THE INFLUENCE OF AGE, SITE AND STOCKING DENSITY OF PLANTATIONS ON GRADE AND MONETARY RECOVERY OF RADIATA PINE SCANTLINGS AND BOARDS

by

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ORIGINALITY OF THESIS

The work on which this thesis is based was started by Mr R.G. Buick who carried out the tree sampling, log conversion and the visual and mechanical grading of some of the recovered timber. The author took over the work at the time indicated in section 3.8.1.

Mr P. Lind of the Forestry Commission of New South Wales assisted in analyses involving the Department of Agriculture package GLSAP.

With these exceptions, the work described in this thesis is original.

D.J. Grant

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ABSTRACT

Trees were sampled from radiata pine stands in the Australian Capital Territory, cut into 4.95 m logs and converted into board and scantling sizes using predetermined sawing patterns. After kiln drying and machining, the scantling timber was visually and mechanically graded and the boards visually graded. Values were assigned to each recovered piece of timber. The diameter of the branches along the trunks of many of the trees were measured as well as the diameters of the ends of all the logs.

The stands sampled were in four age classes as follows: 36 - 38; 30; 23 and 19 years. The 36 - 38 year old stands were from areas of differing site quality and similar silvicultural treatment and had been thinned and low pruned. The three younger aged stands were all unthinned. The 30 year old stand contained a spacing trial, allowing the effect of spacing on branch size to be studied.

The data permitted a detailed study of grade yield patterns and log values for various age classes, site qualities and initial spacings for both visual and mechanical grading. The effect of spacing on various branching characteristics was also studied as well as the effect of branch size on log value.

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CHAPTER 1

INTRODUCTION

1.1 *Project history.*

This work was started in 1971 by Mr R.G. Buick as part of a Ph.D. (A.N.U.) project called *Aspects of the utilization of radiata pine wood.* The original project was to be in three parts:

1. A survey of the market demand for structural timber and assessment of the potential market demand for structural radiata pine in the Sydney area.
2. An examination of the operational and economic aspects of machine stress grading.
3. An investigation of the potential supply of stress graded radiata pine from stands of various site qualities and silvicultural regimes.

The project stopped in 1976, when Mr Buick left the Departmen of Forestry, after considerable effort had been expended in investigating the yield of structural grade radiata pine timber from stands of various ages and silvicultural treatments.

In 1977 the Forestry Commission of New South Wales agreed to assist in completion of that part of the project dealing with the relationships between age, silvicultural practices and yield of structural grades of radiata pine timber; a topic of considerable interest to the Forestry Commission because it was a rare attempt to marry silviculture and forest management with the engineering products derived from the forest. It was also seen as a way of studying the mechanical properties of radiata pine timber in larger than normal scantling dimension, cut from trees of known age and treatment. The original work by Mr Buick was done before the introduction of metrication to forestry and the forest industries, and therefore imperial units were used. However, conversion to metric has been carried out where appropriate.

1.2 *Project development and objectives.*

Compartments were sampled in Uriarra Forest, the Australian Capital Territory (A.C.T.) mainly to determine the grades of sawn timber recovered from the stands. They were to be stratified by age, site index and stand density, the trees cut into standard log lengths, the branch diameters measured and the logs converted into structural timber sizes. The timber was to be seasoned and then visually and mechanically graded. A sample of the timber was to be tested to destruction in the laboratory.

The potential benefits of this part of the project were:

1. Planning and Forecasting.

   Stress grade distributions by age, site index and stocking density groupings would provide a base for forecasting the potential supply of structural grade radiata pine within the A.C.T. and could assist long-term forestry planning.

2. Economic Studies.

   Stress grade distributions would allow simulated economic studies of rotation length. Sawn, seasoned and dressed structural radiata pine realizes high prices in the market place so that structural grade distributions and grade price differentials could play a substantial part in determining the economics of varying rotation lengths. Various price levels, market demand levels and effects of management practices could be included in the simulation models.

3. Saw-log Value.

   A knowledge of stress grade distributions would allow the forest manager to predict the value of logs to industry. Sawmillers would also benefit by knowing the structural and non-structural size and grade yields from various log size classes using sawing patterns designed to optimise the production of structural sizes.

4. Mechanical Properties of Large Width Radiata Pine Scantling.

   The mechanical properties of larger than normal section size radiata pine scantling would be known and machine grading programs could be designed for these sizes.

5. Effect of Branch Size on Grade Recovery.

   The effect of branch size on grade recovery and timber value could be studied as well as the effect of certain silvicultural practices on branch size.

CHAPTER 2

LITERATURE REVIEW

For many years, research workers have attempted to link plantation conditions with the wood properties of trees derived from them and their utilization. Major reviews have been published by *Boyd (1967)*, *Fielding (1967a)*, *Brazier (1976)* and *Bendtsen (1978)*. Other reviews dealing with more specific topics include those of *Sjolte-Jørgensen (1967)* and *Evert (1971)* on spacing effects, *Gladstone and Gray (1973)* on fertilization effects, *Spurr and Hsiung (1954)* on growth rate/specific gravity, *Larson (1969)* and *Dadswell (1958)* on growth, wood formation and wood quality, *Noskowiak (1963)* on the causes of spiral grain and *Zobel (1961)* on the heritability of wood properties (from *Bendtsen, 1978*).

Reid (1963) dealt with wood quality in conifer plantations in New Zealand and *Bunn (1970)* reviewed the development of sawlog regimes for radiata pine in New Zealand and presents some data on the effects of some silvicultural practices on tree growth. This paper was presented at a symposium on radiata pine held at the Department of Forestry, the Australian National University along with many other "state of the art" papers covering most aspects of the growing, harvesting and utilization of this species.

Bendtsen (1978) wrote a review of the literature on the wood properties of improved trees grown under intensive management. He lists some of the many reviews published concerned with improved tree-wood properties and gives valuable insights into the utilization of much of the wood produced from intensively managed forests. One of the stated aims of his review was

> ...to cause those involved in tree improvement and management programs to be aware of the potential effect of tree manipulation on wood properties important to solid wood utilization. We also have tried to alert

> those in the solid wood industry to the changing resource so that they may anticipate and prepare for modifications as required.

He continues

> Much of the literature reviewed dealt with fiber properties or properties of clear wood. None of the research we reviewed concerning full sized lumber was designed to relate mechanical properties of lumber to fiber characteristics or to make direct comparison between the mechanical properties of juvenile and mature wood.

and concludes,

> End use needs should be closely identified and communication between solid wood processors, geneticists, and forest management scientists should be clearly established.

In fact very little work has been done to link the properties of full sized sections (as opposed to fiber properties and clear wood properties) with plantation conditions. Most has been in the form of "non-destructive" grade recovery studies using plantations variously treated, and without good control over or knowledge of independent variables that might influence timber quality such as genetic history and location variables (e.g. soil type and fertility, moisture availability, drainage, temperature etc.). To gauge the effects on quality of particular silvicultural regimes or of particular sites as many of these variables as possible must be eliminated or shown to have such a small effect as to be inconsequential. For example, *Wright (1967)* investigated the variation in log quality in radiata pine stands of various site qualities in four localities in Victoria and concluded:

> Branch size, nodal swelling, green level and bark thickness each increased with site index in each locality. On the other hand, taper decreased with increasing site index. Variations in these parameters also occurred between stands of similar site index in different localities. In general, between-locality differences were as great as within-locality differences.

Wright also found that tree diameter and branch diameter were closely correlated irrespective of site.

Despite the obvious limiations, much useful information can be obtained from published grade recovery studies. Most work of this type using radiata pine has taken place in New Zealand (N.Z.) and its general application to Australia must be approached with caution because of major differences in site conditions.

Most of the grade recovery studies carried out have concentrated on determining percentage grade yields and sawn timber value of trees from softwood plantations; sometimes estimating the effect of age, site or silvicultural treatment on value and grade outturn.

In North America most studies have been carried out using natural softwood stands and the results would not necessarily be applicable to studies of softwood plantations. However, interesting studies have been reported by *Newport and Amidon (1961)* on young growth pondersoa pine, *McBride (1961)* on pruned Douglas fir, *Dobie and McBride (1964)* on second growt Douglas fir, *Kerbes and McIntosh (1968)* on spruce, *Schroeder et. al. (1968)* on southern pine and *Dobie (1978)* on small log yields from spruce-pine-fir combinations. Other recent studies in the U.S. have centred around evaluation of lumber quality in beetle-killed southern pine e.g. *Sinclair et. al. (1977), Sinclair and Ifju (1979)* and *Dobie and Wright (1978)*.

The *Dobie and McBride (1964)* yield study of three age classes of second growth Douglas fir showed high grade logs producing timber worth \$94.99 (per unit volume of lumber) for 80 year old trees, \$95.50 for 100 year old trees and \$110.88 for 150 year old trees. The large increase in value for the 150 year trees was due to a large percentage of clear grade lumber (42%) compared to the 100 year old trees (7%). Timber value also increased from \$96.79 (per unit volume of lumber) to \$118.09 as log diameter increased from 12 inches (305 mm) to 33 inches (838 mm) for high grade logs.

Low grade logs produced timber worth \$91.05, \$91.49 and \$93.52 per unit volume of lumber for the 80,100 and 150 year age classes respectively. The small increase in value was due to the small percentage of clear lumber obtained from all three age classes. Lumber value did not increase with log size for these low grade logs. Unfortunately no log grading rules were given in the paper.

Dobie and McBride, op.cit. also found that for both log grades an 80 year old stand of site index 150 produced the same value timber (per unit volume of timber produced) as did a 100 year old stand of site index 135, thus indicating that "the effect of site was to nullify the age differential and equalize the lumber values". Butt logs produced the highest value timber (\$112.15) second logs the next highest (\$102.18) and other logs the lowest (\$90.79). This was due to a 46% clear wood yield from the butt logs, 18% from the second logs and only 3% from the others. High grade logs averaged \$17 more per unit volume than low grade logs.

The Dobie and McBride work also included a study of the effects of various tree and log characteristics on lumber value per unit volume of tree for the oldest (150 year) age class. The characteristics studied included - diameter at breast height (dbh), tree height, tree form, heights of first dead/live limbs, crown length as a percentage of total height, crown density, crown width, crown class and site index. Nine of the variables tested showed significant correlation with lumber value/unit volume of tree. Increases in diameter (D), D^2, D^2xtree height, tree form, percent live crown, crown density, crown width, site index and crown class were accompanied by an increase in tree value. The most important single variable was crown width with an R^2 of 0.58 and the most important pair were crown width and crown class ($R^2 = 0.68$). Diameter and site index in combination had an R^2 of 0.58. Crown class and dbh, crown width and dbh and crown width and site index had R^2 of 0.64, 0.60 and 0.63 respectively.

Kerbes and McIntosh (1968) investigated the relationships between lumber recovery values and exterior, visible log characteristics for a mixture of Engelmann spruce and western white spruce in Canada. They found log top diameter the most important characteristic but the number of clear sides and percentage of defect due to rot and sweep were also important, depending on the frequency of the characteristic and the type of logs sawn. "Other factors, such as the number and size of knots, log taper and position in tree, were also significant, but in this study did not improve the regressions enough to justify the additional measurements." i.e. the natural variability of these factors in such forests is presumably too small to affect the results significantly.

Persson (1975) working in Sweden on plantations of 70 year old Scots pine having initial square spacings of 0.75 m, 1.25 m, 1.5 m, 2.0 m and 3.0 m found that "For all methods (visual and machine grading) the quality of the central sections of the bottom logs seriously decreased with increasing initial spacing. For the second and third logs the effect of spacing was more or less levelled out". Unfortunately no translation of the paper is available so Persson's reasons for his results cannot be presented here.

A number of grade studies have been carried out in New Zealand (N.Z.) on radiata pine stands.

Fenton and Familton (1961) studied grade yields of boards (25 mm thickness) from 41 year old radiata pine trees. They found the recovery of high grade material was poor for all log position classes, the major defects present in the sawn timber being bark encased knots, cone stem holes and pith associated with low density corewood and spike knots. Degrade due to bark encased knots "...followed the anticipated pattern - most occurring in the butt and second logs and becoming progressively less further up the tree". However, "The effect on grade recovery of the decreasing incidence of branch encasement from butt to top log was largely nullified by the increasing incidence of cone stem holes". The original stand from which the sample trees were cut "had been low and high pruned and thinned three times, but the tending had been too light in intensity and had been timed too late to be effective in improving grade recoveries".

The authors also discuss in detail the relationship between silviculture and timber quality in the light of the study and detail points they feel are important in selecting final crop trees of radiata pine. These are summarized:

1. Trees must be as straight as possible.
2. Range and mean of branch diameters must be as small as possible.
3. Branch angle must be high (relative to trunk).
4. Trees must be free of nodal swellings.
5. Trees should have no cones on the trunk to the 15 m level.
6. Tree vigour should not be allowed to predominate over the criteria of quality already given.
7. Other criteria of concern to the geneticist (primarily:
   (a) An increase in timber density.
   (b) Reduction in the extent of the low density core.
   (c) An increase in fibre length.
   (d) Resistance to frost, Sirex and other pathogens.
   (e) More shade tolerance and ability to retain deep green crowns.
   (f) Freedom from excessive spiral grain.
   (g) Strong apical dominance.
   (h) Control of tendency to form heartwood.

The authors comment further: "The greatest difficulty hitherto encountered in growing good quality radiata pine has been lack of fundamental knowledge of the factors affecting timber grade, although these have been pointed out, for example by *Reid (1953)*." and "...if tending is delayed and branches die the resultant timber will be suitable only for framing; if tending is correctly timed the trees will retain deep, green crowns and may or may not have degrading small branches or stem cones."

Whiteside (1964) reports the results of a visual grading study on a 28 year old untended radiata pine forest (Woodhill) in N.Z. and compares the results to other studies. Both board and framing sizes were produced, with a low incidence of bark encased knots and bark pockets, small knot size, small pith, a small number of cone holes and generally superior timber to that produced from untended stands of some other N.Z. regions. The low incidence of bark encased knots was stated as due to very slow diameter growth in the latter half of the rotation and possibly to green crown level. The author also remarks on the timber from the forest as "being of high density and strength". The high apparent density is attributed to the fairly high mean annual temperature which has been found to be related to density (*Harris, 1963*). The observation is also made that the final crop trees produced from Woodhill will be significantly smaller than in the areas producing the lower quality timber. (Original spacing at Woodhill is not given but mention is made that the stand received a light thinning to 400 stems per acre at age 16 (spacing around 3.05 m x 3.05 m but Whiteside considered that the stand was effectively untended).

Brown (1965) and *(1969)* investigated board grade recovery and veneer peeling quality of pruned logs. He concluded that pruning can be profitable if rate of tree growth is high enough and if bark damage during thinning is avoided.

Fenton (1967) studied board and scantling grade yields from two mature stands of radiata pine in N.Z. Scantlings were only cut from the centre of the logs and therefore only 3 or 4 scantlings were recovered from each log. One stand was planted at 1.83 m x 1.83 m, thinned at 15 and 30 years, low pruned at 10 years, high pruned at 15 years and sampled at 42 years. The other was planted at 2.44 m x 2.44 m and untended except for low pruning at 16 years and sampled at 39 years. Flat (back), quarter and taper sawing were all used but flat sawing proved the most profitable in terms of return/unit volume. Some of the results are listed below:

> One inch flat sawn butt logs from the tended stand yielded 7½% clears, 42% Factory and 48% Box grades (60.71 units of value) compared with ½%, 21% and 71% (49.2 units of value) respectively for the untended stand. Quarter sawing results were better than these but in terms of money flat sawing was the most profitable. One inch flat sawing (into 1 inch boards) for logs higher than the butt log gave better grade returns for the untended stand than for the tended, but with lower conversion factors and slightly lower realizations. Sawing to two inch sizes (centre of log only) was more profitable in both stands, markedly so for the tended stand. These results were thought to be due more to the differences in original spacing than to the subsequent tending.
>
> The major defects in the timber were bark encased knots and the complex of defects associated with pith. Pin knots and cone holes prevented recovery of higher grade boards in the 4th and 5th logs where bark encased knots were absent.
>
> The most promising outlets for timber from these stands are in framing sizes and in Factory and recutting grades for finger jointing.

Sutton (1968) estimated the financial returns of radiata pine grown at Woodhill, N.Z. for each of seven initial spacings ranging from 1.83 m x 1.83 m to 4.88 m x 4.88 m but including some rectangular spacings. No account was taken of the possible effect of spacing on quality (and therefore on stumpage) but this was seen as being of minor significance - "Indeed the increase in planting distance could actually improve grade recovery if the more open stand conditions delay the death of the very small branches, which *Whiteside (1964)* found were a major degrading factor in timber from close spaced stands". Results showed that the 1.83 m x 1.83 m spacing was the least profitable and that the 2.44 m x 2.44 m spacing was never as profitable as the wider spacings. The wider spacings "showed remarkable similarity in their calculated net returns; but the values for the 4.88 m x 4.88 m and possibly the 3.66 m x 3.66 m spacings were considered over optimistic (because of possible overestimation of volumes and increment in the wider spacings). It was concluded that as long as the initial spacing is within the range 3.05 m x 1.83 m to 3.66 m x 3.66 m higher net returns can be anticipated". It was added that the effect of spacing on branch size and tree malformation needed further investigation.

Fenton, Sutton and Tustin (1971) studied yields of clear boards from tended (thinned and high pruned) 26 year old second crop radiata pine. Little scantling timber was recovered, most of it coming from the 4th and 5th logs. A large percentage of No. 1 framing grade was produced from the higher logs despite the large branch sizes present. In the large diameter second and third logs much of the framing appeared to be sawn in the chord between two branches. In the fourth and fifth logs, the authors add, branch diameter was well above the maximum knot size recorded in the sawn timber, the logs being too small in diameter to have contained the maximum branch size.

The board grade yields "were consistent with other studies *(Fenton and Familton, 1961; Fenton, 1967)*, with the greatest concentration of factory grade in the lower logs, decreasing up the tree". Values of the various log position classes were discussed as follows:

> The values (per unit volume of timber and of log) generally decrease up the tree as the grades, widths and conversion factors fall. Seventy percent of the gross values are in the butt and second logs; a proportion which would increase if values net of sawing and logging costs were allowed.

Finally the authors comment on the results of the studies to date. "The studies have led to a board grade regime being formulated *(Fenton and Sutton, 1968)* which is designed to get the maximum growth on the valuable butt and second logs."

Fenton (1971) discusses the management of radiata pine stands for framing (scantling) production. He suggests "close initial spacing (2.44 m x 1.52 m or 1.83 m x 1.83 m) to be maintained until stand height is at least 18 m" and that "the suppressed growth rate of the framing regime that accompanies restriction of branch size reduces final log size with concomitant increases in logging and sawing costs. A rational solution would be to concentrate framing timber production on (low quality) sites where branch size is naturally limited".

In coming to these conclusions the author mainly uses results from his previous studies on board grade recoveries and two unpublished N.Z. grade studies on 15 to 20 year old radiata pine thinnings. He also uses results from trials in N.Z. aimed at determining the effects of spacing on branch size (Fenton's stated requirements for framing timber were: restriction of knot diameter to under 34 mm, straight grain, minimal distortion and lengths up to about 5 m.)

Fenton (1968) mentions the limited amount of data available on grade yields "...one of the shortcomings in the basic data used in the analysis (on the profitability of plantation forestry in N.Z.) was the absence of detailed data on cost of logging, on timber grades from different age and treatment classes of the major species and of the cost of sawing (which) restrict analysis".

