"STEWARDSHIP IN FORESTRY"

Timber Sale Appraisal
Buck Ranch
Sale 341-10-03

District: Astoria **Date:** October 15, 2009

cost summary

	Conifer	Hardwood	Total
Gross Timber Sale Value	$943,117.35	$39,822.12	$982,939.47
		Project Work:	$(94,955.00)
		Advertised Value:	$887,984.47

"STEWARDSHIP IN FORESTRY"

Timber Sale Appraisal
Buck Ranch
Sale 341-10-03

District: **Astoria** **Date:** **October 15, 2009**

timber description

Location: Portions of Section 24, T5N, R6W, W.M., Clatsop County, Oregon.

Stand Stocking: 60%

SpecieName	AvgDBH	Amortization (%)	Recovery (%)
Douglas - Fir	23	0	97
Red Cedar	14	0	97
Alder (Red)	14	0	96

Volume by Grade	2S	3S	4S	Camprur	Total
Douglas - Fir	4,604	808	65	0	5,477
Red Cedar	7	6	4	0	17
Alder (Red)	0	0	0	117	117
Total	4,611	814	69	117	5,611

"STEWARDSHIP IN FORESTRY"

Timber Sale Appraisal
Buck Ranch
Sale 341-10-03

District: Astoria **Date: October 15, 2009**

comments: Pond Values Used: 3rd Quarter Calendar Year 2009.

Log Markets: Mist, Clatskanie, Tillamook, Forest Grove.

Western Hemlock and Other Conifers Stumpage Price = Pond Value minus Logging Cost
$96.16/MBF = $275/MBF - $178.84/MBF

SCALING COST ALLOWANCE = $5.00/MBF

FUEL COST ALLOWANCE = $3.00/Gallon

HAULING COST ALLOWANCE
Hauling costs equivalent to $700 daily truck cost.

Other Costs (with Profit & Risk to be added):
100% Branding and Painting: $1MBF x 5,611 MBF = $5,611
Additional Log Loader Piling: 3hr. x $65/hr x 3 landings = $585
Log Loader Slash Piling: 8 hrs x $87.5/hr = $700
Material cost for Slash Piles: 13 piles x $5/pile = $65
TOTAL Other Costs (with Profit and Risk to be added) =$6,961

Other Costs (No Profit & Risk added):
None.

"STEWARDSHIP IN FORESTRY"

Timber Sale Appraisal
Buck Ranch
Sale 341-10-03

District: Astoria **Date: October 15, 2009**

logging conditions

combination#: 1

	Douglas - Fir	12.84%	
	Red Cedar	17.00%	
	Alder (Red)	17.00%	
yarding distance:	Short (400 ft)	**downhill yarding:**	No
logging system:	Shovel	**Process**:	Stroke Delimber
tree size:	Mature / Regen Cut (900 Bft/tree), 3-5 logs/MBF		
loads / day:	10.0	**bd. ft / load:**	4,500
cost / mbf:	$31.96		

machines: Stroke Delimber (B)

combination#: 2

	Douglas - Fir	62.68%	
	Red Cedar	83.00%	
	Alder (Red)	83.00%	
yarding distance:	Medium (800 ft)	**downhill yarding:**	No
logging system:	Cable: Medium Tower >40 - <70	**Process**:	Stroke Delimber
tree size:	Mature / Regen Cut (900 Bft/tree), 3-5 logs/MBF		
loads / day:	10.0	**bd. ft / load:**	4,500
cost / mbf:	$74.31		

machines: Log Loader (A)
Stroke Delimber (A)
Tower Yarder (Medium)

combination#: 3

	Douglas - Fir	9.06%	
yarding distance:	Medium (800 ft)	**downhill yarding:**	No
logging system:	Shovel	**Process**:	Manual Falling/Delimbing
tree size:	Mature / Partial Cut (900 Bft/tree), 3-5 logs/MBF		
loads / day:	10.0	**bd. ft / load:**	4,500
cost / mbf:	$55.66		

machines: Shovel Logger

combination#: 4

	Douglas - Fir	15.43%	
yarding distance:	Medium (800 ft)	**downhill yarding:**	No
logging system:	Cable: Medium Tower >40 - <70	**Process**:	Manual Falling/Delimbing
tree size:	Mature / Partial Cut (900 Bft/tree), 3-5 logs/MBF		
loads / day:	6.0	**bd. ft / load:**	4,800
cost / mbf:	$120.14		

machines: Log Loader (A)
Tower Yarder (Medium)

"STEWARDSHIP IN FORESTRY"

Timber Sale Appraisal
Buck Ranch
Sale 341-10-03

District: Astoria

Date: October 15, 2009

logging costs

Operating Seasons:	2.00	**Profit Risk:**	14.00%
Project Costs:	$94,955.00	**Other Costs (P/R):**	$6,961.00
Slash Disposal:	$0.00	**Other Costs:**	$0.00

Miles of Road

Road Maintenance: $5.01

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

Hauling Costs

Species	$ / MBF	Trips/Day	MBF / Load
Douglas - Fir	$0.00	2.0	4.5
Red Cedar	$0.00	2.0	4.0
Alder (Red)	$0.00	2.0	3.5

"STEWARDSHIP IN FORESTRY"

Timber Sale Appraisal
Buck Ranch
Sale 341-10-03

District: Astoria **Date: October 15, 2009**

logging costs breakdown

Logging	Road Maint	Fire Protect	Hauling	Other P/R appl	Profit & Risk	Slash Disposal	Scaling	Other	Total
Douglas - Fir									
$74.25	$5.16	$1.56	$70.28	$1.24	$21.35	$0.00	$5.00	$0.00	$178.84
Red Cedar									
$67.11	$5.16	$1.56	$79.06	$1.24	$21.58	$0.00	$5.00	$0.00	$180.71
Alder (Red)									
$67.11	$5.21	$1.56	$91.23	$1.24	$23.29	$0.00	$5.00	$0.00	$194.64

Specie	Amortization	Pond Value	Stumpage	Amortized
Douglas - Fir	$0.00	$349.30	$170.46	$0.00
Red Cedar	$0.00	$740.00	$559.29	$0.00
Alder (Red)	$0.00	$535.00	$340.36	$0.00

"STEWARDSHIP IN FORESTRY"

Timber Sale Appraisal
Buck Ranch
Sale 341-10-03

District: Astoria **Date:** October 15, 2009

summary

Amortized

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

Unamortized

Specie	MBF	Value	Total
Douglas - Fir	5,477	$170.46	$933,609.42
Red Cedar	17	$559.29	$9,507.93
Alder (Red)	117	$340.36	$39,822.12

Gross Timber Sale Value

Recovery: $982,939.47

Prepared by: Derek Bangs **Phone:** 503-325-5451

Road Maintenance Cost Summary

Sale: Buck Ranch
Date: 26-Jun-09
By: D.Bangs

MBF: 5,611
$$/MBF: $5.01

Type	Equipment/Rationale	Move-in Rate	Times	Hours	Rate	Cost
Progressive Operations 1st Entry	Grader 14G	$675	1	12	$93	$1,791
	Dump Truck 12CY x 2	$141	2	16	$73	$1,450
	FE Loader C966	$675	1	8	$77	$1,291
Progressive Operations 2nd Entry	Grader 14G	$675	1	12	$93	$1,791
	Dump Truck 12CY x 2	$141	2	16	$73	$2,336
	FE Loader C966	$675	1	8	$77	$1,291
Final Road Maintenance	Grader 14G	$675	1	57	$93	$5,945
	Dump Truck 12CY x 4	$141	4	40	$73	$3,484
	FE Loader C966	$675	1	10	$77	$1,445
	Vibratory Roller*	$675	1	50	$72	$4,275
	Water Truck 2,500 gallon	$165	1	30	$83	$2,655
	Labor			10	$37	$370
Total						$28,124

Production Rates

Production Rates	Miles/day	Distance(miles)	Days
Grader	2.5	3.0	1.2

Production Rates	Miles/day	Distance(miles)	Days
Grader	2.5	3.0	1.2

Production Rates	Miles/day	Distance(miles)	Days
Grader	1.5	8.5	5.7
Vibratory Roller*	1.5	8.5	5.7

*Final Road Maintenance Only

TC PSTATS

PROJECT STATISTICS

PROJECT BUCK

DATE 6/18/2009

TWP	RGE	SC	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt
05N	06	24	AREA1	TAKE	140.00	121	605	1	W
05N	06W	24	AREA2	TAKE					
05N	06W	24	ROW	R/W					

	PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES
TOTAL	121	605	5.0		
CRUISE	39	191	4.9	9,618	2.0
DBH COUNT					
REFOREST					
COUNT	75	406	5.4		
BLANKS	7				
100 %					

STAND SUMMARY

	SAMPLE TREES	TREES /ACRE	AVG DBH	BOLE LEN	REL DEN	BASAL AREA	GROSS BF/AC	NET BF/AC	GROSS CF/AC	NET CF/AC
DOUG FIR	177	58.9	23.1	94		170.9	39,739	39,118	8,594	8,594
R ALDER	8	7.7	13.9	47		8.1	848	835	256	256
WR CEDAR	6	2.0	14.0	23		2.2	120	120	40	40
TOTAL	*191*	*68.7*	*22.0*	*87*		*181.2*	*40,707*	*40,073*	*8,891*	*8,891*

CONFIDENCE LIMITS OF THE SAMPLE

68.1 TIMES OUT OF 100 THE VOLUME WILL BE WITHIN THE SAMPLE ERROR

CL 68.1	COEFF		**SAMPLE TREES - BF**			# OF TREES REQ.		INF. POP.
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15
DOUG FIR	61.9	4.6	918	962	1,007			
R ALDER	72.6	27.4	100	138	175			
WR CEDAR	112.4	50.0	72	143	215			
TOTAL	*67.9*	*4.9*	*858*	*902*	*946*	*184*	*46*	*20*

