

Monument Gulch

- Area 5 - slash worked up
dead snag cut down
lodzepak cut down
merch. logs skidded out
water bars - 100 ft
handing - piled & cleaned up
- Area 3 - road slash piled & worked up,
clearcut on the pine

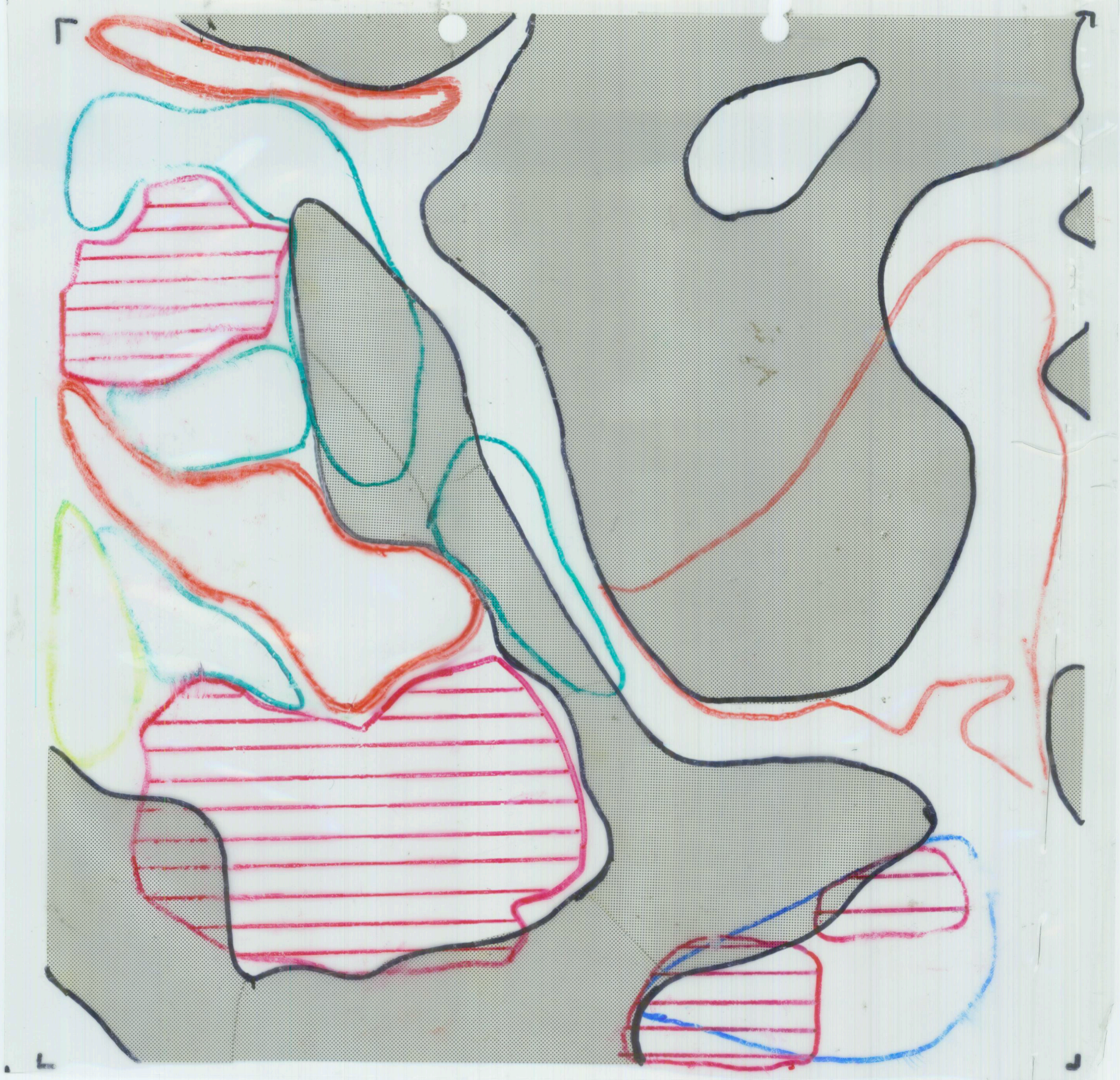
Area 2 - slash over the blue line
bring it back onto sale
slash work up
water bars