Knowles and James (1973) determined the effect of branch size on visual grade recovery of 50 mm x 100 mm radiata pine scantling (each log was divided into quartiles and the largest branch in each longitudinal quarter section noted - the mean of the 16 branches measured in this way was called the branch size). They found that logs with branch size less than 28 mm always gave good grade yields since defects were small. For logs with branch size between 28 mm and 41 mm considerable variation in grade proportions were experienced depending on the sawing pattern/defect interaction. For logs with branch size between 41 mm and 53 mm, grades were always poor because of large defects. Mechanical grading was used to determine "Mean E value per log" and this generally decreased with increasing branch size.

Fenton (1976) in a study on the economics of thinning reports unpublished results showing that visually graded radiata pine from Ashley Forest, N.Z. produced about the same proportionate yield of framing grades from three different initial spacings. He gives the following reason for this result. "The proportion of larger logs, albeit with larger branches, increases the chances of avoiding defects". (Perhaps also the larger logs were cut into larger sizes thus decreasing the chance of downgrading.)

One of the few detailed yield studies undertaken on radiata pine in Australia is reported by *Waugh, Wright and Barnes (1977)*, but unfortunately full details have not been published. The aim of the project was to study the influence of site and silvicultural treatment on log and tree characteristics and the contribution these factors may have on influencing recovery, grade and value of sawn products. Preliminary results only have been presented and these have indicated that the high site quality area produced 20% less valuable timber than did the low site quality area when cutting predominantly boards. Most of the reduction was said to be due to defects originating from branching characteristics (green and encased knots). The authors state "This observation is consistent with the conclusions reached by *Wright (1967)* that the larger branch size in the more rapidly growing stands at Aire Valley could influence the value of the timber for particular end uses". When producing predominantly scantling however this difference reduced to 7% but this point was not taken further.

Booth (1969) evaluated the structural potential of some plantation conifers grown in northern N.S.W. He investigated the grade yields and timber strength properties of slash pine, patula pine and loblolly pine stands of various ages and sites and also of a single

30 year old stand of radiata pine. Results for slash, patula and loblolly pines are discussed in section 4.5.6. The trees from the radiata pine stand produced the following grade yields: 6% F14, 29% F11, 40% F7, 18% F4 and 8% reject. No details were given about the silvicultural treatment of any of the stands sampled.

External tree characteristics in radiata pine have been studied by many researchers such as *Jacobs (1938)* and *Fielding (1953), (1960)* and *(1967). Fielding (1967)* studied the external characteristics of radiata pine on 2 sites of different site quality in the A.C.T. The low quality site differed from the high quality site in having:

1. Trunks with low taper.
2. Thin buds.
3. Thin short branches.
4. Wide angled branches.
5. Fewer branches per whorl.
6. Thinner bark.
7. Lower green level.

Wright (1967) studied four localities (age 16 years) with emphasis on determining the effects of site on log quality in stands of radiata pine in Victoria. Each area studied contained zones with different site qualities. He found that taper generally decreased as site index (SI) increased (within each locality), green level increased as SI increased (the author observed that the locality with the lowest SI range had a low green crown and that the dead branches were sound, whereas the locality that produced the largest diameter trees (Aire Valley) where rainfall was very high thus providing moist conditions conducive to fungal attack, had higher green level and rotting dead branches). Average branch diameter increased as SI increased at 3 localities but the Aire Valley stands showed no significant increase in branch diameter with increasing SI. The average branch diameter was strongly related to tree diameter and was more or less independent of locality.

Wright also observed that at the same stocking density, average branch size was a function of tree diameter not of site quality, except that low site index areas will eventually have larger branches (for the same tree diameter as high site quality areas) because branches die more quickly in the high SI area. Nodal swelling and crown defect frequency generally increased with increasing SI. No relationship was found between the occurrence of stem cones and SI within any one locality, however, their occurrence varied widely between localities. For example coning was very light in Aire Valley stands (20% of trees had cones) whereas only very few of the sample trees in the other localities were without stem cones (about 90% of trees had cones).

Wright's observation that taper decreases as site index increases was in contrast to that of *Fielding (op.cit.)* who found that taper was lower in the low quality site. However, Wright states that his observation was in general agreement with that of *Larson (1963)*, who, in a general review of the subject of tree taper, concluded that trees on poorer sites showed more taper than those on better sites.

Tree branch size has been studied by many researchers, especially the effects of spacing. Major reviews on this topic have been presented by *Sjolte-Jørgensen (1967), Evert (1971) and Hamilton and Christie (1974).*

Jacobs (1938), Cromer and Pawsey (1957) and *Cromer (1961)* published much of the early Australian work on branch size in radiata pine plantations.

In New Zealand much work has been done in this area but most is unpublished and only available as unqualified internal reports.

Bunn (1970) published some branch size results from work by Sutton for various spacings for six radiata pine sites. This work showed that soil fertility had a marked influence on the initial stocking-branch size relationship and that narrow spacings are required on some sites to keep branch size at a reasonable level whereas on other lower quality sites wider spacings achieve the same branch size results.

Further discussion on branch size and the way it is affected by spacing and thinning is presented in Section 4.2 after presentation of the branch size results.

CHAPTER 3

EXPERIMENTAL METHOD

3.1 *Stand Selection.*

The intended stand selection and sampling methods are described below:

1. Age stratification.

   Table 3.1 shows the age groups that were to be sampled, the area within each group and the percentage of area within each group. The 14 - 20 year group covers the period of first thinning. The two middle groups cover subsequent thinnings and the 35 year plus group covers the probable range of age at clear felling.

TABLE 3.1

Plantation area in various age classes (A.C.T.)

Age class (years)	*Plantation area (Ha)*	*Percentage of total area*
14-20	1986	18%
21-27	882	8%
28-34	2155	20%
>34	1816	17%
	6839	63%

Total area 10,832 Ha at December, 1967.

2. Site index stratification.

   Site index groupings were to be: below 60 feet (18.3 m); 60 to 80 feet (18.3 m to 24.4 m); and above 80 feet (24.4 m). Such site indices can also be used to identify site qualities so that instead of referring to the site index one might refer to site quality. In this study site qualities 1, 2 and 3 refer to site indices of above 24.4 m, between 18.3 m and 24.4 m and below 18.3 m respectively.

3. Stand density stratification.

   Thinned and unthinned categories were to be sampled if possible.

3.2 *Tree sample size.*

The tree sample size required was determined by R.G. Buick using previously unpublished work by *Buick (1969)* relating to the average grade recovery of 34 year old stands containing three site qualities. This work produced a mean tree stress grade of 7.03 MPa with a standard error of 0.859 MPa and standard deviation of 1.24 MPa.

It was assumed this result was typical for all age group-site index group-stand density group combinations and that the mean tree stress grade was to be estimated to within ± 0.859 MPa unless a 1 in 20 chance occurs in sampling. The relationship used to determine sample size was

$$\text{Sample size } (n) = \frac{t^2 \ s^2}{E^2} \qquad \text{Equation 3.1}$$

where t is Student's t value at n-1 df and 0.05 probability.
s is standard deviation.
E is the error specification.

For the data presented above the equation is solved for n = 10.8 (t = 2.262 at 9 df) and therefore it was decided to sample 10 trees per stratification.

3.3 *Sampling stratification.*

It was not possible to sample from each of the various combinations as intended because it was found that many of them did not exist in the A.C.T. forests. Sampling however did consist of the following combinations:

1. Ten trees from compartment (cpt) 79, age 38 years and of varying site quality. This stand had been regularly thinned.

2. Thirty trees from cpts. 104 and 105 both aged 36 years and representing three site qualities (1, 2 and 3). Ten trees were sampled from each site quality area. The stand had been regularly thinned.

3. Forty trees from an unthinned, unpruned spacing trial in cpt. 139 aged 30 years. Ten trees were sampled from each spacing.

4. Ten trees from cpt. 149, age 23 years, unthinned.

5. Ten trees from cpt. 162a, age 19 years, unthinned.

Compartment details are given in Section 4.1.

3.4 *Tree sampling method.*

Within each stand sample trees were randomly selected using row-tree coordinates involving the random selection of a compartment row and then the random selection of a tree in that row. Edge affected trees were not sampled.

3.5 *Tree height, branch size and log diameter measurements.*

All trees were felled at the end of 1971. After felling top heights and green level on all trees and all branch diameters on some trees (merchantable length only) were measured and branch positions along the trunk were noted to the nearest foot from the base of the bottom log.

Trees were cross-cut into logs 16 feet 3 inches long (4.95 m). The small end of each log was painted yellow to help identification All logs were marked at the ends with their tree number and log position class, using both crayon and aluminium tags. Under bark diameters were measured at each end section.

Logs were trimmed, snigged, loaded and transported to the A.C.T. research sawmill then belonging to the Forestry and Timber Bureau now part of the CSIRO Division of Forest Research.

3.6 *Log conversion procedure*

Theoretical sawing patterns were drawn up according to log size classes to give a range of sawn timber sizes. The patterns are shown in Figure 3.1.

At the mill, logs were sorted into three diameter groups: 5 - 10 inches (127 - 254 mm); 11 - 14 inches (279 - 356 mm); greater than 15 inches (381 mm). They were then sawn to the theoretical patterns, one group at a time.

The aim during sawing was to obtain maximum widths of 1½ inch (38 mm) thick material, the widths being 4, 6, 8, 10 and 12 inches (102, 152, 203, 254 and 305 mm respectively) except for the centre of larger logs. These were cut to yield a 4 inch (102 mm) flitch and subsequently sawn to yield 4 x 1½ inch (102 mm x 38 mm) pieces. Slabs cut from the outside of the logs were resawn to yield 1 inch (25 mm) thick boards of various widths.

It was thought the cutting pattern used would probably achieve the optimum value recovery from radiata pine logs, a point which has not been proven. A thickness of 1½ inches (38 mm) rather than 2 inches (51 mm) was chosen after an inspection of the Light Timber Framing Code (Standards Association of Australia, 1975b). It appeared that, from the point of view of the timber user, 1½ inches (38 mm) offered the best opportunity of reducing the volume of timber, number of components and in place cost of timber per house. For example (using metric sizes) a floor joist covering a 1.5 m span at 450 mm spacing requires F8 grade 35 mm x 90 mm scantlings or F7 grade 45 mm x 90 mm scantlings. The volume of timber required if the 45 x 90 mm size was used would be 29% greater than for the 35 x 90 mm size. The price differential between the F8 and F7 grades is only about 5% thus making the 35 mm x 90 mm size far

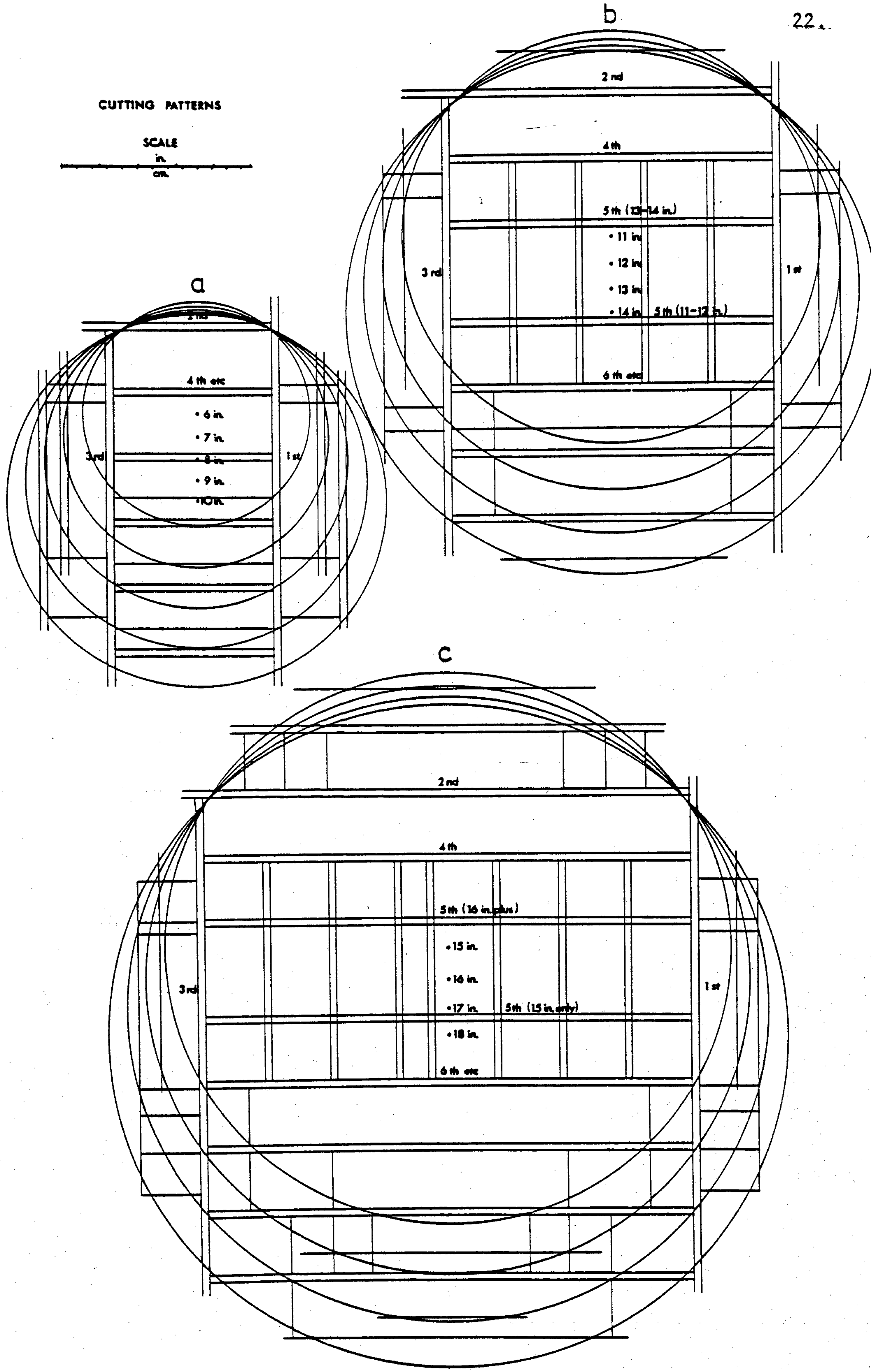


FIGURE 3.1 : Sawing Patterns Used for Log Conversion.

more economical to use. This assumption has since been borne out by commercial practice because most radiata scantling is cut to 35 mm thick sizes. The above analysis does not consider the effect of sawn thickness on volumetric yield or grade recovery and thus on mill door value. Present practice, however, is to apply a constant selling price per unit volume to most scantling sizes; the only differential being a premium for the higher grades.

The timber was actually converted (sawn, dried, and dressed) in imperial sizes and metric sizes are now used for radiata pine. Table 3.2 shows a comparison between the actual finished sizes and the nearest metric equivalent. The results from the work have been assumed to apply to the present metric sizes.

TABLE 3.2

Comparison of finished sizes (dry and dressed) with standard metric finished sizes.

Finished size (mm)	*Metric size* (mm)
35 x 100	35 x 90
35 x 150	35 x 140
35 x 200	35 x 190
22 x 75	19 x 70
22 x 100	19 x 90
22 x 125	19 x 120
22 x 150	19 x 140
22 x 175	19 x 170

Widths greater than 200 mm do not have present metric sizes ie. metrication stopped at 200 mm. It was intended the widths larger than 200 mm would be eventually resawn into smaller widths; this was not done and these sizes were processed along with the others.

Particular attention was paid to sawing to the set patterns with minimum timber loss and to identifying the slabs, cants and finished sizes. Detailed instructions were given to each mill operator (Appendix A). Black lumber crayon was used on sawn surfaces and white aerosol paint for bark surfaces. The identification used was the same as for the log, for example 12/1 for the butt log of tree 12, with the addition of further identification of the part of the log. For example 12/1/1, 12/1/2, 12/1/3 for the first, second and third slabs and 12/1/4 for the cant or finished sizes. To reduce the chances of misidentification pieces from each second log were spotted on the end with white paint and the order of the logs being sawn together with the small end colour (yellow or white) was recorded on a blackboard visible to the breast bench crew and the marker. The breast bench marker used either a black lumber crayon or a blue felt tipped pen to mark tree, log, part, and piece identification on all pieces near the end coming from the largest diameter end of the original log. Each piece was given an identification serial number starting with 1 for the first piece and this information, together with cross-section size in a coded form, was recorded on prepared sheets. As each piece was marked the breast bench marker deleted from the blackboard those parts that had been sawn.

Each piece was painted with an anti-sapstain solution and then stacked into separate packs according to width, except for 1 inch (25 mm) thick pieces which were stacked in a single pack. About 2860 samples were cut from the 100 sample trees.

3.7 *Timber Seasoning.*

All sawn timber was transported to the Integrated Forest Products Pty. Ltd. (IFP) sawmill near Canberra and kiln dried using standard commercial practice. Random checks using a resistance type moisture meter during the weighing of the samples gave an average moisture content of about 12% with little variation between samples.

3.8 *Timber Grading.*

After seasoning the timber was machined to size and shipped to the Department of Forestry of the Australian National University (A.N.U.). Unfortunately, the numbers applied with the blue felt pen faded badly during processing and storage and many were unrecognizable. Various methods were tried to restore the numbers but all proved useless. Metal tagging of each piece, combined with marking using a black felt pen or crayon, is now seen as necessary for accurate sample identification during processing.

About 300 samples were affected by fading most of these in the 35 mm x 100 mm class. Many logs had to be eliminated from the grade recovery study because of the loss of grade details in a large proportion of the timber cut from those logs. The extreme limit used in this elimination was around 20% of recovered volume but was generally about 5 to 10%. Details of the procedure used for the elimination of particular logs are given in section 3.12.

Both visual and mechanical grading were used for the scantling sizes (i.e. 35 mm finished thickness) and visual grading for the boards (22 mm finished thickness). Mechanical grading is usually less conservative than visual grading, i.e. machine grading usually results in timber being placed into higher grades than does visual grading. This conservatism is further reinforced in that most mills do not differentiate any visual grades higher than F5 (the average merchantable grade). Visual grading judges on the basis of defects (knots, juvenile wood, sloping grain etc.) in relation to sample size and end use. Machine grade, however, is dependent on timber stiffness; itself dependent, among other things, on the interactions between density and defects. As density decreases and/or as defect size increases the machine grade would tend to decrease.

3.8.1 *Machine grading.*

Most of the timber was mechanically graded using the A.N.U. Department of Forestry's Computermatic grading machine. After the initial work was halted 400 lengths still remained; these were subsequently graded using the Computermatic machine of the Wood Technology and Forest Research Division (WT&FRD), Forestry Commission of N.S.W. At this time records of the original work were obtained and the project recommenced.

The Computermatic machine measures the deflection of the timber as it is loaded on the wide face with a predetermined force over a 36 inch (914 mm) span. The force is applied continuously on the timber whilst it is moving through the machine. The machine also measures initial (unloaded) curvature over an identical span and a small computer calculates the overall net deflection caused by the applied load at 6 inch (152 mm) intervals along the timber. The computer can be programmed to spray various colours on to the tested timber to indicate up to 4 Modulus of Elasticity (ME) ranges and a reject range. (The standard method of measurement of ME is defined in the Standards Association of Australia AS1749, 1978). The WT&FRD Computermatic grader can print out the actual deflection values measured by the machine - a facility unavailable on the ANU machine. This facility eliminated the need to machine grade the timber more than once.

