



"STEWARDSHIP IN FORESTRY"

Timber Sale Appraisal Cost Summary Bottoms Up Sale 341-02-31

District: Klamath/Lake

Date: 7/2/01

	Conifer	Hardwood	Total
Gross Timber Sale Value	\$575,687.20	\$0.00	\$575,687.20
		Project Work	(\$32,025.00)
		Advertised Value	\$543,662.20



"STEWARDSHIP IN FORESTRY"

Timber Sale Appraisal

Timber Description

Bottoms Up

Sale 341-02-31

District: Klamath/Lake

Location: T.32S., R71/2E.,
Portions of sections 33 and 34
Klamath County, Oregon

Date: 7/2/01

Stand Stocking: 40%

Species	Avg. DBH	Amortized%	Recovery%
White Fir	17	0	97
Ponderosa Pine	16	0	97
Lodgepole Pine	12	0	95

Volume by Grade	White Fir	Ponderosa Pine	Lodgepole Pine	Total
CR 8" - 14"	52	1,442	414	1,908
CR 14" - 22"	70	1,036	0	1,106
CR 22"+	0	9	0	9
Total	122	2,487	414	3,023

Comments: Pond Values Used: 2nd Quarter 2001 + Local Pond Values
Other Costs (plus P & R) include:
Dust Abatement: \$ 12,693.56
Brand & Paint: \$ 7300.00



Timber Sale Appraisal

Logging Conditions

Bottoms Up

Sale 341-02-31

"STEWARDSHIP IN FORESTRY"

Combination#: 1

White Fir	43.00%
Ponderosa Pine	80.00%
Lodgepole Pine	100.00%

Yarding Distance: Short (400 ft) **Downhill Yarding** Yes
Logging System: Wheel Skidder **Process:** Feller Buncher
Tree Size: Small / Thinning 12in (130 Bft/tree), 12-17 logs/MBF
Loads/Day: 12 **Bd. Ft./Load:** 3,500
Cost/MBF: \$79.86

Machines:
Feller Buncher w/ Delimber
Log Loader (B)
Stroke Delimber (B)
Tire Skidder

Combination#: 2

White Fir	57.00%
Ponderosa Pine	20.00%

Yarding Distance: Short (400 ft) **Downhill Yarding** Yes
Logging System: Track Skidder **Process:** Manual Falling/Delimiting
Tree Size: Mature / Partial Cut (900 Bft/tree), 3-5 logs/MBF
Loads/Day: 12 **Bd. Ft./Load:** 4,200
Cost/MBF: \$64.79

Machines:
Log Loader (B)
Track Skidder



"STEWARDSHIP IN FORESTRY"

Timber Sale Appraisal Logging Costs Bottoms Up Sale 341-02-31

Date: 7/2/01

Operating Seasons: 1.0

Profit & Risk: 12%

Project Costs: \$32,025

Other Costs (P/R): \$19,994

Slash Disposal: \$0

Other Costs: \$0

Road Maintenance: \$0.49

Miles of Road			
Dirt	Rock (Contractor)	Rock (State)	Paved
0.0	0.0	0.0	0.0

Hauling Costs

Species	\$/MBF	Trips/Day	MBF/Load
White Fir	\$0.00	2.0	4.0
Ponderosa Pine	\$0.00	3.0	3.5
Lodgepole Pine	\$0.00	2.0	3.0

Local Pond Values

Date	Species	Grade	Value
7/2/01	White Fir	CR 8" - 14"	\$340.00
7/2/01	White Fir	CR 14" - 22"	\$350.00
7/2/01	White Fir	CR 22"+	\$360.00
7/2/01	Ponderosa Pine	CR 8" - 14"	\$280.00
7/2/01	Ponderosa Pine	CR 14" - 22"	\$440.00
7/2/01	Ponderosa Pine	CR 22"+	\$525.00
7/2/01	Lodgepole Pine	CR 8" - 14"	\$325.00



