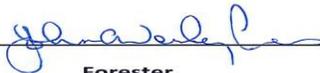


**TIMBER SALE REPORT & APPRAISAL**

**Dyers Creek**

Rio Grande National Forest  
Divide Ranger District  
08/16/2016

Prepared by:  Date: 092816  
Forester

Approved by:  Date: 092916  
District Ranger

## SUMMARY OF RECOMMENDATIONS

Net Volume (Appraised and Contract)

**Total: Live DF & WF**

**848 CCF**

\*DF: Douglas-fir:

522 CCF

\*WF: White fir:

326 CCF

Quadratic Mean DBH:

**11.0 inches**

Treatment acres:

**119.5 acres**

Advertised Rates

Douglas-fir and other conifer species:

**\$3.00/CCF**

White fir:

**\$3.00/CCF**

Specified Road Reconstruction:

**\$0**

Public Works Construction Cost:

**\$0**

Road Completion Date:

**N/A**

Required Slash Deposit is:

**\$2.46/CCF**

Required Surface Rock Replacement Deposit is:

**\$0.00/CCF**

Total cost of KV work:

**\$2,691**

Total KV Collections at advertised rates:

**\$2,327**

Essential KV:

**\$2,118**

Contract period is:

**Two (2) years**

Termination Date:

**March 31, 2018**

Normal Operating Season:

**June 1 to October 31**

## **DESCRIPTION**

### **A. Location**

The sale area is approximately 21 miles northwest of Del Norte, Colorado, in Sections 24 & 25 T41N, R3E, New Mexico P.M., Rio Grande County, Colorado. The sale area is approximately 322 acres in size, of which 119.5 acres are within cutting units. Principal access to the sale is from Colorado State Highway 160 and NFSR 640.

### **B. Land Status**

All harvested units are on National Forest Service lands. There are no known encumbrances.

### **C. Basis for Selecting Area**

This project is a joint venture between the Forest Service, Colorado Parks and Wildlife's Habitat Partnership Program, Rio Grande Watershed Emergency Action Coordination Team (RWEACT), and Rocky Mountain Elk Foundation. This area was selected to improve big game habitat, stimulate aspen recruitment, provide a wood product, and to reduce hazardous fuels and the incidence of spruce budworm in the Dyers Creek area northwest of Del Norte, Co.

### **D. Transportation Routes and Appraisal Points**

The sawtimber was appraised using Montrose, Colorado as the most advantageous appraisal point, as directed by the R2 Regional Office.

### **E. Silvicultural Description**

The silvicultural prescription for all cutting units is an Intermediate Shelterwood. Merchantable conifers (Douglas-fir, White fir, and other conifer species) greater than 8" dbh will be thinned from below to an average basal area target of 30 ft<sup>2</sup> / ac (ranging between 20-40).

### **F. Unique Circumstances**

To avoid conflict with hunters there will be no weekend hauling during big game rifle seasons 1 thru 4. In order not to disturb big game winter range activities there will not be any operations allowed before 9AM and after 5PM from January 1 thru May 31.

See provision CT6.312#.

## CONDITIONS OF SALE

### **A. Planned Cutting Methods**

Units 1 & 4 are Leave Tree Marked, with leave trees and unit boundaries designated using FS orange tracer paint. Leave trees consist of marked conifers and aspen that will leave 20-40 ft<sup>2</sup> of basal area.

There are no orange boundary trees when the road is the unit boundary; the road serves as the unit boundary. Unmarked merchantable conifer trees are to be harvested, along with merchantable trees marked with blue tracer paint. These were marked to monument cruise plots.

### **B. Sale Area Improvement Needs (SAI)**

See the SAI Plan on form FS-2400-50 and KV Plan Narrative for information.

### **C. Slash Treatment**

Slash remaining within cutting units must be lopped and scattered. Slash accumulated at the landing shall be consolidated into burnable piles that are free of dirt or other non-combustible debris. A deposit will be collected to cover the cost of post-sale landing slash pile burning conducted by U.S. Forest Service personnel. See the Brush Disposal Treatment Plan FS-2400-62 and Excel spreadsheet for slash disposal details.

### **D. Water Quality Protection and Erosion Control**

Landings and skid trails will be re-vegetated to stabilize soils; no temporary roads were analyzed for this timber sale. Skid trails are to be laid out to reduce erosion and will require agreement by the timber sale administrator. Skid trails must be at least 100 feet from all live streams except in areas previously identified by U.S. Forest Service personnel. Drainage structures will be required where erosion potential is high. All seed that is used will be certified noxious weed-free Subalpine seed mixture.

