

USWP Task 2 Test Results D Series Tests

USW_VELD.WK3 Sheet B: 02/18/93

Velocity Profile Comparisons

No Hill; 60' Trees; Step Roughness Change Tests

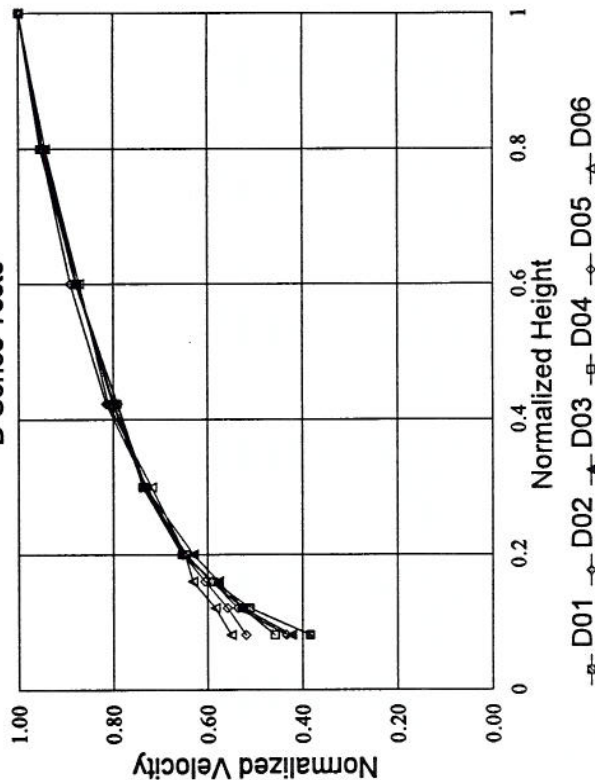
Height Norm.	Velocity Norm. D01	Velocity Norm. D02	Velocity Norm. D03	Velocity Norm. D04	Velocity Norm. D05	Velocity Norm. D06
0.08	0.38	0.43	0.42	0.46	0.52	0.55
0.12	0.51	0.54	0.53	0.53	0.56	0.58
0.16	0.59	0.59	0.58	0.59	0.61	0.63
0.20	0.65	0.65	0.63	0.64	0.65	0.65
0.30	0.74	0.73	0.73	0.73	0.73	0.72
0.42	0.79	0.81	0.80	0.80	0.79	0.81
0.60	0.88	0.89	0.88	0.88	0.88	0.87
0.80	0.95	0.95	0.94	0.95	0.95	0.94
1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ur@76.2cm =	801	801	792	796	795	797
Ur@6.1cm =	491	490	487	487	492	490
Href (cm) =	30.5	30.5	30.5	30.5	30.5	30.5

Turbulent Intensity Profile Comparisons

No Hill; 60' Trees; Step Roughness Change Tests

Height Norm.	Turb. Int. (%) D01	Turb. Int. (%) D02	Turb. Int. (%) D03	Turb. Int. (%) D04	Turb. Int. (%) D05	Turb. Int. (%) D06
0.08	34.1	31.0	33.3	29.8	23.2	21.4
0.12	27.2	25.7	26.4	27.0	23.6	20.6
0.16	23.2	22.1	24.7	23.5	22.5	21.7
0.20	20.8	20.3	21.7	21.5	20.6	20.2
0.30	17.7	17.4	17.6	17.8	17.9	18.4
0.42	15.4	14.0	14.8	15.6	15.2	14.6
0.60	12.3	12.1	13.0	11.9	12.4	13.1
0.80	10.5	10.7	11.1	11.0	10.5	10.5
1.00	9.2	9.6	9.6	9.4	9.7	9.4
Ur@76.2cm =	801	801	792	796	795	797
Ur@6.1cm =	491	490	487	487	492	490
Href (cm) =	30.5	30.5	30.5	30.5	30.5	30.5

Step Roughness Change Tests D Series Tests



Step Roughness Change Tests D Series Tests

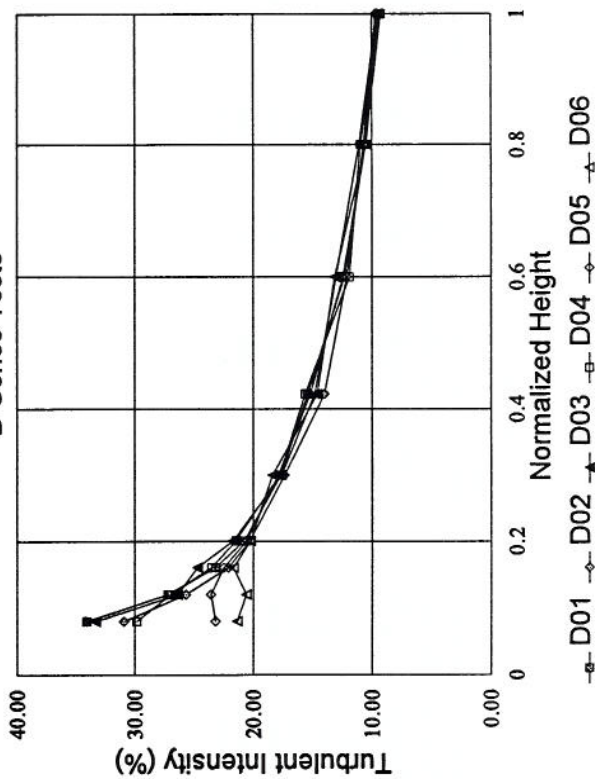


TABLE 13 Tree Cover Step Roughness Change Test Results

USWP Task 2 Test Results E Series Tests

USW_VELE.WK3 Sheet A: 02/18/93

Velocity Profile Data

Run E01 Triangular Hill: 1:2 Slope: 0' Trees: Re# Tests						
Height (cm)	Velocity HW (cm/s)	Turbulent Intensity (%)	Velocity @30.5cm (cm/s)	Velocity @6.1cm (cm/s)		
1.2	502	10.7	692	407		
2.4	514	11.6	695	405		
3.7	513	12.2	684	414		
4.9	526	12.8	688	407		
6.1	533	12.7	687	404		
9.1	551	12.6	690	410		
12.9	576	12.4	694	413		
18.3	616	10.2	690	410		
24.4	654	9.1	694	408		
30.5	684	7.9	695	410		
Average =			691	409		

Velocity Profile Data

Run E02 Triangular Hill: 1:2 Slope: 0' Trees: Re# Tests						
Height (cm)	Velocity HW (cm/s)	Turbulent Intensity (%)	Velocity @30.5cm (cm/s)	Velocity @6.1cm (cm/s)		
1.2	626	10.9	854	517		
2.4	630	12.0	854	511		
3.7	645	12.6	860	510		
4.9	652	12.7	856	504		
6.1	655	12.9	854	500		
9.1	683	12.5	858	516		
12.9	713	12.1	848	519		
18.3	758	10.7	854	507		
24.4	810	9.1	860	515		
30.5	842	7.9	857	521		
Average =			855	512		

Velocity Profile Data

Run E03 Triangular Hill: 1:2 Slope: 0' Trees: Re# Tests						
Height (cm)	Velocity HW (cm/s)	Turbulent Intensity (%)	Velocity @30.5cm (cm/s)	Velocity @6.1cm (cm/s)		
1.2	752	10.4	1036	628		
2.4	764	11.9	1038	622		
3.7	771	11.9	1038	616		
4.9	788	12.4	1031	618		
6.1	800	12.3	1040	608		
9.1	833	12.4	1038	605		
12.9	874	11.7	1041	620		
18.3	924	10.5	1038	620		
24.4	981	9.0	1041	619		
30.5	1025	7.9	1037	624		
Average =			1038	618		

Velocity Profile Data

Run E04 Triangular Hill: 1:2 Slope: 60' Trees: Re# Tests						
Height (cm)	Velocity HW (cm/s)	Turbulent Intensity (%)	Velocity @30.5cm (cm/s)	Velocity @6.1cm (cm/s)		
1.2	493	15.3	694	406		
2.4	501	15.7	696	409		
3.7	501	15.7	696	409		
4.9	522	15.7	696	412		
6.1	534	15.7	698	407		
9.1	564	14.0	696	412		
12.9	591	12.5	695	412		
18.3	630	10.5	698	410		
24.4	666	9.5	695	412		
30.5	701	7.8	702	414		
Average =			697	410		

Velocity Profile Data

Run E05 Triangular Hill: 1:2 Slope: 60' Trees: Re# Tests						
Height (cm)	Velocity HW (cm/s)	Turbulent Intensity (%)	Velocity @30.5cm (cm/s)	Velocity @6.1cm (cm/s)		
1.2	594	15.4	854	494		
2.4	614	15.3	855	514		
3.7	634	15.9	860	503		
4.9	638	15.8	854	505		
6.1	695	13.5	852	508		
9.1	728	12.0	855	507		
12.9	772	10.7	852	508		
18.3	823	9.4	862	498		
24.4	857	8.1	857	510		
Average =			856	505		

Velocity Profile Data

Run E06 Triangular Hill: 1:2 Slope: 60' Trees: Re# Tests						
Height (cm)	Velocity HW (cm/s)	Turbulent Intensity (%)	Velocity @30.5cm (cm/s)	Velocity @6.1cm (cm/s)		
1.2	698	15.2	1003	592		
2.4	729	15.5	999	597		
3.7	732	15.9	1000	592		
4.9	765	15.5	1000	589		
6.1	809	14.0	1002	600		
9.1	856	12.1	994	590		
12.9	911	10.5	1008	595		
18.3	964	9.3	1010	584		
24.4	1007	8.0	1007	588		
Average =			1002	592		

TABLE 14 Model Ridge Reynolds Number Invariance Test Data

USWP Task 2 Test Results E Series Tests

USW_VELE.WK3 Sheet B: 02/18/93

Velocity Profile Comparisons

Triangular Hill: 1:2 Slope; Ref Invariance Tests

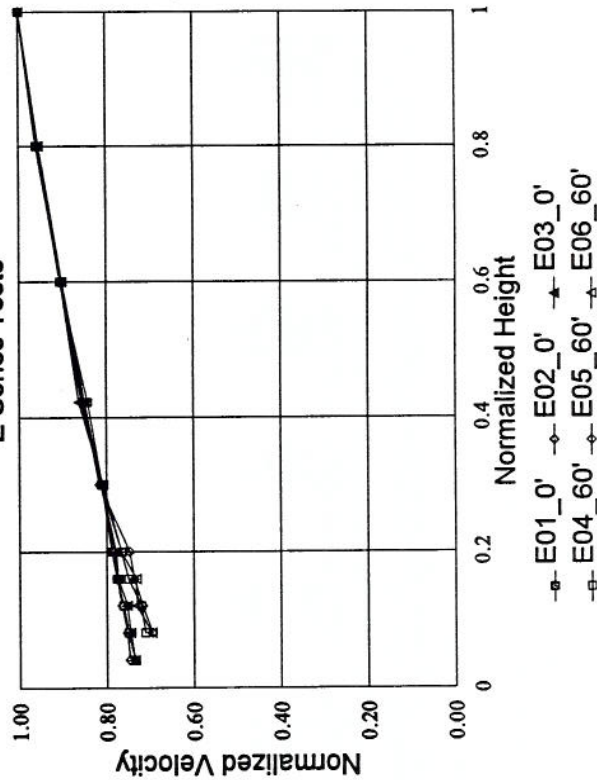
Height Norm.	Velocity E01_0'	Velocity E02_0'	Velocity E03_0'	Velocity E04_60'	Velocity E05_60'	Velocity E06_60'
0.04	0.74	0.75	0.73			
0.08	0.75	0.75	0.74	0.71	0.70	0.70
0.12	0.76	0.76	0.75	0.72	0.72	0.73
0.16	0.78	0.78	0.77	0.75	0.74	0.73
0.20	0.79	0.78	0.78	0.77	0.75	0.77
0.30	0.81	0.81	0.81	0.81	0.82	0.81
0.42	0.84	0.86	0.85	0.85	0.85	0.86
0.60	0.91	0.90	0.90	0.90	0.90	0.90
0.80	0.96	0.96	0.95	0.96	0.95	0.95
1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ur@30.5cm =	691	855	1038	697	856	1002
Ur@6.1cm =	409	512	618	410	505	592
Href (cm) =	30.5	30.5	30.5	30.5	30.5	30.5

Turbulent Intensity Profile Comparisons

Triangular Hill: 1:2 Slope; Ref Invariance Tests

Height Norm.	Turb.Int. E01_0'	Turb.Int. E02_0'	Turb.Int. E03_0'	Turb.Int. E04_60'	Turb.Int. E05_60'	Turb.Int. E06_60'
0.04	10.7	10.9	10.4			
0.08	11.6	12.0	11.9	15.3	15.4	15.2
0.12	12.2	12.6	11.9	15.7	15.3	15.5
0.16	12.8	12.7	12.4	15.7	15.9	15.9
0.20	12.7	12.9	12.3	15.7	15.8	15.5
0.30	12.6	12.5	12.4	14.0	13.5	14.0
0.42	12.4	12.1	11.7	12.5	12.0	12.1
0.60	10.2	10.7	10.5	10.5	10.7	10.5
0.80	9.1	9.1	9.0	9.5	9.4	9.3
1.00	7.9	7.9	7.9	7.8	8.1	8.0
Ur@30.5cm =	691	855	1038	697	856	1002
Ur@6.1cm =	409	512	618	410	505	592
Href (cm) =	30.5	30.5	30.5	30.5	30.5	30.5

Hill Reynolds Number Invariance Tests E Series Tests



Hill Reynolds Number Invariance Tests E Series Tests

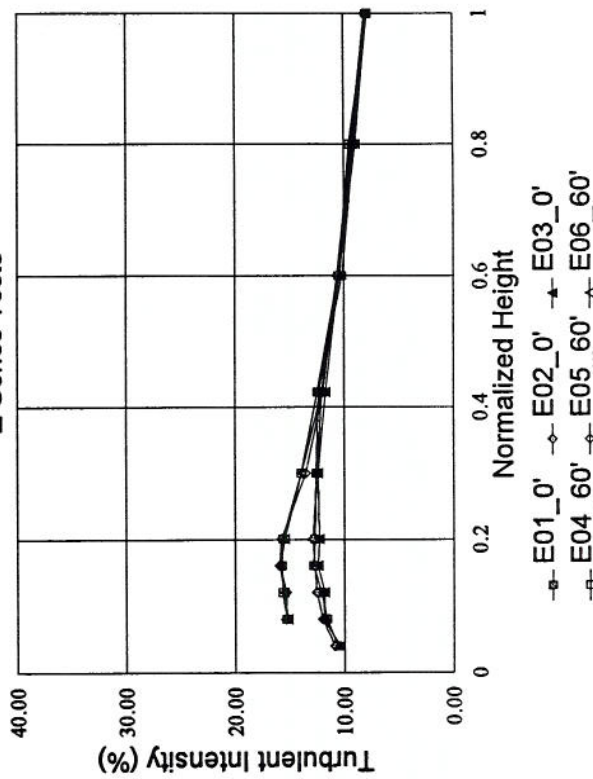


TABLE 15 Model Ridge Reynolds Number Invariance Test Results

USWP Task 2 Test Results F Series Tests

USW_VEL0.WK3

Sheet A:

02/18/93

Velocity Profile Data

Run F01 Triangular Hill: 1:2 Slope; 20' Trees: Full Cut

Height (cm)	Velocity HW (cm/s)	Turbulent Intensity (%)	Velocity @30.5cm (cm/s)	Velocity @6.1cm (cm/s)	Velocity Ratio
1.2	605	13.6	860	510	1.69
2.4	613	15.2	864	516	1.67
3.7	638	14.7	868	515	1.69
4.9	654	14.7	869	517	1.68
6.1	673	13.4	862	517	1.67
9.1	708	12.8	865	513	1.69
12.9	738	11.8	860	512	1.68
18.3	784	10.8	859	516	1.67
24.4	832	9.2	865	509	1.70
30.5	872	7.7	869	520	1.67
Average =			864	514	1.68

Velocity Profile Data

Run F03 Triangular Hill: 1:2 Slope; 20' Trees: Top Cut

Height (cm)	Velocity HW (cm/s)	Turbulent Intensity (%)	Velocity @30.5cm (cm/s)	Velocity @6.1cm (cm/s)	Velocity Ratio
1.2	643	13.5	879	512	1.72
2.4	659	13.6	875	517	1.69
3.7	674	14.4	882	525	1.68
4.9	693	13.5	879	514	1.71
6.1	697	13.3	877	508	1.73
9.1	724	12.3	876	519	1.69
12.9	765	10.8	874	517	1.69
18.3	798	10.6	875	521	1.68
24.4	846	8.8	876	518	1.69
30.5	880	7.8	876	523	1.67
Average =			877	517	1.69

Velocity Profile Data

Run F02 Triangular Hill: 1:2 Slope; 20' Trees: -100' Cut

Height (cm)	Velocity HW (cm/s)	Turbulent Intensity (%)	Velocity @30.5cm (cm/s)	Velocity @6.1cm (cm/s)	Velocity Ratio
1.2	613	13.9	871	513	1.70
2.4	631	14.4	865	519	1.67
3.7	645	14.2	868	517	1.68
4.9	658	14.1	866	514	1.68
6.1	670	13.5	862	511	1.69
9.1	708	12.7	866	505	1.71
12.9	743	11.9	866	511	1.70
18.3	784	10.9	865	516	1.68
24.4	833	9.4	867	515	1.68
30.5	874	7.8	871	518	1.68
Average =			867	514	1.69

Velocity Profile Data

Run F04 Triangular Hill: 1:2 Slope; 20' Trees: No Cut

Height (cm)	Velocity HW (cm/s)	Turbulent Intensity (%)	Velocity @30.5cm (cm/s)	Velocity @6.1cm (cm/s)	Velocity Ratio
1.2	495	22.1	874	514	1.70
2.4	649	12.8	878	517	1.70
3.7	666	13.6	879	506	1.74
4.9	676	14.0	878	517	1.70
6.1	680	13.4	874	517	1.69
9.1	720	12.3	879	518	1.70
12.9	761	11.6	881	519	1.70
18.3	801	10.6	877	520	1.69
24.4	846	8.9	879	511	1.72
30.5	886	7.9	883	525	1.68
Average =			878	516	1.70

