



"STEWARDSHIP IN FORESTRY"

Timber Sale Appraisal
Pluto
Sale NC-341-2026-W01248-02

District: N Cascade

Date: January 26, 2026

Cost Summary

	Conifer	Hardwood	Total
Gross Timber Sale Value	\$1,290,968.17	\$0.00	\$1,290,968.17
		Project Work:	(\$74,558.46)
		Advertised Value:	\$1,216,409.71



"STEWARDSHIP IN FORESTRY"

Timber Sale Appraisal Pluto Sale NC-341-2026-W01248-02

District: N Cascade

Date: January 26, 2026

Timber Description

Location: Sections 4 & 5, T10S, R4E, W.M. Linn County, Oregon

Stand Stocking: 40%

Specie Name	AvgDBH	Amortization (%)	Recovery (%)
Douglas - Fir	22	0	99
Western Hemlock / Fir	12	0	95
Red Cedar	16	0	100

Volume by Grade	2S	3S & 4S 6"-11"	3S	4S	Total
Douglas - Fir	2,238	481	0	0	2,719
Western Hemlock / Fir	13	121	0	0	134
Red Cedar	0	0	14	1	15
Total	2,251	602	14	1	2,868

Comments: Pond Values Used: Local Pond Values, December 2025

Red alder and other hardwoods stumpage price = Pond value minus logging cost:
 $\$138.51/\text{MBF} = \$515/\text{MBF} - \$376.49/\text{MBF}$

Other Conifers:
At price of Western Hemlock.

Pulp Price: $\$20/\text{MBF} = \$2/\text{ton} \times 10 \text{ ton}/\text{MBF}$

OTHER COSTS (With Profit & Risk to be added)

Season 1 Equipment Move-In: Accounted for in Logging Cost

Equipment Weed Wash: $(\$50/\text{hr labor cost}) \times 6\text{-hour wash time} = \$300 \times 5 \text{ pieces of equipment} = \$1,500$

Intermediate Supports: $17 \text{ supports} \times \$125/\text{support} = \$2,125$

TOTAL Other Costs (with Profit & Risk to be added) = \$3,625

OTHER COSTS (No Profit and Risk added)

None

SLASH DISPOSAL COSTS

In-Unit Piling: $\$300/\text{ac} \times 21 \text{ acres} = \$6,300$

Equipment move-in and weed wash: \$2,050

Pile Covering: $(\$8/\text{pile} \times 30 \text{ piles}) + (\$50/\text{hr} \times 2 \text{ personnel} \times 8 \text{ hours}) = \$1,040$

TOTAL Slash Disposal Costs = \$9,390

ROAD MAINTENANCE COSTS

Grader Move-In: \$1,400

Roller Move-In: \$1,400

General Road Maintenance: $9.95 \text{ miles} \times \$2,100/\text{mile} = \$20,895$ General Road

Subtotal = $\$1,400 + \$1,400 + \$20,895 = \$23,695$

TOTAL Road Maintenance Costs = $\$23,695 / 2,868 \text{ MBF} = \$8.26/\text{MBF}$



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Logging Conditions

Combination#: 1

Douglas - Fir	76.00%
Western Hemlock / Fir	76.00%
Red Cedar	76.00%

Logging System: Cable: Large Tower >=70 **Process:** Manual Falling/Delimbing
yarding distance: Medium (800 ft) **downhill yarding:** No
tree size: Mature / Regen Cut (900 Bft/tree), 3-5 logs/MBF
loads / day: 10 **bd. ft / load:** 5000
cost / mbf: \$171.58
machines: Log Loader (A)
Tower Yarder (Large)

Combination#: 2

Douglas - Fir	24.00%
Western Hemlock / Fir	24.00%
Red Cedar	24.00%

Logging System: Shovel **Process:** Manual Falling/Delimbing
yarding distance: Short (400 ft) **downhill yarding:** No
tree size: Mature / Regen Cut (900 Bft/tree), 3-5 logs/MBF
loads / day: 20 **bd. ft / load:** 5000
cost / mbf: \$100.00
machines: Shovel Logger



"STEWARDSHIP IN FORESTRY"

Timber Sale Appraisal Pluto Sale NC-341-2026-W01248-02

District: N Cascade

Date: January 26, 2026

Logging Costs

Operating Seasons: 2.00	Profit Risk: 12%
Project Costs: \$74,558.46	Other Costs (P/R): \$3,625.00
Slash Disposal: \$9,390.00	Other Costs: \$0.00

Miles of Road

Road Maintenance: \$8.26

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	3.0	5.0
Western Hemlock / Fir	\$0.00	2.0	4.0
Red Cedar	\$0.00	2.0	4.0



"STEWARDSHIP IN FORESTRY"

Timber Sale Appraisal Pluto Sale NC-341-2026-W01248-02

District: N Cascade

Date: January 26, 2026

Logging Costs Breakdown

Logging	Road Maint	Fire Protect	Hauling	Other P/R appl	Profit & Risk	Slash Disposal	Brand & Paint	Other	Total
Douglas - Fir									
\$154.40	\$8.34	\$3.06	\$84.16	\$1.26	\$30.15	\$3.27	\$2.00	\$0.00	\$286.64
Western Hemlock / Fir									
\$154.40	\$8.67	\$3.06	\$164.06	\$1.26	\$39.77	\$3.27	\$2.00	\$0.00	\$376.49
Red Cedar									
\$154.40	\$8.26	\$3.06	\$156.25	\$1.26	\$38.79	\$3.27	\$2.00	\$0.00	\$367.29

Specie	Amortization	Pond Value	Stumpage	Amortized
Douglas - Fir	\$0.00	\$749.39	\$462.75	\$0.00
Western Hemlock / Fir	\$0.00	\$525.97	\$149.48	\$0.00
Red Cedar	\$0.00	\$1,215.33	\$848.04	\$0.00



"STEWARDSHIP IN FORESTRY"

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Pluto
Sale NC-341-2026-W01248-02

District: N Cascade

Date: January 26, 2026

Summary

Amortized

Specie	MBF	Value	Total
Douglas - Fir	0	\$0.00	\$0.00
Western Hemlock / Fir	0	\$0.00	\$0.00
Red Cedar	0	\$0.00	\$0.00

Unamortized

Specie	MBF	Value	Total
Douglas - Fir	2,719	\$462.75	\$1,258,217.25
Western Hemlock / Fir	134	\$149.48	\$20,030.32
Red Cedar	15	\$848.04	\$12,720.60

Gross Timber Sale Value

Recovery: \$1,290,968.17

Prepared By: Zane Sandborg

Phone: 503-781-7754

Pluto Timber Sale

Project No. 1

NEW CONSTRUCT:

Segments	Length	Rocking			Total
		Pit-Run	6" -0" Jaw Run	1.5"- 0"	
Pt. A to Pt. A1	1+43	152 cy		65 cy	\$ 9,366.70
Pt. B to Pt. B1	2+67	216 cy		69 cy	\$ 4,145.55
Pt. C to Pt. C1	5+86	316 cy		100 cy	\$ 6,477.96
Pt. 2 to Pt. 3 Sta. 104+73	0+60	50 cy		13 cy	\$ 5,797.81
Pt. 4 to Pt. 5 Sta. 86+06	0+60	50 cy		13 cy	\$ 2,384.49
Total	11+16	784 cy		260 cy	\$ 28,172.51
Total Miles	0.21				
Project No. 1					\$ 28,172.51

ROAD IMPROVEMENT

Project No. 2

Segments	Length/sites	Rocking			Total
		Pit-Run	6" -0" Jaw Run	1.5"- 0"	
Pt. 1 to Pt. 2	267+49			535 cy	\$ 15,223.40
Pt. 2 to Pt. 3	141+03			282 cy	\$ 9,201.26
Pt. 4 to Pt. 5	116+64			117 cy	\$ 2,206.53
Pt. 6 to Pt. 7	15+30	340 cy		124 cy	\$ 9,344.76
Total	540+46	340 cy		1,058 cy	\$ 35,975.95
Total miles	10.24				
Project No. 2					\$ 35,975.95

Project No. 3

MOVE-IN:

Project No. 3					\$ 10,410.00
Project No. 3					\$ 10,410.00

ROCK SUMMARY TABLE:

Location	Size of Rock	Needed for Roads	Stockpile	To Crushed
Mad Creek Half Mile	1.5"-0"	1,318 cy	1,318 cy	none
Mad Creek 440 Pit	Pit-Run	1,124 cy	1,124 cy	none

GRAND TOTAL \$ 74,558.46

PROJECT NO. 1
NEW CONSTRUCTION

Sale: Pluto

Road Segment: Pt. A to Pt. A1

NEW CONSTRUCT:

	Station or	Designed Cubic Yards/Station				Cost per	
	Quantity	Pit-Run	1.5" - 0"	6" -0" Jaw Run	Dissipator	Station or Acre	Sum \$
New construct	1+43	54 cy	22 cy			\$ 600.00	\$ 858.00
Truck Turnaround (sta. 87+42 on Pt. 2 to Pt. 3)	1	25 cy	10 cy			\$ 125.00	\$ 125.00
Landing	60	78 cy				\$ 600.00	\$ 600.00
Culvert	1		24 cy		3 cy		
Endhaul excavation material	1,083 cy					\$ 3.31	\$ 3,584.73