Timber Sale Appraisal Logging Costs Breakdown Bottoms Up Sale 341-02-31

"STEWARDSHIP IN FORESTRY"

Costs	White Fir	Ponderosa Pine	Lodgepole Pine
Logging	71.27	76.85	79.86
Road Maintenance	0.51	0.51	0.52
Fire Protection	0.90	0.90	0.90
Hauling	59.28	45.15	80.84
Other (P/R appl.)	6.61	6.61	6.61
Profit & Risk	16.63	15.60	20.25
Slash Disposal	0.00	0.00	0.00
Scaling	2.00	2.00	2.00
Other	0.00	0.00	0.00
Total	157.20	147.62	190.98

Amortization	0.00	0.00	0.00
Pond Value	345.74	347.54	325.00
Stumpage	188.54	199.92	134.02
Amortized	0.00	0.00	0.00



"STEWARDSHIP IN FORESTRY"

Timber Sale Appraisal Summary Bottoms Up Sale 341-02-31

Amortized

	White Fir	Ponderosa Pine	Lodgepole Pine
MBF	0.00	0.00	0.00
Value	0.00	0.00	0.00
Total	0.00	0.00	0.00

Unamortized

	White Fir	Ponderosa Pine	Lodgepole Pine
MBF	122.00	2,487.00	414.00
Value	188.54	199.92	134.02
Total	23,001.88	497,201.04	55,484.28

Gross Timber Sale Value

Recovery \$575,687.20

Prepared by: John Pellissier

Date: 7/2/01

District: Klamath/Lake

Phone: (541) 883-5681

Summary of Project Work

Project #1: Road Improvement	\$3,715.00
Grubbing, and excavation (approx. 600')	
Grade and shape (approx. 3 miles)	
Road Brushing	
Rock Surfacing (approx. 600')	
Project #2: Felling yarding, and piling of utility and pulp wood.	\$21,100.00
Project #3: Hand Thinning and Lopping of slash	\$3675.00
Project #4: Slash Piling	\$3535.00
Total:	<u>\$32,025.00</u>

CRUISE REPORT

Sale Name: Bottoms Up

Sale Area: T. 32 S., R. 7 1/2 E., Portions of sections 33 and 34.

Fund: 100% BOF

Boundary Lines: Unit boundary is posted with "Timber Sale Boundary" signs, marked with fluorescent orange paint and flagging.

Acreage: Area #1: 199 acres

Area #2: 124 acres

Approximate Sale Acreage: 323 acres

Areas were mapped using GPS, with data run on the district GIS program.

Treatment: Total acreage is marked as a selection cut, leave tree mark with orange paint. Wildlife trees are designated with an orange painted "W".

Cruise Method:

Variable plot cruise with all the plots being measure plots. Fixed plot cruise for all submerch material (5.0 -8.0 DBH), with all plots being measure plots.

Measure and grade all trees.

Plot Designation:

Plot centers were established at every plot. White flagging with the corresponding plot number was attached to the plot center and to the nearest available branch.

BAF: 18 BAF: Area 1

14 BAF: Area 2

Full point plots taken, 1/50th acre fixed plots for submerch. material (5.0-8.0 DBH)

Sample Size Calculations:

Sale area is comprised of two areas.

	CV%	Desired SE%	Acres
Area 1	48.0	15	199
Area 2	65.3	15	124

$$N = \frac{T^2 C^2}{A^2}$$

C = Coefficient of Variation in percent (taken from recent inventory data)

T = Number of Standard errors

A = Desired sampling error for a sale of this size and value

Area 1

$$N = \frac{(1)^2(48)^2}{(15)^2} = 10 \text{ plots} \quad \text{Took 23 plots (due to revised SE\%)} \quad 10 \times 10 \text{ chain grid}$$

Area 2

$$N = \frac{(1)^2(65.3)^2}{(15)^2} = 19 \text{ plots} \quad \text{Took 23 plots} \quad 7 \times 7 \text{ chain grid}$$