CL 68.1	COEFF		**TREES/ACRE**			# OF PLOTS REQ.		INF. POP.
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15
DOUG FIR	109.3	9.9	53	59	65			
R ALDER	495.9	45.0	4	8	11			
WR CEDAR	611.9	55.6	1	2	3			
TOTAL	*112.5*	*10.2*	*62*	*69*	*76*	*506*	*126*	*56*

CL 68.1	COEFF		**BASAL AREA/ACRE**			# OF PLOTS REQ.		INF. POP.
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15
DOUG FIR	115.7	10.5	153	171	189			
R ALDER	498.3	45.3	4	8	12			
WR CEDAR	535.3	48.6	1	2	3			
TOTAL	*111.9*	*10.2*	*163*	*181*	*200*	*500*	*125*	*56*

CL 68.1	COEFF		**NET BF/ACRE**			# OF PLOTS REQ.		INF. POP.
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15
DOUG FIR	121.6	11.0	34,799	39,118	43,438			
R ALDER	516.9	46.9	443	835	1,227			
WR CEDAR	556.0	50.5	59	120	180			
TOTAL	*119.7*	*10.9*	*35,717*	*40,073*	*44,429*	*572*	*143*	*64*

STATISTICS

PROJECT BUCK

TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt
05N	06W	24	AREA1	TAKE	71.00	38	247	1	W

	PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES
TOTAL	38	247	6.5		
CRUISE	14	77	5.5	6,641	1.2
DBH COUNT					
REFOREST					
COUNT	24	166	6.9		
BLANKS					
100 %					

STAND SUMMARY

	SAMPLE TREES	TREES /ACRE	AVG DBH	BOLE LEN	REL DEN	BASAL AREA	GROSS BF/AC	NET BF/AC	GROSS CF/AC	NET CF/AC
DOUG FIR	70	74.6	24.3	95		240.0	58,508	57,433	12,316	12,316
R ALDER	4	15.0	13.9	47		15.8	1,649	1,624	498	498
WR CEDAR	3	4.0	14.0	23		4.2	233	233	78	78
TOTAL	*77*	*93.5*	*22.6*	*84*		*260.0*	*60,389*	*59,290*	*12,893*	*12,893*

CONFIDENCE LIMITS OF THE SAMPLE

68.1 TIMES OUT OF 100 THE VOLUME WILL BE WITHIN THE SAMPLE ERROR

CL: 68.1 %	COEFF		**SAMPLE TREES - BF**			# OF TREES REQ.		INF. POP.
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15
DOUG FIR	56.9	6.8	986	1,058	1,129			
R ALDER	78.4	44.8	76	138	199			
WR CEDAR	125.6	86.9	19	143	268			
TOTAL	*65.0*	*7.4*	*902*	*974*	*1,046*	*169*	*42*	*19*

CL: 68.1 %	COEFF		**TREES/ACRE**			# OF PLOTS REQ.		INF. POP.
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15
DOUG FIR	54.2	8.8	68	75	81			
R ALDER	271.9	44.1	8	15	22			
WR CEDAR	340.9	55.2	2	4	6			
TOTAL	*50.1*	*8.1*	*86*	*94*	*101*	*100*	*25*	*11*

CL: 68.1 %	COEFF		**BASAL AREA/ACRE**			# OF PLOTS REQ.		INF. POP.
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15
DOUG FIR	51.1	8.3	220	240	260			
R ALDER	273.4	44.3	9	16	23			
WR CEDAR	295.5	47.9	2	4	6			
TOTAL	*41.8*	*6.8*	*242*	*260*	*278*	*70*	*17*	*8*

CL: 68.1 %	COEFF		**NET BF/ACRE**			# OF PLOTS REQ.		INF. POP.
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15
DOUG FIR	52.1	8.4	52,583	57,433	62,284			
R ALDER	284.4	46.1	875	1,624	2,373			
WR CEDAR	307.8	49.9	117	233	349			
TOTAL	*48.2*	*7.8*	*54,661*	*59,290*	*63,919*	*93*	*23*	*10*

STATISTICS

PROJECT BUCK

TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt
05N	06W	24	AREA2	TAKE	68.00	45	111	1	W

	PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES
TOTAL	45	111	2.5		
CRUISE	11	37	3.4	2,883	1.3
DBH COUNT					
REFOREST					
COUNT	27	74	2.7		
BLANKS	7				
100 %					

STAND SUMMARY

	SAMPLE TREES	TREES /ACRE	AVG DBH	BOLE LEN	REL DEN	BASAL AREA	GROSS BF/AC	NET BF/AC	GROSS CF/AC	NET CF/AC
DOUG FIR	37	42.4	20.6	92		97.8	19,867	19,726	4,654	4,654
TOTAL	*37*	*42.4*	*20.6*	*92*		*97.8*	*19,867*	*19,726*	*4,654*	*4,654*

CONFIDENCE LIMITS OF THE SAMPLE

68.1 TIMES OUT OF 100 THE VOLUME WILL BE WITHIN THE SAMPLE ERROR

CL: 68.1 %	COEFF		**SAMPLE TREES - BF**			# OF TREES REQ.		INF. POP.
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15
DOUG FIR	69.7	11.5	533	602	671			
TOTAL	*69.7*	*11.5*	*533*	*602*	*671*	*194*	*49*	*22*

CL: 68.1 %	COEFF		**TREES/ACRE**			# OF PLOTS REQ.		INF. POP.
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15
DOUG FIR	72.6	10.8	38	42	47			
TOTAL	*72.6*	*10.8*	*38*	*42*	*47*	*211*	*53*	*23*

CL: 68.1 %	COEFF		**BASAL AREA/ACRE**			# OF PLOTS REQ.		INF. POP.
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15
DOUG FIR	67.9	10.1	88	98	108			
TOTAL	*67.9*	*10.1*	*88*	*98*	*108*	*184*	*46*	*20*

CL: 68.1 %	COEFF		**NET BF/ACRE**			# OF PLOTS REQ.		INF. POP.
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15
DOUG FIR	67.5	10.1	17,743	19,726	21,709			
TOTAL	*67.5*	*10.1*	*17,743*	*19,726*	*21,709*	*182*	*45*	*20*

STATISTICS

PROJECT BUCK

DATE 6/18/2009

TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt
05N	06W	24	AREA2	00PC	68.00	45	294	1	W

	PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES
TOTAL	45	294	6.5		
CRUISE	16	107	6.7	6,937	1.5
DBH COUNT					
REFOREST					
COUNT	29	184	6.3		
BLANKS					
100 %					

STAND SUMMARY

	SAMPLE TREES	TREES /ACRE	AVG DBH	BOLE LEN	REL DEN	BASAL AREA	GROSS BF/AC	NET BF/AC	GROSS CF/AC	NET CF/AC
DOUGLEAV	49	26.9	28.5	120		119.1	33,389	33,127	6,792	6,788
DOUG FIR	37	42.4	20.6	92		97.8	19,867	19,726	4,654	4,654
SNAG	8	11.2	16.2	78		16.0				
CEDLEAV	5	12.8	14.3	26		14.2	993	993	316	316
MAPLELV	2	3.6	17.9	49		6.2	533	513	175	175
ALDRLEAV	4	3.9	17.0	58		6.2	866	866	231	231
HEMLEAV	2	1.3	16.0	72		1.8	242	242	71	71
TOTAL	*107*	*102.0*	*21.7*	*87*		*261.3*	*55,890*	*55,467*	*12,239*	*12,235*

CONFIDENCE LIMITS OF THE SAMPLE

68.1 TIMES OUT OF 100 THE VOLUME WILL BE WITHIN THE SAMPLE ERROR

CL: 68.1 %	COEFF		**SAMPLE TREES - BF**			# OF TREES REQ.		INF. POP.
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15
DOUGLEAV	38.4	5.5	1,269	1,342	1,416			
DOUG FIR	69.7	11.5	533	602	671			
SNAG								
CEDLEAV	128.8	64.0	68	188	308			
MAPLELV	4.9	4.6	138	145	152			
ALDRLEAV	21.3	12.2	200	228	255			
HEMLEAV								
TOTAL	*75.9*	*7.4*	*791*	*854*	*917*	*230*	*57*	*26*

CL: 68.1 %	COEFF		**TREES/ACRE**			# OF PLOTS REQ.		INF. POP.
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15
DOUGLEAV	36.9	5.5	25	27	28			
DOUG FIR	72.6	10.8	38	42	47			
SNAG	234.5	34.9	7	11	15			
CEDLEAV	180.3	26.9	9	13	16			
MAPLELV	334.5	49.8	2	4	5			
ALDRLEAV	268.3	40.0	2	4	5			
HEMLEAV	670.8	99.9	0	1	3			
TOTAL	*41.4*	*6.2*	*96*	*102*	*108*	*69*	*17*	*8*

CL: 68.1 %	COEFF		**BASAL AREA/ACRE**			# OF PLOTS REQ.		INF. POP.
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15
DOUGLEAV	34.7	5.2	113	119	125			
DOUG FIR	67.9	10.1	88	98	108			
SNAG	202.3	30.1	11	16	21			
CEDLEAV	171.2	25.5	11	14	18			
MAPLELV	334.5	49.8	3	6	9			
ALDRLEAV	272.6	40.6	4	6	9			
HEMLEAV	670.8	99.9	0	2	4			
TOTAL	*24.8*	*3.7*	*252*	*261*	*271*	*24*	*6*	*3*

CL: 68.1 %	COEFF		**NET BF/ACRE**			# OF PLOTS REQ.		INF. POP.
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15
DOUGLEAV	35.7	5.3	31,367	33,127	34,886			
DOUG FIR	67.5	10.1	17,743	19,726	21,709			
SNAG								

