



"STEWARDSHIP IN FORESTRY"

Timber Sale Appraisal
Alpha Quadrant
Sale FG-341-2020-W00228-01

District: Forest Grove

Date: June 23, 2020

Cost Summary

	Conifer	Hardwood	Total
Gross Timber Sale Value	\$759,286.14	\$209.39	\$759,495.53
		Project Work:	(\$138,504.91)
		Advertised Value:	\$620,990.62



Timber Sale Appraisal Alpha Quadrant Sale FG-341-2020-W00228-01

District: Forest Grove

Date: June 23, 2020

Timber Description

Location: Portions of Sections 9, 10, 16, 17, 21, and 22, T5N, R3W, W.M., Columbia County, Oregon.

Stand Stocking: 20%

Specie Name	AvgDBH	Amortization (%)	Recovery (%)
Douglas - Fir	12	0	98
Alder (Red)	12	0	95

Volume by Grade	2S	3S & 4S 6"-11"	Camprun	Total
Douglas - Fir	72	2,199	0	2,271
Alder (Red)	0	0	1	1
Total	72	2,199	1	2,272

Comments: Pond Values Used: Local Pond Values, March 2020.

Western redcedar and Other Cedars Stumpage Price = Pond Value minus Logging Cost:
\$781/MBF = \$1,135/MBF - (\$304+\$50 additional haul)/MBF

Western hemlock and Other Conifers Stumpage Price = Pond Value minus Logging Cost:
\$234/MBF = \$538/MBF - \$304/MBF

BRANDING AND PAINTING COST ALLOWANCE = \$2.00/MBF

FUEL COST ALLOWANCE = \$3.00/Gallon

HAULING COST ALLOWANCE
Hauling costs equivalent to \$950 daily truck cost.

Other Costs (with Profit & Risk to be added):
None

Other Costs (No Profit & Risk added):
Machine Time to Block/Waterbar Roads, and Skid Trails:
30 hours x \$150/hour = \$4,500
Machine Time to Pile Landing Slash:
20 hours x \$150/hour = \$3,000
Equipment Cleaning: 3 pieces x \$1,000/Piece = \$3,000
TOTAL Other Costs (No Profit & Risk added) = \$10,500

ROAD MAINTENANCE
General Road Maintenance(includes move-in,grader,roller): 9.85 miles x \$2,820.31/mile = \$27,780.05
TOTAL Road Maintenance: \$27,780.05/2,272 MBF = \$12.23/MBF



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Logging Conditions

Combination#: 1	Douglas - Fir	100.00%
	Alder (Red)	100.00%
Logging System:	Shovel	Process: Feller Buncher
yarding distance:	Short (400 ft)	downhill yarding: No
tree size:	Small / Thinning 12in (130 Bft/tree), 12-17 logs/MBF	
loads / day:	6	bd. ft / load: 4200
cost / mbf:	\$140.40	
machines:	Feller Buncher w/ Delimber	



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Alpha Quadrant
Sale FG-341-2020-W00228-01

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Logging Costs

Operating Seasons: 1.00	Profit Risk: 10%
Project Costs: \$138,504.91	Other Costs (P/R): \$0.00
Slash Disposal: \$0.00	Other Costs: \$10,500.00

Miles of Road

Road Maintenance: \$12.23

Dirt	Rock (Contractor)	Rock (State)	Paved
0.0	0.0	0.0	0.0

Hauling Costs

Species	\$ / MBF	Trips/Day	MBF / Load
Douglas - Fir	\$0.00	2.0	4.2
Alder (Red)	\$0.00	2.0	3.8



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Logging Costs Breakdown

Logging	Road Maint	Fire Protect	Hauling	Other P/R appl	Profit & Risk	Slash Disposal	Brand & Paint	Other	Total
Douglas - Fir									
\$140.40	\$12.47	\$1.93	\$115.36	\$0.00	\$27.02	\$0.00	\$2.00	\$4.62	\$303.80
Alder (Red)									
\$140.40	\$12.84	\$1.93	\$133.00	\$0.00	\$28.82	\$0.00	\$2.00	\$4.62	\$323.61

Specie	Amortization	Pond Value	Stumpage	Amortized
Douglas - Fir	\$0.00	\$638.14	\$334.34	\$0.00
Alder (Red)	\$0.00	\$533.00	\$209.39	\$0.00



Timber Sale Appraisal
Alpha Quadrant
Sale FG-341-2020-W00228-01

District: Forest Grove

Date: June 23, 2020

Summary

Amortized

Specie	MBF	Value	Total
Douglas - Fir	0	\$0.00	\$0.00
Alder (Red)	0	\$0.00	\$0.00

Unamortized

Specie	MBF	Value	Total
Douglas - Fir	2,271	\$334.34	\$759,286.14
Alder (Red)	1	\$209.39	\$209.39

Gross Timber Sale Value

Recovery: \$759,495.53

Prepared By: Adrian Torres

Phone: 503-454-8460

PROJECT COST SUMMARY SHEET

Timber Sale: Alpha Quadrant
Sale Number: FG-341-2021-W00228-01

PROJECT NO. 1: ROAD IMPROVEMENT

Road Segment	Length	Cost
A to B	42+75	\$43,881.76
C to D	43+90	\$6,024.16
E to F	20+45	\$14,678.86
G to H	39+00	\$40,867.41
I to J	18+70	\$2,746.39
K to L	86+30	\$16,604.26
M to N	6+90	\$1,164.92
O to P	11+00	\$2,118.77
Q to R	17+50	\$2,207.26
S to T	8+00	\$2,976.90

294+50 stations

5.58 miles

Total Rock =

554 cy	1½" - 0 Rudy Stockpile
154 cy	1½" - 0 Commercial Source
1716 cy	3" - 0 Commercial Source

Move-in = \$5,234.23

TOTAL PROJECT COST = \$138,504.91

TOTAL CREDITS = \$138,504.91

SUMMARY OF CONSTRUCTION COST

Timber Sale: Alpha Quadrant
Road Segment: A to B

Sale Number: FG-341-2021-W00228-01
Improvement: 42+75 stations
0.81 miles

PROJECT NO. 1

IMPROVEMENT

Clearing & grubbing (scatter)	0.50	ac @	\$1,078.00	per acre =	\$539.00
Clean ditch & scatter waste material	17.05	sta @	\$60.00	per sta =	\$1,023.00
Clean culvert inlet & outlet, scatter waste	2	ea @	\$25.00	per ea =	\$50.00
Heavy road improvement	25.70	sta @	\$110.00	per sta =	\$2,827.00
Grade & roll (outslope)	25.70	sta @	\$32.20	per sta =	\$827.54
Grade, ditch, & roll	17.05	sta @	\$36.00	per sta =	\$613.80

TOTAL IMPROVEMENT COSTS = \$6,045.34

TOTAL CULVERT COSTS = \$0.00

ROCK

	Rock Size	Base Cost \$/cy	Haul Cost \$/cy	Placement/ Processing Cost \$/cy	Total CY	Rock Cost
Surfacing rock						
Surfacing rock	3" - 0	\$16.03	\$10.45	\$1.22	1,362	\$37,730.17
				Subtotal =	1,362	\$37,730.17

Totals

All Rock =	1,362
3" - 0 =	1,362

TOTAL ROCK COSTS = \$37,730.17

EROSION CONTROL

Grass seed & fertilizer	0.25	ac @	\$425.00	per ac =	\$106.25
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TOTAL EROSION CONTROL COSTS = \$106.25

TOTAL PROJECT COST = \$43,881.76

SUMMARY OF CONSTRUCTION COST

Timber Sale: Alpha Quadrant
Road Segment: C to D

Sale Number: FG-341-2021-W00228-01
Improvement: 43+90 stations
0.83 miles

PROJECT NO. 1

IMPROVEMENT

Clearing & grubbing (scatter)	0.51	ac @	\$1,078.00	per acre =	\$549.78
Clean ditch & scatter waste material	43.90	sta @	\$60.00	per sta =	\$2,634.00
Clean culvert inlet & outlet, scatter waste	6	ea @	\$25.00	per ea =	\$150.00
Improve Turnouts	5	ea @	\$33.00	per ea =	\$165.00
Improve 50' landing	1	ea @	\$110.00	per ea =	\$110.00
Grade & roll (outslope)	0.00	sta @	\$32.20	per sta =	\$0.00
Grade, ditch, & roll	43.90	sta @	\$36.00	per sta =	\$1,580.40

TOTAL IMPROVEMENT COSTS = \$5,189.18

CULVERTS

Markers

Culvert Markers	1	ea @	\$10.00	per ea =	<u>\$10.00</u>
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TOTAL CULVERT COSTS = \$10.00

ROCK

	Rock Size	Base Cost \$/cy	Haul Cost \$/cy	Placement/ Processing Cost \$/cy	Total CY	Rock Cost
Surfacing rock						
Spot rock	1½" - 0	\$2.17	\$4.07	\$1.22	96	\$716.61
				Subtotal =	96	\$716.61

Totals	All Rock =	96
	1½" - 0 =	96

TOTAL ROCK COSTS = \$716.61

EROSION CONTROL

Grass seed & fertilizer	0.26	ac @	\$425.00	per ac =	<u>\$108.38</u>
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TOTAL EROSION CONTROL COSTS = \$108.38

TOTAL PROJECT COST = \$6,024.16

SUMMARY OF CONSTRUCTION COST

Timber Sale: Alpha Quadrant
Road Segment: E to F

Sale Number: FG-341-2021-W00228-01
Improvement: 20+45 stations
0.39 miles

PROJECT NO. 1

IMPROVEMENT

Clearing & grubbing (scatter)	0.24	ac @	\$1,078.00	per acre =	\$258.72
Clean ditch & scatter waste material	20.45	sta @	\$60.00	per sta =	\$1,227.00
Clean culvert inlet & outlet, scatter waste	2	ea @	\$25.00	per ea =	\$50.00
Improve Turnouts	3	ea @	\$33.00	per ea =	\$99.00
Improve 50' landing	1	ea @	\$110.00	per ea =	\$110.00
Grade, ditch, & roll	20.45	sta @	\$36.00	per sta =	\$736.20

TOTAL IMPROVEMENT COSTS = \$2,480.92

CULVERTS

Markers

Culvert Markers	2	ea @	\$10.00	per ea =	<u>\$20.00</u>
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TOTAL CULVERT COSTS = \$20.00

ROCK

	Rock Size	Base Cost \$/cy	Haul Cost \$/cy	Placement/ Processing Cost \$/cy	Total CY	Rock Cost
Surfacing rock						
Surfacing rock	3" - 0	\$16.03	\$11.07	\$1.22	307	\$8,687.16
Spot rock	1½" - 0	\$2.17	\$1.79	\$1.22	150	\$777.70
50' Landing	3" - 0	\$16.03	\$11.07	\$1.22	47	\$1,331.04
Subtotal =					504	\$12,126.94

Totals	All Rock =	504
	1½" - 0 =	150
	3" - 0 =	354

TOTAL ROCK COSTS = \$12,126.94

EROSION CONTROL

Grass seed & fertilizer	0.12	ac @	\$425.00	per ac =	<u>\$51.00</u>
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TOTAL EROSION CONTROL COSTS = \$51.00

TOTAL PROJECT COST = \$14,678.86

SUMMARY OF CONSTRUCTION COST

Timber Sale: Alpha Quadrant
Road Segment: G to H

Sale Number: FG-341-2021-W00228-01
Improvement: 39+00 stations
0.74 miles

PROJECT NO. 1

IMPROVEMENT

Clearing & grubbing (scatter)	0.45	ac @	\$1,078.00	per acre =	\$485.10
Clean ditch & scatter waste material	39.00	sta @	\$60.00	per sta =	\$2,340.00
Clean culvert inlet & outlet, scatter waste	4	ea @	\$25.00	per ea =	\$100.00
Improve Turnouts	5	ea @	\$33.00	per ea =	\$165.00
Improve 50' landing	1	ea @	\$110.00	per ea =	\$110.00
Grade, ditch, & roll	39.00	sta @	\$36.00	per sta =	\$1,404.00

TOTAL IMPROVEMENT COSTS = \$4,604.10

CULVERTS

Markers					
Culvert Markers	2	ea @	\$10.00	per ea =	\$20.00

TOTAL CULVERT COSTS = \$20.00

ROCK

	Rock Size	Base Cost \$/cy	Haul Cost \$/cy	Placement/ Processing Cost \$/cy	Total CY	Rock Cost
Surfacing rock						
Surfacing rock	3" - 0	\$16.03	\$11.53	\$1.22	1,209	\$34,795.02
50' Landing	3" - 0	\$16.03	\$11.53	\$1.22	47	\$1,352.66
				Subtotal =	1,256	\$36,147.68

Totals	All Rock =	1,256
	3" - 0 =	1,256

TOTAL ROCK COSTS = \$36,147.68

WASTE DEBRIS REMOVAL

	Price \$/ton	Haul Cost	Loading Cost	Total Tonnage	Total Cost
Waste Debris Removal	\$135.00	\$225.00	\$175.00	2	\$670.00
			Subtotal =	2	\$670.00

TOTAL WASTE DEBRIS COSTS = \$670.00

EROSION CONTROL

Grass seed & fertilizer	0.23	ac @	\$425.00	per ac =	\$95.63
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TOTAL EROSION CONTROL COSTS = \$95.63

TOTAL PROJECT COST = \$40,867.41

SUMMARY OF CONSTRUCTION COST

Timber Sale: Alpha Quadrant
Road Segment: I to J

Sale Number: FG-341-2021-W00228-01
Improvement: 18+70 stations
0.35 miles

PROJECT NO. 1

IMPROVEMENT

Clearing & grubbing (scatter)	0.22	ac @	\$1,078.00	per acre =	\$622.16
Clean ditch & scatter waste material	18.70	sta @	\$60.00	per sta =	\$1,122.00
Grade, ditch, & roll	18.70	sta @	\$36.00	per sta =	\$673.20

TOTAL IMPROVEMENT COSTS = \$2,417.36

ROCK

	Rock Size	Base Cost \$/cy	Haul Cost \$/cy	Placement/ Processing Cost \$/cy	Total CY	Rock Cost
Surfacing rock						
Spot rock	1½" - 0	\$2.17	\$1.31	\$1.22	60	\$282.28
				Subtotal =	60	\$282.28