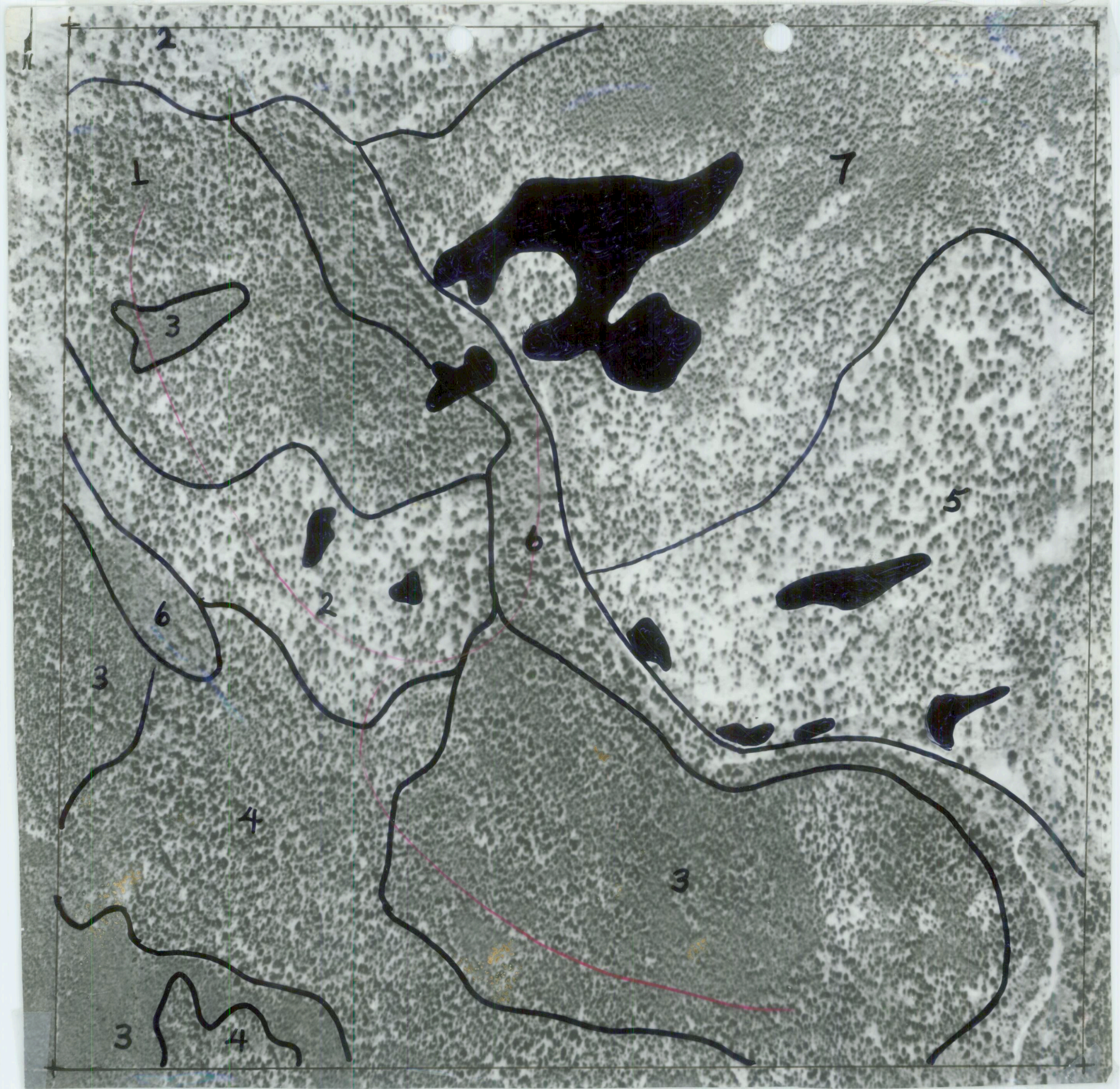
{ no dams in creek
{ no slash in creek

Area 1 - beer cans & trash

Brinkhoff

493 - 8997



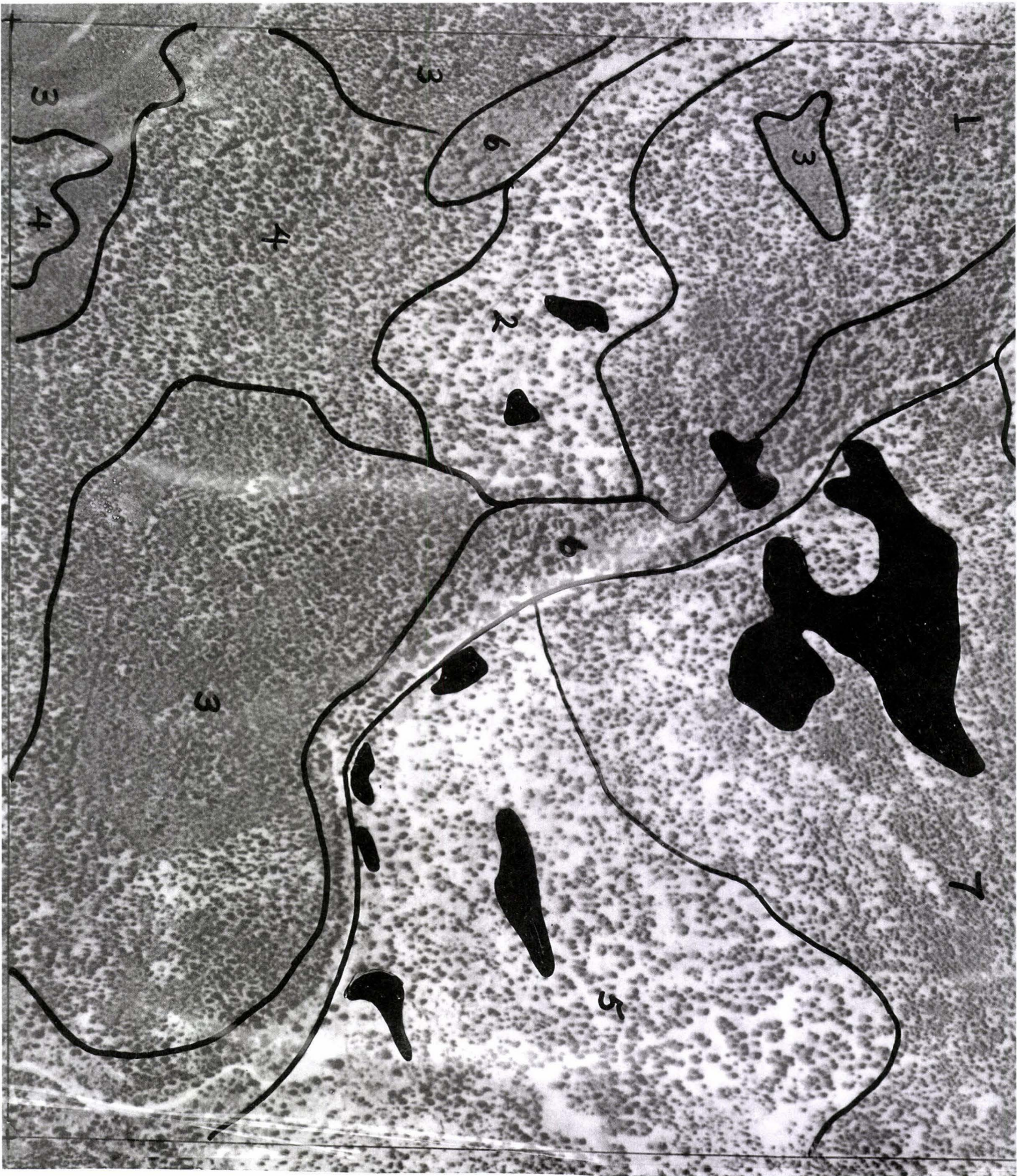


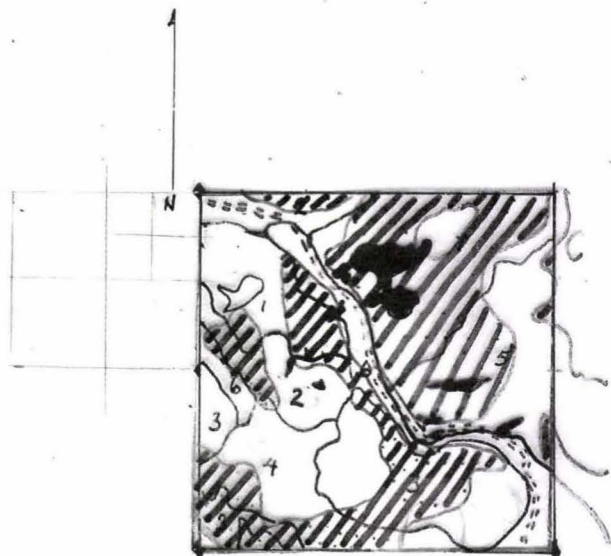
Scale 1:3600

300

484 27/20

$E\frac{1}{2}$ NW $\frac{1}{4}$, W $\frac{1}{2}$ NE $\frac{1}{4}$, S6, T7N, R72W





TIMBER SALE AGREEMENT

This AGREEMENT, entered into this 23rd Day of May, A.D. 1977, between CSU RESEARCH FOUNDATION, Colorado State University, Fort Collins, Larimer County, Colorado, hereinafter called the "SELLER" and Michael Brinkhoff, of Poudre Canyon Route, Bellvue, Colorado, hereinafter called the "PURCHASER".

WITNESSETH:

ARTICLE 1. The SELLER, being the legal owner or the lawful authorized agent for the following described timber, agrees to sell and the PURCHASER agrees to buy, upon the terms and conditions hereinafter stated: The designated timber estimated, more or less, from the area about 84 acres designated on-the-ground by the SELLER prior to cutting, located in: E $\frac{1}{2}$ NW $\frac{1}{4}$, W $\frac{1}{2}$ NE $\frac{1}{4}$, Section 6, Township 7 North, Range 72 West, 6th P.M. Sale area is bisected by the Monument Gulch Road. Sale area boundaries are marked with blue paint.

