



## APPENDIX 12-3

### NOISE MODELLING ASSUMPTIONS AND INPUTS

## APPENDIX 12.3 – NOISE MODELLING ASSUMPTIONS AND INPUTS

Prediction calculations for turbine noise have been conducted in accordance with ISO 9613: *Acoustics – Attenuation of sound outdoors, Part 2: General method of calculation*, 2024. Guidance in terms of the calculation settings has been obtained from the *Institute of Acoustics (IOA) Good Practice Guide to the Application of ETSU-R-97 for the Assessment and Rating of Wind Turbine Noise* (2013) (IOA GPG) and its associated supplementary guidance notes. The following are the main aspects that have been considered in terms of the noise predictions presented in this instance.

**Ground Effect:** Ground effect is the result of sound reflected by the ground interfering with the sound propagating directly from source to receiver. The prediction of ground effects is inherently complex and depend on source height receiver height propagation height between the source and receiver and the ground conditions.

The ground conditions are described according to a variable defined as G, which varies between 0.0 for hard ground (including paving, ice concrete) and 1.0 for soft ground (includes ground covered by grass trees or other vegetation).

Noise predictions have been carried out using a source height corresponding to the hub height of the proposed turbines, a receiver height of 4m and a ground effect factor of G=0.5.

**Geometrical Divergence** This term relates to the spherical spreading in the free-field from a point sound source resulting in an attenuation depending on distance according to the following equation:

$$A_{geo} = 10 \log(d) - 11 \text{ dB}$$

where d = distance from the source

A wind turbine may be considered as a point source beyond a distance corresponding to one rotor diameter.

**Atmospheric Adsorption** Sound propagation through the atmosphere is attenuated by the conversion of the sound energy into heat. This attenuation is dependent on the temperature and relative humidity of the air through which the sound is travelling and is frequency dependent with increasing attenuation towards higher frequencies.

In accordance with the guidance set out in the IOA GPG for calculations, a temperature of 10°C and a relative humidity of 70% have been used, which give relatively low levels of atmosphere attenuation and corresponding worst case noise predictions.

**Topographic Screening** In the IOA GPG, section 4.3.11 the following is stated: "*Topographic screening effects of the terrain (ISO 9613-2, Equation 12) should be limited to a reduction of no more than 2 dB, and then only if there is no direct line of sight between the highest point on the turbine rotor and the receiver location.*" The modelling software takes account of these limitations on the degree of screening from terrain. The "valley correction" from section 4.3.9 of the IOA GPG is also applied where relevant.

The atmospheric attenuation outlined in Table A12-1 were used for all calculations in accordance with the guidance outlined in the IOA GPG. No meteorological corrections were applied to all calculations.

**Table A12-1 Atmospheric Attenuation Assumed for Noise Calculations (dB per km)**

Temp (°C)	% Humidity	Octave Band Centre Frequencies (Hz)							
		63	125	250	500	1k	2k	4k	8k
10	70	0.12	0.41	1.04	1.92	3.66	9.70	33.06	118.4

**Table A12-2 Coordinates (ITM) for Noise Sensitive Locations (NSLs) within study area**

ID	ITM X	ITM Y	Nearest Turbine (m)	ID	ITM X	ITM Y	Nearest Turbine (m)
H0002	616,827	727,289	896.9	H0932	611,493	724,956	3587.4
H0003	614,836	729,560	896.1	H0933	611,521	724,936	3575.4
H0004	618,253	728,024	909.8	H0934	611,530	724,926	3574.2
H0005	613,336	727,076	913.1	H0935	611,536	724,844	3616.1
H0006	614,467	728,460	916.4	H0936	611,544	724,860	3600.1
H0007	616,833	727,227	924.4	H0937	611,571	724,902	3554.0
H0008	616,374	730,287	937.8	H0938	611,581	724,924	3533.3
H0009	614,789	729,283	936.1	H0939	611,594	724,952	3506.7
H0010	613,283	727,126	948.8	H0940	611,601	724,972	3489.8
H0011	616,910	730,150	960.2	H0941	611,606	724,989	3476.1
H0012	616,904	727,327	959.5	H0942	611,617	725,032	3442.5
H0013	618,504	728,414	956.9	H0943	611,654	725,172	3335.6
H0014	616,245	726,632	985.0	H0944	611,656	725,194	3322.7
H0015	616,886	727,188	988.3	H0945	611,667	725,241	3288.8
H0016	616,636	726,840	989.8	H0946	611,676	725,258	3272.1
H0017	613,255	727,092	984.6	H0947	611,678	725,327	3235.2
H0018	616,579	726,792	990.9	H0948	611,695	725,353	3207.7
H0019	616,872	727,133	999.2	H0949	611,718	725,363	3182.5
H0020	616,497	726,721	1003.4	H0950	611,755	725,417	3123.4
H0021	616,657	726,839	1005.1	H0951	611,773	725,431	3101.4
H0022	616,683	726,855	1010.9	H0952	611,467	725,174	3494.0
H0023	616,406	726,663	1012.3	H0953	611,457	725,185	3497.8
H0024	614,709	729,450	1010.0	H0954	611,431	725,208	3508.7
H0025	613,224	727,118	1007.7	H0955	611,393	725,243	3523.7
H0026	617,275	727,178	1009.6	H0956	611,380	725,256	3526.7
H0027	616,465	726,686	1017.9	H0957	611,369	725,266	3529.3
H0028	616,436	726,667	1021.6	H0958	611,548	725,107	3459.7
H0029	613,228	727,066	1018.1	H0959	611,323	725,293	3550.0
H0030	616,970	727,242	1018.4	H0960	611,298	725,263	3588.0
H0031	614,585	728,992	1021.3	H0961	611,288	725,251	3603.0
H0032	613,551	728,168	1025.0	H0962	611,275	725,235	3622.7
H0033	616,553	726,722	1032.9	H0963	611,424	725,168	3535.1
H0034	616,752	726,893	1034.7	H0964	611,398	725,193	3544.5
H0035	616,347	726,613	1035.4	H0965	611,360	725,231	3557.0
H0036	616,742	726,875	1039.3	H0966	611,348	725,240	3561.3
H0037	613,525	728,168	1041.6	H0967	611,335	725,250	3565.8
H0038	616,157	726,499	1042.8	H0968	611,314	725,224	3597.8
H0039	616,800	726,925	1051.2	H0969	611,324	725,211	3597.7
H0040	616,969	730,229	1058.4	H0970	611,365	725,179	3580.2
H0041	616,965	727,193	1059.8	H0971	611,378	725,167	3574.6
H0042	618,726	728,732	1056.6	H0972	611,391	725,157	3568.6
H0043	618,719	728,652	1066.5	H0973	611,459	725,138	3519.2

H0044	617,877	729,963	1074.1	H0974	611,472	725,126	3514.8
H0045	614,642	729,326	1078.3	H0975	611,512	725,087	3501.2
H0046	616,871	726,969	1081.9	H0976	611,559	724,978	3520.9
H0047	618,714	728,587	1078.3	H0977	611,548	724,975	3531.8
H0048	618,737	728,674	1078.5	H0978	611,509	724,999	3550.4
H0049	616,972	727,144	1084.8	H0979	611,505	725,004	3551.1
H0050	616,692	726,756	1090.4	H0980	611,491	725,012	3558.6
H0051	614,666	729,698	1092.9	H0981	611,477	725,026	3563.1
H0052	614,498	725,457	1096.6	H0982	611,471	725,031	3565.4
H0053	616,826	726,874	1102.9	H0983	611,454	725,045	3572.3
H0054	617,131	727,110	1097.9	H0984	611,850	724,550	3528.8
H0055	616,711	726,747	1109.6	H0985	611,902	724,556	3483.4
H0056	614,630	729,636	1113.3	H0986	611,911	724,557	3474.4
H0057	616,856	726,888	1117.7	H0987	611,926	724,558	3461.6
H0058	617,000	730,285	1122.4	H0988	611,949	724,561	3441.5
H0059	614,636	729,697	1121.9	H0989	611,961	724,564	3429.8
H0060	614,761	729,993	1126.2	H0990	611,987	724,570	3404.9
H0061	614,653	729,777	1129.6	H0991	612,051	724,535	3373.3
H0062	616,888	726,900	1135.6	H0992	612,042	724,576	3355.8
H0063	616,053	730,479	1131.7	H0993	612,074	724,580	3327.6
H0064	616,973	727,017	1142.4	H0994	612,109	724,587	3295.5
H0065	616,992	730,325	1151.4	H0995	612,279	724,560	3175.9
H0066	613,391	726,563	1145.2	H0996	612,224	724,553	3223.2
H0067	614,601	729,673	1150.0	H0997	612,078	724,544	3345.8
H0068	616,726	726,702	1153.5	H0998	612,067	724,541	3356.4
H0069	613,371	726,573	1152.0	H0999	611,881	724,512	3525.6
H0070	617,076	727,064	1154.6	H1000	611,857	724,504	3549.0
H0071	616,730	726,693	1162.5	H1001	611,827	724,507	3571.9
H0072	613,312	726,616	1166.6	H1002	611,482	725,162	3487.5
H0073	617,020	730,342	1180.8	H1003	611,708	725,443	3151.5
H0074	613,345	726,560	1179.8	H1004	611,666	725,388	3215.3
H0075	613,694	726,048	1182.3	H1005	611,632	725,289	3294.1
H0076	617,049	727,039	1186.1	H1006	611,616	725,215	3345.7
H0077	613,675	726,064	1190.8	H1007	611,481	724,708	3740.2
H0078	618,879	728,855	1196.4	H1008	611,499	724,777	3685.3
H0079	613,635	728,439	1205.3	H1009	611,521	724,803	3651.6
H0080	614,608	729,908	1221.0	H1010	611,436	724,761	3745.6
H0081	616,764	726,641	1223.8	H1011	611,458	724,687	3770.9
H0082	614,398	725,360	1217.9	H1012	611,495	725,153	3481.1
H0083	616,140	730,549	1223.3	H1013	611,443	725,197	3503.4
H0084	614,437	729,123	1218.6	H1014	611,406	725,230	3519.8
H0085	614,215	728,727	1222.3	H1015	611,358	725,282	3528.1
H0086	614,616	725,303	1224.6	H1016	611,411	725,182	3539.1
H0087	616,768	726,634	1232.1	H1017	611,387	725,203	3549.8
H0088	618,909	728,795	1230.7	H1018	611,350	725,189	3588.0
H0089	617,019	730,415	1243.1	H1019	611,406	725,146	3561.4
H0090	613,639	726,039	1233.9	H1020	611,536	725,066	3491.9
H0091	614,481	729,365	1237.2	H1021	611,520	724,987	3547.9
H0092	613,616	728,465	1237.0	H1022	611,486	725,016	3560.7
H0093	618,926	728,816	1245.8	H1023	611,459	725,041	3570.0
H0094	613,583	728,462	1249.9	H1024	611,440	725,061	3575.8
H0095	616,791	726,617	1259.9	H1025	611,427	725,071	3581.6