Measurements and Grading:

- DBH and Height were measured on all "in" trees in the plot.
- All plots were measure plots.
- Pulp volume and sawlog volume cruised
- See attached species and grade tables for minimum requirements.
- All trees were graded using the segment system.
- Separate fixed plot cruise for all Submerch. Material (5.0"-8.0"dbh)

Tree Height:

All trees were measured to a fixed diameter outside bark. This height is usually taken as high up the bole as possible, where the cruiser can clearly see the bole, and the taper remains constant. (usually 8 or 9 inches) The log segments are then broken out and graded accordingly.

Minimum DBH: 8.0" dbh for sawlog volume
5.0" dbh for pulp volume

Diameter Standards: 1" diameter class

BTR:

Standard ratios were used. See attached species table for specifics.

Form Factor:

Form factor was measured or estimated at 16' for every tree.

Form Point: All trees were sighted at dbh.

Final Cruise Results:

	CV%	SE%
Area 1	64.3	13.4
Area 2	64.6	13.5
Total Sale Area	76.5	11.3

Cruiser:

John Pellissier
Cruised June 2001

Volume Computation:

All cruise data was inputted and run at the district level on Atterbury's super ace program.

Timber Description:

SAWLOG VOLUME:

This volume was obtained from the variable plot cruise. All material > 8.0" DBH.
All material graded camprun
See grade table for minimum standards.

	<u>SPECIES</u>	<u>AVE. DBH</u>	<u>GROSS VOL (MBF)</u>	<u>NET VOL (MBF)</u>
AREA 1	Ponderosa pine	15.8	2230	2180
	Lodgepole pine	12.8	235	216
	TOTAL AREA 1			2396 MBF
AREA 2	Ponderosa pine	17.2	312	307
	Lodgepole pine	11.3	203	198
	White fir	16.7	124	122
	TOTAL AREA 2			627 MBF
TOTAL SALE AREA				
	Ponderosa pine	16.0	2541	2487
	Lodgepole pine	11.9	438	414
	White fir	16.7	124	122
	TOTAL SAWLOG VOLUME			3023 MBF

(Volumes obtained from Spp, sort, Grade, len%-BDFT Report)

GREEN PULP VOLUME:

This volume was obtained from the variable plot cruise (>8.0"DBH) and the fixed plot cruise (5.0"-8.0"DBH).

All material graded green pulp.

See grade table for minimum standards.

<u>SPECIES</u>	<u>AVE. DBH</u>	<u>GROSS VOL (MBF)</u>	<u>NET VOL (MBF)</u>
AREA 1			
Variable plot:			
Ponderosa pine		120	120
Lodgepole pine		41	41
Fixed plot:			
Ponderosa pine	7.0	61	61
Lodgepole pine	6.9	35	35
TOTAL AREA 1 -----			257
AREA 2			
Variable plot:			
Ponderosa pine		18	18
Lodgepole pine		110	110
White fir		3	3
Fixed plot:			
Ponderosa pine	6.7	8	8
Lodgepole pine	6.5	57	57
White fir	5.8	8	8
TOTAL AREA 2 -----			204
TOTAL SALE AREA			
Ponderosa pine		207	207
Lodgepole pine		243	243
White fir		11	11
TOTAL GREEN PULP VOLUME -----			461 MBF

(Volumes obtained from Spp, sort, Grade, len%-BDFT Report)