TABLE 16 Model Ridge Test Data; Triangular Shape, 1:2 Slope, 20' Trees

USWP Task 2 Test Results F Series Tests

USW_VEL0.WK3 Sheet A: 02/18/93

Velocity Profile Data

Run F05 Triangular Hill: 1:2 Slope: 40' Trees: Full Cut

Height (cm)	Velocity HW (cm/s)	Turbulent Intensity (%)	Velocity @30.5cm (cm/s)	Velocity @6.1cm (cm/s)	Velocity Ratio
1.2	596	14.3	873	520	1.68
2.4	612	15.7	876	514	1.70
3.7	628	16.2	877	514	1.71
4.9	657	15.3	868	519	1.67
6.1	659	14.8	868	526	1.65
9.1	711	13.2	866	510	1.70
12.9	753	11.4	875	510	1.72
18.3	788	10.7	868	515	1.69
24.4	831	9.1	864	515	1.68
30.5	867	8.2	867	520	1.67
Average =			870	516	1.69

Velocity Profile Data

Run F07 Triangular Hill: 1:2 Slope: 40' Trees: Top Cut

Height (cm)	Velocity HW (cm/s)	Turbulent Intensity (%)	Velocity @30.5cm (cm/s)	Velocity @6.1cm (cm/s)	Velocity Ratio
1.2	583	17.0	875	515	1.70
2.4	623	15.8	871	522	1.67
3.7	642	15.8	866	519	1.67
4.9	669	15.1	871	512	1.70
6.1	681	14.1	874	520	1.68
9.1	715	13.2	875	515	1.70
12.9	750	11.7	875	511	1.71
18.3	793	10.2	873	515	1.70
24.4	840	8.9	874	516	1.69
30.5	880	7.8	877	518	1.69
Average =			873	516	1.69

Velocity Profile Data

Run F06 Triangular Hill: 1:2 Slope: 40' Trees: -100' Cut

Height (cm)	Velocity HW (cm/s)	Turbulent Intensity (%)	Velocity @30.5cm (cm/s)	Velocity @6.1cm (cm/s)	Velocity Ratio
1.2	593	14.7	865	510	1.70
2.4	609	15.3	861	511	1.68
3.7	629	15.6	858	505	1.70
4.9	641	15.5	857	511	1.68
6.1	658	15.0	858	514	1.67
9.1	699	13.3	856	510	1.68
12.9	736	12.1	865	513	1.69
18.3	777	10.4	858	507	1.69
24.4	825	9.1	860	501	1.72
30.5	859	7.9	862	502	1.72
Average =			860	508	1.69

Velocity Profile Data

Run F08 Triangular Hill: 1:2 Slope: 40' Trees: No Cut

Height (cm)	Velocity HW (cm/s)	Turbulent Intensity (%)	Velocity @30.5cm (cm/s)	Velocity @6.1cm (cm/s)	Velocity Ratio
2.4	611	14.6	870	516	1.69
3.7	629	14.4	868	524	1.66
4.9	656	15.1	876	507	1.73
6.1	671	14.5	871	516	1.69
9.1	702	13.7	870	516	1.69
12.9	743	12.1	874	516	1.69
18.3	795	10.7	874	512	1.71
24.4	838	9.3	872	525	1.66
30.5	877	8.2	872	518	1.68
Average =			872	517	1.69

TABLE 17 Model Ridge Test Data; Triangular Shape, 1:2 Slope, 40' Trees

USWP Task 2 Test Results F Series Tests

USW_VEL0.WK3 Sheet A: 02/18/93

Velocity Profile Data

Run F09 Triangular Hill: 1:2 Slope: 60' Trees: Full Cut

Height (cm)	Velocity HW (cm/s)	Turbulent Intensity (%)	Velocity @30.5cm (cm/s)	Velocity @6.1cm (cm/s)	Velocity Ratio
1.2	579	14.5	860	509	
2.4	593	16.6	857	506	1.69
3.7	605	16.1	855	504	1.70
4.9	634	15.5	856	510	1.68
6.1	655	15.1	862	511	1.69
9.1	702	12.9	859	509	1.69
12.9	740	11.4	857	508	1.69
18.3	785	10.3	863	508	1.70
24.4	825	9.1	859	510	1.69
30.5	867	7.8	865	508	1.70
Average =			859	508	1.69

Velocity Profile Data

Run F10 Triangular Hill: 1:2 Slope: 60' Trees: -100' Cut

Height (cm)	Velocity HW (cm/s)	Turbulent Intensity (%)	Velocity @30.5cm (cm/s)	Velocity @6.1cm (cm/s)	Velocity Ratio
1.2	577	15.4	857	515	1.66
2.4	596	16.4	856	512	1.67
3.7	620	15.8	856	504	1.70
4.9	644	15.5	860	512	1.68
6.1	660	15.2	859	508	1.69
9.1	695	13.8	854	509	1.68
12.9	734	11.5	858	505	1.70
18.3	778	10.7	855	506	1.69
24.4	828	9.1	858	496	1.73
30.5	856	7.9	855	517	1.65
Average =			857	508	1.68

Velocity Profile Data

Run F11 Triangular Hill: 1:2 Slope: 60' Trees: Top Cut

Height (cm)	Velocity HW (cm/s)	Turbulent Intensity (%)	Velocity @30.5cm (cm/s)	Velocity @6.1cm (cm/s)	Velocity Ratio
1.2	561	18.4	868	520	
2.4	607	16.2	864	514	1.68
3.7	627	16.2	864	515	1.68
4.9	651	15.9	862	511	1.69
6.1	675	14.5	860	502	1.71
9.1	712	13.1	865	511	1.69
12.9	750	11.8	859	505	1.70
18.3	785	10.6	864	502	1.72
24.4	830	8.9	859	505	1.70
30.5	858	7.9	856	504	1.70
Average =			862	509	1.69

Velocity Profile Data

Run F12 Triangular Hill: 1:2 Slope: 60' Trees: No Cut

Height (cm)	Velocity HW (cm/s)	Turbulent Intensity (%)	Velocity @30.5cm (cm/s)	Velocity @6.1cm (cm/s)	Velocity Ratio
1.2					
2.4	586	17.4	865	514	1.68
3.7	614	15.1	861	516	1.67
4.9	637	15.5	864	508	1.70
6.1	653	15.5	861	514	1.67
9.1	698	14.2	864	508	1.70
12.9	744	11.6	863	503	1.72
18.3	785	10.7	866	510	1.70
24.4	830	9.0	866	503	1.72
30.5	869	8.2	869	518	1.68
Average =			864	510	1.69

TABLE 18 Model Ridge Test Data; Triangular Shape, 1:2 Slope, 60' Trees

USWP Task 2 Test Results F Series Tests

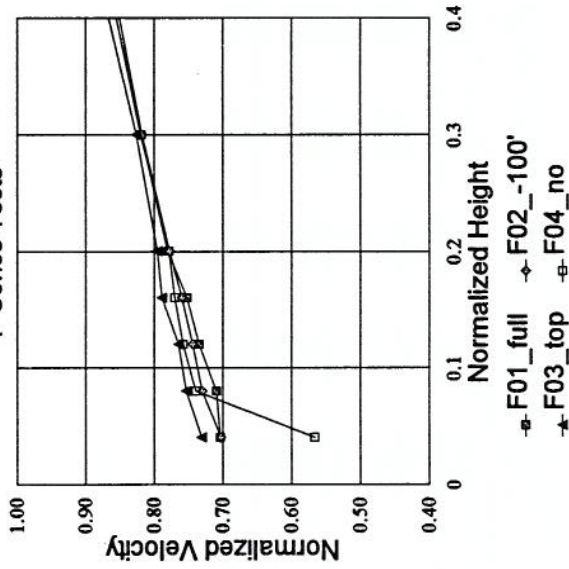
USW_VEL1.WK3 Sheet A: 02/18/93

Velocity Profile Comparisons

Triangular Hill; 1:2 Slope; 20' Tree Tests

Height Norm.	Velocity Norm.	F01_full	F02_-100'	F03_top	F03_top	Velocity Norm.	F04_no
0.04	0.70	0.70	0.70	0.73	0.73	0.57	
0.08	0.71	0.73	0.74	0.76	0.76	0.74	
0.12	0.73	0.74	0.76	0.79	0.77	0.76	
0.16	0.75	0.76	0.78	0.80	0.78	0.78	
0.20	0.78	0.82	0.82	0.83	0.82	0.82	
0.30	0.86	0.86	0.86	0.88	0.86	0.86	
0.42	0.91	0.91	0.91	0.91	0.91	0.91	
0.60	0.96	0.96	0.96	0.97	0.96	0.96	
1.00	1.00	1.00	1.01	1.01	1.00	1.00	
Ur@30.5cm =	864	867	877	877	878	878	
Ur@6.1cm =	514	514	517	517	516	516	
Href (cm) =	30.5	30.5	30.5	30.5	30.5	30.5	

Triangular Hill; 1:2 Slope; 20' Tree Tests
F Series Tests

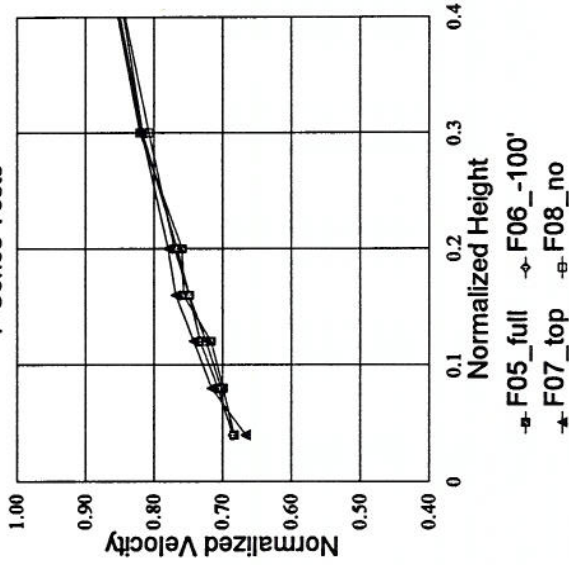


Velocity Profile Comparisons

Triangular Hill; 1:2 Slope; 40' Tree Tests

Height Norm.	Velocity Norm.	F05_full	F06_-100'	F07_top	F07_top	Velocity Norm.	F08_no
0.04	0.68	0.68	0.71	0.72	0.72	0.70	
0.08	0.70	0.72	0.73	0.74	0.74	0.72	
0.12	0.72	0.76	0.75	0.77	0.75	0.75	
0.16	0.76	0.76	0.77	0.78	0.77	0.77	
0.20	0.78	0.82	0.82	0.82	0.82	0.81	
0.30	0.86	0.86	0.85	0.86	0.85	0.85	
0.42	0.91	0.91	0.91	0.91	0.91	0.91	
0.60	0.96	0.96	0.96	0.96	0.96	0.96	
1.00	1.00	1.00	1.00	1.00	1.01	1.01	
Ur@30.5cm =	870	860	873	873	872	872	
Ur@6.1cm =	516	508	516	516	517	517	
Href (cm) =	30.5	30.5	30.5	30.5	30.5	30.5	

Triangular Hill; 1:2 Slope; 40' Tree Tests
F Series Tests



Velocity Profile Comparisons

Triangular Hill; 1:2 Slope; 60' Tree Tests

Height Norm.	Velocity Norm.	F09_full	F10_-100'	F11_top	F11_top	Velocity Norm.	F12_no
0.04	0.67	0.67	0.70	0.70	0.70	0.68	
0.08	0.69	0.71	0.72	0.73	0.73	0.71	
0.12	0.71	0.74	0.75	0.76	0.76	0.74	
0.16	0.74	0.76	0.77	0.79	0.79	0.76	
0.20	0.76	0.82	0.81	0.82	0.82	0.81	
0.30	0.86	0.86	0.86	0.87	0.87	0.86	
0.42	0.91	0.91	0.91	0.91	0.91	0.91	
0.60	0.96	0.96	0.97	0.97	0.97	0.96	
1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Ur@30.5cm =	859	857	862	862	864	864	
Ur@6.1cm =	508	508	509	509	510	510	
Href (cm) =	30.5	30.5	30.5	30.5	30.5	30.5	

Triangular Hill; 1:2 Slope; 60' Tree Tests
F Series Tests

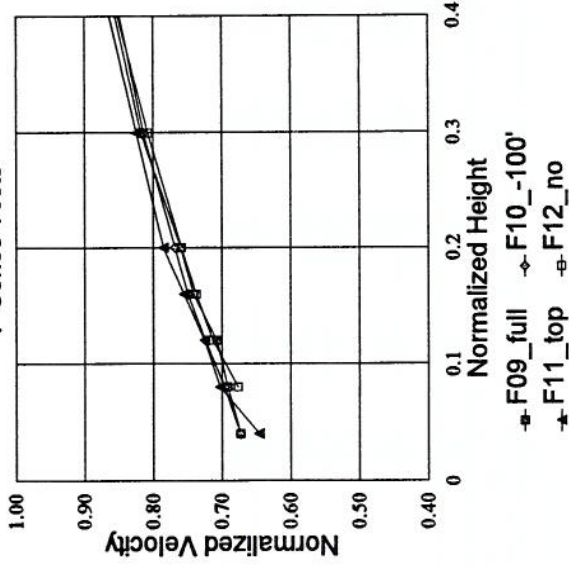


TABLE 19 Model Ridge Velocity Profile Test Results; Triangular Shape, 1:2 Slope

USWP Task 2 Test Results F Series Tests

USW_VEL2.WK3 Sheet A: 02/18/93

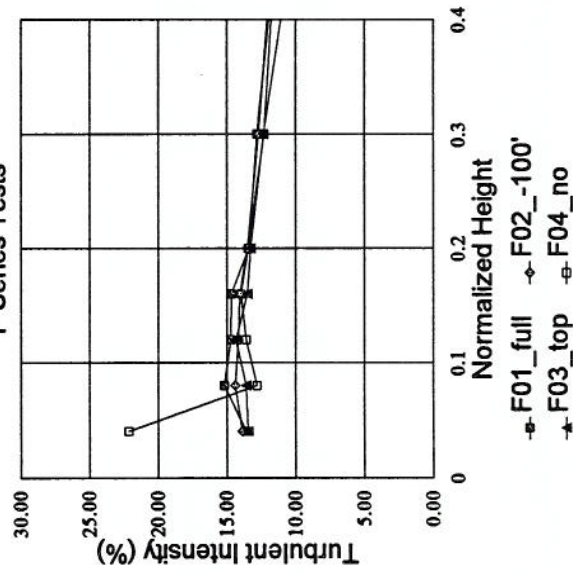
Turbulent Intensity Profile Comparisons

Triangular Hill; 1:2 Slope; 20' Tree Tests

Height Norm.	F01 full	Turb.int. (%)	F02 -100'	Turb.int. (%)	F03 top	Turb.int. (%)	F04 no	Turb.int. (%)
0.04	13.6	13.9	13.9	13.5	13.5	13.5	22.1	12.8
0.08	15.2	14.4	14.4	14.4	14.4	14.4	13.6	13.6
0.12	14.7	14.1	14.1	13.5	13.5	13.5	14.0	14.0
0.16	14.7	14.1	14.1	13.5	13.5	13.5	13.4	13.4
0.20	12.8	12.7	12.7	12.3	12.3	12.3	11.6	11.6
0.30	11.8	11.9	11.9	10.8	10.8	10.8	10.6	10.6
0.42	10.8	10.9	10.9	8.8	8.8	8.8	8.9	8.9
0.60	9.2	9.4	9.4	7.8	7.8	7.8	7.9	7.9
0.80	7.7	7.7	7.7	7.8	7.8	7.8	7.9	7.9
1.00	8.64	8.67	8.67	8.77	8.77	8.77	8.78	8.78
Ur@30.5cm =	514	514	514	517	517	517	516	516
Ur@6.1cm =	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5
Href (cm) =	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5

Triangular Hill; 1:2 Slope; 20' Tree Tests

F Series Tests



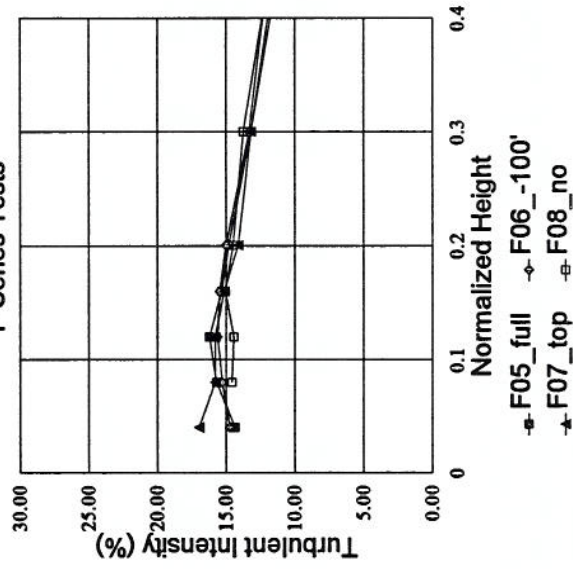
Turbulent Intensity Profile Comparisons

Triangular Hill; 1:2 Slope; 40' Tree Tests

Height Norm.	F05 full	Turb.int. (%)	F06 -100'	Turb.int. (%)	F07 top	Turb.int. (%)	F08 no	Turb.int. (%)
0.04	14.3	14.7	14.7	15.3	15.3	15.3	14.6	14.6
0.08	15.7	15.3	15.3	15.6	15.6	15.6	14.4	14.4
0.12	16.2	15.3	15.3	15.5	15.5	15.5	15.1	15.1
0.16	14.8	14.8	14.8	13.3	13.3	13.3	13.7	13.7
0.20	13.2	13.2	13.2	12.1	12.1	12.1	12.1	12.1
0.30	11.4	11.4	11.4	10.4	10.4	10.4	10.7	10.7
0.42	10.7	10.7	10.7	8.9	8.9	8.9	9.3	9.3
0.60	8.2	8.2	8.2	7.9	7.9	7.9	8.2	8.2
0.80	8.2	8.2	8.2	8.73	8.73	8.73	8.72	8.72
1.00	8.70	8.60	8.60	516	516	516	517	517
Ur@30.5cm =	516	516	516	516	516	516	517	517
Ur@6.1cm =	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5
Href (cm) =	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5