H0096	614,426	729,166	1255.0	H1026	611,424	725,075	3582.6
H0097	613,518	726,131	1258.3	H1027	611,411	725,086	3587.4
H0098	613,569	726,074	1258.4	H1028	611,408	725,092	3587.2
H0099	617,029	726,873	1266.3	H1029	611,371	725,052	3639.4
H0100	618,949	728,832	1267.8	H1030	611,401	725,025	3627.9
H0101	618,403	729,953	1269.5	H1031	611,440	724,998	3609.4
H0102	614,197	728,826	1273.5	H1032	611,462	724,981	3600.0
H0103	614,446	729,280	1277.0	H1033	611,504	724,949	3582.8
H0104	618,968	728,858	1285.1	H1034	611,559	724,889	3570.9
H0105	618,761	729,612	1288.3	H1035	611,589	724,939	3517.3
H0106	617,056	726,852	1300.8	H1036	611,613	725,008	3459.6
H0107	617,051	726,823	1313.4	H1037	611,667	725,212	3302.7
H0108	616,814	726,558	1320.4	H1038	611,678	725,285	3256.1
H0109	618,481	729,955	1317.8	H1039	611,731	725,378	3164.0
H0110	614,331	729,150	1319.2	H1040	611,820	725,480	3036.0
H0111	618,803	729,610	1322.3	H1041	611,829	724,554	3544.5
H0112	617,106	726,878	1328.5	H1042	611,875	724,562	3501.8
H0113	616,821	726,550	1330.8	H1043	611,939	724,560	3449.8
H0114	614,167	725,336	1330.5	H1044	612,053	724,579	3345.8
H0115	614,303	729,132	1330.6	H1045	612,251	724,556	3200.8
H0116	614,275	729,108	1339.4	H1046	612,223	724,443	3293.1
H0117	614,127	728,840	1343.1	H1047	612,227	724,412	3308.7
H0118	619,029	728,914	1345.2	H1048	612,236	724,380	3322.5
H0119	614,222	725,292	1345.8	H1049	612,167	724,405	3359.8
H0120	618,865	729,573	1356.2	H1050	612,166	724,415	3354.3
H0121	617,137	726,842	1360.2	H1051	612,130	724,555	3298.1
H0122	613,428	726,044	1383.0	H1052	612,118	724,552	3309.2
H0123	612,898	726,831	1409.1	H1053	619,451	725,201	3645.5
H0124	614,115	728,977	1410.0	H1054	619,428	725,211	3623.8
H0125	613,786	725,509	1415.8	H1055	619,530	725,404	3529.0
H0126	614,147	725,244	1421.3	H1056	619,510	725,400	3520.5
H0127	613,677	725,612	1426.4	H1057	619,468	725,378	3512.2
H0128	617,081	730,604	1437.4	H1058	619,440	725,353	3515.8
H0129	618,784	729,822	1431.1	H1059	619,167	725,267	3433.6
H0130	614,117	725,246	1433.6	H1060	619,226	725,308	3431.2
H0131	612,878	726,813	1434.9	H1061	619,196	725,284	3434.5
H0132	616,832	730,721	1443.9	H1062	619,252	725,320	3434.8
H0133	618,945	729,604	1441.6	H1063	619,311	725,351	3441.8
H0134	619,074	729,332	1453.6	H1064	619,381	725,381	3458.1
H0135	614,368	729,952	1458.5	H1065	619,353	725,460	3377.6
H0136	619,135	729,032	1456.5	H1066	619,363	725,417	3418.6
H0137	617,031	730,663	1466.3	H1067	620,157	726,744	3149.4
H0138	618,913	729,689	1457.0	H1068	619,970	726,502	3108.4
H0139	617,355	730,446	1467.5	H1069	619,716	726,175	3099.0
H0140	618,924	729,671	1457.4	H1070	619,668	726,187	3054.6
H0141	613,375	728,583	1463.0	H1071	619,261	725,084	3638.6
H0142	612,854	726,785	1467.8	H1072	619,627	725,540	3485.8
H0143	617,252	730,544	1479.8	H1073	619,293	725,437	3361.4
H0144	617,276	730,530	1482.6	H1074	620,711	726,854	3609.1
H0145	617,035	730,680	1483.4	H1075	619,316	725,182	3585.1
H0146	616,983	730,712	1490.6	H1076	619,424	725,237	3600.2
H0147	616,977	730,716	1491.5	H1077	619,141	725,245	3438.7

H0148	617,109	726,606	1492.3	H1078	619,029	724,895	3690.5
H0149	616,915	730,748	1497.8	H1079	618,996	724,933	3640.8
H0150	616,912	730,752	1500.4	H1080	619,125	724,944	3691.7
H0151	616,842	730,784	1507.8	H1081	619,138	724,997	3651.0
H0152	614,074	725,192	1500.7	H1082	619,154	724,982	3673.1
H0153	619,028	729,578	1503.2	H1083	616,655	723,543	3515.8
H0154	613,140	726,263	1503.3	H1084	617,445	723,919	3722.6
H0155	617,044	730,713	1517.1	H1085	617,371	724,163	3501.1
H0156	613,448	725,809	1508.1	H1086	617,512	724,332	3498.8
H0157	612,881	726,639	1509.5	H1087	617,575	724,369	3525.3
H0158	614,036	729,044	1510.6	H1088	617,702	724,460	3565.5
H0159	612,854	726,679	1513.5	H1089	617,911	724,547	3597.0
H0160	613,173	726,180	1513.9	H1090	618,172	724,644	3633.6
H0161	616,757	726,274	1520.5	H1091	618,225	724,655	3634.5
H0162	616,894	726,364	1521.9	H1092	618,626	724,719	3690.8
H0163	617,097	730,698	1527.3	H1093	618,668	724,716	3708.3
H0164	612,825	726,722	1520.1	H1094	618,783	724,718	3748.6
H0165	612,806	726,743	1529.0	H1095	618,857	724,749	3748.7
H0166	616,602	730,871	1538.3	H1096	618,934	724,875	3666.2
H0167	612,996	726,427	1530.6	H1097	619,026	724,872	3709.6
H0168	614,127	725,129	1533.6	H1098	617,237	723,874	3608.8
H0169	612,783	726,770	1539.3	H1099	617,403	724,243	3471.7
H0170	618,384	730,281	1542.6	H1100	617,638	724,408	3552.2
H0171	614,097	725,133	1543.5	H1101	618,116	724,620	3645.0
H0172	616,816	726,276	1550.6	H1102	618,304	724,674	3636.1
H0173	612,762	726,800	1547.0	H1103	618,996	724,897	3673.5
H0174	612,940	726,471	1549.5	H1104	620,184	725,807	3694.5
H0175	617,447	730,489	1561.5	H1105	620,108	725,765	3663.8
H0176	613,990	729,048	1553.6	H1106	620,496	731,855	4075.0
H0177	614,162	725,084	1560.8	H1107	620,082	731,727	3703.3
H0178	614,165	725,082	1561.1	H1108	620,113	731,693	3697.1
H0179	616,798	730,864	1571.3	H1109	620,027	731,933	3827.8
H0180	612,731	726,821	1568.1	H1110	621,410	730,618	4101.0
H0181	613,143	726,121	1569.8	H1111	621,123	730,630	3847.6
H0182	614,249	729,962	1573.4	H1112	621,360	730,471	3996.0
H0183	613,136	726,130	1570.6	H1113	620,255	728,551	2595.5
H0184	613,108	726,178	1570.9	H1114	621,469	728,591	3798.4
H0185	612,849	726,569	1571.6	H1115	611,804	730,658	4065.1
H0186	613,176	726,064	1572.3	H1116	611,833	730,532	3946.9
H0187	613,100	726,186	1574.0	H1117	611,916	729,969	3456.8
H0188	613,168	726,071	1575.5	H1118	611,485	728,967	3147.1
H0189	613,146	726,099	1578.0	H1119	611,499	728,921	3112.1
H0190	612,709	726,850	1579.7	H1120	612,109	728,121	2219.3
H0191	613,362	725,818	1580.9	H1121	612,255	731,320	3959.9
H0192	616,875	726,271	1587.1	H1122	614,027	731,490	2689.0
H0193	613,076	726,217	1581.3	H1123	614,068	731,522	2688.9
H0194	616,309	730,936	1588.0	H1124	613,284	732,190	3703.2
H0195	614,175	725,052	1584.8	H1125	613,243	731,776	3431.9
H0196	613,197	726,004	1589.5	H1126	613,108	731,671	3460.9
H0197	613,051	726,241	1592.2	H1127	612,757	731,771	3794.3
H0198	617,651	730,499	1592.7	H1128	612,725	731,768	3817.3
H0199	612,987	726,340	1593.1	H1129	612,152	731,443	4111.0