Totals	All Rock =	60
	1½" - 0 =	60

TOTAL ROCK COSTS = \$282.28

EROSION CONTROL

Grass seed & fertilizer	0.11	ac @	\$425.00	per ac =	\$46.75
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TOTAL EROSION CONTROL COSTS = \$46.75

TOTAL PROJECT COST = \$2,746.39

SUMMARY OF CONSTRUCTION COST

Timber Sale: Alpha Quadrant
Road Segment: K to L

Sale Number: FG-341-2021-W00228-01
Improvement: 86+30 stations
1.63 miles

PROJECT NO. 1

IMPROVEMENT

Clearing & grubbing (scatter)	1.00	ac @	\$1,078.00	per acre =	\$1,078.00
Clean ditch & scatter waste material	86.30	sta @	\$60.00	per sta =	\$5,178.00
Clean culvert inlet & outlet, scatter waste	20	ea @	\$25.00	per ea =	\$500.00
Remove existing culverts	1	ea @	\$150.00	per ea =	\$150.00
Improve Turnouts	11	ea @	\$33.00	per ea =	\$363.00
Improve 50' landing	1	ea @	\$110.00	per ea =	\$110.00
Grade, ditch, & roll	86.30	sta @	\$36.00	per sta =	\$3,106.80

TOTAL IMPROVEMENT COSTS = \$10,485.80

CULVERTS

Culverts

24" Diameter 30 LF @ \$29.43 per LF = \$882.90

Markers

Culvert Markers 6 ea @ \$10.00 per ea = \$60.00

TOTAL CULVERT COSTS = \$942.90

ROCK

	Rock Size	Base Cost \$/cy	Haul Cost \$/cy	Placement/ Processing Cost \$/cy	Total CY	Rock Cost
Subgrade rock						
Bedding and backfill	1½" - 0	\$16.73	\$14.26	\$0.50	24	\$755.76
				Subtotal =	24	\$755.76
Surfacing rock						
Spot rock	1½" - 0	\$16.73	\$14.26	\$1.22	130	\$4,187.30
				Subtotal =	130	\$4,187.30

Totals

All Rock =	154
1½" - 0 =	154

TOTAL ROCK COSTS = \$4,943.06

EROSION CONTROL

Grass seed & fertilizer	0.50	ac @	\$425.00	per ac =	\$212.50
Straw Mulch Bale	2	ea @	\$10.00	per ea =	\$20.00

TOTAL EROSION CONTROL COSTS = \$232.50

TOTAL PROJECT COST = \$16,604.26

SUMMARY OF CONSTRUCTION COST

Timber Sale: Alpha Quadrant
Road Segment: M to N

Sale Number: FG-341-2021-W00228-01
Improvement: 6+90 stations
0.13 miles

PROJECT NO. 1

IMPROVEMENT

Clearing & grubbing (scatter)	0.08	ac @	\$1,078.00	per acre =	\$86.24
Clean ditch & scatter waste material	6.90	sta @	\$60.00	per sta =	\$414.00
Clean culvert inlet & outlet, scatter waste	1	ea @	\$25.00	per ea =	\$25.00
Improve 50' landing	1	ea @	\$110.00	per ea =	\$110.00
Grade, ditch, & roll	6.90	sta @	\$36.00	per sta =	\$248.40

TOTAL IMPROVEMENT COSTS = \$883.64

TOTAL CULVERT COSTS = \$0.00

ROCK

	Rock Size	Base Cost \$/cy	Haul Cost \$/cy	Placement/ Processing Cost \$/cy	Total CY	Rock Cost
Surfacing rock						
Spot rock	1½" - 0	\$2.17	\$1.01	\$1.22	60	\$264.28
				Subtotal =	60	\$264.28

Totals	All Rock =	60
	1½" - 0 =	60

TOTAL ROCK COSTS = \$264.28

EROSION CONTROL

Grass seed & fertilizer	0.04	ac @	\$425.00	per ac =	\$17.00
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TOTAL EROSION CONTROL COSTS = \$17.00

TOTAL PROJECT COST = \$1,164.92

SUMMARY OF CONSTRUCTION COST

Timber Sale: Alpha Quadrant
Road Segment: O to P

Sale Number: FG-341-2021-W00228-01
Improvement: 11+00 stations
0.21 miles

PROJECT NO. 1

IMPROVEMENT

Clearing & grubbing (scatter)	0.13	ac @	\$1,078.00	per acre =	\$140.14
Clean ditch & scatter waste material	11.00	sta @	\$60.00	per sta =	\$660.00
Clean culvert inlet & outlet, scatter waste	2	ea @	\$25.00	per ea =	\$50.00
Construct Roadside 50' landing	1	ea @	\$165.00	per ea =	\$165.00
Grade, ditch, & roll	11.00	sta @	\$36.00	per sta =	\$396.00

TOTAL IMPROVEMENT COSTS = \$1,411.14

CULVERTS

Markers

Culvert Markers	1	ea @	\$10.00	per ea =	\$10.00
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TOTAL CULVERT COSTS = \$10.00

WASTE DEBRIS REMOVAL

	Price \$/ton	Haul Cost	Loading Cost	Total Tonnage	Total Cost
Waste Debris Removal	\$135.00	\$225.00	\$175.00	2	\$670.00
			Subtotal =	2	\$670.00

TOTAL WASTE DEBRIS COSTS = \$670.00

EROSION CONTROL

Grass seed & fertilizer	0.07	ac @	\$425.00	per ac =	\$27.63
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TOTAL EROSION CONTROL COSTS = \$27.63

TOTAL PROJECT COST = \$2,118.77

SUMMARY OF CONSTRUCTION COST

Timber Sale: Alpha Quadrant
 Road Segment: Q to R

Sale Number: FG-341-2021-W00228-01
 Improvement: 17+50 stations
0.33 miles

PROJECT NO. 1

IMPROVEMENT

Clearing & grubbing (scatter)	0.21	ac @	\$1,078.00	per acre =	\$226.38
Clean ditch & scatter waste material	17.50	sta @	\$60.00	per sta =	\$1,050.00
Clean culvert inlet & outlet, scatter waste	2	ea @	\$25.00	per ea =	\$50.00
Improve Turnaround	1	ea @	\$41.25	per ea =	\$41.25
Construct Roadside 50' landing	1	ea @	\$165.00	per ea =	\$165.00
Grade, ditch, & roll	17.50	sta @	\$36.00	per sta =	\$630.00

TOTAL IMPROVEMENT COSTS = \$2,162.63

TOTAL CULVERT COSTS = \$0.00

TOTAL ROCK COSTS = \$0.00

EROSION CONTROL

Grass seed & fertilizer	0.11	ac @	\$425.00	per ac =	\$44.63
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TOTAL EROSION CONTROL COSTS = \$44.63

TOTAL PROJECT COST = \$2,207.26

SUMMARY OF CONSTRUCTION COST

Timber Sale: Alpha Quadrant
 Road Segment: S to T

Sale Number: FG-341-2021-W00228-01
 Improvement: 8+00 stations
0.15 miles

PROJECT NO. 1

IMPROVEMENT

Clearing & grubbing (scatter)	0.10	ac @	\$1,078.00	per acre =	\$107.80
Clean ditch & scatter waste material	8.00	sta @	\$60.00	per sta =	\$480.00
Improve Roadside 50' landing	1	ea @	\$82.50	per ea =	\$82.50
Balanced road construction	8.00	sta @	\$110.00	per sta =	\$880.00
Grade, ditch, & roll	8.00	sta @	\$36.00	per sta =	\$288.00

TOTAL IMPROVEMENT COSTS = \$1,863.30

ROCK

	Rock Size	Base Cost \$/cy	Haul Cost \$/cy	Placement/ Processing Cost \$/cy	Total CY	Rock Cost
Surfacing rock						
Surfacing rock	1½" - 0	\$2.17	\$1.01	\$1.22	248	\$1,092.35
				Subtotal =	248	\$1,092.35

Totals	All Rock =	248
	3" - 0 =	248

TOTAL ROCK COSTS = \$1,092.35

EROSION CONTROL

Grass seed & fertilizer	0.05	ac @	\$425.00	per ac =	\$21.25
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TOTAL EROSION CONTROL COSTS = \$21.25

TOTAL PROJECT COST = \$2,976.90

QUARRY DEVELOPMENT & CRUSHING COST SUMMARY

Timber Sale: Alpha Quadrant
Sale Number: FG-341-2021-W00228-01
Stockpile Name: Rudy Stockpile

1 1/2" - 0: 554 cy (truck measure)
Total truck yardage: 554 cy

<u>Move-in</u>						
Move in loader						\$659.59
Move in Dump Trucks						\$101.97
				Subtotal =		\$761.56
				Per CY =		\$1.37/cy
<u>1 1/2"-0 Base Cost</u>						
Load dump truck	\$0.80	/ cy x	554	cy =		\$443.20
				Subtotal =		\$443.20
				Per CY =		\$0.80
				Total =		\$1,204.76
1 1/2"-0 Cost =				<u>\$2.17/cy</u>	<u>\$1,204.76</u>	

SUMMARY OF CONSTRUCTION COST

Timber Sale: Alpha Quadrant

Sale Number: FG-341-2021-W00228-01

PROJECT No. 1, MOVE-IN, WITHIN AREA MOVE, & CLEANING COSTS

<u>Equipment</u>	<u>Total</u>
Grader	\$785.22
Loader (Med. & Large)	\$0.00
Roller (smooth/grid) & Compactor	\$522.69
Excavator (Large) - Equipment Cleaning	\$1,785.22
Dozer (Large) - Equipment Cleaning	\$1,829.80
Dump Truck (10cy +)	\$155.65
Water Truck (2,500 Gal)	\$155.65
<u>TOTAL MOVE-IN COSTS =</u>	<u>\$5,234.23</u>

TIMBER SALE SUMMARY
Alpha Quadrant
FG-341-2021-W00228-01

1. **Location:** Portions of Sections 9, 10, 16, 17, 21, and 22, T5N, R3W, W.M., Columbia County, Oregon.
2. **Type of Sale:** This Timber Sale Area is comprised of four Partial Cut Units, and one Right-of-Way Unit, totaling 243 acres. Unit 1 (PC) is 81 acres, Unit 2 (PC) is 90 acres, Unit 3 (PC) is 49 acres, Unit 4 (PC) is 23 acres, and Unit 5 (R/W) is less than 1 acre. The timber will be sold on a recovery basis at a sealed bid auction.
3. **Revenue Distribution:** 100% BOF; 100% Columbia County.
4. **Sale Acreage:** Acres are net of stream buffers and road prisms. Acreage was determined using ESRI ArcMap GIS software.
5. **Cruise:** The Timber Sale was cruised by ODF Cruisers in April of 2020. For more information, see Cruise Report.
6. **Timber Description:** The Timber Sale Area consists of a well-stocked, 35-year old Douglas-fir stand with minor amounts of western hemlock, western red cedar, and red alder. The stand has an average of 222 ft² of Basal Area (all species), an average take Douglas-fir DBH of 12 inches.
7. **Topography and Logging Method:** Slopes within the Timber Sale Area ranges from 2% to 40% and variable in all aspects. The Timber Sale Area is 100% ground-based yarding. The average horizontal skid trail length is approximately 500 feet and the maximum is approximately 780 feet.
8. **Access:** All access to the Timber Sale Area is on surfaced all-weather roads. From Forest Grove travel north on SR 47 through Banks. Continue on SR 47 as it merges with SR 26, then splits off again to the right toward Vernonia near MP 77. Continue north on SR47 approximately 16 miles through Vernonia then for another 8 miles to Apiary Road. Turn right onto Apiary Road:

Unit 1- Travel 6 miles on Apiary Road to Enterprise Road and turn left. Continue on Enterprise Road for 312 feet and turn left. Continue on unnamed surfaced road for 0.46 miles to access Unit 1.

Unit 2- Travel 5.9 miles on Apiary Road to Karth Road and turn right. Continue on Karth Road for 1.18 miles to access Unit 2.

Unit 3- Travel 5.9 miles on Apiary Road to Karth Road and turn right. Continue on Karth Road for 4.2 miles and turn on Rudy Pit Road. Continue on Rudy Pit Road for 0.7 miles on to Beaverhome Road. Continue on Beaverhome Road for 0.58 miles to access Unit 3.

Unit 4- Travel 5.9 miles on Apiary Road to Karth Road and turn right. Continue on Karth Road for 4.2 miles to access Unit 4.

Unit 5- Travel 6 miles on Apiary Road to Enterprise Road and turn left. Continue on Enterprise Road for 0.34 miles and turn left on to the power line road to access Unit 5.

9. **Projects:**

Project No. 1: Road Improvement

\$138,504.91

Total Credit for all Projects

\$138,504.91

CRUISE REPORT
Alpha Quadrant
FG-341-2021-W00228-01

1. LOCATION: Portions of Sections 9, 10, 16, 17, 21, and 22, T5N, R3W, W.M., Columbia County, Oregon.

2. CRUISE DESIGN:

Pre-cruise evaluation indicated that the stand's average DBH is approximately 13 inches and the coefficient of variation is about 57%. For sales of this size and approximate value, ODF cruise standards require a sampling error of 9% at a 68% confidence level, and a minimum sample size of 100 graded trees. The cruise design chosen for this sale is a variable radius sample plot using a 20 BAF prism.

3. SAMPLING METHOD:

The Timber Sale Area was sampled in April 2020 with 40 variable radius grade plots using a 20 BAF prism. Plots were laid out on a 10 chain x 10 chain grid for Unit 1, a 5 chain x 8 chain grid for Unit 2, a 7 chain x 7 chain grid for Unit 3, and a 5 chain x 5 chain grid for Unit 4. Cruisers "thinned" plots from below to achieve 140 square feet of residual Basal Area. Plots falling on or near existing roads or no-harvest areas were offset 1 chain.

4. CRUISE RESULTS:

166 trees were measured and graded producing a cumulative Sampling Error of 8.5% on the Douglas-fir Basal Area and 8.9% for the Douglas-fir net board foot volume.

