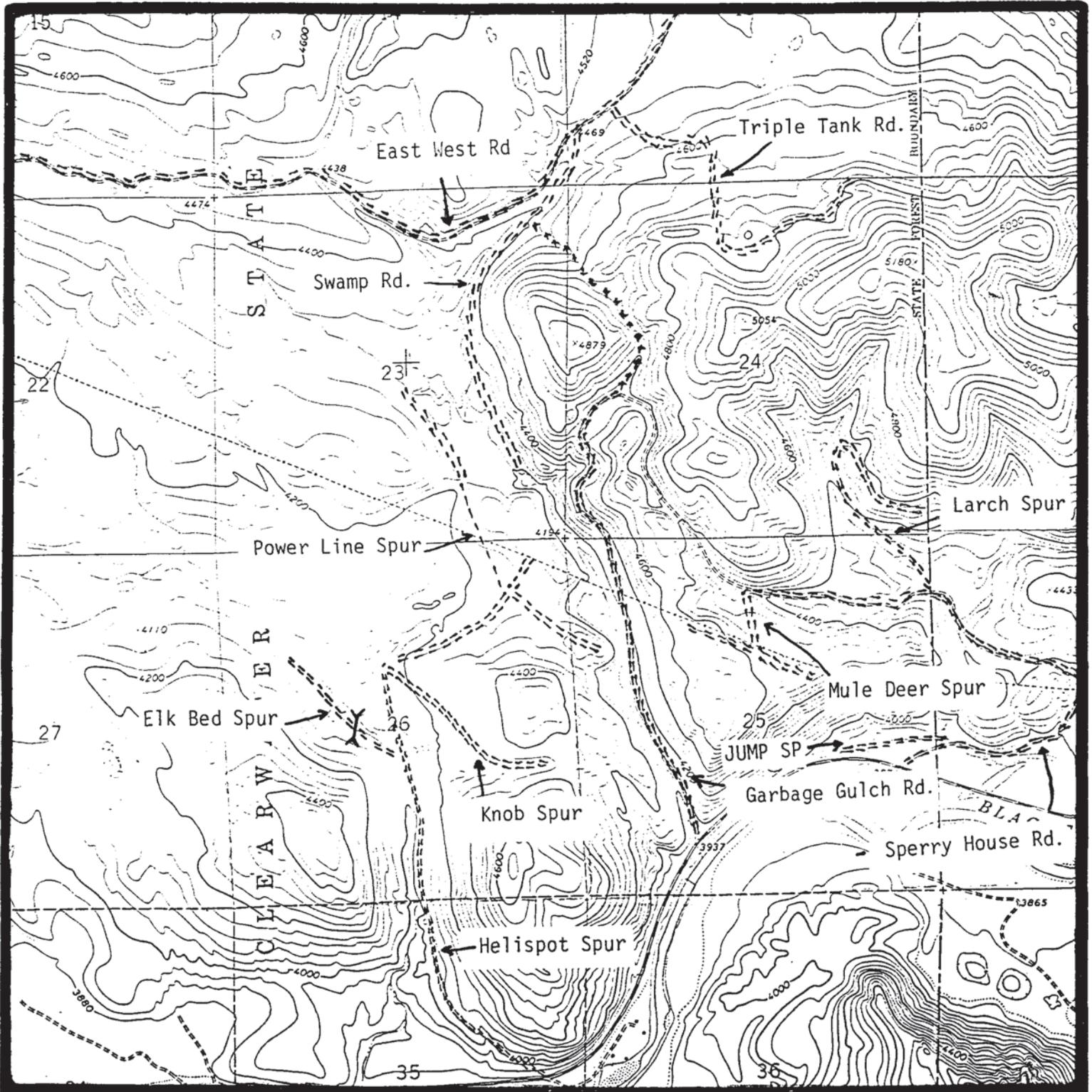
ROAD SYSTEM MAP

T15N-R14W    T15N-R13W



Contour Interval = 80'

Scale: 1 Mile = 2.64"



GAME RANGE SALVAGE SALE

Legend

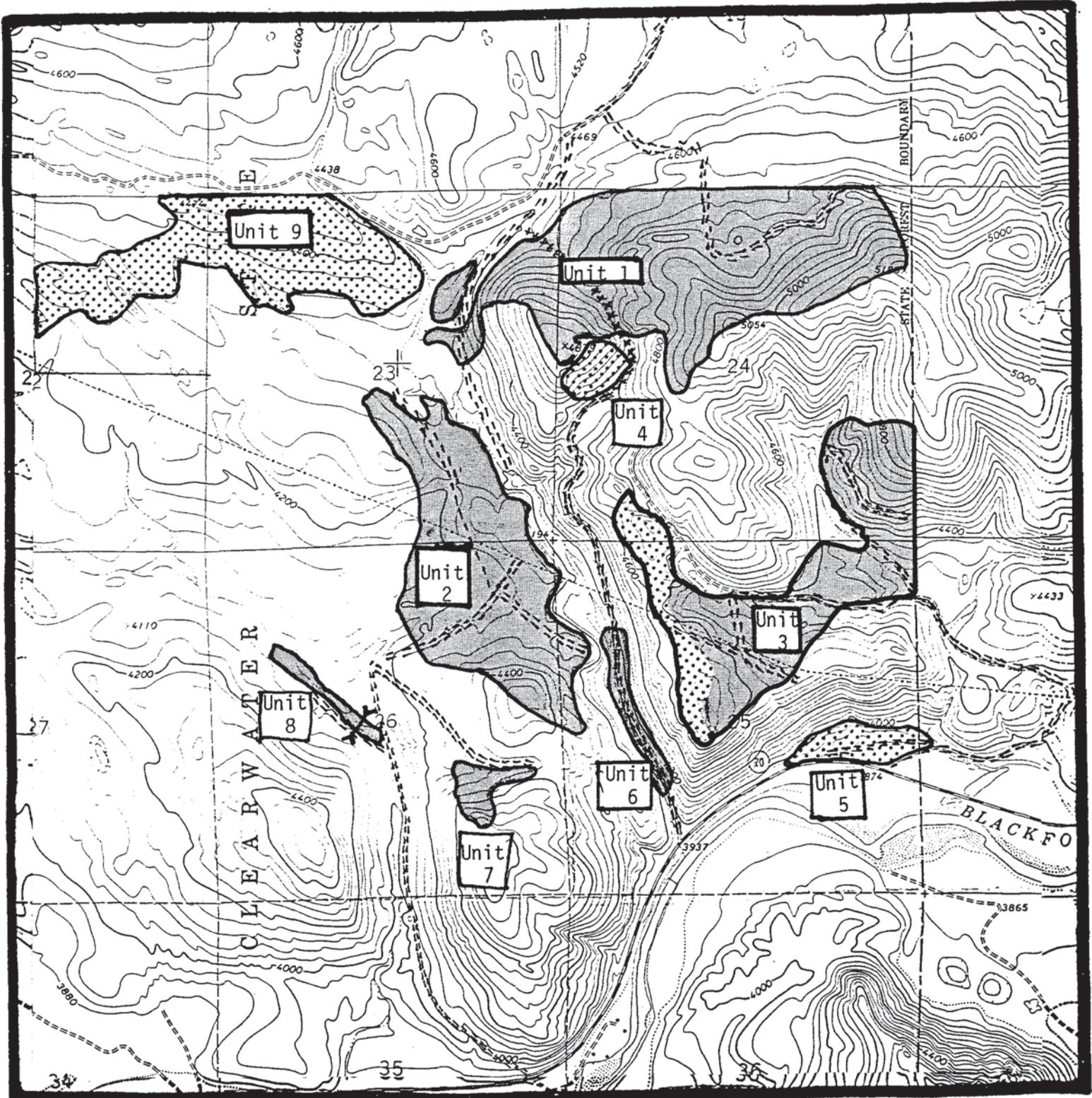
- Clearcut 
- Leave Tree Mark 
- Existing Roads 
- New Construction 
- Culvert 
- Designated Skid Trail 

ALTERNATIVE #2

T15N-R14W



Contour Interval = 80'  
Scale: 1 Mile = 2.4"



GAME RANGE SALVAGE SALE

ALTERNATIVE #3

T15N-R14W



Contour Interval = 80"  
Scale: 1 Mile = 2.6"

Legend

- Clearcut 
- Leave Tree Mark 
- Existing Roads 
- New Construction 
- Culvert 
- Designated Skid Trail 



**Montana Department  
of  
Fish, Wildlife & Parks**



3201 Spurgin Rd.  
Missoula, MT 59801  
December 5, 1991

Blackfoot-Clearwater Wildlife Management  
Area Citizens' Advisory Council

Dear Advisory Council Member:

Art has called a meeting for Tuesday, December 17, at 7:30 p.m. at the Boyd ranch. The purpose of the meeting is to discuss DSL and Champion's salvage logging on the WMA this winter. Steve Wallace from DSL and Dave Johnson from Champion will attend.