H0200	613,034	726,266	1596.7	H1130	612,023	731,403	4203.8
H0201	618,062	730,459	1597.7	H1131	611,878	731,400	4330.1
H0202	612,747	726,705	1598.4	H1132	611,831	731,364	4355.8
H0203	614,376	724,970	1598.9	H1133	611,895	730,909	4110.2
H0204	616,374	730,961	1611.7	H1134	611,845	730,785	4114.1
H0205	612,885	726,449	1606.9	H1135	612,762	732,925	4601.2
H0206	612,718	726,743	1609.4	H1136	612,706	732,788	4534.4
H0207	616,980	726,310	1617.8	H1137	612,687	732,656	4450.0
H0208	617,742	730,517	1611.9	H1138	612,517	732,439	4415.3
H0209	618,381	730,370	1621.1	H1139	612,459	732,191	4291.9
H0210	612,687	726,784	1623.2	H1140	612,168	731,620	4188.3
H0211	613,306	728,730	1623.5	H1141	611,935	731,686	4420.5
H0212	612,669	726,803	1632.5	H1142	612,459	729,933	3095.3
H0213	614,192	730,026	1649.1	H1143	612,591	730,228	3235.3
H0214	612,645	726,826	1647.8	H1144	612,309	731,199	3854.9
H0215	613,904	729,086	1647.9	H1145	612,405	729,896	3095.2
H0216	618,505	730,336	1648.3	H1146	612,711	730,684	3270.1
H0217	618,367	730,419	1659.2	H1147	613,215	731,701	3401.1
H0218	618,041	730,532	1664.7	H1148	612,736	731,517	3657.5
H0219	617,102	726,340	1673.4	H1149	611,890	730,619	3983.1
H0220	617,115	726,349	1675.8	H1150	611,503	728,994	3145.4
H0221	618,101	730,527	1673.5	H1151	620,826	731,001	3777.2
H0222	619,356	728,977	1673.6	H1152	620,822	730,996	3770.9
H0223	617,981	730,555	1675.0	H1153	620,812	730,990	3758.8
H0224	619,301	728,455	1679.0	H1154	620,807	730,986	3752.2
H0225	613,867	729,084	1680.0	H1155	620,858	730,978	3791.4
H0226	619,301	729,375	1684.1	H1156	620,853	730,975	3785.2
H0227	618,014	730,559	1685.5	H1157	620,849	730,972	3779.6
H0228	617,159	726,366	1693.6	H1158	620,838	730,965	3766.8
H0229	617,954	730,576	1691.1	H1159	620,834	730,960	3760.7
H0230	619,325	729,330	1695.1	H1160	621,068	730,762	3860.2
H0231	618,140	730,541	1696.9	H1161	620,996	730,658	3747.4
H0232	617,890	730,601	1707.4	H1162	620,991	730,666	3746.4
H0233	613,944	725,020	1714.6	H1163	620,978	730,681	3742.8
H0234	613,093	725,934	1715.2	H1164	620,999	730,695	3767.8
H0235	617,832	726,519	1731.8	H1165	621,014	730,684	3775.0
H0236	614,106	730,042	1735.5	H1166	621,019	730,677	3776.7
H0237	618,401	730,488	1736.4	H1167	614,037	733,367	4310.1
H0238	614,132	730,115	1740.5	H1168	613,458	733,219	4439.0
H0239	613,850	725,048	1738.6	H1169	613,374	733,160	4432.1
H0240	616,067	731,108	1745.1	H1170	613,245	732,758	4171.7
H0241	613,914	729,296	1744.2	H1171	612,794	732,886	4551.4
H0242	613,072	725,906	1748.5	H1172	612,754	732,784	4500.2
H0243	613,036	725,950	1752.2	H1173	612,510	732,287	4316.7
H0244	615,781	731,152	1754.4	H1174	612,057	731,468	4205.4
H0245	613,829	725,036	1759.8	H1175	620,531	730,678	3353.7
H0246	613,072	725,885	1760.6	H1176	620,589	730,689	3408.5
H0247	618,215	730,592	1767.3	H1177	620,601	730,691	3420.5
H0248	619,388	729,395	1773.4	H1178	620,611	730,692	3429.4
H0249	617,916	726,489	1784.8	H1179	620,668	730,658	3460.1
H0250	613,806	725,018	1787.5	H1180	620,709	730,676	3504.9
H0251	613,046	725,872	1790.0	H1181	620,798	730,691	3589.7

H0252	612,441	727,024	1792.0	H1182	620,813	730,693	3603.5
H0253	614,480	724,746	1795.9	H1183	620,772	730,723	3583.2
H0254	613,859	724,972	1798.7	H1184	620,815	730,729	3623.5
H0255	613,551	729,052	1799.0	H1185	620,831	730,732	3638.2
H0256	619,467	729,164	1801.8	H1186	620,846	730,741	3655.9
H0257	613,913	729,473	1806.3	H1187	620,853	730,645	3615.2
H0258	613,441	729,010	1803.7	H1188	620,844	730,697	3632.9
H0259	618,748	730,363	1804.2	H1189	620,900	730,706	3686.3
H0260	615,220	724,764	1807.1	H1191	620,887	730,821	3731.8
H0261	618,589	730,471	1807.3	H1192	620,774	730,961	3710.8
H0262	612,402	727,147	1811.1	H1193	620,756	731,056	3749.6
H0263	612,878	728,616	1813.2	H1194	620,770	731,042	3753.1
H0264	617,980	726,481	1813.8	H1195	620,791	731,008	3751.4
H0265	615,517	731,206	1818.7	H1196	620,800	731,016	3763.6
H0266	614,043	730,118	1822.3	H1197	620,804	731,019	3768.7
H0267	612,408	727,054	1819.2	H1198	620,809	731,023	3775.1
H0268	618,821	730,335	1825.7	H1199	620,820	731,030	3787.9
H0269	618,298	730,627	1827.4	H1200	620,825	731,035	3794.4
H0270	614,063	730,188	1833.0	H1201	620,832	731,004	3783.1
H0271	618,366	730,615	1839.6	H1202	620,577	730,782	3448.4
H0272	613,767	724,981	1839.7	H1203	620,587	730,767	3448.7
H0273	618,016	726,466	1840.3	H1204	620,599	730,752	3450.5
H0274	616,428	731,199	1850.9	H1205	620,602	730,746	3449.6
H0275	618,851	730,348	1855.5	H1206	620,611	730,738	3453.0
H0276	613,743	724,977	1856.3	H1207	618,401	728,281	952.0
H0277	617,934	726,412	1863.4	H1208	620,395	730,952	3396.8
H0278	617,245	731,013	1875.1	H1209	620,408	730,983	3425.3
H0279	612,934	725,898	1866.5	H1210	619,706	732,166	3836.6
H0280	618,426	730,620	1867.1	H1211	619,745	732,086	3789.8
H0281	618,385	730,640	1870.3	H1212	619,907	731,936	3758.4
H0282	613,780	724,932	1873.7	H1213	618,258	731,718	2870.2
H0283	613,338	729,043	1878.0	H1214	619,308	732,403	3855.9
H0284	614,899	724,642	1878.5	H1215	619,671	732,177	3827.2
H0285	618,055	726,437	1882.0	H1216	619,816	732,013	3768.4
H0286	613,718	724,958	1886.3	H1217	620,552	730,687	3376.8
H0287	612,312	727,268	1889.8	H1218	620,626	730,697	3444.5
H0288	616,489	731,244	1898.3	H1219	620,828	730,696	3617.8
H0289	613,204	728,985	1893.5	H1220	620,801	730,728	3610.5
H0290	612,304	727,293	1896.1	H1221	620,878	730,785	3706.0
H0291	613,829	729,621	1901.3	H1222	620,919	730,781	3739.3
H0292	614,814	724,619	1898.5	H1223	620,643	731,061	3660.8
H0293	616,502	731,256	1910.9	H1224	620,795	731,012	3756.8
H0294	612,947	725,814	1903.8	H1225	620,815	731,027	3781.8
H0295	618,009	726,385	1913.4	H1226	620,837	731,008	3790.1
H0296	617,353	726,229	1927.4	H1227	620,817	730,993	3764.7
H0297	612,632	728,491	1924.2	H1228	620,864	730,983	3798.8
H0298	618,500	730,652	1927.2	H1229	620,843	730,968	3773.2
H0299	616,643	731,268	1936.4	H1230	620,886	730,904	3774.8
H0300	618,092	726,401	1928.8	H1231	620,947	730,719	3733.6
H0301	613,185	729,015	1929.0	H1232	620,985	730,673	3745.1
H0302	615,414	731,306	1931.8	H1233	621,047	730,666	3795.7
H0303	615,554	731,324	1932.5	H1234	619,377	731,672	3242.5

