



"STEWARDSHIP IN FORESTRY"

Timber Sale Appraisal
Buck Skylark
Sale 341-12-40

District: Tillamook

Date: September 08, 2011

cost summary

	Conifer	Hardwood	Total
Gross Timber Sale Value	\$288,672.90	\$181,226.00	\$469,898.90
		Project Work:	\$(130,980.00)
		Advertised Value:	\$338,918.90



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timber description

Location: Portions of Sections 22, 23, 26, & 27, T3N, R8W, W.M., Tillamook County, Oregon.

Stand Stocking: 20%

SpecieName	AvgDBH	Amortization (%)	Recovery (%)
Douglas - Fir	16	0	95
Western Hemlock / Fir	15	0	95
Noble Fir	20	0	95
Alder (Red)	14	0	90

Volume by Grade	10" - 11"	12"+	2S	3S	4S	6" - 7"	8" - 9"	Total
Douglas - Fir	0	0	187	249	109	0	0	545
Western Hemlock / Fir	0	0	274	789	277	0	0	1,340
Noble Fir	0	0	29	75	19	0	0	123
Alder (Red)	243	35	0	0	0	323	189	790
Total	243	35	490	1,113	405	323	189	2,798



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comments: Pond Values Used: 2nd Quarter Calendar Year 2011.

Western redcedar & Other Cedars Stumpage Price = Pond Value minus
Logging Cost
 $\$650/\text{MBF} = \$950/\text{MBF} - \$300/\text{MBF}$

Pulp (Conifer and Hardwood) Price = $\$25.00/\text{MBF}$

SCALING COST ALLOWANCE = $\$5.00/\text{MBF}$

FUEL COST ALLOWANCE = $\$4.00/\text{Gallon}$

HAULING COST ALLOWANCE

Hauling cost equivalent to $\$740$ daily truck cost.

Other Costs (with Profit and Risk to be added):

Brand and Paint: $\$2/\text{MBF} \times 2,798 \text{ MBF} = \$5,596$

Snag creation by girdling at base:

Area 2: $2 \text{ trees/acre} \times 102 \text{ acres} \times \$10/\text{tree} = \$2,040$

TOTAL Other Costs (with Profit and Risk to be added) = $\$7,636$

Other Costs (No Profit and Risk added):

Slash Piling and Sorting: $\$5/\text{acre} \times 130 \text{ (cable) acres} = \650

Cover material for piles: $10 \text{ piles} \times \$5/\text{pile} = \$50$

Block Roads and landings with Tank Traps: $4 \times \$75/\text{each} = \300

Stimson Road Use Fee: $\$436.23$

Stimson Forest Reproduction Impact Fee: $\$1,112.10$

TOTAL Other Costs (No Profit and Risk added) = $\$2,548.33$

ROAD MAINTENANCE

Road Maintenance: Buck Mountain Road

Interim Grading: $\$250/\text{mile} \times 4 \text{ miles} \times 1 \text{ times} / 2,798 \text{ MBF} =$
 $\$0.36/\text{MBF}$

Spot rocking: $20 \text{ cy/mile} \times 10.00/\text{cy} \times 2.5 \text{ MMBF} \times 4 \text{ miles} / 2,798$
 $\text{MBF} = \$0.71/\text{MBF}$

Compaction of Buck Mountain Road used during haul: ((211 stations
 $\times \$18/\text{station}) + \$111 \text{ move-in}) / 2,798 \text{ MBF} = \$1.40/\text{MBF}$

Final Maintenance Grading: $\$500 \times 4 \text{ miles} / 2,798 \text{ MBF} = \$0.71/\text{MBF}$

Total Road Maintenance: $\$3.18/\text{MBF}$



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logging conditions

combination#: 1

	Douglas - Fir	53.21%	
	Western Hemlock / Fir	7.16%	
	Alder (Red)	16.71%	
yarding distance:	Long (1,500 ft)		downhill yarding: No
logging system:	Cable: Medium Tower >40 - <70		Process: Stroke Delimber
tree size:	Small / Thinning 10in (90 Bft/tree), 18-20 logs/MBF		
loads / day:	7.0		bd. ft / load: 3,500
cost / mbf:	\$136.49		
machines:	Log Loader (A) Stroke Delimber (A) Tower Yarder (Medium)		

combination#: 2

	Douglas - Fir	29.17%	
	Western Hemlock / Fir	83.51%	
	Noble Fir	77.24%	
	Alder (Red)	68.99%	
yarding distance:	Long (1,500 ft)		downhill yarding: No
logging system:	Cable: Medium Tower >40 - <70		Process: Stroke Delimber
tree size:	Small / Thinning 10in (90 Bft/tree), 18-20 logs/MBF		
loads / day:	6.0		bd. ft / load: 3,200
cost / mbf:	\$174.17		
machines:	Log Loader (A) Stroke Delimber (A) Tower Yarder (Medium)		

combination#: 3

	Douglas - Fir	17.61%	
	Western Hemlock / Fir	9.33%	
	Noble Fir	22.76%	
	Alder (Red)	14.30%	
yarding distance:	Short (400 ft)		downhill yarding: No
logging system:	Cable: Small Tower <=40		Process: Manual Falling/Delimiting
tree size:	Small / Thinning 9in (70 Bft/tree), 20+ logs/MBF		
loads / day:	4.0		bd. ft / load: 3,300
cost / mbf:	\$204.62		
machines:	Log Loader (A) Tower Yarder (Small)		

combination#: 4



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yarding distance:	Short (400 ft)	downhill yarding:	No
logging system:	Shovel	Process:	Stroke Delimber
tree size:	Small / Thinning 10in (90 Bft/tree), 18-20 logs/MBF		
loads / day:	7.0	bd. ft / load:	3,200
cost / mbf:	\$64.21		
machines:	Stroke Delimber (B)		



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logging costs

Operating Seasons:	2.00	Profit Risk:	10.00%
Project Costs:	\$130,980.00	Other Costs (P/R):	\$7,636.00
Slash Disposal:	\$0.00	Other Costs:	\$2,548.33

Miles of Road

Road Maintenance: \$3.18

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	3.2
Western Hemlock / Fir	\$0.00	3.0	3.6
Noble Fir	\$0.00	3.0	3.6
Alder (Red)	\$0.00	2.0	3.0



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logging costs breakdown

Logging	Road Maint	Fire Protect	Hauling	Other P/R appl	Profit & Risk	Slash Disposal	Scaling	Other	Total
Douglas - Fir									
\$159.48	\$3.34	\$3.13	\$110.37	\$2.73	\$27.90	\$0.00	\$5.00	\$0.91	\$312.86
Western Hemlock / Fir									
\$174.31	\$3.34	\$3.13	\$65.40	\$2.73	\$24.89	\$0.00	\$5.00	\$0.91	\$279.71
Noble Fir									
\$181.10	\$3.34	\$3.13	\$65.40	\$2.73	\$25.57	\$0.00	\$5.00	\$0.91	\$287.18
Alder (Red)									
\$172.23	\$3.50	\$3.13	\$123.33	\$2.73	\$30.49	\$0.00	\$5.00	\$0.91	\$341.32

Specie	Amortization	Pond Value	Stumpage	Amortized
Douglas - Fir	\$0.00	\$488.72	\$175.86	\$0.00
Western Hemlock / Fir	\$0.00	\$412.01	\$132.30	\$0.00
Noble Fir	\$0.00	\$413.58	\$126.40	\$0.00
Alder (Red)	\$0.00	\$570.72	\$229.40	\$0.00



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Amortized

Specie	MBF	Value	Total
Douglas - Fir	0	\$0.00	\$0.00
Western Hemlock / Fir	0	\$0.00	\$0.00
Noble Fir	0	\$0.00	\$0.00
Alder (Red)	0	\$0.00	\$0.00

Unamortized

Specie	MBF	Value	Total
Douglas - Fir	545	\$175.86	\$95,843.70
Western Hemlock / Fir	1,340	\$132.30	\$177,282.00
Noble Fir	123	\$126.40	\$15,547.20
Alder (Red)	790	\$229.40	\$181,226.00

Gross Timber Sale Value

Recovery: \$469,898.90

Prepared by: Nick Stumpf

Phone: 503-815-7026



PROJECT SUMMARY SHEET

Sale: Buck Skylark

CONSTRUCTION

Point	C to D	13+00	stations =	\$44,816.11
Point	G to H	3+60	stations =	\$11,846.78
Point	K to L	7+20	stations =	\$11,817.44
Point	N to O	2+90	stations =	\$6,354.73
SUBTOTAL CONSTRUCTION				\$74,835.06

IMPROVEMENT

Point	A to B	14+80	stations =	\$10,195.20
Point	C to D	5+20	stations =	\$6,447.13
Point	E to F	26+30	stations =	\$18,464.72
Point	I to J	1+85	stations =	\$2,777.51
Point	E to M	17+70	stations =	\$6,873.40
SUBTOTAL IMPROVEMENT				\$44,757.96