ARTICLE 2. The PURCHASER agrees to pay the SELLER the sum of \$9500.00 for the designated trees. Initial payment of \$2000 will be made upon signing of this AGREEMENT. The remaining sum will be made in two equal payments after approximately 30% and 60% of the sale area has been harvested.

ARTICLE 3. All operations on the sale area, including removal of timber and/or lumber, may be suspended by the SELLER, in writing, if conditions and requirements set forth in this AGREEMENT are disregarded. Failure to comply, as determined by the forester-in-charge, with any one of the said conditions or requirements, if persisted in, shall be sufficient cause to forfeit the surety bond and to terminate this AGREEMENT. Additional provisions whereby time limits may be extended, amendments made to this AGREEMENT may be made, in writing, at any time by mutual agreement of both the SELLER and PURCHASER.

ARTICLE 4. The PURCHASER further agrees to cut and remove said timber and/or lumber in strict accordance with the following conditions and requirements:

- (A) Cutting and removal of all designated timber, regardless of size or species, shall continue in a progressive manner in blocks designated by the SELLER.
- (B) All designated timber shall be removed from the premises of the SELLER and designated cull trees felled and worked up by the PURCHASER on or before June 1, 1978.
- (C) All trees designated for cutting are described as follows:
 - (1) All trees presently infested with mountain pine beetle.
 - (2) All trees marked with orange paint.
 - (3) All pine trees found within the clear cut boundaries. Clear cut boundaries are marked with red paint.
 - (4) At no time will trees marked with blue or yellow paint be cut.

(D) Merchantable material cut and left in the woods, and undesignated trees which are cut or damaged through carelessness, shall be paid for at the rate of one dollar per tree/piece. Determination shall be made by the forester-in-charge.

(1) A merchantable sawlog is any material at least ten feet long, having a six inch top diameter outside the bark, and at least fifty percent sound.

omit (2) ~~Merchantable roundwood is any piece that will make a six and one-half foot post and peel to a top diameter of three inches.~~ *JE*

(E) Stumps will be cut as low as possible, but not to exceed eight (8) inches in height on the uphill side. Payment for high stumps will be \$1 per stump.

(F) All trees butt-scarred 40% or more around their circumference and/or knocked over in skidding, and any trees with tops broken out in felling, will be cut down and worked up.

(G) PURCHASER shall protect property such as fields, fences, telephone, light and power lines, buildings, ditches, bridges, etc., against unnecessary injury, and shall repair damage caused by him by restoring them immediately to the condition found prior to damage.

(H) As far as practicable all logging and hauling operations shall be in an orderly and progressive manner, exercising all protection to young growth and the surrounding environment.

ARTICLE 5. Slash disposal. The term "slash" means all debris resulting from logging operations or from construction of roads and other improvements.

(A) PURCHASER shall limb all trees to a two (2) inch top, lop and scatter slash so as to lie within two (2) feet of the ground.

(B) All slash within 100 feet of the Monument Gulch Road will be piled for burning.

(C) As far as practicable, slash disposal shall be done concurrent with the cutting of timber. All slash remains the property of the SELLER.

ARTICLE 6. Roads necessary for the operation of the AGREEMENT shall be constructed and maintained as follows:

(A) Approximately one mile of temporary haul roads needs to be constructed.

(B) The Centerline for this road will be flagged by the forester-in-charge for the SELLER.


- (C) A temporary log and timber bridge will be required to cross the creek. Design and construction shall be specified by the forester-in-charge.
- (D) Upon completion of this AGREEMENT, this temporary road will be rendered impassable, and waterbarred to the satisfaction of the forester-in-charge.
- (E) Any road used by the PURCHASER in connection with this sale that is damaged or injured beyond ordinary wear and tear through such use shall promptly be restored by him to its original condition.
- (F) Rights-of-way affecting timber or lands outside the sale area shall be secured by the PURCHASER. Proof of right-of-way access shall be supplied to SELLER, in writing.
- (G) Logs or products dumped or lost from trucks or other carriers shall be reloaded and delivered to the mill.
- (H) Logging operations will be suspended on all roads during periods when such operations would cause excess erosion. Determination shall be made by the forester-in-charge.

ARTICLE 7. The SELLER agrees to the following conditions and requirements:

- (A) The PURCHASER, his contractors and sub-contractors, shall make every reasonable effort independently or in cooperation with recognized fire protection agencies to prevent, control and put out any fires starting on, burning on, or threatening the contract area. As used herein, "every reasonable effort" consists of using all available employees and equipment under the control, direct or indirect, of the PURCHASER, his contractors and sub-contractors. United States Forest Service approved spark-arrestors shall be used on all internal combustion engines. Operable fire extinguishers of at least 10 pounds shall be available at landing sites for use if needed.
- (B) It is understood that the SELLER is interested in the control of mountain pine beetle and dwarf mistletoe on the harvest site. All bark beetle infested material must therefore be removed to a safe area, burned, bark removed, chemically sprayed, and/or chipped. Dwarf mistletoe infested pine will be cut and the tops lopped and scattered. Burning operations will require daily permission of the forester-in-charge.

omit

- ~~(C) As a further guarantee of the faithful performance of the provisions of this contract, PURCHASER delivers herewith and agrees to maintain a surety bond for the sum of \$1500. Any adjustment or extension of time for completion of this contract beyond one year may be granted only with the consent of surety on said bond or delivery of a new bond. Should the sureties on the bond delivered herewith become unsatisfactory to the SELLER, PURCHASER shall, within 30 calendar days of receipt of demand, furnish a new bond with surety satisfactory to the SELLER.~~



- (D) This AGREEMENT, or any interest therein, may not be assigned by the PURCHASER without prior consent of the SELLER.
- (E) The AGREEMENT shall be binding upon the heirs, administrators, executors, successors, or assigns of both parties.
- (F) PURCHASER agrees to indemnify and hold harmless the SELLER from any and all damages, claims or demands upon the part of third parties on account of any action by PURCHASER, his agents, servants, or employees, under this AGREEMENT and furthermore to respect and protect all rights-of-way, easements, and servitudes belonging to any other party or parties, and enjoin not to injure, damage, waste the same in any way whatsoever, and does hereby indemnify and hold harmless the SELLER therefrom.

IN WITNESS WHEREOF, this AGREEMENT has been executed by the parties hereto on the date first written above.