TblSortGrade

Sort/Grade Table

Table Name: KLAMATH

Date: 6/27/01

Sort	Grd	Abr	Desc	Fbr	Min Dia	Max Dia	Max Butt	Min Len	Max Len	Defect	Min Vol	Vol Type	Min Ring	Knot Size	Knot Freq	Str	Sap	Min Age	Lbs	Lbs Type	Cords	Cords Type
0		CU	CULL	G	1	0	0	1	0	0	0		0	0	0			0	0		0	
1		CR	CAMPRUN	G	6	0	0	10	0	0	0		0	0	0			0	0		0	
7		GP	GRNPULP	G	3	0	0	10	0	0	0		0	0	0			0	0		0	
8		DP	DEADPULP	G	3	0	0	10	0	0	0		0	0	0			0	0		0	
9		UT	UTILITY	G	8	0	0	12	0	0	0		0	0	0			0	0		0	
1		CR	CAMPRUN	G	1	0	0	1	0	0	0		0	0	0			0	0		0	

Species Table Report

TblSpecies

Date: 6/27/01

Page: 1

Table Name: KL SPECIES

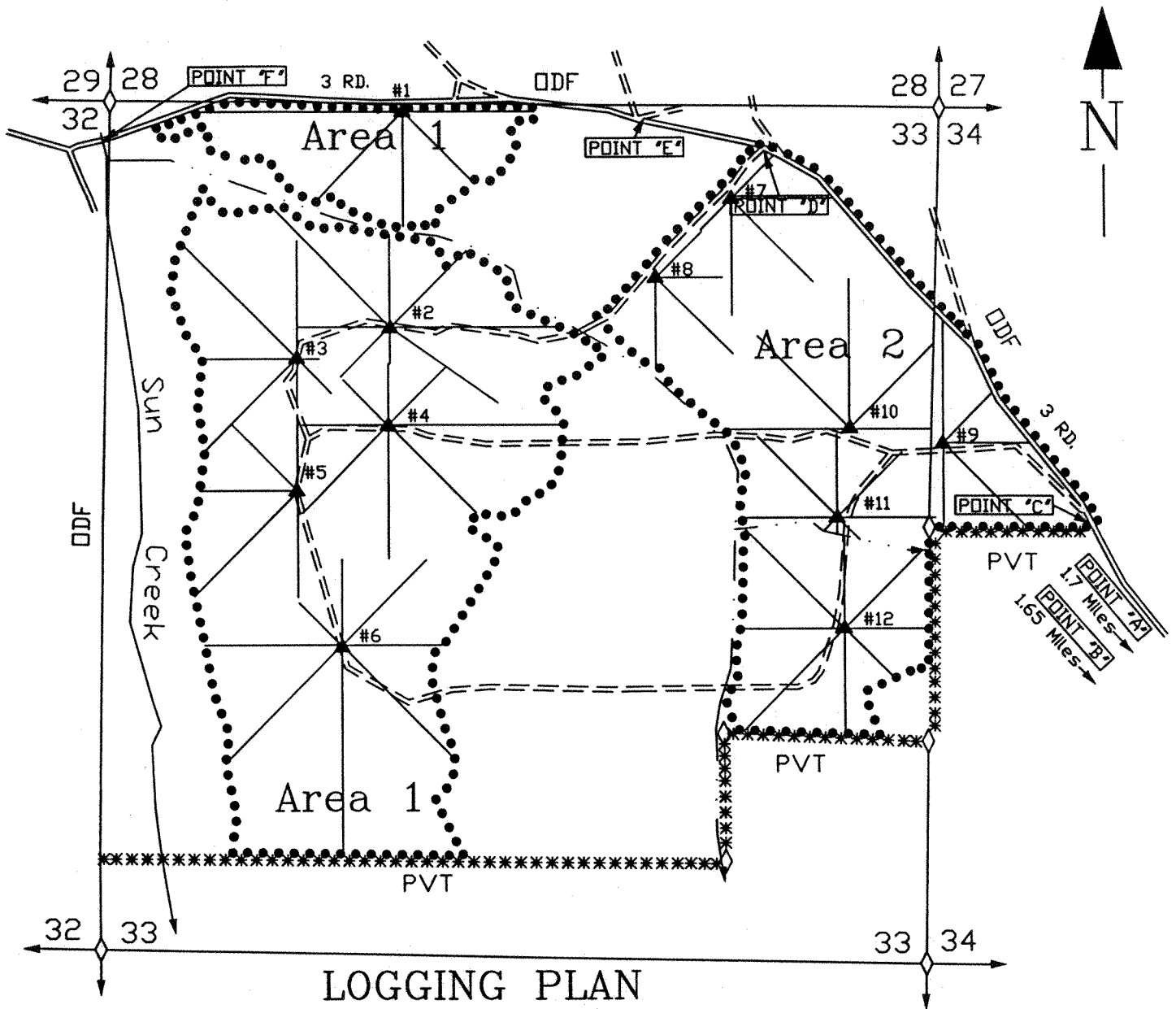
Cod	Abrv	Description	Bark Ratio	ASub Const	Form Factor	Wood Type	Component	Yield Table	Min Log Dia	Min Log Len	Max Log Len	Log Trim	Max Tree Dia	Max Tree Hgt.	BdFt Rule	CuFt Rule	Weight
1	PP	P PINE	.87	PP	.85	C	C	PP-EQUA--100	3	9	20	1.0	99	200	E	1	LB M
2	WF	WHITE F	.94	NF	.87	C	C	DF-EQUA--050	3	9	20	1.0	99	200	E	1	LB M
3	LP	LP PINE	.96	DF	.9	C	C	LP-EQUA--100	3	9	20	1.0	99	200	E	1	LB M
5	SP	SUG PINE	.87	PP	.84	C	C	PP-EQUA--100	3	9	20	1.0	99	200	E	1	LB M
6	IC	INC CED	.90	SS	.8	C	C	DF-EQUA--050	3	9	20	1.0	99	200	E	1	LB M

