

STEWARDSHIP REPORT & APPRAISAL

Poison Stewardship

**Bighorn National Forest
Powder River Ranger District
March 2, 2015**

Prepared by: **Tony Saba Forester/Silviculturist** **Date: 03/02/2015**

Approved by: *Mark Smith* for *Mark Smith* Date: *3/2/2015*
District Ranger

Net Volume (Appraised and Contract)

Total Volume 8245 CCF
Total: 80% sawtimber 20% POL

Quadratic Mean DBH (all sawtimber): **9.1 inches**
Quadratic Mean DBH (all POL): **5.9 inches**

Treatment acres: 594 acres

Advertised Rates

LP sawtimber 01 product: \$3.00/CCF
All POL: \$1.00/CCF

Specified Road Reconstruction: **\$21,919.00**
Public Works Construction Cost: **\$0**
Road Completion Date: **N/A**

Required Slash Deposit is **\$1.89/CCF**
Required Surface Rock Replacement Deposit is **\$0.00/CCF**

Total cost of funded KV work: **\$5,380.00**
Total KV Collections at advertised rates: **\$5,380.00**
Essential KV: **\$5,380.00**

Contract period is five (5) years
Termination Date: December 31, 2020
Normal Operating Season: June 1 to October 31

DESCRIPTION

A. Location

The Poison Stewardship Project is located within T48N, R84W in portions or all of sections 7, 8, 9, 17, 18, 19, and 20, T48N, R85W in portion of sections 13 and 24 all within Johnson County. The project falls within Management Areas 4.2 Scenery and 5.11 Forest Vegetation Emphasis. *Slopes range from 0 to 20%. Elevation of the sale area is approximately 7800 to 9300 feet above sea level.*

Access to the sale area is via Foest Road 484.

B. Land Status

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

C. Basis for Selecting Area

This area was selected from the Bighorn National Forests 5-year action plan from the direction of the Forest Leadership Team and Forest collaborators. The harvest meets current direction in the Bighorn National Forest Land Management Plan, as well as the Environmental Analysis (EA). The Poison Creek-Caribou Mesa Environmental Assessment was signed in September 2013.

Forest Health, Fuels, and supplying forest material to local and regional manufacturers are some of the goals and objectives for the project.

D. Transportation Routes and Appraisal Points

The sawtimber will be appraised using Livingston, MT as the most advantageous appraisal point. POL is being appraised to Hanson's Forest Products in Buffalo, WY.

E. Silvicultural Description

Silviculture Prescriptions: 185 acres of Shelterwood Prep Cut, 108 acres of Shelterwood Seed Cut, 189 acres of clearcut, 107 acres of Aspen Retention and 6 acres of Aspen Coppice. Designation by Species and diameter prescription was written for the aspen treatment units where conifer overstory will be removed from the aspen stands.

CONDITIONS OF SALE

A. Sale Area Improvement Needs (SAI)

KV Plan is prepared in FACTS.

C. Slash Treatment

Slash must be lopped and scattered. 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 prepared in FACTS and Excel spreadsheet for slash disposal details.

D. Water Quality Protection and Erosion Control

Landings, skid trails, and temporary roads will be re-vegetated to stabilize soils. 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. Temporary roads will be closed by installing or cleaning waterbars, ripping, seeding, and placing logs, rocks, stumps and slash in the roadway. Seed that is used will be certified noxious weed-free seed mixture.

E. Relevant Mitigation Measures & Design Criteria

Mitigation measures are additional requirements, developed on a site specific basis, along with project design criteria to avoid, minimize, reduce or eliminate adverse effects as a result of implementing the proposed treatments. See the Poison Stewardship Logging Plan for further clarification

CRUISE VOLUMES

This sale was laid out, marked, and cruised in the summer of 2013. The sale was sampled using the variable radius point cruise method with 4 sampling strata. Collected field data was entered and processed using the U.S. Forest Service software FSCruiser, version 03.14.2012.