RECONSTRUCTION

Point	E to F	5+10	stations =	\$3,474.90
SUBTOTAL RECONSTRUCTION				\$3,474.90

MOVE IN **\$7,912.08**

GRAND TOTAL **\$130,980.00**

SUMMARY OF CONSTRUCTION COST

Sale: **Buck Skylark** Road: **A to B**

<u>Construction -</u>	0+00	stations	<u>Improvement -</u>	14+80	stations	<u>Reconstruction -</u>	0+00	stations
	0.00	miles		0.28	miles		0.00	miles

CULVERTS - MATERIALS & INSTALLATION

Culverts

30	LF of 18"	\$525.00			
		\$525.00		90	LF of 24" \$2,430.00
					\$2,430.00

Culvert Stakes & Markers

4 markers	\$32.00
	\$32.00

TOTAL CULVERTS \$2,987.00

ROCK

0+00 to	14+80	510	cy. of	Crushed	@	\$6.38 per c.y.=	\$3,253.80
Culvert Backfill	0+00	20	cy. of	Crushed	@	\$3.93 per c.y.=	\$78.60
Culvert Backfill	2+80	20	cy. of	Crushed	@	\$3.93 per c.y.=	\$78.60
Culvert Backfill	7+15	20	cy. of	Crushed	@	\$3.83 per c.y.=	\$76.60
Culvert Backfill	12+85	10	cy. of	Crushed	@	\$3.93 per c.y.=	\$39.30
Slope Stabilization	8+80 to 9+20	40	cy. of	Riprap	@	\$5.33 per c.y.=	\$213.20
Energy Dissipator	2+80	10	cy. of	Riprap	@	\$5.23 per c.y.=	\$52.30
Energy Dissipator	7+15	10	cy. of	Riprap	@	\$5.33 per c.y.=	\$53.30
Energy Dissipator	12+85	10	cy. of	Riprap	@	\$5.33 per c.y.=	\$53.30

TOTAL ROCK \$3,899.00

SPECIAL PROJECTS

Laborer to compact crushed culvert backfill	10.00	hours @	\$30.00	per hour	\$300.00
Hand held vibratory compactor to compact culvert backfill	1.00	day @	\$45.00	per day	\$45.00
Construct ditchouts -	1.00	@	\$60.00	each	\$60.00
Construct Ditches	10.20	stations @	\$100.00	per station	\$1,020.00
Pull Back Existing Sidecast from 8+80 to 9+20	4.00	hours @	\$195.00	per hour	\$780.00
Place Slope Stabilization 8+80 to 9+20	4.00	hours @	\$125.00	per hour	\$500.00
Grade and shape road -	14.80	stations @	\$15.50	per station	\$229.40
Construct Turnaround	1.00	lump sum @	\$75.00	each	\$75.00
Haul dirt from culvert installation	80.00	cy	\$2.31	per cy	\$184.80
Grass seed and fertilize -	0.25	acres @	\$220.00	per acre	\$55.00
Mulching -	0.10	acres @	\$600.00	per acre	\$60.00

TOTAL SPECIAL PROJECTS \$3,309.20

GRAND TOTAL \$10,195.20

SUMMARY OF CONSTRUCTION COST

Sale:

Buck Skylark

Road:

C to D

Construction -	13+00	stations	Improvement -	5+20	stations	Reconstruction -	0+00	stations
	0.25	miles		0.10	miles		0.00	miles

CONSTRUCTION: CLEARING, GRUBBING, SCATTERING, EXCAVATION, COMPACTION, LOADING, END-HAULING AND SPREADING/COMPACTING AT WASTE AREA -

Station	to	Station	Avg. Sideslope	Avg. Dist. To W.A. (mi.)	Outslope/Ditch	Cost per Station	=	
5+20		6+30	5%		Outslope	\$74	=	\$81.40
6+30		7+70	40%		Outslope	\$243	=	\$340.20
7+70		8+90	90%	1.05	Outslope	\$6,034	=	\$7,240.80
8+90		12+00	70%	1.13	Outslope	\$3,065	=	\$9,501.50
12+00		12+50	35%		Outslope	\$191	=	\$95.50
12+50		13+35	10%		Outslope	\$90	=	\$76.50
13+35		15+35	90%	1.22	Outslope	\$6,034	=	\$12,068.00
15+35		15+85	35%		Outslope	\$191	=	\$95.50
15+85		18+20	5%		Outslope	\$74	=	\$173.90
TOTAL								\$29,673.30

IMPROVEMENT: EXCAVATION -
Road Earthwork, 0+00 to 5+20

5.20	sta. @	\$75.00	per sta. =	\$390.00	
TOTAL EXCAVATION					\$390.00

ROCK

0+00 to	18+20	1,030	cy. of	Crushed	@	\$14.48	per c.y. =	\$14,914.40
Landing Rock	13+05/18+00	370	cy. of	Crushed	@	\$12.78	per c.y. =	\$4,728.60
TOTAL ROCK								\$19,643.00

SPECIAL PROJECTS

Construct 2 Landings @ 13+05 & 18+00	2.00	lump sum @	\$285.00	each	\$570.00	
Construct Truck Turnarounds, 13+05 & 18+00	2.00	lump sum @	\$75.00	each	\$150.00	
Grade and shape road -	18.20	stations @	\$15.50	per station	\$282.10	
Roll subgrade w/ vibratory roller prior to rocking -	18.20	stations @	\$13.20	per station	\$240.24	
Grass seed and fertilize -	1.43	acres @	\$220.00	per acre	\$314.60	
TOTAL SPECIAL PROJECTS						\$1,556.94

GRAND TOTAL **\$51,263.24**

SUMMARY OF CONSTRUCTION COST

Sale: **Buck Skylark**

Road: **E to F**

Construction -	0+00	stations	Improvement -	26+30	stations	Reconstruction -	5+10	stations
	0.00	miles		0.50	miles		0.10	miles

IMPROVEMENT: CLEARING AND GRUBBING -

Widening	0.03	acres @	\$660.00 per acre =	\$19.80	
TOTAL CLEARING AND GRUBBING					\$19.80

IMPROVEMENT: EXCAVATION -

Road Earthwork	26.30	sta. @	\$50.00 per sta. =	\$1,315.00	
Widening	467	cy. @	\$1.40 per c.y. =	\$653.80	
TOTAL EXCAVATION					\$1,968.80

IMPROVEMENT: ENDHAUL -

Widening	20+55	to	20+80	59	cy. @	\$0.99 per c.y. =	\$58.41
Widening	20+80	to	21+25	330	cy. @	\$0.99 per c.y. =	\$326.70
Widening	21+25	to	21+50	78	cy. @	\$0.99 per c.y. =	\$77.22
Spread & compact				467	cy. @	\$0.25 per c.y. =	\$116.75
TOTAL ENDHAUL							\$579.08

RECONSTRUCTION: CLEARING AND GRUBBING -

Scattering	0.140	acres @	\$980.00 per acre =	\$137.20	
TOTAL CLEARING AND GRUBBING					\$137.20

RECONSTRUCTION: EXCAVATION -

Road Earthwork	5.10	sta. @	\$50.00 per sta. =	\$255.00	
TOTAL EXCAVATION					\$255.00

ROCK

0+00 to	21+55	1,170	cy. of	Crushed	@	\$14.72 per c.y. =	\$17,222.40
TOTAL ROCK							\$17,222.40

SPECIAL PROJECTS

Construct waste areas -	1.00	hours @	\$130.00 per hour	\$130.00	
Construct Turaround	1.00	lump sum @	\$75.00 each	\$75.00	
Improve existing ditch - Place material outside road prism	6.25	stations @	\$25.00 per station	\$156.25	
Grade and shape road -	21.55	stations @	\$15.50 per station	\$334.03	
Roll subgrade w/ vibratory roller prior to rocking -	21.55	stations @	\$13.20 per station	\$284.46	
Grass seed and fertilize -	2.88	acres @	\$220.00 per acre	\$633.60	
Mulching -	0.24	acres @	\$600.00 per acre	\$144.00	
TOTAL SPECIAL PROJECTS					\$1,757.34

GRAND TOTAL

\$21,939.62

SUMMARY OF CONSTRUCTION COST

Sale:

Buck Skylark

Road:

G to H

Construction -	3+60	stations	Improvement -	0+00	stations	Reconstruction -	0+00	stations
	0.07	miles		0.00	miles		0.00	miles

CONSTRUCTION: CLEARING, GRUBBING, SCATTERING, EXCAVATION, COMPACTION, LOADING, END-HAULING AND SPREADING/COMPACTING AT WASTE AREA -