Sincerely,

*Mike SR*

Mike Thompson  
Wildlife Biologist

MT/sr

cc: Rich Clough  
John Firebaugh  
Jay Haveman  
Bill Thomas  
Dave Dickson  
Ross Baty  
Dave Johnson, Champion

RECEIVED

HYDROLOGY REPORT

Exhibit F  
Page 1 of 3

DEC 26 1991

SOUTHWESTERN  
LAND OFFICE

December 24, 1991

562

TO: CHUCK WRIGHT, MANAGER, SOUTHWESTERN LAND OFFICE  
STEVE WALLACE, MANAGER, CLEARWATER UNIT  
PAT FLOWERS, SUPERVISOR, STATE LAND MANAGEMENT  
ROB ETHRIDGE, SILVICULTURIST, SOUTHWESTERN LAND OFFICE

FROM: GARY FRANK, HYDROLOGIST *GF*

SUBJECT: CLEARWATER FIRE SALVAGE TIMBER SALE

This proposed sale was reviewed in the field on 11/20/91 and 12/17/91 by Steve Wallace, Rob Ethridge, Jeff Collins and Gary Frank.

Watershed: The proposed harvest units are located with in several tributary watersheds to the Blackfoot River. Most of the sale area is drained by one of several unnamed 2nd and 3rd order intermittent streams. These streams have discontinuous channels and flow subsurface before reaching the Blackfoot River. Another portion of the proposed sale (SE 1/4 of section 25) is located on a face (slope) directly above the Blackfoot River floodplain. The proposed unit in the northeast 1/4 of section 24 is located with in an unnamed 3rd order tributary to Cottonwood Creek.

Cumulative Effects: The entire area was burned over by a wildfire in October of 1991. A large part of the area is grassland and is sparsely timbered. The forested areas in several sections were heavily harvested while under private ownership and before the State acquired them. Several fires in the past have also contributed to the present lack of forest cover.

The proposed salvage would include removing concentration of dead and dying timber from with in the burned area. This type of harvest will not increase water yields over the present residual conditions. Current plans are to use primarily exiting roads with only one short segment of new road construction proposed.

There are no cumulative watershed effect constraints with this sale as currently planned. This conclusion is based on the following reasons: 1) The sale is limited to removal of dead or dying trees; 2) Minor amount of new road construction; 3) Several watersheds are predominately grassland cover; 4) Most of the sale area is drained by intermittent channels that flow subsurface before reaching the Blackfoot River.

Roads: The sale will utilize primarily existing roads with the exception of one short segment of new road construction. Existing roads are in good condition and may be used with little modification or improvement. Drainage features (drain-dips) should be added where needed to provide adequate road surface. Site specific recommendation are as follows (see attached map for locations):

Site #1 - New road construction. Provide for adequate road surface drainage by installing drain-dips at a standard spacing (refer to J. Collin's write-up for more specific information).

Site #2 - Segment of road crossing wet meadow with poorly defined channel. During the field review it was decided that this segment of road would not be used.

Site #3 - Steep segment of road adjacent to draw bottom. This road has been designated for skidding operations only. Install waterbars after use.

Site #4 - Existing CMP. Armor inlet and outlet with rock.

Harvest Units: Tentative salvage areas were located and partially flagged before the field review. Harvest boundaries were modified to exclude several isolated wetlands and wet areas. Several Streamside Management Zones were located and flagged during the field review. Site specific recommendations are as follows:

Site #5 - Intermittent stream with definite channel. Mark and maintain a 50 ft. minimum Streamside Management Zone as required by House Bill 731. Do not operate equipment within the SMZ. Use directional felling and cable winching to remove merchantable trees from SMZ. Leave submerchantable trees.

Site #6 - Locate skid trail crossings in broad swale below the more well defined draw as discussed in the field.

Site #7 - Isolated wet areas located within harvest unit. Mark and maintain a 25 ft. min. equipment restriction surrounding wet areas. Merchantable timber may be removed by directional felling and cable winching out of equipment closure.

Site #8 - Ephemeral draw with riparian and wetland vegetation (no defined channel). Mark and maintain a 25 ft. equipment restriction around draw and wet areas. Locate landing on small bench above draw as discussed in the field.

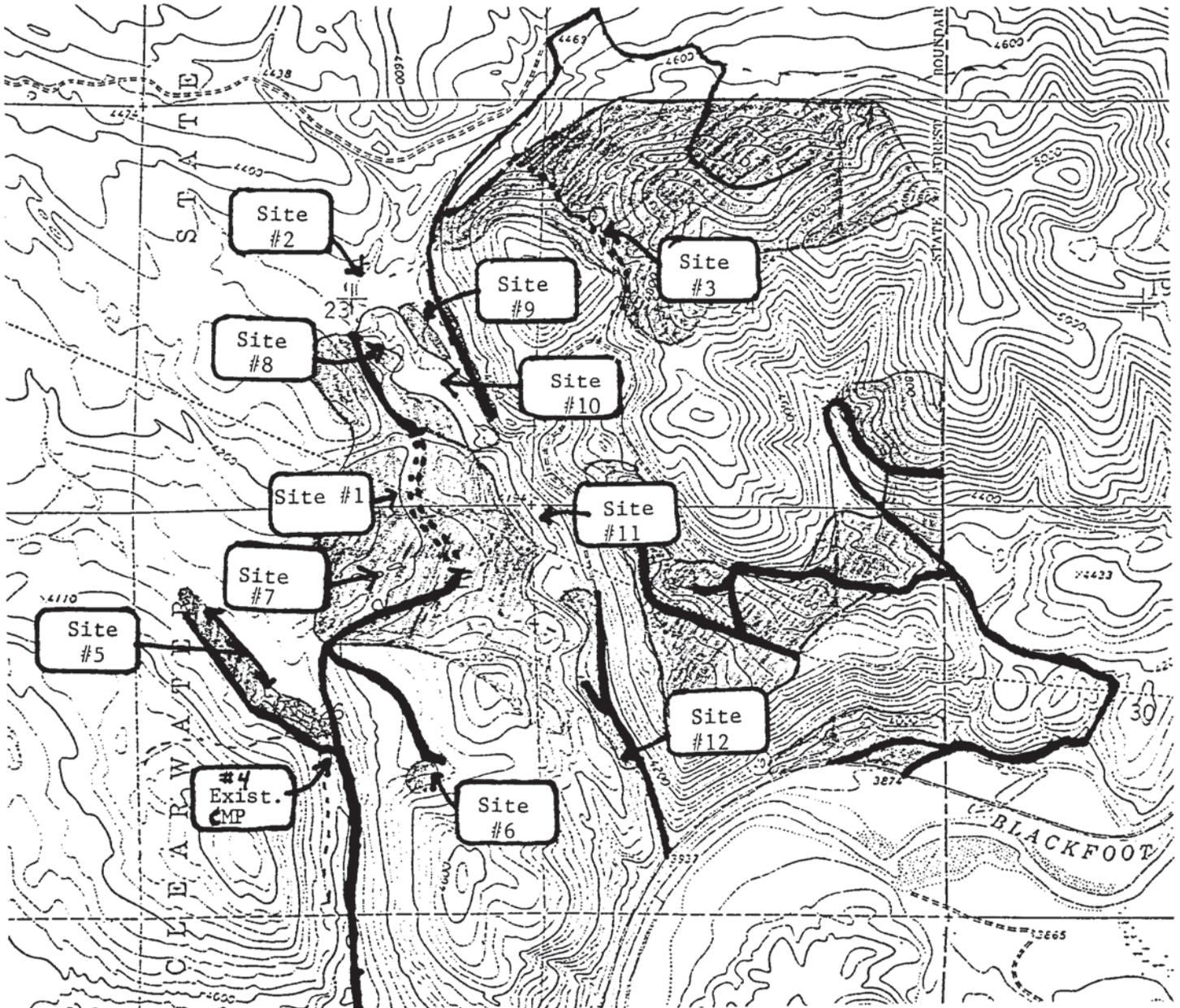
Site #9 - Use a designated skid trail to cross a poorly defined draw and to accessing a small isolated stand of timber. Locate trail on "higher ground" to avoid low and potentially wet areas.

Site #10 - Perennial stream channel. If this area is included in the harvest plan, mark and maintain an Streamside Management Zone with a minimum width of 50 ft. Do not operate equipment inside the SMZ.