The Computermatic is capable of discriminating 5 ME ranges in a single pass. To grade timber over more than 5 ranges the grading at the ANU was carried out in three stages as described below:

Stage 1: All pieces were graded using a program to discriminate five ME ranges as follows (all units are GPa):

Range 1	>8.28
Range 2	6.90 to 8.28
Range 3	5.52 to 6.90
Range 4	4.14 to 5.52
Range 5	<4.14

If a piece achieved a minimum ME anywhere along its length within Range 1 it was accepted for Stage 2.

Stage 2: Pieces with ME >8.28 were graded using a program to discriminate five ME ranges as follows:

Range 1	>12.42
Range 2	11.04 to 12.42
Range 3	9.66 to 11.04
Range 4	8.28 to 9.66
Range 5	<8.28

If a piece achieved a minimum ME anywhere along its length within Range 1 it was accepted for Stage 3.

Stage 3: Pieces with ME >12.42 were graded using a program to discriminate five ME ranges as follows:

Range 1	>16.56
Range 2	15.18 to 16.56
Range 3	13.80 to 15.18
Range 4	12.42 to 13.80
Range 5	<12.42

A summary of the three grading stages is shown in Table 3.3 together with the grade coding system used and the F grades assigned to the various ME ranges.

TABLE 3.3

Main program details for grading using the ANU Computermatic

Modulus of Elasticity range (GPa)	*Colour coding for the various grading stages* Stage 1	Stage 2	Stage 3	*Grading Code*	*Assigned F Grade*
>16.56	-	-	-	0	11
15.18 to 16.56	-	-	Green	1	11
13.80 to 15.18 inc.	-	-	Yellow	2	11
12.42 to 13.80 inc.	-	-	Purple	3	11
11.04 to 12.42 inc.	-	Green	Red	4	11
9.66 to 11.04 inc.	-	Yellow		5	8
8.28 to 9.66 inc.	-	Purple		6	8
6.90 to 8.28 inc.	Green	Red		7	7
5.52 to 6.90 inc.	Yellow			8	5
4.14 to 5.52 inc.	Purple			9	4
<4.14	Red			10	reject

Some pieces were graded to slightly different programs to those in Table 3.3 and these are shown in Table 3.4. The reason for the different programs is not known. However, the three stage grading method was used for the other programs as well. The extreme fibre stresses applied were as follows:

Stage 1 - 11.13 MPa

Stage 2 - 18.44 MPa

Stage 3 - 33.16 MPa

In Tables 3.3 and 3.4 the F grades are assigned using the current Forestry Commission of N.S.W. softwood grading programs (Appendix B).

The machine grading at the WT&FRD was carried out using an extreme fibre stress of 11.08 MPa and ME grade ranges are shown in Table 3.5. This grading was designed to follow the coding used for the ANU grading (Table 3.3).

TABLE 3.4

Secondary program details for grading using the ANU Computermatic

Modulus of Elasticity range (GPa)	*Colour coding for the various grading stages* *Stage 1*	*Stage 2*	*Stage 3*	*Grading Code*	*Assigned F Grade*
>19.32	-	-	-	91	11
14.49 to 19.32	-	-	Green	92	11
11.04 to 14.49 inc.	-	-	Yellow	93	11
8.63 to 11.04 inc.	-	Green	Purple	94	8
7.45 to 8.63 inc.	-	Yellow	Red	95	7
6.56 to 7.45 inc	Green	Purple		96	5
5.52 to 6.56 inc.	Yellow	Red		97	5
4.14 to 5.52 inc.	Purple			98	4
< 4.14	Red			99	reject

TABLE 3.5

Program details for grading using the Forestry Commission of N.S.W. Computermatic

Modulus of Elasticity range (GPa)	*Computermatic deflection values (0.19mm units)*	*Grading Code*	*Assigned F Grade*
>16.56	13	0	11
15.18 to 16.56	14	1	11
13.80 to 15.18 inc.	15	2	11
12.42 to 13.80 inc.	16,17	3	11
11.04 to 12.42 inc.	18-20	4	11
9.66 to 11.04 inc.	21-23	5	8
8.28 to 9.66 inc.	24-27	6	8
6.90 to 8.28 inc.	28-32	7	7
5.52 to 6.90 inc.	33-41	8	5
4.14 to 5.52 inc.	42-55	9	4
<4.14	>55	10	reject

3.8.2 *Visual grading.*

35 mm thick material was visually graded using the then current visual grading rules (AS1490 - 1973), *Standards Association of Australia (1973)*. The grades discriminated and their codes are given in Table 3.6.

TABLE 3.6

Code Numbers assigned to the visual scantling grades.

AS1490 grade	*Grading code*
F11	6
F 8	7
F 7	8
F 5	9
F 5 Heart In	11
Reject	10

Since AS1490 was issued in 1973, a new assessment of the mechanical properties of clear, seasoned radiata pine has been carried out by CSIRO, *(Ditchburne, Kloot and Rumball, 1975)* This assessment indicated that the species should be allocated to strength group SD6 not SD7, as previously specified in the Timber Engineering Code *(Standards Association of Australia, 1975a)*. As a result the stress grades of the visual grades of radiata pine which did not contain corewood were increased by one step, i.e. F5 should become F7 etc. This increase is not applicable to F5 heart-in stud grade (F5HI) since its stress rating is not based on clear wood properties but on the results of testing full size scantlings. The range of visual grades however was reduced to three; F8, F7 and F5, excluding the heart-in grades. The change in grading rules had little effect on the results of this work because the difference in defect size allowances between grades is small. In practice the apparent benefit of the various visual grades is not usually realized by the timber producer because of the difficulty in discriminating between the higher grades economically. Consequently much of the visually graded scantling in Australia is graded to a maximum of F5.

The boards were visually graded to AS072-1969 (S.A.A.,1969). The grades and the codes used are given in Table 3.7. This standard was metricated in 1973 and issued as AS1489-1973.

TABLE 3.7

Code Numbers assigned to the board grades

AS072 grade	*Grading Code*
Clear	1
Joinery	2
Select	3
Standard	4
Reject	5

3.9 *Timber sampling for destructive tests.*

The Computermatic machine of the Forestry Commission of N.S.W. and a device known as a Mnemotype *(Grant, 1977)* were used to provide deflection readings of some 400 pieces. These lengths represented the majority of the 35 mm x 150 mm and 35 mm x 200 mm sizes. The Mnemotype, when connected to the Computermatic, records and then prints each deflection value measured. The unit was also used to provide accurate indication of each piece's lowest stiffness zone. It was intended that each piece would be tested in a static machine, at the point of lowest stiffness, in bending on the wide and narrow faces and then tested to destruction on the narrow face. This information was to be used to provide strength data for radiata pine of 35 mm x 150 mm and 35 mm x 200 mm section sizes since little is known of the stiffness-strength properties of radiata pine in these sizes. Approximately 100 samples randomly selected from the 35 mm x 100 mm pieces were also tested (these samples were taken by Mr Buick during the original grading at the Department of Forestry).

3.10 *Other measurements.*

Most of the timber was weighed and lengths were measured to the nearest foot. The moisture content of about 20% of the pieces was measured using a resistance type moisture meter (it was found to be about 12% in most samples).

Twist, spring and bow were measured for all 35 mm thick samples using the methods described in AS1490-1973.

The presence or otherwise of pith was noted for each scantling piece. The coding used was as follows:

1. indicated the presence of pith in the piece.
2. indicated that part of the piece was close to the pith.
3. indicated that there was no evidence of juvenile timber in the piece.

3.11 *Data Recording.*

Computer coding forms were used to record the various details, grades, measurements etc. for each piece of timber. These forms included the following information for each piece:

(listed in the same order the items appear in the computer file listed as Appendix C)

Serial number of the piece (Item 1)
Tree number (2), Log position class (3), part of log (4)
Width in $^1/_{16}$ inch units (5), Thickness in $^1/_{16}$ inch units (6)
Length of piece in feet (7)
Weight of piece in grams (8)
Visual grade (9)
Mechanical grade (10)

Overall twist (11)
Overall spring (12)
Overall bow (13)
Moisture content (14)
Presence or otherwise of pith (15)

Data were punched from these forms on to computer cards. The data were sorted into tree and log order so that individual log yields could be checked and evaluated. An extract from Appendix C is given as Table 3.8 for Tree and Log numbers 1/5, 2/1 and 2/2.

3.12 *Checking of log yields for recording errors.*

Pieces of timber recorded as being cut from each log during sawmilling were drawn on squared paper in a reassembled form in an attempt to identify any incorrectly recorded pieces. This procedure was found to be invaluable in eliminating incorrectly recorded pieces. Some pieces were found to be incorrectly recorded despite the various methods employed to avoid this during milling and this work was seen as a necessary part of error elimination.

Some 26 logs were eliminated because of incorrect data recording and a small number of pieces were reassigned to other logs using a logical method based on the serial proximity of the incorrectly recorded pieces to logs with suitable missing sections of recorded material. This was possible because the order of cutting the logs was known.

Very few logs were cut using an incorrect sawing pattern and no logs were eliminated because of this.

The total number of logs remaining in each age class were:

184, 153, 32 and 26 logs in the 36-38, 30, 23 and 19 year age classes respectively.

TABLE 3.8

Example of sample piece data after sorting into tree and log order

~~359.0~~	~~1~~	~~4~~	~~4~~	~~96~~	~~24~~	~~15~~	~~11660~~	~~9~~	~~5~~	~~6~~	~~9~~	~~2~~	~~0~~	~~3~~
350.0	1	4	2	96	24	15	11480	7	6	19	11	2	0	3
~~358.0~~	~~1~~	~~4~~	~~4~~	~~128~~	~~24~~	~~15~~	~~15100~~	~~11~~	~~6~~	~~5~~	~~1~~	~~1~~	~~0~~	~~2~~
352.0	1	4	4	128	24	15	14750	7	6	4	4	3	0	3
~~107.0~~	~~1~~	~~5~~	~~1~~	~~48~~	~~16~~	~~12~~	~~3704~~	~~3~~	~~0~~	~~0~~	~~0~~	~~0~~	~~0~~	~~0~~
110.0	1	5	3	64	16	9	3621	3	0	0	0	0	0	0
~~109.0~~	~~1~~	~~5~~	~~4~~	~~64~~	~~24~~	~~16~~	~~7470~~	~~11~~	~~7~~	~~22~~	~~5~~	~~2~~	~~0~~	~~1~~
108.0	1	5	4	64	24	16	7680	11	7	8	3	1	0	1
~~589.0~~	~~2~~	~~1~~	~~1~~	~~48~~	~~16~~	~~16~~	~~5702~~	~~5~~	~~0~~	~~0~~	~~0~~	~~0~~	~~0~~	~~0~~
603.0	2	1	4	64	16	16	7122	3	0	0	0	0	0	0
599.0	2	1	4	64	16	15	6584	3	0	0	0	0	0	0
597.0	2	1	4	64	24	16	8710	8	93	1	5	0	12	3
598.0	2	1	4	64	24	16	8446	8	94	0	3	0	0	3
593.0	2	1	4	64	24	15	8137	9	94	2	3	0	12	3
594.0	2	1	4	64	24	15	7630	9	96	6	6	1	11	3
595.0	2	1	4	64	24	15	7096	10	97	4	8	0	10	2
596.0	2	1	4	64	24	16	7244	11	99	15	13	4	11	1
584.0	2	1	2	80	16	6	3824	1	0	0	0	0	0	0
591.0	2	1	3	112	16	11	9177	3	0	0	0	0	0	0
592.0	2	1	3	128	24	16	19010	8	5	3	13	4	0	3
590.0	2	1	1	128	24	16	18740	7	5	1	7	1	0	3
585.0	2	1	2	128	24	11	13920	6	6	2	6	1	0	1
604.0	2	1	4	160	24	16	0	7	0	8	0	0	9	0
602.0	2	1	4	160	24	16	0	7	96	0	4	0	11	0
601.0	2	1	4	192	24	16	0	6	96	0	6	0	10	0
600.0	2	1	4	192	24	16	0	7	96	0	0	0	10	0
600.1	2	1	4	192	24	15	0	6	97	0	0	0	11	0
588.0	2	1	4	192	24	15	0	10	97	0	0	0	10	0
574.0	2	2	3	48	16	13	4578	5	0	0	0	0	0	0
583.0	2	2	4	64	16	16	5702	5	0	0	0	0	0	0
582.0	2	2	4	64	24	16	7826	8	94	1	2	0	11	3
581.0	2	2	4	64	24	16	8045	8	94	2	2	0	11	3
579.0	2	2	4	64	24	15	8257	8	94	3	3	0	12	3
578.0	2	2	4	64	24	16	8260	8	94	2	2	0	11	3
573.0	2	2	3	64	24	15	8710	7	94	3	4	0	12	3
579.1	2	2	4	64	24	16	7554	9	97	5	2	3	11	2
580.0	2	2	4	64	24	16	7136	10	98	18	3	0	11	1
571.0	2	2	1	96	16	16	9608	5	0	0	0	0	0	0
586.0	2	2	4	112	16	9	6940	5	0	0	0	0	0	0
587.0	2	2	4	128	24	16	17620	6	4	2	2	1	0	3
572.0	2	2	2	128	24	16	18050	7	5	3	4	1	0	0
577.0	2	2	4	192	24	16	0	8	94	0	0	0	9	0
575.0	2	2	4	192	24	16	0	6	95	4	7	0	9	0
578.1	2	2	4	192	24	16	0	9	96	0	5	0	10	0
576.0	2	2	4	192	24	16	0	8	98	0	0	2	10	0

3.13 *Piece volumes, visual grade value and mechanical grade value.*

A computer program called TEDYP (listed as Appendix D) was used for initial manipulation of the data on an individual piece basis. The program did the following:

1. Converted the visual and mechanical grade codes into actual F ratings according to Tables 3.3, 3.4 and 3.6.
2. Changed the board grade codes to those listed in Table 3.9 to avoid confusion between board and scantling grades.
3. Checked the amount of twist against the maximum allowable of 0.45 x width and downgraded the sample to reject if the limit was exceeded.
4. Calculated rough sawn (unfinished) volumes and finished (dry, dressed) volumes.
5. Calculated "likely rough-sawn volume" and "likely machined volume" for pieces that did not have a recorded length measurement. The assumed length in this case was 4.88 m. Such samples were amongst those that had lost their serial numbers during processing.
6. Calculated the air dry density.
7. Calculated the relative ex mill door monetary value of each sample using relative grade values. The values used were those used by IFP, the major A.C.T. sawmiller, and are average figures (Table 3.10). The actual value of any particular grade would change from time to time depending on supply and demand conditions. At any one time IFP apply a constant price for all sizes produced and therefore no size premium was applied in the calculations. Board production is normally given low priority in an increasing scantling market and, in general, the percentage volume of boards produced in an average mill would be similar to that produced in this study (for the same log sizes). The current practice at IFP is to separate boards into only two grades - a pass grade including all grades above reject and a reject grade. It is apparently unprofitable for the company to separate the board stock into more than one pass grade. Relative

grade values for scantling and boards are given in Table 3.10.

Note: Value is given on a units per m^3 basis with F5 as the base at 100 units/m^3. Actual values can be calculated by multiplying the calculated relative value by the current ex mill door value of F5 grade.

TABLE 3.9

Code numbers assigned to the board grades (reassignment)

AS072 grade	*Grading code*
Clear	21
Joinery	22
Select	23
Standard	24
Reject	25

TABLE 3.10

Relative grade values for boards and scantling (note F5 = 100 units

(a) *Scantling*

F grade	*Relative value per cubic m*
11	125
8	115
7	110
5	100
5HI	100
4	80
reject	50

(b) *Boards*

Grade	*Relative value per cubic m*
Clear	140
Joinery	140
Select	140
Standard	140
Reject	80

Program TEDYP was used to generate a series of data files with each file containing the results for a group of 10 trees. The files were called the TYL series with TYL01 containing data from trees 1 to 10, TYL11 containing data from trees 11 to 20 and so on. The TYL files are listed as appendix E with each file containing the following information for each piece: (listed in the same order as the data items appear in Appendix E, all measurements in mm unless shown differently).

Serial number of the piece (Item 1)
Tree number (2), Log position class (3), part of log (4)
Sawn width (5), machined width (6)
Sawn thickness (7), machined thickness (8)
Length (m) (9)
Twist (10), Spring (11), Bow (12)
Moisture content % (13)
Presence or absence of pith (14)
Air dry density Kg/cubic m (15)
Sawn volume x 10^{-3} cubic m (16)
Board value (sawn volume) (17)
Scantling, visual grade value (sawn) (18)
Scantling, machine grade value (sawn) (19)
Machined volume x 10^{-3} cubic m (20)
Board grade (21), Board value (machined volume) (22)
Scantling visual grade (23)
Scantling visual grade value (machined volume) (24)
Scantling machine grade (25)
Scantling machine grade value (machined volume) (26)
Likely sawn volume x 10^{-3} cubic m (27)
Likely machined volume x 10^{-3} cubic m (28)

3.14 *Log volumes and log values.*

Data from the TYL series files were used as input for a program TDGYLP (listed as Appendix F). The program calculated total recovered volume and total value for all logs individually including estimated volumes and values for logs containing timber that was ungraded (because of loss of piece number). It also calculated the percentage of each log that was ungraded so that certain logs could be eliminated from the later work. 100 units of value/m^3 was assumed for the ungraded scantlings and 115 units/m^3 for the boards. These values were chosen because they represented the average value for the particular piece type. Program TDGYLP generated the following data for each log using TYL series files:

Tree number (1), log position class (2)
Mean density of recovered timber kg/m^3 (3)
Total sawn and machined volume x 10^{-3} cubic m (4)
Total board value recovered (5)
Total scantling value recovered based on visual grade (6)
Total scantling value recovered based on machine grade (7)
Total board value + total scantling value (visual grade) (8)
Total board value + total scantling value (machine grade) (9)
Volume of board material recovered as a percentage of total recovered volume (10)
Value of board material recovered as a percentage of total board value plus total scantling value (visual grade) (11)
Value of board material recovered as a percentage of total board value plus total scantling value (machine grade) (12)
Items (4) to (12) with projected volumes and values included
Volume of log ungraded as a percentage of graded volume (13)
Value of ungraded samples as a percentage of log value as determined from actual visual and mechanical grades (14)

Generally the limit used to eliminate logs because of lack of data was about 5% to 10% of total graded volume (Item 13 above) i.e. if a log had 90% to 95% or more of its timber actually graded then it was retained in the TYL data files for further analysis. If not it was eliminated from these files.

3.15 *Branch size.*

The size and distance from the ground of all branches on the merchantable part of the stems of 71 trees were recorded at the time of felling. The serial numbers of the trees concerned and their compartment numbers are given in Table 3.11. Complete branch size data (mm) together with tree heights (ft) and log end diameters under bark (inches) are listed in Appendix G.

TABLE 3.11

Compartment and serial numbers of the trees that had their branch sizes measured

Compartment No.	*No. of trees measured*	*Tree serial No.*
79	10	1 to 10
104, 105 (SQ1)	3	84, 88, 90
104, 105 (SQ2)	3	61, 62, 63
104, 105 (SQ3)	5	74, 75, 77, 79, 8[illegible]
139	40	11 to 50
149	5	92, 94, 95, 99, 1[illegible]
162a	5	53, 54, 56, 58, 6[illegible]

Branch size was analysed on an individual log basis so that the effect on log values and log grade recoveries could be determined, rather than considering branch size at particular points along the trunk and trying to develop general models. The following branch size statistics were determined for each log:

Total number of branches (BN)
Mean branch size ($\overline{BS}$)
Size of the largest branch (BSMAX)
Mean of the largest 5 branches ($\overline{BS5}$)
Mean of the largest 10 branches ($\overline{BS10}$)
Mean of the largest 15 branches ($\overline{BS15}$)

Other statistics calculated included standard deviation, standardized skewness, standardized kurtosis and frequency distribution. They were generated by the particular computer program used for the analysis. The program used to generate the branch statistics was a modified NSW Forestry Commission program TMOAGR *Grant (1975)* normally used to determine univariate parameters of strength for various timber grades. However the program, apart from calculating various statistics, orders the data and was easily modified to calculate the mean of the largest 5, 10 and 15 branches. The modified program was called TMAGR and is listed as Appendix H. A sample printout from TMAGR is shown in Table 3.12 for tree 7 log position class 2. This is a typical log with the branch size distribution showing positive skewness.