H0304	614,959	724,591	1933.8	H1235	619,360	731,676	3237.9
H0305	619,445	728,104	1935.5	H1236	619,334	731,682	3228.9
H0306	614,136	730,525	1942.0	H1237	619,242	731,693	3192.7
H0307	614,762	724,577	1940.1	H1238	619,223	731,700	3189.7
H0308	613,529	729,199	1944.2	H1239	618,962	731,847	3206.3
H0309	612,253	727,345	1946.6	H1240	620,579	730,776	3446.9
H0310	612,906	725,795	1948.4	H1241	620,590	730,761	3448.0
H0311	614,815	724,566	1950.9	H1242	620,614	730,731	3452.1
H0312	613,316	729,117	1953.9	H1243	618,460	728,369	944.6
H0313	618,100	726,373	1958.1	H1244	619,449	731,328	2997.1
H0314	618,397	726,523	1960.3	H1245	619,488	731,366	3050.4
H0315	615,322	731,323	1964.8	H1246	619,560	731,361	3089.7
H0316	619,455	728,059	1963.6	H1247	619,668	731,512	3275.2
H0317	618,065	726,352	1964.1	H1248	619,293	731,692	3217.3
H0318	619,516	728,198	1964.5	H1249	619,195	731,718	3191.9
H0319	617,594	726,227	1971.7	H1250	617,462	731,441	2355.1
H0320	619,572	729,473	1972.1	H1251	612,868	723,453	3611.7
H0321	617,400	726,200	1982.1	H1252	611,490	724,755	3705.1
H0322	612,898	725,758	1976.1	H1253	611,679	725,407	3195.1
H0323	612,966	728,926	1982.6	H1254	611,444	725,057	3574.7
H0324	612,550	726,264	1987.2	H1255	611,419	725,221	3513.3
H0325	613,677	724,862	1989.1	H1256	611,580	725,079	3448.3
H0326	612,201	727,473	2000.2	H1257	611,310	725,278	3569.8
H0327	612,199	727,437	2000.4	H1258	617,984	724,585	3605.0
H0328	612,198	727,394	2001.5	H1259	618,779	724,935	3547.5
H0329	616,279	731,354	2007.7	H1260	619,150	724,955	3693.8
H0330	613,097	729,048	2003.9	H1261	613,232	731,678	3373.1
H0331	615,200	731,338	2007.5	H1262	620,828	730,956	3754.1
H0332	618,151	726,344	2004.8	H1263	620,755	730,678	3546.2
H0333	612,861	725,758	2005.9	H1264	611,530	729,107	3182.2
H0334	614,648	724,512	2009.3	H1265	612,175	731,378	4058.6
H0335	615,062	731,302	2013.6	H1268	609,631	727,166	4572.8
H0336	618,110	726,319	2011.9	H1269	610,491	727,904	3746.3
H0337	619,009	730,429	2018.6	H1270	609,360	727,324	4840.1
H0338	613,714	729,709	2027.4	H1271	612,417	732,079	4252.4
H0339	612,217	726,946	2027.6	H1272	612,790	732,855	4530.5
H0340	612,174	727,244	2029.2	H1273	620,939	730,870	3802.2
H0341	618,637	730,699	2030.1	H1274	620,738	730,933	3666.4
H0342	613,125	729,110	2041.4	H1275	620,789	730,727	3599.9
H0343	612,166	727,595	2045.3	H1276	619,501	731,433	3113.0
H0344	612,830	725,729	2048.3	H1278	612,409	731,078	3711.0
H0345	612,173	727,703	2052.7	H1279	616,714	730,853	1540.7
H0346	618,153	726,292	2053.3	H1280	618,586	724,707	3688.6
H0347	618,415	726,410	2066.0	H1281	620,634	726,878	3528.0
H0348	614,706	724,446	2072.0	H1282	618,925	731,691	3048.6
H0349	612,811	725,714	2072.4	H1283	611,971	724,564	3420.9
H0350	618,494	726,447	2076.5	H1284	616,654	732,219	2882.6
H0351	614,667	724,439	2081.1	H1285	620,610	726,805	3533.5
H0352	612,772	725,748	2084.9	H1287	614,087	733,431	4349.7
H0353	612,112	727,218	2092.4	H1291	612,311	731,220	3863.5
H0354	618,257	726,293	2094.4	H1292	618,184	724,621	3658.1
H0355	618,393	726,364	2095.0	H1293	612,196	724,602	3216.5

H0356	612,195	726,759	2096.3	H1295	621,498	728,505	3835.8
H0357	618,548	726,459	2096.6	H1296	612,487	729,397	2650.5
H0358	612,788	725,700	2099.2	H1297	615,121	722,740	3792.6
H0359	618,268	726,291	2101.0	H1298	618,835	724,706	3779.7
H0360	618,295	726,288	2116.0	H1299	618,863	724,707	3789.8
H0361	618,619	726,482	2119.1	H1300	618,897	724,713	3798.0
H0362	618,668	726,519	2119.4	H1301	618,933	724,750	3779.0
H0363	618,305	726,287	2121.2	H1302	618,966	724,790	3756.7
H0364	614,734	724,394	2123.4	H1303	618,990	724,820	3740.1
H0365	618,799	730,714	2123.7	H1304	619,250	724,910	3782.5
H0366	612,738	725,727	2124.2	H1305	619,374	724,673	4049.8
H0367	618,748	730,747	2126.4	H1306	619,423	724,591	4145.4
H0368	619,277	727,265	2128.4	H1307	619,329	724,488	4189.9
H0369	619,269	727,241	2132.1	H1308	619,619	723,885	4858.6
H0370	612,172	726,709	2132.8	H1309	619,946	724,141	4801.8
H0371	618,331	726,287	2133.3	H1310	620,015	724,162	4821.8
H0372	613,552	724,771	2134.5	H1311	619,968	724,215	4751.7
H0373	619,600	729,850	2135.8	H1312	619,959	724,194	4764.3
H0374	616,941	731,420	2145.7	H1313	619,901	724,275	4664.7
H0375	619,286	727,265	2137.7	H1314	619,885	724,295	4639.3
H0376	618,342	726,285	2139.8	H1315	619,937	724,348	4623.7
H0377	619,190	730,437	2147.3	H1316	619,836	724,303	4606.0
H0378	613,302	724,957	2148.8	H1317	619,857	724,284	4633.3
H0379	619,242	727,149	2151.2	H1318	619,811	724,336	4564.7
H0380	618,782	730,760	2154.5	H1319	619,786	724,365	4526.8
H0381	618,370	726,283	2154.7	H1320	619,951	724,393	4594.3
H0382	619,382	727,444	2156.0	H1322	619,758	724,402	4480.6
H0383	618,380	726,281	2160.5	H1323	619,736	724,341	4520.6
H0384	612,707	725,695	2168.6	H1324	619,699	724,400	4450.9
H0385	614,795	731,368	2175.0	H1325	619,660	724,406	4425.4
H0386	618,674	726,456	2173.3	H1326	619,723	724,466	4407.8
H0387	619,129	726,908	2184.1	H1327	619,666	724,447	4393.6
H0388	612,903	729,134	2185.9	H1328	619,626	724,465	4357.3
H0389	612,542	725,926	2188.9	H1329	619,630	724,441	4379.9
H0390	615,024	731,481	2194.5	H1330	619,613	724,490	4329.2
H0391	619,104	726,854	2195.6	H1331	619,572	724,512	4289.1
H0392	618,792	726,520	2198.0	H1332	619,669	724,508	4343.4
H0393	618,956	726,675	2199.2	H1333	619,535	724,610	4186.1
H0394	612,198	728,288	2199.5	H1334	619,573	724,659	4164.4
H0395	619,280	730,423	2202.1	H1335	619,492	724,668	4114.2
H0396	619,448	727,490	2203.3	H1336	619,573	724,690	4138.2
H0397	612,702	725,633	2208.5	H1337	619,512	724,719	4081.2
H0398	612,110	728,121	2219.1	H1339	619,551	724,767	4061.4
H0399	616,837	731,531	2229.7	H1340	619,486	724,768	4025.8
H0400	612,747	729,065	2228.8	H1341	619,481	724,794	4001.1
H0401	613,350	729,437	2231.1	H1342	619,539	724,814	4015.4
H0402	618,868	730,804	2237.3	H1343	619,476	724,828	3969.7
H0403	612,676	725,619	2237.9	H1344	619,474	724,855	3945.8
H0404	612,700	729,041	2242.2	H1345	619,530	724,858	3973.6
H0405	613,128	724,982	2255.3	H1346	619,520	724,897	3935.5
H0406	612,655	725,599	2266.4	H1347	619,483	724,909	3905.2
H0407	612,581	725,701	2269.3	H1348	619,516	724,935	3901.6

H0408	612,750	729,120	2269.4	H1349	619,527	724,965	3882.8
H0409	614,639	731,418	2289.0	H1350	619,477	725,015	3813.4
H0410	616,977	731,570	2300.1	H1351	619,471	725,075	3760.3
H0411	618,465	726,172	2297.9	H1352	619,523	725,078	3787.3
H0412	617,095	725,565	2304.3	H1353	619,602	725,072	3837.9
H0413	618,471	726,161	2309.6	H1354	619,587	725,027	3865.9
H0414	612,615	725,574	2313.3	H1355	619,637	725,051	3875.5
H0415	619,040	730,780	2313.4	H1356	619,602	725,002	3894.9
H0416	616,784	731,638	2324.3	H1357	619,654	725,037	3896.8
H0417	619,428	730,440	2323.2	H1358	619,686	725,016	3932.7
H0418	612,049	726,484	2326.6	H1359	619,686	724,960	3977.9
H0419	618,480	726,145	2328.3	H1360	619,797	724,946	4055.1
H0420	617,451	731,428	2338.6	H1361	619,824	724,894	4112.9
H0421	618,978	730,844	2330.2	H1362	619,869	724,876	4154.4
H0422	618,486	726,136	2338.5	H1363	619,878	724,910	4132.9
H0423	614,747	731,532	2343.7	H1364	619,918	724,818	4230.2
H0424	613,405	724,617	2345.5	H1365	619,915	724,783	4256.4
H0425	612,064	726,389	2351.2	H1366	620,077	723,995	4995.5
H0426	618,495	726,121	2357.1	H1367	619,909	724,970	4104.7
H0427	619,427	730,496	2359.9	H1368	619,510	725,141	3728.3
H0428	616,530	731,712	2367.2	H1369	620,870	726,273	3999.8
H0429	612,064	726,360	2363.5	H1370	620,687	726,153	3901.2
H0430	612,609	725,495	2365.4	H1371	620,527	726,050	3822.0
H0431	618,501	726,110	2368.9	H1372	620,234	725,837	3713.5
H0432	613,414	724,576	2373.2	H1373	612,856	723,329	3723.8
H0433	619,233	730,706	2374.6	H1374	612,931	723,337	3678.6
H0434	619,125	730,800	2380.0	H1375	613,638	724,110	2664.2
H0435	618,511	726,096	2385.8	H1376	616,574	732,862	3518.5
H0436	619,459	730,503	2388.2	H1377	616,867	732,806	3491.3
H0437	612,502	725,601	2390.5	H1378	616,568	732,505	3161.7
H0438	612,524	725,569	2390.9	H1380	616,097	731,575	2209.3
H0439	617,168	731,616	2400.0	H1381	621,653	728,761	3972.4
H0440	618,517	726,087	2397.2	H1382	621,679	728,781	3997.7
H0441	613,414	724,540	2402.7	H1383	621,804	728,825	4121.6
H0442	619,160	730,807	2406.5	H1384	621,698	726,464	4670.2
H0443	613,107	724,786	2406.9	H1385	620,845	726,766	3765.9
H0444	612,517	729,096	2407.6	H1386	621,704	727,884	4148.8
H0445	612,051	728,470	2411.8	H1387	621,885	727,871	4327.5
H0446	618,525	726,072	2414.2	H1388	621,977	728,277	4339.7
H0447	613,295	729,617	2419.1	H1389	622,084	728,293	4443.4
H0448	619,495	730,510	2419.6	H1390	622,119	728,422	4462.2
H0449	611,935	728,232	2421.1	H1391	622,160	728,491	4496.1
H0450	616,503	731,776	2430.1	H1392	622,172	728,525	4505.0
H0451	611,979	726,397	2424.9	H1393	621,624	730,009	4092.1
H0452	618,532	726,062	2426.1	H1394	621,663	730,057	4142.7
H0453	618,542	726,047	2444.2	H1395	621,640	730,083	4128.0
H0454	617,263	731,643	2458.0	H1396	621,560	730,276	4111.6
H0455	611,970	726,357	2450.6	H1397	614,524	733,437	4211.4
H0456	618,550	726,039	2455.0	H1398	614,386	733,618	4424.9
H0457	619,180	730,866	2465.6	H1399	614,262	733,599	4445.8
H0458	612,344	728,998	2466.3	H1400	614,387	733,722	4523.9
H0459	612,460	725,523	2469.4	H1401	614,400	733,746	4543.1