SUB TOTAL \$ 5,167.73

CULVERTS: (Cost includes hauling pipes)

Description	Type	Size in	Total Length ft	Cost	Bevel	Bands	Cost	Sub Total	Install \$	Sum \$
24" x 30' culvert	ACSP	24"	30	\$ 1,224.00				\$ 1,224.00	\$ 1,200.00	\$ 2,424.00
										\$ 2,424.00

ACSP = aluminum corrugated steel pipe

Mulch - 1- bale (2.5 tons/acre)

Grass Seed (1- lb)

Install 6' long steel "T" posts

Install outlet dissipator

Quantity	Cost	Sub Total	Install \$/Hr	Labor Time	Sum \$
1	\$ 15.00	\$ 15.00	\$ 60.00	0.25	\$ 30.00
1	\$ 20.00	\$ 20.00	\$ 60.00	0.25	\$ 35.00
1	\$ 10.00	\$ 10.00	\$ 60.00	0.25	\$ 25.00
1			\$ 220.00	0.5	\$ 110.00
					\$ 200.00

SUB TOTAL \$ 2,624.00

SURFACING:

Roads	Landings	Roads	Turn	Two-way	Culvert	Dissipator	Total	Haul & Crush	Cost
			Arounds	Junctions	Bedding	(cy/pipe)		Combined \$	
1.5" - 0"		31 cy	10 cy		24 cy		65 cy	\$ 8.89	\$ 577.85
Pit-Run	47 cy	77 cy	25 cy		3 cy		152 cy	\$ 6.56	\$ 997.12

Total = 217 cy

SUB TOTAL \$ 1,574.97

GRAND TOTAL = \$ 9,366.70

PROJECT NO. 1
NEW CONSTRUCTION

Sale: Pluto

Road Segment: Pt. B to Pt. B1

NEW CONSTRUCT:

	Station or	Designed Cubic Yards/Station				Cost per	
	Quantity		1.5"- 0"	6" -0" Jaw Run	Dissipator	Station or Acre	Sum \$
New construct	2+67	54 cy	22 cy			\$ 300.00	\$ 801.00
Truck Turnaround (28+50)	1	25 cy	10 cy			\$ 125.00	\$ 125.00
Landing	60	78 cy				\$ 600.00	\$ 600.00
Endhaul excavation material	178 cy					\$ 3.31	\$ 589.18

SUB TOTAL \$ 2,115.18

CULVERTS: (Cost includes hauling pipes)

Description	Type	Size	Total	Cost	Bevel	Bands	Cost	Sub Total	Install \$	Sum \$
			Length							

\$ -

ACSP = aluminum corrugated steel pipe

Mulch - 1- bale (2.5 tons/acre)
Grass Seed (1- lb)
Install 6' long steel "T" posts
Install outlet dissipator

Quantity	Cost	Sub Total	Install \$/Hr	Labor Time	Sum \$
0	\$ 15.00	\$ -	\$ 60.00	0	\$ -
0	\$ 5.00	\$ -	\$ 60.00	0	\$ -
0	\$ 8.00	\$ -	\$ 60.00	0	\$ -
0			\$ 220.00	0	\$ -

\$ -

SUB TOTAL \$ -

SURFACING:

Roads	Landings	Roads	Turn	Two-way	Culvert	Dissipator	Total	Haul & Crush	Cost
			Arounds	Junctions	Bedding	(cy/pipe)		Combined \$	
1.5"- 0"		59 cy	10 cy				69 cy	\$ 8.89	\$ 613.41
Pit Run	47 cy	144 cy	25 cy				216 cy	\$ 6.56	\$ 1,416.96

Total = 285 cy

SUB TOTAL \$ 2,030.37

GRAND TOTAL = \$ 4,145.55

PROJECT NO. 2
NEW CONSTRUCTION

Sale: Pluto

Road Segment: Pt. C to Pt. C1

NEW CONSTRUCT:

	Station or	Designed Cubic Yards/Station				Cost per	Sum \$
	Quantity	Pit-Run	1.5"- 0"	6" -0" Jaw Run	Dissipator	Station or Acre	
Construct	5+86	54 cy	17 cy			\$ 600.00	\$ 3,516.00
SUB TOTAL							\$ 3,516.00

CULVERTS: (Cost includes hauling pipes)

Description	Type	Size	Total Length	Cost	Bevel	Bands	Cost	Sub Total	Install \$	Sum \$
				\$ -			0.00	\$ -		\$ -
										\$ -

ACSP = aluminum corrugated steel pipe

Mulch - 2.5 tons/acre
Grass Seed (25 lb bag)
Install 6' long steel "T" posts
Install outlet dissipator

Quantity	Cost	Sub Total	Install \$/Hr	Labor Time	Sum \$
	\$ 15.00	\$ -	\$ 60.00		\$ -
	\$ 5.00	\$ -	\$ 60.00		\$ -
	\$ 8.00	\$ -	\$ 60.00		\$ -
			\$ 220.00		\$ -
					\$ -

SUB TOTAL \$ -

SURFACING:

Roads	Landings	Roads	Turn Arouds	Two-way Junctions	Culvert Bedding	Dissipator (cy/pipe)	Total	Haul & Crush Combined \$	Cost
1.5"- 0"		100 cy					100 cy	\$ 8.89	\$ 889.00
6" -0" Jaw Run									\$ -
Pit Run		316 cy					316 cy	\$ 6.56	\$ 2,072.96

Total = 416 cy

SUB TOTAL \$ 2,961.96

GRAND TOTAL = \$ 6,477.96

PROJECT NO. 2
NEW CONSTRUCTION

Sale: Pluto

Road Segment: Station 104+73 (Pt. 2 to Pt. 3)

NEW CONSTRUCT:

	Station or	Designed Cubic Yards/Station				Cost per		
	Quantity	Pit-Run	1.5"- 0"	6" -0" Jaw Run	Dissipator	Station or Acre	Sum \$	
Landing	0+60	84 cy	22 cy			\$ 300.00	\$ 180.00	
Endhaul excavation material	886 cy					\$ 5.84	\$ 5,174.24	
							SUB TOTAL	\$ 5,354.24

CULVERTS: (Cost includes hauling pipes)

Description	Type	Size	Total Length	Cost	Bevel	Bands	Cost	Sub Total	Install \$	Sum \$
				\$ -					\$ -	\$ -
										\$ -

ACSP = aluminum corrugated steel pipe

Mulch - 2.5 tons/acre
Grass Seed (25 lb bag)
Install 6' long steel "T" posts
Install outlet dissipator

Quantity	Cost	Sub Total	Install \$/Hr	Labor Time	Sum \$
0	\$ 15.00	\$ -	\$ 60.00		\$ -
0	\$ 5.00	\$ -	\$ 60.00		\$ -
0	\$ 8.00	\$ -	\$ 60.00		\$ -
0			\$ 220.00		\$ -
					\$ -

SUB TOTAL \$ -

SURFACING:

Roads	Landings	Roads	Turn Arouds	Two-way Junctions	Culvert Bedding	Dissipator (cy/pipe)	Total	Haul & Crush Combined \$	Cost
1.5"- 0"	13 cy						13 cy	\$ 8.89	\$ 115.57
6" -0" Jaw Run									\$ -
Pit Run	50 cy						50 cy	\$ 6.56	\$ 328.00

Total = 63 cy

SUB TOTAL \$ 443.57

GRAND TOTAL = \$ 5,797.81

PROJECT NO. 2
NEW CONSTRUCTION

Sale: Pluto

Road Segment: Station 86+06 (Pt. 4 to Pt. 5)

NEW CONSTRUCT:

	Station or	Designed Cubic Yards/Station				Cost per		
	Quantity	Pit-Run	1.5"- 0"	6" -0" Jaw Run	Dissipator	Station or Acre	Sum \$	
Landing	0+60	84 cy	22 cy			\$ 300.00	\$ 180.00	
Endpush excavation material	532 cy					\$ 3.31	\$ 1,760.92	
							SUB TOTAL	\$ 1,940.92

CULVERTS: (Cost includes hauling pipes)

Description	Type	Size	Total Length	Cost	Bevel	Bands	Cost	Sub Total	Install \$	Sum \$
				\$ -					\$ -	\$ -
										\$ -

ACSP = aluminum corrugated steel pipe

Mulch - 2.5 tons/acre
Grass Seed (25 lb bag)
Install 6' long steel "T" posts
Install outlet dissipator

Quantity	Cost	Sub Total	Install \$/Hr	Labor Time	Sum \$
0	\$ 15.00	\$ -	\$ 60.00		\$ -
0	\$ 5.00	\$ -	\$ 60.00		\$ -
0	\$ 8.00	\$ -	\$ 60.00		\$ -
0			\$ 220.00		\$ -
					\$ -

SUB TOTAL \$ -

SURFACING:

Roads	Landings	Roads	Turn Arouds	Two-way Junctions	Culvert Bedding	Dissipator (cy/pipe)	Total	Haul & Crush Combined \$	Cost
1.5"- 0"	13 cy						13.0 cy	\$ 8.89	\$ 115.57
6" -0" Jaw Run									\$ -
Pit Run	50 cy						50 cy	\$ 6.56	\$ 328.00