Site #11 - At this site the road is located immediately adjacent to a draw bottom. Due to the accumulation of snow and ice at the site during the time of the field review, we were unable to determine whether a definite stream channel is present. I recommend that you assume that a SMZ is applicable till condition

allow for a more accurate evaluation. Equipment many operate off of the existing road.

Site #12 - Draw bottom with no evidence of stream channel. The draw appear to be a geologic feature caused by a fault. The bottom is mostly rock and the sides are talus slopes. The draw has been completely filled in at several points by rock. There is no outlet and no potential for surface water delivery. Limited equipment operation may be utilized in this portion of the draw as discussed during the review.



SOILS REPORT

December 24, 1991

552

TO: CHUCK WRIGHT, Area Manager, Southwestern Land Office  
STEVE WALLACE, Field Supervisor, Clearwater Unit  
PAT FLOWERS, Supervisor, State Land Management Section

FROM: JEFFRY COLLINS, Soil Scientist JC

SUBJECT: GAME RANGE FIRE, TIMBER SALVAGE SALE

Steve Wallace, Rob Ethridge, Gary Frank and I reviewed the existing roads and general salvage area. Deep glacial outwash and till soil predominant on the gentle slopes of sections 22, 23 and 26. Rocky colluvial soils forming from rock are more common on the steeper slopes in sections 24, 25 and part of 26 (refer to soils map) Soils are mainly well drained and have long seasons of use. Main soils concern are limiting displacement and erosion.

Emphasis is to use existing road system with minimal reconstruction if adequate drainage features can be installed for short term use.

Majority of the road system crosses coarse rocky soils with high rock contents. Portions of the road system cross deep gravelly clays materials (soils 79 and 109) which are erodible, have low soil strength and present problems with drainage. These limitations can be overcome with additional drainage features and limits on season of use.

Recommendations:

\* Season of use. Limit operations to periods when soils are relatively dry, frozen or snow covered. I prefer winter operations for the flatter terrain of section 22, 23, and 26. Segments of road system in section 25 (PTS A & B on map) are too steep for winter hauling without relocation to more gradual grades.

\* Wet sites and somewhat poorly drained soils are common along the flats in section 23 and 26. We reviewed several sites where SMZ boundaries are located to avoid operations on wet sites as indicated by aspen patches. Designated skid trails will be needed along portions of the SMZ's.

Attached is a highlighted copy of aerial photo to identify some wet areas of concern.

\* Operations on steep slopes is a concern for erosion and displacement. In general, tractor skidding should be limited to slopes less than 45%.

Exceptions are steep slopes (Sites C & D on map) where tractors can use existing constructed skid trails as directed by the forest officer in charge. Tractors will stay on trails and winch timber to trails.

\* Site E- Steep draw should be marked out and not be skidded down. Short steep slopes can be harvested with designated skid

trails on min. 75 ft. spacing. On slopes over 45% tractors should remain on trails.

Garbage gulch is a steep sided canyon formed by a geologic fault. Soils are shallow and droughty (tevis 102) with a high content of fractured rock. Initial plan is to salvage trees which can be reached from the footslopes up to 45%. We do not expect any soils problems with skidding along the dry portion of the rock filled draw where there is no stream channel (refer to PT F on map and hydro report). Timber will be decked on flat to the North as discussed in the field.

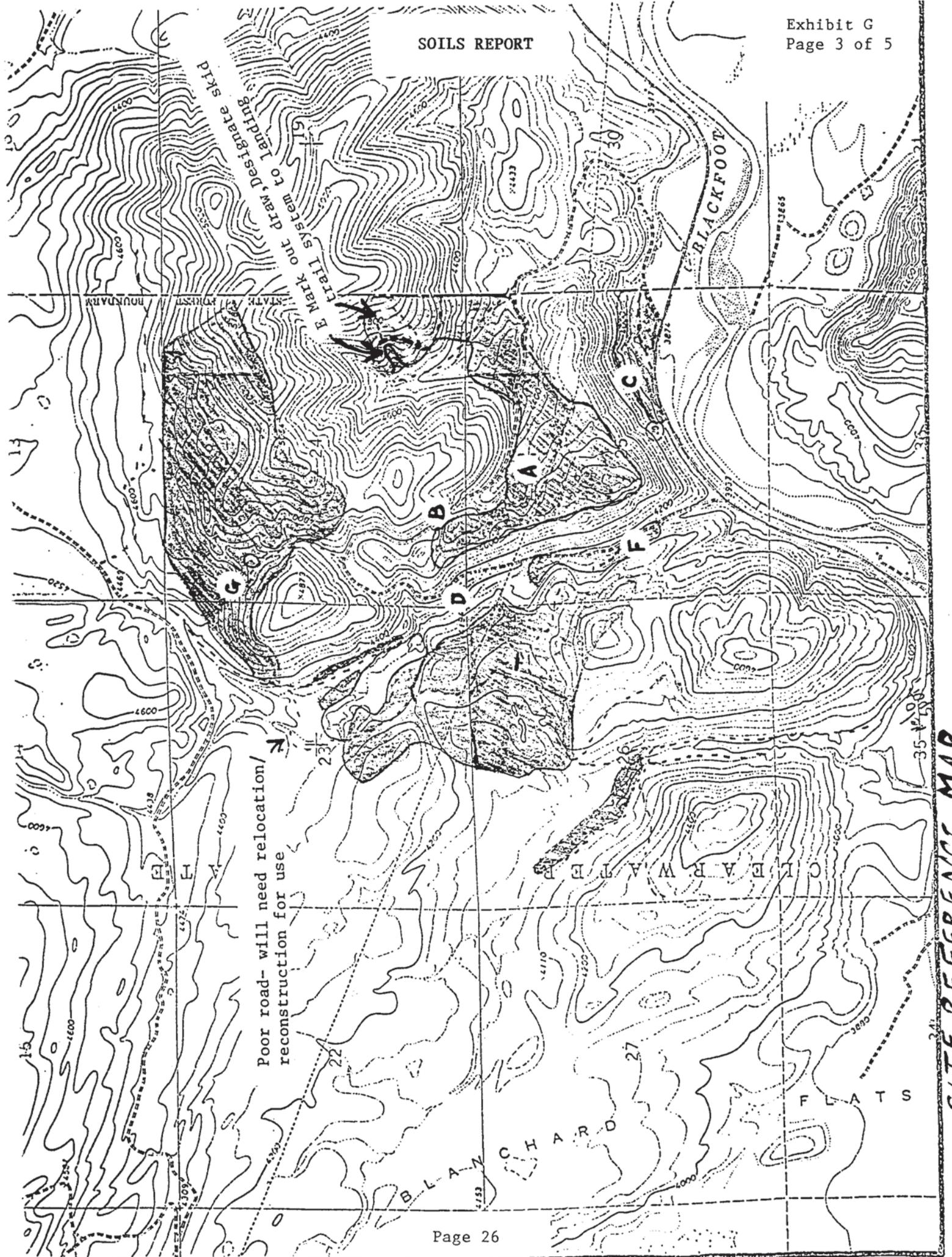
Site G Short steep road use for skidding only and waterbar after use.

\* If you need more specifics on road details or harvest units, I will be glad to help with field design and drainage location.

## SOIL INTERPRETATIONS

| MAP UNIT  | PARENT MATERIALS              | DRAINAGE CLASS        | EROSION HAZARD | COMPACTION HAZARD                   | NOTES  |
|---|-------------------------------|-----------------------|----------------|-------------------------------------|--|
| 76 Perma gravelly<br>4-30 slopes                        | Outwash/dry                   | somewhat              | moderate       | low                                 | Droughty, good gravel source<br>avoid displacing shallow topsoil   |
| 79 Perma complex<br>4-30 slopes                         | Outwash/loamy<br>glacial till | well                  | moderate       | moderate                            | Gr. clay loam subsoil, closer<br>drainage spacing than Perma/dry   |
| 102 Tevis vrgavelly<br>loam 30-60% slopes               | colluvium                     | somewhat<br>excessive | mod to<br>high | high displacement<br>on slopes >40% | Do not skid on slopes over 45%   |
| 109 Trapps gravelly<br>loam 8-30% slopes                | colluvium<br>calcareous       | well                  | mod.           | moderate                            | Gr. clay loam subsoil<br>droughty  |
| 131 Winkler vrgavelly<br>loam 30-60% slopes             | colluvium                     | somewhat<br>excessive | mod to<br>high | high displacement<br>on slopes >40% | Do not skid on slopes over 45%<br>except on existing trails as<br>approved by forest officer and<br>winch timber to trails.      |
| 134 Winkler / rubble<br>loam 30-60% slopes              | colluvium /<br>rock outcrops  | somewhat<br>excessive | mod to<br>high | high displacement<br>on slopes >40% |  |
| 719F Winkler vrgavelly<br>loam 30-60% slopes            | colluvium                     | somewhat<br>excessive | mod to<br>high | " " "                               |  |
| 137 Yourane gravelly<br>4-30 slopes                     | Loamy glacial<br>glacial till | well                  | moderate       | moderate                            | Shallow topsoils, avoid displacement<br>well suited to tractor   |
| 6 Aquolls & aquepts<br>wet soils complex<br>0-2% slopes | alluvium &<br>bog             | poorly<br>drained     | moderate       | severe                              | Equipment operation zones marked out<br>around wet sites, timber will be<br>winched to drier sites, prefer winter<br>operations. |