### **E. Relevant Mitigation Measures & Design Criteria**

<b>Timing of Operations</b>
No weekend hauling during Big Game Rifle hunting seasons 1-4. No operations before 9 AM and after 5PM from January 1 through May 31 <b><i>CT5.12# "Use of Roads by Purchaser" is included in this contract. This provision restricts hauling during the specified timeframes above. CT6.312 Sale Operation Restrictions. This provision restricts operations during the specified time frame.</i></b>
<b>Wildlife/TES/MIS</b>
The project has been surveyed for TES and MIS species. Surveys will continue during project implementation. If a species is discovered, they will be protected as indicated in the Forest Plan with consultation with the U.S. Fish and Wildlife Service, as necessary. <b><i>BT6.24 "Protection Measures Needed for Plants, Animals, Cultural Resources, and Cave Resources is included in this contract.</i></b>
Gated roads utilized during logging activities and following logging will remain closed to the general public to minimize wildlife disturbance (and for public safety). An exception may be temporarily opening roads for public firewood collection following harvest. <b><i>C5.41# "Closure to Use by Others" is included in this contract to ensure the gate on NFSR 639 stays shut during harvest operations.</i></b>

**Noxious Weed Management**

All organic material used for rehabilitation: seed, straw, erosion control material, or other, will be certified weed free. **CT6.602# “Protection of Disturbed Areas from Establishment of Noxious Weeds is included in this contract and specifies the seed mixture required for rehabilitation.**

The timber purchaser or other contractors will be required to clean all logging and construction equipment that operates off roads prior to entry to the project area. **BT6.35 “Equipment Cleaning” is in this contract requiring all off road equipment to be cleaned and inspected before moving to sale area and requires all off road equipment to be cleaned if it previously operated in an area known to have noxious weeds.**

Haul routes and highly disturbed areas, such as landings, will be treated for noxious weed infestations as needed for five years following harvest. **Noxious weed spraying along roads, landings and skidtrails has been identified in the KV plan or will be funded with appropriated dollars.**

**Livestock Management**

As needed in individual Sale Areas, temporary fences would be constructed to restrict livestock access to the project areas during harvest and the early stages of planting and regeneration of the harvest area. Where possible, any new fences would utilize existing barriers and openings or openings created by harvest activities to reduce the need to clear brush or trees. When the temporary fence is no longer needed, it would be removed. **Sale Administration Team will notify Range Team if problems exist with livestock during harvest operations and determine the best course of action at that time. Fencing for regeneration purposes will be determined after harvest, if needed. This may be added to the KV plan if funds exist before sale closure or it may be funded with appropriated money, if needed.**

**Protect Improvements**

Identify, avoid, and protect overhead and underground utility lines during road improvement, maintenance, and closure work, as well as during material haul and equipment transport. **BT6.22 “Protect Improvements” is included in this contract.**

Any protected improvements such as fences, cattle-guards and water developments, identified on sale area maps or in fuel treatment areas, will be protected during harvest or treatment activities. Damaged improvements will be repaired or replaced, depending upon the amount of damage. **BT6.22 “Protect Improvements” is included in the contract. Any protected improvements that exist within the sale area have been identified on the Sale Area/Vicinity Map.**

**Soil and Water Protection**

If whole tree yarding is used, limbs and/or tops shall be returned to the unit if 15% or more of the unit has exposed mineral soil; this material shall be distributed in areas primarily comprised of bare mineral soils. **If a unit approaches the 15% exposed mineral soil criteria, limbs and/or tops will be returned to the unit. CT6.7# “Slash Treatment” includes this requirement.**

Operate heavy equipment for land treatments only when soils are dry, soil moisture is below the plastic limit, or protected by at least 1 foot of packed snow or 2 inches of frozen soil. **BT6.6 “Erosion Prevention and Control” and CT6.42# “Skidding and Yarding” is included in this contract and soil moisture guidelines are attached to the Logging Plan.**

Re-use existing skid trails and landings whenever practical. **CT6.42# “Skidding and Yarding” is included in this contract stating skid trails will be located and approved in advance of felling. Notes to Sale Administration team will be identified in the logging plan to re-use existing skid trails where applicable.**

Skid trail locations will be agreed to by the Forest Service in advance of construction; spacing will be approximately 100 feet apart, allowing for topographic variation and skid trail convergence; skid trails