Total = 63 cy

SUB TOTAL \$ 443.57

GRAND TOTAL = \$ 2,384.49

MOVE-IN COSTS

Pluto

Move in costs							
No.	Equipment Description	Transport Cost	Hours of Transport	Cost to Move	Weedwash Time (Hrs)	Weedwash Labor (\$50/hour)	Total Cost
1	Grader	\$ 200.00	7	\$ 1,400.00	0	\$ -	\$ 1,400.00
1	Rollers & Compactor	\$ 200.00	7	\$ 1,400.00	0	\$ -	\$ 1,400.00
1	Excavator	\$ 250.00	7	\$ 1,750.00	6	\$ 300.00	\$ 2,050.00
0	Small backhoe	\$ 200.00	7	\$ 1,400.00	4	\$ 200.00	\$ -
1	Tractors Dozer (D5 - D8)	\$ 250.00	7	\$ 1,750.00	6	\$ 300.00	\$ 2,050.00
2	Dump Truck (10 cy +)	\$ 110.00	2	\$ 220.00	0	\$ -	\$ 440.00
1	Loader	\$ 250.00	7	\$ 1,750.00	0	\$ -	\$ 1,750.00
1	Road Brusher	\$ 200.00	4	\$ 800.00	6	\$ 300.00	\$ 1,100.00
1	Water Truck (1000 gallon)	\$ 110.00	2	\$ 220.00	0	\$ -	\$ 220.00
Total one time							\$ 10,410.00

TOTAL MOVE-IN COSTS =	\$10,410.00
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PROJECT NO. 2

Improvement

Sale: Pluto

Road Segment: Pt. 1 to Pt. 2

IMPROVEMENT:

	Station or	Designed Cubic Yards/Station				Cost per	
	Quantity	Pit-Run	1.5"- 0"	6" -0" Jaw Run	Dissipator	Station or Acre	Sum \$
Road Improvement	267+49		2 cy			\$ 25.00	\$ 6,687.25

SUB TOTAL \$ 6,687.25

CULVERTS:

(Cost includes hauling pipes)

Description	Type	Size	Total Length	Cost	Bevel	Bands	Cost	Sub Total	Install \$	Sum \$
										\$ -
										\$ -

ACSP = aluminum corrugated steel pipe

Mulch - 2.5 tons/acre

Grass Seed (25 lb bag)

Install 6' long steel "T" posts

Machine to place bales in the ditches

Quantity	Cost	Sub Total	Install \$/Hr	Labor Time	Sum \$
30	\$ 15.00	\$ 450.00	\$ 60.00	0.50	\$ 480.00
	\$ 5.00	\$ -	\$ 60.00		\$ -
	\$ 8.00	\$ -	\$ 60.00		\$ -
30			\$ 220.00	0.5	\$ 3,300.00
					\$ 3,780.00

SUB TOTAL \$ 3,780.00

SURFACING:

Roads	Landings	Roads	Turn Arouds	Two-way Junctions	Culvert Bedding	Dissipator (cy/pipe)	Total	Haul & Crush Combined \$	Cost
1.5"- 0" (Spot Rock)		535 cy					535 cy	\$ 8.89	\$ 4,756.15
Pit-Run								\$ 6.56	\$ -

Total = 535 cy

SUB TOTAL \$ 4,756.15

GRAND TOTAL = \$ 15,223.40

PROJECT NO. 2

Improvement

Sale: Pluto

Road Segment: Pt. 2 to Pt. 3

IMPROVEMENT:

	Station or	Designed Cubic Yards/Station				Cost per	
	Quantity	Pit-Run	1.5"- 0"	6" -0" Jaw Run	Dissipator	Station or Acre	Sum \$
Road Improvement	141+03		2 cy			\$ 25.00	\$ 3,525.75
Roadside Brushing	82+11					\$ 23.00	\$ 1,888.53

SUB TOTAL \$ 5,414.28

CULVERTS: (Cost includes hauling pipes)

Description	Type	Size	Total Length	Cost	Bevel	Bands	Cost	Sub Total	Install \$	Sum \$
										\$ -
										\$ -

ACSP = aluminum corrugated steel pipe

Mulch - 2.5 tons/acre

Grass Seed (25 lb bag)

Install 6' long steel "T" posts

Machine to place bales in the ditches

Quantity	Cost	Sub Total	Install \$/Hr	Labor Time	Sum \$
10	\$ 15.00	\$ 150.00	\$ 60.00	0.5	\$ 180.00
	\$ 5.00	\$ -	\$ 60.00		\$ -
	\$ 8.00	\$ -	\$ 60.00		\$ -
10			\$ 220.00	0.5	\$ 1,100.00
					\$ 1,280.00

SUB TOTAL \$ 1,280.00

SURFACING:

Roads	Landings	Roads	Turn Arouds	Two-way Junctions	Culvert Bedding	Dissipator (cy/pipe)	Total	Haul & Crush Combined \$	Cost
1.5"- 0" (Spot Rock)		282 cy					282 cy	\$ 8.89	\$ 2,506.98
Pit-Run								\$ 6.56	\$ -

Total = 282 cy

SUB TOTAL \$ 2,506.98

GRAND TOTAL = \$ 9,201.26

PROJECT NO. 2

Improvement

Sale: Pluto

Road Segment: Pt. 4 to Pt. 5

IMPROVEMENT:

	Station or	Designed Cubic Yards/Station				Cost per	
	Quantity	Pit-Run	1.5"- 0"	6" -0" Jaw Run	Dissipator	Station or Acre	Sum \$
Road Improvement	116+64		1 cy			\$ 10.00	\$ 1,166.40

SUB TOTAL \$ 1,166.40

CULVERTS:

(Cost includes hauling pipes)

Description	Type	Size	Total Length	Cost	Bevel	Bands	Cost	Sub Total	Install \$	Sum \$
										\$ -
										\$ -

ACSP = aluminum corrugated steel pipe

Mulch - 2.5 tons/acre
Grass Seed (25 lb bag)
Install 6' long steel "T" posts
Install outlet dissipator

Quantity	Cost	Sub Total	Install \$/Hr	Labor Time	Sum \$
	\$ 15.00	\$ -	\$ 60.00		\$ -
	\$ 5.00	\$ -	\$ 60.00		\$ -
	\$ 8.00	\$ -	\$ 60.00		\$ -
			\$ 220.00		\$ -
					\$ -

SUB TOTAL \$ -

SURFACING:

Roads	Landings	Roads	Turn Arounds	Two-way Junctions	Culvert Bedding	Dissipator (cy/pipe)	Total	Haul & Crush Combined \$	Cost
1.5"- 0" (Spot Rock)		117 cy					117 cy	\$ 8.89	\$ 1,040.13
Pit-Run								\$ 6.56	\$ -

Total = 117 cy

SUB TOTAL \$ 1,040.13

GRAND TOTAL = \$ 2,206.53

PROJECT NO. 2

Improvement

Sale: Pluto

Road Segment: Pt. 6 to Pt. 7

NEW CONSTRUCT:

	Station or	Designed Cubic Yards/Station				Cost per	
	Quantity	Pit-Run	1.5"- 0"	6" -0" Jaw Run	Dissipator	Station or Acre	Sum \$
Construct from Station 10+00 to 15+30	5+30	54 cy	17 cy			\$ 50.00	\$ 265.00
Vacate (rip subgrade ~ 24" deep)	10+00					\$ 300.00	\$ 3,000.00
Culvert	1		24 cy		10 cy		
Truck Turnaround	0+60	74 cy	17 cy			\$ 50.00	\$ 30.00
SUB TOTAL							\$ 3,295.00

CULVERTS: (Cost includes hauling pipes)

Description	Type	Size	Total Length	Cost	Bevel	Bands	Cost	Sub Total	Install \$	Sum \$
1 - 24" x 30' culvert	ACSP	24	30	\$ 1,224.00			0.00	\$ 1,224.00	\$ 1,200.00	\$ 2,424.00
										\$ 2,424.00

ACSP = aluminum corrugated steel pipe

Mulch - 2.5 tons/acre
Grass Seed (25 lb bag)
Install 6' long steel "T" posts
Install outlet dissipator

Quantity	Cost	Sub Total	Install \$/Hr	Labor Time	Sum \$
1	\$ 15.00	\$ 15.00	\$ 60.00	0.25	\$ 30.00
1	\$ 5.00	\$ 5.00	\$ 60.00	0.25	\$ 20.00
1	\$ 8.00	\$ 8.00	\$ 60.00	0.25	\$ 23.00
1			\$ 220.00	1	\$ 220.00
					\$ 293.00

SUB TOTAL \$ 2,717.00

SURFACING:

Roads	Landings	Roads	Turn	Two-way	Culvert	Dissipator	Total	Haul & Crush	Cost
			Arounds	Junctions	Bedding	(cy/pipe)		Combined \$	
1.5"- 0"		90 cy	10 cy		24 cy		124 cy	\$ 8.89	\$ 1,102.36
6" -0" Jaw Run									\$ -
Pit-Run		286 cy	44 cy			10 cy	340 cy	\$ 6.56	\$ 2,230.40
Total =							464 cy		