H0460	617,301	731,653	2481.1	H1402	614,403	733,783	4577.6
H0461	618,562	726,024	2474.2	H1403	614,174	733,728	4596.8
H0462	617,335	731,651	2492.0	H1404	614,435	733,908	4688.7
H0463	618,571	726,017	2484.3	H1405	614,355	733,915	4717.9
H0464	617,441	731,616	2502.6	H1406	614,563	733,927	4673.7
H0465	613,400	724,436	2496.5	H1407	614,590	733,707	4453.9
H0466	614,370	731,504	2499.9	H1408	614,681	733,702	4426.9
H0467	617,368	731,655	2508.4	H1409	614,755	733,733	4440.4
H0468	618,582	726,003	2501.4	H1410	614,818	733,691	4386.0
H0469	619,289	730,831	2506.6	H1411	614,849	733,714	4402.3
H0470	612,191	728,883	2511.7	H1412	615,297	733,843	4464.7
H0471	618,591	725,995	2512.7	H1413	615,391	733,762	4376.0
H0472	612,432	725,464	2526.8	H1414	611,923	731,450	4314.1
H0473	616,745	731,868	2545.5	H1415	611,764	731,401	4432.2
H0474	618,691	726,025	2538.1	H1416	611,724	731,394	4464.8
H0475	618,679	726,017	2539.1	H1417	611,695	731,328	4461.9
H0476	618,700	726,029	2539.7	H1418	612,337	731,178	3820.7
H0477	618,672	726,009	2542.2	H1419	611,146	730,836	4616.6
H0478	618,659	726,001	2542.6	H1420	609,323	726,610	4935.9
H0479	618,651	725,995	2543.2	H1421	610,949	724,822	4119.6
H0480	611,994	726,076	2559.0	H1422	611,288	724,663	3922.9
H0481	618,629	725,959	2563.0	H1423	611,471	724,586	3822.3
H0482	612,439	725,392	2563.2	H1424	611,492	724,582	3808.3
H0483	618,634	725,954	2570.2	H1425	611,493	724,592	3801.3
H0484	611,878	728,500	2579.7	H1426	611,490	724,605	3795.6
H0485	619,425	730,813	2582.8	H1427	611,489	724,620	3787.2
H0486	612,386	725,427	2585.1	H1428	611,488	724,632	3780.7
H0487	618,647	725,943	2586.5	H1429	611,483	724,659	3768.2
H0488	612,030	725,960	2589.6	H1430	611,464	724,664	3780.4
H0489	618,656	725,938	2595.2	H1431	611,464	724,654	3786.4
H0490	620,255	728,551	2595.7	H1432	611,464	724,642	3793.6
H0491	619,520	730,753	2603.8	H1433	611,466	724,635	3796.3
H0492	618,668	725,927	2610.3	H1434	611,467	724,613	3808.9
H0493	612,366	725,408	2612.3	H1435	611,471	724,604	3811.3
H0494	618,760	725,979	2613.8	H1436	611,469	724,596	3817.7
H0495	619,756	730,501	2614.6	H1437	611,596	724,518	3759.8
H0496	618,750	725,971	2615.5	H1438	611,610	724,520	3746.9
H0497	619,561	730,728	2616.1	H1439	611,627	724,509	3738.4
H0498	618,675	725,921	2619.1	H1440	611,637	724,514	3727.3
H0499	618,779	725,984	2620.1	H1441	611,657	724,529	3702.3
H0500	618,740	725,957	2622.4	H1442	611,681	724,531	3681.0
H0501	616,779	731,956	2637.0	H1443	611,707	724,530	3659.7
H0502	618,789	725,979	2629.4	H1444	611,730	724,532	3639.3
H0503	618,736	725,945	2630.0	H1445	611,758	724,537	3613.1
H0504	614,209	731,559	2634.8	H1446	611,774	724,542	3597.0
H0505	619,624	730,688	2634.5	H1447	611,797	724,548	3574.5
H0506	612,346	725,389	2639.8	H1448	611,809	724,505	3588.4
H0507	612,865	724,698	2641.5	H1449	613,369	723,006	3784.1
H0508	614,099	731,492	2646.1	H1450	620,211	730,618	3052.6
H0509	618,698	725,906	2643.6	H1451	620,017	730,587	2875.7
H0510	618,806	725,971	2645.6	H1452	619,786	730,509	2643.6
H0512	618,738	725,926	2647.1	H1453	614,725	730,029	1175.7

H0513	618,704	725,902	2650.0	H1454	614,021	728,371	1013.1
H0514	618,815	725,966	2655.0	H1455	617,092	726,995	1218.4
H0515	618,739	725,914	2658.0	H1456	613,487	728,865	1652.6
H0517	618,720	725,894	2665.0	H1457	621,616	730,226	4148.2
H0518	619,813	730,512	2667.1	H1458	611,505	731,064	4530.4
H0519	611,812	728,577	2673.1	H1459	611,373	731,330	4755.1
H0520	618,730	725,891	2673.3	H1460	612,601	726,865	1675.5
H0521	618,828	725,951	2674.8	H1461	615,164	722,741	3795.7
H0522	613,413	724,214	2678.0	H1464	611,481	724,310	3969.5
H0523	618,826	725,943	2680.2	H1465	610,949	724,563	4258.6
H0524	614,068	731,522	2688.8	H1466	611,234	724,606	4000.0
H0525	614,027	731,490	2688.9	H1467	611,761	724,499	3631.6
H0526	618,777	725,904	2686.7	H1468	611,313	724,468	4019.5
H0527	619,740	730,640	2690.1	H1469	611,319	724,468	4014.8
H0528	618,772	725,894	2692.6	H1470	611,334	724,472	4000.5
H0529	618,821	725,923	2694.4	H1471	611,341	724,474	3993.8
H0530	618,816	725,913	2700.2	H1472	611,355	724,475	3982.1
H0531	618,766	725,881	2700.6	H1473	611,362	724,477	3975.4
H0532	618,762	725,871	2706.4	H1474	611,374	724,480	3964.1
H0533	612,296	725,342	2707.9	H1475	611,383	724,481	3956.4
H0534	619,826	730,562	2708.1	H1476	611,397	724,484	3943.6
H0535	619,860	730,520	2709.5	H1477	611,403	724,485	3938.3
H0536	618,801	725,892	2709.7	H1478	611,417	724,489	3924.9
H0537	619,392	731,020	2718.0	H1479	611,424	724,491	3918.1
H0538	618,811	725,887	2719.4	H1480	610,505	724,583	4623.5
H0539	618,783	725,857	2729.7	H1481	610,474	724,587	4648.1
H0540	619,890	730,520	2733.2	H1482	610,271	724,549	4838.8
H0541	618,789	725,852	2737.4	H1483	611,314	724,536	3977.2
H0542	619,347	731,082	2738.9	H1484	611,324	724,537	3968.7
H0543	612,785	724,636	2742.3	H1485	611,332	724,538	3961.7
H0544	612,739	724,675	2749.2	H1486	611,340	724,538	3955.3
H0545	613,497	724,078	2756.2	H1487	611,349	724,538	3948.2
H0546	612,727	724,673	2759.6	H1488	611,354	724,538	3944.2
H0547	612,759	724,633	2762.9	H1489	610,341	724,659	4717.9
H0548	611,929	728,959	2769.3	H1490	610,336	724,687	4706.0
H0549	619,416	731,069	2771.4	H1491	610,332	724,701	4701.3
H0550	612,177	729,269	2771.8	H1492	610,330	724,717	4693.8
H0551	619,908	730,564	2774.3	H1493	610,328	724,722	4692.7
H0552	611,765	728,707	2775.2	H1494	610,326	724,737	4685.9
H0553	611,499	728,029	2778.2	H1495	610,325	724,748	4680.5
H0554	612,700	724,671	2780.9	H1496	611,465	724,143	4077.7
H0555	611,909	725,793	2782.6	H1497	611,462	724,052	4133.8
H0556	612,733	724,632	2782.7	H1498	611,643	723,820	4137.3
H0557	619,375	731,119	2785.1	H1499	611,300	723,795	4418.5
H0558	611,985	729,071	2789.4	H1500	610,886	723,526	4910.6
H0559	619,912	730,589	2792.5	H1501	621,854	730,729	4551.7
H0560	617,598	731,880	2809.5	H1502	611,464	724,095	4106.7
H0561	611,861	725,833	2800.3	H1503	611,228	724,540	4043.7
H0562	617,983	731,693	2802.8	H1504	611,227	724,534	4048.1
H0563	611,988	729,102	2806.5	H1505	611,179	724,501	4106.3
H0564	612,695	724,637	2807.7	H1506	611,166	724,501	4116.8
H0565	612,231	725,253	2813.1	H1507	611,122	724,510	4147.0