The means of the largest 5, 10 and 15 branches per log were calculated because it was thought they could be a better indicator of the effect of branches on value than the maximum branch size, because the overall average grade of timber cut from a log is affected more by a number of large knots rather than by just a single knot.

The program also converted the tree height and log diameters into metric units.

3.16 *Preparation of log volume, log value and branch size data for analysis.*

Data relating to log size, recovered volume, values and branch size were combined and entered into file T585R, listed as Appendix I. The file contains the following information for each log: (listed in the same order as the data items appear in the Appendix).

Tree number (1), log position class (2)
Small end diameter under bark (sedub) mm (3)
Large end diameter under bark (ledub) mm (4)
Machined volume of timber recovered x 10^{-3} m^3 (VRec) (5)
Percentage of VRec cut into boards (6)
Total value of log ie.boards + scantling visually graded (VV) (7)
Total value of log ie.boards + scantling mechanically graded (MV) (8)
Average air dry density of recovered timber kg/m^3 (9)

TABLE 3.12

Sample printout of branch size statistics for tree 7, log position class 2

```
11/08/79
T08579

TREE=   7 LOG=2 HT=31.70 GN CROWN HT=15.54 DUB1=330 DUB2=305

   N=    46   MEAN= 23.93   MEAN LN(X)=   3.04
MAX= 52.00 S.D.= 11.77   S.D   LN(X)=    .56
MIN=  5.00 C.V.= 49.18%  C.V   LN(X)= 18.58%
            SK.=    .37    SK   LN(X)=   -.56  (N DIST=0)
            KUR.=  2.28   KUR   LN(X)=   2.6   (N DIST=3.RECT=1.8.EXP=9

NORMAL DIST 1/40 LOW PROB=    .39 MPA
LOG TRANSF  1/40 LOW PROB=   6.74 MPA

ASTM D2915  1/40 LOW PROB=   5.35 MPA
PEARSON     1/40 LOW PROB=
```

RANGE	FREQ	%FREQ	%CUM FREQ
5.0 =< 7.5	2	4.3	4.3
7.5 =< 10.0	3	6.5	10.9
10.0 =< 12.5	4	8.7	19.6
12.5 =< 15.0	2	4.3	23.9
15.0 =< 17.5	7	15.2	39.1
17.5 =< 20.0	2	4.3	43.5
20.0 =< 22.5	3	6.5	50.0
22.5 =< 25.0	1	2.2	52.2
25.0 =< 27.5	4	8.7	60.9
27.5 =< 30.0	3	6.5	67.4
30.0 =< 32.5	4	8.7	76.1
32.5 =< 35.0	2	4.3	80.4
35.0 =< 37.5	1	2.2	82.6
37.5 =< 40.0	3	6.5	89.1
40.0 =< 42.5	1	2.2	91.3
42.5 =< 45.0	2	4.3	95.7
45.0 =< 47.5	1	2.2	97.8
47.5 =< 50.0	0	.0	97.8
50.0 =< 52.5	1	2.2	100.0

ORDERED ARRAY OF BRANCH SIZES IN MM.

```
 5  7  8  8  8 10 11 11 12 14 14 15 16 16 16 17 17
17 18 19 22 22 22 24 25 25 25 27 28 28 28 30 31
31 32 33 34 36 38 38 38 41 43 44 45 52
```

MEAN OF LARGEST 5 BRANCHES=45.0 10 BRANCHES=40.9 15 BRANCHES=37.7

Estimated volume of timber ungraded as a % of volume graded (10)
Log size class (not used) (11)
BN (12), $\overline{BS}$ (13), BSMAX (14), $\overline{BS5}$ (15), $\overline{BS10}$ (16), $\overline{BS15}$ (17)

Note: If an unacceptable percentage of timber was ungraded from any particular log (ie. greater than about 10%) the projected values (described in section 3.14) were not included in T585R. Projected volumes for these logs were included, however, because the only assumption made was that the pieces cut from them were 4.88 m long and any errors resulting from this assumption would be small.

Data from file T585R was used to calculate percentage recoveries for each log and log values /m^3 of log and log values /m^3 of product. Log volume was determined using the Smalian formula

ie. $$\text{Volume} = \left(\frac{S + s}{2}\right)L$$

where S and s are the sectional areas of the ends of the log and L is the log length.

The program used was named T585MP and is listed as Appendix J. Calculated results for logs with known values were filed under T585RM and consisted of the following information for each log: (listed in the same order as the data items appear in Appendix K which is a listing of T585RM ordered in terms of log position class and named T585SL).

Tree number (1), log position class (2), sedub (3), ledub (4)
Calculated log volume x 10^{-3} m^3 (5)
Machine volume of timber recovered x 10^{-3} m^3 (6)
Percentage of log volume recovered (7)
BN (8), $\overline{BS}$ (9), BSMAX (10), $\overline{BS5}$ (11), $\overline{BS10}$ (12), $\overline{BS15}$ (13)
MV per cubic m of log (MV/m^{3}L) (14)
VV per cubic m of log (VV/m^{3}L) (15)
MV per cubic m of product volume (MV/m^{3}P) (16)
VV per cubic m of product volume (VV/m^{3}P) (17)

The results given above were used to calculate average product values (as a percentage of volume) for each log position class for each sampling stratification. All logs recovered from each group (listed in T585R) were included in the calculations ie. estimates are based on the total sample in each stratification (maximum of 10 logs). The values calculated were as follows:

Total MV/m^3L called TMV/m^3L , TVV/m^3L, TMV/m^3P and TVV/m^3P.

3.17 *Grade yields.*

3.17.1 *Grade yields from the individual logs*

Grade yields from each log were calculated using program TDYLPP. This program used the TYL series files as input (Appendix E). Note that the piece data from logs containing more than the maximum allowable percentage of ungraded timber were eliminated from the TYL files before the grade yields were determined (see section 3.14). Any ungraded pieces retained were assigned the average grade of F5 for both the visual and mechanical grades.

The data printout of the calculations of grade yields was in the format shown in Table 3.13. The first line gives the total machined volume of timber in each machine grade - F11, F8, F7, F5, F4, Reject and then total scantling volume respectively. The 2nd line gives the percentages in each machine grade directly below the volume recoveries.

TABLE 3.13

Grade yields for timber recovered from tree 74 log position class 4 (see text for explanation of table, section 3.17.1)

```
TREE  74 LOG 4
   .00  16.76  15.72  15.72     .00     .00   48.20
   .0%  34.8%  32.6%  32.6%     .0%     .0%

   .00    .00    .00    .00   48.20     .00   48.20
   .0%    .0%    .0%    .0%  100.0%     .0%

   .00    .00   7.42   7.42     .00   14.84
   .0%    .0%  50.0%  50.0%     .0%
```

Note all volumes are $x10^{-3}$ cubic m.

The third and fourth lines give results for the visual grades in the same manner ie. F11, F8, F7, F5, F5HI, Reject, Total and then percentage yields underneath.

The fifth line gives the volume of timber in each board grade - clear, joinery, select, standard, reject and total board volume recovered. The sixth line gives the percentages in each board grade directly below the volume recoveries.

3.17.2 *Grade yields from the stratified log groups.*

The modified TYL series files described in section 3.17.1 (ie. after elimination of the piece data for logs containing more than the maximum allowable percentage of ungraded timber) were each sorted according to log position classes. These files were called TYLIIS, TYLLIIS etc. File TYLIIS is listed in Appendix L as an example. Program TDYLPP after slight modification (the modified program is listed in Appendix M) was used with the TYLS files as input to calculate grade yields on a log position class basis for each sampling stratification. An example of the output from TDYLPP (Modified) is given in table 3.14. The explanation of the meaning of the various data items is identical to that presented in section 3.17.1 when Table 3.13 was described.

3.17.3 *Apparent average whole tree grade yields from each stratification.*

The grade yields from the stratified log groups (see Section 3.17.2) were used to determine apparent average whole tree grade yields for all sample groups other than cpt 79 (Cpt 79 was the only stratification where full grade yield data was available for all 10 sample trees). The word apparent indicates that caution must be used when applying the calculated yields for that particular stratification because sometimes, small, unequal numbers of logs were recovered from the various log positions.

The apparent average whole tree yields were determined from either the lower 3 or 4 log position classes, as indicated for the particular stand in Chapter 4, by calculating the mean volume/log in each grade for each log position, summing these for all the logs considered and then determining the resulting grade yields.

TABLE 3.14

Grade yields for timber recovered from all logs in the various log position classes for compartment 162a

LOG HEIGHT CLASS= 1						
.00	11.52	13.62	99.54	64.96	80.68	270.32
.0%	4.3%	5.0%	36.8%	24.0%	29.8%	
.00	25.15	.00	33.53	147.73	63.91	270.32
.0%	9.3%	.0%	12.4%	54.7%	23.6%	
.00	6.43	56.29	9.33	15.59	87.64	
.0%	7.3%	64.2%	10.6%	17.8%		
LOG HEIGHT CLASS= 2						
.00	.00	62.86	66.01	50.29	.00	179.16
.0%	.0%	35.1%	36.8%	28.1%	.0%	
.00	.00	13.62	15.72	133.06	16.76	179.16
.0%	.0%	7.6%	8.8%	74.3%	9.4%	
.00	.00	20.78	10.00	17.92	48.69	
.0%	.0%	42.7%	20.5%	36.8%		
LOG HEIGHT CLASS= 3						
.00	.00	16.76	50.29	.00	.00	67.06
.0%	.0%	25.0%	75.0%	.0%	.0%	
.00	.00	.00	.00	67.06	.00	67.06
.0%	.0%	.0%	.0%	100.0%	.0%	
.00	.00	.00	6.43	58.95	65.38	
.0%	.0%	.0%	9.8%	90.2%		

CHAPTER 4

RESULTS AND DISCUSSION

4.1 *Stand histories and mean tree sizes for the sampled compartments.*

Stand histories are presented in Tables 4.1 to 4.5. Mean height and mean diameter data for the trees sampled from the various stratifications are presented in Tables 4.6 to 4.10. Figure 4.1 is a pictorial representation of the sampled stands depicting mean height, mean green crown level and mean tree diameter at approximately 5 m above ground of the trees sampled from each compartment. This figure illustrates the general effect of age, spacing and site quality on tree size.

Cpt. 162a as expected had the smallest trees because it was the youngest sampled. This compartment was planted at 8 feet by 8 feet (2.44 m x 2.44 m) spacing and was unthinned at the sampling age of 19 years.

Cpt. 149 planted at 9 feet by 9 feet (2.74 m x 2.74 m) and unthinned when sampled at age 23 was the second youngest stand. The mean size of the trees from this stand was in between the mean size of the trees sampled from the 6 feet by 6 feet (1.83 m x 1.83 m) and the 8 feet by 8 feet (2.44 m x 2.44 m) spacings of cpt. 139 (age 30 years when sampled). Assuming similar site qualities for cpts. 139 and 149 this result indicates that trees achieve a merchantable size at an earlier age if planted at wider spacings.

The spacing trial in cpt. 139 produced taller and larger diameter trees as spacing increased. There was a significant linear trend in the relationship between tree diameter and spacing. This relationship is illustrated in Figure 4.2. There was also a significant linear relationship between mean tree height and spacing but no significant

TABLE 4.1

Stand history for Compartment 79

Year planted	1933
Seed stock	Uriarra Nursery seedlings from Cooper's New Zealand stock.
Initial spacing	12 feet x 12 feet (3.66 m x 3.66 m)
Pruning history	No records available but probably low pruned to 2.4 m.
Thinning history	Thinned 1948, 53, 56, 59, 63, 70 ie. at ages 15, 20, 23, 26, 30, 37.
Site quality	Insufficient information to determine site quality. Site probably had areas of SQ1, SQ2 and SQ3.

TABLE 4.2

Stand history for compartments 104 and 105

Year planted	1935
Seed stock	No record
Initial spacing	12 feet x 12 feet (3.66 m x 3.66 m)
Pruning history	Low pruned to 2.4 m.
Thinning history (Cpt.104)	Thinned 1951, 55, 60, 70 ie. at ages 16, 20, 25, 35.
Thinning history (Cpt.105)	Thinned 1954, 57, 60, 64, 70 ie. at ages 19, 22, 25, 31, 35.
Site quality	Areas of SQ1, SQ2 and SQ3.

TABLE 4.3

Stand history for compartment 139 (spacing trial)

Year planted	1941
Seed stock	no record.
Initial spacing	4 initial spacings in trial area.
Pruning history	unpruned.
Thinning history	unthinned.
Site quality	3

TABLE 4.4

Stand history for compartment 149

Year planted	1948
Seed stock	No record
Initial spacing	9 feet x 9 feet (2.74 m x 2.74 m)
Pruning history	Pruned at age 13 to between 1.2 m and 2.4 m.
Thinning history	Unthinned
Site quality	2

TABLE 4.5

Stand history for compartment 162a

Year planted	1952
Seed stock	No record
Initial spacing	8 feet x 8 feet (2.44 m x 2.44 m)
Pruning history	Pruned at age 8 to 1.2 m.
Thinning history	Unthinned
Site quality	Areas of SQ1, SQ2 and SQ3.

TABLE 4.6

Summary of mean height and diameter data for the trees sampled from compartment 79

(Note: coefficient of variation is shown in brackets)

Tree age when felled	38 years	
Number of trees measured	10	
Tree serial numbers assigned	1 to 10	
Mean tree height (m)	36.24	(10%)
Mean green crown level (m)	16.06	(11%)
Mean dub at ground (mm)	503	(26%)
Mean dub at 4.95 m (mm)	396	(21%)
Mean dub at 9.91 m (mm)	356	(20%)
Mean dub at 14.86 m (mm)	313	(25%)
Mean dub at 19.81 m (mm)	267	(26%)
Mean dub at 24.77 m (mm)	209*	(32%)

*Mean diameter at 24.77m is for 9 trees.

TABLE 4.7

Summary of mean height and diameter data for the trees sampled from compartments 104 and 105

(Note: coefficient of variation is shown in brackets)

Site quality of sample stand	1	2	3
Tree age when felled (years)	36	36	36
Tree serial numbers assigned	81 to 90	61 to 70	71 to 80
Number of trees measured	8	8	7
Mean tree height (m)	35.17 (7%)	33.78 (4%)	31.26 (5%)
Mean green crown level (m)	14.63 (18%)	13.87 (16%)	14.37 (20%)
Mean dub at ground (mm)	407 (14%)	368 (13%)	348 (11%)
Mean dub at 4.95 m (mm)	340 (11%)	308 (10%)	287 (13%)
Mean dub at 9.91 m (mm)	298 (12%)	282 (9%)	251 (12%)
Mean dub at 14.86 m (mm)	260 (12%)	251 (11%)	221 (12%)
Mean dub at 19.81 m (mm)	210 (11%)	203 (13%)	178 (14%)

TABLE 4.8

Summary of mean height and diameter data for the trees sampled from compartment 139

(Note: coefficient of variation is shown in brackets)

Initial spacing (square)	1.83 m	2.44 m	3.05 m	3.66 m
Tree age when felled (years)	30	30	30	30
Tree serial numbers assigned	11 to 20	21 to 30	31 to 40	41 to 50
Number of trees measured	10	10	10	10
Mean tree height (m)	26.95 (5%)	29.47 (7%)	30.51 (4%)	32.61 (6%
Mean green crown level (m)	13.08 (17%)	13.69 (10%)	13.40 (16%)	15.51 (12%
Mean dub at ground (mm)	234 (10%)	287 (18%)	320 (9%)	328 (12%
Mean dub at 4.95 m (mm)	196 (12%)	236 (13%)	262 (11%)	282 (14%
Mean dub at 9.91 m (mm)	170 (17%)	208 (14%)	234 (12%)	246 (11%
Mean dub at 14.86 m (mm)	149 (19%)	168 (15%)	206 (14%)	220 (16%
Mean dub at 19.81 m (mm)	-	146 (12%)	158 (16%)	192 (13%
Mean dub at 24.77 m (mm)	-	-	-	144 (14%

Note: 1. *The mean diameter at 14.86 m for the 1.83 m spacing is for 8 trees and for the 3.66 m spacing for 9 trees.*
2. *The mean diameter at 19.81 m for the 2.44 m spacing is for 8 trees and for the 3.05 m and 3.66 m spacings for 9 trees.*
3. *The mean diameter at 24.77 m for the 3.66 m spacing is for 6 trees.*

TABLE 4.9

Summary of mean height and diameter data for the trees sampled from compartment 149

(Note: coefficient of variation is shown in brackets)

Tree age when felled	23 years
Number of trees measured	10
Tree serial numbers assigned	91 to 100
Mean tree height (m)	28.56 (6%)
Mean green crown level (m)	14.17 (12%)
Mean dub at ground (mm)	282 (10%)
Mean dub at 4.95 m (mm)	221 (11%)
Mean dub at 9.91 m (mm)	201 (11%)
Mean dub at 14.86 m (mm)	161 (18%)

Note: The mean diameter at 14.86 m is for 9 trees.

TABLE 4.10

Summary of mean height and diameter data for the trees sampled from compartment 162a

(Note: coefficient of variation is shown in brackets)

Tree age when felled	19 years
Number of trees measured	10
Tree serial numbers assigned	51 to 60
Mean tree height (m)	25.39 (5%)
Mean green crown level (m)	9.97 (17%)
Mean dub at ground (mm)	226 (11%)
Mean dub at 4.95 m (mm)	186 (11%)
Mean dub at 9.91 m (mm)	155 (16%)
Mean dub at 14.86 m (mm)	140 (15%)

Note: The mean diameter at 14.86 m is for 6 trees.