SUB TOTAL \$ 3,332.76

GRAND TOTAL = \$ 9,344.76

Pluto								
Rock Summary Table								
Road Segment: Pt. A to Pt. A1				Point to Point		Sta. to Sta.		Total Volume (CY)
Application	Rock Size and Type	Location	Rock Depth (in)	Pt. A	to Pt. A1	0+00	to 1+43	
				Volume (CY)		Number of		
Road Top Rock	1.5"- 0" Crushed Rock	0+00 to 1+43	4	Station	22	Stations	1.43	31
Road Base Rock	Pit Run	0+00 to 1+43	9	Station	54	Stations	1.43	77
Landing	Pit Run	1+43	9	Station	78	Stations	0.6	47
Truck Turnaround	Pit Run	28+50	9	Station	54	Stations	0.46	25
Truck Turnaround	1.5"- 0" Crushed Rock	28+50	4	Station	22	Stations	0.46	10
Culvert	1.5"- 0" Crushed Rock	12+78	varies	Station	24	Stations	1	24
Culvert	Pit Run	12+78	varies	Station	3	Stations	1	3
Total Rock for road segment								217

Road Segment: Pt. B to Pt. B1				Point to Point		Sta. to Sta.		Total Volume (CY)
Application	Rock Size and Type	Location	Rock Depth (in)	Pt. B	to Pt. B1	0+00	to 2+67	
				Volume (CY)		Number of		
Road Top Rock	1.5"- 0" Crushed Rock	0+00 to 2+67	4	Station	22	Stations	2.67	59
Road Base Rock	Pit Run	0+00 to 2+67	9	Station	54	Stations	2.67	144
Landing	Pit Run	2+67	9	Station	78	Stations	0.6	47
Truck Turnaround	Pit Run	28+50	9	Station	54	Stations	0.46	25
Truck Turnaround	1.5"- 0" Crushed Rock	28+50	4	Station	22	Stations	0.46	10
Total Rock for road segment								285

Road Segment: Pt. C to Pt. C1				Point		Station		Total Volume (CY)
Application	Rock Size and Type	Location	Rock Depth (in)	Pt. C		Pt. C1		
				Volume (CY)		Number of		
Road Top Rock	1.5"- 0" Crushed Rock	0+00 to 12+78	3	Station	17	Stations	5.86	100
Road Base Rock	Pit Run	0+00 to 12+78	9	Station	54	Stations	5.86	316
Total Rock for road segment								416

Road Segment: Landing Station 86+06 (Pt. 4 to Pt. 5)				Point		Station		Total Volume (CY)
Application	Rock Size and Type	Location	Rock Depth (in)	86+06		86+06		
				Volume (CY)		Number of		
Landing	Pit Run	86+06	9	Station	84	Stations	0.6	50
Landing	1.5"- 0" Crushed Rock	86+06	4	Station	22		0.6	13
Total Rock for road segment								63

Road Segment: Landing Station 104+73 (Pt. 2 to Pt. 3)				Point		Station		Total Volume (CY)
Application	Rock Size and Type	Location	Rock Depth (in)	104+73		104+73		
				Volume (CY)		Number of		
Landing	Pit Run	104+73	9	Station	84	Stations	0.6	50
Landing	1.5"- 0" Crushed Rock	104+73	4	Station	22	Stations	0.6	13
Total Rock for road segment								63

Road Segment: Pt. 1 to Pt. 2				Point to Point		Sta. to Sta.		Total Volume (CY)
Application	Rock Size and Type	Location	Spot Rock (in)	Pt. 1	to Pt. 2	0+00	to 267+49	
				Volume (CY)		Number of		
Road Top Rock	1.5"- 0" Crushed Rock	0+00 to 267+49	3	Station	2	Stations	267.49	535
Total Rock for road segment								535

Road Segment: Pt. 2 to Pt. 3				Point to Point		Sta. to Sta.		Total Volume (CY)
Application	Rock Size and Type	Location	Spot Rock (in)	Pt. 2	to Pt. 3	0+00	to 141+03	
				Volume (CY)		Number of		
Road Top Rock	1.5"- 0" Crushed Rock	0+00 to 141+03	3	Station	2	Stations	141.03	282
Total Rock for road segment								282

Road Segment: Pt. 4 to Pt. 5				Point to Point		Sta. to Sta.		Total Volume (CY)
Application	Rock Size and Type	Location	Spot Rock (in)	Pt. 4	to Pt. 5	0+00	to 116+64	
				Volume (CY)		Number of		
Road Top Rock	1.5"- 0" Crushed Rock	0+00 to 141+03	3	Station	1	Stations	116.64	117
Total Rock for road segment								117

Road Segment: Pt. 6 to Pt. 7				Point to Point		Sta. to Sta.		Total Volume (CY)
Application	Rock Size and Type	Location	Rock Depth (in)	Pt. 6	to Pt. 7	10+00	to 15+30	
				Volume (CY)		Number of		
Road Top Rock	1.5"- 0" Crushed Rock	0+00 to 1+43	4	Station	17	Stations	5.3	90
Road Base Rock	Pit Run	0+00 to 1+43	9	Station	54	Stations	5.3	286
Truck Turnaround	Pit Run	28+50	9	Station	74	Stations	0.6	44
Truck Turnaround	1.5"- 0" Crushed Rock	28+50	3	Station	17	Stations	0.6	10
Culvert	1.5"- 0" Crushed Rock	12+78	varies	Station	24	Stations	1	24
Culvert	Pit Run	12+78	varies	Station	10	Stations	1	10
Total Rock for road segment								464

Location	Size of Rock	Needed	In Stockpile
Mad Creek Half Mile	1.5"- 0" Crushed	1,318 cy	1,318 cy
Mad Creek 440 Pit	Pit Run	1,124 cy	Dig in pit

Pluto

(Sale Name)

Mad Creek 440 (Quarry)

Mad Creek 440 (Stockpile)

Jaw Run (Rock Type)

6"-0 (Rock Size)

D10 (Truck)

Cat.Exc (Loader)

(Grader)

(Tractor)

Hauling Time Computation

50 MPH	Miles per round trip	0.00	Minutes
40 MPH	Miles per round trip	0.00	Minutes
35 MPH	Miles per round trip	0.00	Minutes
30 MPH	Miles per round trip	0.00	Minutes
25 MPH	Miles per round trip	4.80	Minutes
20 MPH	Miles per round trip	0.00	Minutes
15 MPH	Miles per round trip	4.00	Minutes
10 MPH	Miles per round trip	0.00	Minutes
5 MPH	Miles per round trip	1.80	Minutes
	Total Miles per Round Trip	3.15	

Dump or Spread Time per Round Trip
Total Hauling Cycle Time for this Setting (100% Efficiency)
Operator Efficiency Correction (80% Efficiency)

Time Per Cubic Yard

Hauling Only (per cubic yard)
Delay Time (while loading = loading time per cubic yard)
Total Time Per Cubic Yard

Hauling Cost Per Cubic Yard Computation

Cost of Truck Per Hour
Cost of Truck Operator Pre Hour
Total Operating Cost Per Hour
Operating Cost Per Minute

Cost Per Cubic Yard
\$ 3.30 per Cu. Yd.
\$ 1.25 per Cu. Yd.

Loading Cost Per Cubic Yard

Placement Cost Per Cubic Yard

Cost of grader Per Hour
Cost of Operator Per Hour
Cost of Compaction Equip. Per Hour
Cost of Compaction Equip. Op. Per Hour
Total Operating Cost Per Hour

Cost Per Cubic Yard to Place and Compact
Total Cost to Load, Haul and Place
No Crushing Cost
Grand Total Combined

Rates

Dump Truck	Rate (\$/Hr.)	Capacity (cy)	Operator (\$/Hr.)	Total
B20	\$ 70.00	20	\$ 70.00	\$ 140.00
D10	\$ 50.00	12	\$ 70.00	\$ 120.00
OH25	\$ 80.00	25	\$ 70.00	\$ 150.00
Grader	Rate (\$/Hr.)		Operator (\$/Hr.)	Total
12-G	\$ 75.00		\$ 70.00	\$ 145.00
14-G	\$ 95.00		\$ 70.00	\$ 165.00
Compaction Equipment	Rate (\$/Hr.)		Operator (\$/Hr.)	Total
Vibratory Roller	\$ 75.00		\$ 70.00	\$ 145.00
Vib. Grid Roller	\$ 75.00		\$ 70.00	\$ 145.00
Hand Held Compactor	\$ 15.00		\$ 70.00	\$ 85.00
Tractors	Rate (\$/Hr.)		Operator (\$/Hr.)	Total
D4	\$ 60.00		\$ 70.00	\$ 130.00
D6	\$ 100.00		\$ 70.00	\$ 170.00
D7	\$ 125.00		\$ 70.00	\$ 195.00
D8	\$ 150.00		\$ 70.00	\$ 220.00

Loader/Excavator	Rate (\$/Hr.)	Capacity (cy)	Operator (\$/Hr.)	Total
14G Cat Wheel Loader	\$ 80.00	3	\$ 70.00	\$ 150.00
Cat Excavator	\$ 150.00	3	\$ 70.00	\$ 220.00

Loading Costs	Rate (Min/Load)	Delay (Min)	Loading Time (Min)	Total
Crushed Rock	5	1.25	6.25	
Pit-Run/Jaw-Run Rock	5	5.00	6	
Rip Rap Rock	10	2.50	12.5	
Fill Material	5	1.25	6.25	
Reclaim Rock	5	1.25	20	

Dump or Spread Time (Min)