<p>will be waterbarred at least every 100 feet on gradients greater than 20 percent, otherwise where needed depending on slope and ground conditions as per BMPs; slash will be placed on main skid trails as needed to control erosion. <b><i>CT6.42# “Skidding and Yarding” is included in this contract. These specifications will be met.</i></b></p>
<p>Skidding equipment will generally be restricted to slopes &lt;35%. <b><i>Addressed during unit layout and in the logging plan; none of the cutting units contain slopes &gt;35%.</i></b></p>
<p>Existing vegetation on cut and fill slopes would be retained as much as possible to limit sediment movement away from road. <b><i>Purchaser activities are not expected to remove existing vegetation on cut and fill slopes.</i></b></p>
<p><b>Vegetation Protection/Biodiversity/Regeneration</b></p>
<p>To protect soil, leave trees, and advanced regeneration, tractor skid trails will be located and approved in advance of falling and logs will be skidded with the leading end free of the ground to reduce ground disturbance. <b><i>CT6.42# “Skidding and Yarding” and CT6.411 “Felling and Bucking” are included in this contract designating skid trail spacing, directional falling and skidding with leading end free of the ground.</i></b></p>
<p>Place landings in open areas if available, to protect understory. <b><i>Landings will be placed in open areas, as much as possible. Notes to Sale Administration team in logging plan specifies the importance of landing placement.</i></b></p>
<p>Leave sufficient trees or retain existing large woody debris (a minimum of 5-10 tons per acre in Douglas-fir and 10-15 tons per acre in Spruce-fir) on harvested sites to retain moisture, trap soil movement, provide microsites for establishment of forbs, grasses, shrubs and trees, and to provide habitat for wildlife. <b><i>CT6.7# is included in this contract stating retention of 5-15 tons per acre of course woody debris is required for Douglas-fir forests, where available.</i></b></p>
<p>Seeding of disturbed sites would utilize a native subalpine grass mix and application prescriptions. <b><i>CT6.601# “Erosion control seeding” and CT6.602# “Protection of Disturbed Areas from Establishment of Noxious Weeds” are included in this contract specifying seed mix requirements.</i></b></p>
<p><b>Public Safety/Air Quality</b></p>
<p>Roads used for vegetation treatment and log hauling would be maintained in accordance with the contract requirements. <b><i>CT5.31# “Road Maintenance Requirements” is included in this contract.</i></b> Temporary traffic control in accordance with the Manual on Uniform Traffic Control Devices (MUTCD) would be utilized for roads open to public motor vehicle use. <b><i>BT6.33 “Safety” is included in this contract and specifies the MUTCD signs to be used.</i></b></p>
<p>Caution signs notifying public of logging activities will be prominently displayed at start of all open roads and all junctions. <b><i>BT6.33 “Safety” is included in this contract and shows where log hauling signs should be posted. Sign locations are also shown on the Vicinity Map.</i></b></p>
<p>All gated roads will remain closed during harvest activities. <b><i>The gates within the sale area boundary, as shown on the Sale Area Map, will remain closed during harvest activities. CT5.41# “Closure to Use by Others” is included in this contract.</i></b></p>
<p>Sale Administration Personnel will emphasize road safety and the need for reduced speeds to Logging Operators due to the high level of motorized recreation activities. <b><i>The speed limit is 20 mph on NFSR 640. The Sale Administration team will inform purchasers of the high level of use and the need for reduced speed.</i></b></p>
<p><b>Heritage</b></p>
<p>Several Small areas have been buffered to protect documented cultural resources including remains of an old cabin, a wooden structure near the old cabin and several areas of concentrated artifacts. <b><i>CT6.24 Site Specific Special Protection Measures will be identified on SAM.</i></b></p>

All persons associated with operations under this authorization must be informed that any objects or sites of cultural, paleontological, or scientific value such as historic or prehistoric resources, graves or grave markers, human remains, ruins, cabins, rock art, fossils, or artifacts shall not be damaged, destroyed, removed, moved, or disturbed. If in connection with operations under this authorization any of the above resources are encountered, the proponent shall immediately suspend all activities in the immediate vicinity of the discovery that might further disturb such materials and notify the Rio Grande National Forest authorized officer of the findings. The discovery must be protected until notified in writing to proceed by the authorized officer (36 CFR 800.110 & 112, 43 CFR 10.4). ***BT6.24 “Protection Measures Needed for Plants, Animals, Cultural Resources, and Cave Resources” is included in this contract.***

**CRUISE VOLUMES**

This sale was laid out, marked, and cruised in the spring and summer of 2016. The sale was sampled using the variable radius point cruise method with one sampling stratum. Collected field data was entered and processed using the U.S. Forest Service software FSCruiser, version 03.02.2016.