Station	to	Station	Avg. Sideslope	Avg. Dist. To W.A. (mi.)	Outslope/Ditch	Cost per Station	=	
0+00		0+10	0%		Outslope	\$55	=	\$5.50
0+10		0+38	50%		Outslope	\$459	=	\$128.52
0+38		0+66	40%		Outslope	\$243	=	\$68.04
0+66		1+16	45%		Outslope	\$269	=	\$134.50
1+16		1+56	50%		Outslope	\$459	=	\$183.60
1+56		1+87	40%		Outslope	\$243	=	\$75.33
1+87		2+37	45%		Outslope	\$269	=	\$134.50
2+37		2+87	50%		Outslope	\$459	=	\$229.50
2+87		3+22	50%		Outslope	\$459	=	\$160.65
3+22		3+60	45%		Outslope	\$269	=	\$102.22
TOTAL								\$1,222.36

CULVERTS - MATERIALS & INSTALLATION

<u>Culverts</u>	30	LF of 18"	\$525.00	0	LF of 24"	\$0.00
			\$525.00			\$0.00
<u>Culvert Stakes & Markers</u>						
	1	markers	\$8.00			
			\$8.00			
TOTAL CULVERTS						\$533.00

ROCK

0+00 to	3+60	190	cy. of	Crushed	@	\$14.64 per c.y.=	\$2,781.60
Landing Rock	3+80	185	cy. of	Crushed	@	\$12.94 per c.y.=	\$2,393.90
TOTAL ROCK							\$5,175.50

SPECIAL PROJECTS

End Push from 0+00 to 1+60 to construct junction w/ Spur E to F	1.60	stations @	\$140.00	per station	\$224.00
Construct landing @ 3+60	575.00	cy	\$1.40	per cy	\$805.00
Construct waste areas -	2.00	hours @	\$125.00	per hour	\$250.00
Vacate landing @ 3+60	575.00	cy	\$1.40	per cy	\$805.00
Move in excavator to vacate landing @ 3+60	1.00	lump sum @	\$1,840.00	each	\$1,840.00
Grade and shape road -	3.60	stations @	\$15.50	per station	\$55.80
Roll subgrade w/ vibratory roller prior to rocking -	3.60	stations @	\$13.20	per station	\$47.52
Remove large stumps -	1.00	lump sum @	\$780.00	each	\$780.00
Grass seed and fertilize -	0.33	acres @	\$220.00	per acre	\$72.60
Mulching -	0.06	acres @	\$600.00	per acre	\$36.00
TOTAL SPECIAL PROJECTS					\$4,915.92

GRAND TOTAL **\$11,846.78**

SUMMARY OF CONSTRUCTION COST

Sale: **Buck Skylark** Road: **I to J**

Construction -	0+00	stations	Improvement -	1+85	stations	Reconstruction -	0+00	stations
	0.00	miles		0.04	miles		0.00	miles

IMPROVEMENT: EXCAVATION -

Road Earthwork	2.65	sta. @	\$25.00	per sta. =	\$66.25	
					TOTAL EXCAVATION	\$66.25

ROCK

0+00 to	1+85		100 cy. of	Crushed	@	\$14.64	per c.y. =	\$1,464.00
Junction Rock	0+95		80 cy. of	Crushed	@	\$14.64	per c.y. =	\$1,171.20
								TOTAL ROCK
								\$2,635.20

Grade and shape road -	2.65	stations @	\$15.50	per station	\$41.08	
Roll subgrade w/ vibratory roller prior to rock -	2.65	stations @	\$13.20	per station	\$34.98	
					TOTAL SPECIAL PROJECTS	\$76.06

GRAND TOTAL	\$2,777.51
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SUMMARY OF CONSTRUCTION COST

Sale:

Buck Skylark

Road:

K to L

Construction -	7+20	stations	Improvement -	0+00	stations	Reconstruction -	0+00	stations
	0.14	miles		0.00	miles		0.00	miles

CONSTRUCTION: CLEARING, GRUBBING, SCATTERING, EXCAVATION, COMPACTION, LOADING, END-HAULING AND SPREADING/COMPACTING AT WASTE AREA -

Station	to	Station	Avg. Sideslope	Avg. Dist. To W.A. (mi.)	Outslope/Ditch	Cost per Station	=	
0+00		0+60	60%	0.1	Outslope	\$1,521	=	\$912.60
0+60		1+00	30%		Outslope	\$191	=	\$76.40
1+00		1+25	40%		Outslope	\$243	=	\$60.75
1+25		2+00	25%		Outslope	\$165	=	\$123.75
2+00		3+60	5%		Outslope	\$74	=	\$118.40
3+60		6+75	15%		Outslope	\$107	=	\$337.05
6+75		7+20	35%		Outslope	\$191	=	\$85.95
TOTAL								\$1,714.90

ROCK

0+00 to	7+70	460 cy. of	Crushed	@	\$14.76 per c.y.=	\$6,789.60
Landing Rock	7+20	185 cy. of	Crushed	@	\$13.06 per c.y.=	\$2,416.10
TOTAL ROCK						\$9,205.70

SPECIAL PROJECTS

Construct Landing	1.00	lump sum @	\$285.00	each	\$285.00
Grade and shape road -	7.20	stations @	\$15.50	per station	\$111.60
Roll subgrade w/ vibratory roller prior to rocking -	7.20	stations @	\$13.20	per station	\$95.04
Remove large stumps -	1.00	lump sum @	\$260.00	each	\$260.00
Grass seed and fertilize -	0.66	acres @	\$220.00	per acre	\$145.20
TOTAL SPECIAL PROJECTS					\$896.84

GRAND TOTAL **\$11,817.44**

SUMMARY OF CONSTRUCTION COST

Sale:

Buck Skylark

Road:

E to M

<u>Construction -</u>	<u>0+00</u>	stations	<u>Improvement -</u>	<u>17+70</u>	stations	<u>Reconstruction -</u>	<u>0+00</u>	stations
	0.00	miles		0.34	miles		0.00	miles

ROCK

Turnaround	TBD*	40	cy. of	Crushed	@	\$14.64 per c.y.=	\$585.60	
Landing Rock	TBD*	370	cy. of	Crushed	@	\$12.94 per c.y.=	\$4,787.80	
							TOTAL ROCK	\$5,373.40

SPECIAL PROJECTS

Construct 2 Landings	10.00	hours @	\$125.00	per hour	\$1,250.00	
Construct Turnaround	2.00	hours @	\$125.00	per hour	\$250.00	
					TOTAL SPECIAL PROJECTS	\$1,500.00

GRAND TOTAL **\$6,873.40**

SUMMARY OF CONSTRUCTION COST

Sale: **Buck Skylark** Road: **N to O**

<u>Construction -</u>	2+90	stations	<u>Improvement -</u>	0+00	stations	<u>Reconstruction -</u>	0+00	stations
	0.05	miles		0.00	miles		0.00	miles

CONSTRUCTION: CLEARING, GRUBBING, SCATTERING, EXCAVATION, COMPACTION, LOADING, END-HAULING AND SPREADING/COMPACTING AT WASTE AREA -

Station	to	Station	Avg. Sideslope	Avg. Dist. To W.A. (mi.)	Outslope/Ditch	Cost per Station	=	
0+00		0+20	0%	0.0	Outslope	\$55	=	\$11.00
0+20		1+00	60%	0.1	Outslope	\$1,521	=	\$1,216.80
1+00		1+90	20%		Outslope	\$139	=	\$125.10
1+90		2+90	10%		Outslope	\$90	=	\$90.00
TOTAL								\$1,442.90

ROCK	0+00	to	2+90	180	cy. of	Crushed	@	\$14.64 per c.y.=	\$2,635.20	TOTAL ROCK	\$2,635.20
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SPECIAL PROJECTS											
Construct waste areas -	10.00	hours @	\$130.00	per hour	\$1,300.00						
Grade and shape road -	2.90	stations @	\$15.50	per station	\$44.95						
Roll subgrade w/ vibratory roller prior to rocking -	2.90	stations @	\$13.20	per station	\$38.28						
Remove large stumps -	1.00	lump sum @	\$260.00		\$260.00						
Grass seed and fertilize -	0.97	acres @	\$220.00	per acre	\$213.40						
Mulching -	0.70	acres @	\$600.00	per acre	\$420.00						
TOTAL SPECIAL PROJECTS										\$2,276.63	

GRAND TOTAL **\$6,354.73**

ROCK PIT DEVELOPMENT AND CRUSHING COST SUMMARY

Pit:	Crushed 4"-0"	Location:	Sec. 22, T3N, R8W, W.M.
Sale:	Buck Skylark	Road:	4360 c.y.
Swell:	1.30	Stockpile:	c.y.
Shrinkage:	1.16	Total Truck Loads:	4360 c.y.
Drill Pct.:	25%	In Place Total:	3354 c.y.