5. TREE MEASUREMENT AND GRADING:

All sample trees were measured and graded following Columbia River Log Scale grade rules and favored 40 foot segments.

- a) **Height Standards:** Total tree heights were measured to the nearest foot. Bole heights were calculated to a top DIB of six inches (or 25% of DBH, whichever is larger) for conifers.
- b) **Diameter Standards:** Diameters were measured outside bark at breast height to the nearest inch.
- c) **Form Factors:** Measured for each grade tree using a form point of 16 feet.

6. DATA PROCESSING:

- a) **Volumes and Statistics:** Cruise estimates and sampling statistics were derived from Super Ace 2008 cruise software.
- b) **Deductions:** The following percent volume deductions are by species to account for the hidden defect and breakage. For conifers two percent was deducted. For hardwoods five percent was deducted.

7. CRUISERS: The sale was cruised by ODF cruisers Adrian Torres and Mark Savage.

Prepared by: Adrian Torres 04/27/2020
Date

Reviewed by: Mark Savage 04/27/2020
Date

RESIDUAL STAND SPECIFICATIONS
SALE NAME: Alpha Quadrant
SALE NUMBER: FG-341-2021-W00228-01

Unit 1

Residual QMD assumption (from leave tree cruise information) =

14

 Target Relative Density =

37

	Minimum	Target	Maximum
Relative Density	35	37	40
Basal Area	130	140	150
Trees per Acre	122	131	140

Unit 2

Residual QMD assumption (from leave tree cruise information) =

14

 Target Relative Density =

35

	Minimum	Target	Maximum
Relative Density	35	37	40
Basal Area	130	140	150
Trees per Acre	122	131	140

Unit 3

Residual QMD assumption (from leave tree cruise information) =

15

 Target Relative Density =

35

	Minimum	Target	Maximum
Relative Density	34	36	39
Basal Area	130	140	150
Trees per Acre	106	114	122

Unit 4

Residual QMD assumption (from leave tree cruise information) =

13

 Target Relative Density =

35

	Minimum	Target	Maximum
Relative Density	36	39	42
Basal Area	130	140	150
Trees per Acre	141	152	163

RD = BA / $\sqrt{\text{DBH}}$
 BA = $\sqrt{\text{DBH}}$ (RD)
 TPA = (BA/acre) / (BA/tree)
 BA / tree = $(\pi r^2) / (144)$

TC PSTATS				PROJECT STATISTICS				PAGE	1		
				PROJECT	ALPHAFIN			DATE	4/22/2020		
TWP	RGE	SC	TRACT	TYPE	ACRES		PLOTS	TREES	CuFt	BdFt	
05N	03	09	00A1	00PT	81.00		13	144	S	W	
					TREES	ESTIMATED		PERCENT			
				PLOTS	TREES	TOTAL		SAMPLE			
					PER PLOT	TREES		TREES			
TOTAL			13	144	11.1						
CRUISE			13	144	11.1	20,015		.7			
DBH COUNT											
REFOREST											
COUNT											
BLANKS											
100 %											
STAND SUMMARY											
SAMPLE			TREES	AVG	BOLE	REL	BASAL	GROSS	NET	GROSS	NET
TREES			/ACRE	DBH	LEN	DEN	AREA	BF/AC	BF/AC	CF/AC	CF/AC
DOUG FIR-L			90	122.1	14.4	97	36.5	138.5	19,581	19,581	4,654
DOUG FIR-T			53	124.5	11.0	89	24.6	81.5	9,258	9,244	2,138
WHEMLOCK-L			1	.5	24.0	100	0.3	1.5	240	240	55
TOTAL			144	247.1	12.8	93	61.9	221.5	29,079	29,065	6,847
CONFIDENCE LIMITS OF THE SAMPLE											
68.1 TIMES OUT OF 100 THE VOLUME WILL BE WITHIN THE SAMPLE ERROR											
CL	68.1	COEFF	SAMPLE TREES - BF				# OF TREES REQ.		INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
DOUG FIR-L			39.9	4.2	167	175	182				
DOUG FIR-T			37.0	5.1	79	83	88				
WHEMLOCK-L											
TOTAL			54.8	4.6	137	143	150	120	30	13	
CL	68.1	COEFF	SAMPLE TREES - CF				# OF TREES REQ.		INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
DOUG FIR-L			37.0	3.9	40	42	43				
DOUG FIR-T			43.0	5.9	19	20	21				
WHEMLOCK-L											
TOTAL			53.1	4.4	33	34	36	113	28	13	
CL	68.1	COEFF	TREES/ACRE				# OF PLOTS REQ.		INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
DOUG FIR-L			16.5	4.7	116	122	128				
DOUG FIR-T			48.5	14.0	107	125	142				
WHEMLOCK-L			360.6	103.9		0	1				
TOTAL			22.1	6.4	231	247	263	21	5	2	
CL	68.1	COEFF	BASAL AREA/ACRE				# OF PLOTS REQ.		INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
DOUG FIR-L			4.0	1.2	137	138	140				
DOUG FIR-T			51.5	14.8	69	82	94				
WHEMLOCK-L			360.6	103.9		2	3				
TOTAL			19.0	5.5	209	222	234	16	4	2	
CL	68.1	COEFF	NET BF/ACRE				# OF PLOTS REQ.		INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
DOUG FIR-L			8.8	2.5	19,082	19,581	20,079				
DOUG FIR-T			54.6	15.7	7,789	9,244	10,699				
WHEMLOCK-L			360.6	103.9		240	489				
TOTAL			19.7	5.7	27,416	29,065	30,713	17	4	2	
CL	68.1	COEFF	NET CUFT FT/ACRE				# OF PLOTS REQ.		INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
DOUG FIR-L			7.5	2.2	4,553	4,654	4,754				
DOUG FIR-T			56.2	16.2	1,791	2,138	2,484				

TC PSTATS				PROJECT STATISTICS				PAGE	2	
				PROJECT ALPHAFIN				DATE	4/22/2020	
TWP	RGE	SC	TRACT	TYPE	ACRES		PLOTS	TREES	CuFt	BdFt
05N	03	09	00A1	00PT	81.00		13	144	S	W
CL	68.1		COEFF		NET CUFT FT/ACRE			# OF PLOTS REQ.		INF. POP.
SD:	1.00		VAR.	S.E.%	LOW	AVG	HIGH	5	10	15
WHEMLOCK-L			360.6	103.9	55		112			
TOTAL			19.9	5.7	6,453	6,847	7,240	17	4	2

TC		PSPCSTGR		Species, Sort Grade - Board Foot Volumes (Project)																	
T05N R03W S09 Ty00PT81.00				Project:ALPHAFIN														Page1			
				Acres81.00														Date4/22/2020			
																		Time3:48:02PM			
S So Gr			%	Bd. Ft. per Acre			Total	Percent of Net Board Foot Volume								Average Log				Logs	
Spp	T	rt ad	Net BdFt	Def%	Gross	Net		Log Scale Dia.				Log Length				Ln	Dia	Bd	CF/		
								4-5	6-11	12-16	17+	12-20	21-30	31-35	36-99						
DF	L	3M	99		19,383	19,383	1,570	23	67	10	1		24	37	39	34	7	75	0.53	256.9	
DF	L	4M	1		197	197	16	43	57				100			26	6	35	0.28	5.6	
DF	Totals		67		19,581	19,581	1,586	23	67	9	1		25	37	39	34	7	75	0.53	262.5	
DF	T	CU														3	8		0.00	2.3	
DF	T	3M	80	.2	7,454	7,440	603		100					7	93	39	7	71	0.43	104.6	
DF	T	4M	20		1,804	1,804	146		100			39	61			20	6	25	0.26	72.5	
DF	Totals		32	.2	9,258	9,244	749		100			8	12	6	75	31	7	52	0.38	179.4	
WH	L	3M	100		240	240	19	6		29	65		100			28	11	163	1.32	1.5	
WH	Totals		1		240	240	19	6		29	65		100			28	11	163	1.32	1.5	
Totals					0.0	29,079	29,065	2,354	16	77	7	1	2	21	26	50	33	7	66	0.47	443.4

TC		PSTNDSUM										Stand Table Summary										Page		1					
																						Date:		4/22/2020					
T05N R03W S09 Ty00PT					81.00					Project					ALPHAFIN					Time:					3:44:25PM				
										Acres					81.00					Grown Year:									
S	T				Tot						Average Log			Net			Net			T o t a l s									
		DBH	Sample Trees	FF 16'	Av Ht	Trees/ Acre	BA/ Acre	Logs Acre	Net Cu.Ft.	Net Bd.Ft.	Tons/ Acre	Cu.Ft. Acre	Bd.Ft. Acre	Tons	Cunits	MBF													
DF L		10	1	88	85	2.821	1.54	5.64	7.2	35.0	1.16	41	197	94	33	16													
DF L		11	1	88	92	2.331	1.54	4.66	10.3	45.0	1.38	48	210	111	39	17													
DF L		12	5	88	91	9.794	7.69	19.59	11.8	48.0	6.56	230	940	531	186	76													
DF L		13	14	88	95	23.367	21.54	46.73	15.0	65.7	19.94	700	3,071	1,615	567	249													
DF L		14	21	87	96	30.222	32.31	60.44	17.2	68.6	29.55	1,037	4,145	2,394	840	336													
DF L		15	27	87	100	33.849	41.54	76.47	18.9	81.6	41.21	1,446	6,243	3,338	1,171	506													
DF L		16	6	88	101	6.611	9.23	14.32	22.7	92.3	9.28	325	1,322	751	264	107													
DF L		17	9	89	104	8.784	13.85	23.42	20.6	85.4	13.77	483	2,001	1,116	391	162													
DF L		18	1	89	96	.871	1.54	1.74	31.4	115.0	1.56	55	200	126	44	16													
DF L		19	2	89	114	1.563	3.08	3.91	31.4	128.0	3.50	123	500	283	99	41													
DF L		20	2	86	110	1.410	3.08	4.23	26.2	116.7	3.16	111	494	256	90	40													
DF L		25	1	88	101	.451	1.54	1.35	40.7	190.0	1.57	55	257	127	45	21													
DF L		Totals	90	88	97	122.074	138.46	262.52	17.7	74.6	132.63	4,654	19,581	10,743	3,769	1,586													
DF T		8	4	88	82	17.629	6.15	17.63	5.4	30.0	2.71	95	529	219	77	43													
DF T		9	5	87	83	17.412	7.69	17.41	9.4	54.0	4.68	164	940	379	133	76													
DF T		10	4	86	85	11.283	6.15	11.28	12.7	60.0	4.08	143	677	330	116	55													
DF T		11	15	87	88	34.968	23.08	44.29	12.9	54.2	16.23	569	2,401	1,315	461	194													
DF T		12	10	88	94	19.588	15.38	39.18	11.4	46.5	12.73	447	1,822	1,031	362	148													
DF T		13	9	87	96	15.022	13.85	30.04	14.3	58.3	12.28	431	1,753	995	349	142													
DF T		14	6	87	94	8.635	9.23	17.27	16.7	65.0	8.22	288	1,123	666	234	91													
DF T		Totals	53	87	89	124.536	81.54	177.11	12.1	52.2	60.93	2,138	9,244	4,935	1,732	749													
WH L		24	1	84	100	.490	1.54	1.47	37.5	163.3	1.76	55	240	143	45	19													
WH L		Totals	1	84	100	.490	1.54	1.47	37.5	163.3	1.76	55	240	143	45	19													
Totals			144	87	93	247.100	221.54	441.10	15.5	65.9	195.32	6,847	29,065	15,821	5,546	2,354													

TC		PLOGSTVB																		Log Stock Table - MBF									
T05N R03W S09 Ty00PT				81.00		Project:		ALPHAFIN										Page		1									
																		Date		4/22/2020									
																		Time		3:44:24PM									
Spp	S T	So Gr rt de	Log Len	Gross MBF	Def %	Net MBF	% Spc	Net Volume by Scaling Diameter in Inches																					
								2-3	4-5	6-7	8-9	10-11	12-13	14-15	16-19	20-23	24-29	30-39	40+										
DF	L	3M	26	76		76	4.8					56	21																
DF	L	3M	27	62		62	3.9				40	22																	
DF	L	3M	28	111		111	7.0		26		32		39		14														
DF	L	3M	29	29		29	1.8		5					24															
DF	L	3M	30	100		100	6.3		17		45	13	25																
DF	L	3M	31	15		15	.9				15																		
DF	L	3M	32	127		127	8.0		35		92																		
DF	L	3M	33	25		25	1.6				25																		
DF	L	3M	34	360		360	22.7		95		120	131		15															
DF	L	3M	35	54		54	3.4		9		37	8																	
DF	L	3M	36	192		192	12.1		50		130	13																	
DF	L	3M	37	94		94	5.9		9			85																	
DF	L	3M	38	172		172	10.8		60		13	85	13																
DF	L	3M	39	52		52	3.3		11			29	12																
DF	L	3M	40	96		96	6.0		38		14	44																	
DF	L	3M	41	6		6	.4		6																				
DF	L	4M	26	16		16	1.0		7		9																		
DF		Totals		1,586		1,586	67.4		368		9	561	485	111	39	14													
DF	T	3M	32	14		14	1.9			14																			
DF	T	3M	34	14		14	1.9			14																			
DF	T	3M	35	14		14	1.9			14																			
DF	T	3M	36	34		34	4.5			34																			
DF	T	3M	39	14		14	1.8			14																			
DF	T	3M	40	514		513	68.5			317	196																		
DF	T	4M	12	6		6	.8			6																			
DF	T	4M	14	3		3	.4			3																			
DF	T	4M	15	3		3	.4			3																			
DF	T	4M	16	15		15	2.0			15																			
DF	T	4M	17	3		3	.4			3																			
DF	T	4M	18	12		12	1.6			12																			
DF	T	4M	20	15		15	2.0			7	8																		
DF	T	4M	21	4		4	.5			4																			
DF	T	4M	22	4		4	.5			4																			
DF	T	4M	23	36		36	4.8			36																			
DF	T	4M	24	20		20	2.7			20																			
DF	T	4M	26	13		13	1.7			13																			
DF	T	4M	27	3		3	.5			3																			