H0566	612,661	724,665	2814.1	H1508	611,117	724,551	4127.2
H0567	618,219	731,673	2817.8	H1509	611,152	724,503	4126.9
H0568	618,249	731,669	2819.7	H1510	611,729	724,490	3663.2
H0569	612,231	729,393	2820.1	H1511	611,512	724,530	3825.0
H0570	612,048	729,199	2820.9	H1512	611,571	724,504	3788.4
H0571	618,284	731,663	2821.4	H1513	611,581	724,496	3784.2
H0572	618,062	731,706	2825.4	H1514	613,074	723,035	3877.7
H0573	611,992	729,138	2826.0	H1515	609,626	725,832	4826.4
H0574	619,930	730,627	2829.9	H1516	612,117	722,544	4783.3
H0575	611,893	729,016	2831.4	H1517	612,056	722,553	4810.1
H0576	612,668	724,625	2835.9	H1518	611,473	724,553	3841.2
H0577	619,395	731,168	2836.7	H1519	610,897	724,312	4445.5
H0578	612,629	724,659	2842.8	H1520	610,390	724,587	4720.1
H0579	611,855	728,989	2847.3	H1521	611,447	724,555	3860.3
H0580	611,989	729,173	2850.2	H1522	611,499	724,505	3849.1
H0581	611,911	729,075	2851.0	H1523	610,305	724,610	4775.6
H0582	612,205	725,223	2852.1	H1524	610,305	724,610	4775.6
H0583	612,567	724,671	2882.1	H1525	610,305	724,610	4775.6
H0584	611,987	729,187	2860.5	H1526	621,697	730,735	4410.7
H0585	612,050	729,266	2864.2	H1527	621,551	730,586	4216.7
H0586	612,626	724,624	2867.4	H1528	622,083	727,770	4544.3
H0587	618,235	731,724	2871.2	H1529	622,411	729,035	4729.6
H0588	612,179	725,194	2890.6	H1530	622,133	729,519	4491.8
H0589	618,333	731,724	2891.4	H1531	611,061	723,611	4720.2
H0590	611,622	728,686	2891.6	H1532	611,018	723,436	4863.1
H0591	611,804	728,998	2894.5	H1533	611,241	724,056	4310.9
H0592	618,276	731,740	2894.7	H1534	611,367	724,078	4195.3
H0594	618,945	731,515	2898.0	H1535	611,749	722,676	4893.3
H0595	611,836	729,058	2901.3	H1536	612,056	722,484	4867.1
H0596	619,506	731,168	2904.4	H1537	610,959	723,475	4884.5
H0597	611,819	725,708	2904.8	H1538	611,140	724,508	4133.6
H0598	611,864	729,105	2907.1	H1539	610,917	723,531	4883.0
H0599	616,481	732,265	2917.9	H1540	612,635	722,347	4689.7
H0600	620,094	730,539	2911.4	H1541	611,068	723,618	4710.3
H0601	612,221	729,510	2911.6	H1542	611,051	723,602	4733.6
H0602	620,043	730,615	2913.4	H1543	611,004	723,554	4800.2
H0603	616,626	732,266	2926.9	H1544	611,017	723,292	4956.3
H0604	619,979	730,715	2923.0	H1545	611,021	723,259	4974.9
H0605	612,545	724,614	2935.0	H1547	612,124	722,459	4850.3
H0606	620,619	728,870	2936.2	H1548	612,036	722,624	4763.3
H0607	611,881	725,569	2937.9	H1549	612,183	722,588	4710.1
H0608	612,339	729,653	2941.7	H1550	610,293	725,024	4558.8
H0609	612,529	724,610	2950.0	H1551	609,285	726,649	4967.6
H0610	619,504	731,234	2955.3	H1552	609,211	727,461	4989.2
H0611	617,726	732,003	2976.2	H1553	610,149	725,226	4584.7
H0612	612,505	724,605	2971.3	H1554	610,132	725,254	4586.7
H0613	611,887	729,242	2972.7	H1555	609,681	725,800	4784.7
H0614	611,852	725,527	2986.1	H1556	611,468	724,159	4066.0
H0615	611,801	725,593	2987.1	H1557	611,470	724,180	4052.2
H0616	619,450	731,328	2997.5	H1558	612,059	722,519	4836.5
H0617	611,800	725,574	2999.7	H1559	622,272	729,202	4598.3
H0618	611,826	725,502	3019.9	H1561	622,314	728,599	4641.1

H0619	613,705	731,657	3024.8	H1562	621,642	730,705	4348.2
H0620	613,525	731,488	3028.9	H1563	611,112	724,605	4100.3
H0621	616,673	732,382	3047.5	H1564	611,468	724,491	3882.8
H0622	611,182	727,918	3065.4	H1565	611,638	723,800	4154.1
H0623	611,135	727,855	3101.8	H1566	611,455	724,308	3992.2
H0624	613,555	731,725	3176.2	H1567	619,227	732,676	4073.8
H0625	613,510	731,726	3208.0	H1568	612,193	732,889	4960.9
H0626	614,963	732,967	3647.9	H1569	611,645	731,332	4508.7
H0627	610,236	728,479	4114.7	H1571	611,108	723,578	4703.8
H0628	614,510	731,439	2371.0	H1572	611,106	723,583	4702.2
H0629	613,222	732,035	3630.6	H1573	611,101	723,597	4697.4
H0630	620,551	731,788	4065.2	H1574	611,099	723,603	4695.2
H0631	612,032	729,242	2861.1	H1575	611,095	723,616	4690.3
H0632	620,377	731,871	4005.9	H1576	611,092	723,622	4689.0
H0633	610,778	726,961	3445.8	H1577	611,471	724,201	4039.3
H0635	612,350	730,039	3243.7	H1578	611,472	724,206	4035.6
H0636	613,066	723,297	3648.4	H1579	611,470	724,185	4049.3
H0638	615,191	723,027	3514.3	H1580	611,469	724,164	4062.3
H0639	620,622	726,841	3530.6	H1581	622,154	729,484	4508.0
H0640	620,766	731,020	3737.6	H1582	619,103	732,834	4176.7
H0641	611,409	724,766	3764.7	H1583	612,122	732,856	4988.7
H0642	620,570	730,670	3383.2	H1584	611,505	732,089	4999.0
H0646	611,927	724,579	3449.5	H1585	614,211	733,949	4793.8
H0647	620,435	730,995	3454.9	H1586	611,440	724,536	3877.6
H0648	611,398	725,200	3541.0	H1587	611,440	724,536	3877.6
H0649	610,208	728,441	4131.4	H1588	620,710	731,859	4228.5
H0650	611,406	724,750	3776.2	H1589	622,459	728,967	4776.3
H0651	612,354	724,642	3066.2	H1590	620,022	724,179	4811.5
H0652	610,529	727,795	3694.4	H1591	611,705	724,495	3680.5
H0653	610,002	725,930	4438.9	H1592	611,662	724,489	3719.8
H0654	611,705	725,419	3166.3	H1593	611,631	724,486	3747.4
H0655	611,335	725,309	3530.7	H1594	611,618	724,486	3758.4
H0656	611,406	725,339	3456.1	H1595	611,605	724,493	3765.5
H0657	611,439	725,306	3448.9	H1596	610,676	724,576	4480.9
H0658	611,455	725,294	3443.8	H1597	611,379	724,533	3927.5
H0659	611,476	725,277	3436.1	H1598	611,385	724,533	3922.7
H0660	611,400	725,291	3488.9	H1599	611,391	724,533	3918.0
H0661	611,425	725,264	3484.9	H1600	611,396	724,534	3913.4
H0662	611,458	725,239	3469.9	H1601	611,403	724,534	3907.9
H0663	611,486	725,214	3457.9	H1602	611,408	724,534	3904.0
H0664	611,505	725,200	3448.7	H1603	611,415	724,535	3897.9
H0665	611,523	725,198	3434.1	H1604	611,203	723,722	4539.9
H0666	611,539	725,189	3424.7	H1605	611,170	723,687	4587.5
H0667	611,533	725,121	3464.8	H1606	611,539	724,270	3944.0
H0668	611,437	725,138	3538.2	H1607	611,533	724,272	3947.8
H0669	611,336	725,201	3594.3	H1608	611,526	724,274	3952.5
H0670	610,163	728,257	4131.6	H1609	611,520	724,275	3956.8
H0671	620,938	730,680	3706.5	H1610	611,513	724,275	3962.6
H0672	620,486	730,682	3317.2	H1611	611,507	724,275	3967.6
H0673	620,450	730,668	3279.4	H1612	611,499	724,278	3972.5
H0674	620,565	730,797	3446.9	H1613	611,400	724,170	4115.3
H0675	620,557	730,806	3444.7	H1614	612,169	727,836	2081.9