Pit Development & Cleanup including Clearing and grubbing of Waste Area @ adjacent to pit, place overburden in Waste Area, spread and compact. \$1,664.06

Drill & Shoot:	\$2.50	/cu.yd.	x	839	cu.yds.	=	\$2,097.50
Rip Rock:	\$1.90	/cu.yd.	x	2515	cu.yds.	=	\$4,778.50
Push Rock:	\$0.70	/cu.yd.	x	4360	cu.yds.	=	\$3,052.00
Load Crusher:	\$0.70	/cu.yd.	x	4360	cu.yds.	=	\$3,052.00
Crush Rock:	\$2.35	/cu.yd.	x	4360	cu.yds.	=	\$10,246.00
Load Dump Truck:	\$0.70	/cu.yd.	x	4360	cu.yds.	=	\$3,052.00
				Subtotal			\$27,942.06

Move In/Set-up Crusher	1		\$2,835.00			\$2,835.00
Move In and set up Drill and Compressor	1	@	\$1,058.38	=		\$1,058.38
Move in Roller and Compactor	1	@	\$1,058.38	=		\$1,058.38
Move in Grader	1	@	\$450.17	=		\$450.17
Move in Loader	1	@	\$1,778.03	=		\$1,778.03
Move in Excavator	1	@	\$2,278.97	=		\$2,278.97
Move in Trucks	1	@	\$360.46	=		\$360.46
Move in Water Truck	1	@	\$423.70	=		\$423.70
					Subtotal	\$10,243.09

Base Cost= \$8.76 Per Cu.Yd.

TOTAL PRODUCTION COSTS \$38,185.15

Road Segment	Haul Cost \$/cu.yd.	Proc Cost \$/cu.yd.	Base Cost. \$/cu.yd.	Cost \$/cu.yd.	Number Cu. Yds	ROCK COST
C to D 0 1820 (Crushed)	3.27	2.45	8.76	14.48	1030	\$14,914.40
C to D Landing Rock (Crushed)	3.27	0.75	8.76	12.78	370	\$4,728.60
E to F 0 2155 (Crushed)	3.51	2.45	8.76	14.72	1170	\$17,222.40
G to H 0 360 (Crushed)	3.43	2.45	8.76	14.64	190	\$2,781.60
G to H Landing Rock (Crushed)	3.43	0.75	8.76	12.94	185	\$2,393.90
I to J 0 185 (Crushed)	3.43	2.45	8.76	14.64	100	\$1,464.00
I to J Junction Rock (Crushed)	3.43	2.45	8.76	14.64	80	\$1,171.20
K to L 0 770 (Crushed)	3.55	2.45	8.76	14.76	460	\$6,789.60
K to L Landing Rock (Crushed)	3.55	0.75	8.76	13.06	185	\$2,416.10
E to M Turnaround (Crushed)	3.43	2.45	8.76	14.64	40	\$585.60
E to M Landing Rock (Crushed)	3.43	0.75	8.76	12.94	370	\$4,787.80
N to O 0 290 (Crushed)	3.43	2.45	8.76	14.64	180	\$2,635.20
				Total C.Y.	4360	Sub Total
						\$61,890.40

TOTAL ROCKING COSTS \$61,890.40

ROCK PIT DEVELOPMENT AND CRUSHING COST SUMMARY

Pit:	Crushed 2 1/2"-0" from Stockpile	Location:	Sec. 21 , T3N, R8W, W.M.
Sale:	Buck Skylark	Road:	650 c.y.
Swell:	1.40	Stockpile:	c.y.
Shrinkage	1.16	Total Truck Loads:	650 c.y.

Load Dump Truck: \$0.70 /cu.yd. x 650 cu.yds. = \$455.00

Subtotal \$455.00

Base Cost= \$0.70 Per Cu.Yd. TOTAL PRODUCTION COSTS \$455.00

Road Segment	Haul Cost \$/cu.yd.	Proc Cost \$/cu.yd.	Base Cost. \$/cu.yd.	Cost \$/cu.yd.	Number Cu. Yds	ROCK COST
A to B 0 1480 (Crushed)	3.23	2.45	0.70	6.38	510	\$3,253.80
A to B Culvert Backfill (Crushed)	3.23	0.00	0.70	3.93	20	\$78.60
A to B Culvert Backfill (Crushed)	3.23	0.00	0.70	3.93	20	\$78.60
A to B Culvert Backfill (Crushed)	3.23	0.00	0.60	3.83	20	\$76.60
A to B Culvert Backfill (Crushed)	3.23	0.00	0.70	3.93	10	\$39.30
A to B Slope Stabilization (Riprap)	3.23	1.40	0.70	5.33	40	\$213.20
A to B Energy Dissipator (Riprap)	3.23	1.40	0.60	5.23	10	\$52.30
A to B Energy Dissipator (Riprap)	3.23	1.40	0.70	5.33	10	\$53.30
A to B Energy Dissipator (Riprap)	3.23	1.40	0.70	5.33	10	\$53.30
Total C.Y.					650	Sub Total \$3,899.00

TOTAL ROCKING COSTS \$3,899.00

Move-In Calculations for Project Work not Involving Rocking/Pit Work

Sale: **Buck Skylark**

LOWBOY HAUL (Round Trip)		
DIST. (mi)	ROADWAY	AVE SPEED (mph)
44.0	Pavement	30
14.0	Main Lines	7
20.0	Steep Grades	2

No.	EQUIPMENT DESCRIPTION	Move in Cost	Pilot Cars	Within Area Move (\$/mile)	Begin Mileage	End Mileage	Total Miles	Within Area Cost	Total Cost
1	Graders	\$1,781.14		\$3.65	0.00	0.80	0.8	\$2.92	\$1,784.06
1	Excavators (Med.)	\$1,840.13		\$35.50	0.00	0.80	0.8	\$28.40	\$1,868.53
1	Tractor (D8)	\$2,098.65	2	\$15.10	0.00	0.80	0.8	\$12.08	\$2,110.73
4	Dump Truck (10 cy +)	\$1,776.90		\$2.85	0.00	0.80	0.8	\$9.12	\$1,786.02
1	Water Truck (1500 Gal)	\$360.46		\$2.85	0.00	0.80	0.8	\$2.28	\$362.74
TOTAL MOVE-IN COSTS:								\$7,912.08	

Cost Update G. Baker Blake S. Bushnell
 04/05/2007 06/28/2005 06/30/2011
 11/28/2007

Side cast/Windrow	\$ 660	per acre
Scattering	\$ 980	per acre
Piling	\$ 910	per acre (doesn't include burning)
End Haul	Cost on individual basis	

Roadside Brushing		
Light	\$ 600	per mile
Medium	\$ 800	per mile
Heavy	\$ 1300	per mile

Excavation

Balanced Road Construction	\$ 90	per Station
Drifting up to 200'	\$ 140	per Station
Landing Construction	\$ 285	per landing

	Slopes < 50%		Slopes > 50%		
Common	\$ 1.40	per CY	\$ 1.40	per CY	Includes load
Rippable Rock	\$ 2.25	per CY	\$ 3.20	per CY	Includes excavation/load
Drill and Shoot	\$ 4.90	per CY	\$ 7.50	per CY	Includes excavation/load
Push (up to 250')	\$ 0.75	per CY			
Compaction (waste areas)	\$ 0.25	per CY			
Compaction (fills)	\$ 0.45	per CY			
Construct Waterbar	\$ 25.00	ea.			
Construct Rolling Dip	\$ 150.00	ea.			
Construct Turn Around	\$ 75.00	ea.			
Construct Turn Out	\$ 60.00	ea.			
Construct Landing	\$ 250.00	ea.			
Load/Place Large Riprap	\$ 1.40	per CY (each)			
Remove OG Stumps	\$ 75.00	ea.			

Above rates are on a truck (loose) volume basis

Subgrade Prep & Rock Compaction

Activity	Surface	
	Common	Rocky
Grade & Shape 12'-14' Outsloped	\$ 14.00 per sta	\$ 19.00 per sta
Grade & Shape 14'-16' Crowned W/ Ditch	\$ 15.50 per sta	\$ 20.00 per sta
Roll Subgrade Prior to Rocking (Vib)	\$ 13.20 per sta	
Rip Road & Remove Boulders (1' below SG)		\$ 35.00 per sta (added on to basic road building cost)
Pull ditch & endhaul waste material (<500')	\$ 60.00 per sta	
Pull ditch & endhaul waste material (<1000')	\$ 80.00 per sta	
Pull ditch & endhaul waste material (<2000')	\$ 100.00 per sta	
Process Pit-Run Rock(W/ Cat only)	\$ 0.75 per CY	
Process Pit-Run Rock(W/ Cat & Roller)	\$ 1.10 per CY	
Process Crushed Rock	\$ 2.45 per CY	