SOILS REPORT



Poor road- will need relocation/  
reconstruction for use

Mark out draw, designate skid  
trail system to landing

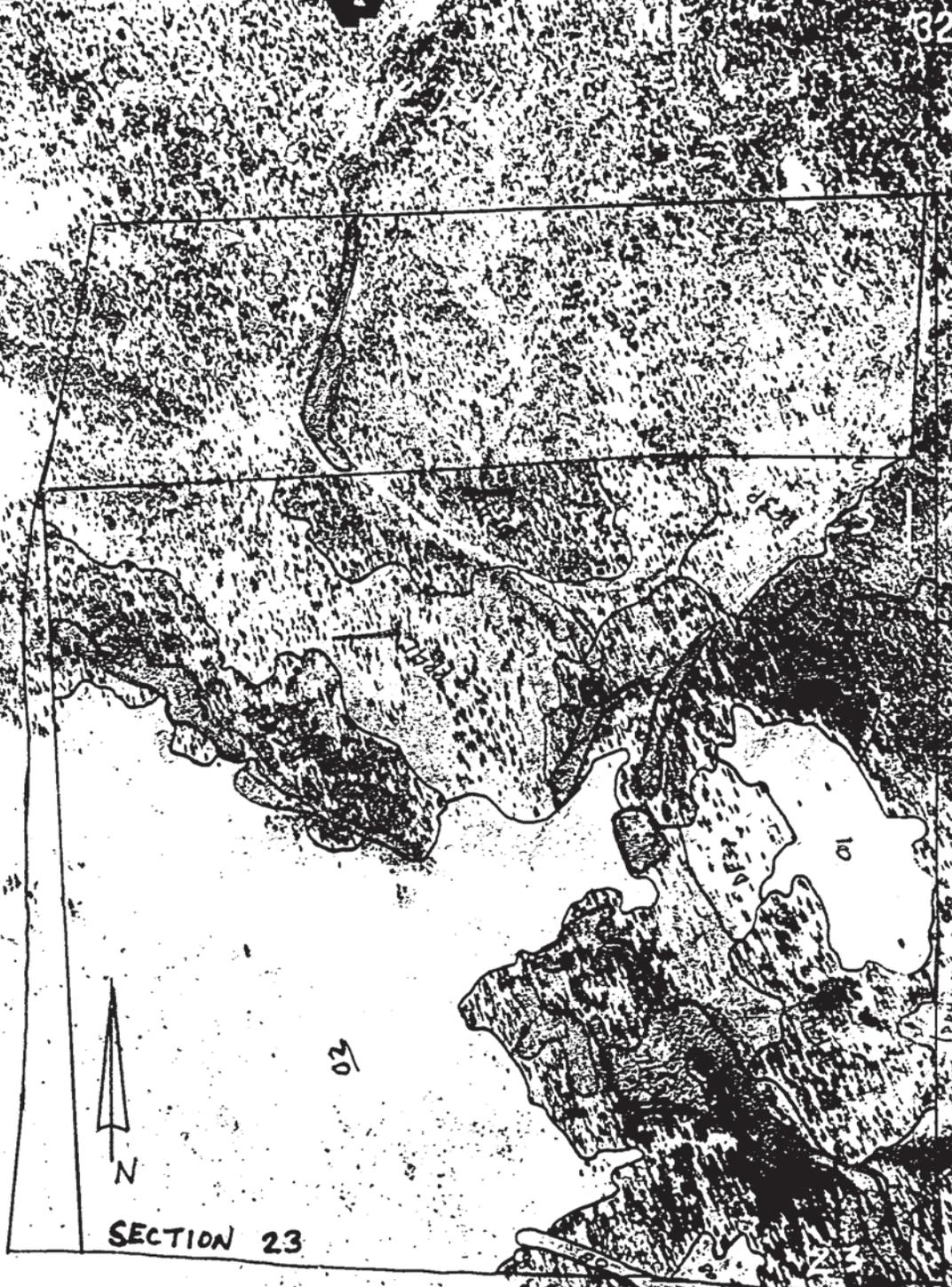
CITE RECEIPT MAP



# SOILS MAP

CLEARWATER GAME RANGE AREA

BLANCHARD



## DEPARTMENT OF STATE LANDS



STAN STEPHENS, GOVERNOR

CAPITOL STATION

STATE OF MONTANA

(406) 444-2074

1625 ELEVENTH AVENUE  
HELENA, MONTANA 59620

November 25, 1991

MEMORANDUM

TO: Steve Wallace, Clearwater Unit Manager, SWLO

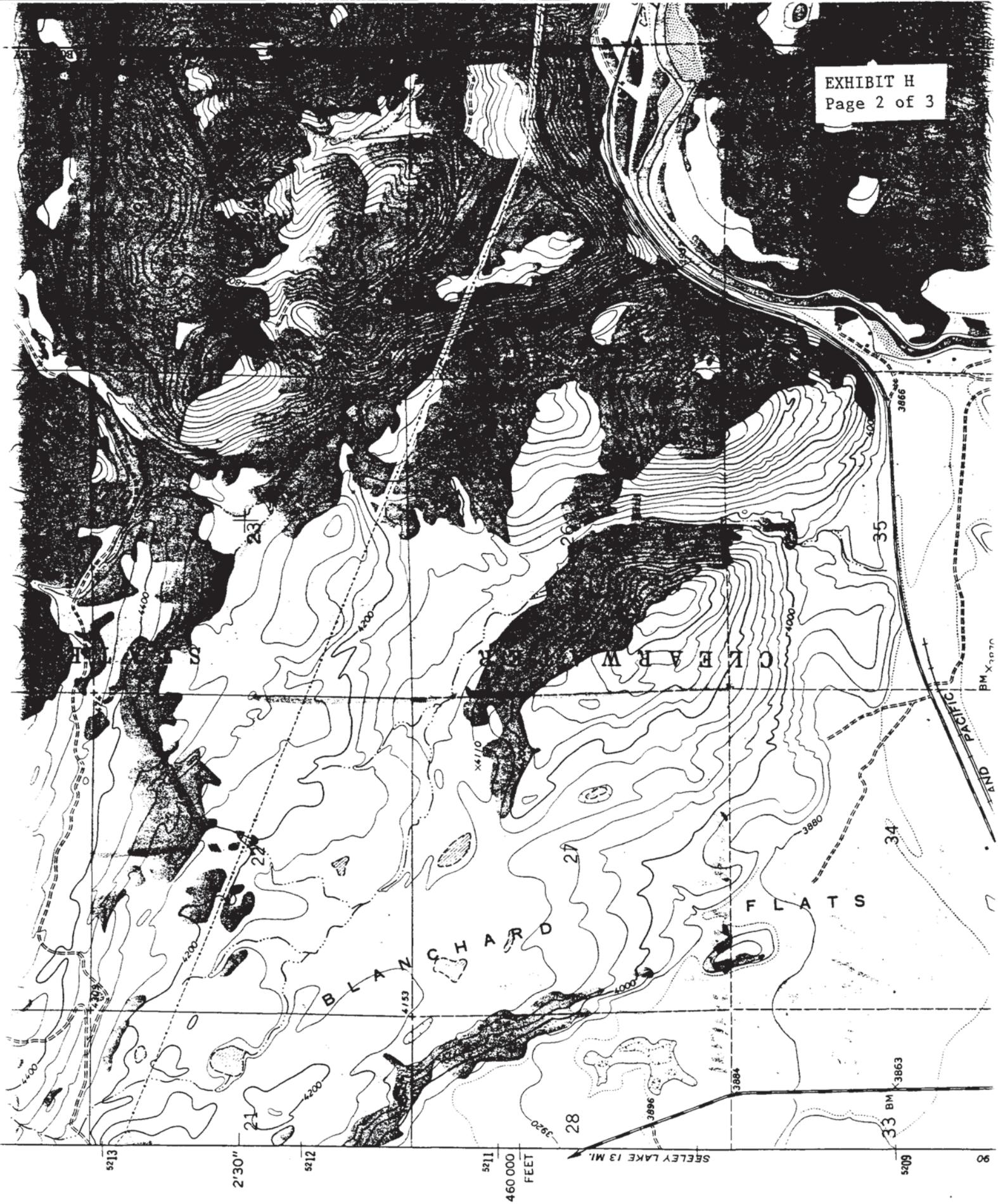
FROM: Dori Passmann, Archaeologist, Land Management Section 

RE: Fire Salvage Sale  
22, 23, 24, 25, 26-15N-14W

The only known site is recorded south of the highway in the SE/4 of section 25. Much of your impact area is steep slopes, an area unlikely to contain significant cultural properties. If road building will occur in the areas marked in yellow on the attached map, then I should probably review the route. Remember to watch the ridges for outcrops, cairns, or other sites.