Triangular Hill; 1:2 Slope; 40' Tree Tests

F Series Tests



Turbulent Intensity Profile Comparisons

Triangular Hill; 1:2 Slope; 60' Tree Tests

Height Norm.	F09 full	Turb.int. (%)	F10 -100'	Turb.int. (%)	F11 top	Turb.int. (%)	F12 no	Turb.int. (%)
0.04	14.5	15.4	15.4	16.4	16.2	16.2	17.4	17.4
0.08	16.6	16.6	16.6	15.8	15.9	15.9	15.1	15.1
0.12	16.1	15.5	15.5	15.5	15.9	15.9	15.5	15.5
0.16	15.1	15.1	15.1	13.8	13.1	13.1	14.2	14.2
0.20	11.4	11.4	11.4	10.7	10.6	10.6	10.7	10.7
0.30	9.1	9.1	9.1	7.8	7.9	7.9	8.2	8.2
0.42	8.9	8.9	8.9	8.57	8.62	8.62	8.64	8.64
0.60	5.08	5.08	5.08	5.08	5.09	5.09	5.10	5.10
0.80	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5
1.00	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5
Ur@30.5cm =	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5
Ur@6.1cm =	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5
Href (cm) =	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5

Triangular Hill; 1:2 Slope; 60' Tree Tests

F Series Tests

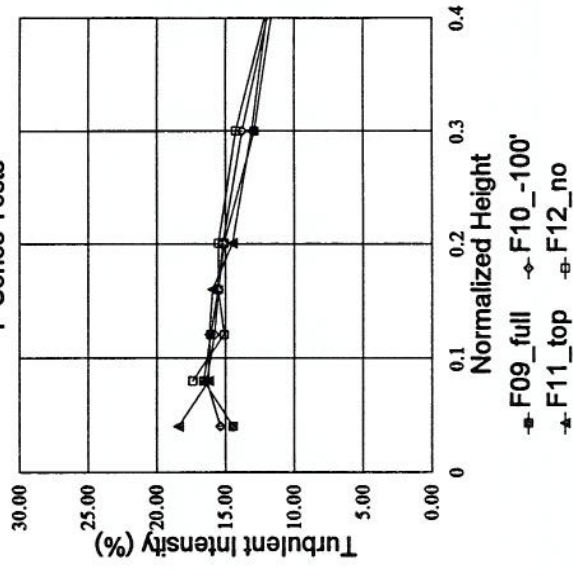


TABLE 20 Model Ridge Turbulence Profile Test Results; Triangular Shape, 1:2 Slope

USWP Task 2 Test Results G Series Tests

USW_VEL0.WK3

Sheet B:

02/18/93

Velocity Profile Data

Run G01 Triangular Hill: 1:3 Slope; 20' Trees: Full Cut

Height (cm)	Velocity HW (cm/s)	Turbulent Intensity (%)	Velocity @30.5cm (cm/s)	Velocity @6.1cm (cm/s)	Velocity Ratio
1.2	632	12.8	858	506	1.70
2.4	640	14.1	855	515	1.66
3.7	650	14.1	851	512	1.66
4.9	679	13.5	857	518	1.65
6.1	674	13.5	860	513	1.68
9.1	710	12.3	853	511	1.67
12.9	746	11.5	855	502	1.70
18.3	782	10.3	855	510	1.68
24.4	827	9.0	858	506	1.70
30.5	868	7.9	863	507	1.70
Average =			857	510	1.68

Velocity Profile Data

Run G03 Triangular Hill: 1:3 Slope; 20' Trees: Top Cut

Height (cm)	Velocity HW (cm/s)	Turbulent Intensity (%)	Velocity @30.5cm (cm/s)	Velocity @6.1cm (cm/s)	Velocity Ratio
1.2	655	13.6	862	509	1.69
2.4	669	13.6	867	519	1.67
3.7	683	13.8	865	525	1.65
4.9	694	13.6	865	521	1.66
6.1	704	13.3	872	515	1.69
9.1	740	11.9	872	515	1.69
12.9	761	11.2	868	510	1.70
18.3	793	10.2	864	513	1.69
24.4	846	8.7	871	511	1.71
30.5	878	7.4	867	507	1.71
Average =			867	514	1.69

Velocity Profile Data

Run G02 Triangular Hill: 1:3 Slope; 20' Trees: -100' Cut

Height (cm)	Velocity HW (cm/s)	Turbulent Intensity (%)	Velocity @30.5cm (cm/s)	Velocity @6.1cm (cm/s)	Velocity Ratio
1.2	637	13.6	854	512	1.67
2.4	654	13.6	852	513	1.66
3.7	670	14.0	860	502	1.71
4.9	678	14.1	859	512	1.68
6.1	701	12.8	857	513	1.67
9.1	717	12.4	856	510	1.68
12.9	757	11.1	856	510	1.68
18.3	795	10.0	861	506	1.70
24.4	827	9.4	853	508	1.68
30.5	870	7.5	863	507	1.70
Average =			857	509	1.68

Velocity Profile Data

Run G04 Triangular Hill: 1:3 Slope; 20' Trees: No Cut

Height (cm)	Velocity HW (cm/s)	Turbulent Intensity (%)	Velocity @30.5cm (cm/s)	Velocity @6.1cm (cm/s)	Velocity Ratio
1.2	612	14.7	869	513	1.69
2.4	646	13.3	863	513	1.68
3.7	667	13.6	867	516	1.68
4.9	677	13.7	867	517	1.68
6.1	692	13.6	865	506	1.71
9.1	728	12.3	864	505	1.71
12.9	752	11.4	863	511	1.69
18.3	795	10.3	867	512	1.69
24.4	841	8.8	870	508	1.71
30.5	875	7.5	868	502	1.73
Average =			866	510	1.70

TABLE 21 Model Ridge Test Data; Triangular Shape, 1:3 Slope, 20' Trees

USWP Task 2 Test Results G Series Tests

USW_VEL0.WK3 Sheet B: 02/18/93

Velocity Profile Data

Run G05 Triangular Hill: 1:3 Slope; 40' Trees: Full Cut

Height (cm)	Velocity HW (cm/s)	Turbulent Intensity (%)	Velocity @30.5cm (cm/s)	Velocity @6.1cm (cm/s)	Velocity Ratio
1.2	626	14.2	863	505	1.71
2.4	630	15.4	857	513	1.67
3.7	648	15.5	859	515	1.67
4.9	667	14.6	860	508	1.69
6.1	691	13.8	864	501	1.73
9.1	713	12.8	856	499	1.71
12.9	749	11.6	862	509	1.69
18.3	782	10.7	855	511	1.67
24.4	837	9.0	863	502	1.72
30.5	877	7.6	865	510	1.70
Average =			860	507	1.70

Velocity Profile Data

Run G06 Triangular Hill: 1:3 Slope; 40' Trees: -100' Cut

Height (cm)	Velocity HW (cm/s)	Turbulent Intensity (%)	Velocity @30.5cm (cm/s)	Velocity @6.1cm (cm/s)	Velocity Ratio
1.2	633	14.5	854	508	1.68
2.4	649	14.8	847	510	1.66
3.7	663	15.0	858	505	1.70
4.9	674	14.3	854	506	1.69
6.1	697	14.0	857	506	1.69
9.1	728	12.4	856	486	1.76
12.9	749	11.2	848	504	1.68
18.3	794	10.3	857	504	1.70
24.4	834	8.9	855	504	1.70
30.5	873	7.9	859	504	1.70
Average =			855	504	1.70

Velocity Profile Data

Run G07 Triangular Hill: 1:3 Slope; 40' Trees: Top Cut

Height (cm)	Velocity HW (cm/s)	Turbulent Intensity (%)	Velocity @30.5cm (cm/s)	Velocity @6.1cm (cm/s)	Velocity Ratio
1.2	602	17.2	856	501	1.71
2.4	646	15.1	855	503	1.70
3.7	655	14.8	850	501	1.70
4.9	683	14.3	851	495	1.72
6.1	681	13.9	848	487	1.74
9.1	726	12.2	850	495	1.72
12.9	750	11.4	851	501	1.70
18.3	789	10.3	851	504	1.69
24.4	830	9.2	846	503	1.68
30.5	865	7.8	854	493	1.73
Average =			851	498	1.71

Velocity Profile Data

Run G08 Triangular Hill: 1:3 Slope; 40' Trees: No Cut

Height (cm)	Velocity HW (cm/s)	Turbulent Intensity (%)	Velocity @30.5cm (cm/s)	Velocity @6.1cm (cm/s)	Velocity Ratio
1.2					
2.4	608	14.7	848	500	1.70
3.7	628	14.8	847	500	1.69
4.9	651	14.6	854	510	1.67
6.1	676	14.1	857	502	1.71
9.1	705	13.5	850	503	1.69
12.9	747	11.2	852	497	1.71
18.3	782	10.4	847	496	1.71
24.4	832	9.1	853	497	1.71
30.5	860	8.0	850	499	1.70
Average =			851	501	1.70

TABLE 22 Model Ridge Test Data; Triangular Shape, 1:3 Slope, 40' Trees

USWP Task 2 Test Results G Series Tests

USW_VEL0.WK3 Sheet B: 02/18/93

Velocity Profile Data

Run G09 Triangular Hill: 1:3 Slope: 60' Trees: Full Cut

Height (cm)	Velocity HW (cm/s)	Turbulent Intensity (%)	Velocity @30.5cm (cm/s)	Velocity @6.1cm (cm/s)	Velocity Ratio
1.2	607	14.7	860	507	1.69
2.4	613	15.2	857	509	1.68
3.7	625	15.7	855	507	1.69
4.9	661	15.5	861	504	1.71
6.1	669	14.9	860	507	1.70
9.1	703	12.9	861	508	1.70
12.9	742	11.9	856	500	1.71
18.3	785	10.5	859	510	1.68
24.4	832	9.4	862	513	1.68
30.5	871	7.9	864	497	1.74
Average =			859	506	1.70

Velocity Profile Data

Run G11 Triangular Hill: 1:3 Slope: 60' Trees: Top Cut

Height (cm)	Velocity HW (cm/s)	Turbulent Intensity (%)	Velocity @30.5cm (cm/s)	Velocity @6.1cm (cm/s)	Velocity Ratio
1.2	568	18.7	848	506	1.68
2.4	611	15.5	854	505	1.69
3.7	633	16.7	854	509	1.68
4.9	655	16.0	859	504	1.70
6.1	673	15.3	854	502	1.70
9.1	698	13.4	855	497	1.72
12.9	744	12.0	853	495	1.72
18.3	779	10.5	854	497	1.72
24.4	824	9.0	855	500	1.71
30.5	866	7.6	865	497	1.74
Average =			855	501	1.71

Velocity Profile Data

Run G10 Triangular Hill: 1:3 Slope: 60' Trees: -100' Cut

Height (cm)	Velocity HW (cm/s)	Turbulent Intensity (%)	Velocity @30.5cm (cm/s)	Velocity @6.1cm (cm/s)	Velocity Ratio
1.2					
2.4	618	16.0	861	513	1.68
3.7	641	15.9	858	507	1.69
4.9	657	14.8	856	502	1.71
6.1	682	14.7	857	509	1.68
9.1	714	13.3	864	503	1.72
12.9	753	11.9	862	512	1.68
18.3	791	10.5	860	503	1.71
24.4	832	9.1	863	509	1.70
30.5	868	8.1	865	507	1.71
Average =			861	507	1.70

Velocity Profile Data

Run G12 Triangular Hill: 1:3 Slope: 60' Trees: No Cut

Height (cm)	Velocity HW (cm/s)	Turbulent Intensity (%)	Velocity @30.5cm (cm/s)	Velocity @6.1cm (cm/s)	Velocity Ratio
1.2					
2.4	591	16.1	853	509	1.68
3.7	621	14.9	854	501	1.70
4.9	634	15.7	852	500	1.70
6.1	652	14.7	851	494	1.72
9.1	699	13.6	861	506	1.70
12.9	734	12.2	857	508	1.69
18.3	780	10.5	860	503	1.71
24.4	825	9.0	857	498	1.72
30.5	860	8.3	861	502	1.71
Average =			856	502	1.70

TABLE 23 Model Ridge Test Data; Triangular Shape, 1:3 Slope, 60' Trees

USWP Task 2 Test Results G Series Tests

USW_VEL1.WK3 Sheet B: 02/18/93

Velocity Profile Comparisons

Triangular Hill; 1:3 Slope; 20' Tree Tests				
Height Norm.	Velocity Norm.	Velocity Norm.	Velocity Norm.	Velocity Norm.
G01_full	G02_-100'	G03_top	G04_no	
0.04	0.74	0.75	0.76	0.70
0.08	0.75	0.77	0.77	0.75
0.12	0.76	0.78	0.79	0.77
0.16	0.79	0.79	0.80	0.78
0.20	0.78	0.82	0.81	0.80
0.30	0.83	0.84	0.85	0.84
0.42	0.87	0.88	0.88	0.87
0.60	0.91	0.92	0.92	0.92
0.80	0.96	0.97	0.97	0.97
1.00	1.01	1.01	1.01	1.01
Ur@30.5cm =	857	857	867	866
Ur@6.1cm =	510	509	514	510
Href (cm) =	30.5	30.5	30.5	30.5

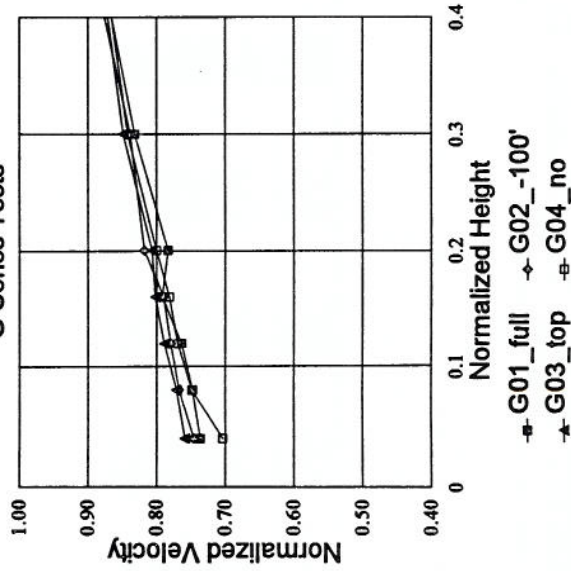
Velocity Profile Comparisons

Triangular Hill; 1:3 Slope; 40' Tree Tests				
Height Norm.	Velocity Norm.	Velocity Norm.	Velocity Norm.	Velocity Norm.
G05_full	G06_-100'	G07_top	G08_no	
0.04	0.73	0.74	0.70	0.72
0.08	0.74	0.77	0.75	0.75
0.12	0.75	0.77	0.77	0.74
0.16	0.77	0.79	0.80	0.76
0.20	0.80	0.81	0.80	0.79
0.30	0.83	0.85	0.85	0.83
0.42	0.87	0.88	0.88	0.88
0.60	0.91	0.93	0.93	0.92
0.80	0.97	0.98	0.98	0.98
1.00	1.01	1.02	1.01	1.01
Ur@30.5cm =	860	855	851	851
Ur@6.1cm =	507	504	498	501
Href (cm) =	30.5	30.5	30.5	30.5

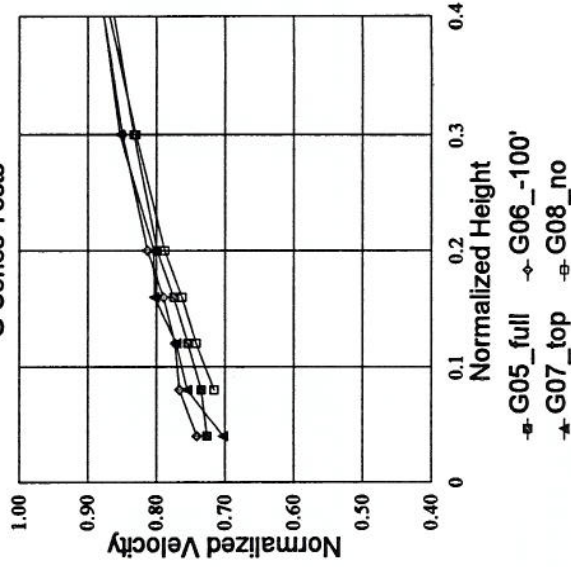
Velocity Profile Comparisons

Triangular Hill; 1:3 Slope; 60' Tree Tests				
Height Norm.	Velocity Norm.	Velocity Norm.	Velocity Norm.	Velocity Norm.
G09_full	G10_-100'	G11_top	G12_no	
0.04	0.71	0.72	0.67	0.69
0.08	0.71	0.72	0.72	0.73
0.12	0.73	0.75	0.74	0.73
0.16	0.77	0.77	0.76	0.74
0.20	0.78	0.80	0.79	0.77
0.30	0.82	0.83	0.82	0.81
0.42	0.87	0.87	0.87	0.86
0.60	0.91	0.92	0.91	0.91
0.80	0.97	0.96	0.96	0.96
1.00	1.01	1.00	1.00	1.00
Ur@30.5cm =	859	861	855	858
Ur@6.1cm =	508	507	501	502
Href (cm) =	30.5	30.5	30.5	30.5

Triangular Hill; 1:3 Slope; 20' Tree Tests
G Series Tests



Triangular Hill; 1:3 Slope; 40' Tree Tests
G Series Tests



Triangular Hill; 1:3 Slope; 60' Tree Tests
G Series Tests

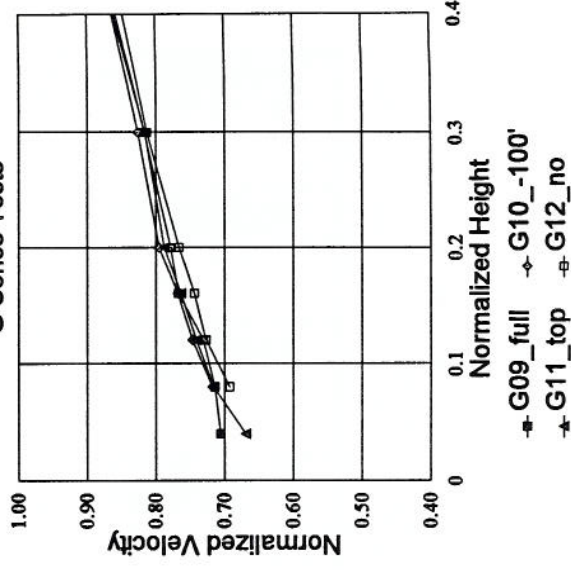


TABLE 24 Model Ridge Velocity Profile Test Results; Triangular Shape, 1:3 Slope

USWP Task 2 Test Results G Series Tests

USW_VEL2.WK3

Sheet B:

11/06/92

Turbulent Intensity Profile Comparisons
Triangular Hill; 1:3 Slope; 20' Tree Tests