This is a scaled sale that was estimated to have a value of around \$30,000; therefore, the maximum sampling error for the sale as a whole must be $\pm 30\%$. This information can be found in Chapter 40 of the Timber Cruising Handbook (2409.12). The combined sampling error for this cruise is 15.03% (report DS1, error for net volume).

A. Volume Summary:

Volume Reported by Individual Tree Species

Live and Dead Sawtimber	Gross CCF	%	Net CCF	%
LP and other conifer species	9095	90	6636	90

Live and Dead POL	Gross CCF	%	Net CCF	%
LP and other species	1617	10	1608	10

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. Contract Volume

The volume components of recent dead and older dead Engelmann spruce sawtimber were combined into one contract species group.

Cruise Volume Reported by Contract Species Groupings

Contract Species Grouping	Cruise Gross CCF	% of Total Cruise Volume	Cruise Net CCF	% of Total Cruise Volume	Net CCF Rounded (contract volume)	% of Total Volume
LP and other species sawtimber	9094.87	90%	6636.63	90%	6637	90%
LP and other species Misc-convertible	1617.16	10%	1608.91	10%	1607	10%

Contract volumes may be slightly different than other reported volumes due to the characteristics of rounding contained in the TIM project management software. (TIM rounds the sum of raw cutting unit volumes contained within each payment unit.) Contract volume is used to determine payments and is the official volume estimate used in the appraisal and the contract.

C. 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 2409.12-2000-4, chapter 52.2. GPS data was collected during the 2013 field season.

Acres by cutting unit (GPS)

Unit Number	Treatment	Acreage
1	AS REG	6.27
10	SW PREP	13.06
11	CC	17.07
12	SW PREP	16.21
13	CC	22.06
14	CC	2.60
15	CC	5.36
16	CC	19.90
17	CC	5.30
18	CC	12.52
19	CC	7.29
2	SW PREP	56.12
20	CC	8.47
21	CC	6.12
22	CC	5.85
23	CC	6.53
24	CC	5.82
25	SW PREP	8.54
26	CC	3.64
27	SW SEED	29.52
28	SW PREP	12.88
29	CC	10.56
30	CC	5.20
31	CC	8.94
32	CC	5.68
34	SW SEED	7.39
35	SW PREP	5.44
36	CC	6.92
37	CC	9.18
38	SW SEED	23.20
39	CC	9.73
40	CC	3.80
41	SW SEED	18.21
42	ASP RET	2.03
43	ASP RET	32.33
44	ASP RET	21.84
45	ASP RET	13.09
46	ASP RET	19.09
47	ASP RET	16.95
49	ASP RET	1.68
6	SW SEED	29.38
7	SW SEED	32.46
8	SW PREP	11.43
9	SW PREP	28.73
		594.39

D. Contract Volume**Cutting Unit Acres and Net Harvest Volume**

Unit #	Total Vol	MBF	% Volume	CCF/acre
1	59.42	0.03	1%	9.37
10	115.39	0.05	1%	8.81
11	436.38	0.20	5%	25.54
12	143.21	0.07	2%	8.82
13	563.94	0.26	7%	25.52
14	66.47	0.03	1%	25.38
15	137.02	0.06	2%	25.56
16	508.72	0.23	6%	25.53
17	135.49	0.06	2%	25.47
18	320.06	0.15	4%	25.56
19	186.37	0.09	2%	25.51
2	495.82	0.23	6%	8.82
20	216.53	0.10	3%	3.85
21	156.45	0.07	2%	18.42
22	149.55	0.07	2%	24.35
23	166.93	0.08	2%	28.38
24	148.78	0.07	2%	22.66
25	75.46	0.03	1%	11.49
26	93.05	0.04	1%	15.98
27	172.96	0.08	2%	20.14
28	113.79	0.05	1%	31.04
29	269.96	0.12	3%	9.11
30	132.94	0.06	2%	10.25
31	228.55	0.10	3%	39.18
32	144.90	0.07	2%	16.86
34	43.30	0.02	1%	1.46
35	48.06	0.02	1%	3.73
36	176.90	0.08	2%	16.67
37	234.68	0.11	3%	45.00
38	204.97	0.09	2%	22.82
39	248.74	0.11	3%	43.66
40	97.14	0.04	1%	13.13
41	106.69	0.05	1%	19.49
42	17.93	0.01	0%	2.46
43	285.63	0.13	3%	31.05
44	192.96	0.09	2%	8.28
45	115.65	0.05	1%	8.93
46	168.66	0.08	2%	15.91
47	149.75	0.07	2%	28.65
49	14.84	0.01	0%	1.57
6	259.58	0.12	3%	45.60