If you do not find anything on the ridges and no road will be built in the areas marked in yellow, this salvage has archaeological clearance.

/ns



DEPARTMENT OF STATE LANDS



STAN STEPHENS, GOVERNOR

CAPITOL STATION

STATE OF MONTANA

(406) 444-2074

1625 ELEVENTH AVENUE  
HELENA, MONTANA 59620

January 28, 1992

**RECEIVED**

**JAN 29 1992**

**SOUTHWESTERN  
LAND OFFICE**

MEMORANDUM

TO: Bob Ethridge, Silviculturist, SWLO  
FROM: Dori Passmann, Archaeologist, Land Management Section  
RE: Game Range Timber Sale

A handwritten signature in a circle, likely belonging to Dori Passmann.

From previous conversations with Steve Wallace, I understand this to be a very low impact sale to remove burned trees. Most of the roads are existing and need minimal work. The one piece of proposed road construction is not a major impact and does not require an inventory. This sale has archaeological clearance.

Please let me know if I can be of further assistance.

DP/mm

**Montana Department  
of  
Fish, Wildlife & Parks**



3201 Spurgin Road  
Missoula, MT 59801  
November 19, 1991

Steve Wallace  
Clearwater State Forest  
Star Route, Box 388  
Greenough, MT 59836

Dear Steve:

Following are DFWP concerns regarding salvage logging on the Blackfoot-Clearwater Wildlife Management Area (BCWMA):

Logging should be completed in the shortest possible time to minimize disturbance to wintering elk and deer populations. It is difficult to predict how the elk, in particular, will distribute themselves this winter following the fire, and it is a concern of adjacent landowners that the elk will winter largely on their properties. We need to be careful not to create disturbances on the BCWMA that contribute to this potential problem. Therefore, we suggest that:

1. All logging should be completed by January 15, 1991, or delayed and not begun until June 1, 1991.
2. No logging or other activity should occur in section 22 or the northwest quarter of section 23 until June 1.
3. Any logging in sections 23 and 26 should begin as soon as possible and be finished at the earliest possible date in December.
4. Logging in sections 24 and 25 could continue into January if necessary.
5. All logging and administrative access should be from the south. Under no circumstances should any activity of any sort occur along the western access opposite Elbow Lake, since this road crosses the main unburned elk winter range.

Regarding long-term management of these lands to be traded to DFWP, we request that any new roading be minimized, and that no roads be built or vehicles driven across rough fescue grasslands--burned or

not. We request that any new roads be blocked or gated after logging, but this activity should not be justification to extend the disturbance period during winter; gates may be installed after June 1.

As you know, Ross Baty has marked study transects across the properties to be logged. He has re-marked his transects since the fire. We request that marked trees be left for Ross' study. These trees are marked with green paint, yellow and black striped flagging, and/or orange and black striped flagging, and they are laid out on compass lines.

Please keep me informed of your plans, and let me know if there is a problem with incorporating any of these recommendations. Thank you for your interest in the wildlife management problems that the salvage logging may cause.

Sincerely,



Mike Thompson  
Wildlife Biologist

cc: John Firebaugh  
Rich Clough  
Ross Baty

The University of  
**Montana**Division of Biological Sciences  
Missoula, Montana 59812-1002  
(406) 243-5122  
FAX (406) 243-4184

11 February 1992

**RECEIVED****FEB 13 1992**SOUTHWESTERN  
LAND OFFICERobert Ethridge  
Department of State Lands  
1401 27th Avenue  
Missoula, MT 59801

Dear Bob:

Thanks for the opportunity to comment on the EA for the Game Range Salvage Sale. There are several points I would add to the wildlife issues section: (1) Some wildlife species (e.g., Black-backed Woodpecker--classified as a sensitive species in the northern Rockies for this very reason) appear to require canopy fires for long-term persistence; one would be hard pressed to find an individual of this species in anything but a recently burned forest. They feed on the wood boring beetle larvae within the dead trees. We don't yet know enough about which tree sizes and species are most critical, but preliminary data show that larger Douglas-fir, western larch, and ponderosa pine are used disproportionately often as feeding trees; (2) A number of other species (e.g., Mountain Bluebird, Olive-sided Flycatcher) also appear to be specially adapted to the conditions created by canopy fires, and while they may not rely on the standing dead for feeding purposes, they do rely on those trees for nesting purposes; (3) Harvesting activities during winter would almost certainly cause significant disturbance to what I suspect are large numbers of woodpecker species that have colonized the area for feeding purposes (for the entire winter?); (4) The nesting season for fire-dependent land bird species is in full swing in early June, so I would also recommend against cutting until, say, early to mid-July; (5) The cumulative effects associated with the fact that CIC will probably cut most of its timber would seem to favor saving most of what little is left on state lands, especially in view of the fact that some wildlife species appear to require those conditions for maintenance of their populations.

In a more general vein, the wildlife concerns for this EA are based entirely on the needs of one or two big game species. It would be wise to broaden the wildlife perspective to include the concerns of other species. This is especially true when we are talking about land use alternatives for a wildlife refuge! If "natural" processes are not allowed to run their course on the most protected lands (refuges) that the state manages, then where on state lands will they be allowed to run their course?

Secondly, the entire basis on which the sale is planned follows from the statement (page 1) that, "The value of the burned over lands has been greatly reduced". I find that statement disturbing in the absence of qualification.



Ethridge, Pg. 2

Reduced with respect to what? With respect to timber resources, maybe, but what about other considerations? The value to most wildlife species has been greatly ENHANCED. The value for environmental education opportunities in an accessible location have been greatly ENHANCED. The value for research opportunities (the opportunity to answer nagging questions related to fire effects) has been greatly ENHANCED. The value to maintaining biological diversity through the creation of variety in landscape and habitat structure is ENHANCED. In the face of such unique opportunities, I'm not at all convinced that a salvage cut is the best way to manage that land, especially since I assume the CIC lands will be logged heavily. If the (page 2) "DSLs immediate concern is recovering the value from the burned timber", then I wonder why that takes precedence over maintaining some of the other values I've described above.

Anyway, the first paragraph contains information that might be of help to you--the last two paragraphs harbor concerns that were probably already addressed at earlier stages of this process.

Sincerely,



Richard L. Hutto  
Professor of Biology

The University of  
**Montana**

Division of Biological Sciences  
Missoula, Montana 59812-1002  
(406) 243-5122  
FAX (406) 243-4184

28 February 1992

**RECEIVED**

MAR 2 1992

SOUTHWESTERN  
LAND OFFICE

Robert Ethridge  
Department of State Lands  
1401 27th Avenue  
Missoula, MT 59801

Dear Bob:

Thanks for the opportunity to meet with you folks to discuss the points I raised in my previous letter. The aerial photos helped me understand the layout of proposed salvage operations, and I believe there will be plenty of uncut timber on your lands for use by birds that seem to specialize on early post-fire conditions. Moreover, because you plan to leave patches of various timber types and tree sizes scattered throughout the area, the layout is actually quite good for comparative study on the effects of harvesting on the bird community.

My brief survey of some parts of the range did not produce much evidence of feeding by woodpeckers yet, so I suspect that colonization of the area (if it is to occur at all) has not really happened in any meaningful way yet. Therefore, a June harvest would not be as disruptive to nesting populations as would be the case if there were more birds by now.

I'd like to take advantage of the research opportunity; maybe I can talk a student into a thesis there. Thanks again for your attention to my concerns.