TC		PLOGSTVB		Log Stock Table - MBF															
T05N R03W S09 Ty00PT81.00				Project:				ALPHAFIN				Page				2			
				Acres				81.00				Date				4/22/2020			
												Time				3:44:24PM			
Spp	S T	So Gr rt de	Log Len	Gross MBF	Def %	Net MBF	% Spc	Net Volume by Scaling Diameter in Inches											
								2-3	4-5	6-7	8-9	10-11	12-13	14-15	16-19	20-23	24-29	30-39	40+
DF	T	4M	28	3		3	.5			3									
DF	T	4M	30	5		5	.6			5									
DF		Totals		750		749	31.8			545	204								
WH	L	3M	28	18		18	93.9					6		13					
WH	L	3M	29	1		1	6.1		1										
WH		Totals		19		19	.8		1			6		13					
Total		All Species		2,355		2,354	100.0		369	554	765	485	116	39	26				

TC PSTATS			PROJECT STATISTICS						PAGE	1		
			PROJECT			ALPHAFIN			DATE	4/22/2020		
TWP	RGE	SC	TRACT	TYPE		ACRES		PLOTS	TREES	CuFt	BdFt	
03N	05	17	00A2	00PT		90.00		15	166	S	W	
					TREES	ESTIMATED		PERCENT				
					PER PLOT	TOTAL		SAMPLE				
			PLOTS	TREES			TREES	TREES				
TOTAL			15	166	11.1							
CRUISE			15	166	11.1		20,489		.8			
DBH COUNT												
REFOREST												
COUNT												
BLANKS												
100 %												
STAND SUMMARY												
			SAMPLE	TREES	AVG	BOLE	REL	BASAL	GROSS	NET	GROSS	NET
			TREES	/ACRE	DBH	LEN	DEN	AREA	BF/AC	BF/AC	CF/AC	CF/AC
DOUG FIR-L			105	122.8	14.5	96	36.8	140.0	19,196	19,196	4,608	4,608
DOUG FIR-T			61	104.9	11.9	87	23.6	81.3	9,104	9,018	2,156	2,156
TOTAL			166	227.7	13.4	92	60.6	221.3	28,299	28,214	6,763	6,763
CONFIDENCE LIMITS OF THE SAMPLE												
68.1 TIMES OUT OF 100 THE VOLUME WILL BE WITHIN THE SAMPLE ERROR												
CL	68.1	COEFF		SAMPLE TREES - BF					# OF TREES REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH			5	10	15	
DOUG FIR-L			34.2	3.3	163	169	174					
DOUG FIR-T			42.1	5.4	90	96	101					
TOTAL			44.2	3.4	137	142	147	78	20	9		
CL	68.1	COEFF		SAMPLE TREES - CF					# OF TREES REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH			5	10	15	
DOUG FIR-L			31.1	3.0	39	40	42					
DOUG FIR-T			41.7	5.3	22	23	24					
TOTAL			41.9	3.3	33	34	35	70	18	8		
CL	68.1	COEFF		TREES/ACRE					# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH			5	10	15	
DOUG FIR-L			12.5	3.3	119	123	127					
DOUG FIR-T			55.9	14.9	89	105	121					
TOTAL			26.0	6.9	212	228	243	29	7	3		
CL	68.1	COEFF		BASAL AREA/ACRE					# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH			5	10	15	
DOUG FIR-L					140	140	140					
DOUG FIR-T			60.6	16.2	68	81	94					
TOTAL			22.3	5.9	208	221	234	21	5	2		
CL	68.1	COEFF		NET BF/ACRE					# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH			5	10	15	
DOUG FIR-L			6.1	1.6	18,881	19,196	19,510					
DOUG FIR-T			60.0	16.0	7,572	9,018	10,464					
TOTAL			20.8	5.6	26,643	28,214	29,784	19	5	2		
CL	68.1	COEFF		NET CUFT FT/ACRE					# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH			5	10	15	
DOUG FIR-L			3.5	.9	4,565	4,608	4,650					
DOUG FIR-T			62.0	16.6	1,799	2,156	2,513					
TOTAL			20.3	5.4	6,396	6,763	7,131	18	4	2		

TC		PSPCSTGR		Species, Sort Grade - Board Foot Volumes (Project)																	
T03N R05W S17 Ty00PT90.00				Project:		ALPHAFIN												Page		1	
				Acres		90.00												Date		4/22/2020	
																		Time		3:49:26PM	
S So Gr			%	Bd. Ft. per Acre			Total	Percent of Net Board Foot Volume								Average Log				Logs	
Spp	T	rt ad	Net BdFt	Def%	Gross	Net		Log Scale Dia.				Log Length				Ln Ft	Dia In	Bd Ft	CF/ Lf		Per /Acre
								4-5	6-11	12-16	17+	12-20	21-30	31-35	36-99						
DF	L	3M	99		19,014	19,014	1,711	23	69	8		24	36	39	34	7	74	0.53	255.8		
DF	L	4M	1		181	181	16	50	50			100			24	6	30	0.22	6.0		
DF Totals			68		19,196	19,196	1,728	24	68	8		25	36	39	33	7	73	0.53	261.8		
DF	T	CU													11	7		0.00	23.8		
DF	T	3M	82	1.1	7,488	7,403	666		100			2	4	6	87	38	7	76	0.49	97.0	
DF	T	4M	18		1,615	1,615	145		100			48	52		19	6	25	0.29	64.7		
DF Totals			32	.9	9,104	9,018	812		100			11	13	5	72	28	7	49	0.42	185.4	
Totals				0.3	28,299	28,214	2,539	16	79	5		3	21	26	50	31	7	63	0.49	447.2	

TC		PSTNDSUM		Stand Table Summary										Page		1	
														Date:		4/22/2020	
T03N R05W S17 Ty00PT90.00				Project		ALPHAFIN		Time:		3:49:27PM		Grown Year:					
S Sp	T	Tot							Average Log		Net		Net		T o t a l s		
		Sample DBH	Trees	FF 16'	Av Ht	Trees/ Acre	BA/ Acre	Logs Acre	Net Cu.Ft.	Net Bd.Ft.	Tons/ Acre	Cu.Ft. Acre	Bd.Ft. Acre	Tons	Cunits	MBF	
DF L		9	1	87	86	3.018	1.33	6.04	5.1	30.0	.88	31	181	79	28	16	
DF L		12	6	87	92	10.186	8.00	20.37	11.7	48.3	6.79	238	985	612	215	89	
DF L		13	12	87	88	17.358	16.00	34.72	13.7	53.8	13.60	477	1,866	1,224	429	168	
DF L		14	33	87	94	41.159	44.00	82.32	16.7	68.6	39.28	1,378	5,650	3,535	1,240	509	
DF L		15	23	87	98	24.989	30.67	51.07	20.7	87.7	30.12	1,057	4,476	2,711	951	403	
DF L		16	17	87	105	16.234	22.67	41.06	19.5	81.9	22.78	799	3,361	2,050	719	303	
DF L		17	4	86	104	3.384	5.33	8.46	22.3	92.0	5.39	189	778	485	170	70	
DF L		18	6	88	107	4.527	8.00	12.07	24.4	104.4	8.40	295	1,260	756	265	113	
DF L		19	1	86	110	.677	1.33	2.03	23.3	103.3	1.35	47	210	121	43	19	
DF L		20	2	85	110	1.222	2.67	3.67	26.2	116.7	2.73	96	428	246	86	39	
DF L		Totals	105	87	96	122.755	140.00	261.80	17.6	73.3	131.32	4,608	19,196	11,819	4,147	1,728	
DF T		8	1	85	68	3.820	1.33	3.82	4.6	20.0	.50	18	76	45	16	7	
DF T		9	1	87	88	3.018	1.33	3.02	9.8	60.0	.84	30	181	76	27	16	
DF T		10	7	86	82	17.112	9.33	19.56	9.5	45.0	5.27	185	880	474	166	79	
DF T		11	10	87	86	20.203	13.33	22.22	14.1	60.0	8.92	313	1,333	803	282	120	
DF T		12	16	86	86	27.162	21.33	45.84	11.8	47.0	15.46	542	2,156	1,391	488	194	
DF T		13	9	87	90	13.019	12.00	26.04	13.4	53.3	9.95	349	1,389	896	314	125	
DF T		14	13	86	93	16.214	17.33	32.43	16.5	68.5	15.23	535	2,220	1,371	481	200	
DF T		15	4	88	102	4.346	5.33	8.69	21.2	90.0	5.25	184	782	473	166	70	
DF T		Totals	61	86	87	104.895	81.33	161.61	13.3	55.8	61.44	2,156	9,018	5,529	1,940	812	
Totals		166	87	92		227.650	221.33	423.41	16.0	66.6	192.75	6,763	28,214	17,348	6,087	2,539	

TC		PLOGSTVB		Log Stock Table - MBF																	
T03N R05W S17 Ty00PT 90.00				Project: Acres		ALPHAFIN 90.00										Page		1			
																Date		4/22/2020			
																Time		3:49:25PM			
S T Spp	So Gr rt de	Log Len	Gross MBF	Def %	Net MBF	% Spc	Net Volume by Scaling Diameter in Inches														
							2-3	4-5	6-7	8-9	10-11	12-13	14-15	16-19	20-23	24-29	30-39	40+			
DF	L	3M 26	75		75	4.3				8	11	57									
DF	L	3M 27	12		12	.7				12											
DF	L	3M 28	193		193	11.2		34		58	69	33									
DF	L	3M 29	32		32	1.9		2			7		23								
DF	L	3M 30	104		104	6.0		9		37	34	24									
DF	L	3M 31	55		55	3.2		18		36											
DF	L	3M 32	215		215	12.4		33		182											
DF	L	3M 33	57		57	3.3		10		34	13										
DF	L	3M 34	240		240	13.9		109		80	51										
DF	L	3M 35	53		53	3.1		8		45											
DF	L	3M 36	149		149	8.6		31		90	27										
DF	L	3M 37	168		168	9.7		31			137										
DF	L	3M 38	201		201	11.6		47		12	142										
DF	L	3M 39	65		65	3.8		25		12	28										
DF	L	3M 40	87		87	5.0		35			52										
DF	L	3M 41	5		5	.3		5													
DF	L	4M 23	8		8	.5			8												
DF	L	4M 24	8		8	.5		8													
DF		Totals	1,728		1,728	68.0		408		8	605	569	114	23							
DF	T	3M 20	15		15	1.9				8	8										
DF	T	3M 24	19		19	2.4				9	10										
DF	T	3M 30	9		9	1.1			9												
DF	T	3M 32	21	14.3	18	2.3				18											
DF	T	3M 34	11		11	1.4			11												
DF	T	3M 35	11		11	1.3			11												
DF	T	3M 36	16		16	2.0			16												
DF	T	3M 37	17		17	2.1			17												
DF	T	3M 38	26		26	3.3			26												
DF	T	3M 39	9		9	1.1			9												
DF	T	3M 40	519		514	63.3			234	251	29										
DF	T	4M 12	5		5	.6			5												
DF	T	4M 13	3		3	.4			3												
DF	T	4M 14	16		16	2.0			11		5										
DF	T	4M 15	8		8	1.0			8												
DF	T	4M 16	15		15	1.8			8	7											
DF	T	4M 17	3		3	.3			3												
DF	T	4M 18	8		8	1.0			8												

TC		PLOGSTVB		Log Stock Table - MBF															
T03N R05W S17 Ty00PT90.00				Project: Acres		ALPHAFIN 90.00		Page 2 Date 4/22/2020 Time 3:49:25PM											
Spp	S T	So Gr rt de	Log Len	Gross MBF	Def %	Net MBF	% Spc	Net Volume by Scaling Diameter in Inches											
								2-3	4-5	6-7	8-9	10-11	12-13	14-15	16-19	20-23	24-29	30-39	40+
DF	T	4M	19	3		3	.3			3									
DF	T	4M	20	9		9	1.2			9									
DF	T	4M	21	11		11	1.4			11									
DF	T	4M	22	7		7	.9			7									
DF	T	4M	23	11		11	1.3			11									
DF	T	4M	24	3		3	.4			3									
DF	T	4M	25	10		10	1.2			10									
DF	T	4M	26	16		16	1.9			16									
DF	T	4M	28	5		5	.6			5									
DF	T	4M	29	9		9	1.1			9									
DF	T	4M	30	4		4	.5			4									
DF		Totals		819		812	32.0			467	292	53							
Total		All Species		2,547		2,539	100.0		408	475	898	622	114	23					