Rock Crushing & Pit Development Costs

Drill & Shoot (Down holes)	\$ 2.50 per CY	Crushing 3/4"	\$ 3.60 per CY
Drill & Shoot (Lifters)	\$ 4.60 per CY	Crushing 1 1/2"	\$ 3.00 per CY
Rip Rock	\$ 1.90 per CY	Crushing 2"	\$ 2.80 per CY
Push Rock	\$ 0.70 per CY	Crushing 3"	\$ 2.60 per CY
Load Crusher	\$ 0.70 per CY	Crushing 4"	\$ 2.35 per CY
Load Dump Truck	\$ 0.70 per CY	Screening 10"-3" Drain Rock	\$ 3.40 per CY
Oversize Reduction	\$ 4.50 per CY	Screening OB W/ plant	\$ 2.60 per CY
Change Gradation	\$ 210.00	Shape Stock Pile	\$ 1.25 per CY
Setup Jaw	\$ 733.00	Setup Screening Plant	\$ 395.00
Setup 2-Stage Crusher	\$ 1,598.00		
Setup 3-Stage Crusher	\$ 2,520.00		

Culverts

(Plastic) Updated 6/13/05

Diameter (Inches)	Thickness (Gage)	\$/ft (materials only)	Bands/ea.	Installation & Materials (Typical)
18	N/A	\$ 11.50	\$ 19.00	\$ 17.50 per ft
24	N/A	\$ 21.00	\$ 33.00	\$ 27.00 per ft
30	N/A	\$ 28.00	\$ 73.00	\$ 36.00 per ft
				Cost culverts over 30" on an individual basis & installation cost
				Bevel (1:1)
36	N/A	\$ 33.00		\$ 43.00
				Call for quote on culverts over 36"

Slope Protection

Halfrounds	Materials	Materials + Installation
21"	\$ 0.00 per ft	\$ 18.90 per foot
30"	\$ 0.00 per ft	\$ 25.20 per foot

Plastimate Culvert Sleeve (Elephant Trunk)		
18"	\$ 0.00 per ft	\$ per foot
24"	\$ 10.35 per ft	\$ 13.00 per foot

Halfround Stakes	\$ 8.00	ea.
Culvert Markers	\$ 8.00	ea.

Geotextiles & Subdrains

	Material Only	Material + Installation (Typical)	Comments
Woven (Mirafi 600X, Contech C300)	\$ 0.75 sq. yd.	\$ 0.95 sq. yd.	SG Stabilization, Heavy duty (low flow rate)
Woven (Mirafi 500X, Contech C200)	\$ sq. yd.	\$ sq. yd.	SG Stabilization, Medium duty (low flow rate)
Woven (Mirafi 700GX)	\$ 1.20 sq. yd.	\$ 1.40 sq. yd.	SG Stabilization, Heavy duty (med. flow rate)
Geogrid (Tensar BX1100)	\$ 1.95 sq. yd.	\$ 2.15 sq. yd.	SG Stabilization, Extra heavy duty (high flow rate)
Norwoven (Mirafi 140NL, Con. C-40NW) ONW)	\$ 0.60 sq. yd.	\$ 0.95 sq. yd.	Subdrain separation (High flow rate)
12" Aluminized Perf Pipe	\$ 6.35 ft		
18" Aluminized Perf Pipe	\$ 11.80 ft		

Erosion Control

Straw Bales	\$ 4.50	ea.
Bio-Bags	\$ 5.00	ea.
Grass Seeding & Fertilizing (Hand)	\$ 220.00	Acre
Straw Mulching (Hand)	\$ 600.00	Acre
Hydo-Mulching & Seeding	\$ 1000.00	Acre (Minimum 5 Acres, includes mobilization)
Volume Pump Rental/Operation (3")	\$ 75.00	Day (includes operation)
Flexible PVC Pipe	\$	per foot
Silt Fencing	\$ 4.00	per foot (includes installation/disposal)

Equipment Rates

Excavators

Small (C205,C312)	\$ 95.00	per Hr W/ Operator
Medium (C225,C325)	\$ 125.00	per Hr W/ Operator
Large (C231,C330)	\$ 145.00	per Hr W/ Operator

Dozers

D6	\$ 95.00	per Hr W/ Operator
D7 W/ Winch	\$ 135.00	per Hr W/ Operator
D8 W/ Winch or Ripper	\$ 145.00	per Hr W/ Operator

Rubber Tired Backhoes

Small (416, C580)	\$ 60.00	per Hr W/ Operator
Medium (436, JCB)	\$ 75.00	per Hr W/ Operator

Front End Loaders

Small (C950)	\$ 75.00	per Hr W/ Operator
Medium (C966)	\$ 90.00	per Hr W/ Operator
Large (C980)	\$ 105.00	per Hr W/ Operator

Graders

Small (12G)	\$ 80.00	per Hr W/ Operator
Medium (14G)	\$ 90.00	per Hr W/ Operator
Large (16G)	\$ 95.00	per Hr W/ Operator

Compaction Equipment

Vibratory Roller/Grid Roller	\$ 85.00	per Hr W/ Operator
Sheeps Foot Roller (Tow Behind)	\$ 75.00	per Day
Hydraulic Tamper Attachment	\$ 80.00	per Day
Rubber Tired Skidder (C518)	\$ 65.00	per Hr W/ Operator
Laborer (General)	\$ 30.00	per Hr
Hand Held Vibratory Compactor	\$ 45.00	per Day (Doesn't include labor)

Drills

Air Track (2"-3 1/2" Holes)	\$ 120.00	per Hr W/ Operator
Hydraulic (3 1/2"-6" Holes)	\$ 225.00	per Hr W/ Operator
Jack Hammer	\$ 50.00	per Day (Doesn't include labor)
Welder	\$ 70.00	per Day (Doesn't include labor)

Trucks

10-12 CY Highway Dump	\$ 70.00	per Hr W/ Operator
20 CY Highway (Belly or Pup & Trailer)	\$ 86.00	per Hr W/ Operator
25 CY Off Highway Dump	\$ 105.00	per Hr W/ Operator
Water Truck (1,500 Gal)	\$ 65.00	per Hr W/ Operator

Water Truck (2,500 Gal)	\$ 75.00	per Hr W/ Operator
Lowboy (5 Axle)	\$ 140.00	per Hr W/ Operator
Lowboy (9 Axle)	\$ 160.00	per Hr W/ Operator
Tilt bed truck/trailer	\$ 85.00	per Hr W/ Operator
Pickup	\$ 45.00	per Hr W/ Operator
60 Ton Crane	\$ 0.00	per Hr W/ Operator
90 Ton Crane	\$ 0.00	per Hr W/ Operator
120 Ton Crane	\$ 0.00	per Hr W/ Operator
<u>NEW STUFF</u>		
Compaction (Fills)	\$ 0.35	per CY

SALE: **Buck Skylark**
 ROCK QUANTITIES

TYPE OF ROCK	SIZE OF ROCK	COMPACTED DEPTH (in.)	SURFACED WIDTH (ft.)	LOCATION	APPROX. TOTAL TRUCK MEASURE VOLUME (CY)
Crushed	4"-0"	9	12	0+00 N to O to 2+90	140

Crushed
 9 INCH LIFT

TURNAROUNDS (MODIFIED)		+00	to	2+90
NUMBER	DESCRIPTION	UNIT	QUANTITY	
1	30'X16' W/20' RADII RETURNS	TCY	30	
TURNOUTS		+00	to	2+90
NUMBER	DESCRIPTION	UNIT	QUANTITY	
0	8' WIDTH, 25' LONG, (2) 25' TRANSITIO	TCY	0	
CURVE WIDENING		+00	to	2+90
		UNIT	QUANTITY	
		TCY	10	

150

TOTAL	Crushed	9	INCH LIFT	TCY	180
TOTAL	Crushed		Stockpile	TCY	0
GRAND TOTAL:				TCY	180

SALE: **Buck Skylark**
 ROCK QUANTITIES

TYPE OF ROCK	SIZE OF ROCK	COMPACTED DEPTH (in.)	SURFACED WIDTH (ft.)	LOCATION	APPROX. TOTAL TRUCK MEASURE VOLUME (CY)
Crushed	4"-0"	9	12	0+00 K to L to 7+70	370

Crushed
 9 INCH LIFT

TURNAROUNDS (MODIFIED)		+00	to	7+70
NUMBER	DESCRIPTION	UNIT	QUANTITY	
1	30'X16' W/20' RADII RETURNS	TCY	30	
TURNOUTS		+00	to	7+70
NUMBER	DESCRIPTION	UNIT	QUANTITY	
2	8' WIDTH, 25' LONG, (2) 25' TRANSITIO	TCY	40	
CURVE WIDENING		+00	to	7+70
		UNIT	QUANTITY	
		TCY	20	

390

TOTAL	Crushed	9	INCH LIFT	TCY	460
TOTAL	Crushed		Stockpile	TCY	0
GRAND TOTAL:				TCY	460

SALE: **Buck Skylark**
 ROCK QUANTITIES

TYPE OF ROCK	SIZE OF ROCK	COMPACTED DEPTH (in.)	SURFACED WIDTH (ft.)	LOCATION	APPROX. TOTAL TRUCK MEASURE VOLUME (CY)
Crushed	4"-0"	9	12	0+00 I to J to 1+85	90