STATISTICS

PROJECT **BUCK**

TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt
05N	06W	24	AREA2	00PC	68.00	45	294	1	W

CL: 68.1%
SD: 1.0

	COEFF VAR.	S.E.%	NET BF/ACRE LOW	AVG	HIGH	# OF PLOTS REQ. 5	10	INF. POP. 15
CEDLEAV	182.0	27.1	724	993	1,263			
MAPLELV	334.5	49.8	258	513	769			
ALDRLEAV	271.6	40.5	516	866	1,216			
HEMLEAV	670.8	99.9	0	242	484			
TOTAL	*31.4*	*4.7*	*52,874*	*55,467*	*58,060*	*39*	*10*	*4*

STATISTICS

PROJECT BUCK

DATE 6/18/2009

TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt
05N	06W	24	ROW	R/W	1.00	38	247	1	W

	PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES
TOTAL	38	247	6.5		
CRUISE	14	77	5.5	94	82.3
DBH COUNT					
REFOREST					
COUNT	24	166	6.9		
BLANKS					
100 %					

STAND SUMMARY

	SAMPLE TREES	TREES /ACRE	AVG DBH	BOLE LEN	REL DEN	BASAL AREA	GROSS BF/AC	NET BF/AC	GROSS CF/AC	NET CF/AC
DOUG FIR	70	74.6	24.3	95		240.0	58,508	57,433	12,316	12,316
R ALDER	4	15.0	13.9	47		15.8	1,649	1,624	498	498
WR CEDAR	3	4.0	14.0	23		4.2	233	233	78	78
TOTAL	*77*	*93.5*	*22.6*	*84*		*260.0*	*60,389*	*59,290*	*12,893*	*12,893*

CONFIDENCE LIMITS OF THE SAMPLE

68.1 TIMES OUT OF 100 THE VOLUME WILL BE WITHIN THE SAMPLE ERROR

CL: 68.1 %	COEFF		**SAMPLE TREES - BF**			# OF TREES REQ.		INF. POP.
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15
DOUG FIR	56.9	6.8	986	1,058	1,129			
R ALDER	78.4	44.8	76	138	199			
WR CEDAR	125.6	86.9	19	143	268			
TOTAL	*65.0*	*7.4*	*902*	*974*	*1,046*	*169*	*42*	*19*

CL: 68.1 %	COEFF		**TREES/ACRE**			# OF PLOTS REQ.		INF. POP.
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15
DOUG FIR	54.2	8.8	68	75	81			
R ALDER	271.9	44.1	8	15	22			
WR CEDAR	340.9	55.2	2	4	6			
TOTAL	*50.1*	*8.1*	*86*	*94*	*101*	*100*	*25*	*11*

CL: 68.1 %	COEFF		**BASAL AREA/ACRE**			# OF PLOTS REQ.		INF. POP.
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15
DOUG FIR	51.1	8.3	220	240	260			
R ALDER	273.4	44.3	9	16	23			
WR CEDAR	295.5	47.9	2	4	6			
TOTAL	*41.8*	*6.8*	*242*	*260*	*278*	*70*	*17*	*8*

CL: 68.1 %	COEFF		**NET BF/ACRE**			# OF PLOTS REQ.		INF. POP.
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15
DOUG FIR	52.1	8.4	52,583	57,433	62,284			
R ALDER	284.4	46.1	875	1,624	2,373			
WR CEDAR	307.8	49.9	117	233	349			
TOTAL	*48.2*	*7.8*	*54,661*	*59,290*	*63,919*	*93*	*23*	*10*

STATISTICS

PROJECT BUCK

DATE 6/18/2009

TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt
05N	06W	24	AREA2	LEAV	68.00	45	184	1	W

	PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES
TOTAL	45	184	4.1		
CRUISE	16	70	4.4	4,054	1.7
DBH COUNT					
REFOREST					
COUNT	29	112	3.9		
BLANKS					
100 %					

STAND SUMMARY

	SAMPLE TREES	TREES /ACRE	AVG DBH	BOLE LEN	REL DEN	BASAL AREA	GROSS BF/AC	NET BF/AC	GROSS CF/AC	NET CF/AC
DOUGLEAV	49	26.9	28.5	120		119.1	33,389	33,127	6,792	6,788
SNAG	8	11.2	16.2	78		16.0				
CEDLEAV	5	12.8	14.3	26		14.2	993	993	316	316
MAPLELV	2	3.6	17.9	49		6.2	533	513	175	175
ALDRLEAV	4	3.9	17.0	58		6.2	866	866	231	231
HEMLEAV	2	1.3	16.0	72		1.8	242	242	71	71
TOTAL	*70*	*59.6*	*22.4*	*83*		*163.6*	*36,023*	*35,741*	*7,584*	*7,581*

CONFIDENCE LIMITS OF THE SAMPLE

68.1 TIMES OUT OF 100 THE VOLUME WILL BE WITHIN THE SAMPLE ERROR

CL: 68.1 %	COEFF		SAMPLE TREES - BF			# OF TREES REQ.		INF. POP.
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15
DOUGLEAV	38.4	5.5	1,269	1,342	1,416			
SNAG								
CEDLEAV	128.8	64.0	68	188	308			
MAPLELV	4.9	4.6	138	145	152			
ALDRLEAV	21.3	12.2	200	228	255			
HEMLEAV								
TOTAL	*71.6*	*8.6*	*905*	*990*	*1,075*	*205*	*51*	*23*

CL: 68.1 %	COEFF		TREES/ACRE			# OF PLOTS REQ.		INF. POP.
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15
DOUGLEAV	36.9	5.5	25	27	28			
SNAG	234.5	34.9	7	11	15			
CEDLEAV	180.3	26.9	9	13	16			
MAPLELV	334.5	49.8	2	4	5			
ALDRLEAV	268.3	40.0	2	4	5			
HEMLEAV	670.8	99.9	0	1	3			
TOTAL	*53.0*	*7.9*	*55*	*60*	*64*	*112*	*28*	*12*

CL: 68.1 %	COEFF		BASAL AREA/ACRE			# OF PLOTS REQ.		INF. POP.
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15
DOUGLEAV	34.7	5.2	113	119	125			
SNAG	202.3	30.1	11	16	21			
CEDLEAV	171.2	25.5	11	14	18			
MAPLELV	334.5	49.8	3	6	9			
ALDRLEAV	272.6	40.6	4	6	9			
HEMLEAV	670.8	99.9	0	2	4			
TOTAL	*20.1*	*3.0*	*159*	*164*	*168*	*16*	*4*	*2*

CL: 68.1 %	COEFF		NET BF/ACRE			# OF PLOTS REQ.		INF. POP.
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15
DOUGLEAV	35.7	5.3	31,367	33,127	34,886			
SNAG								
CEDLEAV	182.0	27.1	724	993	1,263			
MAPLELV	334.5	49.8	258	513	769			
ALDRLEAV	271.6	40.5	516	866	1,216			
HEMLEAV	670.8	99.9	0	242	484			
TOTAL	*32.4*	*4.8*	*34,016*	*35,741*	*37,467*	*42*	*10*	*5*

TC PLOGSTVB

Log Stock Table - MBF

T05N R06W S24 TyTAKE	71.00
T05N R06W S24 TyTAKE	68.00
T05N R06W S24 TyR/W	1.00

Project: BUCK
Acres 140.00

Page 1
Date 6/18/2009
Time 2:54:30PM

Spp	ST	Sort	Grade	Log Len	Gross MBF	Def %	Net MBF	% Spc	Net Volume by Scaling Diameter in Inches											
									2-3	4-5	6-7	8-9	10-11	12-13	14-15	16-19	20-23	24-29	30-39	40+
D		DO	2S	16	13		13	.2									13			
D		DO	2S	20	22		22	.4								22				
D		DO	2S	28	62	1.9	61	1.1									30	30		
D		DO	2S	30	33		33	.6									33			
D		DO	2S	32	1,296	2.1	1,270	23.2					15	222	178	428	349	78		
D		DO	2S	34	97		97	1.8						33		29	34			
D		DO	2S	36	25		25	.4								25				
D		DO	2S	38	41	1.5	40	.7									40			
D		DO	2S	40	3,095	1.6	3,044	55.6					30	354	359	997	918	386		
D		DO	3S	10	2		2	.0			2									
D		DO	3S	15	4		4	.1				2	2							
D		DO	3S	17	2		2	.0			2									
D		DO	3S	20	3		3	.1			3									
D		DO	3S	22	11	11.5	10	.2			7	2								
D		DO	3S	23	11	2.9	11	.2				5	6							
D		DO	3S	24	16		16	.3				3		12						
D		DO	3S	25	5		5	.1					5							
D		DO	3S	26	8		8	.1			2	5								
D		DO	3S	27	15		15	.3			3	7	5							
D		DO	3S	28	17		17	.3			12	5								
D		DO	3S	29	25		25	.5				25								
D		DO	3S	30	10		10	.2			4		6							
D		DO	3S	31	9		9	.2				4	5							
D		DO	3S	32	251		251	4.6			31	75	94	22	11	18				
D		DO	3S	33	15		15	.3			10	5								
D		DO	3S	34	42		42	.8			10		32							
D		DO	3S	36	6		6	.1						6						
D		DO	3S	37	10		10	.2			4	6								
D		DO	3S	38	24	6.8	22	.4			13		9							
D		DO	3S	39	6		6	.1				6								
D		DO	3S	40	308		305	5.6			52	82	121	22	28					
D		DO	3S	41	15		15	.3			5		9							
D		DO	4S	14	4		4	.1			2		2							
D		DO	4S	16	6		6	.1			5	2								
D		DO	4S	17	6	8.3	5	.1				5								
D		DO	4S	18	2		2	.0			2									
D		DO	4S	20	7		7	.1			4	3								