Height Norm.	G01_full	Turb.Int. (%)	G02_-100'	Turb.Int. (%)	G03_top	Turb.Int. (%)	G04_no	Turb.Int. (%)
0.04	12.8	13.6	13.6	13.6	13.6	13.6	14.7	14.7
0.08	14.1	13.6	13.6	13.6	13.6	13.6	13.3	13.3
0.12	14.1	14.0	13.8	13.8	13.6	13.6	13.6	13.6
0.16	13.5	14.1	13.6	13.6	13.6	13.6	13.7	13.7
0.20	13.5	12.8	13.3	13.3	13.6	13.6	13.6	13.6
0.30	12.3	12.4	11.9	11.9	12.3	12.3	12.3	12.3
0.42	11.5	11.1	11.2	11.2	11.4	11.4	11.4	11.4
0.60	10.3	10.0	10.2	10.2	10.3	10.3	10.3	10.3
0.80	9.0	9.4	8.7	8.7	8.8	8.8	8.8	8.8
1.00	7.9	7.5	7.4	7.4	7.5	7.5	7.5	7.5
Ur@30.5cm =	857	857	867	866				
Ur@6.1cm =	510	509	514	510				
Href (cm) =	30.5	30.5	30.5	30.5				

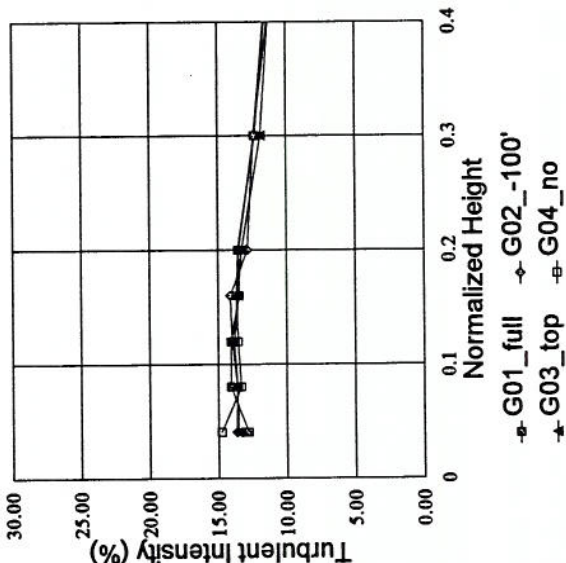
Turbulent Intensity Profile Comparisons
Triangular Hill; 1:3 Slope; 40' Tree Tests

Height Norm.	G05_full	Turb.Int. (%)	G06_-100'	Turb.Int. (%)	G07_top	Turb.Int. (%)	G08_no	Turb.Int. (%)
0.04	14.2	14.5	14.5	17.2	15.1	14.7	14.7	14.7
0.08	15.4	14.8	14.8	15.1	14.8	14.8	14.8	14.8
0.12	15.5	15.0	14.3	14.3	14.6	14.6	14.6	14.6
0.16	14.6	14.3	14.3	13.9	14.1	14.1	14.1	14.1
0.20	13.8	14.0	12.4	12.2	13.5	13.5	13.5	13.5
0.30	12.8	11.6	11.2	11.4	11.2	11.2	11.2	11.2
0.42	11.6	10.7	10.3	10.3	10.4	10.4	10.4	10.4
0.60	10.7	9.0	8.9	9.2	9.1	9.1	9.1	9.1
0.80	9.0	7.6	7.9	7.8	8.0	8.0	8.0	8.0
1.00	7.6	7.9	7.8	7.8	8.0	8.0	8.0	8.0
Ur@30.5cm =	860	855	851	851	851	851	851	851
Ur@6.1cm =	507	504	498	501	501	501	501	501
Href (cm) =	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5

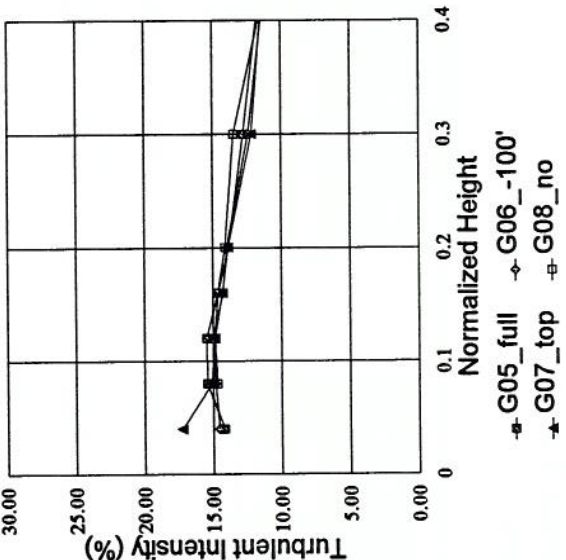
Turbulent Intensity Profile Comparisons
Triangular Hill; 1:3 Slope; 60' Tree Tests

Height Norm.	G09_full	Turb.Int. (%)	G10_-100'	Turb.Int. (%)	G11_top	Turb.Int. (%)	G12_no	Turb.Int. (%)
0.04	14.7	16.0	15.5	16.1	15.5	16.1	16.1	16.1
0.08	15.2	15.8	16.7	16.7	16.7	16.7	16.7	16.7
0.12	15.7	14.8	16.0	15.7	16.0	15.7	15.7	15.7
0.16	15.5	14.7	15.3	14.7	15.3	14.7	14.7	14.7
0.20	14.9	13.3	13.4	13.6	13.4	13.6	13.6	13.6
0.30	12.9	11.9	12.0	12.2	12.0	12.2	12.2	12.2
0.42	11.9	10.5	10.5	10.5	10.5	10.5	10.5	10.5
0.60	10.5	9.4	9.1	9.0	9.0	9.0	9.0	9.0
0.80	9.4	7.9	8.1	7.6	8.3	8.3	8.3	8.3
1.00	7.9	8.1	8.1	8.3	8.3	8.3	8.3	8.3
Ur@30.5cm =	859	861	855	856	856	856	856	856
Ur@6.1cm =	506	507	501	502	502	502	502	502
Href (cm) =	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5

Triangular Hill; 1:3 Slope; 20' Tree Tests
G Series Tests



Triangular Hill; 1:3 Slope; 40' Tree Tests
G Series Tests



Triangular Hill; 1:3 Slope; 60' Tree Tests
G Series Tests

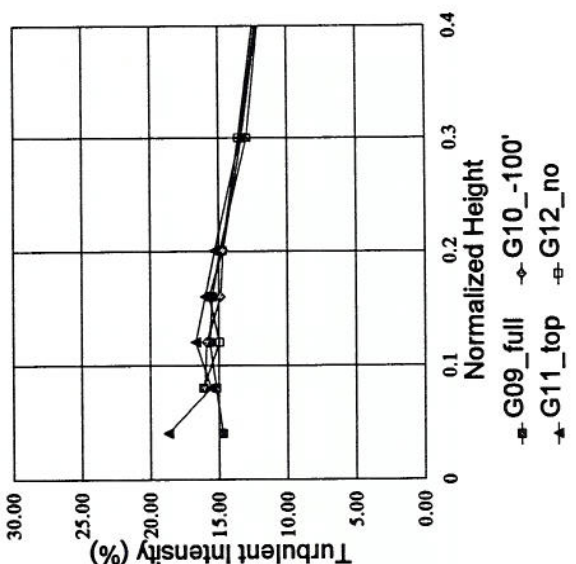


TABLE 25 Model Ridge Turbulence Profile Test Results; Triangular Shape, 1:3 Slope

USWP Task 2 Test Results H Series Tests

USW_VEL0.WK3

Sheet C:

02/18/93

Velocity Profile Data

Run H01 Triangular Hill: 1:5 Slope; 20' Trees: Full Cut

Height (cm)	Velocity HW (cm/s)	Turbulent Intensity (%)	Velocity @30.5cm (cm/s)	Velocity @6.1cm (cm/s)	Velocity Ratio
1.2	678	12.9	854	501	1.70
2.4	676	13.7	857	518	1.66
3.7	689	13.8	859	505	1.70
4.9	700	13.3	856	498	1.72
6.1	707	12.9	855	508	1.68
9.1	742	12.0	856	509	1.68
12.9	751	11.5	854	511	1.67
18.3	784	10.4	851	499	1.71
24.4	822	9.1	847	501	1.69
30.5	855	7.8	852	500	1.71
Average =			854	505	1.69

Velocity Profile Data

Run H03 Triangular Hill: 1:5 Slope; 20' Trees: Top Cut

Height (cm)	Velocity HW (cm/s)	Turbulent Intensity (%)	Velocity @30.5cm (cm/s)	Velocity @6.1cm (cm/s)	Velocity Ratio
1.2	612	15.5	857	502	1.71
2.4	659	14.2	861	511	1.69
3.7	668	13.9	864	508	1.70
4.9	686	14.1	864	513	1.68
6.1	698	13.8	867	515	1.68
9.1	732	12.1	866	507	1.71
12.9	755	11.1	863	507	1.70
18.3	793	10.2	865	509	1.70
24.4	836	8.6	864	510	1.69
30.5	866	7.5	865	510	1.70
Average =			864	509	1.70

Velocity Profile Data

Run H02 Triangular Hill: 1:5 Slope; 20' Trees: -100' Cut

Height (cm)	Velocity HW (cm/s)	Turbulent Intensity (%)	Velocity @30.5cm (cm/s)	Velocity @6.1cm (cm/s)	Velocity Ratio
1.2	642	13.5	844	494	1.71
2.4	671	13.5	845	511	1.66
3.7	677	13.5	846	504	1.68
4.9	686	13.1	848	506	1.68
6.1	706	12.8	849	503	1.69
9.1	724	11.8	853	512	1.67
12.9	751	11.4	851	494	1.72
18.3	780	10.3	846	502	1.69
24.4	822	8.8	848	506	1.68
30.5	854	7.6	850	509	1.67
Average =			848	504	1.68

Velocity Profile Data

Run H04 Triangular Hill: 1:5 Slope; 20' Trees: No Cut

Height (cm)	Velocity HW (cm/s)	Turbulent Intensity (%)	Velocity @30.5cm (cm/s)	Velocity @6.1cm (cm/s)	Velocity Ratio
1.2	543	16.9	858	509	1.68
2.4	638	13.2	854	509	1.68
3.7	653	13.9	858	503	1.71
4.9	676	12.8	859	503	1.71
6.1	689	12.8	861	504	1.71
9.1	715	12.0	860	513	1.68
12.9	760	11.2	868	511	1.70
18.3	792	10.2	863	507	1.70
24.4	831	8.5	865	508	1.70
30.5	864	7.7	868	497	1.75
Average =			861	506	1.70

TABLE 26 Model Ridge Test Data; Triangular Shape, 1:5 Slope, 20' Trees

USWP Task 2 Test Results H Series Tests

USW_VEL0.WK3 Sheet C: 02/18/93

Velocity Profile Data

Run H05 Triangular Hill: 1:5 Slope: 40' Trees: Full Cut

Height (cm)	Velocity (cm/s)	Turbulent Intensity (%)	Velocity @30.5cm (cm/s)	Velocity @6.1cm (cm/s)	Velocity Ratio
1.2	646	13.6	844	506	1.67
2.4	651	14.2	847	506	1.67
3.7	656	14.1	840	500	1.68
4.9	668	14.1	842	504	1.67
6.1	680	14.7	841	500	1.68
9.1	717	12.3	846	494	1.71
12.9	733	11.9	840	501	1.68
18.3	773	10.3	839	504	1.67
24.4	813	9.1	849	497	1.71
30.5	849	7.8	852	498	1.71
Average =			844	501	1.68

Velocity Profile Data

Run H07 Triangular Hill: 1:5 Slope: 40' Trees: Top Cut

Height (cm)	Velocity (cm/s)	Turbulent Intensity (%)	Velocity @30.5cm (cm/s)	Velocity @6.1cm (cm/s)	Velocity Ratio
1.2	533	21.4	856	502	1.71
2.4	618	15.7	860	498	1.73
3.7	642	15.2	852	502	1.70
4.9	657	15.3	858	496	1.73
6.1	673	14.6	857	507	1.69
9.1	696	13.1	854	507	1.68
12.9	749	11.4	857	500	1.71
18.3	782	10.5	857	497	1.72
24.4	823	9.2	857	507	1.69
30.5	855	7.8	856	500	1.71
Average =			856	502	1.71

Velocity Profile Data

Run H06 Triangular Hill: 1:5 Slope: 40' Trees: -100' Cut

Height (cm)	Velocity (cm/s)	Turbulent Intensity (%)	Velocity @30.5cm (cm/s)	Velocity @6.1cm (cm/s)	Velocity Ratio
1.2	638	15.0	861	510	1.69
2.4	654	15.2	860	511	1.68
3.7	660	14.7	859	513	1.67
4.9	690	13.5	867	507	1.71
6.1	686	14.2	857	506	1.69
9.1	716	12.7	864	512	1.69
12.9	742	11.9	863	498	1.73
18.3	779	10.4	856	517	1.66
24.4	821	9.3	861	497	1.73
30.5	858	7.6	861	507	1.70
Average =			861	508	1.70

Velocity Profile Data

Run H08 Triangular Hill: 1:5 Slope: 40' Trees: No Cut

Height (cm)	Velocity (cm/s)	Turbulent Intensity (%)	Velocity @30.5cm (cm/s)	Velocity @6.1cm (cm/s)	Velocity Ratio
1.2					
2.4	592	16.4	850	501	1.70
3.7	639	15.1	850	496	1.71
4.9	659	14.0	853	496	1.72
6.1	681	13.5	856	492	1.74
9.1	715	12.6	852	495	1.72
12.9	739	11.4	848	499	1.70
18.3	781	10.2	851	500	1.70
24.4	829	8.5	855	494	1.73
30.5	859	7.8	858	490	1.75
Average =			853	496	1.72

TABLE 27 Model Ridge Test Data; Triangular Shape, 1:5 Slope, 40' Trees

USWP Task 2 Test Results H Series Tests

USW_VELO.WK3 Sheet C: 02/18/93

Velocity Profile Data

Run H09 Triangular Hill: 1:5 Slope; 60' Trees: Full Cut

Height (cm)	Velocity HW (cm/s)	Turbulent Intensity (%)	Velocity @30.5cm (cm/s)	Velocity @6.1cm (cm/s)	Velocity Ratio
1.2	626	14.3	865	506	1.71
2.4	646	15.2	856	504	1.70
3.7	661	15.1	852	511	1.67
4.9	673	14.7	858	497	1.73
6.1	683	14.7	851	494	1.72
9.1	714	13.2	855	505	1.69
12.9	752	11.6	857	509	1.68
18.3	785	10.7	858	512	1.68
24.4	827	9.2	859	514	1.67
30.5	870	7.6	866	500	1.73
Average =			858	505	1.70

Velocity Profile Data

Run H11 Triangular Hill: 1:5 Slope; 60' Trees: Top Cut

Height (cm)	Velocity HW (cm/s)	Turbulent Intensity (%)	Velocity @30.5cm (cm/s)	Velocity @6.1cm (cm/s)	Velocity Ratio
1.2	525	21.1	846	500	1.69
2.4	591	17.0	852	508	1.67
3.7	617	16.8	846	497	1.70
4.9	645	15.7	857	503	1.70
6.1	648	15.5	850	511	1.66
9.1	683	14.2	852	500	1.70
12.9	730	12.1	844	514	1.64
18.3	771	10.4	851	509	1.67
24.4	821	9.1	852	503	1.69
30.5	864	8.1	860	500	1.72
Average =			851	505	1.69

Velocity Profile Data

Run H10 Triangular Hill: 1:5 Slope; 60' Trees: -100' Cut

Height (cm)	Velocity HW (cm/s)	Turbulent Intensity (%)	Velocity @30.5cm (cm/s)	Velocity @6.1cm (cm/s)	Velocity Ratio
1.2	623	15.7	859	502	1.71
2.4	626	16.3	856	501	1.71
3.7	648	16.1	851	508	1.68
4.9	663	14.8	854	512	1.67
6.1	678	14.6	854	512	1.67
9.1	701	13.4	856	509	1.68
12.9	736	11.8	855	496	1.72
18.3	778	10.3	851	505	1.69
24.4	823	9.0	855	496	1.72
30.5	857	7.6	858	503	1.70
Average =			855	504	1.69

Velocity Profile Data

Run H12 Triangular Hill: 1:5 Slope; 60' Trees: No Cut

Height (cm)	Velocity HW (cm/s)	Turbulent Intensity (%)	Velocity @30.5cm (cm/s)	Velocity @6.1cm (cm/s)	Velocity Ratio
1.2					
2.4	581	17.5	841	500	1.68
3.7	621	14.7	840	503	1.67
4.9	642	14.8	848	494	1.72
6.1	656	15.1	847	497	1.70
9.1	700	13.1	847	498	1.70
12.9	729	11.6	849	497	1.71
18.3	766	10.3	841	496	1.69
24.4	821	9.2	848	493	1.72
30.5	851	8.1	851	492	1.73
Average =			846	497	1.70

TABLE 28 Model Ridge Test Data; Triangular Shape, 1:5 Slope, 60' Trees

USWP Task 2 Test Results H Series Tests

USW_VEL1.WK3 Sheet C: 02/18/93

Velocity Profile Comparisons

Triangular Hill; 1:5 Slope; 20' Tree Tests

Height Norm.	Velocity Norm.	Velocity Norm.	Velocity Norm.	Velocity Norm.
H01	H02	H03	H04	H04_no
0.04	0.79	0.76	0.71	0.63
0.08	0.79	0.79	0.76	0.75
0.12	0.80	0.80	0.77	0.76
0.16	0.82	0.81	0.79	0.79
0.20	0.83	0.83	0.80	0.80
0.30	0.87	0.85	0.85	0.83
0.42	0.88	0.88	0.88	0.88
0.60	0.92	0.92	0.92	0.92
0.80	0.97	0.97	0.97	0.96
1.00	1.00	1.01	1.00	1.00
Ur@30.5cm =	854	848	864	861
Ur@6.1cm =	505	504	509	506
Href (cm) =	30.5	30.5	30.5	30.5