Sincerely,



Richard L. Hutto  
Professor of Biology

Graduate Degree Programs

|                     |                  |
|---------------------|------------------|
| Biochemistry        | Microbiology     |
| Biological Sciences | Wildlife Biology |
| (Teaching)          | Zoology          |
| Botany              |                  |



GAME RANGE SALVAGE SALE

SALE AREA MAP

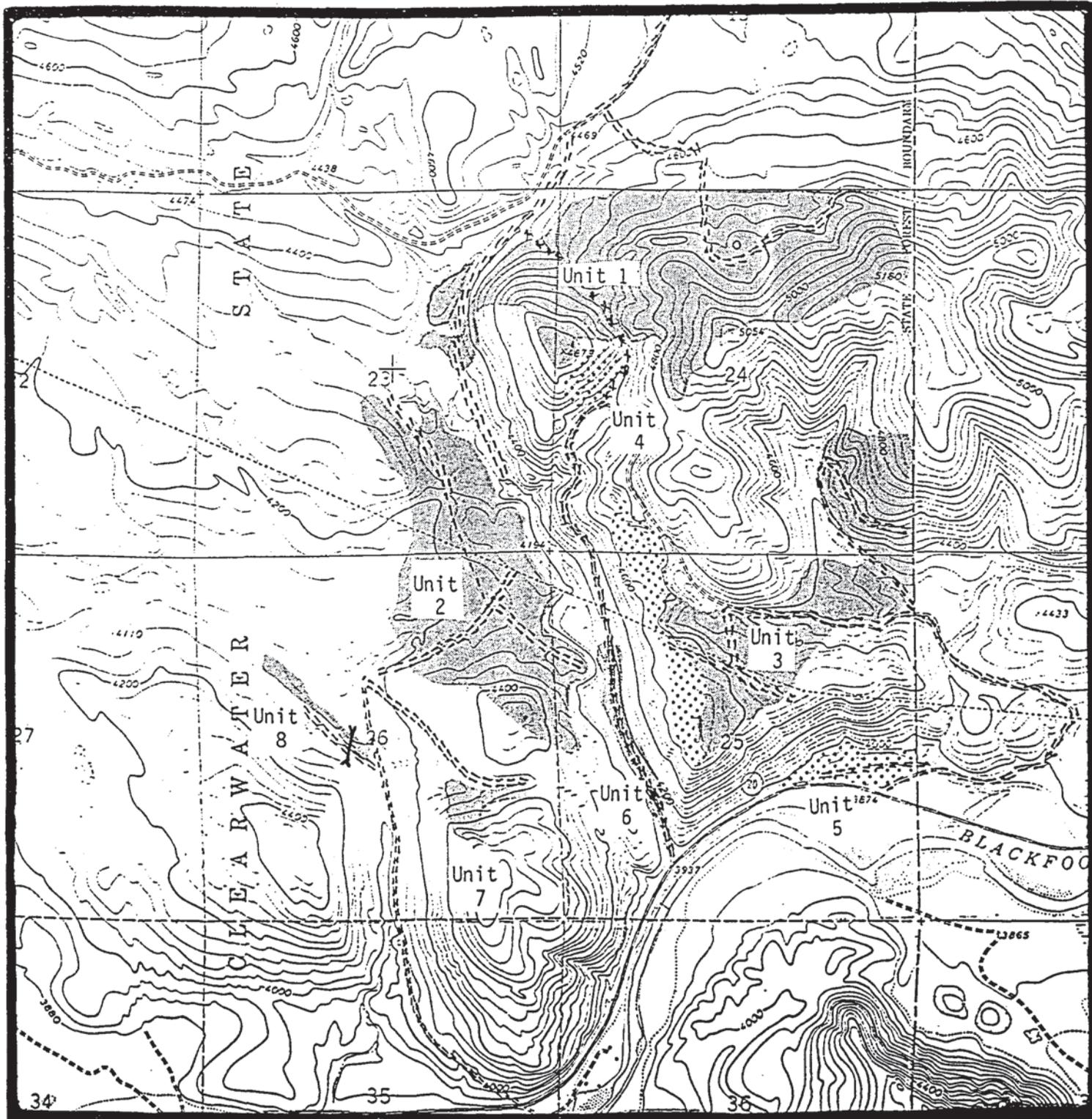
T15N-R14W

Legend

- Clearcut [stippled pattern]
- Leave Tree Mark [dotted pattern]
- Existing Roads [double line]
- New Construction [dashed line]
- Culvert [X symbol]
- Designated Skid Trail [XXXX pattern]



Contour Interval = 80"  
Scale: 1 Mile = 2.6"



SILVICULTURAL PRESCRIPTION

SALE NAME: Game Range Salvage

DATE: 1/26/92

TWP: 15N RG: 14W SEC: 23,24 UNIT: CLW

PREPARED BY: Ethridge

Aspect: NW

Stand: Ac:

Unit #: 1 Ac: 262

Slope: 30 %

Ave. Elevation: 4650

Range: 4400 - 5000

Soils Unit: Yourane gravelly

Parent Material: Loamy glacial till

Habitat Type(s): Uncertain

Productivity: Uncertain

Management Objectives: Harvest fire killed timber

DESCRIPTION OF EXISTING STAND: The existing stand was part of the 1991 Game Range Fire. All trees in this stand were killed by the fire. Previous to the fire the stand was part of a land exchange with Champion International. The stand has been heavily harvested by Champion. The pre-burn stand was predominately Douglas-fir averaging 11" DBH. Average volume is approximately 1,400 board feet per acre.

TARGET STAND AND MANAGEMENT PLAN:

Target Stand Description: This stand will be part of a land exchange with DFW&P following this harvest. The stand will be allowed to develop naturally.

Constraints: Minimizing wintering elk disturbance is the only management constraint associated with this stand. See Environmental Assessment.

Regeneration discussion: This area will be allowed to regenerate naturally over time.

Management plan: There is no long term management plan associated with this harvest. The gross sale area is part of a three way land exchange: Champion to DSL to DFW&P. The fire occurred after the Champion/DSL exchange but prior to the DSL/DFW&P exchange. As a result of the fire, some of DSL's exchange value was destroyed. In order to recover burned timber values, DSL will salvage burned timber from the sections to be exchanged. DFW&P has approved the salvage. (See EA.) Our objective is to harvest the merchantable fire killed timber. All green trees, expected to survive will be retained. All reasonable efforts will be made to protect the sub-merchantable fire killed material. No other activities will be conducted in association with this sale.

PRESCRIBED TREATMENTS:

| <u>Treatment</u>  | <u>Acres</u> | <u>Est Cost<br/>Per Acre</u> | <u>Est Total<br/>Total</u> |
|---|--------------|------------------------------|----------------------------|
| Clearcut all merchantable volume<br>Leave all tops and branches in<br>woods | 262          |                              |                            |
| Spot pile slash as necessary  | 262          | \$6.00                       | \$1,572.00                 |
| Burn piles as necessary   | 262          | \$ .087                      | \$ 22.78                   |

SILVICULTURAL PRESCRIPTION

SALE NAME: Game Range Salvage

DATE: 1/26/92

TWP: 15N RG: 14W SEC: 23,26 UNIT: CLW

PREPARED BY: Ethridge

Aspect: N, E

Stand: Ac:

Unit #: 2 Ac: 186

Slope: 15 %

Ave. Elevation: 4400

Range: 4200-4600

Soils Unit: Yourane gravelly

Parent Materials: loamy glacial till

Habitat Type(s): Uncertain

Productivity: Uncertain

Management Objectives: Harvest fire killed timber

DESCRIPTION OF EXISTING STAND: The existing stand was part of the 1991 Game Range Fire. All trees in this stand were killed by the fire. Previous to the fire the stand was part of a land exchange with Champion International. The stand was harvested by Champion. The pre-burn stand was predominately bull pine averaging 14" DBH. A small volume of Douglas-fir volume is also present. Average gross volume per acre is approximately 2360 bf.

TARGET STAND AND MANAGEMENT PLAN:

Target Stand Description: This stand will be part of a land exchange with DFW&P following this harvest. The stand will be allowed to develop naturally.

Constraints: Minimizing wintering elk disturbance is the only management constraint associated with this stand. See Environmental Assessment.

Regeneration discussion: This area will be allowed to regenerate naturally over time.

Management plan: There is no long term management plan associated with this harvest. The gross sale area is part of a three way land exchange: Champion to DSL to DFW&P. The fire occurred after the Champion/DSL exchange but prior to the DSL/DFW&P exchange. As a result of the fire, some of DSL's exchange value was destroyed. In order to recover burned timber values, DSL will salvage burned timber from the sections to be exchanged. DFW&P has approved the salvage. (See EA.) Our objective is to harvest the merchantable fire killed timber. All green trees, expected to survive will be retained. All reasonable efforts will be made to protect the sub-merchantable fire killed material. No other activities will be conducted in association with this sale.