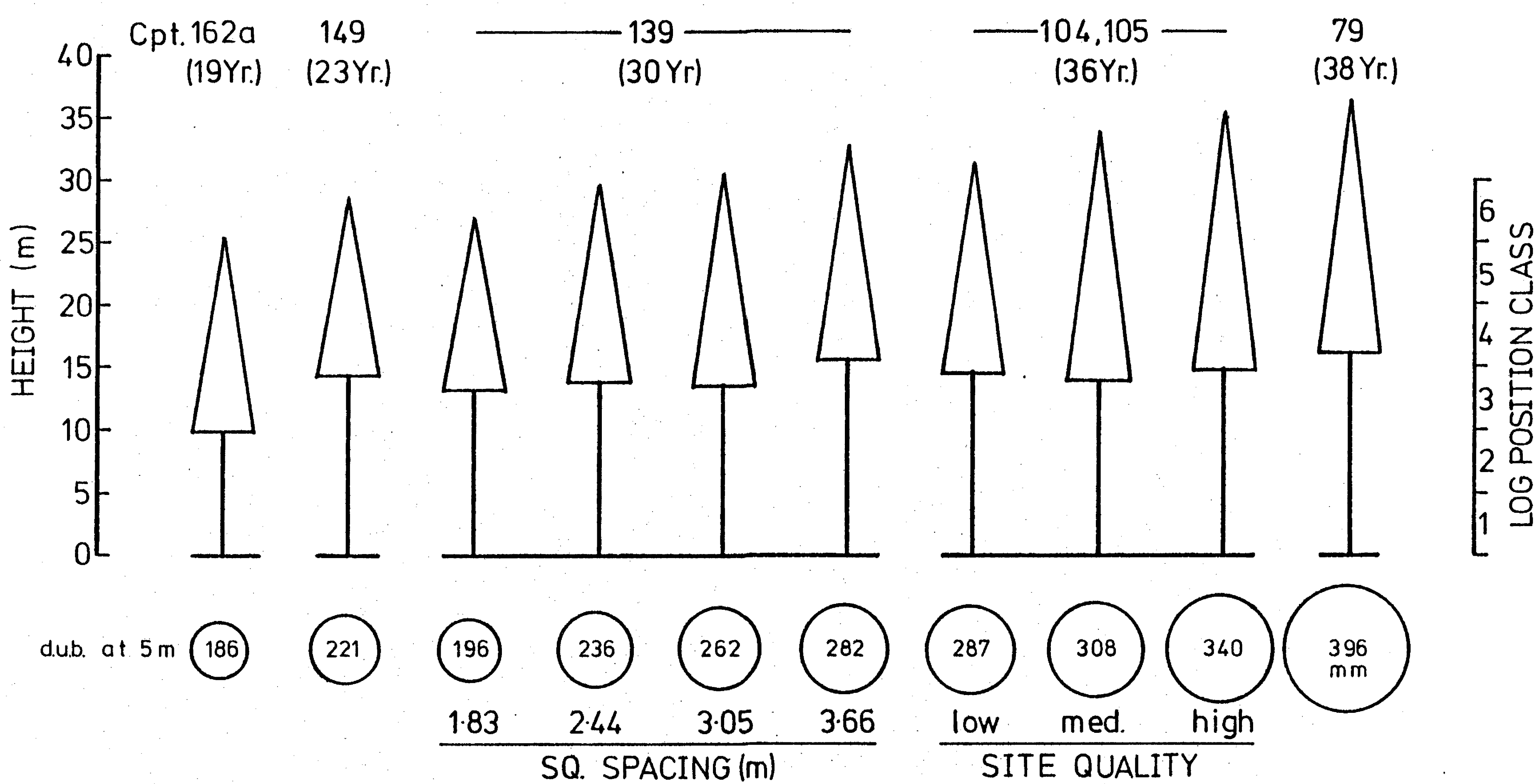


FIGURE 4.1. Pictorial representation of mean height, mean green crown level and mean diameter under bark at 5 m above ground level for the sampled stands of *P. radiata*. (N = 10 trees per stratification).

relationship was found between mean green crown level and spacing. Figure 4.3 shows the effect of spacing on tree height and green crown level.

Cromer and Pawsey (1957) report a linear relationship between spacing and tree diameter; and for trees over 15 years of age there was a linear relationship between spacing and mean tree height. *Hamilton and Christie (1974)* in their review of the influence of spacing on crop characteristics and yield conclude that "the bulk of experimental evidence indicates an increase in mean height with increasing spacing".

Sjolte-Jørgensen (1967) also reviews spacing effects on height and diameter and came to the same general conclusions: "for most experiments reviewed mean height of the stand is increased with increasing spacing" and that generally "...the mean diameter of trees in the stand is increased with increasing spacing".

However, *Evert (1971)* in a review of spacing studies concludes: "...that in overly dense plantations on poor to medium sties height growth is likely to increase with increased spacing, whereas spacing appears to have little effect on height growth at lower densities on good sites". Evert also states: "In practically all spacing experiments, mean diameter of the stand has been found to increase, within limits, as the growing space increases. This has been the case for all species on all sites."

Tree height and diameter increased as site quality increased in cpts. 104, 105. This result is expected because site quality is related to tree growth.

Compartment 79 contained the largest trees of all and this was reflected in the height and diameter figures. The coefficient of variation of the diameters of the trees sampled from this compartment (about 20%) was far greater than for the other stands sampled (usually 12%)

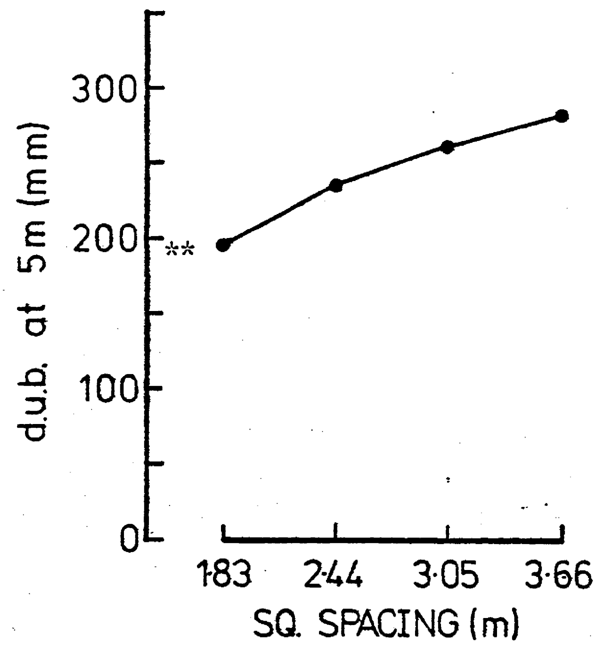
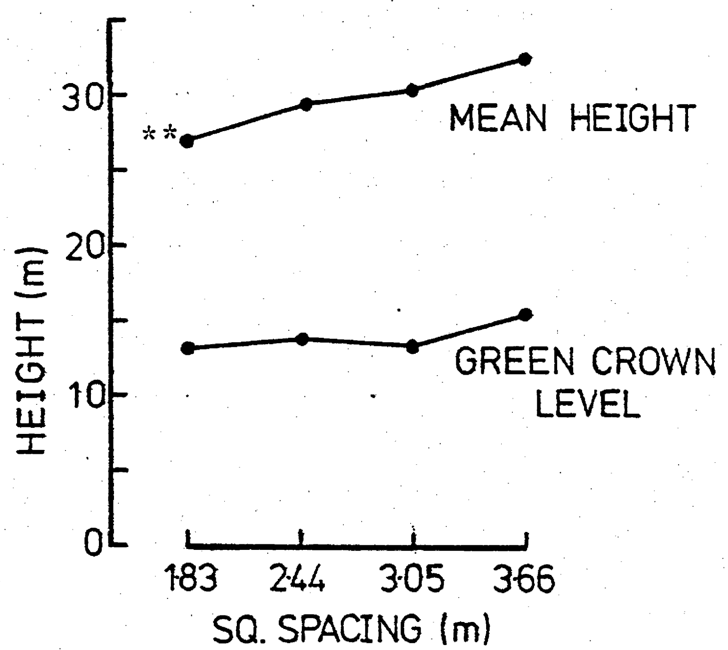


FIGURE 4.2. Effect of spacing on mean tree diameter under bark at 5 m from ground level for cpt. 139. (N = 10 trees per spacing). ** Significant linear trend at 1% level.



4.3. Effect of spacing on mean height and mean green crown level for compartment 139. (N = 10 trees per spacing). ** Significant linear trend at 1% level.

indicating that the range of tree sizes was greatest for cpt. 79. This result tends to verify that cpt. 79 contained a range of site qualities as indicated in Table 4.1.

The actual individual tree size and log diameter data is given in Appendix G. Unfortunately diameter at breast height values could not be found in the original records of the tree sizes and is therefore unrecorded in the results.

4.2 *Branch size.*

In section 3.15 branch statistics were defined and the reasons given as to why branch size was considered on an individual log basis. Some sampling stratifications had branch measurements taken for all trees but others had five or less trees measured. These latter groups were excluded from this discussion because of sample size except for some logs which were combined in the analysis in section 4.2.3. The groups with ten trees measured per stratification were the trees from cpts. 79 and 139.

The N.S.W. Department of Agriculture computer package *Generalised Least Squares Analysis Program* (GLSAP) was used for all analyses in this section and the data file T585R described in section 3.16 was the input file used for the package.

4.2.1 *Compartment 79.*

Means of branch sizes for each log position class for cpt. 79 are listed in Table 4.11. The mean number of branches per log for each log position class is plotted in Figure 4.4 and the branch size data for each log position class in Figure 4.5.

The significant linear trends between branch size and log position class are shown in Table 4.11. NS indicates no significant linear trend. Quadratic and cubic models were also tried but neither gave

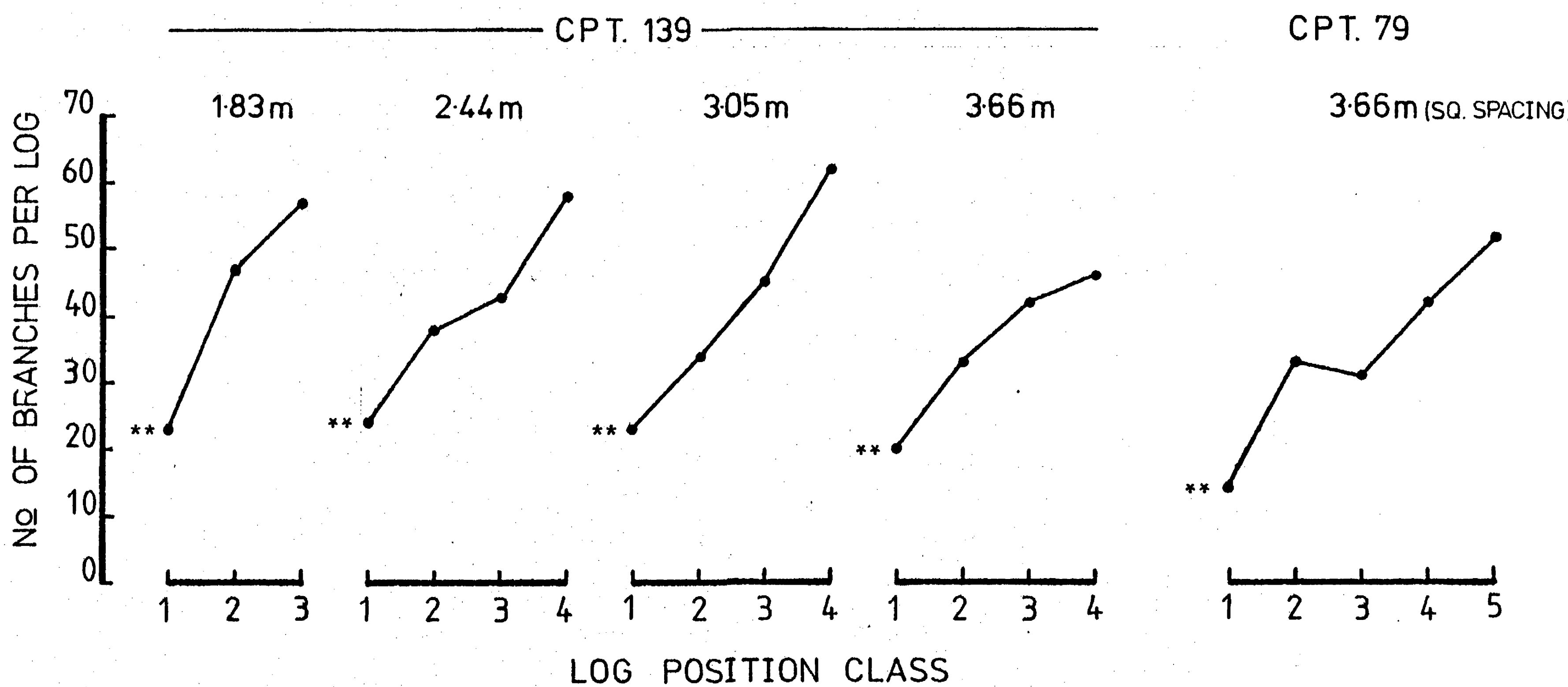


FIGURE 4.4. Effect of log position class on the number of branches per log for various spacings in cpt. 139 and cpt. 79. Cpt. 139 was 30 years old and unthinned. Cpt. 79 was 38 years and was thinned and low pruned. (N ≃ 10 logs per position class). ** Significant linear trend at 1% level.

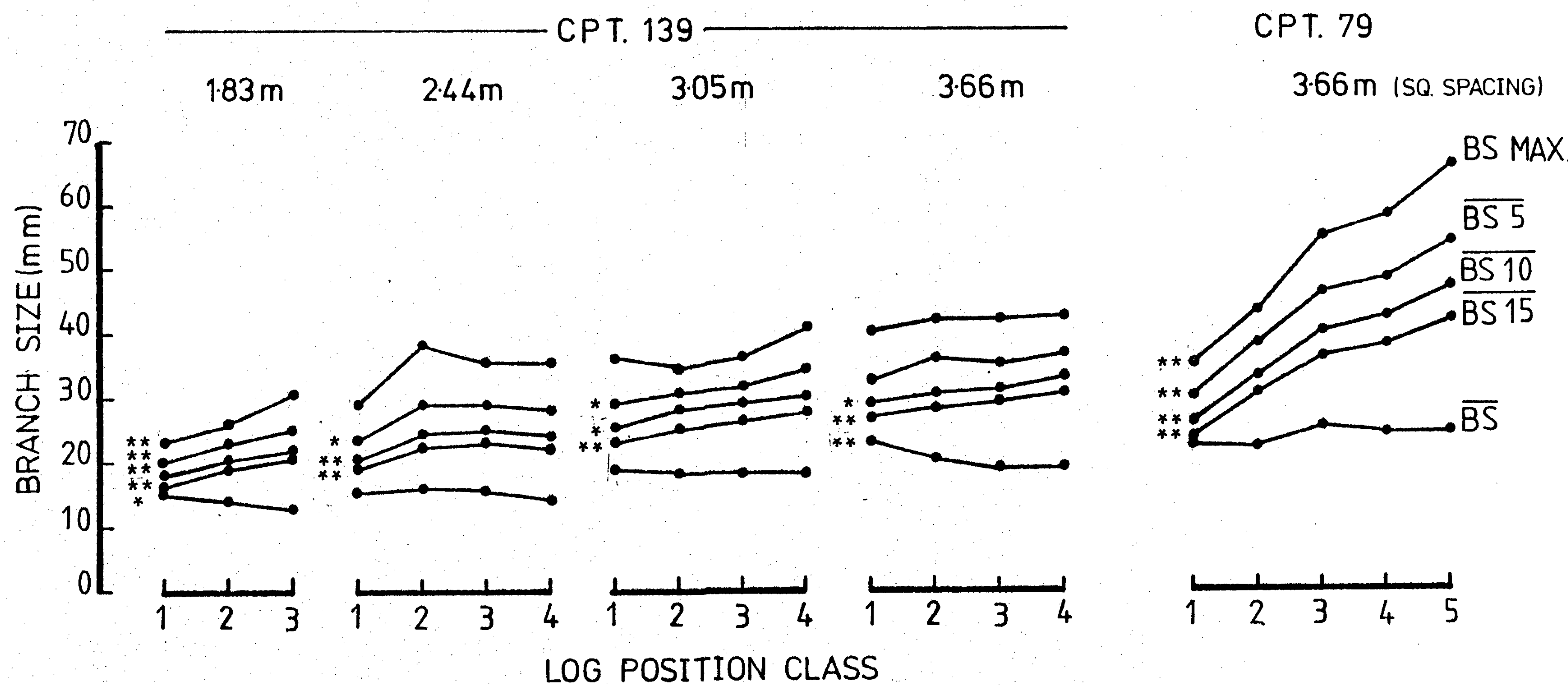


FIGURE 4.5. Effect of log position class on branch size for various spacings in cpt. 139 and for cpt. 79. Cpt. 139 was 30 years old and unthinned. Cpt. 79 was 38 years old and was thinned and low pruned.

(N ≃ 10 logs per position class). ** Significant linear trend at 1% level, * 5% level.

a better fit than the linear model.

The number of branches per log increased as log position increased (NB. the butt logs were pruned for about half their length). This has also been observed by *Fisher (1978)* in studies on hoop pine *(Araucaria cunninghamii)* in Queensland for age groups 25 years and older and by *Braastad (1970)* working on European spruce *(Picea abies)* in Norway.

The branch size parameters based on the largest branches per log (i.e. BSMAX, $\overline{\text{BS5}}$, $\overline{\text{BS10}}$ and $\overline{\text{BS15}}$) all showed highly significant linear relationships with log position class (Figure 4.5). Average BSMAX increased from 36 mm in the butt log to 67 mm in the fifth log, an 88% increase. Much the same trend existed for the other parameters, for example $\overline{\text{BS5}}$ increased 77% for the same log position classes.

There was no significant linear trend between $\overline{\text{BS}}$ and log position class, the values being 22 mm and 25 mm for the butt and fifth logs respectively, a 14% average increase.

Some further discussion of these results in included in section 4.2.2.

TABLE 4.11

Mean values of the branch sizes for the various log position classes of compartment 79

(All measurements are in mm. 10 logs were measured per stratum. Log 1 was low pruned to 2.4 m)

	Log position class					
	1	*2*	*3*	*4*	*5*	*Sign*
BN	14.6	33.7	31.7	42.2	52.1	**
BSMAX	35.5	43.4	55.5	58.3	66.8	**
$\overline{\text{BS5}}$	30.5	38.0	46.0	48.2	54.1	**
$\overline{\text{BS10}}$	26.4	33.6	40.1	42.4	47.4	**
$\overline{\text{BS15}}$	23.6	30.9	35.8	38.7	42.4	**
$\overline{\text{BS}}$	22.3	22.1	25.3	24.0	24.9	NS

Note: 1. ***Significant linear trend at 1% level.*
2. *A line under two or more values indicates there is no significant difference between them.*

4.2.2. *Compartment 139 - spacing trial.*

Means of the log branch parameters for each log position class (LPC) for the four spacings are listed in Table 4.12. These data are plotted in Figures 4.4 and 4.5 (stratified by position class for each espacement and in Figures 4.6 and 4.7 (stratified by espacement for each position class).

Analysis of variance was performed on the data firstly between spacings within each LPC (LPC 1 & LPC 2 only) and secondly between LPC's for each spacing. Generally if a significant linear trend existed between a particular branch statistic and spacing there was a significant difference between branch statistics for a spacing difference of 1.22 m (ie. each second spacing). If a significant linear trend existed between the branch statistic and LPC then generally there was a significant difference between branch statistics for a LPC increase of 2 classes. Generally this was also the case for the cpt. 79 data (Table 4.11).

The effect of spacing on the number of branches per log for the various LPC's is shown in Figure 4.6. The butt log showed no significant linear trend; also there was no significant difference between any of the means. The second log showed a decrease in the number of branches as spacing increased. No trends were found for the third or fourth logs. There did appear to be, however, a general decrease in the mean number of branches per log as spacing increased for all log position classes except the butt log. These results contrast with those of *Jacobs (1938)* who found that for radiata pine in the A.C.T. planted at 1.83 m x 1.83 m, 2.75 m x 2.75 m and 3.66 m x 3.66 m "the number of branches at progressive heights is slightly greater in the wider spacings while the total sectional area of the branches is very much greater". *Godman and Cooley (1970)* working with Jack pine *(P. banksiana)* in the United States found that "trees had the same number of branches regardless of initial spacing".

TABLE 4.12

Mean values of the branch sizes for the various log position classes for the four spacings of cpt. 139. (All measurements are in mm. 10 logs were measured per stratum unless otherwise indicated).