Velocity Profile Comparisons

Triangular Hill; 1:5 Slope; 40' Tree Tests

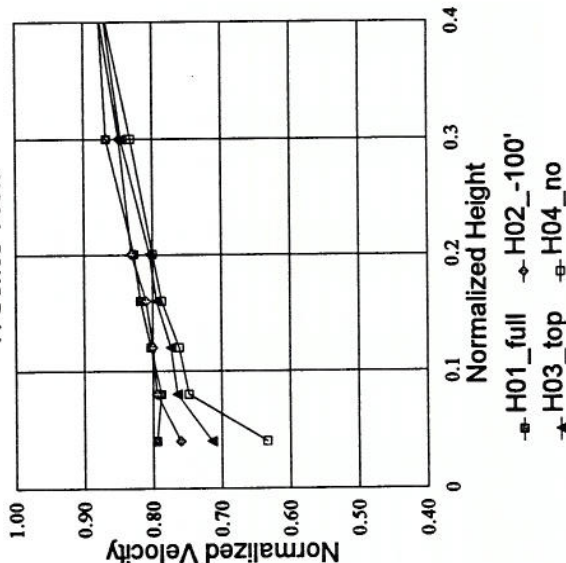
Height Norm.	Velocity Norm.	Velocity Norm.	Velocity Norm.	Velocity Norm.
H05	H06	H07	H08	H08_no
0.04	0.77	0.74	0.62	0.70
0.08	0.77	0.76	0.72	0.75
0.12	0.78	0.77	0.75	0.75
0.16	0.79	0.80	0.77	0.77
0.20	0.81	0.80	0.79	0.80
0.30	0.85	0.83	0.81	0.84
0.42	0.87	0.86	0.87	0.87
0.60	0.92	0.91	0.91	0.92
0.80	0.96	0.95	0.96	0.97
1.00	1.00	1.00	1.00	1.00
Ur@30.5cm =	844	861	856	853
Ur@6.1cm =	501	508	502	496
Href (cm) =	30.5	30.5	30.5	30.5

Velocity Profile Comparisons

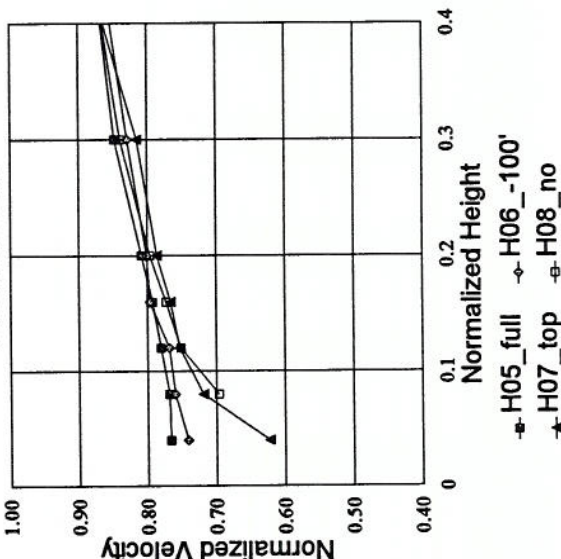
Triangular Hill; 1:5 Slope; 60' Tree Tests

Height Norm.	Velocity Norm.	Velocity Norm.	Velocity Norm.	Velocity Norm.
H09	H10	H11	H12	H12_no
0.04	0.72	0.72	0.62	0.69
0.08	0.75	0.73	0.69	0.74
0.12	0.78	0.76	0.73	0.76
0.16	0.78	0.78	0.75	0.76
0.20	0.80	0.79	0.76	0.77
0.30	0.84	0.82	0.80	0.83
0.42	0.88	0.86	0.87	0.86
0.60	0.92	0.91	0.91	0.91
0.80	0.96	0.96	0.96	0.97
1.00	1.01	1.00	1.00	1.00
Ur@30.5cm =	858	855	851	846
Ur@6.1cm =	505	504	505	497
Href (cm) =	30.5	30.5	30.5	30.5

Triangular Hill; 1:5 Slope; 20' Tree Tests
H Series Tests



Triangular Hill; 1:5 Slope; 40' Tree Tests
H Series Tests



Triangular Hill; 1:5 Slope; 60' Tree Tests
H Series Tests

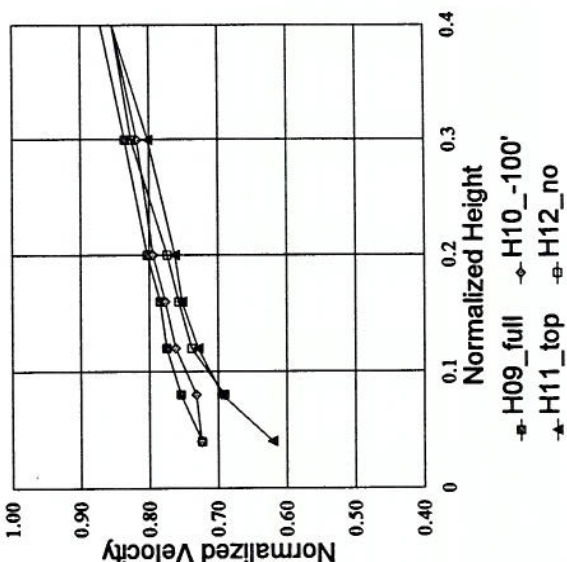


TABLE 29 Model Ridge Velocity Profile Test Results; Triangular Shape, 1:5 Slope

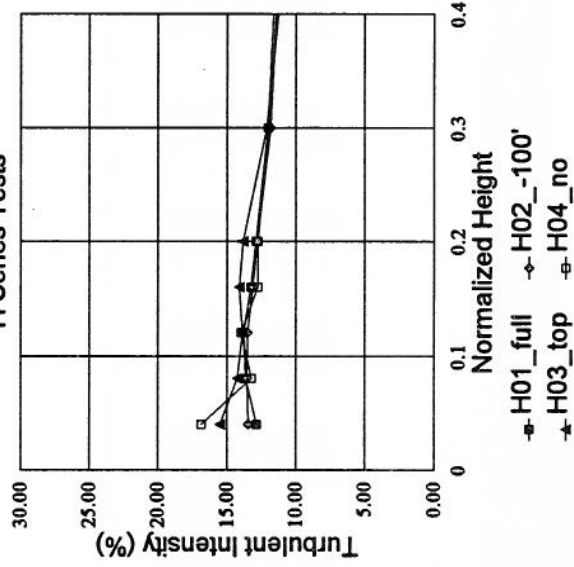
USWP Task 2 Test Results H Series Tests

USW_VEL2.WK3 Sheet C: 11/06/92

Turbulent Intensity Profile Comparisons
Triangular Hill; 1:5 Slope; 20' Tree Tests

Height Norm.	H01 full	Turb.Int. (%)	H02 -100'	Turb.Int. (%)	H03 top	Turb.Int. (%)	H04 no	Turb.Int. (%)
0.04	12.9	13.5	13.5	15.5	15.5	16.9		
0.08	13.7	13.5	13.5	14.2	14.2	13.2		
0.12	13.8	13.5	13.5	13.9	13.9	13.9		
0.16	13.3	13.1	13.1	14.1	14.1	12.8		
0.20	12.9	12.8	12.8	13.8	13.8	12.8		
0.30	12.0	11.8	11.8	12.1	12.1	12.0		
0.42	11.5	11.4	11.4	11.1	11.1	11.2		
0.60	10.4	10.3	10.3	10.2	10.2	10.2		
0.80	9.1	8.8	8.8	8.6	8.6	8.5		
1.00	7.8	7.6	7.6	7.5	7.5	7.7		
Ur@30.5cm =	854	848	848	864	864	861		
Ur@6.1cm =	505	504	504	509	509	506		
Href (cm) =	30.5	30.5	30.5	30.5	30.5	30.5		

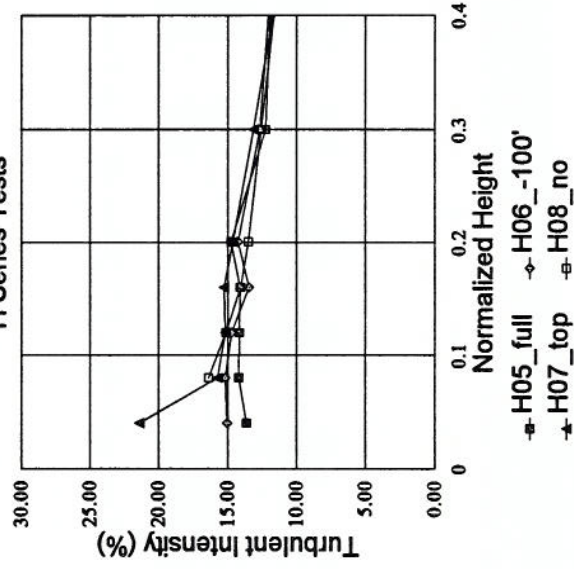
Triangular Hill; 1:5 Slope; 20' Tree Tests
H Series Tests



Turbulent Intensity Profile Comparisons
Triangular Hill; 1:5 Slope; 40' Tree Tests

Height Norm.	H05 full	Turb.Int. (%)	H06 -100'	Turb.Int. (%)	H07 top	Turb.Int. (%)	H08 no	Turb.Int. (%)
0.04	13.6	15.0	15.0	21.4	21.4	16.4		
0.08	14.2	15.2	15.2	15.7	15.7	15.1		
0.12	14.1	14.7	14.7	15.2	15.2	15.1		
0.16	14.1	13.5	13.5	15.3	15.3	14.0		
0.20	14.7	14.2	14.2	14.6	14.6	13.5		
0.30	12.3	12.7	12.7	13.1	13.1	12.6		
0.42	11.9	11.9	11.9	11.4	11.4	11.4		
0.60	10.3	10.4	10.4	10.5	10.5	10.2		
0.80	9.1	9.3	9.3	9.2	9.2	8.5		
1.00	7.8	7.6	7.6	7.8	7.8	7.8		
Ur@30.5cm =	844	861	861	856	856	853		
Ur@6.1cm =	501	508	508	502	502	496		
Href (cm) =	30.5	30.5	30.5	30.5	30.5	30.5		

Triangular Hill; 1:5 Slope; 40' Tree Tests
H Series Tests



Turbulent Intensity Profile Comparisons
Triangular Hill; 1:5 Slope; 60' Tree Tests

Height Norm.	H09 full	Turb.Int. (%)	H10 -100'	Turb.Int. (%)	H11 top	Turb.Int. (%)	H12 no	Turb.Int. (%)
0.04	14.3	15.7	15.7	21.1	21.1	17.5		
0.08	15.2	16.3	16.3	17.0	17.0	14.7		
0.12	15.1	16.1	16.1	16.8	16.8	14.7		
0.16	14.7	14.8	14.8	15.7	15.7	14.8		
0.20	14.7	14.6	14.6	15.5	15.5	15.1		
0.30	13.2	13.4	13.4	14.2	14.2	13.1		
0.42	11.6	11.8	11.8	12.1	12.1	11.6		
0.60	10.7	10.3	10.3	10.4	10.4	10.3		
0.80	9.2	9.0	9.0	9.1	9.1	9.2		
1.00	7.6	7.6	7.6	8.1	8.1	8.1		
Ur@30.5cm =	858	855	855	851	851	846		
Ur@6.1cm =	505	504	504	505	505	497		
Href (cm) =	30.5	30.5	30.5	30.5	30.5	30.5		

Triangular Hill; 1:5 Slope; 60' Tree Tests
H Series Tests

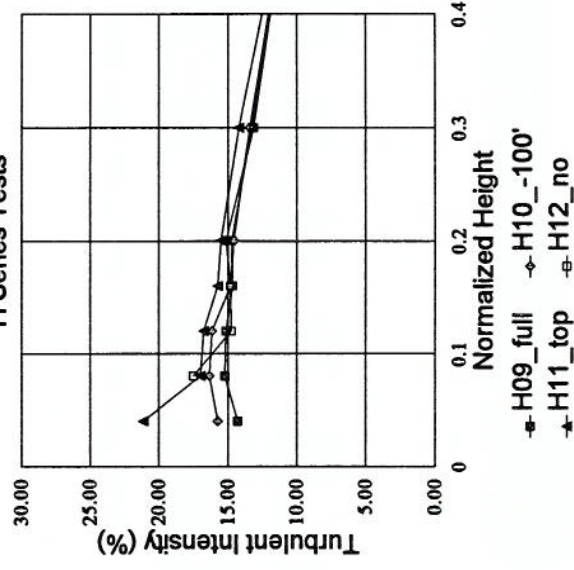


TABLE 30 Model Ridge Turbulence Profile Test Results; Triangular Shape, 1:5 Slope

USWP Task 2 Test Results I Series Tests

USW_VEL0.WK3

Sheet D:

02/18/93

Velocity Profile Data

Run I01 Triangular Hill: 1:10 Slope: 20' Trees: Full Cut

Height (cm)	Velocity HW (cm/s)	Turbulent Intensity (%)	Velocity @30.5cm (cm/s)	Velocity @6.1cm (cm/s)	Velocity Ratio
1.2	637	13.6	852	513	1.66
2.4	659	13.2	849	509	1.67
3.7	673	13.4	851	505	1.68
4.9	676	13.8	853	506	1.69
6.1	684	13.2	856	518	1.65
9.1	718	12.3	858	516	1.66
12.9	742	11.7	851	511	1.67
18.3	782	10.3	856	506	1.69
24.4	822	9.3	856	508	1.68
30.5	860	7.7	860	507	1.70
Average =			854	510	1.68

Velocity Profile Data

Run I03 Triangular Hill: 1:10 Slope: 20' Trees: Top Cut

Height (cm)	Velocity HW (cm/s)	Turbulent Intensity (%)	Velocity @30.5cm (cm/s)	Velocity @6.1cm (cm/s)	Velocity Ratio
1.2	528	19.3	856	501	1.71
2.4	623	15.4	863	510	1.69
3.7	647	14.1	862	512	1.68
4.9	653	14.4	860	514	1.67
6.1	676	13.4	861	507	1.70
9.1	706	12.2	861	502	1.71
12.9	742	11.9	863	505	1.71
18.3	783	10.3	863	507	1.70
24.4	827	9.6	863	525	1.65
30.5	863	7.8	864	512	1.69
Average =			862	509	1.69

Velocity Profile Data

Run I02 Triangular Hill: 1:10 Slope: 20' Trees: -100' Cut

Height (cm)	Velocity HW (cm/s)	Turbulent Intensity (%)	Velocity @30.5cm (cm/s)	Velocity @6.1cm (cm/s)	Velocity Ratio
1.2	616	13.9	852	508	1.68
2.4	634	14.3	850	512	1.66
3.7	664	13.5	851	505	1.68
4.9	671	13.5	853	511	1.67
6.1	692	13.5	853	505	1.69
9.1	712	12.5	848	511	1.66
12.9	740	11.6	853	515	1.66
18.3	785	10.3	854	508	1.68
24.4	821	9.3	851	510	1.67
30.5	854	8.6	855	511	1.67
Average =			852	510	1.67

Velocity Profile Data

Run I04 Triangular Hill: 1:10 Slope: 20' Trees: No Cut

Height (cm)	Velocity HW (cm/s)	Turbulent Intensity (%)	Velocity @30.5cm (cm/s)	Velocity @6.1cm (cm/s)	Velocity Ratio
1.2	436	22.7	855	505	1.69
2.4	620	15.5	862	503	1.71
3.7	658	13.8	861	511	1.68
4.9	680	13.5	861	509	1.69
6.1	680	13.2	859	515	1.67
9.1	722	12.7	864	508	1.70
12.9	738	12.0	854	504	1.69
18.3	777	11.0	852	508	1.68
24.4	818	9.2	848	502	1.69
30.5	859	7.7	857	496	1.73
Average =			857	506	1.69

TABLE 31 Model Ridge Test Data; Triangular Shape, 1:10 Slope, 20' Trees

USWP Task 2 Test Results I Series Tests

USW_VEL0.WK3

Sheet D:

02/18/93

Velocity Profile Data

Run I05 Triangular Hill: 1:10 Slope: 40' Trees: Full Cut

Height (cm)	Velocity (cm/s)	Turbulent Intensity (%)	Velocity @30.5cm (cm/s)	Velocity @6.1cm (cm/s)	Velocity Ratio
1.2	612	14.9	852	510	1.67
2.4	646	14.0	854	492	1.74
3.7	662	14.7	857	504	1.70
4.9	673	14.2	858	505	1.70
6.1	686	14.0	861	508	1.69
9.1	712	13.2	856	507	1.69
12.9	750	11.8	851	505	1.69
18.3	790	10.4	854	503	1.70
24.4	831	9.1	856	495	1.73
30.5	868	8.1	859	507	1.69
Average =			856	504	1.70

Velocity Profile Data

Run I06 Triangular Hill: 1:10 Slope: 40' Trees: -100' Cut

Height (cm)	Velocity (cm/s)	Turbulent Intensity (%)	Velocity @30.5cm (cm/s)	Velocity @6.1cm (cm/s)	Velocity Ratio
1.2	612	15.9	860	499	1.72
2.4	630	15.4	861	513	1.68
3.7	652	15.8	858	499	1.72
4.9	673	14.3	861	506	1.70
6.1	678	14.8	857	508	1.69
9.1	721	12.6	861	503	1.71
12.9	758	11.6	860	513	1.68
18.3	795	10.1	860	504	1.71
24.4	835	8.8	861	509	1.69
30.5	867	8.2	859	507	1.69
Average =			860	506	1.70

Velocity Profile Data

Run I07 Triangular Hill: 1:10 Slope: 40' Trees: Top Cut

Height (cm)	Velocity (cm/s)	Turbulent Intensity (%)	Velocity @30.5cm (cm/s)	Velocity @6.1cm (cm/s)	Velocity Ratio
1.2	480	22.5	844	497	1.70
2.4	558	19.1	849	496	1.71
3.7	607	16.7	849	503	1.69
4.9	641	15.0	849	499	1.70
6.1	648	15.0	851	495	1.72
9.1	693	13.3	847	496	1.71
12.9	735	11.8	847	494	1.71
18.3	770	10.5	843	505	1.67
24.4	817	9.2	845	502	1.68
30.5	857	8.0	850	504	1.69
Average =			847	499	1.70

Velocity Profile Data

Run I08 Triangular Hill: 1:10 Slope: 40' Trees: No Cut

Height (cm)	Velocity (cm/s)	Turbulent Intensity (%)	Velocity @30.5cm (cm/s)	Velocity @6.1cm (cm/s)	Velocity Ratio
1.2					
2.4	562	18.7	859	499	1.72
3.7	624	15.4	853	501	1.70
4.9	653	14.2	849	502	1.69
6.1	681	14.3	859	503	1.71
9.1	720	12.6	858	509	1.69
12.9	743	11.8	849	511	1.66
18.3	794	10.0	858	508	1.69
24.4	830	9.1	859	503	1.71
30.5	872	7.7	864	506	1.71
Average =			856	505	1.70