TC PSTATS			PROJECT STATISTICS						PAGE	1					
			PROJECT			ALPHAFIN			DATE	4/22/2020					
TWP	RGE	SC	TRACT	TYPE		ACRES		PLOTS	TREES	CuFt	BdFt				
03N	05	21	00A3	00PT		49.00		8	89	S	W				
					TREES		ESTIMATED		PERCENT						
					PER PLOT		TOTAL		SAMPLE						
			PLOTS		TREES		TREES		TREES						
TOTAL			8		89		11.1								
CRUISE			8		89		11.1		9,854		.9				
DBH COUNT															
REFOREST															
COUNT															
BLANKS															
100 %															
STAND SUMMARY															
			SAMPLE		TREES		AVG		BOLE						
			TREES		/ACRE		DBH		LEN						
							REL		BASAL						
							DEN		AREA						
							GROSS		NET						
							BF/AC		BF/AC						
							GROSS		CF/AC						
							CF/AC		CF/AC						
DOUG FIR-L			55		109.8		15.2		97		35.3				
DOUG FIR-T			34		91.3		13.1		89		23.5				
TOTAL			89		201.1		14.2		94		59.0				
CONFIDENCE LIMITS OF THE SAMPLE															
68.1 TIMES OUT OF 100 THE VOLUME WILL BE WITHIN THE SAMPLE ERROR															
CL	68.1	COEFF		SAMPLE TREES - BF						# OF TREES REQ.		INF. POP.			
SD:	1.0	VAR.%		S.E.%		LOW		AVG		HIGH		5	10	15	
DOUG FIR-L		36.4		4.9		184		193		203					
DOUG FIR-T		55.9		9.6		135		149		164					
TOTAL		44.3		4.7		168		177		185		78		20	9
CL	68.1	COEFF		SAMPLE TREES - CF						# OF TREES REQ.		INF. POP.			
SD:	1.0	VAR.%		S.E.%		LOW		AVG		HIGH		5	10	15	
DOUG FIR-L		31.7		4.3		44		46		48					
DOUG FIR-T		57.8		9.9		33		37		41					
TOTAL		42.1		4.5		41		43		45		71		18	8
CL	68.1	COEFF		TREES/ACRE						# OF PLOTS REQ.		INF. POP.			
SD:	1.0	VAR.%		S.E.%		LOW		AVG		HIGH		5	10	15	
DOUG FIR-L		13.7		5.2		104		110		115					
DOUG FIR-T		55.5		20.9		72		91		110					
TOTAL		31.2		11.7		177		201		225		44		11	5
CL	68.1	COEFF		BASAL AREA/ACRE						# OF PLOTS REQ.		INF. POP.			
SD:	1.0	VAR.%		S.E.%		LOW		AVG		HIGH		5	10	15	
DOUG FIR-L		5.1		1.9		135		138		140					
DOUG FIR-T		54.5		20.5		68		85		102					
TOTAL		23.3		8.8		203		223		242		25		6	3
CL	68.1	COEFF		NET BF/ACRE						# OF PLOTS REQ.		INF. POP.			
SD:	1.0	VAR.%		S.E.%		LOW		AVG		HIGH		5	10	15	
DOUG FIR-L		7.5		2.8		18,983		19,536		20,089					
DOUG FIR-T		58.2		21.9		8,363		10,713		13,064					
TOTAL		23.4		8.8		27,579		30,249		32,920		25		6	3
CL	68.1	COEFF		NET CUFT FT/ACRE						# OF PLOTS REQ.		INF. POP.			
SD:	1.0	VAR.%		S.E.%		LOW		AVG		HIGH		5	10	15	
DOUG FIR-L		7.1		2.7		4,566		4,691		4,817					
DOUG FIR-T		59.0		22.3		2,037		2,620		3,204					
TOTAL		23.9		9.0		6,654		7,312		7,970		26		6	3

TC		PSPCSTGR		Species, Sort Grade - Board Foot Volumes (Project)																
T03N R05W S21 Ty00PT49.00				Project: ALPHAFIN												Page 1				
				Acres 49.00												Date 4/22/2020				
																Time 3:51:36PM				
S So Gr			%	Bd. Ft. per Acre			Total	Percent of Net Board Foot Volume								Average Log				Logs
Spp	T	rt ad	Net BdFt	Def%	Gross	Net		Log Scale Dia.				Log Length				Ln	Dia	Bd	CF/	
								4-5	6-11	12-16	17+	12-20	21-30	31-35	36-99					
DF	L	3M	100		19,536	19,536	957	21	63	16		25	22	54	35	8	83	0.58	234.5	
DF Totals			65		19,536	19,536	957	21	63	16		25	22	54	35	8	83	0.58	234.5	
DF	T	2M	13	3.3	1,533	1,482	73	100				100				40	13	230	1.33	6.4
DF	T	3M	73	1.5	7,926	7,810	383	100				4 96				39	8	89	0.56	88.0
DF	T	4M	14	1.2	1,439	1,421	70	100				43	52	5	21	6	25	0.28	56.1	
DF Totals			35	1.7	10,899	10,713	525	86 14				6	7	3	84	33	7	71	0.53	150.5
Totals				0.6	30,434	30,249	1,482	14 71 15				2	18	15	65	34	8	79	0.56	385.0

TC		PSTNDSUM										Stand Table Summary										Page		1					
																						Date:		4/22/2020					
T03N R05W S21 Ty00PT					49.00					Project					ALPHAFIN					Time:					3:51:37PM				
										Acres					49.00					Grown Year:									
S	Sp	T	Sample		Tot		Trees/ Acre	BA/ Acre	Logs Acre	Average Log		Tons/ Acre	Net Cu.Ft. Acre	Net Bd.Ft. Acre	T o t a l s														
			DBH	Trees	FF 16'	Av Ht				Net Cu.Ft.	Net Bd.Ft.				Tons	Cunits	MBF												
DF	L		11	1	89	91	3.788	2.50	7.58	10.3	45.0	2.23	78	341	109	38	17												
DF	L		12	1	88	88	3.183	2.50	6.37	11.3	45.0	2.06	72	286	101	35	14												
DF	L		13	4	88	92	10.849	10.00	21.70	15.0	65.0	9.25	325	1,410	453	159	69												
DF	L		14	13	88	96	30.402	32.50	60.80	17.2	68.8	29.74	1,043	4,186	1,457	511	205												
DF	L		15	13	88	97	26.483	32.50	52.97	21.2	88.5	31.97	1,122	4,686	1,567	550	230												
DF	L		16	7	88	100	12.533	17.50	25.07	24.3	96.4	17.33	608	2,417	849	298	118												
DF	L		17	5	89	102	7.930	12.50	19.03	23.1	93.3	12.56	441	1,776	615	216	87												
DF	L		18	6	88	100	8.488	15.00	22.64	23.5	100.6	15.16	532	2,278	743	261	112												
DF	L		19	4	89	110	5.079	10.00	15.24	25.0	114.2	10.87	381	1,740	533	187	85												
DF	L		21	1	88	103	1.039	2.50	3.12	28.6	133.3	2.54	89	416	124	44	20												
DF	L		Totals	55	88	97	109.776	137.50	234.50	20.0	83.3	133.71	4,691	19,536	6,552	2,299	957												
DF	T		8	1	86	65	7.162	2.50	7.16	4.6	20.0	.95	33	143	46	16	7												
DF	T		9	1	86	65	5.659	2.50	5.66	7.6	30.0	1.23	43	170	60	21	8												
DF	T		10	2	87	73	9.167	5.00	9.17	11.8	60.0	3.08	108	550	151	53	27												
DF	T		11	1	88	89	3.788	2.50	3.79	16.3	70.0	1.75	62	265	86	30	13												
DF	T		12	6	88	88	19.099	15.00	31.83	12.5	50.0	11.38	399	1,592	557	196	78												
DF	T		13	5	88	95	13.561	12.50	27.12	14.1	57.0	10.89	382	1,546	534	187	76												
DF	T		14	4	88	94	9.354	10.00	18.71	17.1	67.5	9.11	320	1,263	446	157	62												
DF	T		15	4	88	101	8.149	10.00	16.30	21.5	92.5	9.97	350	1,508	489	171	74												
DF	T		16	5	88	100	8.952	12.50	17.90	24.2	99.0	12.36	434	1,773	606	212	87												
DF	T		17	1	89	120	1.586	2.50	3.17	32.3	135.0	2.92	103	428	143	50	21												
DF	T		19	3	88	107	3.809	7.50	7.62	38.1	143.3	8.27	290	1,092	405	142	54												
DF	T		21	1	88	115	1.039	2.50	2.08	46.7	185.0	2.77	97	385	136	48	19												
DF	T		Totals	34	88	89	91.326	85.00	150.51	17.4	71.2	74.68	2,620	10,713	3,660	1,284	525												
Totals			89	88	94	201.102	222.50	385.01	19.0	78.6	208.39	7,312	30,249	10,211	3,583	1,482													

TC		PLOGSTVB		Log Stock Table - MBF																	
T03N R05W S21 Ty00PT 49.00				Project: ALPHAFIN Acres 49.00										Page 1 Date 4/22/2020 Time 3:51:35PM							
Spp	S T	So Gr rt de	Log Len	Gross MBF	Def %	Net MBF	% Spc	Net Volume by Scaling Diameter in Inches													
								2-3	4-5	6-7	8-9	10-11	12-13	14-15	16-19	20-23	24-29	30-39	40+		
DF	L	3M	26	11		11	1.2					11									
DF	L	3M	27	29		29	3.0					7	22								
DF	L	3M	28	129		129	13.5		9		11	26	34	50							
DF	L	3M	29	19		19	2.0		6			13									
DF	L	3M	30	47		47	4.9		11		29	7									
DF	L	3M	31	39		39	4.0		5		9	11		14							
DF	L	3M	32	35		35	3.6		15			19									
DF	L	3M	33	13		13	1.4				13										
DF	L	3M	34	70		70	7.3		21		49										
DF	L	3M	35	50		50	5.3		5		46										
DF	L	3M	36	164		164	17.1		27		57	54	25								
DF	L	3M	37	59		59	6.1		17			42									
DF	L	3M	38	130		130	13.6		50		13	67									
DF	L	3M	39	45		45	4.7		4			41									
DF	L	3M	40	113		113	11.8		29			84									
DF	L	3M	41	5		5	.5		5												
DF		Totals		957		957	64.6		202		227	373	92	64							
DF	T	2M	40	75	3.3	73	13.8					58	15								
DF	T	3M	33	9		9	1.8			9											
DF	T	3M	34	4		4	.8			4											
DF	T	3M	36	13		13	2.6			13											
DF	T	3M	37	6		6	1.1			6											
DF	T	3M	38	19	4.7	18	3.4			18											
DF	T	3M	40	336	1.4	332	63.2			95	124	112									
DF	T	4M	14	9		9	1.7			9											
DF	T	4M	16	3		3	.6			3											
DF	T	4M	17	3		3	.6			3											
DF	T	4M	18	2		2	.4			2											
DF	T	4M	19	3		3	.5			3											
DF	T	4M	20	10		10	1.8			10											
DF	T	4M	22	4		4	.8			4											
DF	T	4M	23	3		3	.7			3											
DF	T	4M	24	4		4	.8			4											
DF	T	4M	25	6		6	1.2			6											
DF	T	4M	26	3		3	.6			3											
DF	T	4M	28	11		11	2.2			11											
DF	T	4M	29	5		5	.9			5											

TC		PLOGSTVB		Log Stock Table - MBF																
T03N R05W S21 Ty00PT49.00								Project: ALPHAFIN								Page 2				
								Acres 49.00								Date 4/22/2020				
																Time 3:51:35PM				
Spp	S T	So rt	Gr de	Log Len	Gross MBF	Def %	Net MBF	% Spc	Net Volume by Scaling Diameter in Inches											
									2-3	4-5	6-7	8-9	10-11	12-13	14-15	16-19	20-23	24-29	30-39	40+
DF	T		4M	33	4	20.0	4	.7			4									
DF			Totals		534	1.7	525	35.4			216	124	112	58	15					
Total			All Species		1,491		1,482	100.0		202	216	351	485	150	79					

TC PSTATS			PROJECT STATISTICS						PAGE	1	
			PROJECT		ALPHAFIN		DATE			4/22/2020	
TWP	RGE	SC	TRACT	TYPE		ACRES		PLOTS	TREES	CuFt	BdFt
05N	03	22	00A4	00PT		23.00		4	46	S	W
					TREES		ESTIMATED		PERCENT		
					TOTAL		SAMPLE				
			PLOTS	TREES	PER PLOT		TREES		TREES		
TOTAL			4	46	11.5						
CRUISE			4	46	11.5		6,773		.7		
DBH COUNT											
REFOREST											
COUNT											
BLANKS											
100 %											
STAND SUMMARY											
			SAMPLE	TREES	AVG	BOLE	REL	BASAL	GROSS	NET	GROSS
			TREES	/ACRE	DBH	LEN	DEN	AREA	BF/AC	BF/AC	CF/AC
DOUG FIR-L			28	143.5	13.4	87	38.3	140.0	16,968	16,968	4,005
DOUG FIR-T			18	151.0	10.5	85	27.8	90.0	10,000	10,000	2,177
TOTAL			46	294.5	12.0	86	66.5	230.0	26,968	26,968	6,182
CONFIDENCE LIMITS OF THE SAMPLE											
68.1 TIMES OUT OF 100 THE VOLUME WILL BE WITHIN THE SAMPLE ERROR											
CL	68.1	COEFF		SAMPLE TREES - BF					# OF TREES REQ.		INF. POP.
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH			5	10	15
DOUG FIR-L		50.7	9.8	124	137	151					
DOUG FIR-T		25.3	6.1	65	69	73					
TOTAL		58.3	8.6	101	110	120			136	34	15
CL	68.1	COEFF		SAMPLE TREES - CF					# OF TREES REQ.		INF. POP.
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH			5	10	15
DOUG FIR-L		52.3	10.1	30	33	36					
DOUG FIR-T		31.7	7.7	14	15	16					
TOTAL		62.3	9.2	24	26	28			155	39	17
CL	68.1	COEFF		TREES/ACRE					# OF PLOTS REQ.		INF. POP.
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH			5	10	15
DOUG FIR-L		37.2	21.3	113	144	174					
DOUG FIR-T		57.7	33.0	101	151	201					
TOTAL		36.8	21.0	233	294	356			71	18	8
CL	68.1	COEFF		BASAL AREA/ACRE					# OF PLOTS REQ.		INF. POP.
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH			5	10	15
DOUG FIR-L				140	140	140					
DOUG FIR-T		55.9	32.0	61	90	119					
TOTAL		21.9	12.5	201	230	259			25	6	3
CL	68.1	COEFF		NET BF/ACRE					# OF PLOTS REQ.		INF. POP.
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH			5	10	15
DOUG FIR-L		2.9	1.6	16,690	16,968	17,246					
DOUG FIR-T		60.8	34.8	6,525	10,000	13,475					
TOTAL		21.6	12.4	23,633	26,968	30,303			24	6	3
CL	68.1	COEFF		NET CUFT FT/ACRE					# OF PLOTS REQ.		INF. POP.
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH			5	10	15
DOUG FIR-L		7.3	4.2	3,837	4,005	4,172					
DOUG FIR-T		60.7	34.7	1,422	2,177	2,932					
TOTAL		20.9	12.0	5,443	6,182	6,921			23	6	3