Pile Dump	0.25
Truck Spread	2
Spreading w/Grader	5
Placement of Rip Rap	10

Pluto

Mad Creek 500 (Quarry)

Mad Creel Half Mile (Stockpile)

Crushed (Rock Type)

12-G (Grader)

1.5"-0" (Rock Size)

14G (Loader)

D8 (Tractor)

Hauling Time Computation				Spread	
				Vibratory Roller	(Compactor)
50 MPH	Miles per round trip	0.00	Minutes		
40 MPH	Miles per round trip	0.00	Minutes		
35 MPH	Miles per round trip	0.00	Minutes		
30 MPH	Miles per round trip	0.00	Minutes		
25 MPH	Miles per round trip	12.00	Minutes		
20 MPH	Miles per round trip	3.00	Minutes		
15 MPH	Miles per round trip	4.00	Minutes		
10 MPH	Miles per round trip	6.00	Minutes		
5 MPH	Miles per round trip	5.52	Minutes		
Total Miles per Round Trip					
8.46					
Dump or Spread Time per Round Trip					
Total Hauling Cycle Time for this Setting (100% Efficiency)					
Operator Efficiency Correction (80% Efficiency)					

Time Per Cubic Yard

Hauling Only (per cubic yard)	2.27	min/cu.yd
Delay Time (while loading = loading time per cubic yard)	0.52	min/cu.yd
Total Time Per Cubic Yard	2.79	min/cu.yd

Hauling Cost Per Cubic Yard Computation

Cost of Truck Per Hour	\$	50.00	per Hr.
Cost of Truck Operator Pre Hour	\$	70.00	per Hr.
Total Operating Cost Per Hour	\$	120.00	per Hr.
Operating Cost Per Minute	\$	2.00	per Min.
Cost Per Cubic Yard	\$	5.58	per Cu. Yd.
Loading Cost Per Cubic Yard	\$	1.30	per Cu. Yd.
Spreading Cost Per Cubic Yard	\$		
Cost of Grader Per Hour	\$	75.00	per Hr.
Cost of Grader Operator Per Hour	\$	70.00	per Hr.
Cost of Compaction Equip. Per Hour	\$	75.00	per Hr.
Cost of Compaction Equip. Op. Per Hour	\$	70.00	per Hr.
Total Operating Cost Per Hour	\$	290.00	per Hr.
Cost Per Cubic Yard to Grade and Roll	\$	2.01	Cu. Yd.
Total Cost to Load, Haul and Place	\$	8.89	Cu. Yd.
No Crushing Cost	\$	-	
Grand Total Combined	\$	8.89	

		Rates			
Dump Truck		Rate (\$/Hr.)	Capacity (cy)	Operator (\$/Hr.)	Total
B20		\$ 70.00	20	\$ 70.00	\$ 140.00
D10		\$ 50.00	12	\$ 70.00	\$ 120.00
OH25		\$ 80.00	25	\$ 70.00	\$ 150.00
Grader		Rate (\$/Hr.)	Operator (\$/Hr.)	Total	
12-G		\$ 75.00	\$ 70.00	\$ 145.00	
14-G		\$ 95.00	\$ 70.00	\$ 165.00	
Compaction Equipment		Rate (\$/Hr.)	Operator (\$/Hr.)	Total	
Vibratory Roller		\$ 75.00	\$ 70.00	\$ 145.00	
Vib. Grid Roller		\$ 75.00	\$ 70.00	\$ 145.00	
Hand Held Compactor		\$ 15.00	\$ 70.00	\$ 85.00	
Tractors		Rate (\$/Hr.)	Operator (\$/Hr.)	Total	
D4		\$ 60.00	\$ 70.00	\$ 130.00	
D6		\$ 100.00	\$ 70.00	\$ 170.00	
D7		\$ 125.00	\$ 70.00	\$ 195.00	
D8		\$ 150.00	\$ 70.00	\$ 220.00	
Loader		Rate (\$/Hr.)	Capacity (cy)	Operator (\$/Hr.)	Total
14G Cat Wheel Loader		\$ 80.00	3	\$ 70.00	\$ 150.00
Cat Excavator		\$ 150.00	3	\$ 70.00	\$ 220.00
Loading Costs		Rate (Min/Load)	Delay (Min)	Loading Time (Min)	Total
Crushed Rock		5	1.25	6.25	
Pit-Run/Jaw-Run Rock		5	5.00	10	
Rip Rap Rock		10	2.50	12.5	
Fill Material		5	1.25	6.25	
Reclaim Rock		5	1.25	20	
Dump or Spread Time (Min)					
Pile Dump		0.25			
Truck Spread		2			
Spreading w/Grader		5			
Place Rip Rap		10			

Pluto

On site

Endpush

(Sole Name)

Waste (Type)

D10 (Truck)

D6 (Grader)

(Rock Size)

(Loader)

Cat 336F Excavator (Excavator)

(Water Truck Size)

Gal/cu.yd

Spread and Compact

Vibratory Roller (Compactor)

Endpush Time Computation

50 MPH	Miles per round trip	0.00	Minutes
40 MPH	Miles per round trip	0.00	Minutes
35 MPH	Miles per round trip	0.00	Minutes
30 MPH	Miles per round trip	0.00	Minutes
25 MPH	Miles per round trip	0.00	Minutes
20 MPH	1.5 Miles per round trip	4.50	Minutes
15 MPH	Miles per round trip	0.00	Minutes
10 MPH	Miles per round trip	0.00	Minutes
5 MPH	Miles per round trip	2.76	Minutes
Total Miles per Round Trip			
1.73			

Dump or Spread Time per Round Trip

Total Hauling Cycle Time for this Setting (100% Efficiency)

Operator Efficiency Correction (80% Efficiency)

Time Per Cubic Yard

Pushing Only (per cubic yard)

Delay Time (while loading = loading time per cubic yard)

Total Time Per Cubic Yard

Cost Per Cubic Yard Computation

Cost of D8 cat Per Hour

Cost of Operator Pre Hour

Total Operating Cost Per Hour

Operating Cost Per Minute

Cost Per Cubic Yard

No loading

Spreading Cost Per Cubic Yard

Cost of D8 cat Per Hour

Cost of D8 cat Operator Per Hour

Cost of Compaction Equip. Per Hour

Cost of Compaction Equip. Op. Per Hour

Total Operating Cost Per Hour

Cost Per Cubic Yard to Place and Compact

Total Cost to push

\$ 150.00 per Hr.

\$ 50.00 per Hr.

\$ 200.00 per Hr.

\$ 3.33 per Min.

\$ 3.13 per Cu. Yd.

\$ 150.00 per Hr.

\$ 50.00 per Hr.

\$ 75.00 per Hr.

\$ 50.00 per Hr.

\$ 325.00 per Hr.

\$ 2.71 Cu. Yd.

\$ 5.84 Cu. Yd.

Rates				
Dump Truck	Rate (\$/Hr.)	Capacity (cy)	Operator (\$/Hr.)	Total
B20	\$ 70.00	20	\$ 40.00	\$ 110.00
D10	\$ 50.00	12	\$ 40.00	\$ 90.00
OH25	\$ 80.00	25	\$ 40.00	\$ 120.00
Grader	Rate (\$/Hr.)		Operator (\$/Hr.)	Total
12-G	\$ 75.00		\$ 50.00	\$ 125.00
14-G	\$ 95.00		\$ 50.00	\$ 145.00
Compaction Equipment	Rate (\$/Hr.)		Operator (\$/Hr.)	Total
Vibratory Roller	\$ 75.00		\$ 50.00	\$ 125.00
Vib. Grid Roller	\$ 75.00		\$ 50.00	\$ 125.00
Hand Held Compactor	\$ 15.00		\$ 50.00	\$ 65.00
Tractors	Rate (\$/Hr.)		Operator (\$/Hr.)	Total
D4	\$ 60.00		\$ 50.00	\$ 110.00
D6	\$ 100.00		\$ 50.00	\$ 150.00
D7	\$ 125.00		\$ 50.00	\$ 175.00
D8	\$ 150.00	10	\$ 50.00	\$ 200.00
Loader	Rate (\$/Hr.)	Capacity (cy)	Operator (\$/Hr.)	Total
14G Cat Wheel Loader	\$ 80.00	3	\$ 50.00	\$ 130.00
Cat 336F Excavator	\$ 150.00	3	\$ 50.00	\$ 200.00
Loading Costs	Rate (Min/Load)	Delay (Min)	Loading Time (Min)	Total
Crushed Rock		5	1.25	6.25
Pit-Run/Jaw-Run Rock		5	1.25	6.25
Rip Rap Rock		5	1.25	6.25
Fill Material		5	1.25	6.25
Dump or Spread Time (Min)				
Pile Dump		0.25		
Truck Spread		0.5		
Spreading w/dozer		5		
Place with Excavator		2.00		

Pluto

(Sale Name)

On site

Endhaul

Waste (Type)

D10 (Truck)

(Rock Size)

(Loader)

(Water Truck Size)

Cat 336F Excavator (Excavator)

(Grader)

Endpush Time Computation

50 MPH

Miles per round trip

40 MPH

Miles per round trip

35 MPH

Miles per round trip

30 MPH

Miles per round trip

25 MPH

Miles per round trip

20 MPH

Miles per round trip

15 MPH

Miles per round trip

10 MPH

Miles per round trip

5 MPH

Miles per round trip

0.1

Total Miles per Round Trip

0.10

Total Miles per Round Trip

Dump or Spread Time per Round Trip

Total Hauling Cycle Time for this Setting (100% Efficiency)

Operator Efficiency Correction (80% Efficiency)

Spread and Compact

Vibratory Roller

(Compactor)

0.00

Minutes

0.00

Minutes

0.00

Minutes

0.00

Minutes

0.00

Minutes

0.00

Minutes

0.00

Minutes

0.00

Minutes

1.20

Minutes

0.25

Minutes

1.45

Minutes

1.81

Minutes

Time Per Cubic Yard

Pushing Only (per cubic yard)

Delay Time (while loading = loading time per cubic yard)

Total Time Per Cubic Yard

Cost Per Cubic Yard Computation

Cost of D8 cat Per Hour

Cost of Operator Pre Hour

Total Operating Cost Per Hour

Operating Cost Per Minute

Cost Per Cubic Yard

No loading

Spreading Cost Per Cubic Yard

Cost of D8 cat Per Hour

Cost of D8 cat Operator Per Hour

Cost of Compaction Equip. Per Hour

Cost of Compaction Equip. Op. Per Hour

Total Operating Cost Per Hour

Cost Per Cubic Yard to Place and Compact

Total Cost to push

0.18

min/cu.yd

0.00

min/cu.yd

0.18

min/cu.yd

\$

150.00

per Hr.