TC PLOGSTVB

Log Stock Table - MBF

T05N R06W S24 TyTAKE	71.00
T05N R06W S24 TyTAKE	68.00
T05N R06W S24 TyR/W	1.00

Project: BUCK
Acres 140.00

Date 6/18/2009
Time 2:54:30PM

Spp	S T	Sort	Grade	Log Len	Gross MBF	Def %	Net MBF	% Spc	Net Volume by Scaling Diameter in Inches 2-3	4-5	6-7	8-9	10-11	12-13	14-15	16-19	20-23	24-29	30-39	40+
D		DO	4S	21	5		5	.1			5									
D		DO	4S	22	2		2	.0			2									
D		DO	4S	24	6		6	.1			6									
D		DO	4S	26	6		6	.1			6									
D		DO	4S	27	4		4	.1			4									
D		DO	4S	28	11		11	.2			11									
D		DO	4S	34	6		6	.1		6										
D		Totals			5,563	1.6	5,477	97.6		6	207	243	340	672	576	1520	1418	494		
C		DO	2S	32	7		7	42.1								7				
C		DO	3S	32	6		6	33.9			6									
C		DO	4S	14	1		1	3.9				1								
C		DO	4S	15	3		3	20.1			3									
C		Totals			17		17	.3			9	1				7				
A		DO	CR	23	13		13	11.0			13									
A		DO	CR	32	9		9	7.7			9									
A		DO	CR	38	16		16	13.6			16									
A		DO	CR	40	81	2.2	79	67.6		8			37	34						
A		Totals			119	1.5	117	2.1		8	38		37	34						
Total		All Species			5,699	1.6	5,610	100.0		14	254	244	377	706	576	1527	1418	494		

TC PSPCSTGR

Species, Sort Grade - Board Foot Volumes (Project)

T05N R06W S24 TyTAKE	71.00
T05N R06W S24 TyTAKE	68.00
T05N R06W S24 TyR/W	1.00

Project: **BUCK**

Acres **140.00**

Page **1**
Date **6/18/2009**
Time **2:52:41PM**

Spp	S T	So rt	Gr ad	% Net BdFt	Bd. Ft. per Acre Def%	Gross	Net	Total Net MBF	Percent of Net Board Foot Volume: Log Scale Dia. 4-5	6-11	12-16	17+	Log Length 12-20	21-30	31-35	36-99	Average Log: Ln Ft	Bd Ft	CF/ Lf	Logs Per /Acre
D		DOCU															8		0.00	10.0
D		DO2S		84	1.7	33,457	32,884	4,604		1	33	66	1	2	30	68	37	414	2.31	79.5
D		DO3S		14	.8	5,813	5,769	808		85	15		1	14	39	45	32	92	0.84	63.0
D		DO4S		2	.7	469	465	65	10	90			38	52	10		23	31	0.49	14.8
D	**Totals**			98	1.6	39,739	39,118	5,477	0	14	30	56	1	4	31	63	32	234	1.61	167.3
C		DO2S		42		50	50	7			100				100		32	320	3.09	.2
C		DO3S		33		41	41	6		100					100		32	60	0.66	.7
C		DO4S		25		29	29	4		100			100				15	21	0.52	1.4
C	**Totals**			0		120	120	17		58	42		24		76		21	55	0.86	2.2
A		DOCR		100	1.5	848	835	117	7	64	29			11	8	81	34	80	0.73	10.5
A	**Totals**			2	1.5	848	835	117	7	64	29			11	8	81	34	80	0.73	10.5
Totals					1.6	40,707	40,073	5,610	0	16	30	54	1	5	31	64	32	223	1.55	180.0

T TSPCSTGR

Species, Sort Grade - Board Foot Volumes (Type)

Project: BUCK

Date 6/18/2009
Time 2:52:42PM

T05N R06W S24 TTAKE

Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	CuFt	BdFt
05N	06W	24	AREA1	TAKE	71.00	38	78	1	W

T05N R06W S24 TTAKE

Spp	ST	Sort	Grad	% Net BdFt	Bd. Ft. per Acre Def%	Gross	Net	Total Net MBF	Percent Net Board Foot Volume: Log Scale Dia. 4-5	6-11	12-16	17+	Log Length 12-20	21-30	31-35	36-99	Average Log: Ln Ft	Bd Ft	CF/ Lf	Logs Per /Acre
D		DO	CU														6		0.00	12.3
D		DO	2S	87	2.0	51,383	50,356	3,575		1	26	73	1	3	26	71	37	449	2.46	112.0
D		DO	3S	12	.7	6,579	6,532	464		85	15		1	17	40	41	32	93	0.89	70.6
D		DO	4S	1		546	546	39	16	84			46	38	16		23	32	0.49	17.2
D	**Totals**			97	1.8	58,508	57,433	4,078	0	11	24	64	1	5	27	67	32	271	1.80	212.2
A		DO	CR	100	1.5	1,649	1,624	115	7	64	29			11	8	81	34	80	0.73	20.3
A	**Totals**			3	1.5	1,649	1,624	115	7	64	29			11	8	81	34	80	0.73	20.3
C		DO	2S	42		98	98	7			100				100		32	320	3.09	.3
C		DO	3S	33		79	79	6		100					100		32	60	0.66	1.3
C		DO	4S	25		56	56	4		100			100				15	21	0.52	2.6
C	**Totals**			0		233	233	17		58	42		24		76		21	55	0.86	4.3
Type Totals					1.8	60,389	59,290	4,210	0	13	25	62	1	5	27	67	32	250	1.69	236.8

T TSPCSTGR

Species, Sort Grade - Board Foot Volumes (Type)

Project: BUCK

Date 6/18/2009

Time 2:52:42PM

T05N R06W S24 TTAKE

Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	CuFt	BdFt
05N	06W	24	AREA2	TAKE	68.00	45	37	1	W

T05N R06W S24 TTAKE

Spp	ST	Sort	Grad	% Net BdFt	Bd. Ft. per Acre Def%	Gross	Net	Total Net MBF	Percent Net Board Foot Volume: Log Scale Dia. 4-5	6-11	12-16	17+	Log Length 12-20	21-30	31-35	36-99	Average Log Ln Ft	Bd Ft	CF/ Lf	Logs Per /Acre
D		DO	CU														10		0.00	7.4
D		DO	2S	72	.6	14,477	14,384	978		1	59	40			44	56	36	319	1.91	45.1
D		DO	3S	26	.8	5,003	4,962	337		85	15		2	10	38	50	33	90	0.78	55.0
D		DO	4S	2	1.9	387	380	26		100			27	73			22	31	0.50	12.3
D	**Totals**			100	.7	19,867	19,726	1,341		24	47	29	1	4	41	54	32	165	1.23	119.8
Type Totals					.7	19,867	19,726	1,341		24	47	29	1	4	41	54	32	165	1.23	119.8

T TSPCSTGR

Species, Sort Grade - Board Foot Volumes (Type)

Project: BUCK

Date 6/18/2009

Time 2:52:42PM

T05N R06W S24 TR/W

Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	CuFt	BdFt
05N	06W	24	ROW	R/W	1.00	38	78	1	W

T05N R06W S24 TR/W

Spp	ST	Sort	Grad	% Net BdFt	Bd. Ft. per Acre Def%	Gross	Net	Total Net MBF	Percent Net Board Foot Volume: Log Scale Dia. 4-5	6-11	12-16	17+	Log Length 12-20	21-30	31-35	36-99	Average Log Ln Ft	Bd Ft	CF/ Lf	Logs Per /Acre
D		DO	CU														6		0.00	12.3
D		DO	2S	87	2.0	51,383	50,356	50		1	26	73	1	3	26	71	37	449	2.46	112.0
D		DO	3S	12	.7	6,579	6,532	7		85	15		1	17	40	41	32	93	0.89	70.6
D		DO	4S	1		546	546	1	16	84			46	38	16		23	32	0.49	17.2
D	**Totals**			97	1.8	58,508	57,433	57	0	11	24	64	1	5	27	67	32	271	1.80	212.2
A		DO	CR	100	1.5	1,649	1,624	2	7	64	29			11	8	81	34	80	0.73	20.3
A	**Totals**			3	1.5	1,649	1,624	2	7	64	29			11	8	81	34	80	0.73	20.3
C		DO	2S	42		98	98	0			100				100		32	320	3.09	.3
C		DO	3S	33		79	79	0		100					100		32	60	0.66	1.3
C		DO	4S	25		56	56	0		100			100				15	21	0.52	2.6
C	**Totals**			0		233	233	0		58	42		24		76		21	55	0.86	4.3
Type Totals					1.8	60,389	59,290	59	0	13	25	62	1	5	27	67	32	250	1.69	236.8

Buck Ranch
TIMBER CRUISE REPORT
FY 2010

1. **Sale Area Location:** Areas 1, 2, and 3 R/W are located in portions of Section 24, T5N, R6W, W.M., Clatsop County, Oregon.

2. **Fund Distribution:** BOF 100%
   Tax Code 8-01 (100%)

3. **Sale Acreage by Area:**

Area	Treatment	Gross Acres	Existing R/W	New R/W	Non-Thinnable	Stream Buffer	Net Acres	Survey Method
1	Modified Clearcut	82	3.5	.5	0	7	71	GIS
2	Partial Cut	87	4.5	.5	10	4	68	GIS
3 R/W	Right-of-way	1	0	0	0	0	1	GIS
TOTALS		**170**	**8**	**1**	**10**	**11**	**140**	

4. Cruisers and Cruise Dates: Areas 1 and 2 were cruised by Derek Bangs, Jon Long, Jasen McCoy, Dave Wolfgram, and Lanny Freeman, June 11, 2009.