(a) Log position classes 1 and 2

	Log position class 1				*Log position class 2*			
	Espacement m x m				*Espacement m x m*			
	1.83	2.44	3.05	3.66	1.83	2.44	3.05	3.66
BN	23.2	24.5	23.0	20.5	48.1	38.1	34.4	33.2
BSMAX	23.2	28.6	36.4	39.6	26.3	37.9	34.0	42.2
$\overline{BS5}$	20.5	23.6	29.6	33.2	23.0	29.6	31.0	35.7
$\overline{BS10}$	18.5	20.8	25.7	29.1	20.5	25.3	27.9	31.2
$\overline{BS15}$	16.8	18.8	23.2	26.8	19.9	22.8	25.3	28.2
$\overline{BS}$	14.8	15.5	19.5	23.0	13.9	16.5	18.3	20.8

Note: *a line under the values means there is no significant difference between them.*

(b) Log position classes 3 and 4

	Log position class 3				*Log position class 4*			
	Espacement m x m				*Espacement m x m*			
	1.83	2.44	3.05	3.66	1.83	2.44	3.05	3.66
No. of logs	8	10	10	9	2	8	9	9
BN	54.4	42.7	45.7	41.9	56.0	59.9	63.3	45.7
BSMAX	31.3	36.1	36.4	41.8	34.5	36.6	40.8	43.0
$\overline{BS5}$	25.3	29.1	31.9	35.4	31.5	28.7	34.2	37.0
$\overline{BS10}$	22.5	25.5	28.8	31.6	28.5	25.3	30.5	34.0
$\overline{BS15}$	20.8	23.2	26.4	29.0	26.7	23.2	28.3	31.6
$\overline{BS}$	13.7	15.6	17.5	19.6	16.2	14.9	17.2	20.0

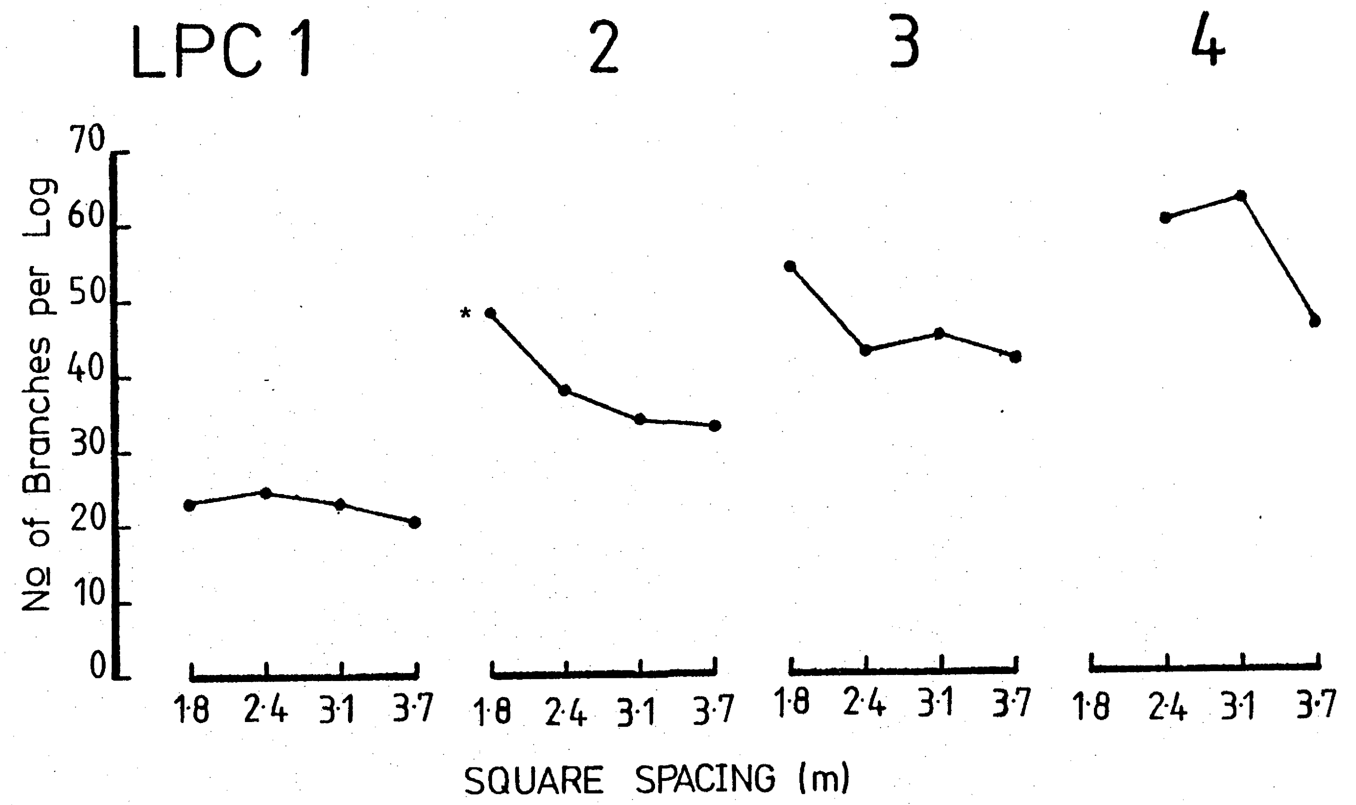


FIGURE 4.6. Effect of spacing on number of branches per log for various log position classes in cpt. 139 (N = 10 logs per spacing). * Significant linear trend at 5% level.

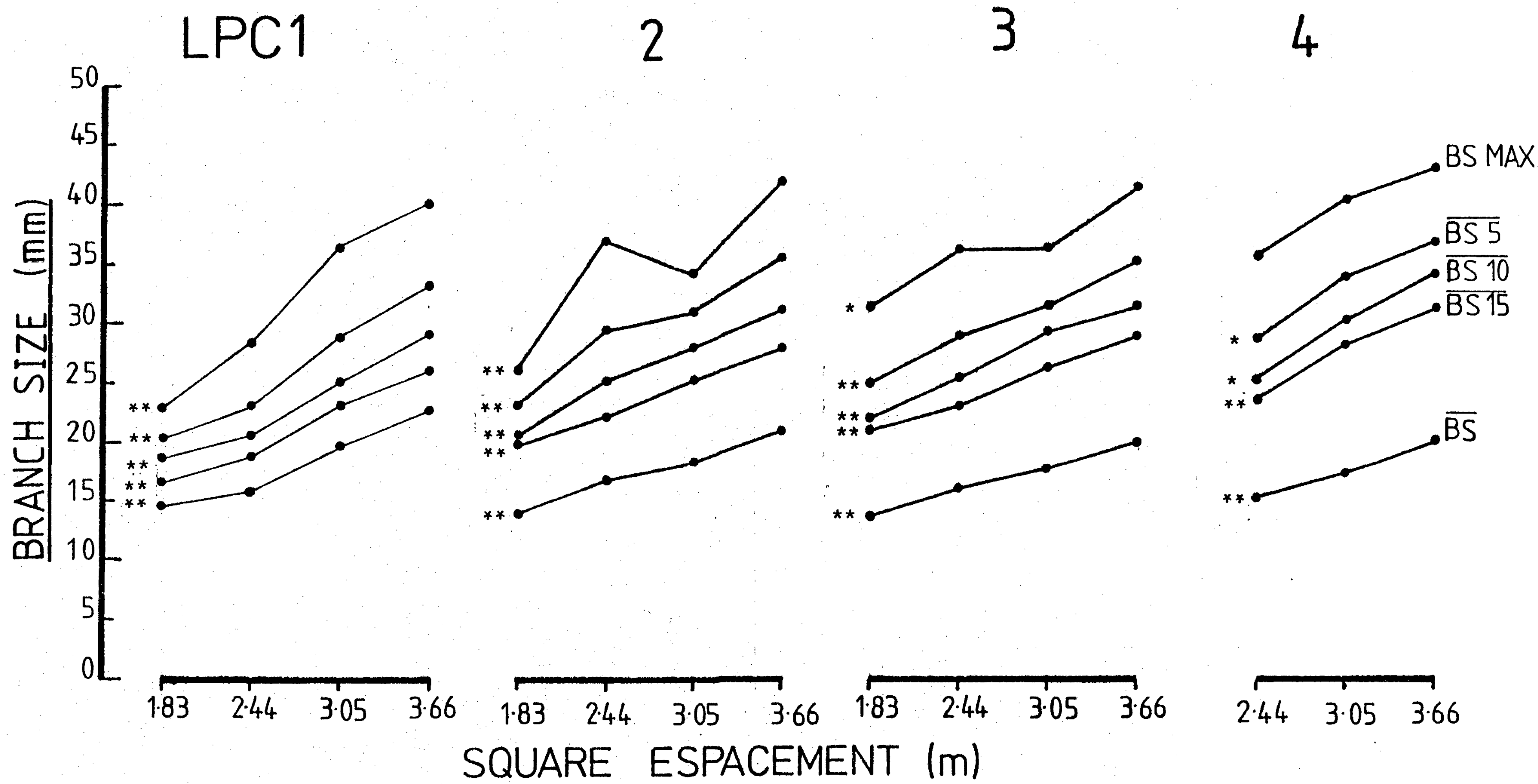


FIGURE 4.7. Effect of spacing on branch size for various log position classes for cpt. 139. (N ≈ 10 logs per spacing). ** Significant linear trend at 1% level. * 5% level.

Brazier (1976) in his review of the effect of forest practices on the harvested crop reports work by *Nylinder (1959)* who found that for 45 year old spruce there was no evidence that number of branches was influenced by spacing.

Effect of spacing on branch size for the various LPC's is shown in Figure 4.7. Most branch size indicators showed positive linear trends with increasing spacing with much the same slope of the regressions for all log positions including mean branch size per log though this was not tested statistically. BSMAX for the fourth LPC showed no significant linear relationship with spacing. However the trend still appeared to be there. For the second logs mean branch size increased from 13.9 mm to 20.8 mm (50%) and $\overline{\text{BS5}}$ from 23.0 mm to 35.7 mm (55%) when the spacing increased from 1.83 m to 3.66 m. In other words as spacing increases the largest branches on a log increase in diameter by about the same percentage as the average branch diameter increases.

Cromer (1961) reports a limited study on the effects of spacing on branch size for 15 year old radiata pine in Uriarra Forest, A.C.T. He also found the average size of the branches on the stem from 2.44 m to 4.57 m above ground increased linearly with spacing. Extrapolating Cromer's results slightly gave mean branch sizes of 18.4 mm and 26.8 mm for the 1.83 m and 3.66 m spacings respectively, a 46% increase. The results for the butt log (0 to 4.95 m) from this work were 14.8 mm for the 1.83 m spacing and 23.0 mm for the 3.66 m spacing, a 55% increase - a similar result to that of Cromer. *Sjolte-Jørgensen (1967)* presents a major review of the influence of spacing on coniferous plantations and discusses the work of *Nylinder (1959)*. Extrapolating Nylinder's results for Scots pine *(P. sylvestris)* in Sweden, mean branch diameters at 3 m above ground were 18.1 mm for 1.83 m spacing and 25.8 mm for 3.66 m spacing

(42% increase) and at 5 m above ground 17.4 mm and 25.1 mm for the 1.83 m and 3.66 m spacings respectively (44% increase).

Forrest (1971), in his review of tree and stand growth in radiata pine plantations in N.S.W., found the average diameter of the 4 largest branches within particular 1.5 m long sections along the trunk showed general increases with increasing spacing but he concluded that these differences reflected mainly differences in average tree size; an observation made by *Cromer and Pawsey (1957)*.

Bunn (1970) presents a table containing mean diameters of the sixteen largest branches for the trunk section 6.1 m to 12.2 m above ground for various spacings and sites in New Zealand. There was an overall increase in branch size as spacing increased for all sites with branch size also being a function of site. *Godman and Cooley (1970)* found average branch diameter was not significantly affected by spacing increase from 1.52 m x 1.52 m to 2.74 m x 2.74 m but that the size of the largest dead branch increased 13 mm and the largest live branch increased 19 mm on the largest 150 trees per acre. They also found the large trees in each spacing had larger mean and maximum branches than the smaller trees.

Braastad (1970) working on European spruce *(Picea abies)* also found an increase in branch size with wider spacings.

Fisher (1978) found that for hoop pine "wider spacings produced larger limbs below 7 m by age 18 years and still larger limbs up to at least 11.9 m above ground by age 25 years. Differences increased to age 28 years and subsequently remained relatively constant".

Wright (1970) reports results in Victoria where in one study average branch size increased from between 13 mm to 25 mm for 1.83 m x 1.83 m spacing to between 38 mm and 50 mm for 3.66 m x 3.66 m spacing depending on site quality.

The effect of log position class on the number of branches per log for the various spacings of cpt. 139 and for cpt. 79 are shown in Figure 4.4. Number of branches per log increased linearly with log position class for the 4 spacings and for cpt. 79. There were generally significant differences between the branch numbers for each log position class except for the third and fourth logs of the 3.66 m x 3.66 m spacing and the second and third logs of cpt. 79. *Fisher (1978)* and *Braastad (1970)* also found the number of branches increased with increasing height up the tree. (See Section 4.2.1)

The effect of log position class on branch size for the various spacings of cpt. 139 and cpt. 79 is shown in Figure 4.5.

Average branch size per log showed a small negative linear trend with increasing LPC for the 1.83 m and 3.66 m spacings. No trend existed for the other two spacings or for the results from cpt. 79. There was no significant difference between any of the $\overline{BS}$ values for any spacing except for the first and fourth logs of the 3.66 m spacing.

BSMAX, $\overline{BS5}$, $\overline{BS10}$ and $\overline{BS15}$ showed similar trends for each spacing. However, as spacing increased, the size of the largest branches became independent of log position. For example BSMAX did not vary significantly with LPC except for the 1.83 m spacing where there was a significant difference between BSMAX, $\overline{BS5}$, $\overline{BS10}$ and $\overline{BS15}$ values for the first and third logs. For the other spacings there were significant differences between the branch sizes for the first and fourth logs if a significant linear trend occurred.

As discussed in section 4.2.1 the BSMAX, $\overline{BS5}$, $\overline{BS10}$ and $\overline{BS15}$ values for cpt. 79 all showed linear increases with increasing log position class. Generally the values were significantly different for each second log position class (Table 4.11). An interesting comparison can be made between the branch sizes for cpt. 79 which was planted at 3.66 m x 3.66 m, low pruned and regularly thinned and for the 3.66 m x 3.66 m spacing of cpt. 139 (Figure 4.5). Branch size values were almost identical for both stands for the second logs as clearly shown in Table 4.13. The butt log branch sizes were, however, lower for cpt. 79 but low pruning could have affected this result. For the higher log positions the largest branch sizes were far larger for the thinned stand, when compared to the unthinned one, no doubt a direct result of thinning; a result also observed by *Wright (1970)* who states "Thinning influences branch size primarily in the upper bole". This result is expected because the upper branches are the most active and therefore most likely to respond to thinning.

TABLE 4.13

Comparison between branch size and number for the second logs of compartment 79 and the 3.66 m x 3.66 m spacing of compartment 139

	Cpt. 79 LPC 2	*Cpt. 139* LPC 2	*Difference* %
BN	33.7	33.2	3
BSMAX	43.4	42.2	3
$\overline{BS5}$	38.0	35.7	6
$\overline{BS10}$	33.6	31.2	8
$\overline{BS15}$	30.9	28.2	10
$\overline{BS}$	22.1	20.8	6

4.2.3 *Relationships between branching characteristics and log size.*

Data for those logs whose recovered value was known were analysed using GLSAP to test the effects of branch size on this value. This analysis is reported in section 4.7. These data were also analysed to determine linear relationships between log small end diameter under bark (sedub) and branch size for the various log position classes.

4.2.3.1. *Compartments 139 and 149 (immature, unthinned).*

Table 4.14 gives the statistical data for these two compartments. Significant linear relationships were found to exist between most branch size indicators and log sedub for the first three log position classes. No relationships were found for the fourth log position (possibly because of lack of data) or between sedub and the number of branches per log for any of the four log position classes.

4.2.3.2. *Compartments 79, 104 and 105 (mature, thinned).*

Table 4.15 gives the statistical data for these three compartments. Again significant linear relationships were found to exist between branch size and sedub for most parameters for most log position classes although the level of significance, generally, was less than for compartments 139 and 149.

Cromer and Pawsey's (1957) results and the reviews of *Hamilton and Christie (1974), Evert (1971)* and *Sjolte-Jørgensen (1967)* on the effect of spacing on tree diameter have already been discussed in section 4.2.2. Most of the work indicated that a linear relationship exists between spacing and tree diameter.

Summarising the above results a linear relationship occurs for most branch size indicators for most log positions. Mean branch size, however, was not linearly related to log sedub for the second, third or fourth logs from compartments 79, 104 and 105. *Cromer and Pawsey (1957)* noted there was no significant relationship between mean branch diameter (all branches between 2.44 m and 4.57 m from the ground) and initial spacing for some plots in their study.

Figure 4.8 is a graph of the relationships between $\overline{BS5}$ and sedub for compartments 79, 104 and 105 for the various log position classes. For the first four log positions slope does not change much.

The increasing extrapolated intercept with increasing log position reflects the increase in branch size as log position increases. The relationship for LPC2 is not significant but is included to complete the graph.

TABLE 4.14

Regression coefficients for the relationships between branch size and sedub for the logs from compartments 139 and 149

LPC	*Independent Variable*	*Dependent Variable*	*Slope*	*Constant term*	*R*	*No. of logs*	*Sign level*
1	sedub	$\overline{BS}$	0.0594	2.780	0.53	20	2%
	"	BSMAX	0.1362	-2.800	0.62	20	1%
	"	$\overline{BS5}$	0.1002	1.443	0.59	20	1%
	"	$\overline{BS10}$	0.0888	1.504	0.57	20	1%
2	sedub	$\overline{BS}$	0.0644	3.669	0.54	22	1%
	"	BSMAX	0.1357	6.468	0.44	22	4%
	"	$\overline{BS5}$	0.1145	5.688	0.55	22	1%
	"	$\overline{BS10}$	0.1048	4.290	0.62	22	1%
	"	$\overline{BS15}$	0.0970	3.586	0.66	21	1%
3	sedub	$\overline{BS}$	0.0488	7.180	0.63	21	1%
	"	BSMAX	0.1247	10.955	0.62	21	1%
	"	$\overline{BS5}$	0.1073	9.575	0.67	21	1%
	"	$\overline{BS10}$	0.0933	9.112	0.67	21	1%
	"	$\overline{BS15}$	0.0813	9.193	0.65	21	1%

TABLE 4.15

Regression coefficients for the relationships between branch size and sedub for logs from compartments 79, 104 and 105.