TC PSTATS		PROJECT STATISTICS						PAGE 1			
		PROJECT BOTTOMUP						DATE 6/9/2001			
TWP	RGE	SC	TRACT	TYPE	ACRES	PLOTS	TREES				
32	7.5	32	V-PLOT	140	323.00	46	266				
32	7.5	32	V-PLOT	143							
			PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES				
TOTAL			46	266	5.8						
CRUISE			46	266	5.8	27,066	1.0				
REFOREST COUNT BLANKS 100%											
STAND SUMMARY											
		SAMPLE TREES	TREES /ACRE	AVG DBH	BOLE LEN	REL DEN	BASAL AREA	GROSS BF/AC	NET BF/AC	GROSS CF/AC	NET CF/AC
P PINE		182	54.4	16.0	42		75.8	8,294	8,128	1,766	1,766
LP PINE		71	27.4	11.9	32		21.1	1,827	1,751	457	457
WHITE F		13	2.0	16.7	35	1	3.0	393	385	82	82
TOTAL		266	83.8	14.8	38		99.9	10,513	10,264	2,305	2,305
SD: 1		COEFF VAR.	S.E.%	SAMPLE TREES - BF			# OF TREES REQ.		INF. POP.		
				LOW	AVG	HIGH	5	10	15		
P PINE		135.4	8.3	170	185	201					
LP PINE		202.6	12.4	17	19	21					
WHITE F		633.7	38.9	11	19	26					
TOTAL		113.2	6.9	208	223	239		513	128	57	
SD: 1		COEFF VAR.	S.E.%	SAMPLE TREES - CF			# OF TREES REQ.		INF. POP.		
				LOW	AVG	HIGH	5	10	15		
P PINE		118.9	7.3	35	38	40					
LP PINE		192.7	11.8	4	5	5					
WHITE F		599.8	36.8	2	4	5					
TOTAL		94.5	5.8	44	46	49		357	89	40	
SD: 1		COEFF VAR.	S.E.%	TREES/ACRE			# OF PLOTS REQ.		INF. POP.		
				LOW	AVG	HIGH	5	10	15		
P PINE		111.4	16.4	47	54	62					
LP PINE		121.0	17.8	22	27	33					
WHITE F		311.8	46.0	1	2	3					
TOTAL		68.5	10.1	76	84	92		188	47	21	
SD: 1		COEFF VAR.	S.E.%	BASAL AREA/ACRE			# OF PLOTS REQ.		INF. POP.		
				LOW	AVG	HIGH	5	10	15		
P PINE		100.1	14.8	66	76	86					
LP PINE		110.2	16.2	17	21	25					
WHITE F		313.5	46.2	1	3	5					
TOTAL		64.4	9.5	91	100	109		166	42	18	
SD: 1		COEFF VAR.	S.E.%	NET BF/ACRE			# OF PLOTS REQ.		INF. POP.		
				LOW	AVG	HIGH	5	10	15		
P PINE		109.4	16.1	6,984	8,128	9,271					
LP PINE		118.9	17.5	1,420	1,751	2,083					
WHITE F		375.1	55.3	108	385	662					
TOTAL		76.5	11.3	9,194	10,264	11,333		234	59	26	
SD: 1		COEFF VAR.	S.E.%	NET CUFT FT/ACRE			# OF PLOTS REQ.		INF. POP.		
				LOW	AVG	HIGH	5	10	15		
P PINE		107.0	15.8	1,523	1,766	2,009					
LP PINE		118.7	17.5	370	457	543					
WHITE F		357.5	52.7	26	82	139					
TOTAL		71.5	10.5	2,079	2,305	2,530		204	51	23	