Crushed
 9 INCH LIFT

TURNAROUNDS (MODIFIED)		+00	to	1+85
NUMBER	DESCRIPTION	UNIT	QUANTITY	
0	30'X16' W/20' RADII RETURNS	TCY	0	
TURNOUTS		+00	to	1+85
NUMBER	DESCRIPTION	UNIT	QUANTITY	
0	8' WIDTH, 25' LONG, (2) 25' TRANSITIO	TCY	0	
CURVE WIDENING		+00	to	1+85
		UNIT	QUANTITY	
		TCY	0	

100

TOTAL	Crushed	9 INCH LIFT	TCY	100
TOTAL	Crushed	Stockpile	TCY	0
GRAND TOTAL:			TCY	100

SALE: Buck Skylark
 ROCK QUANTITIES

TYPE OF ROCK	SIZE OF ROCK	COMPACTED DEPTH (in.)	SURFACED WIDTH (ft.)	LOCATION	APPROX. TOTAL TRUCK MEASURE VOLUME (CY)
Crushed	4"-0"	9	12	0+00 G to H to 3+60	190

Crushed
 9 INCH LIFT

TURNAROUNDS (MODIFIED)		+00	to	3+60
NUMBER	DESCRIPTION	UNIT	QUANTITY	
0	30'X16' W/20' RADII RETURNS	TCY	0	
TURNOUTS		+00	to	3+60
NUMBER	DESCRIPTION	UNIT	QUANTITY	
0	8' WIDTH, 25' LONG, (2) 25' TRANSITIO	TCY	0	
CURVE WIDENING		+00	to	3+60
		UNIT	QUANTITY	
		TCY	10	

190

TOTAL	Crushed	9	INCH LIFT	TCY	190
TOTAL	Crushed		Stockpile	TCY	0
GRAND TOTAL:				TCY	190

SALE: **Buck Skyark**
 ROCK QUANTITIES

TYPE OF ROCK	SIZE OF ROCK	COMPACTED DEPTH (in.)	SURFACED WIDTH (ft.)	LOCATION	APPROX. TOTAL TRUCK MEASURE VOLUME (CY)
Crushed	4"-0"	9	12	0+00 E to F to 21+55	1030

Crushed
 9 INCH LIFT

TURNAROUNDS (MODIFIED)		+00	to	21+55
NUMBER	DESCRIPTION	UNIT	QUANTITY	
1	30'X16' W/20' RADII RETURNS	TCY	30	
TURNOUTS		+00	to	21+55
NUMBER	DESCRIPTION	UNIT	QUANTITY	
3	8' WIDTH, 25' LONG, (2) 25' TRANSITIO	TCY	60	
CURVE WIDENING		+00	to	21+55
		UNIT	QUANTITY	
		TCY	50	

1,080

TOTAL	Crushed	9 INCH LIFT	TCY	1170
TOTAL	Crushed	Stockpile	TCY	0
GRAND TOTAL:			TCY	1170

SALE: **Buck Skylark**
 ROCK QUANTITIES

TYPE OF ROCK	SIZE OF ROCK	COMPACTED DEPTH (in.)	SURFACED WIDTH (ft.)	LOCATION	APPROX. TOTAL TRUCK MEASURE VOLUME (CY)
Crushed	4"-0"	9	12	0+00 C to D to 18+20	670

Crushed
 9 INCH LIFT

TURNAROUNDS (MODIFIED)		+00	to	18+20
NUMBER	DESCRIPTION	UNIT	QUANTITY	
2	30'X16' W/20' RADII RETURNS	TCY	60	
TURNOUTS		+00	to	18+20
NUMBER	DESCRIPTION	UNIT	QUANTITY	
3	8' WIDTH, 25' LONG, (2) 25' TRANSITIO	TCY	60	
CURVE WIDENING		+00	to	18+20
		UNIT	QUANTITY	
		TCY	40	

910

TOTAL	Crushed	9 INCH LIFT	TCY	1030
TOTAL	Crushed	Stockpile	TCY	0
GRAND TOTAL:			TCY	1030

SALE: **Buck Skyjark**
 ROCK QUANTITIES

TYPE OF ROCK	SIZE OF ROCK	COMPACTED DEPTH (in.)	SURFACED WIDTH (ft.)	LOCATION	APPROX. TOTAL TRUCK MEASURE VOLUME (CY)
Crushed	2 1/2"-0"	6	12	0+00 A to B to 14+80	490

Crushed
 6 INCH LIFT

TURNAROUNDS (MODIFIED)		+00	to	14+80
NUMBER	DESCRIPTION	UNIT	QUANTITY	
1	30'X18' W/20' RADII RETURNS	TCY	20	
TURNOUTS		+00	to	14+80
NUMBER	DESCRIPTION	UNIT	QUANTITY	
0	8' WIDTH, 25' LONG, (2) 25' TRANSITION	TCY	0	
CURVE WIDENING		+00	to	14+80
		UNIT	QUANTITY	
		TCY	30	

490

TOTAL	Crushed	6	INCH LIFT	TCY	510
TOTAL	Crushed		Stockpile	TCY	0
GRAND TOTAL:				TCY	510



"STEWARDSHIP IN FORESTRY"

Buck Skylark

Volume Summary

Area 1-Modified Clearcut				
32 acres				
SPECIES	Gross MBF/ Acre	Gross MBF	Hidden & Visible D&B	Net Vol MBF
Douglas-fir	9.6	308	5.9%	290
Hemlock	3.2	101	5.0%	96
Spruce		0	5.0%	0
Noble Fir		0	5.0%	0
Alder	5.0	160	17.2%	133
TOTAL	17.8	569		519

Areas 2-Modified Clearcut				
102 acres				
SPECIES	Gross MBF/ Acre	Gross MBF	Hidden & Visible D&B	Net Vol MBF
Douglas-fir	1.7	170	6.4%	159
Hemlock	11.7	1190	6.0%	1119
Spruce			5.0%	0
Noble Fir	1.0	100	5.0%	95
Alder	6.0	612	10.9%	545
TOTAL	20.3	2072		1918

Areas 3-Partial Cut				
49 acres				
SPECIES	Gross MBF/ Acre	Gross MBF	Hidden & Visible D&B	Net Vol MBF
Douglas-fir	2.1	103	6.8%	96
Hemlock	2.7	133	5.8%	125
Spruce		0	5.0%	0
Noble Fir	0.6	29	5.0%	28
Alder	2.6	125	10.0%	113
TOTAL	8.0	390		362

TOTAL SALE VOLUME			183 acres	
SPECIES	Gross Vol. (MBF)	Net Vol. (MBF)		
Douglas-fir	581	545		
Hemlock	1425	1340		
Spruce	0	0		
Noble Fir	129	123		



STEWARDSHIP IN FORESTRY

Buck Skylark

Volume Summary

Red Alder	897	790
TOTAL	3032	2798



OREGON DEPARTMENT OF FORESTRY CRUISE REPORT *Buck Skylark*

1. Type of Sale

Modified Clear-cut and Partial cut, Recovery

2. Legal Description

Portions of Sections 22, 23, 26, and 27 T3N, R8W, W.M. Tillamook County, Oregon

3. Sale Acreage

Sale acreage was determined by GPS and orthophotographs along with GIS.

	ACRES	
	<u>Gross</u>	<u>Net</u>
Area 1 (Modified Clear-cut)	40	32
Area 2 (Modified Clear-cut)	112	102
Area 3 (Partial cut)	51	49

Gross Acres

Area within the Timber Sale Boundary signs

Net acres

Used for calculating the advertised volume.

Gross acres, less green tree retention, roads, Non-required thinning areas, and riparian areas classified as Special Stewardship in LMCS inside the sale boundary.

4. Cruising Procedures

A. Cruise Method

A total of 36 variable plots were taken on all sale Areas. All of the areas were cruised on a rectangular grid, 350' between plots and 700' between lines. Point of observation was 4.5 feet and all conifers 8 inches DBH and greater containing 20 net board feet and all hardwoods 10 inches DBH and greater containing 30 net board feet were recorded by species and measured for merchantable height, diameter and form factor. Merchantable heights were recorded to 6" and 7" outside bark for conifers and hardwoods respectively.

B. Grading System

All trees were graded according to Columbia River Log Scaling Rules. Log lengths favored 40' lengths. Height and diameter measurement standards were to the nearest foot or nearest inch respectively.

5. Computation Procedure

Plot data was entered into SuperAce for computation of basal area, stand tables, and volume for each species and type.

Cruise Statistics (Board Foot Volumes)			
Area	Number of plots	SE (%)	CV (%)
1	4	14.3	25.1
2	19	16.2	68.6
3	13	13.6	47.1
Total (All areas)	36	7.8	66.4

6. Hidden Defect and Breakage

A hidden defect and breakage of 5% was applied to conifers and 10% to hardwoods.