7	286.78	0.13	3%	13.10
8	100.99	0.05	1%	5.24
9	253.83	0.12	3%	14.93
Totals	8245.22		100%	

Cutting Unit Acres and Net Harvest Volume

824554 CF / 115041 = 7.17 CF/tree

8245 CCF / 549 acres = 13.9 CCF Average Net Volume/Acre

Quadratic Mean Diameter: 9.1 (sawtimber)
5.9 (POL)
8.7 (Combined)

Net Board Foot/Cubic Foot Ratio: 4.6653 BF/CF (sawtimber)
6.3828 BF/CF (POL)
5.0004 (Combined)

APPRAISAL

(FSH 2409.22 Chapter 90) - Refer to chapters 40, 50, or 60 (Black Hills) of FSH 2409.18 for guidance in preparing appraisal section of the report. Explain each cost item in sufficient detail to be understood by a reviewing officer including such items as data sources and appraisal premises to provide a logical method to show that fair market value has been obtained. A benefit of documentation of the original sale premises rests in need for documenting actions for future rate redeterminations.

Refer to elements already discussed in the appraisal report, FSH 2409.18, chapter 40, or other sections of the report by cross-reference to avoid duplication. The soundness of an appraisal is in proportion to the completeness, accuracy, and applicability of the data used, and by the judgment and accuracy with which these data are applied. The presentation should be as brief as practical, yet not to the point of omitting essential information.

A. Appraisal Data

BULLETIN No. BU210115 for Region 2, Zone 1 (NW Intermountain Zone) effective February 13, 2015 until superseded was used for this timber sale appraisal.

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

The skid/yard cost adjustment (formerly called the logging cost adjustment) is now calculated using the TEA234 MS Access-based Appraisal System. It is based on the difference between the appraised sale and Regional average sale diameter and sale volume per acre. (Reference FSH 2409.22, 51.3 and 51.61).

Base Skid/Yard Cost = \$102.38

Sale Skid/Yard Cost = \$116.33

Skid/Yard Cost Adjustment = \$13.95 (line 12, 2400-17)

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

Sawtimber: Haul to Livingston, MT

POL: Buffalo, WY

Log Truck Haul Time Estimations

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

790 Minutes Round Trip Time x \$0.1130/CCF/Minute (FSH 2409.22 Sec. 44.0) =
\$89.27/CCF Haul Cost for Sawtimber

D. Road Maintenance (Refer to "Poison Stewardship app worksheet.xlsx")

All costs and figures are from the *USDA Forest Service Regions 2, 3, 4 March 2014 Cost Estimating Guide for Road Construction*.

1) Pre-haul Maintenance – Purchaser responsibility

Road	From	To	Miles	T-800 specs	T-802 Ditch Cleaning	T-803 Blading	T-805 Drainage	T-807 Veg Removal	T-808 Miscellaneous
533324	0	.42	.42	x		x	x		
533325	0	.24	.24	x		x	x		

Total Pre-haul maintenance (with inflation)= \$132.93

Drainage structures included in costs.