PRESCRIBED TREATMENTS:

| <u>Treatment</u>   | <u>Acres</u> | <u>Est Cost<br/>Per Acre</u> | <u>Est Total<br/>Total</u> |
|--|--------------|------------------------------|----------------------------|
| Clearcut all merchantable volume<br>All tops and branches to be left<br>in woods | 186          |                              |                            |
| Spot pile slash as necessary   | 186          | \$6.00                       | \$1,116.00                 |
| Burn piles as necessary  | 186          | \$ .087                      | \$ 16.17                   |

SILVICULTURAL PRESCRIPTION

SALE NAME: Game Range Salvage

DATE: 1/26/92

TWP: 15N RG: 14W SEC: 24,25 UNIT: CLW

PREPARED BY: Ethridge

Aspect: S

Stand: Ac:

Unit #: 3 Ac: 181

Slope: 30 %

Ave. Elevation: 4600

Range: 4600-4800

Soils Unit: Yourane gravelly

Parent Materials: loamy glacial till

Habitat Type(s): Uncertain

Productivity: Uncertain

Management Objectives: Harvest fire killed timber

DESCRIPTION OF EXISTING STAND: The existing stand was part of the 1991 Game Range Fire. With the exception of about 30 acres along the western ridge top, all trees in this stand were killed by the fire. Previous to the fire the stand was part of a land exchange with Champion International. The stand was harvested by Champion. The pre-burn stand was predominately Douglas-fir averaging 12" DBH. A small volume of ponderosa pine and western larch volume is also present. Average gross volume per acre is approximately 1900 bf.

TARGET STAND AND MANAGEMENT PLAN:

Target Stand Description: This stand will be part of a land exchange with DFW&P following this harvest. The stand will be allowed to develop naturally.

Constraints: Minimizing wintering elk disturbance is the only management constraint associated with this stand. See Environmental Assessment.

Regeneration discussion: This area will be allowed to regenerate naturally over time.

Management plan: There is no long term management plan associated with this harvest. The gross sale area is part of a three way land exchange: Champion to DSL to DFW&P. The fire occurred after the Champion/DSL exchange but prior to the DSL/DFW&P exchange. As a result of the fire, some of DSL's exchange value was destroyed. In order to recover burned timber values, DSL will salvage burned timber from the sections to be exchanged. DFW&P has approved the salvage. (See EA.) Our objective is to harvest the merchantable fire killed timber. All green trees, expected to survive will be retained. All reasonable efforts will be made to protect the sub-merchantable fire killed material. No other activities will be conducted in association with this sale.

PRESCRIBED TREATMENTS:

| <u>Treatment</u>  | <u>Acres</u> | <u>Est Cost<br/>Per Acre</u> | <u>Est Total<br/>Total</u> |
|---|--------------|------------------------------|----------------------------|
| About 30 acres LTM, otherwise<br>Clearcut all merchantable volume<br>All tops and branches to be left<br>in woods | 181          |                              |                            |
| Spot pile slash as necessary  | 181          | \$6.00                       | \$1,086.00                 |
| Burn piles as necessary   | 181          | \$ .087                      | \$ 15.74                   |

SILVICULTURAL PRESCRIPTION

SALE NAME: Game Range Salvage

DATE: 1/26/92

TWP: 15N RG: 14W SEC: 24 UNIT: CLW

PREPARED BY: Ethridge

Aspect: SE

Stand: Ac:

Unit #: 4 Ac: 13

Slope: 40 %

Ave. Elevation: 4700

Range: 4600-4800

Soils Unit: Trapps gravelly loam

Parent Materials: colluvium

Habitat Type(s): Uncertain

Productivity: Uncertain

Management Objectives: Harvest fire killed timber

DESCRIPTION OF EXISTING STAND: The existing stand was part of the 1991 Game Range Fire. All trees in this stand were killed by the fire. Previous to the fire the stand was part of a land exchange with Champion International. The stand was harvested by Champion. The pre-burn stand was predominately Douglas-fir averaging 14" DBH.

TARGET STAND AND MANAGEMENT PLAN:

Target Stand Description: This stand will be part of a land exchange with DFW&P following this harvest. The stand will be allowed to develop naturally. A few overstory ponderosa pine not killed by the fire were marked to leave.

Constraints: Minimizing wintering elk disturbance is the only management constraint associated with this stand. See Environmental Assessment.

Regeneration discussion: This area will be allowed to regenerate naturally over time.

Management plan: There is no long term management plan associated with this harvest. The gross sale area is part of a three way land exchange: Champion to DSL to DFW&P. The fire occurred after the Champion/DSL exchange but prior to the DSL/DFW&P exchange. As a result of the fire, some of DSL's exchange value was destroyed. In order to recover burned timber values, DSL will salvage burned timber from the sections to be exchanged. DFW&P has approved the salvage. (See EA.) Our objective is to harvest the merchantable fire killed timber. All green trees, expected to survive will be retained. All reasonable efforts will be made to protect the sub-merchantable fire killed material. No other activities will be conducted in association with this sale.

PRESCRIBED TREATMENTS:

| <u>Treatment</u>  | <u>Acres</u> | <u>Est Cost<br/>Per Acre</u> | <u>Est Total<br/>Total</u> |
|---|--------------|------------------------------|----------------------------|
| A few overstory PP marked to leave<br>otherwise, Clearcut all merchantable<br>volume.<br>All tops and branches to be left<br>in woods | 13           |                              |                            |
| Spot pile slash as necessary  | 13           | \$6.00                       | \$78.00                    |
| Burn piles as necessary   | 13           | \$ .087                      | \$ 1.13                    |

SILVICULTURAL PRESCRIPTION

SALE NAME: Game Range Salvage

DATE: 1/26/92

TWP: 15N RG: 14W SEC: 25 UNIT: CLW

PREPARED BY: Ethridge

Aspect: S

Stand: Ac:

Unit #: 5 Ac: 16

Slope: 15 %

Ave. Elevation: 4000

Range: 3950-4000

Soils Unit: Uncertain

Parent Materials:

Habitat Type(s): Uncertain

Productivity: Uncertain

Management Objectives: Harvest fire killed timber

DESCRIPTION OF EXISTING STAND: The existing stand was part of the 1991 Game Range Fire. The burn in this stand was spotty in places. Parts of the stand retained living trees. Previous to the fire the stand was part of a land exchange with Champion International. The stand was harvested by Champion. The pre-burn stand was predominately bull pine averaging 12" DBH.

TARGET STAND AND MANAGEMENT PLAN:

Target Stand Description: This stand will be part of a land exchange with DFW&P following this harvest. The stand will be allowed to develop naturally. A few overstory ponderosa pine not killed by the fire were marked to leave. Trees expected to survive were marked to leave.

Constraints: Minimizing wintering elk disturbance is the only management constraint associated with this stand. See Environmental Assessment.

Regeneration discussion: This area will be allowed to regenerate naturally over time.

Management plan: There is no long term management plan associated with this harvest. The gross sale area is part of a three way land exchange: Champion to DSL to DFW&P. The fire occurred after the Champion/DSL exchange but prior to the DSL/DFW&P exchange. As a result of the fire, some of DSL's exchange value was destroyed. In order to recover burned timber values, DSL will salvage burned timber from the sections to be exchanged. DFW&P has approved the salvage. (See EA.) Our objective is to harvest the merchantable fire killed timber. All green trees, expected to survive will be retained. All reasonable efforts will be made to protect the sub-merchantable fire killed material. No other activities will be conducted in association with this sale.

PRESCRIBED TREATMENTS:

| <u>Treatment</u>  | <u>Acres</u> | <u>Est Cost<br/>Per Acre</u> | <u>Est Total<br/>Total</u> |
|---|--------------|------------------------------|----------------------------|
| Clearcut all merch volume<br>All tops and branches to be left<br>in woods | 16           |                              |                            |
| Spot pile slash as necessary  | 16           | \$6.00                       | \$96.00                    |
| Burn piles as necessary   | 16           | \$ .087                      | \$ 1.39                    |

SILVICULTURAL PRESCRIPTION

SALE NAME: Game Range Salvage

DATE: 1/26/92

TWP: 15N RG: 14W SEC: 25 UNIT: CLW

PREPARED BY: Ethridge

Aspect: Variable

Stand: Ac:

Unit #: 6 Ac: 10

Slope: 45 %

Ave. Elevation: 4200

Range: 4150 - 4250

Soils Unit: Tevis/Winkler gravelly loam

Parent Material: Colluvium

Habitat Type(s): Uncertain

Productivity: Uncertain

Management Objectives: Harvest fire killed timber

DESCRIPTION OF EXISTING STAND: The existing stand was part of the 1991 Game Range Fire. All trees in this stand were killed by the fire. Previous to the fire the stand was part of a land exchange with Champion International. The stand has been heavily harvested by Champion. The pre-burn stand was predominately Douglas-fir averaging 12" DBH. Average volume is approximately 1,400 board feet per acre.