H0676	620,553	730,812	3445.1	H1615	615,010	722,756	3768.2
H0677	620,546	730,825	3446.4	H1616	610,260	724,542	4851.8
H0678	620,557	730,845	3466.6	H1617	610,430	724,634	4660.1
H0679	620,547	730,831	3450.1	H1618	610,235	724,578	4851.3
H0680	620,568	730,792	3446.2	H1619	610,217	724,567	4872.3
H0681	620,562	730,848	3471.9	H1620	610,143	724,540	4948.4
H0682	620,583	730,819	3473.8	H1621	610,150	724,474	4980.8
H0683	620,589	730,815	3475.8	H1622	610,178	724,492	4947.6
H0684	620,595	730,803	3474.5	H1623	610,226	724,522	4891.1
H0685	620,600	730,800	3477.0	H1624	610,244	724,534	4869.4
H0686	620,607	730,790	3477.5	H1625	610,293	724,563	4812.7
H0687	620,132	730,651	3006.7	H1626	610,324	724,578	4778.8
H0688	620,794	726,802	3705.4	H1627	610,462	724,638	4631.9
H0689	619,281	725,067	3664.0	H1628	610,372	724,583	4737.0
H0690	619,321	725,379	3425.0	H1629	610,723	724,570	4444.2
H0691	619,437	725,910	3082.4	H1630	611,384	724,060	4192.0
H0692	621,411	730,407	4018.4	H1631	611,371	724,074	4194.3
H0693	618,952	731,786	3147.2	H1632	611,363	724,082	4196.2
H0694	612,218	724,474	3277.0	H1633	610,626	724,578	4522.4
H0695	612,245	724,348	3336.3	H1634	610,587	724,591	4549.0
H0696	612,762	723,846	3347.2	H1635	610,553	724,596	4575.6
H0697	612,204	724,551	3240.6	H1636	610,677	724,622	4455.9
H0698	612,330	724,567	3131.7	H1637	610,656	724,628	4470.8
H0699	612,346	724,660	3061.6	H1638	610,632	724,628	4491.3
H0700	612,373	724,632	3057.4	H1639	610,605	724,627	4515.0
H0701	611,850	730,799	4113.4	H1640	610,581	724,630	4534.1
H0702	614,099	731,492	2646.1	H1641	610,555	724,632	4555.5
H0703	613,220	731,619	3342.5	H1642	610,492	724,622	4614.9
H0704	612,625	732,782	4584.6	H1643	610,383	724,626	4702.9
H0705	612,410	732,847	4778.6	H1644	610,359	724,626	4722.4
H0706	611,822	731,108	4254.4	H1645	610,348	724,624	4732.5
H0707	611,903	730,880	4092.5	H1646	610,345	724,648	4721.0
H0708	613,095	732,225	3855.5	H1647	610,333	724,790	4650.4
H0709	612,732	732,745	4484.8	H1648	610,258	724,802	4706.4
H0710	613,236	733,253	4585.0	H1649	610,268	724,773	4714.0
H0711	611,475	725,226	3461.8	H1650	610,289	724,716	4728.3
H0712	611,443	725,250	3477.5	H1651	610,293	724,689	4740.2
H0713	611,414	725,277	3486.5	H1652	610,298	724,669	4747.5
H0714	611,382	725,309	3493.5	H1653	610,306	724,646	4754.1
H0715	611,429	725,322	3447.2	H1654	610,285	724,602	4796.6
H0716	611,488	725,265	3430.9	H1655	610,262	724,589	4822.9
H0717	611,384	724,758	3789.7	H1656	610,165	724,547	4926.4
H0718	611,398	724,753	3781.0	H1657	610,203	724,506	4919.1
H0719	611,404	724,750	3777.5	H1658	611,239	724,062	4309.2
H0720	611,411	724,748	3773.2	H1659	611,246	724,039	4316.6
H0721	611,417	724,746	3770.1	H1660	611,250	724,028	4319.6
H0722	611,423	724,744	3766.1	H1661	611,255	724,011	4325.4
H0723	611,897	724,481	3529.8	H1662	611,257	724,005	4327.2
H0724	611,817	724,562	3549.9	H1663	611,261	723,994	4330.4
H0725	612,479	724,654	2960.9	H1664	611,279	723,964	4333.4
H0726	612,564	724,670	2884.5	H1665	611,284	723,960	4331.7
H0727	610,659	727,541	3543.7	H1666	611,291	723,952	4330.8

H0728	610,146	727,199	4057.4	H1667	611,301	723,946	4326.3
H0729	610,577	726,752	3675.4	H1668	611,305	723,942	4325.4
H0730	610,610	727,724	3606.1	H1669	611,314	723,935	4322.4
H0731	610,376	727,989	3872.4	H1670	611,325	723,961	4298.1
H0732	610,280	728,193	4003.6	H1671	611,316	723,969	4300.5
H0733	609,956	728,359	4356.0	H1672	611,312	723,973	4301.4
H0734	609,559	728,686	4822.8	H1673	611,303	723,982	4303.4
H0735	609,521	728,619	4841.0	H1674	611,297	723,992	4302.3
H0736	609,541	728,653	4831.1	H1675	611,294	723,997	4301.8
H0737	609,503	728,483	4825.7	H1676	611,316	724,021	4269.9
H0738	609,432	728,432	4883.1	H1677	611,320	724,025	4264.4
H0739	609,438	726,724	4805.7	H1678	611,324	724,030	4258.2
H0740	609,787	726,056	4605.1	H1679	611,337	724,043	4240.0
H0741	610,143	726,074	4259.0	H1680	611,340	724,048	4234.7
H0742	611,486	724,741	3716.9	H1681	611,339	723,985	4272.5
H0743	611,431	724,826	3712.3	H1682	611,343	723,989	4266.9
H0744	611,738	725,478	3106.9	H1683	611,347	723,993	4261.3
H0745	619,491	725,161	3701.4	H1684	611,359	724,006	4244.0
H0746	618,650	724,716	3702.0	H1685	611,364	724,010	4237.6
H0747	618,152	724,632	3640.6	H1686	611,372	724,019	4225.8
H0748	618,086	724,617	3637.1	H1687	611,403	724,037	4190.2
H0749	620,079	726,578	3160.6	H1688	611,399	724,043	4189.8
H0750	620,282	726,783	3243.6	H1689	611,391	724,052	4191.0
H0751	619,599	725,424	3556.3	H1690	611,472	724,274	3997.1
H0752	619,421	725,266	3574.2	H1691	611,487	724,329	3953.9
H0753	621,384	728,678	3707.7	H1692	611,489	724,365	3932.5
H0754	621,430	730,468	4059.1	H1693	611,487	724,381	3925.4
H0756	611,938	730,234	3646.1	H1694	611,488	724,390	3919.7
H0757	611,935	730,277	3682.3	H1695	611,490	724,410	3907.2
H0758	613,262	731,922	3521.1	H1696	611,342	724,361	4058.4
H0759	612,360	731,975	4232.7	H1697	611,417	724,241	4061.1
H0760	612,461	732,916	4794.2	H1698	611,244	724,045	4314.8
H0761	613,425	733,190	4430.5	H1699	611,252	724,022	4321.5
H0762	610,452	727,951	3791.8	H1700	611,263	723,988	4332.2
H0763	620,487	731,673	3938.9	H1701	611,288	723,956	4330.8
H0764	620,294	731,861	3942.9	H1702	611,310	723,937	4324.4
H0765	620,165	731,620	3677.3	H1703	611,321	723,965	4298.9
H0766	620,485	731,032	3516.8	H1704	611,299	723,987	4303.6
H0767	620,455	731,013	3481.1	H1705	611,312	724,017	4275.5
H0768	620,433	730,997	3454.3	H1706	611,332	724,039	4246.4
H0769	620,612	730,786	3480.4	H1707	611,344	724,053	4228.5
H0770	616,815	732,933	3610.1	H1708	611,352	723,998	4254.4
H0771	618,722	724,722	3722.3	H1709	611,368	724,015	4231.4
H0772	618,533	724,691	3685.9	H1710	611,396	724,047	4189.9
H0773	621,414	730,488	4052.0	H1711	611,379	724,065	4193.1
H0775	610,298	727,227	3904.0	H1712	611,359	724,087	4196.6
H0776	610,141	727,260	4060.1	H1713	611,453	724,409	3938.9
H0777	614,032	733,351	4297.4	H1714	611,450	724,383	3955.4
H0778	619,916	731,891	3727.1	H1715	611,419	724,147	4112.9
H0779	618,625	731,718	2965.5	H1716	611,319	724,538	3972.0
H0780	619,727	732,103	3793.9	H1717	611,472	724,564	3835.1
H0781	619,797	732,041	3780.9	H1718	611,471	724,520	3863.3

H0782	620,548	730,635	3345.2	H1719	611,474	724,501	3872.5
H0783	620,578	730,639	3373.5	H1720	611,522	724,522	3820.6
H0784	612,697	732,685	4464.3	H1721	611,598	724,494	3770.9
H0785	612,166	724,073	3578.4	H1722	611,591	724,497	3775.2
H0786	612,273	731,942	4282.8	H1723	611,562	724,504	3796.0
H0787	611,459	724,878	3659.1	H1724	611,134	724,507	4139.1
H0788	611,769	725,516	3058.5	H1725	611,160	724,501	4121.6
H0789	611,339	725,168	3608.7	H1726	611,172	724,501	4111.9
H0790	611,391	725,273	3507.8	H1727	611,226	724,515	4060.2
H0791	609,484	726,746	4757.0	H1728	611,197	724,502	4091.2
H0792	610,261	727,214	3941.9	H1729	611,210	724,501	4081.4
H0793	610,352	727,258	3849.3	H1730	611,226	724,508	4064.4
H0795	612,716	723,589	3582.6	H1731	611,226	724,520	4057.2
H0796	612,179	724,551	3260.8	H1732	611,256	724,531	4026.6
H0797	610,493	727,815	3732.1	H1733	610,782	724,578	4390.1
H0798	611,436	724,727	3765.7	H1734	610,815	724,569	4367.2
H0799	620,922	730,770	3736.1	H1735	610,853	724,571	4334.2
H0800	620,895	730,765	3710.7	H1736	610,907	724,565	4292.4
H0801	616,694	732,963	3627.7	H1737	610,928	724,564	4275.5
H0802	610,174	726,261	4176.5	H1738	611,289	724,528	4002.0
H0803	611,982	730,576	3895.2	H1739	611,290	724,572	3974.8
H0804	612,819	723,601	3514.2	H1740	611,290	724,572	3974.8
H0805	609,681	726,836	4550.3	H1742	611,093	724,601	4118.2
H0806	611,866	731,389	4335.7	H1743	611,364	724,538	3936.3
H0809	611,560	725,236	3383.1	H1744	611,359	724,569	3921.4
H0810	611,572	725,254	3363.4	H1745	611,499	724,488	3858.0
H0811	611,577	725,272	3349.9	H1746	611,516	724,527	3823.1
H0812	611,582	725,292	3335.7	H1747	611,497	724,521	3842.5
H0813	611,588	725,310	3321.4	H1748	611,498	724,532	3834.8
H0814	611,593	725,330	3307.8	H1749	611,495	724,559	3820.2
H0815	611,598	725,349	3293.8	H1750	611,472	724,536	3852.5
H0816	611,604	725,367	3280.0	H1751	611,114	724,519	4148.3
H0817	611,606	725,385	3268.0	H1752	611,128	724,508	4143.3
H0818	611,606	725,392	3263.9	H1753	611,203	724,501	4087.0
H0819	611,596	725,405	3264.4	H1754	611,183	724,498	4104.9
H0820	611,588	725,407	3269.4	H1755	611,217	724,500	4076.4
H0821	611,574	725,396	3287.4	H1756	610,750	724,566	4423.5
H0822	611,566	725,398	3292.4	H1757	610,887	724,566	4308.5
H0823	611,565	725,367	3311.6	H1758	610,981	724,563	4232.1
H0824	611,563	725,360	3317.4	H1759	611,034	724,564	4187.8
H0825	611,559	725,350	3327.1	H1760	611,643	724,490	3735.2
H0826	611,557	725,344	3331.8	H1761	611,611	724,489	3762.6
H0827	611,555	725,332	3339.8	H1762	611,117	724,544	4131.3
H0828	611,553	725,325	3345.0	H1763	611,115	724,538	4136.4
H0829	611,550	725,315	3352.4	H1764	611,116	724,531	4139.6
H0830	611,548	725,309	3356.8	H1765	611,114	724,524	4145.3
H0831	611,546	725,298	3364.6	H1766	619,623	724,702	4155.1
H0832	611,542	725,291	3370.5	H1767	621,048	732,265	4754.3
H0833	611,537	725,280	3381.4	H1768	621,085	732,209	4741.4
H0834	611,530	725,276	3388.8	H1769	621,028	732,078	4609.6
H0835	617,886	724,554	3577.9	H1770	622,061	730,845	4787.9
H0836	619,502	725,481	3451.5	H1771	622,044	730,837	4769.1