5. Cruise Method and Computation:
Area 1 is a modified clearcut unit and was variable plot cruised using a 40.0 BAF. These plots are located on a 3 chain by 7 chain grid, with every third plot measured and graded. A total of 38 plots were sampled, with 14 measured and graded plots, and 24 count plots.

Area 2 is a partial cut thinning unit and was variable plot cruised using a 40.0 BAF. These plots are located on a 2 chain by 8 chain grid, with every third plot measured and graded. A total of 45 plots were sampled, with 16 measured and graded plots, and 29 count plots. Red alder, western hemlock, and cedar are reserve species, and were recorded as "leave" trees.

Area 3 In-Sale R/W The right-of-way volume within the harvest areas was calculated by multiplying the R/W acreage and the average volume per acre from the plots in Area 1. In-sale right-of-way totals 1 acre.

All cruisers used Corvallis MicroTechnology (CMT) and/or Allegro data collectors, and were downloaded to the Atterbury Super A.C.E. program in District for computing. See the attached Cruise Design for more details on the cruise method. The cruise calculations were processed in the Astoria district office.

AREA	CRUISE	TRACT	TYPE	ACRES
1	05N06W SEC 24	AREA1	TAKE	71
2	05N06W SEC 24	AREA2	TAKE	68
3 R/W	05N06W SEC 24	ROW	R/W	1

6. Timber Description
Area 1 is a modified clearcut unit, approximately 85 years-old, consisting of Douglas-fir, western redcedar, and patches of red alder. The average Douglas-fir tree size to be harvested is 24.3 inches DBH, with an average height of 95 feet to a merchantable top (6 inch d.i.b.). The average cedar tree size to be harvested is 14.0 inches DBH and 23 feet to a merchantable top (6 inch d.i.b.). The average red alder tree to be harvested is 13.9 inches DBH and 47 feet to a merchantable top (6 inch d.i.b.). The average volume per acre to be harvested (net) is 59.3 MBF.

Area 2 is a partial cut thinning unit, approximately 85 years-old, consisting of Douglas-fir, western red cedar, and pockets of red alder. Non-thinnable pockets are scattered throughout the unit. These stands will be thinned to a SDI of 28 (140 Sq. Ft.BA), removing approximately 42 trees per acre. The average Douglas-fir tree size to be harvested is 20.6 inches DBH, with an average height of 92 feet to a merchantable top (6 inch d.i.b.). The average volume per acre to be harvested (net) is 19.7 MBF.

Area 3 R/W is similar to the timber description mentioned above for Area 1. The average volume (net) is approximately 59.2 MBF/acre.

7. Statistical Analysis and Stand Summary: (See "Statistics" - Type Reports, attached)

Statistics for Stand B.F. volumes

Area	Estimated CV	Target SE%	Actual CV	Actual SE%
1 (MC)	50%	10%	48.2%	7.8%
2 (PC)	50%	10%	31.4%	4.7%

8. Volumes by Species and Log Grade: (See "Species, Sort, Grade - Type and Project Reports, attached, of individual sale areas and combined areas and three cruise types).
Volumes by Species and Grade for All Sale Areas: (MBF) Volumes do not include "in-growth."

Species	DBH	Net Vol.	2 Saw	3Saw	4 Saw	CampRun	% D & B	% Sale
Douglas-fir	23"	5,477	4,604	808	65		2%	98%
Western red cedar	14"	17	7	6	4		<1%	<1%
Alder	14"	117				117	2%	2%
TOTALS		**5,611**	**4,611**	**814**	**69**	**117**		

9. Approvals:

Prepared by: Derek Bangs **Date:** October 2, 2009

Unit Forester Approval: [signature] **Date:** 10/9/09

10. Attachments:

Cruise Design - 4 pages
Cruise Maps- 2 pages
Volume Reports - 4 pages
Statistics Reports – 7 pages
Log Stock Tables – 2 pages

X:\Jewell_Unit\Timber Sales\2010\Buck_Ranch\Sale_prep\CruiseReport.doc

Cruise Map

OF TIMBER SALE CONTRACT NO
BUCK RANCH
PORTIONS OF SECTION 24
OF T5N, R6W, W.M.,
CLATSOP COUNTY, OREGON

Legend

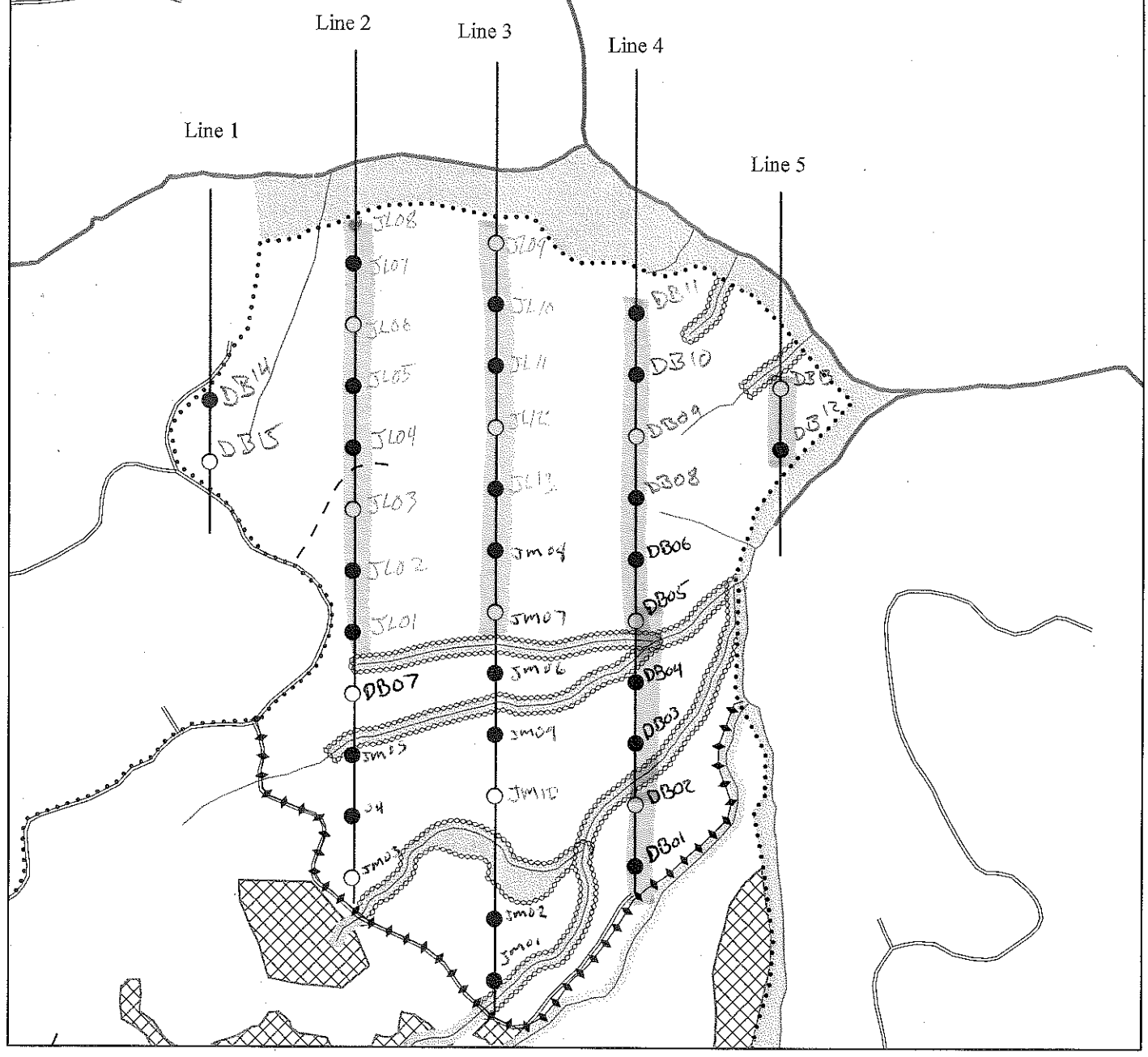
- Grade Plots
- Count Plots
- Known Land Survey Corner
- Area Boundary
- Timber Sale Boundary
- Roads
- New Road Construction
- Type N Stream
- Type F Stream
- Ownership Boundary
- Non-Posted Stream Buffer
- Posted Stream Buffer
- Non-Thinnable Area