\$

50.00

per Hr.

\$

200.00

per Hr.

\$

3.33

per Min.

\$

0.60

per Cu. Yd.

\$

150.00

per Hr.

\$

50.00

per Hr.

\$

75.00

per Hr.

\$

50.00

per Hr.

\$

325.00

per Hr.

\$

2.71

Cu. Yd.

\$

3.31

Cu. Yd.

Rates				
Dump Truck	Rate (\$/Hr.)	Capacity (cy)	Operator (\$/Hr.)	Total
B20	\$ 70.00	20	\$ 40.00	\$ 110.00
D10	\$ 50.00	12	\$ 40.00	\$ 90.00
OH25	\$ 80.00	25	\$ 40.00	\$ 120.00
Grader	Rate (\$/Hr.)		Operator (\$/Hr.)	Total
12-G	\$ 75.00		\$ 50.00	\$ 125.00
14-G	\$ 95.00		\$ 50.00	\$ 145.00
Compaction Equipment	Rate (\$/Hr.)		Operator (\$/Hr.)	Total
Vibratory Roller	\$ 75.00		\$ 50.00	\$ 125.00
Vib. Grid Roller	\$ 75.00		\$ 50.00	\$ 125.00
Hand Held Compactor	\$ 15.00		\$ 50.00	\$ 65.00
Tractors	Rate (\$/Hr.)		Operator (\$/Hr.)	Total
D4	\$ 60.00		\$ 50.00	\$ 110.00
D6	\$ 100.00		\$ 50.00	\$ 150.00
D7	\$ 125.00		\$ 50.00	\$ 175.00
D8	\$ 150.00	10	\$ 50.00	\$ 200.00
Loader	Rate (\$/Hr.)	Capacity (cy)	Operator (\$/Hr.)	Total
14G Cat Wheel Loader	\$ 80.00	3	\$ 50.00	\$ 130.00
Cat 336F Excavator	\$ 150.00	3	\$ 50.00	\$ 200.00
Loading Costs	Rate (Min/Load)	Delay (Min)	Loading Time (Min)	Total
Crushed Rock		5	1.25	6.25
Pit-Run/Jaw-Run Rock		5	1.25	6.25
Rip Rap Rock		5	1.25	6.25
Fill Material		5	1.25	6.25
Dump or Spread Time (Min)				
Pile Dump		0.25		
Truck Spread		0.5		
Spreading w/dozer		5		
Place with Excavator		2.00		

CRUISE REPORT
Pluto
Contract No. NC-341-2026-1248-02

1. Location:

Portions of Sections 4 & 5, T10S, R4E, W.M., Linn County, Oregon.

2. Cruise Method:

The sale consists of one clearcut unit cruised using variable radius plots with a basal factor of 33.61. To achieve a BF/acre SE of 9% or lower, 42 plots were laid out on a 5x4 chain grid with a 1:1 ratio of measure to count plots. After delineation of Green Tree Retentions areas, plots 1 and 12 were removed due to site specific characteristics that led to these areas being posted as GTRs.

3. Tree Measurement and Grading:

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

- a) **Height Standards:** Total tree heights were measured to the nearest foot. Bole heights were calculated to 25% of DBH or 5 inches, whichever was greater.
- b) **Diameter Standards:** Diameters were measured outside bark at breast height to the nearest inch.
- c) **Form Factors:** Form factors were measured or estimated for each grade tree using a form point of 16 feet.

4. Data Processing:

- a) **Volumes and Statistics:** Cruise, volume estimates and sampling statistics were derived from Super Ace 2024 cruise software.
- b) **Deductions:** An 8% volume deduction was used for Douglas-fir and a 5% volume deduction for Western hemlock and Western redcedar for hidden defect and breakage.
- c) **Wildlife Trees:** The Timber Sale contract will require the Purchaser to mark 160 trees and/or snags total for wildlife; volume for these trees was removed at an average of 1.1mbf/tree to account for larger sized trees being selected.
- d) **Acreage:** Unit 1 has a total net acres of 85.4. Unit 2 (R/W) has a total net acres of 0.4. Volume from Unit 2 R/W was incorporated into Unit 1 volume resulting in a grand total of approximately 86 acres for calculations.

5. Timber Description:

The Timber is primarily 90-year-old Douglas-fir. The stand contains a small amount of midstory Western hemlock and Western redcedar. The average Douglas-fir to be removed is approximately 22 inches DBH. The average volume per acre to be harvested (net) is approximately 33.3 MBF. This timber sale wholly resides within the fire perimeter of the 2020 Santiam Fire and experienced a wide variety of fire intensity.

6. Cruisers:

Sale Area cruised by ODF in Jan 2026: Sandborg

7. Total Volume (MBF) by Species and Grade:

Unit	Species	Gross Volume (MBF)	Cruised D & B	Cruised D & B (MBF)	Hidden D & B	Hidden D & B (MBF)	Wildlife tree volume	Net Sale Volume
1	DF	3160	<1%	12	8%	253	176	2719
	WH	141	0%	0	5%	7	0	134
	RC	16	0%	0	5%	1	0	15
Total		3317	< 1%	12	7.9%	261	176	2868

Unit	Species	Avg. DBH	Total Net. Vol.	2-Saw	3-Saw	4-Saw
Unit 1	Douglas-fir	22	Grade %	82.3%	14.4%	3.3%
			2719	2238	391	90
	Western Hemlock	12	Grade %	9.4%	59%	31.6%
			134	13	79	42
	Western redcedar	16	Grade %	-	90%	10%
			15	-	14	1
Total			2868	2251	484	133

Statistics of Sampled Population

State, County: OR

Lths: ACI-2023

Species: GEN WEST

Page: 1/1

Project: PLUTO FY26

#Plots 40

Sort: WEST OREGON

Date: 02/24/2026

Tract: 2

Trees: 212

Grade: NW SCALE GRADES

Cruised: 01/26/2026

Stand: 0002

Measured Trees: 102

Price: ACI-2018

Grown To:

Acres: 86.00

Count Trees: 110

Cost: ACI-2023

Edited: 01/26/2026

Sample data collection information

	Total Plots	Sample Trees	Trees /Plot	Trees /Acre	Est Total Trees	% Sample Trees
Basal Plots (B)	21	102	4.86	41.155	3,539	2.88
Basal DBH Count Plots (B)	19	108	5.68	41.789	3,593	3.01
Basal Count Plots (B)	1	2	2.00	.000		.00

Stand Summary - Averages

Species Group	St	Sample Tres	QM Dbh	Avg Total Ht	Trees /Acre	Basal Area /Acre	RD %	Mbf CV %	Mbf SE %	Tons /Acre	Net Ccf /Acre	Net Mbf /Acre	Total Net Ccf	Total Net Mbf
DOUG FIR		88	21.9	126	57.960	151.24	32.34	43.4	6.9	210	73.53	36.605	6,323	3,148
DOUG FIR	D	1	25.0	138	1.232	4.20	0.84			1	0.39	.000	34	
WHEMLOCK		12	12.4	63	21.946	18.49	5.24	72.0	18.6	14	4.54	1.638	391	141
WR CEDAR		1	16.0	59	1.805	2.52	0.63			1	0.59	.181	51	16
		102	19.7	108	82.945	176.45	39.05	41.1	6.5	226	79.06	38.423	6,799	3,304

Confidence Level (CL) 95.44 out of 100.