C.S.U.R.F. E. J. Early
SELLER

Michael B. Smith
PURCHASER

Mark B. Smith, Jr.
FORESTER

WITNESSES:



051 Warren C. Hotlich, Jr.
 6901 Tall Spruce Drive
 Anchorage, Alaska 99502

068 Joseph W. Harper
 Rt #1, Box 2685
 Longmont, Colo 80501

069 Richard E. Stall
 11227 W. Ada Place
 Lakewood, Colo 80226

— Linda R. Ellison
 1343 E. 110 Place
 Northglenn, Colo 80233

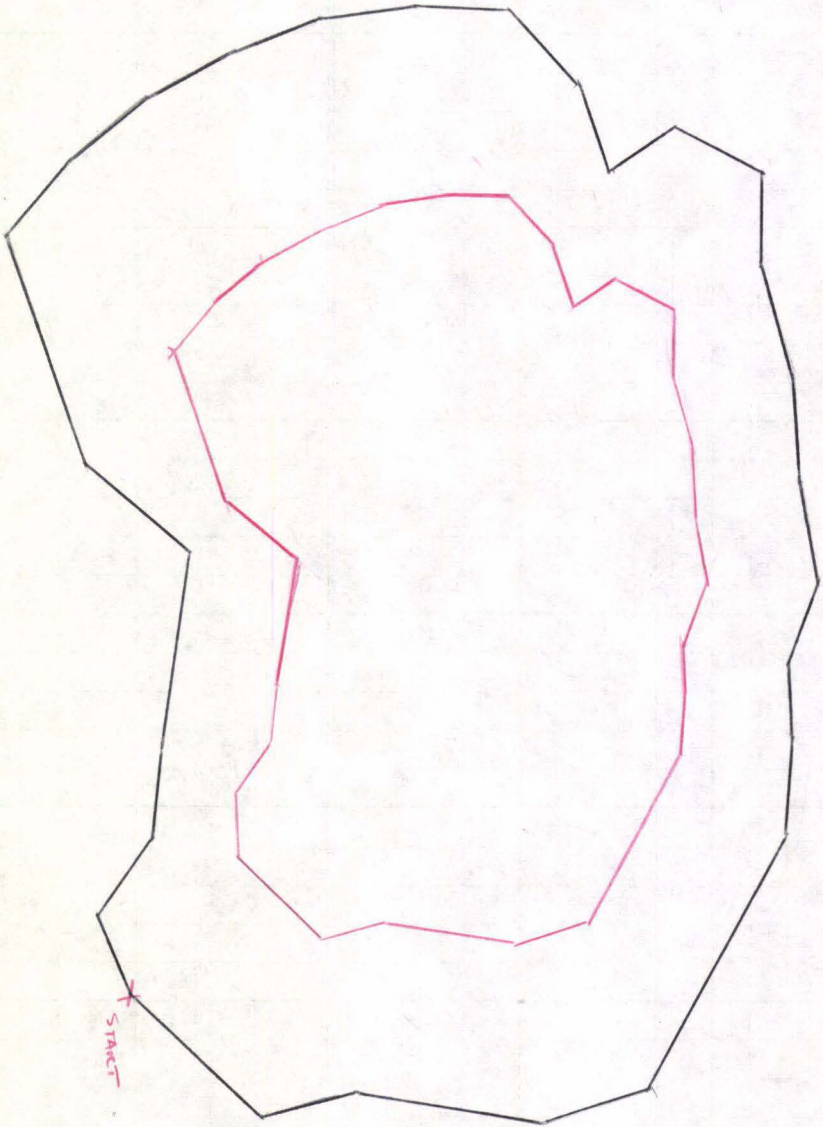
Conrad C. Mowrey
1401 W 68th Ave
Denver, Colorado 80221

UNIT 4 10056 POKES PINIS CLEAR CUT

DECEMBER 9, 1916
M. HORVAT

16.7 ACRES

POTENTIAL VOLUME
29526 CUFT
28524 BDFT (??)



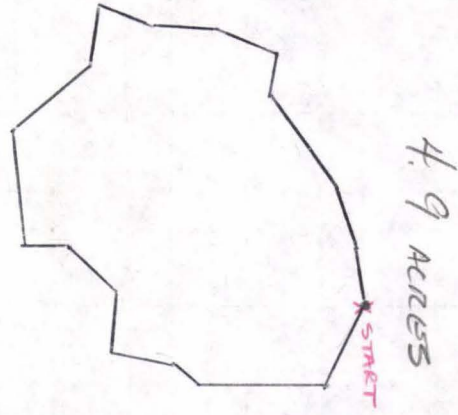
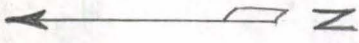
1 INCH = 200 FEET
1 INCH = 300 FEET



UNIT 1 LODGEPOLE RIVE CLEARCUT

DECEMBER 9, 1976
M. HORVAT

POTENTIAL VOLUME
7060 CUFT
29885 BDFE



1" = 300'

VOLUMES TO BE
REMOVED

| <u>UNIT</u> | <u>FORESTER SUR.</u> | <u>MISTLETOES</u> | <u>MPB</u> | <u>TOTAL</u> |
|-------------|--------------------------|-------------------|------------|------------------|
| 1 | 12124 CF | 8810 | 0 | 20934 CF |
| | 39808 BF | 24024 | 0 | 63,832 BF |
| 2 | 24970 CF | 0 | 893 | 25863 CF |
| | 107,245 BF | 0 | 3798 | 111043 BF |
| 3 | 14187 CF | 6943 | 0 | 21,130 CF |
| | 12,226 BF | 0 | 0 | 12,226 BF |
| 4 | 35,356 CF | 0 | 0 | 35,356 CF |
| | 34,170 BF | 0 | 0 | 34,170 BF |
| | | | | <hr/> 103,283 CF |
| | | | | 221,271 BF |

MONUMENT GULCH
FOREST INVENTORY
E $\frac{1}{2}$ NW $\frac{1}{4}$, W $\frac{1}{2}$ NE $\frac{1}{4}$, S6, T7N, R72W

I. Purpose of Inventory

Collection of data for forest management and timber sale planning.

II. Information Required

A. Areas

1. Useable and unuseable
2. Types
3. Size classes
4. Site (?)

B. Stand Descriptions

1. Composition
2. Size classes

C. Stocking

D. Growth

1. Present
2. Predicted

E. Volumes

1. By type
2. By size class

F. Fire Problem

1. Past history

G. Insect and Disease

1. Nature of losses
 - a. Dwarf mistletoe
 - b. MPB
 - c. Spruce budworm
 - d. Other

H. Wildlife

1. Evidence of

III. Inventory Design

A. General

1. Cruise Accuracy

- a. 80% for management purposes
- b. 95% for sale purposes in units 2 & 4

2. Variable Plot - Mechanical Sampling

- a. Points will be located on established cruise lines found on aerial photos.
- b. Points will be located 2-3 chains apart depending on number of plots necessary to arrive at required cruise accuracy.
- c. Mogren's range mean-ratio will be used for determining number of required plots.