2) Normal Road Maintenance – Purchaser responsibility

Road	From	To	Miles	T-800 specs	T-802 Ditch Cleaning	T-803 Blading	T-805 Drainage	T-807 Veg Removal	T-808 Miscellaneous
481	0	1.8	1.8	x		x	x		
484	0	3.4	3.4	x		x	x		
485	0	1.2	1.2	x		x	x		

Total during-haul road maintenance (with inflation): \$1,320.00

Drainage structures included in costs.

3) Post-haul Maintenance – Purchaser responsibility

Road	From	To	Miles	T-800 specs	T-802 Ditch Cleaning	T-803 Blading	T-805 Drainage	T-807 Veg Removal	T-808 Miscellaneous
481	0	1.8	1.8	x		x	x		
484	0	3.4	3.4	x		x	x		
485	0	1.2	1.2	x		x	x		
486	0	0.3	0.3	x		x	x		
533322	0	0.2	0.2	x		x	x		
533324	0	.42	.42	x		x	x		
533325	0	.24	.24	x		x	x		

Total post-haul road maintenance (with inflation): \$1,552.99

4) Surface Rock Replacement

NONE

Total Surface Rock Replacement Cost = \$0.00

Cost/CCF = \$0.00/CCF

5) Dust Abatement

Based on the Environmental Assessment 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 \$132.93

During-Haul Maintenance	\$1,320.00
Post-Haul Maintenance	\$1,552.99
Dust Abatement	\$0.00
Snow Removal (NOS)	\$0.00
Total	\$3,005.92
	\$0.36/CCF

Regular Road Maintenance \$3,005.92

Surface Rock Replacement (deposit)	\$0.00
Total	\$3,005.92
	\$0.36/CCF

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

Required deposits: \$15,578/8245 CCF
\$1.89/CCF

F. Temporary Roads (Refer to "Poison STewardship app worksheet.xlsx", temp road tab)

As identified in the Logging Plan, 10.43 miles of newly constructed temporary road and 0.0 miles of existing temporary road will be needed to complete this sale. See Logging Plan Map for specific locations. All costs and figures are from the *USDA Forest Service Regions 2, 3, 4 Cost Estimating Guide for Road Construction*.

Total temporary road cost = \$57,289.29

Total temporary road cost per CCF = \$6.95

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

NONE

H. Competition Factor (FSH 2409.22, 51.3, Bulletin No. BU230214)

2/ The competition factor for the Bighorn, Medicine Bow-Routt, Arapaho/Roosevelt and Shoshone will be set at 10% (competitive). The competition factor for the Nebraska and Pike will be 5% for this Bulletin period (non-competitive).

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

	Bid/Ad	LIVE CCF:			
		LP&DF	ES	PP	TF
<u>Zone as a Whole:</u>					
Bighorn	1.19	1.27	1.03	0.30	0.33
Medicine Bow/Routt	1.02	1.27	1.03	0.30	0.33
Nebraska	1.00	0.64	0.52	0.15	0.16
Arapaho/Roosevelt	1.13	1.27	1.03	0.30	0.33
Pike	1.00	0.64	0.52	0.15	0.16
Shoshone	10.19	1.27	1.03	0.30	0.33

J. Base Rates (2400-17)

Lodgepole pine sawtimber	\$3.00/CCF
Lodgepole pine POL	\$1.00/CCF

K. Fire Precautionary Period (AT9)

June 30 to October 31

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

6 people x 12 hours x 3 days (\$15.89/hour [AD-C])	\$3,432.24
Rounded to the next \$100	\$3,500.00

M. Termination Date (AT12)

R2 Supplement No. 2409.18-2006-2, Sec. 53.41 states that sales of this size without specified roads should be 2 to 3 operating seasons. Termination date for this sale will be **December 31, 2020.**

N. Bid Guarantee (Refer to appraisal spreadsheet, TSCost Worksheet tab)

Bid Guarantee: **\$2,200.00**

O. Performance Bond Calculation (Refer to appraisal spreadsheet, TSCost Worksheet tab)

Bond Based on 10% of Advertised Stumpage Value: **\$3,000.00**