Standard Deviation (SD) 1.00

Coefficient of Variation % (CV) and Stand Error of Estimate % (SE) are both computed from plot data

Measured Unit	SD	CL	CV%	SE%	per-Acre Range			Plots Required for SE%			Total Volume Range		
					Low	Avg	High	5%	10%	15%	Low	Avg	High
Net Mbf (1000 BdFt)	1.00	95.44	41.07	6.49	35.93	38.42	40.92	67	16	7	3,090	3,304	3,519
Net Ccf (100 CuFt)	1.00	95.44	35.78	5.66	74.58	79.06	83.53	51	12	5	6,414	6,799	7,183
Net Tons	1.00	95.44	35.65	5.64	213.40	226.15	238.89	50	12	5	18,353	19,449	20,545
Basal Area	1.00	95.44	29.04	4.59	169.95	178.13	186.31	33	8	3			
Trees	1.00	95.44	49.07	7.76	76.51	82.94	89.38	96	24	10			

	SD	CL	CV%	SE%	per-Tree Range			Sample Trees Required		
					Low	Avg	High	5%	10%	15%
Sample Trees BF	1.00	95.44	89.71	7.75	692	750	808	321	80	35
Sample Trees CF	1.00	95.44	76.63	6.62	137	147	156	234	58	26

Trees per Plot					Number Required		
Required Measured Trees per Plot - BdFt per Acre					4	5	5
Required Measured Trees per Plot - CuFt per Acre					4	4	5

Species, Sort, Grade - Mbf by Species, Sort, Grade; Summarized: Len, Dia Classes

State, County: OR

Lths and Dias: ACI-2023

Species: GEN WEST

Page: 1/1

Project: PLUTO FY26

Plots: 40

Sort: WEST OREGON

Date: 02/24/2026

Tract: 2

Trees: 212

Grade: NW SCALE GRADES

Cruised: 01/26/2026

Stand: 0002

Meas Trees: 102

Price: ACI-2018

Grown:

Acres: 86.00

Count Trees: 110

Cost: ACI-2023

Edited: 01/26/2026

Species Stat Srt Grd				% Net BdFt	BdFt per Acre			Total Net Mbf	Percent (%) of Net BdFt Volume																Average Log				Logs /Acre
					% Def Gross Net				Log Scale Dia								Log Length								Len (Ft)	Dia (In)	CuFt BdFt / Len		
									5-7	8-11	12-14	15-17	18-23	24-29	30-39	40-99	12-15	16-21	22-23	24-27	28-31	32-35	36-39	40+					
DF	Do	2M	82.3	0.4	30,249	30,123	2,591			20	28	40	11	1		0			1	0	99	39	16.7	444	2.1	67.783			
DF	Do	3M	14.4	0.1	5,285	5,277	454	19	81								1			0	3	9	87	38	9.0	107	0.7	49.306	
DF	Do	4M	3.3	0.6	1,212	1,205	104	98	2							12	17		10	13	8	10	30	25	5.9	27	0.3	44.506	
DF		Totals	100.0		36,746	36,605	3,148	6	12	17	23	33	9	1		1			1	2	95	35	11.4	227	1.3	161.595			
DF	D	Do	4M	0.0	100.0	259																		12	20.6		2.7	1.232	
DF-D		Totals	100.0	100.0	259																			12	20.6		2.7	1.232	
WH	Do	2M	9.4		154	154	13			100												100	40	13.9	240	1.3	.640		
WH	Do	3M	59.0		967	967	83	41	59													20	80	39	7.9	88	0.6	10.967	
WH	Do	4M	31.6		517	517	44	100								4		7			43	28	18	32	5.1	34	0.3	15.339	
WH		Totals	100.0		1,638	1,638	141	56	35	9						1		2			14	21	62	35	6.4	61	0.5	26.946	
RC	Do	3M	90.0		162	162	14		100													100		32	9.6	90	0.9	1.805	
RC	Do	4M	10.0		18	18	2	100								100								12	6.0	10	0.3	1.805	
RC		Totals	100.0		181	181	16	10	90							10					90			22	7.8	50	0.7	3.611	
Totals All Species			100.0	1.0	38,823	38,423	3,304	8	13	16	22	32	9	1		1	1				2	3	93	35	10.7	199	1.2	193.385	

Log Stock - Mbf by Species, Sort, Grade, Len, Dia Class

State, County: OR

Lths And Dias ACI-2023

Species: GEN WEST

Page: 1/1

Project: PLUTO FY26

Plots: 40

Sort: WEST OREGON

Date: 02/24/2026

Tract: 2

Trees: 212

Grade: NW SCALE GRADES

Cruised: 01/26/2026

Stand: 0002

Measured Trees: 102

Price: ACI-2018

Grown To:

Acres: 86.00

Count Trees: 110

Cost: ACI-2023

Edited: 01/26/2026

Species	Stat us	Srt	Grd	Log Len Class	Gross Mbf	% Def	Net Mbf	% Spp	BdFt Per Acre	Net Mbf by Scaling Diameter in Inches								
										5-7	8-11	12-14	15-17	18-23	24-29	30-39	40-99	
DF		Do	2M	12-15	2	.0	2	0.1	26		2	16	11	522	702	1,027	284	28
DF		Do	2M	32-35	16	.0	16	0.5	182									
DF		Do	2M	36-39	11	2.9	11	0.3	124									
DF		Do	2M	40+	2,573	.4	2,562	81.4	29,791									
DF		Do	3M	16-21	2	.0	2	0.1	28									
DF		Do	3M	28-31	1	.0	1	0.0	14									
DF		Do	3M	32-35	15	4.1	15	0.5	169									
DF		Do	3M	36-39	39	.0	39	1.2	451									
DF		Do	3M	40+	397	.0	397	12.6	4,615									
DF		Do	4M	12-15	13	.0	13	0.4	148									
DF		Do	4M	16-21	18	.0	18	0.6	204									
DF		Do	4M	24-27	10	.0	10	0.3	118									
DF		Do	4M	28-31	14	.0	14	0.4	162									
DF		Do	4M	32-35	9	7.3	8	0.3	96									
DF		Do	4M	36-39	10	.0	10	0.3	120									
DF		Do	4M	40+	31	.0	31	1.0	357									
DF		Total			3,160	0.4	3,148	95.3	36,605									
DF	D	Do	4M	12-15	22	100.0	0.0											
DF-D		Total			22	100.0	0.0											
WH		Do	2M	40+	13	.0	13	9.4	154		17	13						
WH		Do	3M	36-39	17	.0	17	11.8	194									
WH		Do	3M	40+	66	.0	66	47.2	773									
WH		Do	4M	12-15	2	.0	2	1.1	18									
WH		Do	4M	24-27	3	.0	3	2.3	38									
WH		Do	4M	32-35	19	.0	19	13.7	224									
WH		Do	4M	36-39	12	.0	12	8.8	144									
WH		Do	4M	40+	8	.0	8	5.7	93									
WH		Total			141		141	4.3	1,638	79	49	13						
RC		Do	3M	32-35	14	.0	14	90.0	162	14								
RC		Do	4M	12-15	2	.0	2	10.0	18	2								
RC		Total			16		16	0.5	181	2	14							
Stand(s)/Project Totals					3,339	1.0	3,304	100.0	38,423									
Percent Measured Tree Net Mbf =								100.0		266	434	537	712	1,043	284	28		