B. Measurement Procedure

1. Photo Interpretation

- a. Scale 1:3600 300 ft./inch 1.1 inch = 5 chains
1 ch = .22 inches

2. Field Organization

- a. 2 - two man crews
- b. Crew 1 - units 1, 2 & 5
Crew 2 - units 3 & 4

3. Field Procedures

- a. Use Data Recording Procedure for Mechanical Sampling, CSFS 3327.1. This has been copied, and each crew will have one in their possession.
- b. Explanation by card column
 1. 7-30 will be the same within each unit
 2. 44-55 site class taken on each point
 3. 60-61 Annual rings per last inch - take on dominant tree of each species/point
 4. 69 Forester selection - these are trees that you would remove in the first cut of a two cut shelterwood. Do not use for lodgepole saw timber - unit 4
 5. 70 Spruce budworm code
 - 1- light infestation per tree
 - 2- medium infestation per tree
 - 3- heavy infestation per tree

6. 71 DMR - dwarf mistletoe rating
7. 72 MPB code

0 - not infested
1 - infested - green hits

8. 74-75 Tree mortality count - all trees that died w/in the last year.
9. 78-80 - Unit number (i.e. unit 1 record as 001)

c. In remarks - briefly describe

1. Nature of fire problem
2. Other I&D present in the stand
3. Wildlife sighted or evidence thereof
4. Brief stand description & recommended silvicultural needs

4. Required Equipment

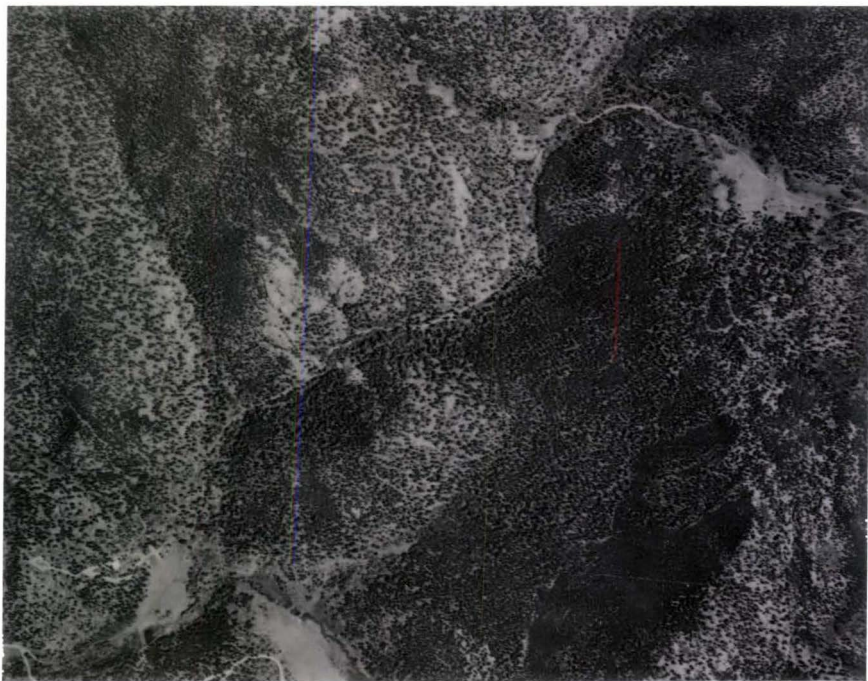
- a. Clinometer
- b. Compass
- c. 10 Factor Prism or wedge
- d. 50 Foot tape
- e. Increment bore
- f. Field Handbook
- g. Photographs
- h. Stereo scope
- i. Tally forms & binder or notebook
- j. Mistletoe rating cards
- k. Photo scales--and compass roses
- l. Cruiser vests
- m. Pack mule

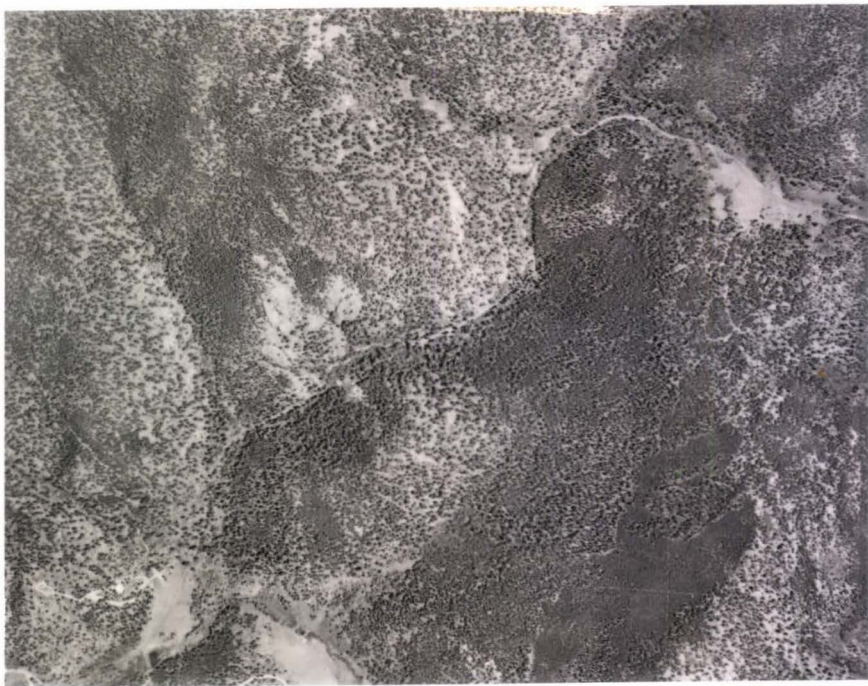
$\frac{Exp}{x8} - 0 - 9$

0
6
1

#9 filter @ 5 4 10 sec

5/11







CSU Monument Gulch
S6, T7N, R72W

| UNIT | TYPE | ACREAGE | | <30% | |
|------|-----------------------------------|------------------------------------|---------------|-----------------|---------------|
| | | TOTAL | | | |
| 1 | Lodgepole - D-fir old growth | 44.8 13.4 | 14 | 9.2 | 9 |
| 2a | Ponderosa pine old growth | 7.0 | 7 | 6.0 | |
| 2b | " " | 10.6 12.0 | 11 | 7.0 | |
| | | <u>19.0</u> 17.6 | | <u>13.0</u> | |
| 3a | Lodgepole pine Post & Pole | 3.3 | 3 | 2.9 | 3 |
| 3b. | " " | 4.1 | 4 | 0 | |
| 3c. | " " | 36.3 27.7 | 30 | 18.0 | 18 |
| | | 35.1 | | 21.2 | |
| 4 | Lodgepole pine old growth | 20.1 21.5 | 20 | 13.7 | 14 |
| 5 | Ponderosa pine old growth | 37.5 28.9 | 39 | 18.3 | 18 |
| 6a | Mixed Conifer | 13.6 15.0 | 14 | 13.7 | 14 |
| b | " " but w/ Aspen | 2.3 | 2 | 2.3 | 2 |
| | | <u>17.3</u> 15.9 | | 16.0 | |
| 7 | Ponderosa Pine - Douglas - Fir | 31.6 36.8 | 39 | 7.8 | 8 |
| Rock | | 5.0 | | 7.0 | 5 |

GRAND TOTAL

175.2

99.2

Unit 1 - hodgepole, Douglas - fir
old growth

TOTAL - ^{13.4}~~14.8~~ acres ~~50.30%~~
< 30% - 9.2

Unit 2 - Ponderosa pine - old growth

Total - 7.0
5.6
< 30% - 6 } 19.0

2a Total - ^{10.6}12
13.0
< 30% - 7

Unit 3a - hodgepole pine - post & pole
Total - 3.3

< 30% - 2.9

3b - Total - 4.1
3.1
< 30% - 0 } 31.0

3c - Total - ^{26.3}27.7
21.2
< 30% - 18.3

Grand Total
35.1
< 30% 21.2

Unit 4 - hodgepole pine - old growth

Total - 21.5
20.1
< 30% - 13.6

Unit 5 - Ponderosa pine - old growth

Total - 28.9
27.5
< 30% - 18.33

Unit 6 - Mixed conifer - River bottom

Total - 15.0 ~~17.3~~ 15.9
Aspen < 30% - ~~10.0~~ 16.0
Total - ~~10.0~~
< 30% - ~~2.3~~