TC		PSPCSTGR		Species, Sort Grade - Board Foot Volumes (Project)																	
T05N R03W S22 Ty00PT23.00				Project:		ALPHAFIN										Page		1			
				Acres		23.00										Date		4/22/2020			
																Time		3:53:39PM			
S So Gr			%	Bd. Ft. per Acre			Total	Percent of Net Board Foot Volume								Average Log				Logs	
Spp	T	rt ad	Net BdFt	Def%	Gross	Net		Log Scale Dia.				Log Length				Ln Ft	Dia In	Bd Ft	CF/ Lf		Per /Acre
								4-5	6-11	12-16	17+	12-20	21-30	31-35	36-99						
DF	L	3M	84		14,401	14,401	331	25	68	6		36	41	23	32	7	69	0.52	209.8		
DF	L	4M	16		2,567	2,567	59	43	57			100			24	6	35	0.28	73.3		
DF Totals			63		16,968	16,968	390	28	67	5		45	35	20	30	7	60	0.47	283.2		
DF	T	CU													4	7		0.00	15.5		
DF	T	3M	80		8,060	8,060	185		100			20		80	36	7	61	0.37	132.1		
DF	T	4M	20		1,940	1,940	45		100			39	37	23	20	6	26	0.27	74.9		
DF Totals			37		10,000	10,000	230		100			8	23	5	65	29	6	45	0.34	222.6	
Totals					26,968	26,968	620	18	79	3		3	37	23	37	29	7	53	0.42	505.7	

TC		PSTNDSUM										Stand Table Summary										Page		1					
																						Date:		4/22/2020					
T05N R03W S22 Ty00PT					23.00					Project					ALPHAFIN					Time:					3:53:40PM				
										Acres					23.00					Grown Year:									
S	Sp	T	Sample		Tot		Trees/ Acre	BA/ Acre	Logs Acre	Average Log		Net		Tons/ Acre	Cu.Ft. Acre	Net Bd.Ft. Acre	T o t a l s												
			DBH	Trees	FF 16'	Av Ht				Net Cu.Ft.	Net Bd.Ft.	Tons	Cunits				MBF												
DF	L		10	4	86	80	36.669	20.00	73.34	6.7	35.0	13.95	490	2,567		321		113	59										
DF	L		11	1	85	90	7.576	5.00	15.15	8.7	40.0	3.76	132	606		87		30	14										
DF	L		12	1	86	80	6.366	5.00	12.73	10.2	40.0	3.70	130	509		85		30	12										
DF	L		13	3	86	80	16.273	15.00	32.55	12.8	50.0	11.86	416	1,627		273		96	37										
DF	L		14	8	85	94	37.418	40.00	65.48	16.6	67.1	30.97	1,087	4,397		712		250	101										
DF	L		15	6	86	88	24.446	30.00	48.89	19.1	80.8	26.65	935	3,952		613		215	91										
DF	L		16	2	86	100	7.162	10.00	17.90	18.4	78.0	9.39	329	1,397		216		76	32										
DF	L		17	1	85	90	3.172	5.00	6.34	25.2	100.0	4.55	160	634		105		37	15										
DF	L		19	1	86	90	2.539	5.00	5.08	31.5	110.0	4.56	160	559		105		37	13										
DF	L		22	1	84	100	1.894	5.00	5.68	29.3	126.7	4.74	166	720		109		38	17										
DF	L		Totals	28	86	87	143.517	140.00	283.15	14.1	59.9	114.13	4,005	16,968		2,625		921	390										
DF	T		9	3	87	84	33.953	15.00	33.95	9.5	53.3	9.24	324	1,811		212		75	42										
DF	T		10	5	86	83	45.837	25.00	45.84	12.1	58.0	15.78	554	2,659		363		127	61										
DF	T		11	7	86	86	53.034	35.00	90.92	9.7	41.7	25.20	884	3,788		580		203	87										
DF	T		12	2	87	93	12.732	10.00	25.46	10.6	45.0	7.70	270	1,146		177		62	26										
DF	T		13	1	85	87	5.424	5.00	10.85	13.4	55.0	4.14	145	597		95		33	14										
DF	T		Totals	18	86	85	150.981	90.00	207.02	10.5	48.3	62.05	2,177	10,000		1,427		501	230										
Totals			46	86	86	294.497	230.00	490.17	12.6	55.0	176.18	6,182	26,968		4,052		1,422	620											

TC		PLOGSTVB		Log Stock Table - MBF															
T05N R03W S22 Ty00PT 23.00				Project: ALPHAFIN Acres 23.00		Page 1 Date 4/22/2020 Time 3:53:39PM													
Spp	S T	So Gr rt de	Log Len	Gross MBF	Def %	Net MBF	% Spc	Net Volume by Scaling Diameter in Inches											
								2-3	4-5	6-7	8-9	10-11	12-13	14-15	16-19	20-23	24-29	30-39	40+
DF	L	3M	26	10		10	2.6							10					
DF	L	3M	27	7		7	1.9				7								
DF	L	3M	28	64		64	16.4		8	9	32	15							
DF	L	3M	29	11		11	2.9		11										
DF	L	3M	30	26		26	6.6		5			21							
DF	L	3M	31	6		6	1.4		6										
DF	L	3M	32	39		39	9.9				39								
DF	L	3M	34	76		76	19.4		28			47							
DF	L	3M	35	15		15	3.8		3			12							
DF	L	3M	36	46		46	11.7		3		32		11						
DF	L	3M	37	28		28	7.3		15			13							
DF	L	3M	38	4		4	1.0		4										
DF	L	4M	24	59		59	15.1		25	34									
DF		Totals		390		390	62.9		109	42	110	108	11	10					
DF	T	3M	24	9		9	3.8				9								
DF	T	3M	26	9		9	3.8				9								
DF	T	3M	28	9		9	3.8			9									
DF	T	3M	30	11		11	4.6			11									
DF	T	3M	36	28		28	12.3			28									
DF	T	3M	38	16		16	6.8			16									
DF	T	3M	40	105		105	45.5			94	11								
DF	T	4M	12	2		2	.8			2									
DF	T	4M	13	3		3	1.3			3									
DF	T	4M	14	3		3	1.5				3								
DF	T	4M	15	9		9	4.1			9									
DF	T	4M	21	5		5	2.3			5									
DF	T	4M	28	4		4	1.9			4									
DF	T	4M	30	7		7	3.0			7									
DF	T	4M	31	10		10	4.5			10									
DF		Totals		230		230	37.1			198	32								
Total		All Species		620		620	100.0		109	240	142	108	11	10					

TC PSTATS			PROJECT STATISTICS						PAGE	1		
			PROJECT			ALPHAFIN			DATE	4/22/2020		
TWP	RGE	SC	TRACT	TYPE		ACRES		PLOTS	TREES	CuFt	BdFt	
03N 05N	05 03W	17 22	00A2 00A4	00PT 00PT	THR	243.00		40	445	S	W	
			PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES		PERCENT SAMPLE TREES				
TOTAL			40	445	11.1							
CRUISE			40	445	11.1		57,131		.8			
DBH COUNT												
REFOREST												
COUNT												
BLANKS												
100 %												
STAND SUMMARY												
			SAMPLE TREES	TREES /ACRE	AVG DBH	BOLE LEN	REL DEN	BASAL AREA	GROSS BF/AC	NET BF/AC	GROSS CF/AC	NET CF/AC
DOUG FIR-L			278	121.9	14.5	96	36.5	139.0	19,182	19,182	4,583	4,583
DOUG FIR-T			166	113.1	11.6	88	24.4	83.0	9,602	9,528	2,246	2,246
WHEMLOCK-L			1	.2	24.0	100	0.1	.5	80	80	18	18
TOTAL			445	235.1	13.2	92	61.3	222.5	28,864	28,790	6,847	6,847
CONFIDENCE LIMITS OF THE SAMPLE												
68.1 TIMES OUT OF 100 THE VOLUME WILL BE WITHIN THE SAMPLE ERROR												
CL	68.1	COEFF	SAMPLE TREES - BF					# OF TREES REQ.		INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5 10		15			
DOUG FIR-L			38.8	2.3	168	172	176					
DOUG FIR-T			55.1	4.3	96	100	104					
WHEMLOCK-L												
TOTAL			50.4	2.4	143	146	149	101	25	11		
CL	68.1	COEFF	SAMPLE TREES - CF					# OF TREES REQ.		INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5 10		15			
DOUG FIR-L			35.9	2.1	40	41	42					
DOUG FIR-T			58.7	4.6	23	24	25					
WHEMLOCK-L												
TOTAL			48.9	2.3	34	35	36	96	24	11		
CL	68.1	COEFF	TREES/ACRE					# OF PLOTS REQ.		INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5 10		15			
DOUG FIR-L			18.4	2.9	118	122	125					
DOUG FIR-T			53.5	8.5	104	113	123					
WHEMLOCK-L			632.5	99.9	0	0	0					
TOTAL			27.8	4.4	225	235	245	31	8	3		
CL	68.1	COEFF	BASAL AREA/ACRE					# OF PLOTS REQ.		INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5 10		15			
DOUG FIR-L			3.7	.6	138	139	140					
DOUG FIR-T			53.8	8.5	76	83	90					
WHEMLOCK-L			632.5	99.9	0	1	1					
TOTAL			20.6	3.3	215	222	230	17	4	2		
CL	68.1	COEFF	NET BF/ACRE					# OF PLOTS REQ.		INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5 10		15			
DOUG FIR-L			9.3	1.5	18,899	19,182	19,465					
DOUG FIR-T			56.2	8.9	8,683	9,528	10,374					
WHEMLOCK-L			632.5	99.9	0	80	160					
TOTAL			21.0	3.3	27,835	28,790	29,745	18	4	2		
CL	68.1	COEFF	NET CUFT FT/ACRE					# OF PLOTS REQ.		INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5 10		15			
DOUG FIR-L			8.6	1.4	4,520	4,583	4,645					
DOUG FIR-T			57.9	9.1	2,040	2,246	2,451					

PROJECT STATISTICS								PAGE	2	
TC PSTATS		PROJECT		ALPHAFIN				DATE	4/22/2020	
TWP	RGE	SC	TRACT	TYPE		ACRES	PLOTS	TREES	CuFt	BdFt
03N	05	17	00A2	00PT	THR	243.00	40	445	S	W
05N	03W	22	00A4	00PT						
CL	68.1		COEFF		NET CUFT FT/ACRE			# OF PLOTS REQ.		INF. POP.
SD:	1.00		VAR.	S.E.%	LOW	AVG	HIGH	5	10	15
WHEMLOCK-L			632.5	99.9	0	18	37			
TOTAL			21.2	3.4	6,617	6,847	7,076	18	5	2

TC		PSPCSTGR		Species, Sort Grade - Board Foot Volumes (Project)																	
T03N R05W S17 Ty00PT THRU T05N R03W S22 Ty00PT				Project: ALPHAFIN												Page 1					
				Acres 243.00												Date 4/22/2020					
																Time 3:56:02PM					
S So Gr			%	Bd. Ft. per Acre			Total Net MBF	Percent of Net Board Foot Volume								Average Log				Logs Per /Acre	
Spp	T	rt ad	Net BdFt	Def%	Gross	Net		Log Scale Dia.				Log Length				Ln Ft	Dia In	Bd Ft	CF/ Lf		
								4-5	6-11	12-16	17+	12-20	21-30	31-35	36-99						
DF	L	3M	98		18,806	18,806	4,570	23	67	10	0		25	34	41	34	7	76	0.54	247.5	
DF	L	4M	2		376	376	91	44	56				100			24	6	34	0.27	11.1	
DF Totals			67		19,182	19,182	4,661	23	66	10	0		27	33	40	33	7	74	0.53	258.6	
DF	T	CU														10	7		0.00	11.1	
DF	T	2M	3	3.3	309	299	73			100					100	40	13	230	1.33	1.3	
DF	T	3M	79	.8	7,619	7,559	1,837		100			1	4	5	90	38	7	75	0.47	101.0	
DF	T	4M	18	.2	1,674	1,670	406		100			43	54	3		20	6	25	0.28	66.5	
DF Totals			33	.8	9,602	9,528	2,315		97	3		8	12	5	75	30	7	53	0.42	179.9	
WH L 3M			100		80	80	19	6		29	65		100			28	11	163	1.32	.5	
WH Totals			0		80	80	19	6		29	65		100			28	11	163	1.32	.5	
Totals				0.3	28,864	28,790	6,996	16	76	8	0	3	22	24	52	32	7	66	0.49	438.9	