LPC	*Independent Variable*	*Dependent Variable*	*Slope*	*Constant term*	*R*	*No. of logs*	*Sign level*
1	sedub	$\overline{BS}$	0.0298	9.854	0.52	21	2%
	"	BSMAX	0.0526	15.299	0.59	21	1%
	"	$\overline{BS5}$	0.0376	15.671	0.53	21	2%
	"	$\overline{BS10}$	0.0393	11.674	0.60	21	1%
	"	$\overline{BS15}$	0.0406	8.867	0.61	16	2%
2	sedub	$\overline{BS10}$	0.0596	13.521	0.57	18	2%
	"	$\overline{BS15}$	0.0498	13.878	0.57	18	2%
3	sedub	$\overline{BS5}$	0.0775	20.339	0.54	14	5%
	"	$\overline{BS10}$	0.0724	16.572	0.63	14	2%
	"	$\overline{BS15}$	0.0621	15.609	0.63	14	2%
4	sedub	BSMAX	0.1173	27.460	0.53	15	5%
	"	$\overline{BS5}$	0.0878	25.946	0.52	15	5%
	"	$\overline{BS10}$	0.0736	24.007	0.50	15	6%
	"	$\overline{BS15}$	0.0669	22.035	0.49	15	6%
5	sedub	$\overline{BS}$	0.0832	7.443	0.81	9	1%
	"	BSMAX	0.2852	7.0365	0.83	9	1%
	"	$\overline{BS5}$	0.2070	10.647	0.84	9	1%
	"	$\overline{BS10}$	0.1668	12.516	0.83	9	1%
	"	$\overline{BS15}$	0.1367	13.874	0.83	9	1%

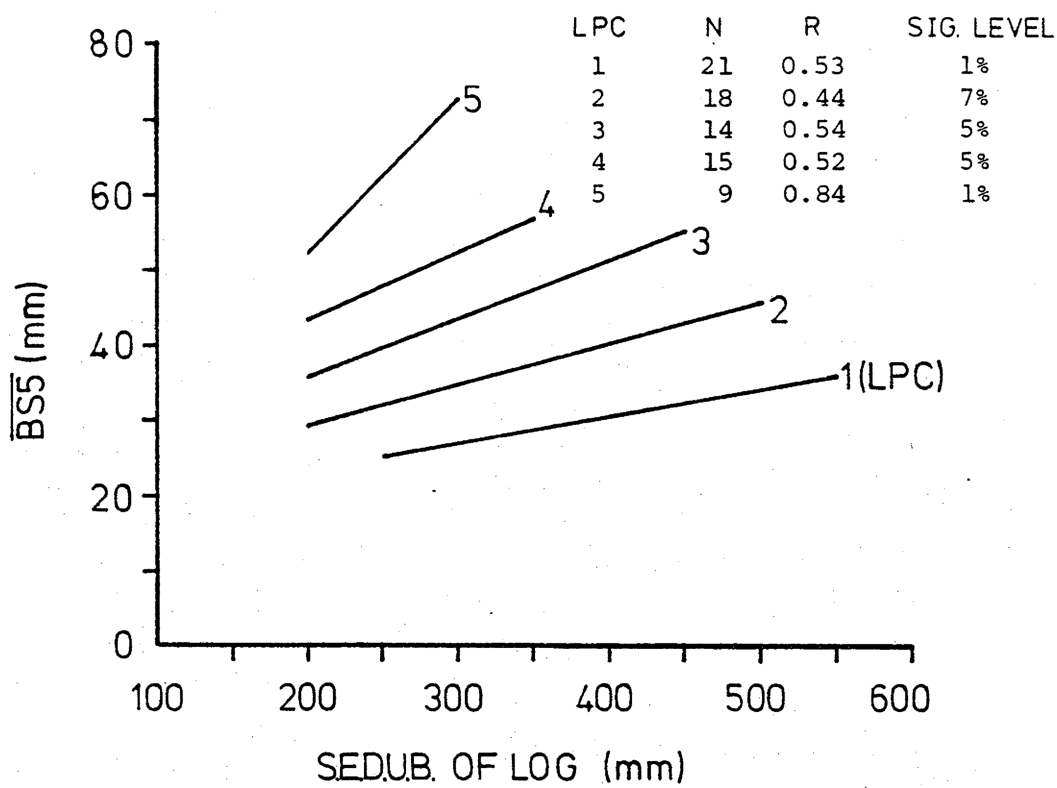


FIGURE 4.8. Regression of the mean size of the largest 5 branches per log on S.E.D.U.B. for various log position classes (LPC). Logs were from cpts. 79, 104 and 105.

4.3 *Mean log sizes and timber recoveries for the various compartments.*

Number of logs recovered, mean log size, mean log volume, mean recovered volume per log and mean percentage volume recovery for each log position class for the various compartments are presented in Tables 4.16 to 4.20. These tables show the small quantities of timber actually recovered from some of the log position classes. For example in Table 4.17, 1.469 cub. m. were recovered from log position class 2 (SQ. 2) but only 0.639 cub. m. were recovered from log position 3. This is due largely to the difference in the number of logs recovered in each class.

The smaller diameter logs, of course, produced lower volumes of timber than did the larger logs, partly because the larger logs contained more wood but also because there was a general trend towards higher percentage recoveries as the log diameter increased; with the exception that recoveries were usually lower for the butt log than for the second log. This is probably because of the higher taper normally present in the butt log and because log volumes were calculated using the Smalian formula. Using this formula when two logs have the same volume but different taper the log having most taper will give a lower recovery for any one sawing pattern.

Overall recoveries appeared to be high, considering they were based on dry, machined sizes, so a check was made using a N.S.W. Forestry Commission simulation program (*J. Gwalter, 1972*). This program simulated the cutting patterns used in this study (patterns used in the simulation were not identical to the actual patterns but were considered close enough). Sawn recoveries (green rough sawn size) were estimated by the program for various log diameters. A taper of 1in 100 was assumed for all logs. Saw kerfs used in the simulation were those produced when the logs were sawn namely 0.125 inches (3.18 m) for the breaking down saw (bandsaw) and 0.1875 inches (4.76 mm) for the resaw (circular breast bench).

TABLE 4.16

Mean log sizes and timber volume recoveries for the various log position classes of compartment 79. (All volumes are in m^3)

LPC	No. of logs	Mean sedub (mm)	Mean log vol.	Recovered volume Scantling	board	total	Mean recovered vol. per log	Mean % vol. recovery
1	10	396	0.827	3.378	0.306	3.684	0.368	44
2	10	356	0.564	2.744	0.337	3.081	0.308	55
3	10	313	0.449	2.092	0.267	2.359	0.236	53
4	10	267	0.343	1.506	0.220	1.726	0.173	51
5	10	209	0.222	0.682	0.234	0.916	0.092	41
6	3	184	0.217	0.200	0.050	0.250	0.083	38

TABLE 4.17

Mean log sizes and timber volume recoveries for the various log position classes for the three site qualities (SQ) of compartments 104, 105. (All volumes are in m^3)

SQ	LPC	No. of logs	Mean sedub (mm)	Mean log vol.	Recovered volume Scantling	board	total	Mean recovered Vol. per log	Mean % vol. recovery
1	1	10	340	0.588	2.462	0.353	2.815	0.281	48
	2	10	298	0.432	1.920	0.302	2.222	0.222	51
	3	3	305	0.410	0.506	0.102	0.608	0.203	50
	4	4	222	0.247	0.291	0.072	0.363	0.091	37
	5	1	152	0.123	0.034	0.006	0.040	0.040	33
2	1	6	330	0.510	1.209	0.126	1.335	0.223	44
	2	8	295	0.363	1.261	0.208	1.469	0.184	51
	3	4	267	0.316	0.544	0.095	0.639	0.160	51
	4	4	203	0.197	0.267	0.048	0.315	0.079	40
	5	1	178	0.159	0.085	0.029	0.114	0.057	36
3	1	9	296	0.414	1.320	0.218	1.538	0.171	41
	2	6	267	0.319	0.790	0.168	0.958	0.160	50
	3	4	241	0.253	0.391	0.085	0.476	0.119	47
	4	3	169	0.148	0.163	0.050	0.213	0.071	48

TABLE 4.18

Mean log sizes and timber volume recoveries for the various log position classes of the four spacings in compartment 139. (All volumes are in m^3)

Spacing (square) (m)	*LPC*	*No. of logs*	*Mean sedub (mm)*	*Mean log vol.*	*Recovered volume Scantling*	*board*	*total*	*Mean recovered vol. per log*	*Mean % vol. recover*
1.8	1	6	199	0.179	0.298	0.077	0.375	0.0625	35
	2	5	188	0.150	0.198	0.093	0.291	0.0581	39
	3	4	159	0.120	0.094	0.049	0.143	0.0359	30
	4	2	127	0.084	0.030	0.020	0.050	0.0253	30
2.4	1	4	248	0.326	0.445	0.096	0.541	0.135	42
	2	5	213	0.211	0.369	0.111	0.480	0.096	46
	3	4	165	0.129	0.217	0.026	0.243	0.061	47
	4	3	144	0.101	0.092	0.011	0.103	0.034	34
3.1	1	2	242	0.321	0.202	0.038	0.240	0.120	37
	2	6	229	0.231	0.541	0.146	0.687	0.114	49
	3	5	213	0.202	0.353	0.102	0.455	0.091	45
	4	1	152	0.123	0.034	0.017	0.051	0.051	41
	5	1	127	0.075	0.029	0.006	0.035	0.035	47
3.7	1	3	254	0.323	0.350	0.045	0.395	0.132	41
	2	4	254	0.282	0.493	0.112	0.605	0.151	54
	3	6	212	0.200	0.459	0.142	0.601	0.086	43
	4	2	165	0.123	0.080	0.019	0.099	0.049	40
	5	2	140	0.108	0.073	0.006	0.079	0.040	37

TABLE 4.19

Mean log sizes and timber volume recoveries for the various log position classes of compartment 149. (All volumes are in m^3)

LPC	No. of logs	Mean sedub (mm)	Mean log vol.	Recovered volume Scantling	board	total	Mean recovered vol. per log	Mean % vol. recovery
1	8	219	0.243	0.598	0.184	0.782	0.098	40
2	3	195	0.159	0.089	0.074	0.163	0.054	34
3	7	159	0.125	0.315	0.060	0.375	0.054	43
4	2	140	0.099	0.064	0.007	0.071	0.036	36

TABLE 4.20

Mean log sizes and timber volume recoveries for the various log position classes of compartment 162a. (All volumes are in m^3)

LPC	No. of logs	Mean sedub (mm)	Mean log vol.	Recovered volume Scantling	board	total	Mean recovered vol. per log	Mean % vol. recovery
1	5	188	0.180	0.270	0.088	0.358	0.072	40
2	5	147	0.102	0.179	0.049	0.228	0.046	45
3	5	132	0.084	0.067	0.065	0.132	0.027	32

The simulated green percentage recoveries are illustrated in Figure 4.9 as a function of log size. Also shown are the actual green sawn percentage recoveries for all the logs from cpt. 79. There appears to be a good match between the actual and predicted values for sedub below 350 mm. A possible explanation for the drop in actual sawn recovery for the larger diameters is that most of the larger logs were butt logs and had larger taper than logs of higher position classes thus producing more waste.

Figure 4.9 indicates that the actual sawn recoveries are possible considering the sawing patterns and the type of sawmill used for the conversion.

A regression analysis of recovered volume (dry, dressed) on log sedub was carried out for all the logs recovered from cpt. 79. The best fit was obtained using a third degree polynomial (coefficient of determination $R^2 = 0.971$, $N = 54$). A power function was also found to provide a good fit ($R^2 = 0.948$, $N = 54$). These regression equations are given below as Equations 4.1 and 4.2 respectively. Log length is constant at 4.95 m.

$$\text{Recovered Volume } X10^3(m^3) = 94.95-1.107x+6.077x10^{-3}x^2-3.909x10^{-6}x^3 \quad \ldots\ldots(4.1)$$

where x is the sedub, $N = 54$, $R^2 = 0.971$

$$\text{Recovered Volume } X10^3(m^3) = 1.6498 \times 10^{-3}\ x^{2.054} \quad \ldots\ldots(4.2)$$

where x is the sedub, $N = 54$, $R^2 = 0.948$.

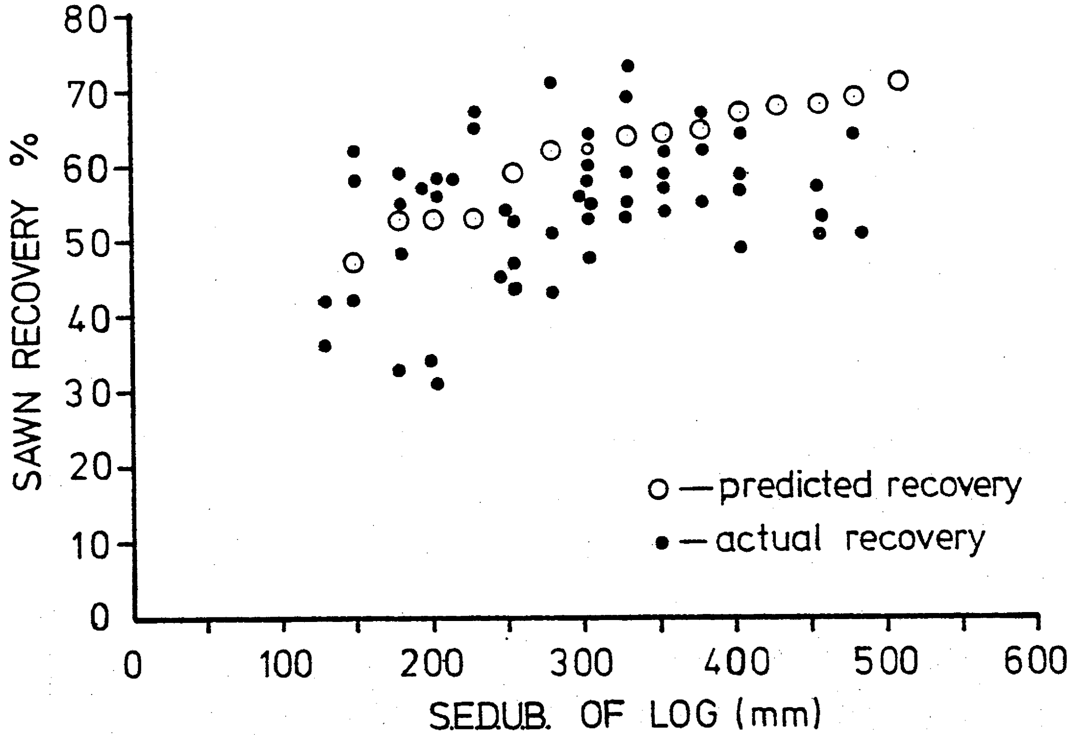


FIGURE 4.9. Relationship between S.E.D.U.B. of log and sawn timber recovery (based on green size) as a percentage of log volume for logs from 10 trees from cpt. 79. Also shown are predicted recoveries using the J. Gwalter sawing simulation program.

4.4 *Grade yields for the board sizes.*

Number of logs recovered, percentage yields in each board grade and the quantity of board recovered as a percentage of total yield for each log position class for the various compartments sampled are presented in Tables 4.21 to 4.25.

There is a general trend evident, especially for the older stands, towards an increasing percentage recovery of board material as the log position class increases within any one group. Also a large percentage of board material (about 20% to 30%) was generally recovered from logs with sedub below about 230 mm. Logs greater than 230 mm generally produced less than 15% of board material by volume.

The percentage of reject board produced from the butt logs of the 36 and 38 year trees (cpts. 79, 104 and 105. Tables 4.21 and 4.22) was generally around 30% to 35% except for the SQ3 area of cpts. 104, 105 where there was only 13% reject. *Whiteside (1964)* has observed that board yields were generally superior from low site quality stands. He states "The lower incidence of bark encasement is probably attributable also to the very slow diameter growth in the latter half of the rotation. In any event, in the period since the branches have died the bark encased zone has not developed substantially, and in the case of second and third logs is largely removed in the slabs".

The percentage of reject boards generally decreased with increasing log position in the tree for the older, thinned stands (Tables 4.21, 4.22). This was also observed by *Whiteside (1964)* and may be due to the lack of dead branches with increasing height, as found by *Fenton and Familton (1961)*. In that study however the "decreasing incidence of bark encased knots from butt to top log was largely nullified by the increasing incidence of cone stem-holes". Where cone stem holes did occur in the board

TABLE 4.21

Percentage yields in the board grades for the various log position classes of compartment 79

LPC	No. of logs	Board grade percentage yield					Board vol. as % of total yield
		clear	joinery	select	standard	reject	
1	10	13.9	3.5	42.5	3.6	36.5	8.3%
2	10	1.3	0	43.8	7.2	47.7	10.9%
3	10	2.8	21.7	37.6	7.2	30.7	11.3%
4	10	0	12.4	60.1	4.6	22.9	12.8%
5	10	0	8.8	76.8	3.6	10.7	25.5%
6	3	0	0	100	0	0	20.1%

TABLE 4.22

Percentage yields in the board grades for the various log position classes for the three site quality (SQ) areas of compartments 104 and 105

SQ	LPC	No. of logs	Board grade percentage yield					Board vol. as % of total yield
			clear	joinery	select	standard	reject	
1	1	10	10.6	14.3	29.8	8.5	36.7	12.5
	2	10	4.9	9.7	45.8	16.8	22.8	13.6
	3	3	0	0	66.7	22.9	10.5	16.8
	4	4	0	8.3	70.3	10.3	11.0	19.8
	5	1	0	0	0	100	0	16.0
2	1	6	6.3	9.3	29.5	25.5	29.5	9.5
	2	8	1.7	5.1	59.2	20.8	13.1	14.2
	3	4	0	9.1	79.6	0	11.3	14.8
	4	4	6.2	43.5	33.6	0	16.6	15.1
	5	1	0	0	100	0	0	25.3
3	1	9	3.2	10.9	63.1	9.6	13.3	14.2
	2	6	0	7.5	50.3	31.6	10.7	17.5
	3	4	0	11.7	76.5	0	11.7	17.9
	4	3	0	0	45.5	14.8	39.7	23.4

in this study they were not large enough in diameter to downgrade the boards to reject. *Standards Association of Australia (1969)* grading rules for boards sawn from radiata pine permit cone holes in all grades except clear but their diameters must not exceed 12 mm. The standard also permits encased knots up to 20 mm diameter with the maximum size allowable depending on grade.

The 10 trees from cpt. 79 produced about 12% of total product as board; about 32% of this was reject, about 50% select.

There did not appear to be similar trends in the board recoveries for the younger trees (Tables 4.23, 4.24, 4.25), possibly because of the small amounts of board material actually recovered in all the log position classes.

4.5. *Grade yields for the scantling sizes.*

4.5.1 *Compartment 79.*

Grade yields using both mechanical stress grading (MSG) and visual grading (VG) for each log position class (LPC) are given in Tables 4.26 and 4.27 and plotted in Figure 4.10. Also shown are grade yields for all 10 trees.