Unit 7 - Mixed conifer - Ponderosa Pine 0-fir

Total - ~~31.6~~ 30.2
< 30% - 7.8 26.2

Rock - Total - 7.0

Unit 6a - Mixed conifer - River bottom

Total - ~~15.0~~ 13.6
< 30% - 13.7
66. Aspen & Spr. 15.9
Total 2.3 +7.3
< 30% 2.3 16.0

- Unit 1 - Lodgepole - Douglas-fir ~~saw timber~~ old-growth
- 2 - Ponderosa pine - saw timber
- 3 - Lodgepole pine - post & pole
- 4 - Lodgepole pine - old growth
- 5 - Ponderosa pine - saw timber
- 6 - Mixed conifers - Spruce, subalpine fir, Douglas-fir, Lodgepole pine, Ponderosa pine.
- 7 - Mixed conifers - Ponderosa pine - Douglas fir

Total < 30%

| | |
|--------------|---------------|
| 1 - 76 dots | 47 |
| 2 - 36 dots | 29 |
| 2a - 59 dots | 39 |
| 3a - 17 dots | 15 |
| b - 2 | |
| c - 142 | 81 |
| 4 - 110 | 70 |
| 5 - 148 | 44 |
| 6 - 77 | 70 |
| 7 - 162 | 40 |
| Rock - 21, | |
| 15 | |
| <hr/> | |
| 36 | |

$$\frac{256 \text{ dots}}{\text{in}^2} \div \frac{50 \text{ acres}}{\text{in}^2} = 5.12 \frac{\text{dots}}{\text{acre}}$$

$$\frac{\text{in}^2}{256 \text{ dot}} \times \frac{50 \text{ acres}}{\text{in}^2}$$

.195 acres / dot

.2 acres / dot

Aspen 12

| CSU - MONUMENT GULCH | | 56, T7N, R72W | |
|----------------------|------------------------------------|-----------------|-----------------|
| UNIT | TYPE | TOTAL | Acres < 30% |
| 1 | Lodgepole - f.r. old growth | <u>14</u> | <u>9</u> |
| 2a | Ponderosa pine old growth | 7 | 6 |
| 2b | " " | $\frac{11}{18}$ | $\frac{7}{13}$ |
| 3a | Lodgepole pine Post & Pole | 3 | 3 |
| 3b | " " | 4 | 0 |
| 3c | " " | $\frac{26}{33}$ | $\frac{18}{21}$ |
| 4 | Lodgepole pine old growth | <u>20</u> | <u>14</u> |
| 5 | Ponderosa pine old growth | <u>28</u> | <u>18</u> |
| 6a | Mixed Conifer | 14 | 14 |
| 6 | " " but w/ Aspen | $\frac{2}{16}$ | $\frac{2}{16}$ |
| 7 | Ponderosa Pine - Douglas - f.r. | <u>31</u> | <u>8</u> |
| Rock | Rock | <u>X</u> | <u>X</u> |
| GRAND TOTAL | | 160 | 104 |

454 32'30"