**A. Volume Summary:**

Volume Reported by Individual Tree Species

<b>Live and Dead Sawtimber</b>	<b>Gross CCF</b>	<b>%</b>	<b>Net CCF</b>	<b>%</b>
Douglas-fir	608	61	522	62
White fir	381	39	326	38
<b>Total</b>	<b>989</b>	<b>100</b>	<b>848</b>	<b>100</b>

Volume estimates may be slightly different from other report groupings due to the characteristics of number rounding. See appraisal spreadsheet, “Volume&SkidDist” tab for volume and percent determination to account for rounding.

**B. Area Determination**

Area determination for this sale was conducted using a Global Positioning System (GPS). Procedures used for determining the acreages of harvest units in the timber sale area are in accordance with the standards set forth in R2 Supplement 2409.12-Timber Cruising Handbook, chapter 50. GPS data was collected June 2016 by Chris Dupont. Details are outlined in the Dyers Creek Area Error Calculations spreadsheet.

<b>Unit</b>	<b>Error Acres</b>	<b>Acres</b>	<b>Error %</b>	<b>Meets Error</b>	<b>Method</b>	<b>Final Acres</b>
1	2.27	84.4	2.7%	TRUE	GPS Walk	84.4+/- 2.27
4	1.10	35.1	3.1%	TRUE	GPS Walk	35.1+/- 1.10

### C. Contract Volume

#### Cutting Unit Acres and Net Harvest Volume

Unit	Cutting Prescription	Acres	DF	WF	Total CCF
1	Intermediate Shelterwood	84.4	369	230	599
4	Intermediate Shelterwood	35.1	153	96	249
<b>Total</b>		<b>119.5</b>	<b>522</b>	<b>326</b>	<b>848</b>

### APPRAISAL

#### A. Appraisal Data

BULLETIN No. BU230716 for Region 2, Zone 3 (SW Intermountain Zone) effective August 8, 2016 until superseded was used for this timber sale appraisal.

#### B. Skid/Yard (Refer to 2400-17)

Base Skid/Yard Cost = \$104.44

Sale Skid/Yard Cost = \$117.53

Skid/Yard Cost Adjustment = \$-13.09

#### C. Haul Cost Calculation (Refer to appraisal spreadsheet, Haul tab)

Sawtimber: Haul to Montrose, Colorado

Road Number	Termini	Round Trip Travel Times	Haul Miles	Haul Class	% Grade	% Volume	Round Trip % increase	Round Trip Time min/mi	Weighted Haul Miles
CRD 6530	Montrose Forest Products	7.36	2.3	2A1	0	100	0	3.2	2.300
San Juan Ave.	CRD 6530	1.08	0.3	2B1	0	100	0	3.6	0.300
Us Hwy 50	San Juan Ave.	301.56	71.8	2C1	0	100	0	4.2	71.800
Hwy114	Us Hwy 50	310.97	61.7	2C1	0	100	20	4.2	61.700
8th Street	Hwy 114	0.14	0.04	2B1	0	100	0	3.6	0.040
US Hwy 285 N	8th Street	84.60	23.5	2B1	0	100	0	3.6	23.500
Hwy 112	US Hwy 285 N	40.64	12.7	2A1	0	100	0	3.2	12.700
Hwy 160	Hwy 112	28.80	9	2A1	0	100	0	3.2	9.000
CRD 18	Hwy 160	4.48	1.4	2A2	0	100	0	3.2	1.400
CRD 15	CRD 18	1.56	0.4	3A2	0	100	0	3.9	0.400
CRD 65	CRD 15	17.05	3.1	3B2	0	100	0	5.5	3.100
NFSR 640	CRD 65	25.30	4.6	5B3	-2	100	0	5.5	4.600
NFSR 639	NFSR 640	12.10	2.2	5B3	-2	100	0	5.5	2.200
		<b>835.64</b>	<b>193.04</b>					<b>52.4</b>	<b>182.740</b>

\*Round Trip Minutes Per Mile are from FSH 2409.22 Sec. 44.1 Exhibit 1

835.64 Minutes Round Trip Time x \$0.1130/CCF/Minute (FSH 2409.22 Sec. 44.0) =

**Total Haul Cost for Sawtimber/CCF**

**\$94.43**

**D. Road Maintenance (Refer to “Dyers Creek Appraisal.xlsx”)**

1) Pre-haul Maintenance – Purchaser responsibility

<b>Purchaser Prehaul Road Maintenance</b>		
<i>Road Number</i>	<i>Termini</i>	<b>Haul Miles</b>
<b>NFSR 639</b>	<b>END to Jct FSR 640</b>	<b>2.2</b>