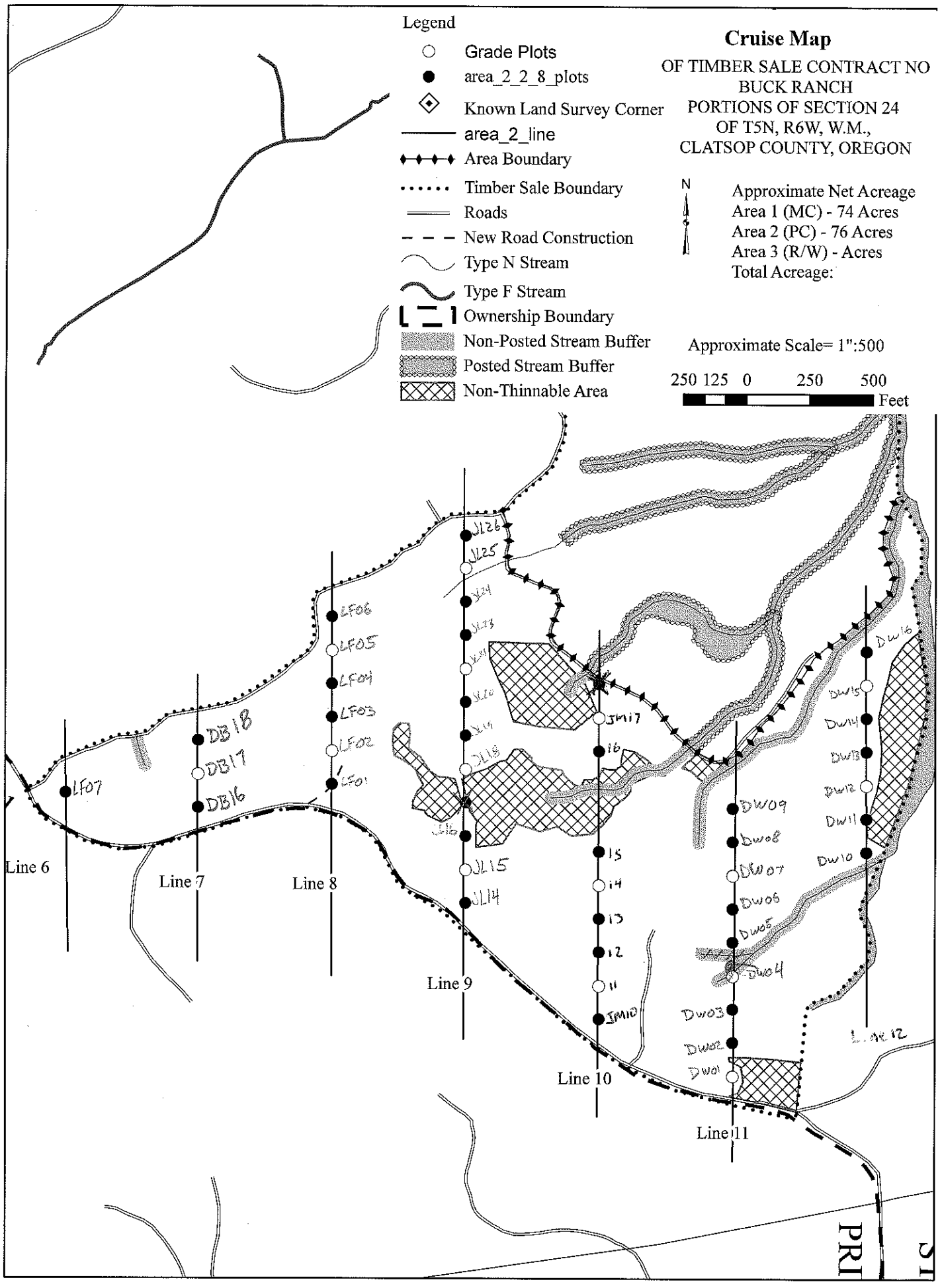
N

Approximate Net Acreage
Area 1 (MC) - 74 Acres
Area 2 (PC) - 76 Acres
Area 3 (R/W) - Acres
Total Acreage:

Approximate Scale= 1":500

250 125 0 250 500 Feet




Legend
Grade Plots
area_2_2_8_plots
Known Land Survey Corner
area_2_line
Area Boundary
Timber Sale Boundary
Roads
New Road Construction
Type N Stream
Type F Stream
Ownership Boundary
Non-Posted Stream Buffer
Posted Stream Buffer
Non-Thinnable Area
Cruise Map
OF TIMBER SALE CONTRACT NO
BUCK RANCH
PORTIONS OF SECTION 24
OF T5N, R6W, W.M.,
CLATSOP COUNTY, OREGON
N
Approximate Net Acreage
Area 1 (MC) - 74 Acres
Area 2 (PC) - 76 Acres
Area 3 (R/W) - Acres
Total Acreage:
Approximate Scale= 1":500
250 125 0 250 500
Feet
Line 6
Line 7
Line 8
Line 9
Line 10
Line 11
Line 12
LF07
DB18
DB17
DB16
LF06
LF05
LF04
LF03
LF02
LF01
JL26
JL25
JL24
JL23
JL22
JL20
JL19
JL18
JL16
JL15
JL14
JM17
16
15
14
13
12
11
JM10
DW09
DW08
DW07
DW06
DW05
DW04
DW03
DW02
DW01
DW16
DW15
DW14
DW13
DW12
DW11
DW10

Approximately Revised

August, 2002

CRUISE DESIGN
ASTORIA DISTRICT

Sale Name: Buck Ranch **Area** 1

Harvest Type: (MC) "Modified Clear Cut"

Approx. Net Cruise Acres: 74 **Estimated CV%** 50 Net BF **SE% Objective** 10 Net BF

Planned Sale Volume: 3,330 MBF (Area 1) **Estimated Sale Area Value/Acre:** $8,100 /Ac (45 MBF/Ac.)

A. Cruise Goals: (a) Grade minimum 50 conifer: (b) Sample 37 cruise plots (13 grade/ 24 count); (c) Other goals ____ Determine "automark" thinning standards; **X** Determine log grades for sale value; **X** Determine snag and leave tree species and sizes.

B. Cruise Design:

1. Plot Cruises: BAF 40 **(Full point)**
Cruise Lines 1-10 Direction(s) AZ=0°/180° (North/South)
Cruise Line Spacing 3 (chains)
Cruise Plot Spacing 7 (chains)
Grade/Count Ratio 1/2

If a cruise line ends up paralleling in a buffer offset by 1 chain and continue. Cedar are take trees. Grade and record all Wildlife trees in plots. Record snags as SN and estimate heights and diameters. Grade alder as camprun-sawlogs (30 net BF minimum).

C. Tree Measurements:

1. Diameter: Minimum DBH to cruise is 8" for conifers and 10" for hardwoods. Record dbh to nearest ½" for trees < 16", to nearest 1" for trees 16-24", and to nearest 2" for trees > 24". If tree diameters are estimated (only estimate on variable plot cruises), then record to closest estimate.

2. Bole Length: Record bole length to nearest foot at TCD. For trees greater than 100 feet in merchantable height, estimating to the nearest 5 feet is acceptable.

3. Top Cruise Diameter (TCD): Minimum top outside bark is 7" for conifers and 7" for hardwoods or 40 % of dob at 16' form point. Generally, use 7" outside bark for trees < 18" dbh and 40% of dob @ FP for trees > 18" dbh.

4. Form Factors: (1) Measure or estimate a 16' form factor for every conifer tree measured/graded; OR (2) Measure a minimum of 20 form factors for each major conifer species on the cruise area, and use these to calculate average FF for the species on the cruise. Hardwood form factors are a Standard 87.

5. **Tree Segments:** Record log segments in "standard" log lengths in general use, such as 32' and 40' lengths, whenever possible. Do not record odd segments just to maximize grade. Cull segments can be any length. For conifers, minimum merchantable segment length is 12'; for hardwoods, it's 8'. Maximum segment length is 40'. One foot of trim is assumed for each merch. segment. Do not use "double dash" (--) feature on the data recorder except for the top segment of the tree.

6. **Species, Sort, and Grade Codes:**

A. Species: Record as D (Douglas-fir); H (Western hemlock); S (Sitka Spruce); C (Western red cedar); NF (Noble fir); SF (Silver fir); A (Red alder); M (Bigleaf maple). For "leave trees" in partial cuts, or for marked "wildlife trees," add an "L" to the species code (such as DL, HL, CL, etc.)

B. Sort: Use code "1" (Domestic).

C. Grade: A = 1 Peeler; B = 2 Peeler; C = 3 Peeler; D = Special Mill; 2 = 2 Sawmill; 3 = 3 Sawmill; 4 = 4 Sawmill; 0 = Cull R = Camprun

7. **Deductions:** Estimate visible defect or damage as a "length deduction" (most often), or as a "diameter deduction," as applicable. Estimate hidden defect and breakage (usually some breakage is encountered in trees > 100 feet in height) on a "per tree" basis. Steep and broken topography generally results in higher breakage percentages than gentler topography, and hemlock generally breaks more than D-fir and spruce.

8. **Standard Field Procedures:** Plot Type Cruises: Mark cruise line beginning and end points with blue/yellow flagging. Write plot identification numbers and line direction on the ribbon. At each plot, tie yellow flagging above eye level near plot center and another yellow flagging around a sturdy wooden stake marking plot center. On each yellow flagging, write the plot identification number. Between plots, along the cruise line, tie blue flagging at inter-visible points, not to exceed 100' apart. On "measure/grade" plots write the tree number and/or tree diameter on at least the first measured tree (clockwise from the line direction) in yellow paint. All trees on the plot may be marked this way, if the cruiser chooses.

9. **Cruising Equipment:** Relaskop, Rangefinder, Logger's Tape (with dbh on back) Biltmore Stick, Compass, Cruise Cards in Tatum OR Data Recorder, Cruise Design, Cruise Map, Yellow Flagging, Blue Flagging, Yellow Paint.

10. **Attachments:** A. Cruise Map (showing cruise unit boundaries, roads, streams, approx. acres/unit, cruise lines and plot locations, legal description and section lines, BAF or plot size, measure/count plot ratio, north arrow, and scale.

Cruise Design by: Derek Bangs
Approved by: Jon Long
Date: 06/02/09

X:\Jewell_Unit\Timber Sales\2010\Buck_Ranch\Cruise\Cruise Design Area 1.doc

Revised August, 2002

CRUISE DESIGN
ASTORIA DISTRICT

Sale Name: Buck Ranch **Area** 2

Harvest Type: (PC) "Automark Thinning"

Approx. Cruise Acres: 76 **Estimated CV%** 50 Net BF **SE% Objective** 10 Net BF

Planned Sale Volume : 1,140 MBF (Area 2) **Estimated Sale Area Value/Acre:** $2,550/Ac (15 MBF/Ac.)

A. Cruise Goals: (a) Grade minimum 50 conifer:
(b) Sample 47 cruise plots (14 grade/ 32 count); (c) Other goals (X Determine "automark" thinning standards; X Determine log grades for sale value; X Determine snag and leave tree species and sizes.