H0837	619,585	726,119	3038.3	H1772	621,729	730,718	4432.9
H0838	620,601	730,644	3396.3	H1773	621,653	730,725	4366.5
H0839	618,992	731,705	3089.1	H1774	621,588	730,706	4299.5
H0840	611,372	725,217	3555.6	H1775	622,286	728,555	4616.3
H0841	611,505	725,247	3424.5	H1776	622,173	728,396	4518.8
H0842	611,554	725,401	3299.7	H1777	622,652	729,058	4971.2
H0843	611,548	725,405	3302.2	H1778	622,510	728,982	4827.5
H0844	617,262	723,916	3596.1	H1779	622,360	729,046	4678.9
H0845	610,220	728,274	4080.2	H1780	621,980	729,227	4308.7
H0846	609,703	728,687	4684.5	H1781	622,153	729,305	4487.5
H0847	610,290	727,320	3909.3	H1782	622,106	729,557	4470.4
H0848	612,402	725,054	2792.2	H1783	621,916	729,600	4289.2
H0850	612,021	724,575	3374.8	H1784	621,971	729,710	4362.4
H0851	612,166	724,073	3578.4	H1785	621,914	729,724	4309.1
H0852	616,673	732,382	3047.4	H1786	621,863	729,987	4317.2
H0853	609,810	725,928	4621.8	H1787	622,188	730,960	4950.9
H0854	610,818	727,634	3391.1	H1788	621,913	730,822	4643.4
H0855	610,586	727,745	3632.3	H1789	621,538	730,668	4238.2
H0856	610,388	727,965	3857.0	H1790	622,682	728,856	4999.2
H0857	610,372	727,991	3876.4	H1791	622,391	728,118	4773.5
H0858	610,248	728,140	4024.7	H1792	622,463	728,693	4784.6
H0859	609,762	728,494	4577.0	H1793	622,532	728,951	4849.1
H0860	609,745	728,586	4616.0	H1794	622,183	729,467	4534.6
H0861	609,545	728,569	4805.3	H1795	611,741	729,601	3317.2
H0862	609,361	728,415	4949.5	H1796	612,562	729,071	2358.1
H0863	609,327	728,354	4969.6	H1798	611,443	731,320	4687.1
H0864	609,227	727,517	4974.3	H1799	611,526	731,392	4642.0
H0865	609,655	727,171	4549.4	H1800	611,422	731,356	4721.1
H0866	609,696	727,086	4512.6	H1801	612,335	732,863	4842.4
H0867	609,718	727,040	4494.0	H1802	611,340	731,796	4991.6
H0868	610,395	726,600	3882.6	H1803	618,949	733,039	4322.5
H0869	610,516	726,714	3741.5	H1805	616,906	732,876	3566.2
H0870	610,780	726,929	3447.9	H1806	616,602	732,826	3484.2
H0871	610,774	726,980	3447.6	H1807	616,649	732,734	3395.8
H0872	610,982	727,183	3223.1	H1808	619,123	732,814	4164.7
H0873	610,435	727,862	3795.8	H1809	619,241	732,639	4044.9
H0874	610,179	728,399	4148.5	H1810	619,313	732,592	4030.1
H0875	609,664	728,631	4706.7	H1811	619,585	731,297	3054.7
H0877	609,251	727,496	4949.8	H1812	610,192	724,560	4896.8
H0878	609,624	727,307	4575.7	H1813	611,024	723,232	4990.3
H0879	612,622	723,878	3409.4	H1814	611,476	724,250	4007.3
H0880	612,249	724,236	3406.9	H1815	611,227	724,527	4052.2
H0881	612,205	724,254	3428.1	H1816	620,777	731,885	4294.7
H0882	612,456	724,587	3021.0	H1817	622,008	729,171	4332.9
H0883	612,391	724,576	3078.4	H1818	611,236	723,756	4492.9
H0884	612,361	724,571	3104.6	H1819	611,140	724,423	4184.2
H0885	613,538	723,157	3582.4	H1820	611,141	724,416	4187.6
H0886	613,032	723,329	3636.5	H1821	613,006	721,954	4896.1
H0887	612,832	723,729	3401.6	H1822	612,038	722,599	4782.6
H0888	615,509	723,177	3418.8	H1823	611,188	723,707	4560.9
H0889	612,343	724,635	3079.6	H1824	620,948	732,132	4589.6
H0890	613,450	723,136	3633.3	H1825	621,724	729,578	4096.2

H0891	612,663	723,900	3366.3	H1826	619,257	732,618	4031.7
H0892	615,081	723,434	3097.3	H1827	619,811	724,362	4542.8
H0894	612,261	724,724	3091.9	H1829	611,938	722,557	4874.7
H0895	611,501	724,728	3712.5	H1830	611,157	723,670	4608.2
H0896	611,497	724,788	3680.1	H1831	622,180	729,415	4525.5
H0897	611,474	724,820	3680.2	H1832	622,012	729,656	4393.2
H0898	611,377	724,807	3767.7	H1833	621,200	732,265	4863.1
H0899	611,456	724,739	3742.3	H1835	619,280	732,610	4033.4
H0900	611,455	724,730	3748.1	H1836	618,208	724,619	3665.8
H0901	611,457	724,713	3756.4	H1837	619,608	730,830	2721.1
H0902	611,458	724,702	3762.5	H1838	617,410	731,619	2492.8
H0903	611,461	724,677	3775.1	H1839	620,721	730,658	3506.5
H0904	611,783	725,540	3033.3	H1840	618,037	726,435	1876.9
H0905	611,759	725,493	3080.6	H1841	620,724	731,106	3752.9
H0906	611,723	725,460	3129.5	H1843	616,238	730,727	1385.0
H0907	611,652	725,371	3235.9	H1846	611,537	725,369	3332.7
H0908	611,643	725,347	3255.5	H1848	611,144	724,402	4193.7
H0909	611,636	725,326	3272.5	H1849	611,134	724,435	4181.8
H0910	611,627	725,273	3306.0	H1853	610,255	728,239	4038.1
H0911	611,619	725,255	3322.4	H1854	619,388	730,421	2280.2
H0912	611,620	725,229	3334.9	H1855	622,282	729,175	4606.7
H0913	611,607	725,193	3364.3	H1856	611,487	725,111	3509.6
H0914	611,592	725,138	3406.5	H1857	619,096	730,796	2358.5
H0915	611,588	725,098	3430.8	H1858	618,766	730,698	2093.1
H0916	611,571	725,036	3478.9	H1859	620,843	731,017	3799.1
H0917	611,565	725,008	3499.1	H1861	611,471	724,575	3828.4
H0918	611,498	724,865	3635.0	H1862	620,006	724,368	4646.1
H0919	611,481	724,682	3756.4	H1863	610,345	724,574	4763.3
H0920	611,483	724,668	3763.1	H1864	612,105	722,319	4977.4
H0921	611,479	724,694	3750.3	H1865	610,960	727,387	3238.8
H0922	611,375	725,048	3638.0	H1866	612,433	729,050	2434.2
H0923	611,387	725,037	3633.6	H1867	613,055	732,200	3864.6
H0924	611,392	725,033	3631.6	H1868	617,221	731,631	2431.9
H0925	611,409	725,018	3624.8	H1869	618,686	730,655	2015.2
H0926	611,422	725,010	3618.3	H1870	619,026	730,366	1982.9
H0927	611,426	725,006	3616.3	H1871	609,596	728,639	4774.6
H0928	611,445	724,993	3607.9	H1872	618,970	731,572	2959.9
H0929	611,457	724,986	3601.2	H1873	621,501	730,400	4099.2
H0930	611,475	724,974	3593.4	H1874	613,411	724,470	2462.6
H0931	611,480	724,969	3592.0				

Table A12-3 present the turbine sound power noise emission values used for the wind farm development in the noise prediction model.

**Table A12-3 L<sub>WA</sub> Levels Used for Prediction Model – Vestas V150 at 145 m Hub Height**

Wind Speed (m/s at 10m Standardised Height)	Octave Bank Centre Frequency (Hz)								dB L <sub>WA</sub>
	63	125	250	500	1000	2000	4000	8000	
3	87.0	88.4	87.0	84.6	87.0	85.6	81.9	65.6	94.8
4	84.2	90.2	89.7	88.2	90.4	89.7	82.7	68.9	97.1
5	85.6	94.2	95.2	93.8	95.7	95.4	88.0	74.2	102.2

6	88.2	96.3	96.4	96.5	98.2	97.9	91.4	77.6	104.5
7	88.3	96.2	97.0	97.5	98.5	98.2	91.8	77.6	104.9
8	88.2	95.6	96.8	97.4	98.6	98.5	92.2	76.8	104.9
9	88.6	95.5	96.1	96.9	98.8	99.0	92.6	79.6	104.9