**Total Pre-haul maintenance (with inflation) = \$220.00**  
**Cost/CCF = \$0.26/CCF**

Roads to be maintained per BT5.3 and CT5.31#

2) Normal Road Maintenance – Purchaser responsibility

<b>Purchaser Road Maintenance</b>		
<i>Road Number</i>	<i>Termini</i>	<b>Haul Miles</b>
<b>NFSR 639</b>	<b>END to Jct FSR 640</b>	<b>2.2</b>

**Total during-haul road maintenance (with inflation): \$417.38**  
**Cost/CCF = \$0.49/CCF**

Roads to be maintained per BT5.3 and CT5.31#

3) Post-haul Maintenance – Purchaser responsibility & Deposit to FS

<b>Road Maintenance Deposits</b>		
<i>Road Number</i>	<i>Termini</i>	<b>Haul Miles</b>
<b>FSR 640</b>	<b>Jct FSR 639 to Jct CRD65</b>	<b>5</b>

**Total post-haul road maintenance (with inflation): \$829.31**  
**Cost/CCF = \$0.98/CCF**

Roads to be maintained per B5.3 and C5.31#

4) Surface Rock Replacement

Surface rock replacement will not be necessary on this sale due to the minimal amount of hauling that will occur on Forest Service roads.

**Total Surface Rock Replacement Cost = \$0.00**  
**Cost/CCF = \$0.00/CCF**

5) Dust Abatement

Dust abatement during road maintenance is not needed, thus a cost adjustment is not necessary for this timber sale.

6) Road Maintenance Summary

Pre-Haul Maintenance	\$220.00
During-Haul Maintenance	\$417.38
Post-Haul Maintenance	\$829.31
Dust Abatement	\$0.00
Snow Removal (NOS)	\$0.00
<b>Total</b>	<b>\$1,466.69</b>
	<b>\$1.73/CCF</b>

**E. Sale Slash Disposal (Refer to Brush Disposal Treatment Plan FS-2400-62)**

Required deposits:	\$2.46/CCF
<b>Total Slash Cost =</b>	<b>\$2,089</b>

**F. Temporary Roads (Refer to “Dyers Creek Appraisal.xlsx”, temp road tab)**

There are no temporary roads identified in the Logging Plan.

<b>Total temporary road cost =</b>	<b>\$0.00</b>
<b>Total temporary road cost per CCF =</b>	<b>\$0.00</b>

**G. Unusual & Quality Adjustments (Refer to appraisal spreadsheet, TS Cost Worksheet tab)**

Deteriorating timber:	\$0.00/CCF
<b>Total unusual adjustment:</b>	<b>\$0.00/CCF</b>
<b>Quality adjustment (Doug-fir):</b>	<b>-\$3.08/CCF</b>

**H. Competition Factor (FSH 2409.22, 51.3, Bulletin No. BU230716)**

The competition factor for the GMUG, Rio Grande, and San Juan will be set at 10%.

COMPETITION FACTOR by Forest and VALUES based on all species live ADJ BPP.

	Bid/Ad	LIVE CCF:			
		LP&DF	ES	PP	TF
<b><u>Zone as a Whole:</u></b>					
Rio Grande	1.32	0.77	1.57	0.30	1.11

**I. Specified Roads**

There are no specified roads.

**J. Base Rates (2400-17)**

Douglas-fir	\$3.00/CCF
White fir	\$3.00/CCF

**K. Fire Precautionary Period (AT9)**

June 01 to November 30

**L. Purchaser's Obligation for Fire (Refer to appraisal spreadsheet, Performance Worksheet tab)**

2 people x 12 hours x 3 days (\$18.00/hour [AD-C])	\$1,296.00
Rounded to the next \$100	<b>\$1,300.00</b>

**M. Termination Date (AT12)**

Termination date for this sale will be:	<b>March 31, 2018.</b>
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**N. Bid Guarantee (Refer to appraisal spreadsheet, TSCost Worksheet tab)**

Bid Guarantee:	<b>\$300.00</b>
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**O. Performance Bond Calculation (Refer to appraisal spreadsheet, TSCost Worksheet tab)**

Bond Based on 10% of Advertised Stumpage Value:	<b>\$1,200.00</b>
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**P. Distribution of Funds**

<b>Total Sale Value:</b>	<b>\$2544</b>
Contribution to NFF (\$0.25/CCF):	\$212
Stumpage Available for KV	<b>\$2332</b>
Essential KV	\$2118
Stumpage Available for SSF	N/A