TABLE 32 Model Ridge Test Data; Triangular Shape, 1:10 Slope, 40' Trees

USWP Task 2 Test Results I Series Tests

USW_VELO.WK3 Sheet D: 02/18/93

Velocity Profile Data

Run I09 Triangular Hill: 1:10 Slope: 60' Trees: Full Cut

Height (cm)	Velocity HW (cm/s)	Turbulent Intensity (%)	Velocity @30.5cm (cm/s)	Velocity @6.1cm (cm/s)	Velocity Ratio
1.2	616	15.5	853	506	1.69
2.4	636	14.7	859	508	1.69
3.7	650	15.0	858	503	1.70
4.9	663	15.1	857	506	1.69
6.1	672	14.8	849	501	1.69
9.1	708	13.8	857	505	1.70
12.9	741	12.0	860	509	1.69
18.3	789	10.1	857	504	1.70
24.4	828	9.2	855	495	1.73
30.5	871	7.7	863	507	1.70
Average =			857	504	1.70

Velocity Profile Data

Run I11 Triangular Hill: 1:10 Slope: 60' Trees: Top Cut

Height (cm)	Velocity HW (cm/s)	Turbulent Intensity (%)	Velocity @30.5cm (cm/s)	Velocity @6.1cm (cm/s)	Velocity Ratio
1.2	482	21.0	843	505	1.67
2.4	554	19.8	849	504	1.68
3.7	601	17.9	848	504	1.68
4.9	616	16.6	841	496	1.70
6.1	644	15.3	845	496	1.70
9.1	684	14.0	843	501	1.68
12.9	716	12.9	838	502	1.67
18.3	767	10.7	842	500	1.68
24.4	814	9.1	841	495	1.70
30.5	851	8.2	845	501	1.69
Average =			844	500	1.69

Velocity Profile Data

Run I10 Triangular Hill: 1:10 Slope: 60' Trees: -100' Cut

Height (cm)	Velocity HW (cm/s)	Turbulent Intensity (%)	Velocity @30.5cm (cm/s)	Velocity @6.1cm (cm/s)	Velocity Ratio
1.2	584	16.2	853	503	1.69
2.4	613	15.4	850	508	1.67
3.7	628	15.0	857	505	1.70
4.9	651	15.2	851	506	1.68
6.1	661	14.8	853	511	1.67
9.1	689	13.7	840	500	1.68
12.9	737	12.1	847	491	1.72
18.3	778	10.2	841	505	1.66
24.4	816	9.4	842	514	1.64
30.5	858	7.6	852	493	1.73
Average =			849	504	1.68

Velocity Profile Data

Run I12 Triangular Hill: 1:10 Slope: 60' Trees: No Cut

Height (cm)	Velocity HW (cm/s)	Turbulent Intensity (%)	Velocity @30.5cm (cm/s)	Velocity @6.1cm (cm/s)	Velocity Ratio
1.2					
2.4	509	22.6	859	511	1.68
3.7	604	18.0	859	511	1.68
4.9	654	15.4	858	509	1.69
6.1	675	14.8	862	498	1.73
9.1	712	13.4	868	518	1.68
12.9	761	11.5	871	504	1.73
18.3	807	10.2	876	508	1.72
24.4	841	9.1	868	504	1.72
30.5	880	7.7	873	511	1.71
Average =			866	508	1.70

TABLE 33 Model Ridge Test Data; Triangular Shape, 1:10 Slope, 60' Trees

USWP Task 2 Test Results I Series Tests

USW_VEL1.WK3 Sheet D: 02/18/93

Velocity Profile Comparisons

Triangular Hill; 1:10 Slope; 20' Tree Tests									
Height Norm.	Velocity Norm.	Velocity Norm.	Velocity Norm.	Velocity Norm.	Velocity Norm.	Velocity Norm.	Velocity Norm.	Velocity Norm.	Velocity Norm.
	i01_full	i02_-100'	i03_top	i04_top	i04_no				
0.04	0.75	0.72	0.62	0.72	0.51				
0.08	0.78	0.75	0.72	0.72	0.72				
0.12	0.79	0.78	0.75	0.75	0.76				
0.16	0.79	0.79	0.76	0.76	0.79				
0.20	0.80	0.81	0.79	0.79	0.79				
0.30	0.84	0.84	0.82	0.82	0.84				
0.42	0.87	0.87	0.86	0.86	0.86				
0.60	0.91	0.92	0.91	0.91	0.91				
0.80	0.96	0.96	0.96	0.96	0.96				
1.00	1.00	1.00	1.00	1.00	1.00				
Ur@30.5cm =	854	852	862	862	857				
Ur@6.1cm =	510	510	509	509	506				
Href (cm) =	30.5	30.5	30.5	30.5	30.5				

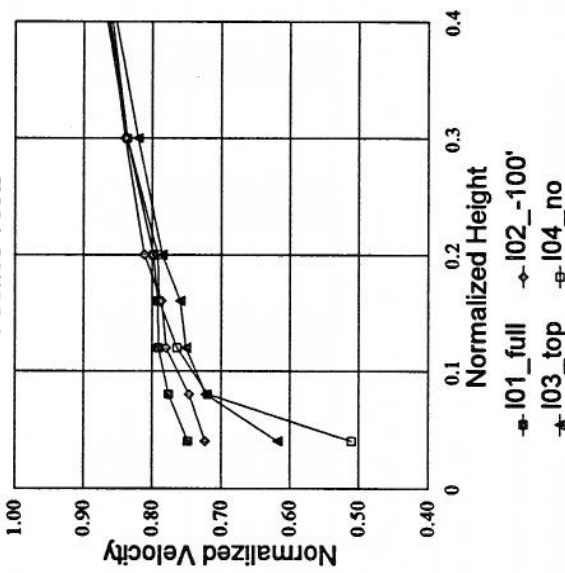
Velocity Profile Comparisons

Triangular Hill; 1:10 Slope; 40' Tree Tests									
Height Norm.	Velocity Norm.	Velocity Norm.	Velocity Norm.	Velocity Norm.	Velocity Norm.	Velocity Norm.	Velocity Norm.	Velocity Norm.	Velocity Norm.
	i05_full	i06_-100'	i07_top	i08_top	i08_no				
0.04	0.72	0.71	0.57	0.57	0.65				
0.08	0.76	0.73	0.66	0.66	0.65				
0.12	0.77	0.76	0.72	0.72	0.73				
0.16	0.78	0.78	0.75	0.75	0.77				
0.20	0.80	0.79	0.76	0.76	0.79				
0.30	0.83	0.84	0.82	0.82	0.84				
0.42	0.88	0.88	0.87	0.87	0.88				
0.60	0.93	0.92	0.91	0.91	0.93				
0.80	0.97	0.97	0.97	0.97	0.97				
1.00	1.01	1.01	1.01	1.01	1.01				
Ur@30.5cm =	856	860	847	847	856				
Ur@6.1cm =	504	506	499	499	505				
Href (cm) =	30.5	30.5	30.5	30.5	30.5				

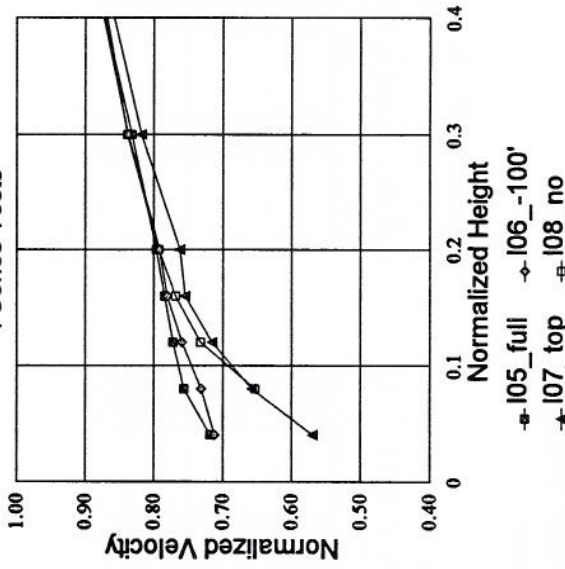
Velocity Profile Comparisons

Triangular Hill; 1:10 Slope; 60' Tree Tests									
Height Norm.	Velocity Norm.	Velocity Norm.	Velocity Norm.	Velocity Norm.	Velocity Norm.	Velocity Norm.	Velocity Norm.	Velocity Norm.	Velocity Norm.
	i09_full	i10_-100'	i11_top	i11_top	i12_no				
0.04	0.72	0.69	0.57	0.57	0.59				
0.08	0.74	0.72	0.65	0.65	0.70				
0.12	0.76	0.73	0.71	0.71	0.70				
0.16	0.77	0.77	0.73	0.73	0.76				
0.20	0.79	0.77	0.76	0.76	0.78				
0.30	0.83	0.82	0.81	0.81	0.82				
0.42	0.86	0.87	0.85	0.85	0.87				
0.60	0.92	0.92	0.91	0.91	0.92				
0.80	0.97	0.97	0.97	0.97	0.97				
1.00	1.01	1.01	1.01	1.01	1.01				
Ur@30.5cm =	857	849	844	844	866				
Ur@6.1cm =	504	504	500	500	508				
Href (cm) =	30.5	30.5	30.5	30.5	30.5				

Triangular Hill; 1:10 Slope; 20' Tree Tests



Triangular Hill; 1:10 Slope; 40' Tree Tests



Triangular Hill; 1:10 Slope; 60' Tree Tests

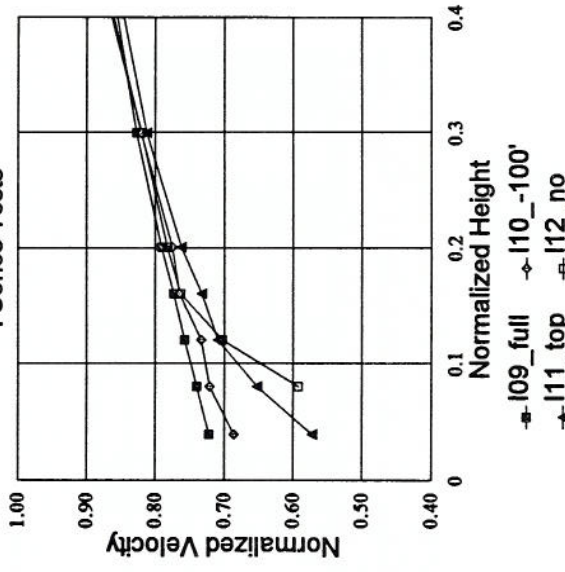


TABLE 34 Model Ridge Velocity Profile Test Results; Triangular Shape, 1:10 Slope

USWP Task 2 Test Results I Series Tests

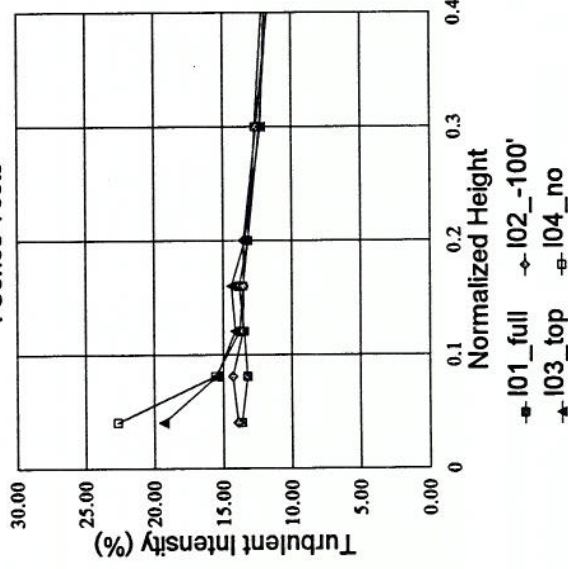
USW_VEL2.WK3 Sheet D: 11/06/92

Turbulent Intensity Profile Comparisons

Triangular Hill: 1:10 Slope; 20' Tree Tests

Height Norm.	Turb.Int. (%)	Turb.Int. (%)	Turb.Int. (%)	Turb.Int. (%)
0.04	13.6	13.9	19.3	22.7
0.08	13.2	14.3	15.4	15.5
0.12	13.4	13.5	14.1	13.8
0.16	13.8	13.5	14.4	13.5
0.20	13.2	13.5	13.4	13.2
0.30	12.3	12.5	12.2	12.7
0.42	11.7	11.6	11.9	12.0
0.60	10.3	10.3	10.3	11.0
0.80	9.3	9.3	9.6	9.2
1.00	7.7	8.6	7.8	7.7
Ur@30.5cm =	854	852	862	857
Ur@6.1cm =	510	510	509	506
Href (cm) =	30.5	30.5	30.5	30.5

Triangular Hill; 1:10 Slope; 20' Tree Tests I Series Tests

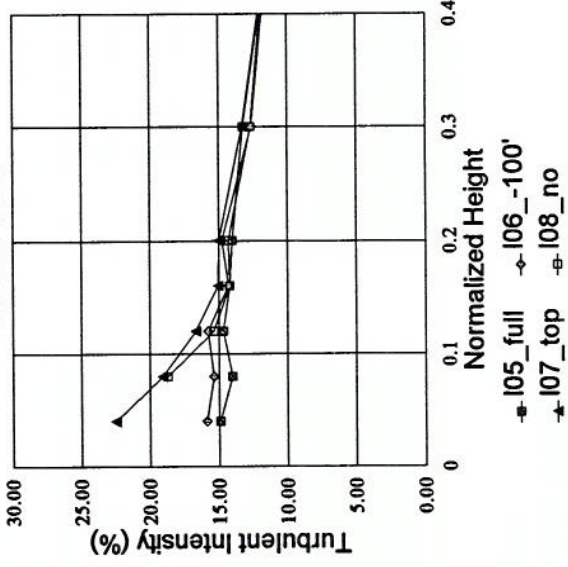


Turbulent Intensity Profile Comparisons

Triangular Hill: 1:10 Slope; 40' Tree Tests

Height Norm.	Turb.Int. (%)	Turb.Int. (%)	Turb.Int. (%)	Turb.Int. (%)
0.04	14.9	15.9	22.5	18.7
0.08	14.0	15.4	19.1	15.4
0.12	14.7	15.8	16.7	15.4
0.16	14.2	14.3	15.0	14.2
0.20	14.0	14.8	15.0	14.3
0.30	13.2	12.6	13.3	12.6
0.42	11.8	11.6	11.8	11.8
0.60	10.4	10.1	10.5	10.0
0.80	9.1	8.8	9.2	9.1
1.00	8.1	8.2	8.0	7.7
Ur@30.5cm =	856	860	847	856
Ur@6.1cm =	504	506	499	505
Href (cm) =	30.5	30.5	30.5	30.5

Triangular Hill; 1:10 Slope; 40' Tree Tests I Series Tests



Turbulent Intensity Profile Comparisons

Triangular Hill: 1:10 Slope; 60' Tree Tests

Height Norm.	Turb.Int. (%)	Turb.Int. (%)	Turb.Int. (%)	Turb.Int. (%)
0.04	15.5	16.2	21.0	22.6
0.08	14.7	15.4	19.8	18.0
0.12	15.0	15.0	17.9	15.4
0.16	15.1	15.2	16.6	14.8
0.20	14.8	14.8	15.3	13.4
0.30	13.8	13.7	14.0	11.5
0.42	12.0	12.1	12.9	10.2
0.60	10.1	10.2	10.7	9.1
0.80	9.2	9.4	9.1	8.2
1.00	7.7	7.6	8.2	7.7
Ur@30.5cm =	857	849	844	866
Ur@6.1cm =	504	504	500	508
Href (cm) =	30.5	30.5	30.5	30.5

Triangular Hill; 1:10 Slope; 60' Tree Tests I Series Tests

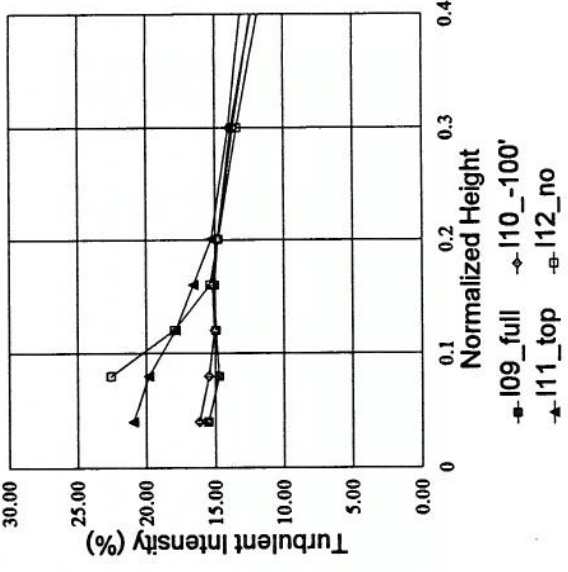


TABLE 35 Model Ridge Turbulence Profile Test Results; Triangular Shape, 1:10 Slope

USWP Task 2 Test Results J Series Tests

USW_VEL0.WK3

Sheet E:

02/18/93

Velocity Profile Data

Run J01 Sinusoidal Hill: 1:2 Slope; 20' Trees: Full Cut

Height (cm)	Velocity HW (cm/s)	Turbulent Intensity (%)	Velocity @30.5cm (cm/s)	Velocity @6.1cm (cm/s)	Velocity Ratio
1.2	663	12.6	839	500	1.68
2.4	655	13.5	836	503	1.66
3.7	663	13.7	838	504	1.66
4.9	677	13.5	846	500	1.69
6.1	686	13.4	846	504	1.68
9.1	702	13.0	847	505	1.68
12.9	743	11.1	848	492	1.73
18.3	777	10.1	849	498	1.70
24.4	817	8.7	845	502	1.68
30.5	844	7.6	840	494	1.70
Average =			843	500	1.69

Velocity Profile Data

Run J03 Sinusoidal Hill: 1:2 Slope; 20' Trees: Top Cut

Height (cm)	Velocity HW (cm/s)	Turbulent Intensity (%)	Velocity @30.5cm (cm/s)	Velocity @6.1cm (cm/s)	Velocity Ratio
1.2	656	13.6	857	508	1.69
2.4	673	13.4	860	507	1.70
3.7	679	13.6	856	505	1.69
4.9	689	13.0	854	506	1.69
6.1	704	12.4	852	504	1.69
9.1	733	11.8	858	508	1.69
12.9	760	11.4	859	505	1.70
18.3	792	10.3	855	507	1.69
24.4	843	8.9	865	516	1.68
30.5	879	7.7	871	515	1.69
Average =			859	508	1.69