7. Timber Description

All of Area 3 and the eastern third of Area 2 and the northern half of Area 1 burned in the Wilson River/Salmonberry fires (1945). Approximately 17 acres of Area 3 were seeded in 1968-69. The remaining sale areas are comprised of naturally regenerated stands. Areas 1 and 2 are about 60 years old and Area 3 is 42 years old. Understory is mostly huckleberry, salmonberry, and sword fern.

Area 1 (Modified Clearcut) – The Douglas-fir averages 15" DBH with a merchantable height of 70 feet and red alder averages 16" DBH with a merchantable height of 40 feet.

Area 2 (Modified Clearcut) – The Douglas-fir averages 23" DBH with a merchantable height of 80 feet and red alder averages 14" DBH with a merchantable height of 45 feet. Hemlock averages 17" DBH with a merchantable height of 84 feet.

Area 3 (Partial Cut) - The Douglas-fir averages 15" DBH with a merchantable height of 67 feet and red alder averages 12" DBH with a merchantable height of 36 feet. Hemlock averages 13" DBH with a merchantable height of 59 feet.

8. Cruiser Names/Dates

Tillamook District Planning Unit/2010.

9. Revenue Distribution

FDF 100%

Tax Code: 56 -1

Deed Numbers: 70, 146, 186, & 295.

10. Attachments

Volume Summary

Stand Tables
Log Stock Tables
Logging Plan Map

11. Stand and Log Stock Tables Species Key

DF – Douglas-fir take
RA – Red alder take
WH – Western hemlock take
NF—Noble fir take
RC—Red Cedar lave
RL—Red alder leave
SS – Sitka spruce leave
NL—Noble fir leave
DL—Douglas fir leave
WL-- Western hemlock leave
OC—Hard snags

TC TLOGSTVB

Log Stock Table - MBF

Project: BSKYLRK

T03N R08W S22 TWRK1

T03N R08W S22 TWRK

Twp Rge Sec Tract
03N 08W 22 88Type Acres Plots Sample Trees
WRKI 32.00 4 20Page 1
Date 8/24/2011
Time 9:08:23AM

Spp	S	So	Gr	Log	Gross	%	Net	%	Net Volume by Scaling Diameter in Inches												
									MBF	Def	MBF	Spc	2-3	4-5	6-7	8-9	10-11	12-13	14-15	16-19	20-23
DF	CO	2M	40		100	7.8	92	31.7						92							
DF	CO	3M	40		123	5.0	117	40.2				26	91								
DF	CO	4M	12		1	5.0	1	.5		1											
DF	CO	4M	22		4	5.0	4	1.4			4										
DF	CO	4M	24		24	5.0	23	8.0		23											
DF	CO	4M	26		7	5.0	7	2.3		7											
DF	CO	4M	36		9	5.0	8	2.8		8											
DF	CO	4M	40		40	5.0	38	13.2		8	19	12									
DF	Totals				308	5.9	290	55.9		47	23	38	91	92							
RA	H	3M	22		14	28.0	10	7.6				10									
RA	H	3M	23		8	40.0	5	3.8			5										
RA	H	3M	24		23	20.0	19	14.2			7	12									
RA	H	3M	32		66	13.6	57	43.0					40	17							
RA	H	3M	40		18	20.0	15	11.0				15									
RA	H	4M	19		4	10.0	3	2.6			3										
RA	H	4M	20		4	10.0	3	2.5			3										
RA	H	4M	23		4	10.0	4	2.7			4										
RA	H	4M	35		19	10.0	17	12.7			17										
RA	Totals				160	17.2	133	25.6			39	36	40	17							
WH	CO	3M	32		29	5.0	27	28.1				27									
WH	CO	3M	40		31	5.0	30	30.8				30									
WH	CO	4M	14		7	5.0	7	6.8			7										
WH	CO	4M	18		8	5.0	8	8.0			8										
WH	CO	4M	40		27	5.0	25	26.2			25										
WH	Totals				101	5.0	96	18.6			40	57									
Total All Species					570	8.9	519	100.0		47	102	131	131	109							

T03N R08W S22 TWRKI T03N R08W S22 TWRKI
 Twp Rge Sec Tract Type Acres Plots Sample Trees CuFt BdFt
 03N 08W 22 88 WRKI 32.00 4 20 S W

S T	So rt	Gr ad	% Net BdFt	Bd. Ft. per Acre			Total Net MBF	Percent Net Board Foot Volume								Average Log			Logs Per /Acre			
				Def%	Gross	Net		Log Scale Dia.				Log Length				Ln Ft	Bd Ft	CF/ Lf				
								4-5	6-11	12-16	17+	12-20	21-30	31-35	36-99							
DF	CO	2M	31	7.8	3,111	2,869	92	100				100				40	208	1.49	13.8			
DF	CO	3M	40	5.0	3,837	3,645	117	100				100				40	147	1.05	24.8			
DF	CO	4M	29	5.0	2,683	2,549	82	58	42					2	42	57		29	37	0.38	68.3	
DF	Totals		56	5.9	9,631	9,063	290	16	52	32					0	12	88		33	85	0.74	106.9
RA	HW	3M	79	18.9	4,065	3,296	105	84 16				32 54 14				28	59	0.96	55.9			
RA	HW	4M	21	10.0	944	850	27	100				25 13 62				27	31	0.49	27.5			
RA	Totals		26	17.2	5,009	4,146	133	87	13					5	28	56	11	27	50	0.81	83.4	
WH	CO	3M	58	5.0	1,868	1,774	57	100				48 52				36	75	0.60	23.6			
WH	CO	4M	42	5.0	1,303	1,238	40	100				36				64	25	33	0.40	37.4		
WH	Totals		19	5.0	3,171	3,013	96	100				15				28	57	29	49	0.50	61.0	
Type Totals				8.9	17,812	16,221	519	9	70	21					4	14	19	62	30	65	0.70	251.4

TC		TSYNDSUM		Stand Table Summary												
Project										BSKYLK						
T03N R08W S22 TWRKI										T03N R08W S22 TWRK						
Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees			Page:	1					
03N	08W	22	88	WRKI	32.00	4	20			Date:	08/24/2011					
										Time:	9:08:25AM					
Spc	S T	Sample		Av		Trees/ Acre	BA/ Acre	Logs Acre	Average Log		Tons/ Acre	Net Cu.Ft. Acre	Net Bd.Ft. Acre	Totals		
		DBH	Trees	FF 16'	Ht Tot				Net Cu.Ft.	Net Bd.Ft.				Tons	Cunits	MBF
DF		9	1	82	45	25.377	10.00	25.38	5.8	28.5	4.21	148	723	135	47	23
DF		16	1	85	87	7.162	10.00	14.32	20.4	71.2	8.35	293	1,021	267	94	33
DF		17	2	85	102	13.079	20.00	26.16	27.9	97.2	20.77	729	2,542	665	233	81
DF		20	3	83	100	13.989	30.00	27.98	37.8	121.9	30.14	1,057	3,409	964	338	109
DF		21	1	83	116	4.363	10.00	13.09	30.1	104.5	11.24	394	1,368	360	126	44
DF		Totals		8	83	78			24.5	84.8	74.71	2,621	9,063	2,391	839	290
RA		13	1	73	65	11.734	10.00	11.73	19.6	45.0	6.31	230	528	202	73	17
RA		15	2	73	74	16.869	20.00	33.74	14.2	31.3	13.27	480	1,058	425	154	34
RA		17	1	72	66	6.344	10.00	6.34	46.0	72.0	8.09	292	457	259	93	15
RA		18	2	74	72	11.646	20.00	23.29	23.7	63.0	15.20	553	1,467	486	177	47
RA		21	1	73	69	4.158	10.00	8.32	35.1	76.5	8.01	292	636	256	94	20
RA		Totals		7	73	70			22.1	49.7	50.87	1,846	4,146	1,628	591	133
WH		12	2	81	85	26.596	20.00	39.33	14.4	47.8	18.11	566	1,879	579	181	60
WH		13	1	82	90	10.849	10.00	21.70	14.6	52.2	10.15	317	1,134	325	101	36
WH		Totals		3	81	87			14.5	49.4	28.26	883	3,013	904	283	96
OC		8	1	75	64	28.648	10.00									
OC		32	1	75	34	1.790	10.00									
OC		Totals		2	75	62										
Totals				20	79	75			21.3	64.5	153.84	5350	16,221	4,923	1,712	519

ROAD SEGMENT: A to B		STATIONS: 0+00 to 14+80						
Application	Rock Size and Type	Location	Compacted Depth	Volume (CY) per	Number of Units	Curve Widening (CY)	Approx. Total (CY)	
Road Rock	Crushed 2 1/2"-0"	0+00 to 14+80	6"	station	31.1	14.80	490	
Turnarounds	Crushed 2 1/2"-0"	0+00	6"	TA	20	1	20	
Application	Rock Size and Type	Location	Approx. Total (CY)					
Culvert Backfill	Crushed 2 1/2"-0"	0+00	20					
Culvert Backfill	Crushed 2 1/2"-0"	2+80	20					
Culvert Backfill	Crushed 2 1/2"-0"	7+15	20					
Culvert Backfill	Crushed 2 1/2"-0"	12+85	10					
Slope Stabilization	Riprap 48"-24"	8+80 to 9+20	40					
Energy Dissipator	Riprap 24"-12"	2+80	10					
Energy Dissipator	Riprap 24"-12"	7+15	10					
Energy Dissipator	Riprap 24"-12"	12+85	10					