TARGET STAND AND MANAGEMENT PLAN:

Target Stand Description: This stand will be part of a land exchange with DFW&P following this harvest. The stand will be allowed to develop naturally.

Constraints: Minimizing wintering elk disturbance is the only management constraint associated with this stand. See Environmental Assessment.

Regeneration discussion: This area will be allowed to regenerate naturally over time.

Management plan: There is no long term management plan associated with this harvest. The gross sale area is part of a three way land exchange: Champion to DSL to DFW&P. The fire occurred after the Champion/DSL exchange but prior to the DSL/DFW&P exchange. As a result of the fire, some of DSL's exchange value was destroyed. In order to recover burned timber values, DSL will salvage burned timber from the sections to be exchanged. DFW&P has approved the salvage. (See EA.) Our objective is to harvest the merchantable fire killed timber. All green trees, expected to survive will be retained. All reasonable efforts will be made to protect the sub-merchantable fire killed material. No other activities will be conducted in association with this sale.

PRESCRIBED TREATMENTS:

| <u>Treatment</u>  | <u>Acres</u> | <u>Est Cost<br/>Per Acre</u> | <u>Est Total<br/>Total</u> |
|---|--------------|------------------------------|----------------------------|
| Clearcut all merchantable volume<br>Leave all tops and branches in<br>woods | 10           |                              |                            |
| Spot pile slash as necessary  | 10           | \$6.00                       | \$60.00                    |
| Burn piles as necessary   | 10           | \$ .087                      | \$ .88                     |

SILVICULTURAL PRESCRIPTION

SALE NAME: Game Range Salvage

DATE: 1/26/92

TWP: 15N RG: 14W SEC: 26 UNIT: CLW

PREPARED BY: Ethridge

Aspect: NW

Stand: Ac:

Unit #: 7 Ac: 13

Slope: 15 %

Ave. Elevation: 4400

Range: 4400

Soils Unit: Wilkler/rubble

Parent Material: Colluvium

Habitat Type(s): Uncertain

Productivity: Uncertain

Management Objectives: Harvest fire killed timber

DESCRIPTION OF EXISTING STAND: The existing stand was part of the 1991 Game Range Fire. All trees in this stand were killed by the fire. The pre-burn stand was predominately bull pine averaging 16" DBH. Average volume is less than 1000 bf. per acre.

TARGET STAND AND MANAGEMENT PLAN:

Target Stand Description: This stand will be part of a land exchange with DFW&P following this harvest. The stand will be allowed to develop naturally.

Constraints: Minimizing wintering elk disturbance is the only management constraint associated with this stand. See Environmental Assessment.

Regeneration discussion: This area will be allowed to regenerate naturally over time.

Management plan: There is no long term management plan associated with this harvest. The gross sale area is part of a three way land exchange: Champion to DSL to DFW&P. The fire occurred after the Champion/DSL exchange but prior to the DSL/DFW&P exchange. As a result of the fire, some of DSL's exchange value was destroyed. In order to recover burned timber values, DSL will salvage burned timber from the sections to be exchanged. DFW&P has approved the salvage. (See EA.) Our objective is to harvest the merchantable fire killed timber. All green trees, expected to survive will be retained. All reasonable efforts will be made to protect the sub-merchantable fire killed material. No other activities will be conducted in association with this sale.

PRESCRIBED TREATMENTS:

| <u>Treatment</u>   | <u>Acres</u> | <u>Est Cost<br/>Per Acre</u> | <u>Est Total<br/>Total</u> |
|--|--------------|------------------------------|----------------------------|
| Clearcut all merchantable volume<br>Remove all tops and limbs in<br>woods. | 13           |                              |                            |
| Spot pile slash as necessary   | 13           | \$6.00                       | \$78.00                    |
| Burn piles as necessary  | 13           | \$ .087                      | \$ 1.13                    |

SILVICULTURAL PRESCRIPTION

SALE NAME: Game Range Salvage

DATE: 1/26/92

TWP: 15N RG: 14W SEC: 26 UNIT: CLW

PREPARED BY: Ethridge

Aspect: NE

Stand: Ac:

Unit #: 8 Ac: 9

Slope: 15 %

Ave. Elevation: 4100

Range: 4100

Soils Unit: Aquolls & aquepts

Parent Material: alluvium and bog

Habitat Type(s): Uncertain

Productivity: Uncertain

Management Objectives: Harvest fire killed timber

DESCRIPTION OF EXISTING STAND: The existing stand was part of the 1991 Game Range Fire. All trees in this stand were killed by the fire. The pre-burn stand was predominately bull pine averaging 14" DBH. Average volume is less than 1500 bf. per acre.

TARGET STAND AND MANAGEMENT PLAN:

Target Stand Description: This stand will be part of a land exchange with DFW&P following this harvest. The stand will be allowed to develop naturally.

Constraints: Minimizing wintering elk disturbance and the presence of a small stream are the constraints associated with this stand. See Environmental Assessment.

Regeneration discussion: This area will be allowed to regenerate naturally over time.

Management plan: There is no long term management plan associated with this harvest. The gross sale area is part of a three way land exchange: Champion to DSL to DFW&P. The fire occurred after the Champion/DSL exchange but prior to the DSL/DFW&P exchange. As a result of the fire, some of DSL's exchange value was destroyed. In order to recover burned timber values, DSL will salvage burned timber from the sections to be exchanged. DFW&P has approved the salvage. (See EA.) Our objective is to harvest the merchantable fire killed timber. All green trees, expected to survive will be retained. All reasonable efforts will be made to protect the sub-merchantable fire killed material. No other activities will be conducted in association with this sale.

PRESCRIBED TREATMENTS:

| <u>Treatment</u>  | <u>Acres</u> | <u>Est Cost<br/>Per Acre</u> | <u>Est Total<br/>Total</u> |
|---|--------------|------------------------------|----------------------------|
| Clearcut all merchantable volume<br>Remove all tops and limbs in<br>woods | 9            |                              |                            |
| Spot pile slash as necessary  | 9            | \$6.00                       | \$54.00                    |
| Burn piles as necessary   | 9            | \$ .087                      | \$ .78                     |

GAME RANGE SALVAGE SALE  
MARKING GUIDES

Units 1, 2, 6, 7 and 8: In these units all trees were killed by the fire. All merchantable trees will be harvested. No marking will be done.

Units 3, 4 and 5: These units contained trees that were not killed outright by the fire. These trees will be marked to leave using three vertical blue paint stripes extending from approximately breast height to ground level. Trees marked to leave will be selected on the following criteria:

1. Crowns

- a. Yellow pine: 50% or more of the foliage is not burned or scorched.
- b. Bull pine: 20% or more of the foliage is not burned or scorched.

2. Tree Boles

- a. Douglas-fir: This is a judgement call. Look at each bole and try to determine the extent of damage. If the bole appears to have burned hot there is a high probability the cambium was killed. If you are uncertain you can open up the cambium with your hatchet. If the cambium appears brown the tree is dead. If the char appears to be light and the tree meets the crown requirements mark the tree to leave.
- b. Bull pine: This species is more resistant to bole damage. Again, the decision is a judgement call. Cut a few trees looking for the browned cambium. After cutting a few you will get a feel for the amount of char resulting in mortality.

Road Clearing Limits: Are to be marked with single blue paint dots facing road centerline.

Unit Boundaries: Are to be marked with three (3) horizontal blue paint stripes facing into the unit.

Section Lines: Are to be marked with three (3) horizontal orange paint stripes facing 90° to the section line.

Equipment Restriction Zones: Are to be marked with a red painted "X" at approximately breast height facing out of the restriction zone.

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**BRUSH AND TSI COST APPRAISAL SUMMARY**

Timber Sale: Game Range Salvage

Estimated Volume: 1,280 MBF

**BRUSH / TSI**

| ITEM              | SALE AGREEMENT | DOZER RENT | CONTRACTED SERVICES | FTEs |                   | TOTAL   |
|-------------------|----------------|------------|---------------------|------|-------------------|---------|
| Slashing          |                |            |                     |      |                   |         |
| Dozer Piling      | \$4,140        |            |                     |      |                   | \$4,140 |
| Pile Burning      |                |            |                     | \$60 |                   | \$ 60   |
| Broadcast Burning |                |            |                     |      |                   |         |
| Scarify           |                |            |                     |      |                   |         |
|                   |                |            |                     |      |                   |         |
| TOTAL             | \$4,140        |            |                     | \$60 |                   | \$4,200 |
|                   |                |            |                     |      | Expected earnings | \$4,262 |
|                   |                |            |                     |      |                   | \$0.00  |