B. Cruise Design:

1. **Plot Cruises:** BAF 40 **(Full point)**
   Cruise Lines 1-22 Direction(s) AZ= 0° /180° (North/South)
   Cruise Line Spacing 8 (chains)
   Cruise Plot Spacing 2 (chains)
   Grade/Count Ratio 1/2

Basal Area leave target 140 sq. ft. Cruiser needs to select 3 to 4 leave trees per plot. Cruise all take and leave trees. If a cruise line ends up paralleling in a buffer or non-thinnable area offset by 1 chain and continue. All minor species are to be reserved. Alder will be NOT be thinned and will NOT count towards basal area. The biggest and best trees should be selected as leave trees regardless of species. Conifers 8 inches in diameter or less are reserve trees and do not count towards basal area. Record snags as SN and take heights and diameters. Grade alder as camprun-sawlogs (20 net BF minimum).

C. Tree Measurements:

1. **Diameter:** Minimum DBH to cruise is 8" for conifers and 10" for hardwoods. Record dbh to nearest ½" for trees < 16", to nearest 1" for trees 16-24", and to nearest 2" for trees > 24". If tree diameters are estimated (only estimate on variable plot cruises), then record to closest estimate.

2. **Bole Length:** Record bole length to nearest foot at TCD. For trees greater than 100 feet in merchantable height, estimating to the nearest 5 feet is acceptable.

3. **Top Cruise Diameter (TCD):** Minimum top outside bark is 7" for conifers and 7" for hardwoods or 40 % of dob at 16' form point. Generally, use 7" outside bark for trees < 18" dbh and 40% of dob @ FP for trees > 18" dbh.

4. **Form Factors:** (1) Measure or estimate a 16' form factor for every conifer tree measured/graded; OR (2) Measure a minimum of 20 form factors for each major

conifer species on the cruise area, and use these to calculate average FF for the species on the cruise. Hardwood form factors are a Standard 87.

5. **Tree Segments:** Record log segments in "standard" log lengths in general use, such as 32' and 40' lengths, whenever possible. Do not record odd segments just to maximize grade. Cull segments can be any length. For conifers, minimum merchantable segment length is 12'; for hardwoods, it's 8'. Maximum segment length is 40'. One foot of trim is assumed for each merch. segment. Do not use "double dash" (--) feature on the data recorder except for the top segment of the tree.

6. **Species, Sort, and Grade Codes:**

A. Species: Record as D (Douglas-fir); H (Western hemlock); S (Sitka Spruce); C (Western red cedar); NF (Noble fir); SF (Silver fir); A (Red alder); M (Bigleaf maple). For "leave trees" in partial cuts, or for marked "wildlife trees," add an "L" to the species code (such as DL, HL, CL, etc.)

B. Sort: Use code "1" (Domestic).

C. Grade: A = 1 Peeler; B = 2 Peeler; C = 3 Peeler; D = Special Mill; 2 = 2 Sawmill; 3 = 3 Sawmill; 4 = 4 Sawmill; 0 = Cull R = Camprun

7. **Deductions:** Estimate visible defect or damage as a "length deduction" (most often), or as a "diameter deduction," as applicable. Estimate hidden defect and breakage (usually some breakage is encountered in trees > 100 feet in height) on a "per tree" basis. Steep and broken topography generally results in higher breakage percentages than gentler topography, and hemlock generally breaks more than D-fir and spruce.

8. **Standard Field Procedures:** Plot Type Cruises: Mark cruise line beginning and end points with blue/yellow flagging. Write plot identification numbers and line direction on the ribbon. At each plot, tie yellow flagging above eye level near plot center and another yellow flagging around a sturdy wooden stake marking plot center. On each yellow flagging, write the plot identification number. Between plots, along the cruise line, tie blue flagging at inter-visible points, not to exceed 100' apart. On "measure/grade" plots write the tree number and/or tree diameter on at least the first measured tree (clockwise from the line direction) in yellow paint. All trees on the plot may be marked this way, if the cruiser chooses.

9. **Cruising Equipment:** Relaskop, Rangefinder, Logger's Tape (with dbh on back) Biltmore Stick, Compass, Cruise Cards in Tatum OR Data Recorder, Cruise Design, Cruise Map, Yellow Flagging, Blue Flagging, Yellow Paint.

10. **Attachments:** A. Cruise Map (showing cruise unit boundaries, roads, streams, approx. acres/unit, cruise lines and plot locations, legal description and section lines, BAF or plot size, measure/count plot ratio, north arrow, and scale.

Cruise Design by: Derek Bangs
Approved by: _____
Date: 6/09/09

LOGGING PLAN

OF TIMBER SALE CONTRACT NO. 341-10-03
BUCK RANCH
PORTIONS OF SECTION 24
OF T5N, R6W, W.M.,
CLATSOP COUNTY, OREGON

Approximate Net Acreage
Area 1 (MC) - 71 Acres
Area 2 (PC) - 68 Acres
Area 3 (R/W) - 1 Acre
Total Acreage: 140 Acres

Approximate Scale= 1":1,000'

500 250 0 500 1,000 Feet

N

Legend

- Known Land Survey Corner
- Existing Landing
- New Construction Landing
- T Tractor Logging Area
- Timber Sale Boundary
- Area Boundary
- Existing Surfaced Road
- New Road Construction
- Logging Lines
- Type N Stream
- Type F Stream
- Ownership Boundary
- Non-Posted Stream Buffer
- Posted Stream Buffer
- Non-Thinnable Area
- Reforestation Area

Logging Breakdown		
	Cable	Tractor
Area 1	83%	17%
Area 2	63%	37%
Area 3	0%	100%
Total	73%	27%

LOGGING PLAN

OF TIMBER SALE CONTRACT NO. 341-10-03
BUCK RANCH
PORTIONS OF SECTION 24
OF T5N, R6W, W.M.,
CLATSOP COUNTY, OREGON

Approximate Net Acreage
Area 1 (MC) - 71 Acres
Area 2 (PC) - 68 Acres
Area 3 (R/W) - 1 Acre
Total Acreage: 140 Acres

Approximate Scale= 1":1,000'

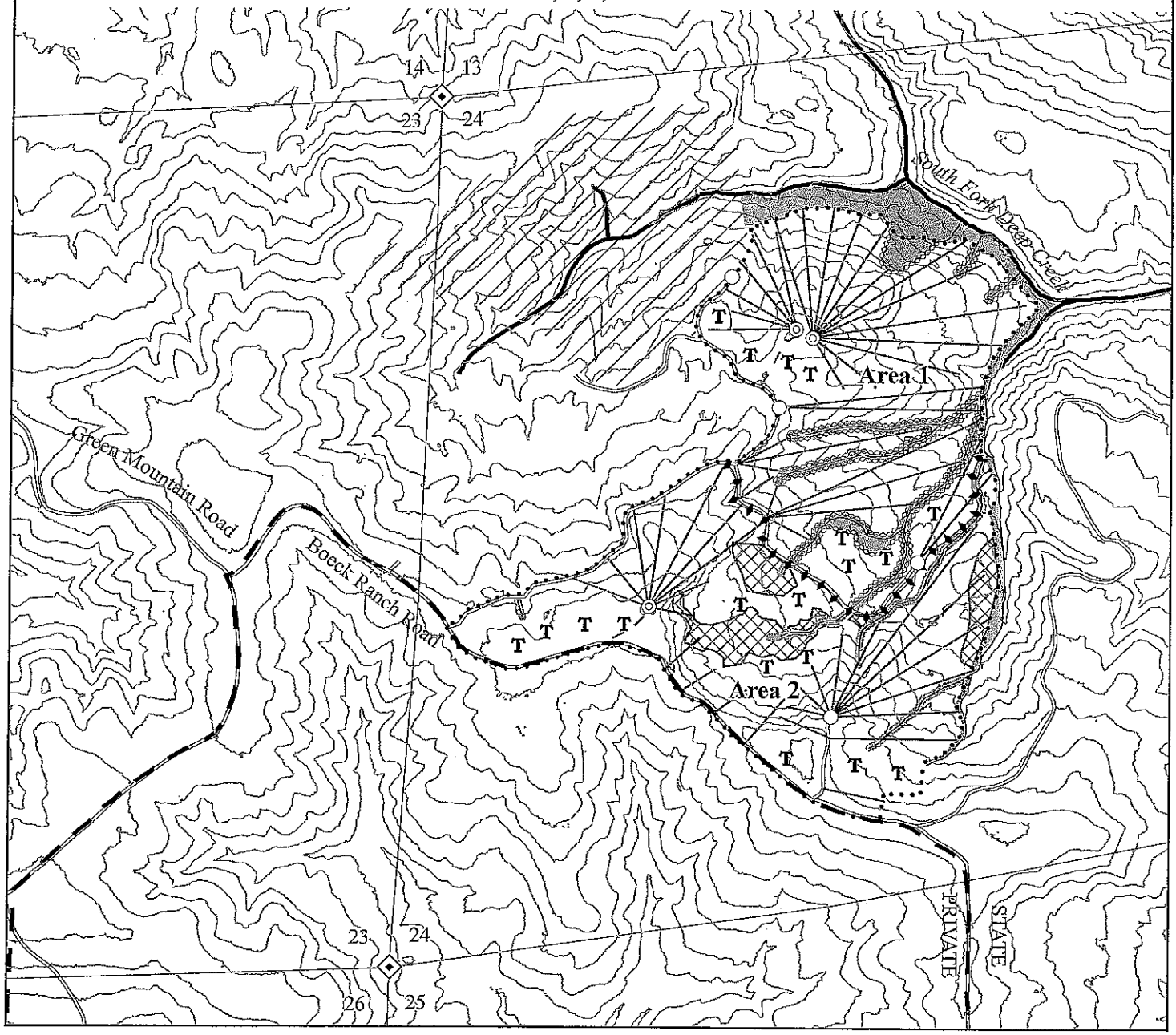
500 250 0 500 1,000 Feet

N

Legend

- Known Land Survey Corner
- Existing Landing
- New Construction Landing
- T Tractor Logging Area
- Timber Sale Boundary
- Area Boundary
- Existing Surfaced Road
- New Road Construction
- Logging Lines
- Type N Stream
- Type F Stream
- Ownership Boundary
- Non-Posted Stream Buffer
- Posted Stream Buffer
- Non-Thinnable Area
- Reforestation Area