ROAD SEGMENT: C to D		STATIONS: 0+00 to 18+20						
Application	Rock Size and Type	Location	Compacted Depth	Volume (CY) per	Number of Units	Curve Widening (CY)	Approx. Total (CY)	
Road Rock	Crushed 4"-0"	0+00 to 18+20	9"	station	47.8	18.20	910	
Turnouts	Crushed 4"-0"	C to D	9"	TO	20	3	60	
Turnarounds	Crushed 4"-0"	12+25/17+00	9"	TA	30	2	60	
Application	Rock Size and Type	Location	Approx. Total (CY)					
Landing Rock	Crushed 4"-0"	13+05/18+00	370					

ROAD SEGMENT: E to F		STATIONS: 0+00 to 21+65						
Application	Rock Size and Type	Location	Compacted Depth	Volume (CY) per	Number of Units	Curve Widening (CY)	Approx. Total (CY)	
Road Rock	Crushed 4"-0"	0+00 to 21+65	9"	station	47.8	21.55	1,080	
Turnouts	Crushed 4"-0"	E to F	9"	TO	20	3	60	
Turnarounds	Crushed 4"-0"	19+15	9"	TA	30	1	30	

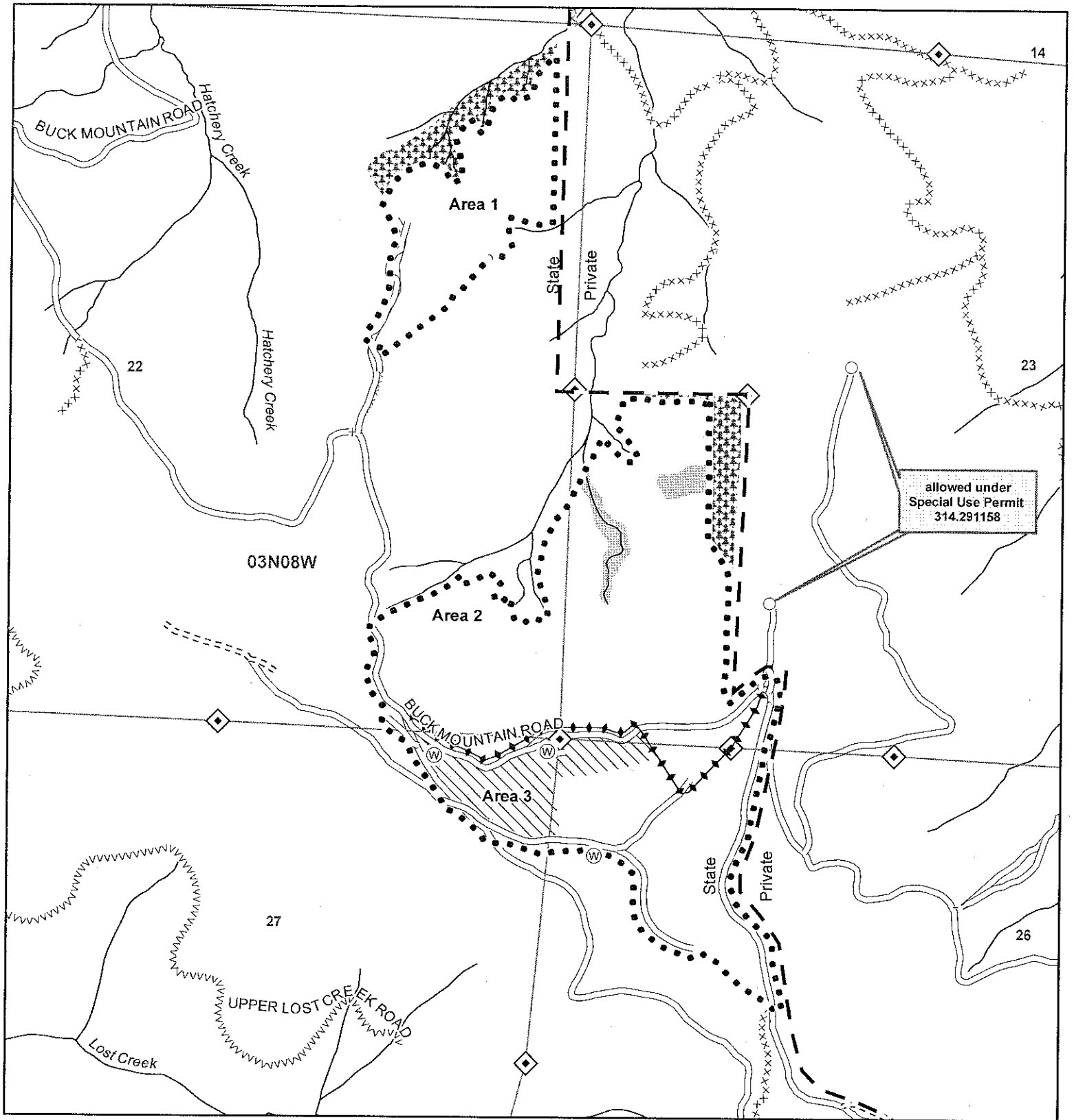
ROAD SEGMENT: G to H		STATIONS: 0+00 to 3+60						
Application	Rock Size and Type	Location	Compacted Depth	Volume (CY) per	Number of Units	Curve Widening (CY)	Approx. Total (CY)	
Road Rock	Crushed 4"-0"	0+00 to 3+60	9"	station	50.0	3.60	190	
Application	Rock Size and Type	Location	Approx. Total (CY)					
Landing Rock	Crushed 4"-0"	3+80	185					

ROAD SEGMENT: I to J		STATIONS: 0+00 to 1+85						
Application	Rock Size and Type	Location	Compacted Depth	Volume (CY) per	Number of Units	Curve Widening (CY)	Approx. Total (CY)	
Road Rock	Crushed 4"-0"	0+00 to 1+85	9"	station	48.6	1.85	100	
Application	Rock Size and Type	Location	Approx. Total (CY)					
Junction Rock	Crushed 4"-0"	0+95	80					

ROAD SEGMENT: K to L		STATIONS: 0+00 to 7+70						
Application	Rock Size and Type	Location	Compacted Depth	Volume (CY) per	Number of Units	Curve Widening (CY)	Approx. Total (CY)	
Road Rock	Crushed 4"-0"	0+00 to 7+70	9"	station	48.1	7.70	390	
Turnouts	Crushed 4"-0"	K to L	9"	TO	20	2	40	
Turnarounds	Crushed 4"-0"	3+60	9"	TA	30	1	30	
Application	Rock Size and Type	Location	Approx. Total (CY)					
Landing Rock	Crushed 6"-0"	7+20	185					

ROAD SEGMENT: E to M		STATIONS: 0+00 to 17+70						
Application	Rock Size and Type	Location	Approx. Total (CY)					
Turnaround	Crushed 4"-0"	TBD*	40					
Landing Rock	Crushed 4"-0"	TBD*	370					

ROAD SEGMENT: N to O		STATIONS: 0+00 to 2+90						
Application	Rock Size and Type	Location	Compacted Depth	Volume (CY) per	Number of Units	Curve Widening (CY)	Approx. Total (CY)	
Road Rock	Crushed 4"-0"	0+00 to 2+90	9"	station	48.3	2.90	150	
Turnarounds	Crushed 4"-0"	1+50	9"	TA	30	1	30	



- Rock source
- Stock pile
- Waste area
- Bridge
- Gate
- Survey corner
- Domestic water supply intake
- Truck turn-around
- Helicopter landing zone
- Cultural site
- Landing
- Buffer
- Non-required thinning
- Cable yarding
- Ground yarding
- Helicopter yarding
- Downhill yarding
- Green tree retention area
- Restricted area
- Area boundary
- Sale boundary
- Ownership boundary
- Perennial Type-F stream
- Perennial Type-N stream
- Unsurfaced road
- Surfaced road
- Paved road
- Abandoned road
- Swing road
- Non-project road
- Blocked road
- OHV trail
- Non-motorized trail
- Transmission line
- Railroad

LOGGING PLAN

Timber Sale Contract No. 341-12-040
 BUCK SKYLARK
 Portions of Sections 22, 23, 26 and 27
 T3N, R8W, W.M.,
 Tillamook County, Oregon



Tillamook District GIS
 08/26/2011
 This product is for informational use and may not have been prepared or suitable for legal, engineering, or surveying purposes.

Area	Type of Operation	Acres	
		Gross	Net
1	Modified clearcut	40	32
2	Modified clearcut	112	102
3	Partial cut	51	49
Total		203	183