Stand Summary Report

State, County: OR

Lths & Dias: ACI-2023

Species GEN WEST

Page: 1/2

Project: PLUTO FY26

Plots: 40

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Spp	St	Dbh	Smpl Trees	Avg Age	Avg FF	Avg Total Ht	Trees /Ac	BA /Ac	Logs /Ac	Ht/D Inches	Net Per Log		Net Per Acre			BdFt Def %	Total Net		
											CuFt	BdFt	Tons	CuFt	BdFt		Tons	Ccf	Mbf
DF		10	1	90	87	69	1.541	0.84	1.541	82.8	12	40	1	18	62	0.0	44	15	5
DF		11	1	90	87	73	1.273	0.84	1.273	79.6	15	60	1	19	76	0.0	46	16	7
DF		12	1	90	90	82	1.070	0.84	1.070	82.0	19	70	1	20	75	0.0	49	17	6
DF		13	1	90	84	95	0.912	0.84	1.823	87.7	16	60	1	29	109	0.0	72	25	9
DF		14	2	90	88	105	1.572	1.68	3.144	90.0	19	80	2	60	252	0.0	147	52	22
DF		15	2	90	87	97	1.369	1.68	2.739	77.6	21	85	2	58	233	0.0	141	50	20
DF		17	3	90	90	112	1.599	2.52	4.265	79.3	24	96	3	101	410	0.0	248	87	35
DF		18	3	90	88	112	1.426	2.52	3.804	74.4	25	99	3	96	376	0.0	235	83	32
DF		19	2	90	89	132	0.854	1.68	2.561	83.1	30	130	2	76	333	0.0	186	65	29
DF		20	6	90	88	128	2.311	5.04	6.933	76.6	33	143	6	227	994	1.2	556	195	85
DF		21	5	90	89	130	1.747	4.20	5.240	74.1	37	168	5	193	880	0.0	473	166	76
DF		22	5	90	89	126	31.216	81.50	87.686	69.3	45	224	113	3,957	19,651	0.4	9,698	3,403	1,690
DF		23	5	90	90	139	1.456	4.20	4.660	72.6	45	211	6	208	984	0.0	509	179	85
DF		24	4	90	89	145	1.070	3.36	3.477	72.4	48	224	5	166	778	0.0	406	143	67
DF		25	3	90	89	143	0.734	2.52	2.201	68.2	57	270	4	126	594	0.4	308	108	51
DF		26	8	90	89	149	1.823	6.72	6.381	68.8	53	260	10	337	1,659	0.1	825	290	143
DF		27	6	90	89	158	1.268	5.04	4.438	70.1	57	286	7	251	1,270	0.0	616	216	109
DF		28	4	90	89	161	0.786	3.36	2.948	68.9	61	329	5	181	969	0.4	443	155	83
DF		29	8	90	90	165	1.465	6.72	5.679	68.1	66	358	11	377	2,033	0.5	924	324	175
DF		30	2	90	89	164	0.345	1.68	1.379	65.8	67	361	3	92	498	0.0	225	79	43
DF		31	4	90	91	164	0.641	3.36	2.565	63.6	74	407	5	190	1,044	0.8	465	163	90
DF		32	2	90	92	163	0.301	1.68	1.204	60.9	79	445	3	95	536	0.0	232	81	46
DF		33	1	90	91	141	0.141	0.84	0.424	51.3	97	503	1	41	214	2.0	101	35	18
DF		34	2	90	88	184	0.267	1.68	1.066	64.9	93	536	3	99	572	0.0	244	86	49
DF		35	1	90	92	167	0.126	0.84	0.503	57.3	91	543	1	46	273	0.0	113	39	23
DF		36	2	90	93	168	0.238	1.68	0.951	55.8	103	601	3	98	572	3.1	239	84	49
DF		38	2	90	88	174	0.213	1.68	0.854	54.9	112	643	3	96	548	1.2	234	82	47
DF		39	1	90	91	177	0.101	0.84	0.405	54.5	117	717	1	47	291	0.0	116	41	25
DF		40	1	90	93	181	0.096	0.84	0.385	54.3	134	830	1	52	320	0.0	126	44	27
DF			88	90	89	126	57.960	151.24	161.595	71.9	46	227	210	7,353	36,605	0.4	18,021	6,323	3,148
DF	D	25	1	90	90	138	1.232	4.20	1.232	66.2	32		1	39		0.0	96	34	
DF-D			1	90	90	138	1.232	4.20	1.232	66.2	32	0	1	39		100.0	96	34	
WH		9	1	90	87	53	1.902	0.84	1.902	70.7	8	40		16	76	0.0	42	13	7
WH		10	1	90	89	44	1.541	0.84	1.541	52.8	9	30		14	46	0.0	38	12	4
WH		11	3	90	86	59	3.820	2.52	3.820	64.0	15	47	2	56	178	0.0	148	48	15
WH		12	1	90	87	63	11.046	9.24	13.318	60.6	17	61	7	227	809	0.0	606	196	70
WH		13	1	90	87	66	0.912	0.84	0.912	60.9	20	60	1	18	55	0.0	48	15	5
WH		15	2	90	90	90	1.369	1.68	2.739	72.0	21	93	2	59	253	0.0	156	50	22
WH		17	1	90	83	59	0.533	0.84	1.066	41.6	20	55	1	21	59	0.0	57	18	5
WH		18	1	90	87	76	0.475	0.84	0.951	50.7	18	60	1	17	57	0.0	45	14	5
WH		21	1	90	87	112	0.349	0.84	0.699	64.0	38	150	1	27	105	0.0	71	23	9
WH			12	90	87	63	21.946	18.49	26.946	61.6	17	61	14	454	1,638	0.0	1,211	391	141
WH	D		0	0		0	0.000	1.68	0.000							0.0			
WH-D			0	0	0	0	0.000	1.68	0.000		0	0				0.0			
RC		16	1	90	83	59	1.805	2.52	3.611	44.3	16	50	1	59	181	0.0	120	51	16
RC			1	90	83	59	1.805	2.52	3.611	44.3	16	50	1	59	181	0.0	120	51	16

Stand Summary Report

State, County: OR

Lths & Dias: ACI-2023

Species GEN WEST

Page: 2/2

Project: PLUTO FY26

Plots: 40

Sort: WEST OREGON

Date: 02/24/2026

Tract: 2

Trees: 212

Grade: NW SCALE GRADES

Cruised: 01/26/2026

Stand: 0002

Measured Trees: 102

Price: ACI-2018

Grown To:

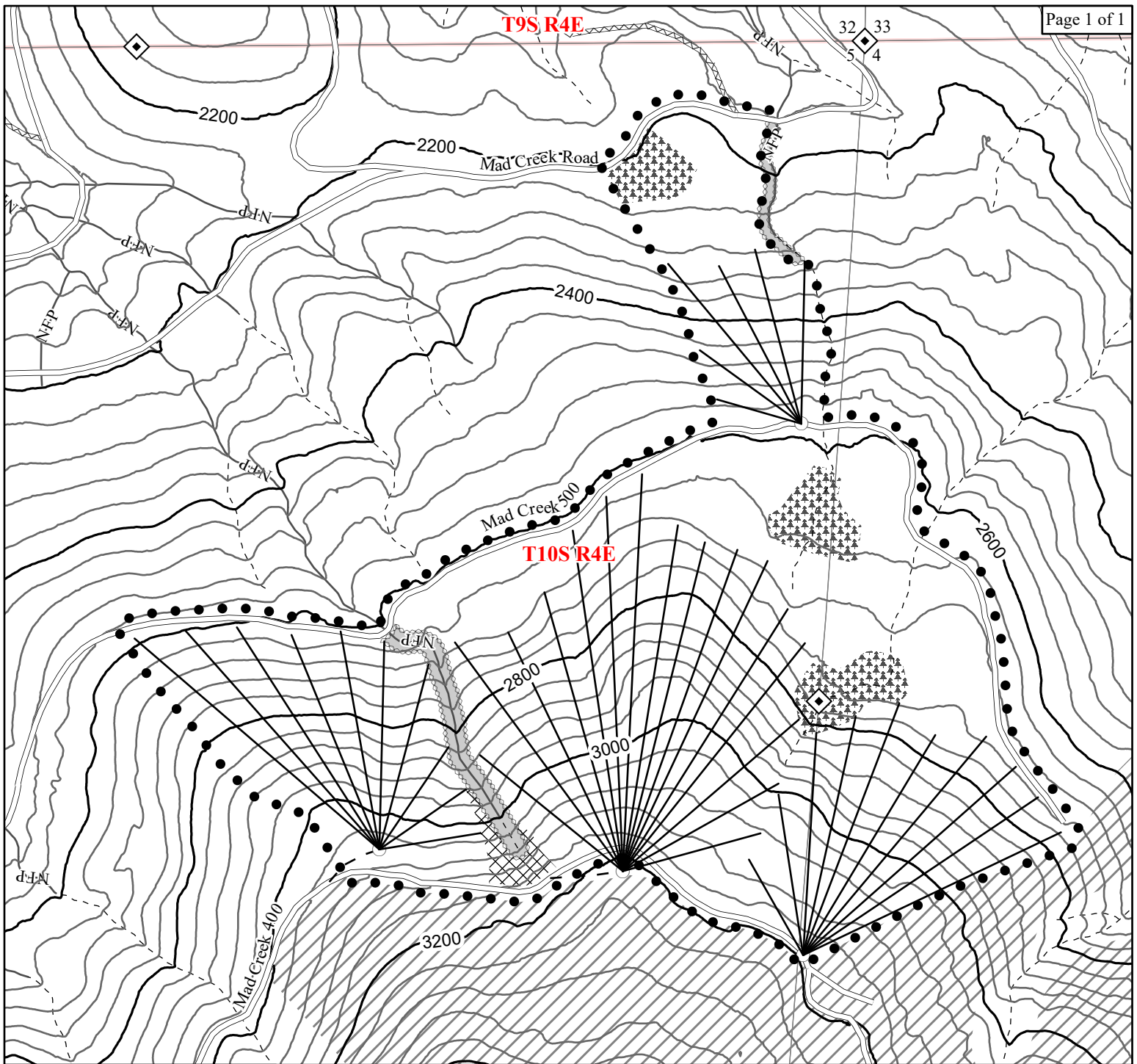
Acres: 86.00

Count Trees: 110

Cost: ACI-2023

Edited: 01/26/2026

Spp	St	Dbh	Smpl Trees	Avg Age	Avg FF	Avg Total Ht	Trees /Ac	BA /Ac	Logs /Ac	Ht/D Inches	Net Per Log		Net Per Acre			BdFt Def %	Total Net		
											CuFt	BdFt	Tons	CuFt	BdFt		Tons	Ccf	Mbf
Stands/Project:			102	90	88	108	82.945	178.13	193.385	68.5	41	199	226	7,906	38,423	1.0	19,449	6,799	3,304



Legend

- ● Timber Sale Boundary
- ▲▲▲ Green Tree Retention Area
- ▤▤▤ Slope Buffer
- ▨▨▨ Stream Buffer
- ▧▧▧ Reforestation Area
- Surfacd Road
- - - Blocked Road
- - - New Construction
- - - Non-Fish, Perennial
- - - Non-Fish, Seasonal
- Cable Corridor
- Landing
- ◆ Land Survey Monument

LOGGING PLAN

OF TIMBER SALE CONTRACT NO. NC-341-2026-W01248-02
 PLUTO
 PORTIONS OF SECTIONS 4 & 5, T10S, R4E, W.M.
 LINN COUNTY, OREGON

This product is for informational use and may not have
 been prepared for or be suitable for legal, engineering
 or survey purposes.

	TRACTOR	CABLE
UNIT	ACRES	ACRES
1 (CC)	20.7	64.7
2 (R/W)	.4	0
TOTAL	21.1	64.7