Velocity Profile Data

Run J02 Sinusoidal Hill: 1:2 Slope; 20' Trees: -100' Cut

Height (cm)	Velocity HW (cm/s)	Turbulent Intensity (%)	Velocity @30.5cm (cm/s)	Velocity @6.1cm (cm/s)	Velocity Ratio
1.2	644	13.1	849	501	1.69
2.4	672	13.2	855	505	1.69
3.7	668	13.4	849	506	1.68
4.9	684	13.5	857	511	1.68
6.1	688	13.2	860	506	1.70
9.1	718	12.5	859	507	1.69
12.9	745	11.6	857	507	1.69
18.3	786	10.2	858	512	1.68
24.4	828	8.9	855	505	1.69
30.5	859	7.7	855	507	1.69
Average =			855	507	1.69

Velocity Profile Data

Run J04 Sinusoidal Hill: 1:2 Slope; 20' Trees: No Cut

Height (cm)	Velocity HW (cm/s)	Turbulent Intensity (%)	Velocity @30.5cm (cm/s)	Velocity @6.1cm (cm/s)	Velocity Ratio
1.2	617	15.0	858	516	1.66
2.4	654	12.9	856	509	1.68
3.7	657	13.7	855	496	1.73
4.9	668	13.3	855	513	1.67
6.1	681	13.5	852	504	1.69
9.1	715	12.1	854	498	1.72
12.9	742	11.4	858	507	1.69
18.3	781	10.2	855	504	1.70
24.4	832	8.8	859	502	1.71
30.5	868	7.6	865	508	1.70
Average =			857	506	1.69

TABLE 36 Model Ridge Test Data; Sinusoidal Shape, 1:2 Slope, 20' Trees

USWP Task 2 Test Results J Series Tests

USW_VEL0.WK3

Sheet E:

02/18/93

Velocity Profile Data

Run J05 Sinusoidal Hill: 1:2 Slope: 40' Trees: Full Cut

Height (cm)	Velocity HW (cm/s)	Turbulent Intensity (%)	Velocity @30.5cm (cm/s)	Velocity @6.1cm (cm/s)	Velocity Ratio
1.2	648	14.0	855	513	1.67
2.4	649	15.4	865	508	1.70
3.7	671	15.3	869	513	1.69
4.9	681	14.3	868	511	1.70
6.1	701	13.5	865	507	1.71
9.1	731	12.5	867	507	1.71
12.9	755	12.1	865	507	1.71
18.3	793	10.4	860	511	1.68
24.4	838	9.1	865	506	1.71
30.5	879	7.9	868	515	1.68
Average =			865	510	1.70

Velocity Profile Data

Run J07 Sinusoidal Hill: 1:2 Slope: 40' Trees: Top Cut

Height (cm)	Velocity HW (cm/s)	Turbulent Intensity (%)	Velocity @30.5cm (cm/s)	Velocity @6.1cm (cm/s)	Velocity Ratio
1.2	582	19.0	858	505	1.70
2.4	637	14.7	860	508	1.69
3.7	659	14.8	859	510	1.68
4.9	666	15.3	854	514	1.66
6.1	689	13.9	852	507	1.68
9.1	716	13.0	855	509	1.68
12.9	758	11.3	863	512	1.69
18.3	791	10.6	859	505	1.70
24.4	828	9.2	855	509	1.68
30.5	876	7.6	865	509	1.70
Average =			858	509	1.69

Velocity Profile Data

Run J06 Sinusoidal Hill: 1:2 Slope: 40' Trees: -100' Cut

Height (cm)	Velocity HW (cm/s)	Turbulent Intensity (%)	Velocity @30.5cm (cm/s)	Velocity @6.1cm (cm/s)	Velocity Ratio
1.2	653	14.6	865	511	1.69
2.4	666	14.6	866	511	1.70
3.7	668	14.5	861	514	1.68
4.9	686	14.8	865	508	1.70
6.1	697	13.9	863	514	1.68
9.1	723	12.9	863	509	1.70
12.9	753	11.5	865	515	1.68
18.3	796	10.3	859	513	1.68
24.4	831	9.5	859	516	1.67
30.5	879	7.6	872	513	1.70
Average =			864	512	1.69

Velocity Profile Data

Run J08 Sinusoidal Hill: 1:2 Slope: 40' Trees: No Cut

Height (cm)	Velocity HW (cm/s)	Turbulent Intensity (%)	Velocity @30.5cm (cm/s)	Velocity @6.1cm (cm/s)	Velocity Ratio
1.2					
2.4	618	14.2	844	497	1.70
3.7	639	14.1	861	507	1.70
4.9	645	14.7	854	503	1.70
6.1	666	14.1	851	506	1.68
9.1	691	13.1	850	503	1.69
12.9	730	12.3	855	491	1.74
18.3	777	10.7	853	495	1.72
24.4	828	9.2	857	507	1.69
30.5	866	7.8	858	501	1.71
Average =			854	501	1.70

TABLE 37 Model Ridge Test Data; Sinusoidal Shape, 1:2 Slope, 40' Trees

USWP Task 2 Test Results J Series Tests

USW_VEL0.WK3 Sheet E: 02/18/93

Velocity Profile Data

Run J09 Sinusoidal Hill: 1:2 Slope; 60' Trees; Full Cut

Height (cm)	Velocity HW (cm/s)	Turbulent Intensity (%)	Velocity @30.5cm (cm/s)	Velocity @6.1cm (cm/s)	Velocity Ratio
1.2	644	15.0	853	505	1.69
2.4	646	15.7	856	499	1.72
3.7	649	15.8	856	504	1.70
4.9	661	15.0	851	501	1.70
6.1	677	14.0	852	498	1.71
9.1	704	13.1	854	498	1.71
12.9	741	11.5	849	503	1.69
18.3	778	10.3	848	506	1.68
24.4	823	9.1	855	507	1.69
30.5	860	8.0	858	504	1.70
Average =			853	502	1.70

Velocity Profile Data

Run J11 Sinusoidal Hill: 1:2 Slope; 60' Trees; Top Cut

Height (cm)	Velocity HW (cm/s)	Turbulent Intensity (%)	Velocity @30.5cm (cm/s)	Velocity @6.1cm (cm/s)	Velocity Ratio
1.2	538	20.9	851	493	1.73
2.4	624	14.9	853	499	1.71
3.7	636	15.8	842	490	1.72
4.9	651	15.7	845	498	1.70
6.1	668	14.5	844	492	1.72
9.1	700	13.0	840	492	1.71
12.9	738	11.7	846	497	1.70
18.3	772	10.6	850	503	1.69
24.4	815	9.2	846	495	1.71
30.5	857	7.9	851	498	1.71
Average =			847	496	1.71

Velocity Profile Data

Run J10 Sinusoidal Hill: 1:2 Slope; 60' Trees; -100' Cut

Height (cm)	Velocity HW (cm/s)	Turbulent Intensity (%)	Velocity @30.5cm (cm/s)	Velocity @6.1cm (cm/s)	Velocity Ratio
1.2	653	14.9	855	506	1.69
2.4	659	15.4	853	493	1.73
3.7	656	15.6	852	506	1.68
4.9	675	14.7	851	497	1.71
6.1	679	14.6	846	502	1.69
9.1	713	13.1	854	505	1.69
12.9	755	11.1	855	504	1.70
18.3	790	10.3	853	501	1.70
24.4	831	9.2	855	508	1.68
30.5	864	7.6	857	499	1.72
Average =			853	502	1.70

Velocity Profile Data

Run J12 Sinusoidal Hill: 1:2 Slope; 60' Trees; No Cut

Height (cm)	Velocity HW (cm/s)	Turbulent Intensity (%)	Velocity @30.5cm (cm/s)	Velocity @6.1cm (cm/s)	Velocity Ratio
1.2					
2.4	606	15.3	848	504	1.68
3.7	626	14.8	854	495	1.72
4.9	635	14.9	852	503	1.69
6.1	647	14.5	856	499	1.72
9.1	694	13.6	848	489	1.73
12.9	737	11.5	850	493	1.72
18.3	773	10.4	846	491	1.72
24.4	820	9.0	856	493	1.73
30.5	853	8.0	850	497	1.71
Average =			851	496	1.72

TABLE 38 Model Ridge Test Data; Sinusoidal Shape, 1:2 Slope, 60' Trees

USWP Task 2 Test Results

USW VEL1.WK3

02/18/93

Sheet E:

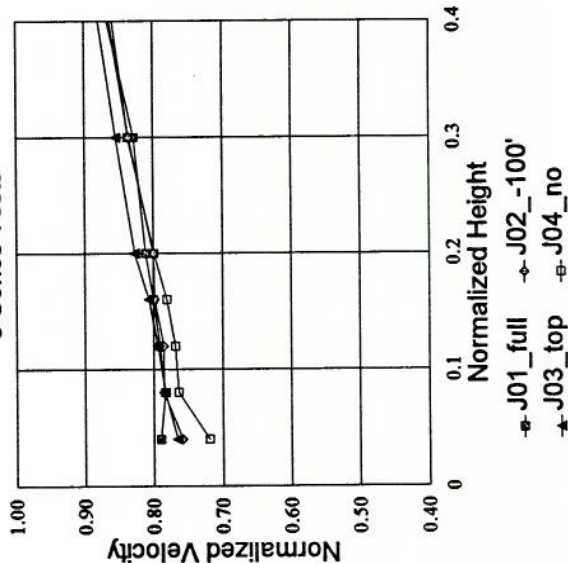
Velocity Profile Comparisons

Sinusoidal Hill: 1:2 Slope: 20' Tree Tests

	Height		Velocity		Velocity		Velocity	
	Norm.	Norm.	J01 full	J02 -100'	Norm.	J03 top	Norm.	J04 no
	0.04		0.79	0.76		0.77		0.72
	0.08		0.78	0.79		0.78		0.76
	0.12		0.79	0.79		0.79		0.77
	0.16		0.80	0.80		0.81		0.78
	0.20		0.81	0.80		0.83		0.80
	0.30		0.83	0.84		0.85		0.84
	0.42		0.88	0.87		0.89		0.86
	0.60		0.92	0.92		0.93		0.91
	0.80		0.97	0.97		0.97		0.97
	1.00		1.00	1.00		1.01		1.00
Ur@30.5cm =			843	855		859		857
Ur@6.1cm =			500	507		508		506
Href (cm) =			30.5	30.5		30.5		30.5

Sinusoidal Hill; 1:2 Slope; 20' Tree Tests J Series Tests

J Series Tests



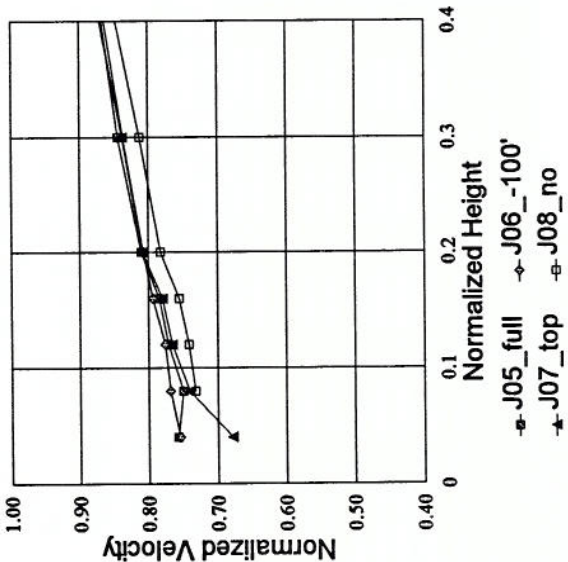
Velocity Profile Comparisons

Sinusoidal Hill: 1:2 Slope; 40' Tree Tests

Height Norm.	Velocity Norm. J05 full	Velocity Norm. J06 -100'	Velocity Norm. J07 top	Velocity Norm. J08 no
0.04	0.76	0.75	0.68	
0.08	0.75	0.77	0.74	0.73
0.12	0.77	0.78	0.77	0.74
0.16	0.78	0.79	0.78	0.76
0.20	0.81	0.81	0.81	0.78
0.30	0.84	0.84	0.84	0.81
0.42	0.87	0.87	0.88	0.85
0.60	0.92	0.93	0.92	0.91
0.80	0.97	0.97	0.97	0.97
1.00	1.01	1.01	1.01	1.01
Ur@30.5cm =	865	864	858	854
Ur@6.1cm =	510	512	509	501
Href (cm) =	30.5	30.5	30.5	30.5

Sinusoidal Hill; 1:2 Slope; 40' Tree Tests

J Series Tests



Velocity Profile Comparisons

Sinusoidal Hill: 1:2 Slope; 60' Tree Tests

Height Norm.	Velocity Norm. J09 full	Velocity Norm. J10 -100'	Velocity Norm. J11 top	Velocity Norm. J12 no
0.04	0.75	0.76	0.63	
0.08	0.75	0.77	0.73	0.71
0.12	0.76	0.77	0.76	0.73
0.16	0.78	0.79	0.77	0.75
0.20	0.79	0.80	0.79	0.76
0.30	0.82	0.84	0.83	0.82
0.42	0.87	0.88	0.87	0.87
0.60	0.92	0.93	0.91	0.91
0.80	0.96	0.97	0.96	0.96
1.00	1.00	1.01	1.01	1.00
Ur@30.5cm =	853	853	847	851
Ur@6.1cm =	502	502	496	496
Href (cm) =	30.5	30.5	30.5	30.5

Sinusoidal Hill; 1:2 Slope; 60' Tree Tests J Series Tests

J Series Tests

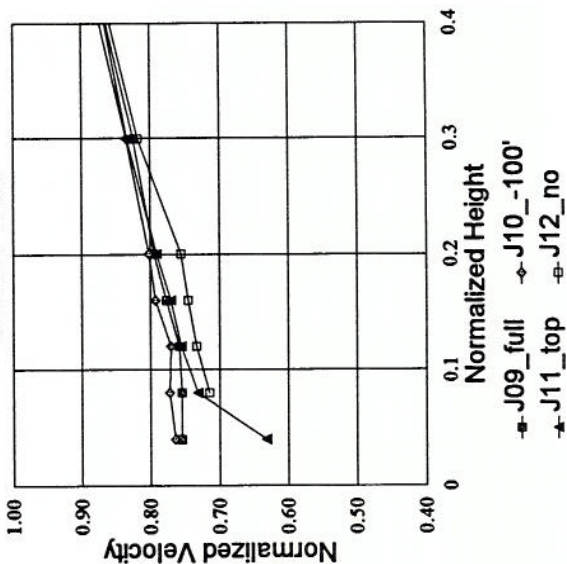


TABLE 39 *Model Ridge Velocity Profile Test Results; Sinusoidal Shape, 1:2 Slope*

USWP Task 2 Test Results J Series Tests

USW_VEL2.WK3

Sheet E:

11/06/92

Turbulent Intensity Profile Comparisons

Sinusoidal Hill, 1:2 Slope; 20' Tree Tests

Height	Turb.int.	Turb.int.	Turb.int.	Turb.int.
Norm.	(%)	(%)	(%)	(%)
J01 full	J02 -100'	J03 top	J04 no	
0.04	12.6	13.1	13.6	15.0
0.08	13.5	13.2	13.4	12.9
0.12	13.7	13.4	13.6	13.7
0.16	13.5	13.5	13.0	13.3
0.20	13.4	13.2	12.4	13.5
0.30	13.0	12.5	11.8	12.1
0.42	11.1	11.6	11.4	11.4
0.60	10.1	10.2	10.3	10.2
0.80	8.7	8.9	8.9	8.8
1.00	7.6	7.7	7.7	7.6
Ur@30.5cm =	843	855	859	857
Ur@6.1cm =	500	507	508	506
Href (cm) =	30.5	30.5	30.5	30.5

Turbulent Intensity Profile Comparisons

Sinusoidal Hill, 1:2 Slope; 40' Tree Tests

Height	Turb.int.	Turb.int.	Turb.int.	Turb.int.
Norm.	(%)	(%)	(%)	(%)
J05 full	J06 -100'	J07 top	J08 no	
0.04	14.0	14.6	19.0	14.2
0.08	15.4	14.6	14.7	14.2
0.12	15.3	14.5	14.8	14.1
0.16	14.3	14.8	15.3	14.7
0.20	13.5	13.9	13.9	14.1
0.30	12.5	12.9	13.0	13.1
0.42	12.1	11.5	11.3	12.3
0.60	10.4	10.3	10.6	10.7
0.80	9.1	9.5	9.2	9.2
1.00	7.9	7.6	7.6	7.8
Ur@30.5cm =	865	864	858	854
Ur@6.1cm =	510	512	509	501
Href (cm) =	30.5	30.5	30.5	30.5

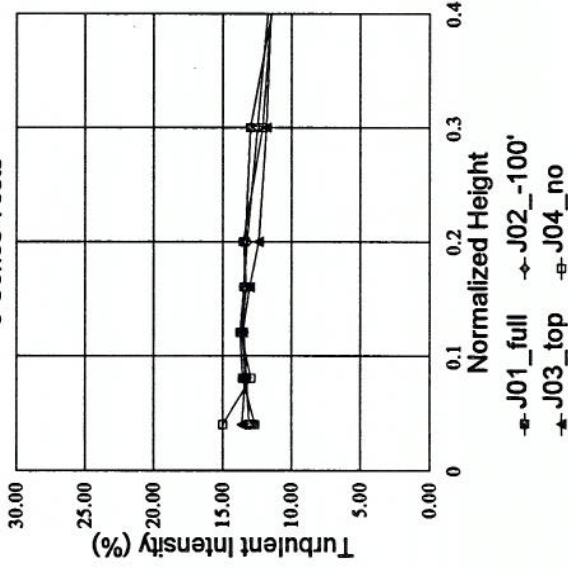
Turbulent Intensity Profile Comparisons

Sinusoidal Hill, 1:2 Slope; 60' Tree Tests

Height	Turb.int.	Turb.int.	Turb.int.	Turb.int.
Norm.	(%)	(%)	(%)	(%)
J09 full	J10 -100'	J11 top	J12 no	
0.04	15.0	14.9	20.9	15.3
0.08	15.7	15.4	14.9	15.3
0.12	15.8	15.6	15.8	14.8
0.16	15.0	14.7	15.7	14.9
0.20	14.0	14.6	14.5	14.5
0.30	13.1	13.1	13.0	13.6
0.42	11.5	11.1	11.7	11.5
0.60	10.3	10.3	10.6	10.4
0.80	9.1	9.2	9.2	9.0
1.00	8.0	7.6	7.9	8.0
Ur@30.5cm =	853	853	847	851
Ur@6.1cm =	502	502	496	496
Href (cm) =	30.5	30.5	30.5	30.5