TC		PSTNDSUM										Stand Table Summary										Page		1	
																						Date:		4/22/2020	
T03N R05W S17 Ty00PT THRU T05N R03W S22 Ty00PT						Project				ALPHAFIN				Time:				3:56:03PM							
						Acres				243.00				Grown Year:											
S Sp	T	Tot			Trees/ Acre	BA/ Acre	Logs Acre	Average Log		Tons/ Acre	Net Cu.Ft. Acre	Net Bd.Ft. Acre	T o t a l s												
		Sample DBH	FF 16'	Av Ht				Net Cu.Ft.	Net Bd.Ft.				Tons	Cunits	MBF										
DF L		9	1	87	86	1.118	.49	2.24	5.1	30.0	.33	11	67	79	28	16									
DF L		10	5	86	81	4.411	2.41	8.82	6.8	35.0	1.71	60	309	415	146	75									
DF L		11	3	87	91	2.258	1.49	4.52	9.8	43.4	1.27	44	196	307	108	48									
DF L		12	13	87	91	8.282	6.50	16.56	11.6	47.3	5.47	192	784	1,329	466	191									
DF L		13	33	87	91	17.946	16.54	35.89	14.3	60.0	14.67	515	2,153	3,565	1,251	523									
DF L		14	75	87	95	34.990	37.41	69.10	16.9	68.5	33.33	1,169	4,734	8,098	2,841	1,150									
DF L		15	69	87	98	28.192	34.60	59.71	19.9	84.7	33.86	1,188	5,058	8,228	2,887	1,229									
DF L		16	32	87	103	11.421	15.95	26.73	20.9	86.2	15.91	558	2,305	3,867	1,357	560									
DF L		17	19	88	103	6.081	9.58	15.38	21.8	89.3	9.55	335	1,373	2,320	814	334									
DF L		18	13	88	103	3.679	6.50	9.62	24.4	103.2	6.69	235	993	1,625	570	241									
DF L		19	8	88	109	2.036	4.01	5.61	26.8	115.6	4.29	150	648	1,042	366	157									
DF L		20	4	86	110	.923	2.01	2.77	26.2	116.7	2.06	72	323	502	176	78									
DF L		21	1	88	103	.210	.50	.63	28.6	133.3	.51	18	84	124	44	20									
DF L		22	1	84	100	.179	.47	.54	29.3	126.7	.45	16	68	109	38	17									
DF L		25	1	88	101	.150	.51	.45	40.7	190.0	.52	18	86	127	45	21									
DF L		Totals	278	87	96	121.876	138.98	258.56	17.7	74.2	130.61	4,583	19,182	31,738	11,136	4,661									
DF T		8	6	87	77	8.735	3.05	8.74	5.1	26.7	1.28	45	233	311	109	57									
DF T		9	10	87	82	11.276	4.98	11.28	9.3	52.0	3.00	105	586	728	255	142									
DF T		10	18	86	82	16.286	8.88	17.19	11.1	53.2	5.43	190	914	1,319	463	222									
DF T		11	33	87	87	24.922	16.45	32.36	12.4	52.7	11.45	402	1,706	2,783	977	415									
DF T		12	34	87	89	21.646	17.00	38.86	11.7	47.2	12.99	456	1,835	3,157	1,108	446									
DF T		13	24	87	94	13.077	12.05	26.15	13.9	56.1	10.37	364	1,467	2,520	884	356									
DF T		14	23	87	93	10.770	11.51	21.54	16.6	67.4	10.22	359	1,451	2,484	871	353									
DF T		15	8	88	102	3.253	3.99	6.51	21.3	91.3	3.96	139	594	961	337	144									
DF T		16	5	88	100	1.805	2.52	3.61	24.2	99.0	2.49	87	357	606	212	87									
DF T		17	1	89	120	.320	.50	.64	32.3	135.0	.59	21	86	143	50	21									
DF T		19	3	88	107	.768	1.51	1.54	38.1	143.3	1.67	58	220	405	142	54									
DF T		21	1	88	115	.210	.50	.42	46.7	185.0	.56	20	78	136	48	19									
DF T		Totals	166	87	88	113.068	82.96	168.84	13.3	56.4	64.00	2,246	9,528	15,552	5,457	2,315									
WH L		24	1	84	100	.163	.51	.49	37.5	163.3	.59	18	80	143	45	19									
WH L		Totals	1	84	100	.163	.51	.49	37.5	163.3	.59	18	80	143	45	19									
Totals			445	87	92	235.107	222.46	427.88	16.0	67.3	195.19	6,847	28,790	47,432	16,637	6,996									

TC PLOGSTVB				Log Stock Table - MBF																
T03N R05W S17 Ty00PT THRU T05N R03W S22 Ty00PT				Project: ALPHAFIN										Page 1						
				Acres 243.00										Date 4/22/2020						
														Time 3:56:02PM						
Spp	S T	So Gr rt de	Log Len	Gross MBF	Def %	Net MBF	% Spc	Net Volume by Scaling Diameter in Inches												
								2-3	4-5	6-7	8-9	10-11	12-13	14-15	16-19	20-23	24-29	30-39	40+	
DF	L	3M	26	173		173	3.7				8	67	88	10						
DF	L	3M	27	110		110	2.4				59	29	22							
DF	L	3M	28	497		497	10.7		77	9	132	110	106	50	14					
DF	L	3M	29	91		91	2.0		24			20		47						
DF	L	3M	30	277		277	5.9		43		110	74	50							
DF	L	3M	31	114		114	2.4		29		61	11		14						
DF	L	3M	32	415		415	8.9		84		312	19								
DF	L	3M	33	95		95	2.0		10		72	13								
DF	L	3M	34	746		746	16.0		253		249	229		15						
DF	L	3M	35	173		173	3.7		25		128	20								
DF	L	3M	36	550		550	11.8		111		309	94	35							
DF	L	3M	37	349		349	7.5		72			276								
DF	L	3M	38	506		506	10.9		161		38	295	13							
DF	L	3M	39	161		161	3.5		39		12	97	12							
DF	L	3M	40	296		296	6.3		102		14	180								
DF	L	3M	41	17		17	.4		17											
DF	L	4M	23	8		8	.2			8										
DF	L	4M	24	67		67	1.4		33	34										
DF	L	4M	26	16		16	.3		7	9										
DF		Totals		4,661		4,661	66.6		1087	60	1504	1534	327	136	14					
DF	T	2M	40	75	3.3	73	3.1					58		15						
DF	T	3M	20	15		15	.7				8	8								
DF	T	3M	24	28		28	1.2				18	10								
DF	T	3M	26	9		9	.4				9									
DF	T	3M	28	9		9	.4			9										
DF	T	3M	30	20		20	.8			20										
DF	T	3M	32	35	8.6	32	1.4			14	18									
DF	T	3M	33	9		9	.4			9										
DF	T	3M	34	29		29	1.3			29										
DF	T	3M	35	25		25	1.1			25										
DF	T	3M	36	92		92	4.0			92										
DF	T	3M	37	23		23	1.0			23										
DF	T	3M	38	61	1.4	60	2.6			60										
DF	T	3M	39	23		23	1.0			23										
DF	T	3M	40	1,474		1,463	63.2			739	582	142								
DF	T	4M	12	12		12	.5			12										

TC		PLOGSTVB		Log Stock Table - MBF																	
T03N R05W S17 Ty00PT THRU T05N R03W S22 Ty00PT				Project: ALPHAFIN Acres 243.00												Page 2 Date 4/22/2020 Time 3:56:02PM					
Spp	S T	So rt	Gr de	Log Len	Gross MBF	Def %	Net MBF	% Spc	Net Volume by Scaling Diameter in Inches												
									2-3	4-5	6-7	8-9	10-11	12-13	14-15	16-19	20-23	24-29	30-39	40+	
DF	T		4M	13	6		6	.3			6										
DF	T		4M	14	32		32	1.4			23	3	5								
DF	T		4M	15	21		21	.9			21										
DF	T		4M	16	33		33	1.4			27	7									
DF	T		4M	17	9		9	.4			9										
DF	T		4M	18	22		22	.9			22										
DF	T		4M	19	5		5	.2			5										
DF	T		4M	20	34		34	1.5			27	8									
DF	T		4M	21	21		21	.9			21										
DF	T		4M	22	15		15	.7			15										
DF	T		4M	23	50		50	2.2			50										
DF	T		4M	24	28		28	1.2			28										
DF	T		4M	25	16		16	.7			16										
DF	T		4M	26	32		32	1.4			32										
DF	T		4M	27	3		3	.2			3										
DF	T		4M	28	24		24	1.0			24										
DF	T		4M	29	13		13	.6			13										
DF	T		4M	30	16		16	.7			16										
DF	T		4M	31	10		10	.4			10										
DF	T		4M	33	4	20.0	4	.2			4										
DF			Totals		2,333		2,315	33.1			1426	652	165	58	15						
WH	L		3M	28	18		18	93.9					6		13						
WH	L		3M	29	1		1	6.1		1											
WH			Totals		19		19	.3		1			6		13						
Total			All Species		7,014		6,996	100.0		1088	1485	2156	1699	390	151	26					

Volume Summary
(Shown in MBF)
Alpha Quadrant
FG-341-2021-W00228-01
April 2020

UNIT 1: PC-M (81 ACRES)

SPECIES		2 SAW	3 SAW	4 SAW	CR	TOTAL
Douglas-fir	Cruise Volume	0	603	146	0	749
	Hidden D&B (2%)	(0)	(12)	(3)	(0)	(15)
	NET TOTAL	0	591	143	0	734
	% of Total	0	81	19	0	

UNIT 2: PC-M (90 ACRES)

SPECIES		2 SAW	3 SAW	4 SAW	CR	TOTAL
Douglas-fir	Cruise Volume	0	666	145	0	811
	Hidden D&B (2%)	(0)	(13)	(3)	(0)	(16)
	NET TOTAL	0	653	142	0	795
	% of Total	0	82	18	0	

UNIT 3: PC-M (49 ACRES)

SPECIES		2 SAW	3 SAW	4 SAW	CR	TOTAL
Douglas-fir	Cruise Volume	73	383	70	0	526
	Hidden D&B (2%)	(1)	(8)	(1)	(0)	(10)
	NET TOTAL	72	375	69	0	516
	% of Total	14	73	13	0	

UNIT 4: PC-M (23 ACRES)

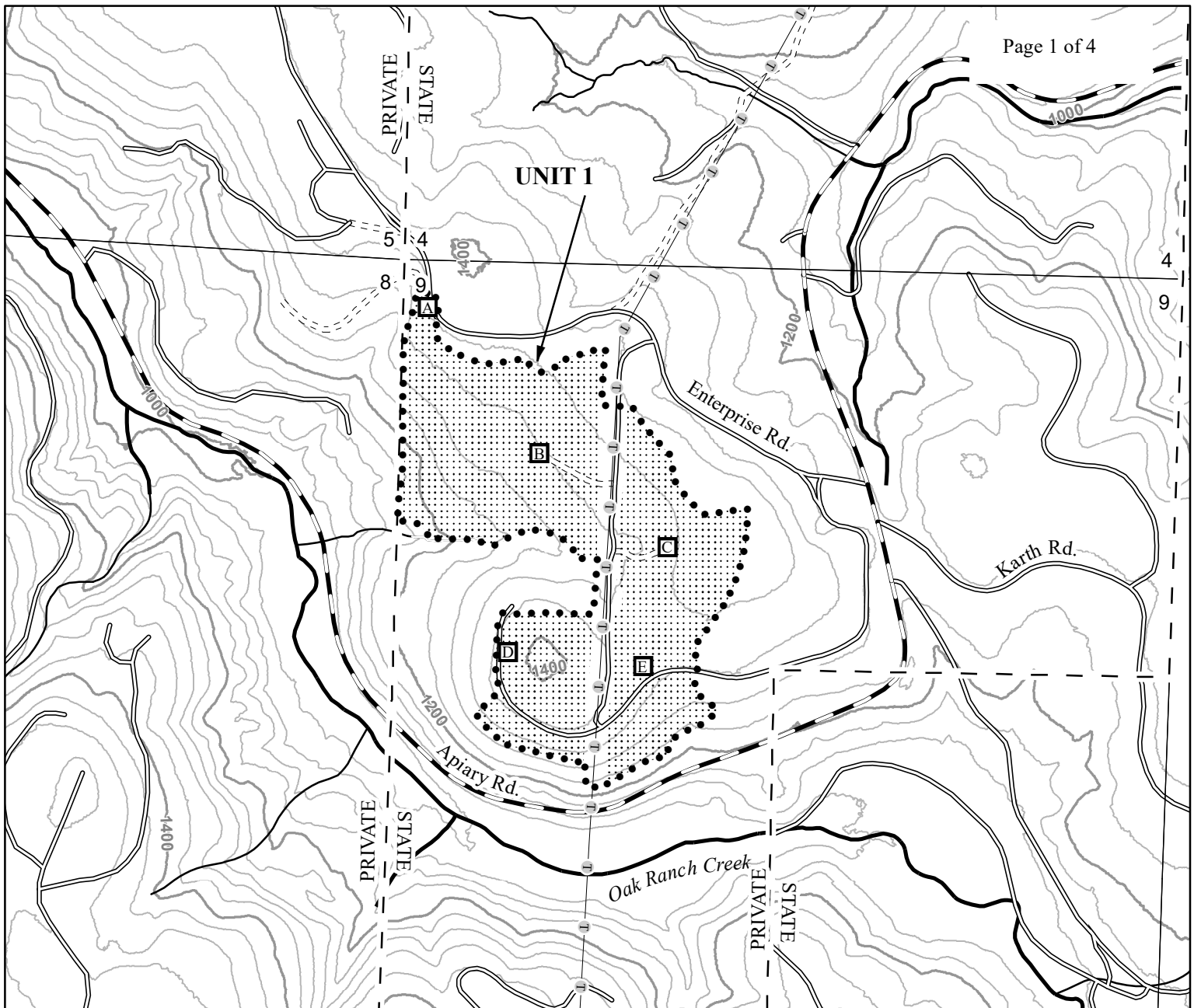
SPECIES		2 SAW	3 SAW	4 SAW	CR	TOTAL
Douglas-fir	Cruise Volume	0	185	45	0	230
	Hidden D&B (2%)	(0)	(4)	(1)	(0)	(5)
	NET TOTAL	0	181	44	0	225
	% of Total	0	80	20	0	

UNIT 5: R/W (<1 ACRES)

SPECIES		2 SAW	3 SAW	4 SAW	CR	TOTAL
Douglas-fir	Cruise Volume	0	1	0	0	1
	Hidden D&B (2%)	(0)	(0)	(0)	(0)	(0)
	NET TOTAL	0	1	0	0	1
	% of Total	0	100	0	0	
Red alder	Cruise Volume	0	0	0	1	1
	Hidden D&B (5%)	(0)	(0)	(0)	(0)	(0)
	NET TOTAL	0	0	0	100	1
	% of Total	0	0	0		

SALE TOTAL

SPECIES	2 SAW	3 SAW	4 SAW	CR	TOTAL
Douglas-fir	72	1,801	398	(0)	2,271
Red alder	(0)	(0)	(0)	1	1
Total	72	1,801	398	1	2,272



Legend

- Timber Sale Boundary
- ┌ ┐ ODF Ownership Boundary
- Unsurfaced Roads
- ===== Surfaced Roads
- ===== Paved Roads
- Type-F Stream
- Type-N Stream
- Tractor Landing
- ▤ Tractor Yarding Area
- Ⓜ BPA Power Lines
- Section Lines
- 40 Foot Contour Band
- 200 Foot Contour Band

LOGGING PLAN

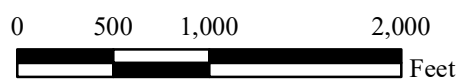
FOR TIMBER SALE CONTRACT #FG-341-2021-W00228-01
 ALPHA QUADRANT
 PORTIONS OF SECTIONS 9, 10, 16, 17, 21 & 22, T5N, R3W, W.M.,
 COLUMBIA COUNTY, OREGON