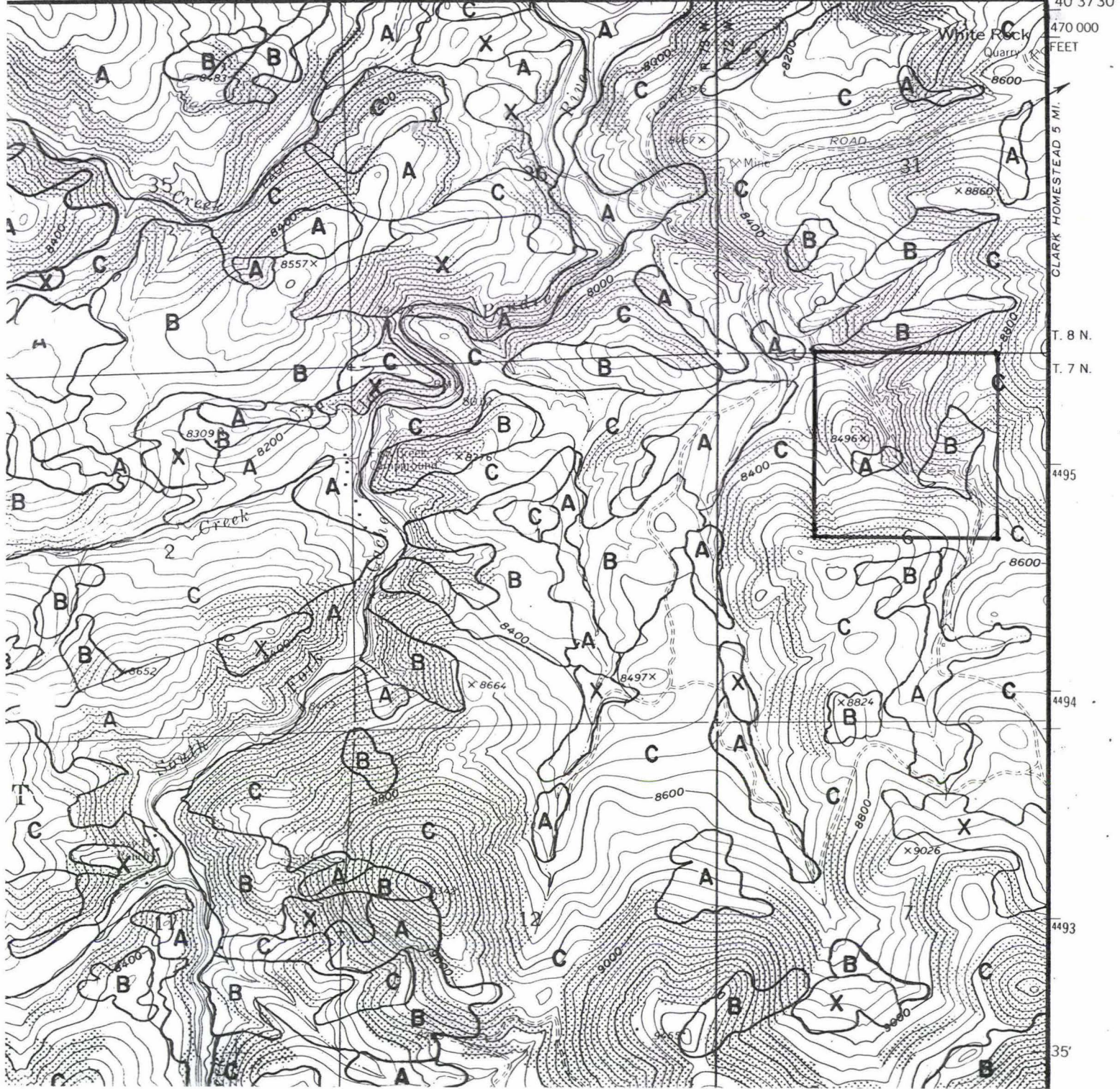
1 990 000 FEET

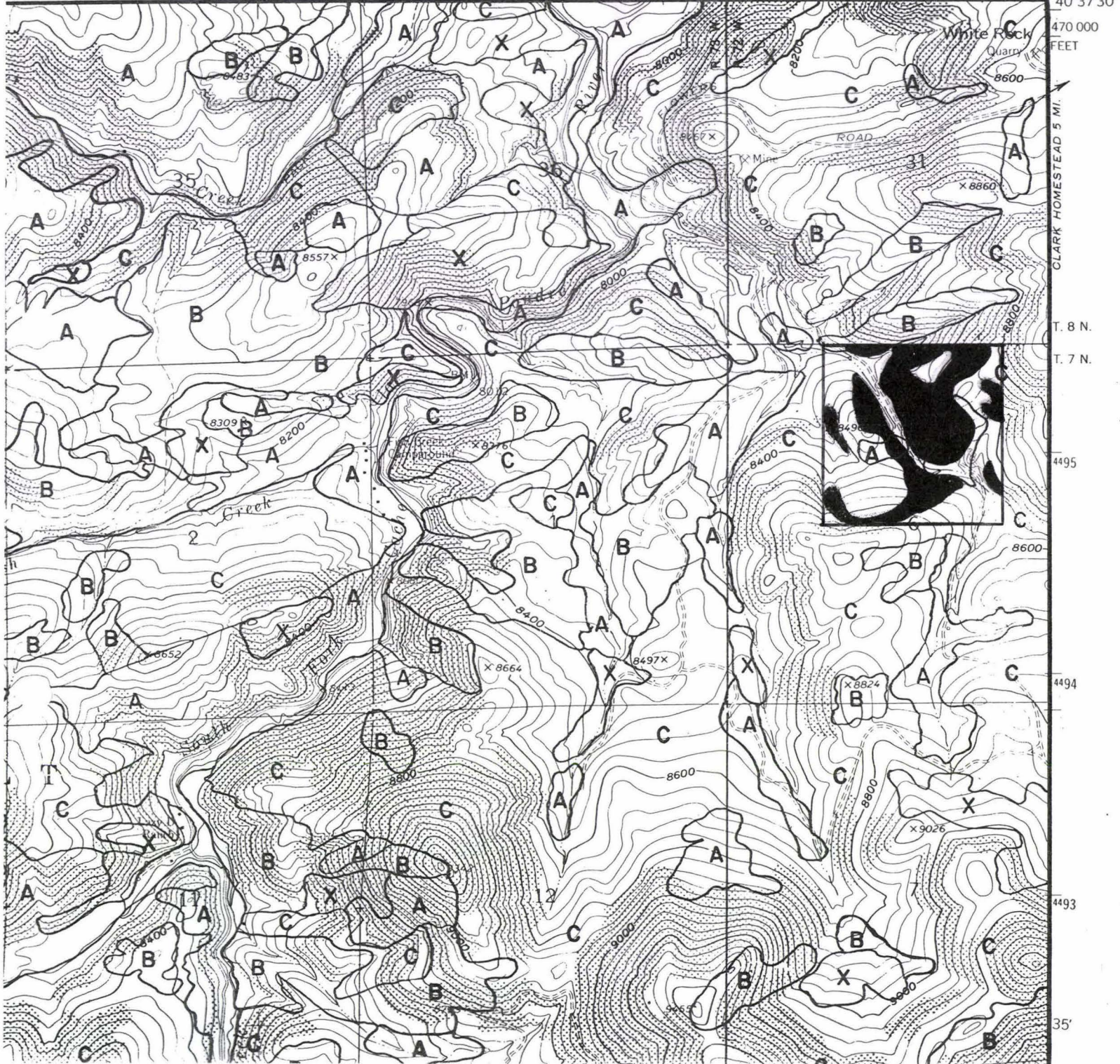
ROCKWELL RANCH 0. MI.

1457

105°30'

40°37'30"





CLARK HOMESTEAD 5 MI.

T. 8 N.
T. 7 N.

4495

4494

4493

35'





COMPUTATION SHEET FOR 10 FACTOR P-SM
Trees/Acre, Average Dbh, Basal Area/Acre

Number points taken: $\overset{(1)}{\boxed{6}}$

| (2) | (3) | (4) | (5) | (6) | (7) |
|---------|------------------|---------------|-----------|-----------------------------|-----------|
| Dbh | Tree Factor (Ft) | Tally | (3) x (4) | Dbh ² | (5) x (6) |
| 1 | 2 | | | 4 | |
| 3 | 4 | 2 | | 16 | |
| 5 | 6 | 10 | | 36 | |
| 7 | 8 | 22 | | 64 | |
| 9 | 10 | 17 | | 100 | |
| 11 | 12 | 11 | | 144 | |
| 13 | 14 | 2 | | 196 | |
| 15 | 16 | | | 256 | |
| 17 | 18 | | | 324 | |
| 20 | 4.6 | | | 400 | |
| 22 | 3.8 | | | 484 | |
| 24 | 3.2 | | | 576 | |
| 26 | 2.7 | | | 676 | |
| 28 | 2.3 | | | 784 | |
| 30 | 2.0 | | | 900 | |
| TOTAL = | | | | ... $\Sigma D^2 = 11717.06$ | |

(8) To compute average total trees/acre, total Column 5 from all points and divide by number of points. To compute number of trees per acre for an individual class, divide the figure in (5) next to the class you want by (1). $\boxed{306}$ Ave. total trees/acre

(9) To compute average Dbh (\bar{D}_q), use:

$$\bar{D}_q = \sqrt{\frac{\Sigma D^2 \text{ from all points}}{(\text{trees/A})(\# \text{ points})}}$$

$$\frac{(8)}{(1)}$$
 $\boxed{8.0}$ Ave. Dbh (inches)

(10) To compute average BA per acre, use:

$$BA = \frac{.005454 (\Sigma D^2 \text{ from all points})}{\# \text{ points}}$$
 $\boxed{107}$ BA/Acre (sq. ft.)

COMPUTATION SHEET FOR 10 FACTOR SM
 Trees/Acre, Average Dbh, Basal Area/Acre

Number points taken: $\boxed{(1)} \quad \boxed{5}$

UNIT 3

| (2) | (3) | (4) | (5) | (6) | (7) |
|---------|------------------|-------|-----------|------------------|----------------------|
| Dbh | Tree Factor (Ft) | Tally | (3) x (4) | Dbh ² | (5) x (6) |
| 1 | 2 | 458.4 | 1 | 4 | |
| # 3 | 4 | 114.6 | 8 | 16 | |
| 5 | 6 | 50.9 | 11 | 36 | |
| 7 | 8 | 28.6 | 16 | 64 | |
| 9 | 10 | 18.3 | 5 | 100 | |
| 11 | 12 | 12.7 | 3 | 144 | |
| 13 | 14 | 9.4 | 1 | 196 | |
| 15 | 16 | 7.2 | | 256 | |
| 17 | 18 | 5.7 | | 324 | |
| 19 | 20 | 4.6 | | 400 | |
| 21 | 22 | 3.8 | | 484 | |
| 23 | 24 | 3.2 | | 576 | |
| 25 | 26 | 2.7 | | 676 | |
| 27 | 28 | 2.3 | | 784 | |
| 29 | 30 | 2.0 | | 900 | |
| TOTAL = | | | | ... | $\Sigma D^2 = 82604$ |

(8) To compute average total trees/acre, total Column 5 from all points and divide by number of points. To compute number of trees per acre for an individual class, divide the figure in (5) next to the class you want by (1). $\boxed{515}$ Ave. total trees/acre

(9) To compute average Dbh (\bar{D}_q), use:

$$\bar{D}_q = \sqrt{\frac{\Sigma D^2 \text{ from all points}}{(\text{trees/A})(\# \text{ points})}}$$

(8) (1)

$\boxed{5.7}$ Ave. Dbh (inches)

(10) To compute average BA per acre, use:

$$BA = \frac{.005454 (\Sigma D^2 \text{ from all points})}{\# \text{ points}}$$

$\boxed{90}$ BA/Acre (sq. ft.)