TC PSPCSTGR **Species, Sort Grade - Board Foot Volumes (Project)**

T32 R7.5 S32 Ty143 124.00 T32 R7.5 S32 Ty140 199.00	Project: BOTTOMUP Acres 323.00	Page 1 Date 6/9/2001 Time 9:36:20AM
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Spp	S So Gr T rt ad	% Net BdFt	Bd. Ft. per Acre Def% Gross Net			Total Net MBF	Percent of Net Board Foot Volume								Average Log			Logs Per /Acre	
							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					
PP	CRCU														6		0.00	11.7	
PP	CRCR	75	2.1	7,867	7,701	2,487			42	41	17	14	18	55	13	26	124	1.03	62.3
PP	CRGP	4		427	427	138	100					2	42	37	20	31	31	0.30	13.6
PP	Totals	79	2.0	8,294	8,128	2,625		5	40	39	16	13	19	54	13	24	93	0.85	87.5
LP	CRCU															6		0.00	2.7
LP	CRCR	12	5.5	1,357	1,281	414			95	5		22	16	24	38	26	73	0.70	17.6
LP	CRGP	5		470	470	152	45	55				14	17	23	46	29	40	0.40	11.8
LP	Totals	17	4.1	1,827	1,751	566		12	84	4		20	16	24	40	25	55	0.56	32.1
WF	CRCU															4		0.00	.1
WF	CRCR	4	2.1	384	376	122			30	35	34	7	13	77	3	28	170	1.28	2.2
WF	CRGP	0		8	8	3	100					100				12	20	0.50	.4
WF	Totals	4	2.1	393	385	124		32	35	33		9	12	76	3	25	139	1.21	2.8
Totals			2.4	10,513	10,264	3,315		6	47	32	14	14	19	50	17	24	84	0.78	122.4



LOGGING PLAN
 OF TIMBER SALE CONTRACT NO.
 341-02-31

BOTTOMS UP

PORTIONS OF SECTIONS 33 AND 34, T32S, R7.5E, W.M.
 KLAMATH COUNTY, OREGON

LEGEND

- TIMBER SALE BOUNDARY
- SECTION LINE
- ◇ KNOWN LAND SURVEY CORNER
- ==== SURFACED EXISTING ROAD
- == == == UNSURFACED EXISTING ROAD
- POINT POINT FOR PROJECT WORK
- ~ TYPE F STREAM
- - - IRRIGATION DITCH
- ***** FENCE LINE

AREA 1	199 ACRES
AREA 2	124 ACRES
APPROXIMATE SALE ACREAGE	323 ACRES