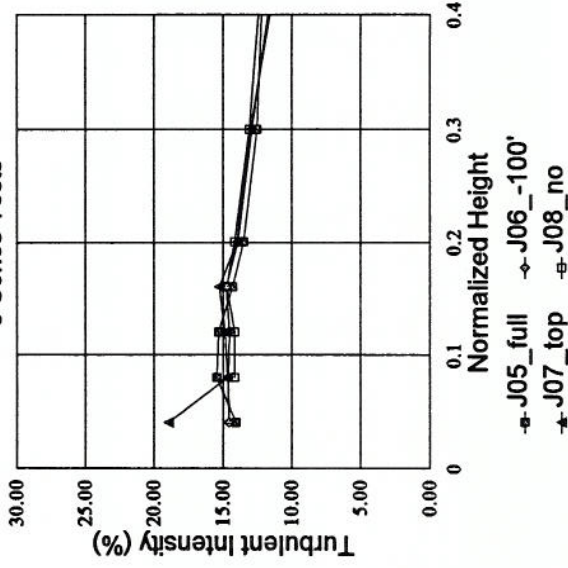
Sinusoidal Hill, 1:2 Slope; 20' Tree Tests

J Series Tests



Sinusoidal Hill, 1:2 Slope; 40' Tree Tests

J Series Tests



Sinusoidal Hill, 1:2 Slope; 60' Tree Tests

J Series Tests

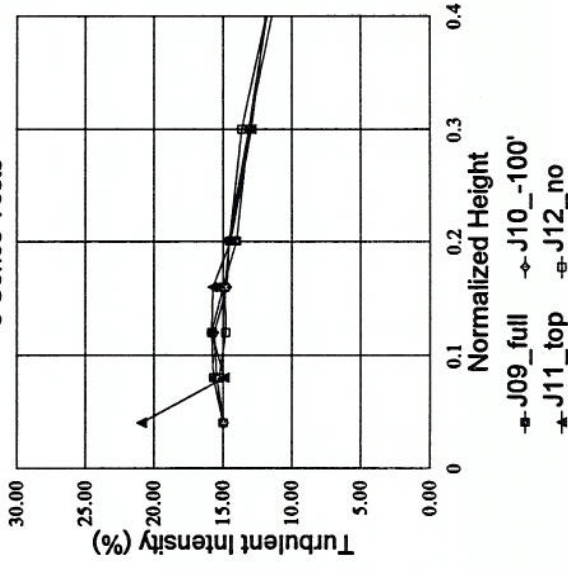


TABLE 40 Model Ridge Turbulence Profile Test Results; Sinusoidal Shape, 1:2 Slope

USWP Task 2 Test Results K Series Tests

USW_VEL0.WK3

Sheet F:

02/18/93

Velocity Profile Data

Run K01 Sinusoidal Hill: 1:3 Slope: 20' Trees: Full Cut

Height (cm)	Velocity HW (cm/s)	Turbulent Intensity (%)	Velocity @30.5cm (cm/s)	Velocity @6.1cm (cm/s)	Velocity Ratio
1.2	659	13.5	851	500	1.70
2.4	673	13.6	840	502	1.68
3.7	678	14.4	847	507	1.67
4.9	697	13.0	846	504	1.68
6.1	692	13.1	844	503	1.68
9.1	718	11.9	848	509	1.67
12.9	743	11.2	851	511	1.67
18.3	772	10.4	844	512	1.65
24.4	824	8.6	850	504	1.69
30.5	855	7.8	849	512	1.66
Average =			847	506	1.67

Velocity Profile Data

Run K03 Sinusoidal Hill: 1:3 Slope: 20' Trees: Top Cut

Height (cm)	Velocity HW (cm/s)	Turbulent Intensity (%)	Velocity @30.5cm (cm/s)	Velocity @6.1cm (cm/s)	Velocity Ratio
1.2	632	15.7	854	510	1.68
2.4	672	13.5	851	514	1.66
3.7	677	13.6	853	506	1.69
4.9	687	13.2	854	508	1.68
6.1	703	12.5	850	520	1.64
9.1	718	12.3	854	504	1.69
12.9	750	11.1	851	495	1.72
18.3	783	9.9	854	511	1.67
24.4	820	8.8	854	502	1.70
30.5	856	7.8	859	510	1.68
Average =			853	508	1.68

Velocity Profile Data

Run K02 Sinusoidal Hill: 1:3 Slope: 20' Trees: -100' Cut

Height (cm)	Velocity HW (cm/s)	Turbulent Intensity (%)	Velocity @30.5cm (cm/s)	Velocity @6.1cm (cm/s)	Velocity Ratio
1.2	715	13.0	862	509	1.69
2.4	712	13.4	858	501	1.71
3.7	710	13.4	858	517	1.66
4.9	715	12.9	861	515	1.67
6.1	716	12.7	862	507	1.70
9.1	735	12.3	859	516	1.66
12.9	765	10.6	854	512	1.67
18.3	796	9.6	856	506	1.69
24.4	835	8.9	864	511	1.69
30.5	863	7.9	859	517	1.66
Average =			859	511	1.68

Velocity Profile Data

Run K04 Sinusoidal Hill: 1:3 Slope: 20' Trees: No Cut

Height (cm)	Velocity HW (cm/s)	Turbulent Intensity (%)	Velocity @30.5cm (cm/s)	Velocity @6.1cm (cm/s)	Velocity Ratio
1.2	484	23.6	872	515	1.69
2.4	671	12.6	863	515	1.68
3.7	688	13.1	870	518	1.68
4.9	694	13.3	870	523	1.66
6.1	704	12.7	872	522	1.67
9.1	727	11.9	868	512	1.69
12.9	749	11.5	870	528	1.65
18.3	793	10.0	868	508	1.71
24.4	829	9.0	868	518	1.67
30.5	863	7.9	870	507	1.72
Average =			869	517	1.68

TABLE 41 Model Ridge Test Data; Sinusoidal Shape, 1:3 Slope, 20' Trees

USWP Task 2 Test Results K Series Tests

USW_VEL0.WK3 Sheet F: 02/18/93

Velocity Profile Data

Run K05 Sinusoidal Hill: 1:3 Slope: 40' Trees: Full Cut

Height (cm)	Velocity HW (cm/s)	Turbulent Intensity (%)	Velocity @30.5cm (cm/s)	Velocity @6.1cm (cm/s)	Velocity Ratio
1.2	639	14.3	852	513	1.66
2.4	648	15.4	859	512	1.68
3.7	666	15.2	853	510	1.67
4.9	678	14.4	853	501	1.70
6.1	687	14.7	853	496	1.72
9.1	715	13.4	850	505	1.68
12.9	744	11.7	849	503	1.69
18.3	784	10.2	856	502	1.71
24.4	824	8.8	853	508	1.68
30.5	867	7.6	859	497	1.73
Average =			854	505	1.69

Velocity Profile Data

Run K06 Sinusoidal Hill: 1:3 Slope: 40' Trees: -100' Cut

Height (cm)	Velocity HW (cm/s)	Turbulent Intensity (%)	Velocity @30.5cm (cm/s)	Velocity @6.1cm (cm/s)	Velocity Ratio
1.2	658	15.0	843	504	1.67
2.4	672	14.7	847	504	1.68
3.7	687	13.7	844	501	1.69
4.9	693	14.5	844	499	1.69
6.1	696	14.2	850	498	1.71
9.1	719	12.4	845	500	1.69
12.9	744	11.5	844	494	1.71
18.3	795	9.9	850	505	1.68
24.4	827	9.2	853	501	1.70
30.5	864	7.8	856	504	1.70
Average =			848	501	1.69

Velocity Profile Data

Run K07 Sinusoidal Hill: 1:3 Slope: 40' Trees: Top Cut

Height (cm)	Velocity HW (cm/s)	Turbulent Intensity (%)	Velocity @30.5cm (cm/s)	Velocity @6.1cm (cm/s)	Velocity Ratio
1.2	517	22.0	857	505	1.70
2.4	640	14.8	856	505	1.69
3.7	658	14.5	857	508	1.69
4.9	676	14.9	858	505	1.70
6.1	690	14.1	862	508	1.70
9.1	719	12.8	863	507	1.70
12.9	752	11.4	861	511	1.69
18.3	791	10.1	861	504	1.71
24.4	834	9.0	862	509	1.69
30.5	866	7.9	862	509	1.69
Average =			860	507	1.70

Velocity Profile Data

Run K08 Sinusoidal Hill: 1:3 Slope: 40' Trees: No Cut

Height (cm)	Velocity HW (cm/s)	Turbulent Intensity (%)	Velocity @30.5cm (cm/s)	Velocity @6.1cm (cm/s)	Velocity Ratio
1.2					
2.4	569	19.1	853	505	1.69
3.7	635	14.1	857	505	1.70
4.9	648	14.7	848	505	1.68
6.1	677	14.5	852	501	1.70
9.1	704	13.0	854	502	1.70
12.9	741	11.6	850	499	1.70
18.3	783	9.8	855	502	1.70
24.4	814	9.0	851	501	1.70
30.5	855	7.7	855	497	1.72
Average =			853	502	1.70

TABLE 42 Model Ridge Test Data; Sinusoidal Shape, 1:3 Slope, 40' Trees

USWP Task 2 Test Results K Series Tests

USW_VEL0.WK3 Sheet F: 02/18/93

Velocity Profile Data

Run K09 Sinusoidal Hill: 1:3 Slope: 60' Trees: Full Cut

Height (cm)	Velocity HW (cm/s)	Turbulent Intensity (%)	Velocity @30.5cm (cm/s)	Velocity @6.1cm (cm/s)	Velocity Ratio
1.2	623	15.6	844	503	1.68
2.4	628	16.1	838	508	1.65
3.7	636	16.0	843	509	1.66
4.9	647	15.8	844	494	1.71
6.1	675	14.2	847	506	1.67
9.1	710	13.4	841	495	1.70
12.9	732	11.7	842	509	1.65
18.3	771	10.1	849	503	1.69
24.4	809	9.6	845	509	1.66
30.5	849	8.0	847	501	1.69
Average =			844	504	1.68

Velocity Profile Data

Run K11 Sinusoidal Hill: 1:3 Slope: 60' Trees: Top Cut

Height (cm)	Velocity HW (cm/s)	Turbulent Intensity (%)	Velocity @30.5cm (cm/s)	Velocity @6.1cm (cm/s)	Velocity Ratio
1.2	506	22.6	882	528	1.67
2.4	653	15.7	879	514	1.71
3.7	663	15.5	879	523	1.68
4.9	684	15.1	879	511	1.72
6.1	698	14.5	881	523	1.68
9.1	733	13.3	879	524	1.68
12.9	763	11.9	884	527	1.68
18.3	811	10.1	879	519	1.69
24.4	848	9.3	885	519	1.71
30.5	890	7.8	888	516	1.72
Average =			882	520	1.69

Velocity Profile Data

Run K10 Sinusoidal Hill: 1:3 Slope: 60' Trees: -100' Cut

Height (cm)	Velocity HW (cm/s)	Turbulent Intensity (%)	Velocity @30.5cm (cm/s)	Velocity @6.1cm (cm/s)	Velocity Ratio
1.2	643	15.0	839	487	1.72
2.4	649	15.6	841	494	1.70
3.7	653	15.2	841	487	1.73
4.9	668	14.8	838	500	1.68
6.1	675	14.4	835	509	1.64
9.1	717	12.3	837	493	1.70
12.9	736	11.4	838	505	1.66
18.3	772	9.8	837	489	1.71
24.4	809	9.1	836	497	1.68
30.5	846	7.8	839	496	1.69
Average =			838	496	1.69

Velocity Profile Data

Run K12 Sinusoidal Hill: 1:3 Slope: 60' Trees: No Cut

Height (cm)	Velocity HW (cm/s)	Turbulent Intensity (%)	Velocity @30.5cm (cm/s)	Velocity @6.1cm (cm/s)	Velocity Ratio
1.2					
2.4	423	29.3	848	505	1.68
3.7	631	14.1	851	511	1.67
4.9	657	14.5	857	500	1.71
6.1	666	14.2	855	508	1.68
9.1	706	13.6	855	502	1.70
12.9	732	12.1	851	499	1.71
18.3	786	10.1	856	502	1.71
24.4	818	9.0	851	499	1.71
30.5	851	7.8	851	499	1.71
Average =			853	503	1.70

TABLE 43 Model Ridge Test Data; Sinusoidal Shape, 1:3 Slope, 60' Trees

USWP Task 2 Test Results K Series Tests

USW_VEL1.WK3 Sheet F: 02/18/93

Velocity Profile Comparisons

Sinusoidal Hill; 1:3 Slope; 20' Tree Tests			
Height Norm.	Velocity Norm.	Velocity Norm.	Velocity Norm.
K01_full	K02_-100'	K03_top	K04_no
0.04	0.77	0.83	0.74
0.08	0.80	0.83	0.79
0.12	0.80	0.83	0.79
0.16	0.82	0.83	0.80
0.20	0.82	0.83	0.81
0.30	0.85	0.86	0.84
0.42	0.87	0.90	0.88
0.60	0.91	0.93	0.92
0.80	0.97	0.97	0.96
1.00	1.00	1.00	0.99
Ur@30.5cm =	847	859	853
Ur@6.1cm =	506	511	508
Href (cm) =	30.5	30.5	30.5

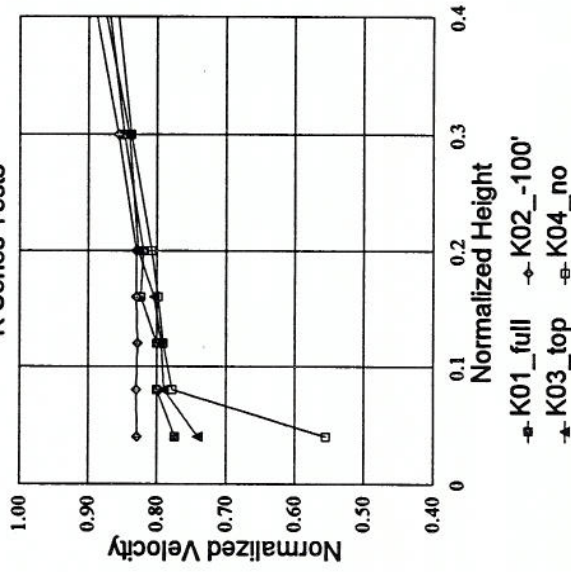
Velocity Profile Comparisons

Sinusoidal Hill; 1:3 Slope; 40' Tree Tests			
Height Norm.	Velocity Norm.	Velocity Norm.	Velocity Norm.
K05_full	K06_-100'	K07_top	K08_no
0.04	0.75	0.78	0.60
0.08	0.75	0.79	0.75
0.12	0.78	0.81	0.77
0.16	0.79	0.82	0.79
0.20	0.81	0.82	0.80
0.30	0.84	0.85	0.82
0.42	0.88	0.88	0.87
0.60	0.92	0.93	0.92
0.80	0.97	0.97	0.96
1.00	1.00	1.00	1.00
Ur@30.5cm =	854	848	860
Ur@6.1cm =	505	501	507
Href (cm) =	30.5	30.5	30.5

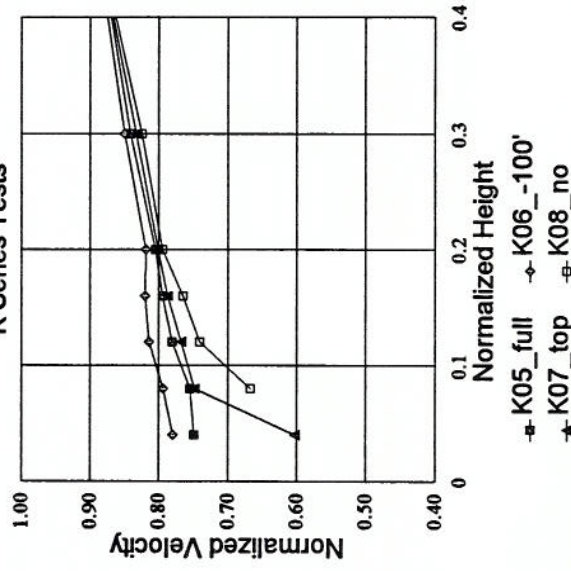
Velocity Profile Comparisons

Sinusoidal Hill; 1:3 Slope; 60' Tree Tests			
Height Norm.	Velocity Norm.	Velocity Norm.	Velocity Norm.
K09_full	K10_-100'	K11_top	K12_no
0.04	0.74	0.77	0.57
0.08	0.75	0.78	0.74
0.12	0.75	0.78	0.75
0.16	0.77	0.80	0.78
0.20	0.80	0.81	0.79
0.30	0.84	0.86	0.83
0.42	0.87	0.88	0.86
0.60	0.91	0.92	0.92
0.80	0.96	0.97	0.96
1.00	1.00	1.00	1.00
Ur@30.5cm =	844	838	882
Ur@6.1cm =	504	496	520
Href (cm) =	30.5	30.5	30.5

Sinusoidal Hill; 1:3 Slope; 20' Tree Tests K Series Tests



Sinusoidal Hill; 1:3 Slope; 40' Tree Tests K Series Tests



Sinusoidal Hill; 1:3 Slope; 60' Tree Tests K Series Tests

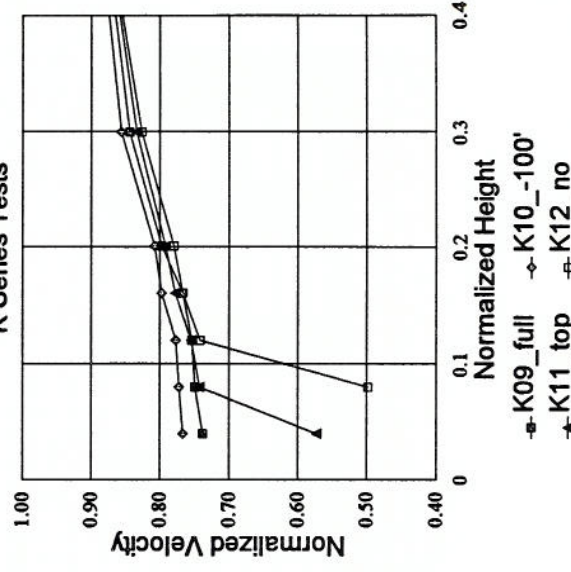


TABLE 44 Model Ridge Velocity Profile Test Results; Sinusoidal Shape, 1:3 Slope