COMPUTATION SHEET FOR 10 FACTOR TSM
Trees/Acre, Average Dbh, Basal Area/Acre

Number points taken: $\frac{(1)}{7}$

UNIT 1

| (2) Dbh | (3) Tree Factor (Ft) | (4) Tally | (5) (3) x (4) | (6) Dbh ² | (7) (5) x (6) |
|------------|-------------------------------|--------------|------------------|-------------------------|------------------|
| 1-2 | 458.4 | | | 4 | |
| 3-4 | 114.6 | | | 16 | |
| 5-6 | 50.9 | | | 36 | |
| 7-8 | 28.6 | 3 | 85.8 | 64 | 5478.4 |
| 9-10 | 18.3 | 7 | 128.1 | 100 | 12810.0 |
| 11-12 | 12.7 | 13 | 165.1 | 144 | 23774.4 |
| 13-14 | 9.4 | 17 | 159.8 | 196 | 31320.8 |
| 15-16 | 7.2 | 11 | 79.2 | 256 | 20275.2 |
| 17-18 | 5.7 | 4 | 22.8 | 324 | 7387.2 |
| 19-20 | 4.6 | 1 | 4.6 | 400 | 1840 |
| 21-22 | 3.8 | | | 484 | |
| 23-24 | 3.2 | | | 576 | |
| 25-26 | 2.7 | | | 676 | |
| 27-28 | 2.3 | | | 784 | |
| 29-30 | 2.0 | | | 900 | |

TOTAL = 645.4 ... $\Sigma D^2 = 102886$

(8) To compute average total trees/acre, total Column 5 from all points and divide by number of points. To compute number of trees per acre for an individual class, divide the figure in (5) next to the class you want by (1). $\frac{645.4}{7} = 92.2$ Ave. total trees/acre

(9) To compute average Dbh (\bar{D}_q), use:

$$\bar{D}_q = \sqrt{\frac{\Sigma D^2 \text{ from all points}}{(\text{trees/A})(\# \text{ points})}}$$

(8) (1)

$\frac{102886}{645.4} = 12.6$ Ave. Dbh (inches)

(10) To compute average BA per acre, use:

$$BA = .005454 \left(\frac{\Sigma D^2 \text{ from all points}}{\# \text{ points}} \right)$$

$\frac{102886}{645.4} = 80$ BA/Acre (sq. ft.)

COMPUTATION SHEET FOR 10 FACTOR SM
 Trees/Acre, Average Dbh, Basal Area/Acre

Number points taken: (1)
11

UNIT 2

| | (2) | (3) | (4) | (5) | (6) | (7) |
|-----|---------|------------------|-------|-----------|------------------|-----------|
| | Dbh | Tree Factor (Ft) | Tally | (3) x (4) | Dbh ² | (5) x (6) |
| (1) | 2 | 458.4 | | | 4 | |
| (5) | 4 | 114.6 | | | 16 | |
| (4) | 6 | 50.9 | ∩ 5 | 254.5 | 36 | 9162 |
| (1) | 8 | 28.6 | ⊗ 9 | 257.4 | 64 | 16473.6 |
| (4) | 10 | 18.3 | ∩ 6 | 109.8 | 100 | |
| (1) | 12 | 12.7 | ⊗ 15 | 190.5 | 144 | |
| | 14 | 9.4 | ⊗ 12 | 112.8 | 196 | |
| | 16 | 7.2 | ⊗ 11 | 79.2 | 256 | |
| | 18 | 5.7 | ⊗ 16 | 91.2 | 324 | |
| | 20 | 4.6 | ∩ 6 | 27.6 | 400 | |
| | 22 | 3.8 | ∩ 4 | 15.2 | 484 | |
| | 24 | 3.2 | ∩ 2 | 6.4 | 576 | |
| | 26 | 2.7 | ∩ 3 | 8.1 | 676 | |
| | 28 | 2.3 | ∩ 2 | 4.6 | 784 | |
| | 30 | 2.0 | | | 900 | |
| | 35 | 1.5 | ∩ 1 | 1.5 | | |
| | TOTAL = | | | | 168983.1 | 29310 |

(8) To compute average total trees/acre, total Column 5 from all points and divide by number of points. To compute number of trees per acre for an individual class, divide the figure in (5) next to the class you want by (1).
 675 105 Ave. total trees/acre

(9) To compute average Dbh (\bar{D}_q), use:

$$\bar{D}_q = \sqrt{\frac{\sum D^2 \text{ from all points}}{(\text{trees/A})(\# \text{ points})}}$$

4.1 12.09 Ave. Dbh (inches)

(10) To compute average BA per acre, use:

$$BA = \frac{.005454 (\sum D^2 \text{ from all points})}{\# \text{ points}}$$

80 84 BA/Acre (sq. ft.)

RESOURCES

1974 - 5% from state & private lands

235.6 MMBF

13 ~~7.6~~ MMBF from private lands

$\frac{1}{4}$ of commercial forest land is state & private in Colorado

| <u>Start</u> | <u>Bearing</u> | <u>Dist</u> |
|--------------|----------------|-------------|
| #1 | 222° | 177 |
| | 165° | 100 |
| | 190° | 200 |
| CC | 162° | 120 |
| | 118° | 300 |
| | 94° | 100 |
| | 88° | 70 |
| | 110 | 100 |
| | 80 | 100 |
| | 87 | 120 |
| | 73 | 110 |
| | 90 | 100 |
| | 27 | 100 |

(over)

Bear

Dist

~~324'~~

~~80'~~

~~71'~~

~~100~~

~~47~~

~~100~~

~~3~~

~~100~~

~~352'~~

~~100~~

~~338~~

~~100~~

~~331~~

~~100~~

~~319~~

~~100~~

~~309~~

~~100~~

~~250~~

~~250'~~

~~220~~

~~140~~

~~278~~

~~200~~

~~274~~

~~100~~

305

100

253

100

3470

#2
start

Bear

Dist

~~81°~~

100

~~72°~~

180

~~53~~

165

~~100°~~

60

~~23°~~

100

~~2°~~

100

CC #2

~~23°~~

90

~~278°~~

100

~~319°~~

160

~~268°~~

175

~~181°~~

70

~~233°~~

100

~~276°~~

90

~~192°~~

100

220°

55

180°

200

114°

150

End

1915