Logging Breakdown		
	Cable	Tractor
Area 1	83%	17%
Area 2	63%	37%
Area 3	0%	100%
Total	73%	27%



Ortho Map

OF TIMBER SALE CONTRACT NO. 341-10-03
BUCK RANCH
PORTIONS OF SECTION 24
OF T5N, R6W, W.M.,
CLATSOP COUNTY, OREGON

Approximate Net Acreage
Area 1 (MC) - 71 Acres
Area 2 (PC) - 68 Acres
Area 3 (R/W) - 1 Acre
Total Acreage: 140 Acres

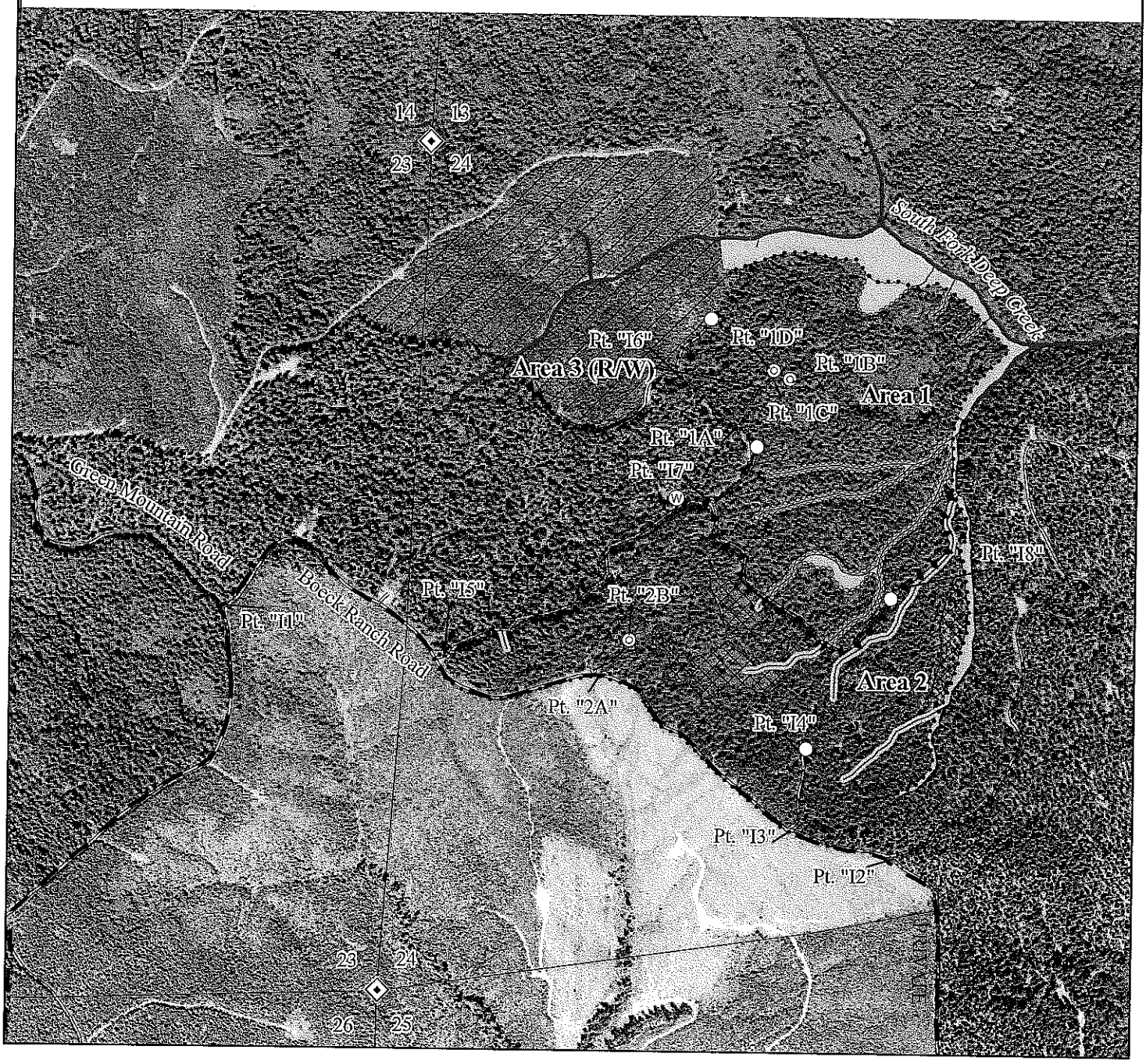
Approximate Scale= 1":1,000'

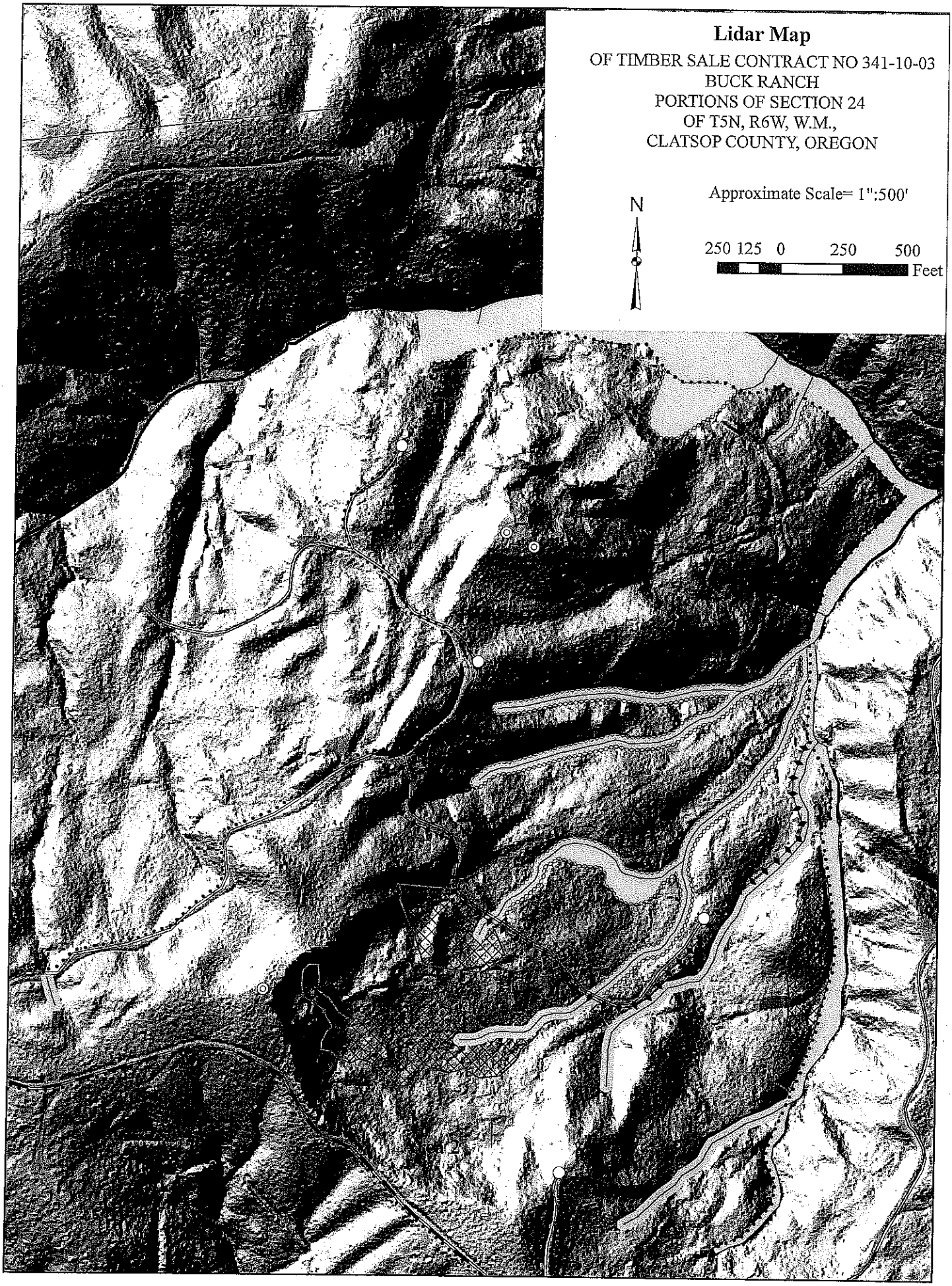
500 250 0 500 1,000 Feet

N

Legend

- Ownership Boundary
- Timber Sale Boundary
- Area Boundary
- Existing Surfaced Road
- New Road Construction
- Right-of-Way Boundary
- Existing Landing
- New Construction Landing
- Non-Thinnable Area
- Type N Stream
- Type F Stream
- Non-Posted Stream Buffer
- Posted Stream Buffer
- Reforestation Area
- Known Land Survey Corner
- Waste Area
- Pt."A" Point for Project Work




Lidar Map
OF TIMBER SALE CONTRACT NO 341-10-03
BUCK RANCH
PORTIONS OF SECTION 24
OF T5N, R6W, W.M.,
CLATSOP COUNTY, OREGON
Approximate Scale= 1":500'
N
250 125 0 250 500
Feet