Forest Grove District GIS
 April, 2020

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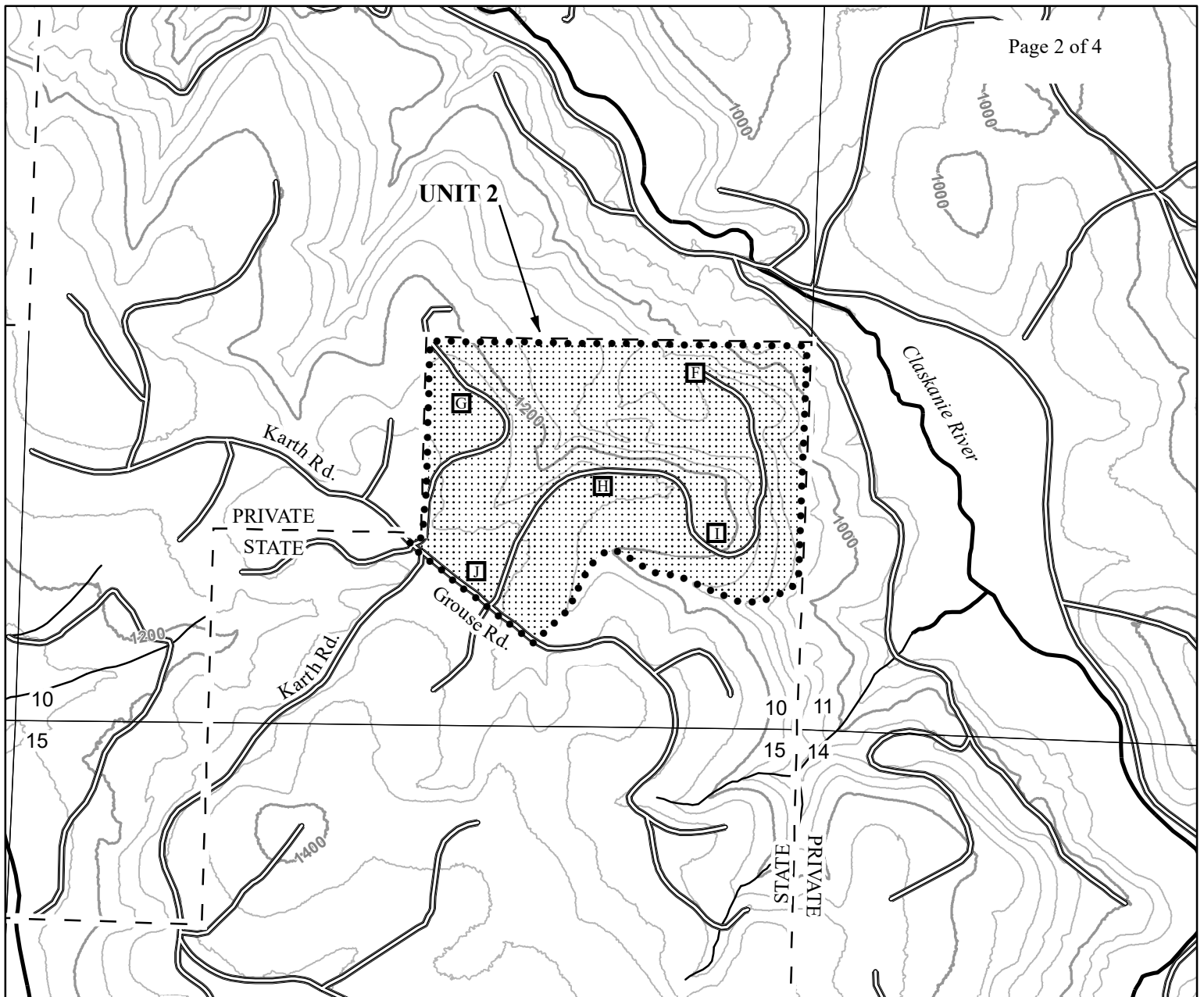
1:12,000

1 inch = 1,000 feet



APPROXIMATE NET ACRES

	TRACTOR	CABLE
UNIT 1	81	0
UNIT 2	90	0
UNIT 3	49	0
UNIT 4	23	0
UNIT 5	<1	0
TOTAL	243	0



Legend

- Timber Sale Boundary
- ODF Ownership Boundary
- == Surfaced Roads
- Type-F Stream
- Type-N Stream
- Tractor Landing
- ▨ Tractor Yarding Area
- Section Lines
- 40 Foot Contour Band
- 200 Foot Contour Band

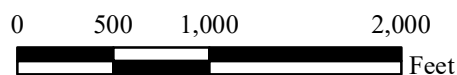
LOGGING PLAN

FOR TIMBER SALE CONTRACT #FG-341-2021-W00228-01
ALPHA QUADRANT
PORTIONS OF SECTIONS 9, 10, 16, 17, 21 & 22, T5N, R3W, W.M.,
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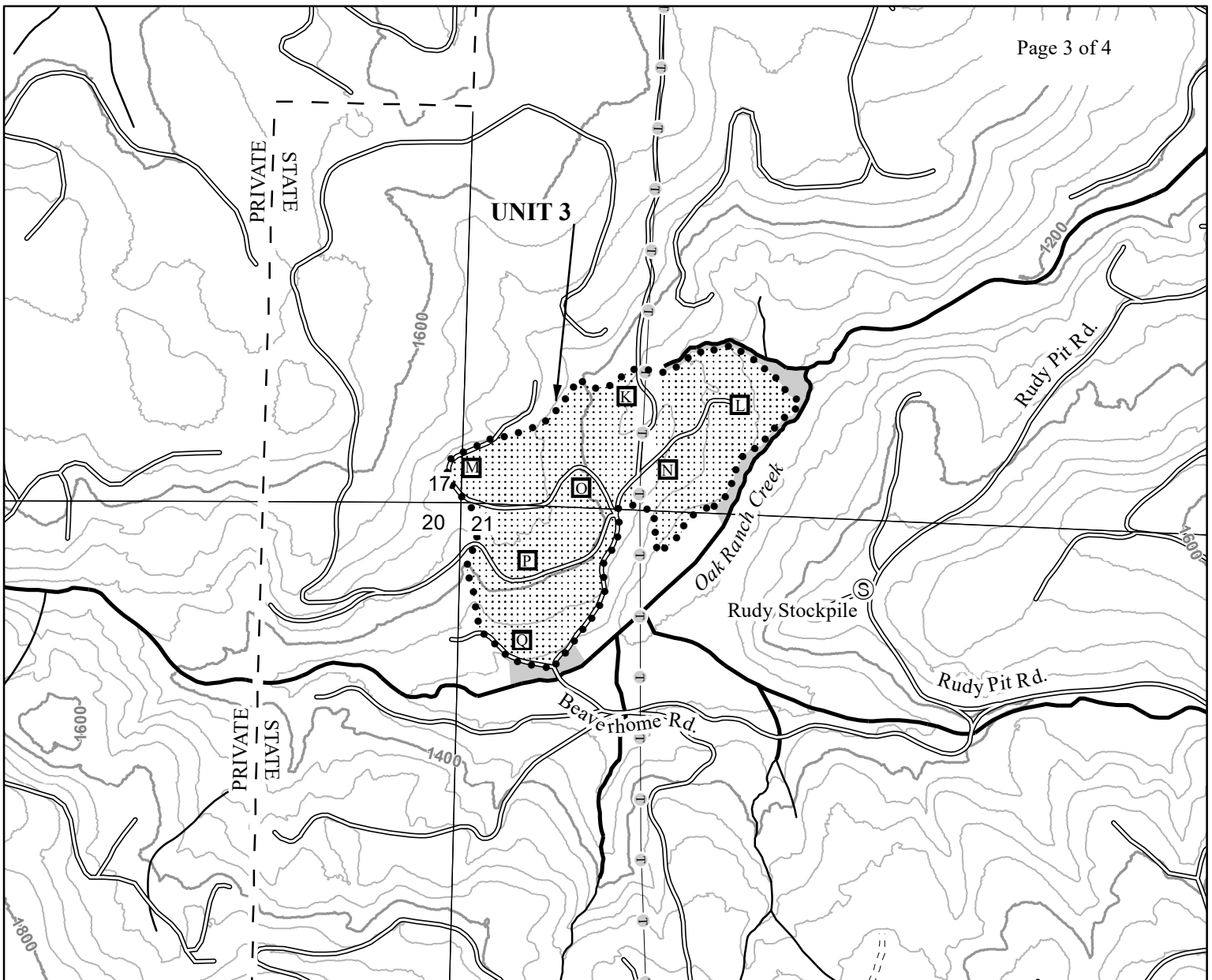
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APPROXIMATE NET ACRES

	TRACTOR	CABLE
UNIT 1	81	0
UNIT 2	90	0
UNIT 3	49	0
UNIT 4	23	0
UNIT 5	<1	0
TOTAL	243	0



Legend

- Timber Sale Boundary
- ODF Ownership Boundary
- ==== Unsurfaced Roads
- Surfaced Roads
- Type-F Stream
- Type-N Stream
- Stream Buffer
- Tractor Landing
- Tractor Yarding Area
- ⊕ BPA Power Lines
- Ⓢ Stockpile
- Section Lines
- 40 Foot Contour Band
- 200 Foot Contour Band

LOGGING PLAN

FOR TIMBER SALE CONTRACT #FG-341-2021-W00228-01
ALPHA QUADRANT
PORTIONS OF SECTIONS 9, 10, 16, 17, 21 & 22, T5N, R3W, W.M.,
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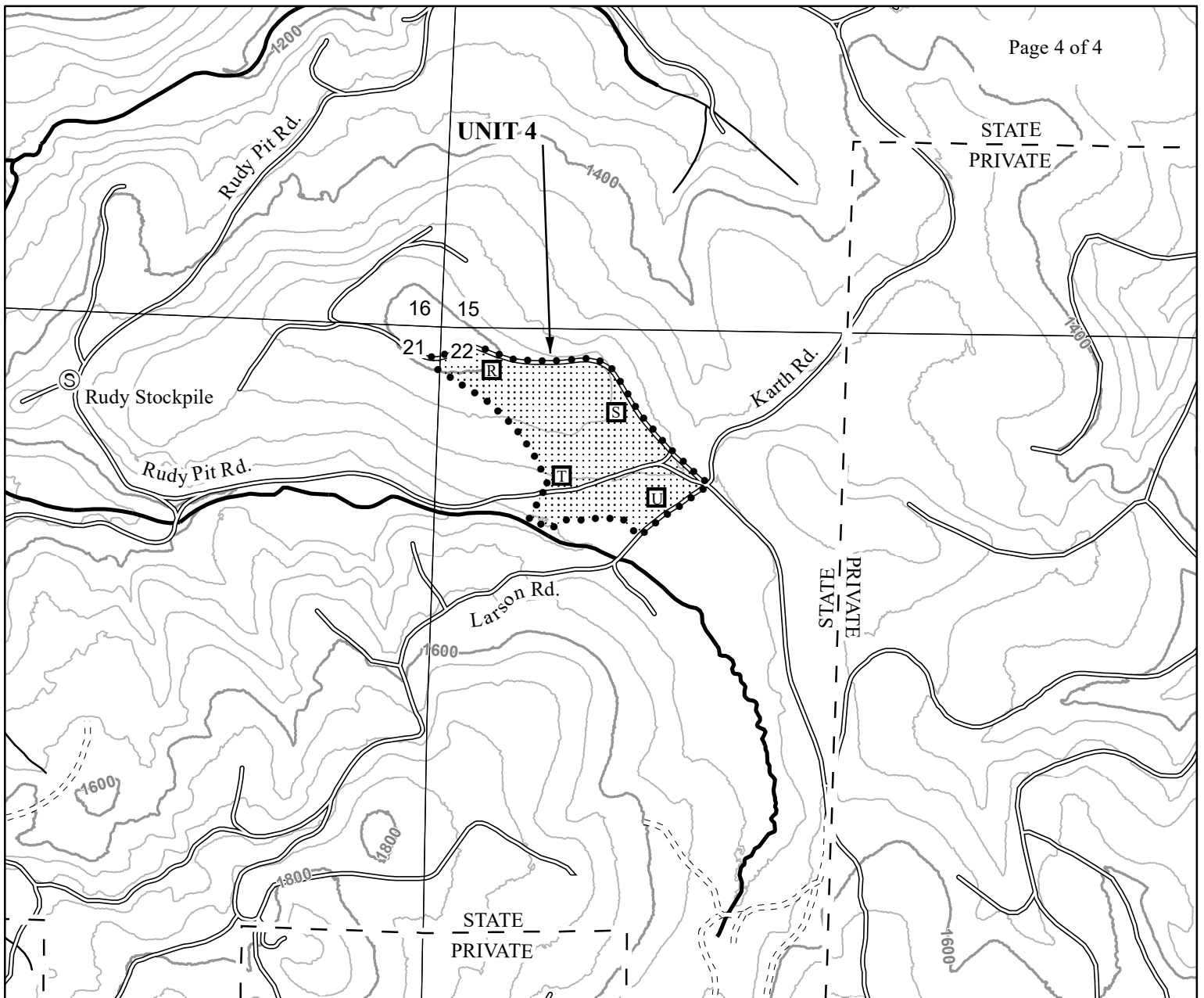
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	TRACTOR	CABLE
UNIT 1	81	0
UNIT 2	90	0
UNIT 3	49	0
UNIT 4	23	0
UNIT 5	<1	0
TOTAL	243	0



Legend

- Timber Sale Boundary
- ┌ ─ ─ ─ ┐ ODF Ownership Boundary
- ==== Unsurfaced Roads
- Surfaced Roads
- Type-F Stream
- Type-N Stream
- Tractor Landing
- Tractor Yarding Area
- Ⓢ Stockpile
- ▭ Section Lines
- 40 Foot Contour Band
- 200 Foot Contour Band

LOGGING PLAN

FOR TIMBER SALE CONTRACT #FG-341-2021-W00228-01
 ALPHA QUADRANT
 PORTIONS OF SECTIONS 9, 10, 16, 17, 21 & 22, T5N, R3W, W.M.,
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