The MSG results indicate that as LPC increases the percentage yield of F7 + F8 + F11 grades (called F7+) increases (excluding LPC 6 with only 3 logs), an unexpected result. Branch size increases with increasing LPC (section 4.2.2) which would be expected to decrease grades. Also as LPC increases the percentage of juvenile wood per log would be expected to increase (e.g. *Zobel, et.al., 1965)* thus lowering the average density and therefore lowering the machine grades. *Fenton, Sutton and Tustin (1971)* observed that a large percentage of high grade scantling was produced from the higher logs despite the presence of large branches. In the lower logs much of the framing appeared to be sawn in

TABLE 4.23

Percentage yields in the board grades for the various log position classes for the four spacings in cpt. 139

Spacing (Square)	LPC	No. of logs	Board grade percentage yield Clear	joinery	select	standard	reject	Board vol. as % of total yield
1.8 m	1	6	0	0	55	0	45.0	20.5
	2	5	0	16.6	47.8	35.5	0	32.0
	3	4	0	14.0	55.9	15.0	15.0	34.3
	4	2	0	0	24.4	0	75.6	40.0
2.4 m	1	4	0	23.1	76.9	0	0	17.8
	2	5	0	12.1	64.8	23	0	23.1
	3	4	0	0	29.1	0	70.9	10.5
	4	3	0	0	100	0	0	10.4
3.1 m	1	2	0	0	100	0	0	15.8
	2	6	0	15.5	60	15.3	9.2	21.3
	3	5	0	15.6	42.4	12.1	30.0	22.4
	4	1	0	0	45.9	54.1	0	34.0
	5	1	0	0	0	100	0	23.7
3.7 m	1	3	0	0	80.8	19.2	0	11.4
	2	4	0	0	53.1	11.3	35.7	18.5
	3	6	0	7.0	60	26	7	23.6
	4	2	0	0	63.2	0	36.8	19.1
	5	2	0	0	0	0	100	8.1

TABLE 4.24

Percentage yields in the board grades for the various log position classes of compartment 149

LPC	No. of logs	Board grade percentage yield					Board vol. as % of total yield
		Clear	joinery	select	standard	reject	
1	8	0	10.7	82.3	3.5	3.5	23.5
2	3	0	0	35.1	0	64.9	45.3
3	7	0	0	69.1	0	30.9	16.1
4	2	0	0	100	0	0	10.3

TABLE 4.25

Percentage yields in the board grades for the various log position classes of compartment 162a

LPC	No. of logs	Board grade percentage yield					Board vol. as % of total yield
		Clear	joinery	select	standard	reject	
1	5	0	7.3	64.2	10.6	17.8	24.5
2	5	0	0	42.7	20.5	36.8	21.4
3	5	0	0	0	9.8	90.2	49.1

TABLE 4.26

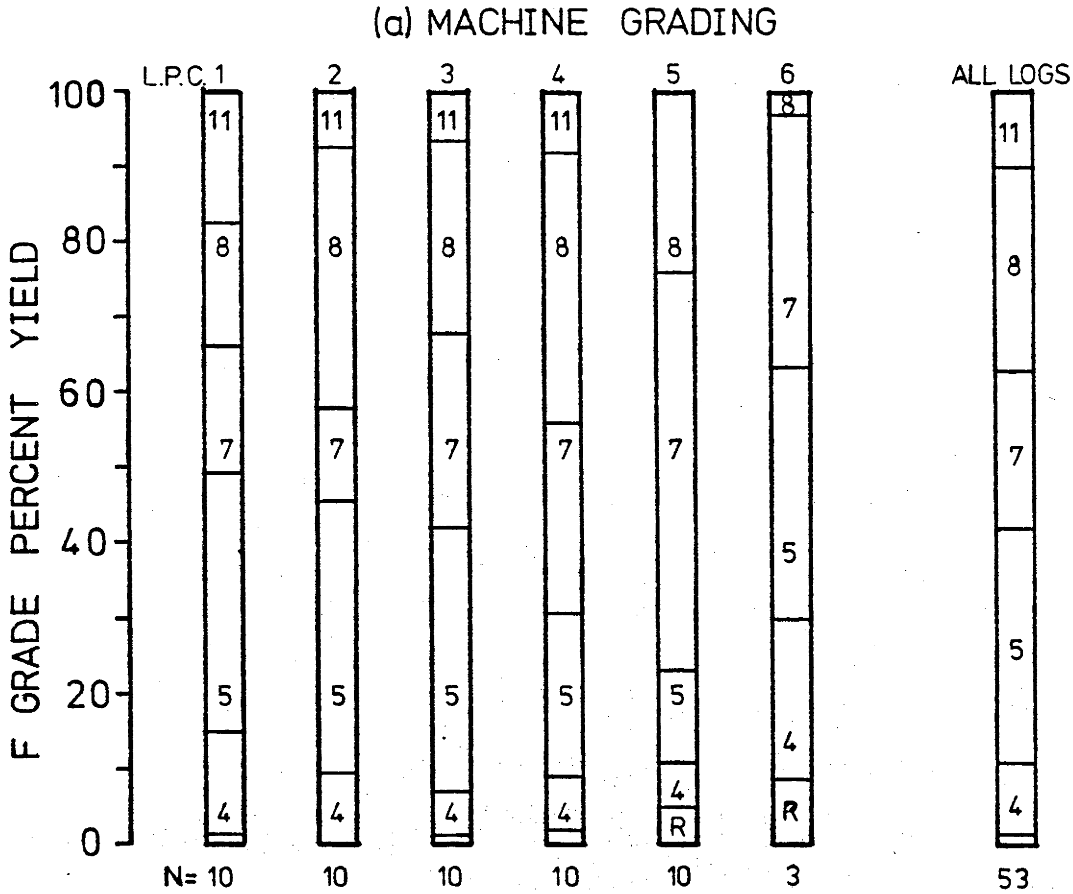
Percentage yields in the mechanical grades for the various log position classes individually and for all logs together for compartment 79

LPC	No. of logs	Machine grade percentage yield					
		F11	F8	F7	F5	F4	Reject
1	10	17.6	16.6	17.2	34.1	13.1	1.5
2	10	7.5	34.4	12.7	35.7	9.8	0
3	10	6.2	25.6	25.8	34.5	6.4	1.6
4	10	8.1	35.8	25.2	22.1	6.6	2.2
5	10	0	23.8	52.7	12.0	6.8	4.8
6	3	0	3.1	33.5	33.5	21.5	8.4
All	53	10.1	26.4	21.2	31.4	9.5	1.4

TABLE 4.27

Percentage yields in the visual grades (scantling only) for the various log position classes individually and for all logs together for compartment 7

LPC	No. of logs	Visual grade percentage yield					
		F11	F8	F7	F5	F5HI	Reject
1	10	27.8	27.0	11.3	12.2	8.8	12.9
2	10	14.5	24.7	21.2	24.3	7.4	7.9
3	10	3.4	19.1	13.1	29.2	7.6	27.7
4	10	1.0	11.6	14.2	29.3	22.3	21.6
5	10	2.3	8.2	14.6	20.3	41.2	13.5
6	3	0	8.4	8.4	8.4	41.9	33.0
All	53	13.9	21.4	14.9	21.8	12.2	15.8



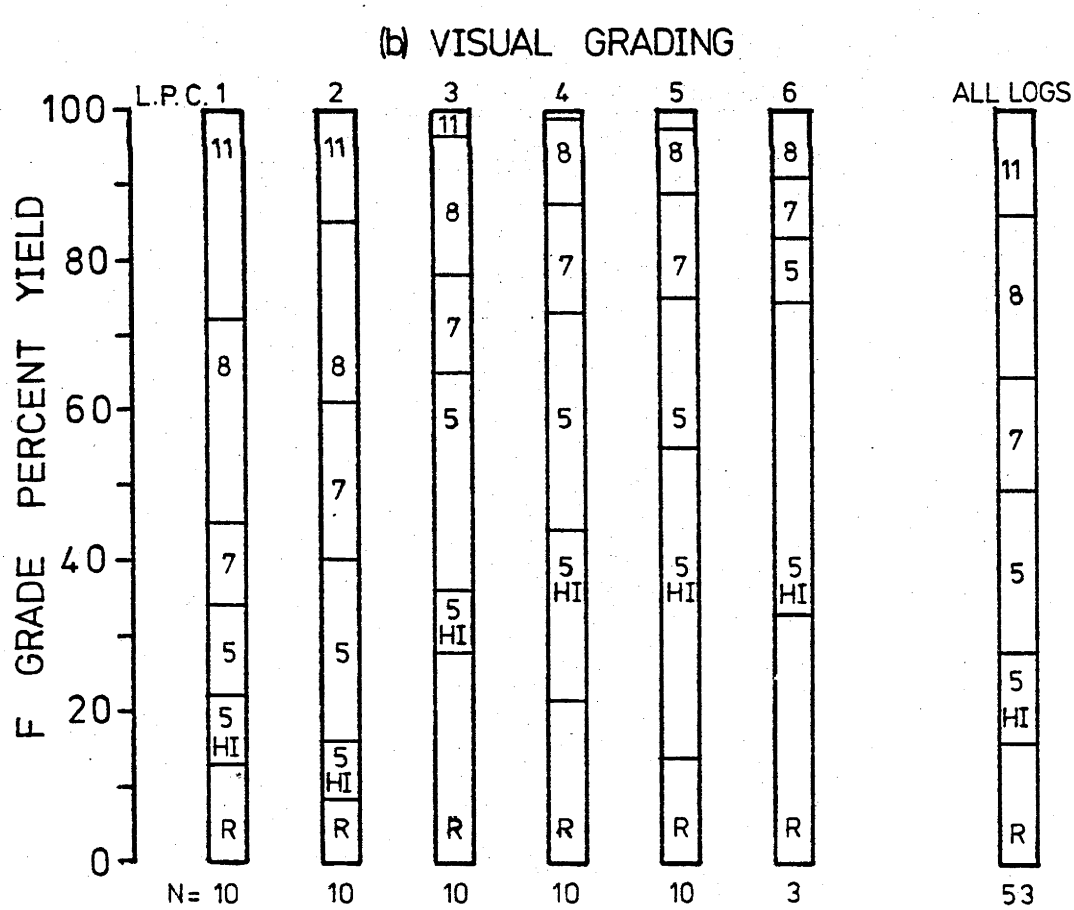


FIGURE 4.10. Mechanical and visual grade yields for the various log position classes and overall yields for the 10 trees from compartment 79.

the chord between two branches within the same whorl and in the upper (fourth and fifth) logs, branch diameter was well above the maximum knot size recorded in the sawn timber, "the logs being too small in diameter to have contained the maximum branch size".

Visual grading, however, produced decreasing percentage yields in the F7+ grades with increasing LPC, together with increasing percentage yields in the F5 heart-in grade (F5HI) due to the larger percentage of juvenile wood in the smaller logs. There was no regular pattern in the reject visual grade yield as log position changed. There was, however, a sharp increase in reject from 7.9% in the second logs to 27.7% in the third logs. This is probably because of the much larger branch sizes in the third logs; an effect enhanced perhaps by the downgrading of heart-in pieces because of large knots. The former could result from the thinning regime adopted (see section 4.2.2). The latter is suggested as an explanation for the low percentage of F5HI in LPC3, ie. 7.6% compared with 22.3% in LPC4. The reject yields decreased for the fourth and fifth logs possibly for the reasons given above *(Fenton, et. al., 1971)*. Machine grading did not however produce high reject or F4 yields for the third logs, indicating that the increase in branch size noted did not reduce stiffness to a critical level.

Visual grading also produced decreasing yields of F11 and F8 grades with increasing LPC (Table 4.27) as would be expected because of decreasing piece size, increasing branch size, and a decreasing percentage of mature wood.

Machine grading produced little reject grade except for LPC5 and 6 (4.8% and 8.4% respectively). F4 yields were fairly constant irrespective of LPC (excluding LPC6) but were highest for LPC1 and 2 at 13.1% and 9.8% respectively. This, perhaps, demonstrates the slight inferiority of the corewood in the first and second logs compared to the higher logs, possibly due to initial spacing effects observed by *Persson (1975)*.

Overall the MSG yields were superior to the VG yields due to a greater F7+ percentage (58% for MSG and 50% for VG) and a lower reject percentage (1.4% for MSG nad 15.8% for VG).

Anticipated F11 and F8 yields for machine grading would normally be higher than was actually found for the first and second logs of cpt. 79. An inspection of the yield results (Appendix E) showed that the widest scantling pieces (ie. 250 mm and 300 mm) were generally mechanically graded at F5 or F7 whereas the visual grading was usually two or three grades higher for the same pieces. These pieces were sawn from mature outer sections of large logs and would normally be of high machine and visual grade.

Most of the 250 and 300 mm wide scantlings were produced from logs with sedub greater than about 450 mm, i.e. from the first and second logs of the four largest trees of cpt. 79 (ie. logs 1/1, 1/2, 2/1, 2/2, 9/1, 9/2, 10/1, 10/2).

The reason for the lower than expected machine grades for these sizes is not known. The machine grading of the 150 mm and 200 mm sizes carried out at the Forestry Commission of NSW showed that the MSG yields were superior to the VG yields, an expected result when dealing with mature logs.

The mechanical grade yields in 250 and 300 mm wide scantlings for the logs in question are probably too conservative for grades above F5 and the boundaries between the F11 - F8, F8 - F7 and F7 - F5 grades depicted in Figure 4.10 should be lower than shown. The visual grade yields in the higher grades would be artifically increased by the failure to resaw the 250 mm and 300 mm sizes since the probability of finding a large enough defect on these sizes to downgrade them would be less than if they were resawn into narrower sections. (Visual grading rules relate permissible size of defect for any particular grade to the size of the piece.)

To illustrate the different grade recoveries for the large and small butt logs from cpt. 79 the MSG and VG yields for the two groups are given in Table 4.28. This shows the poor MSG yields obtained from the four largest logs when compared to the smaller logs. For example the large logs produced 9.9% F11 and the small logs 28.4%. Visual grading showed the expected high F11 yield (41%) from the large logs when compared to the smaller (9%). Table 4.28 also illustrates the higher yields of Reject and F4 grades for the smaller logs from MSG, and correspondingly higher yields for Reject and F5HI for the smaller logs from VG. This is the expected result since the average diameter of the first 12 rings (probable extent of the juvenile core) remained constant at about 200 mm irrespective of log size (determined from photographs of the small ends of each butt log), thus resulting in the smaller logs having a larger percentage of juvenile wood per unit volume than the larger logs.

The grade yields for the first and second logs with sedub <450 mm are given in Table 4.29 and Figure 4.11 for both MSG and VG. When compared to the original yields in Tables 4.26 and 4.27 the smaller logs produced larger MSG yields in the F11 and F8 grades than did the original 10 log group for both LPC1 and LPC2. They also produced lower F11 VG yields than did the original 10 log group for LPC1 and LPC2.

These results verify the predicted effect on yields of the apparent down-grading of the larger sizes by MSG and show that the F11 VG yields were increased by not resawing the wider sections.

Replacing the original yield results for the first and second logs in Figure 4.10 with the yields in Figure 4.11 gives a slightly different picture for the MSG yields. It indicates that the F7+ grade is highest for the second and fifth logs (around 75%) and lowest for the butt and third logs (around 60%). F11 yield was far higher in the butt (28%) than in any other logs (less than 10%). Other changes were minimal. The only significant change for the VG results was a decrease in F11 yield

TABLE 4.28

Percentage yields in the mechanical and visual grades for two butt log diameter classes from compartment 79

(a) Mechanical grading

sedub (mm)	No. of logs	Machine grade percentage yield					
		F11	F8	F7	F5	F4	Reject
> 450	4	9.9	15.9	20.4	43.4	9.6	0.8
< 450	6	28.4	17.5	12.6	20.9	18.1	2.4

(b) Visual grading

sedub (mm)	No. of logs	Visual grade percentage yield					
		F11	F8	F7	F5	F5HI	Reject
> 450	4	40.7	25.3	10.5	7.0	5.9	10.7
< 450	6	9.4	29.6	12.5	19.6	13.0	16.0

TABLE 4.29

Percentage yields in the mechanical and visual grades for the butt and second logs from compartment 79 excluding the logs with sedub greater than 450 mm for butt logs and 400 mm for second logs

(a) Mechanical grading

LPC	No. of logs	Machine grade percentage yield					
		F11	F8	F7	F5	F4	Reject
1	6	28.4	17.5	12.6	20.9	18.1	2.4
2	6	7.9	49.6	17.5	20.6	4.4	0

(b) Visual grading

LPC	No. of logs	Visual grade percentage yield					
		F11	F8	F7	F5	F5HI	Reject
1	6	9.4	29.6	12.5	19.6	13.0	16.0
2	6	11.9	26.9	22.6	16.7	13.1	8.8

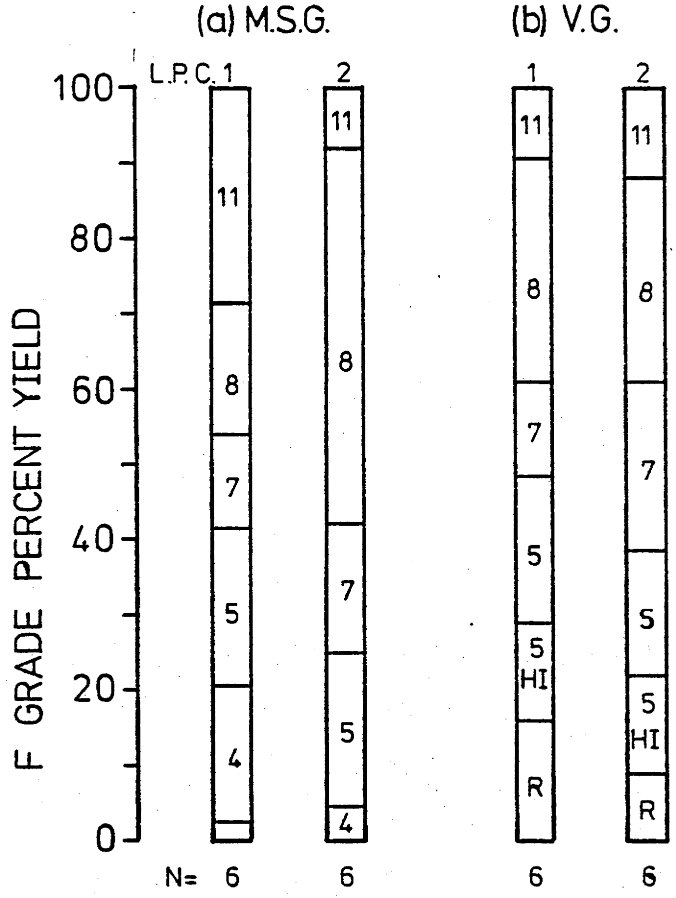


FIGURE 4.11. Percentage yields in the (a) mechanical and (b) visual grades for log position classes 1 and 2 of compartment 79 excluding logs with S.E.D.U.B. > 450 mm for LPC 1 and S.E.D.U.B. > 400 mm for LPC 2.

for both LPC1 (28% to 9%) and LPC 2 (15% to 12%).

4.5.2 *Compartments 104, 105 - 3 site qualities.*

Mechanical and visual grading yields for each log position class for the three site qualities are given in Table 4.30a and Figure 4.12 for MSG and Table 4.30b and Figure 4.13 for VG.

Machine grading resulted in less than 9% below F5 for all log positions and all site qualities. Generally the low SQ trees produced the largest percentage below F5 (except for the fourth LPC where only three logs were recovered), probably due to a slightly larger overall percentage of juvenile timber in the smaller trees.

This deduction is strengthened by the visual grading results (Figure 4.14) which show that the low SQ trees produced a larger percentage of F5HI + reject than did the higher site qualities.

Machine grading produced a yield of about 80% in the F7 and higher grades (F7+) for the butt and second logs for all three site qualities. Yield of F7+ grades was generally less for the higher log positions being about 65% for LPC3 and 35% for LPC (after exclusion of the group with only three logs).

For visual grading the yield of F7+ for the high and medium site qualities was about 55% for the butt logs and about 65% for the second logs. The butt and second logs from the low site quality area produced about 48% of F7+. Yields of F7+ were less for the higher log positions being about 30% for LPC3 and 20% for LPC 4 (excluding the groups with three logs).

There were no great differences between yields of F8+ and F11 grades for the three site qualities for the first two logs whatever the grading method. MSG produced about 28% F11 and about 60% F8+ for both the butt and second logs and VG produced about 15%, F11 and 35%, F8+ for the butt logs and about 5%, F11 and 35%, F8+ for the second

TABLE 4.30a

Percentage yields in the mechanical grades for the various log position classes for the three site quality (SQ) areas of compartments 104, 105

SQ	LPC	No. of logs	Machine grade percentage yield					
			F11	F8	F7	F5	F4	Reject
1	1	10	19.0	39.3	22.7	15.7	3.4	0
	2	10	27.6	37.4	13.0	19.2	2.7	0
	3	3	16.5	50.3	16.7	13.3	3.3	0
	4	4	0	19.5	8.6	63.9	7.9	0
	5	1	0	0	50.0	50.0	0	0
2	1	6	29.5	33.6	13.9	18.8	4.2	0
	2	8	29.7	27.1	20.7	19.8	2.7	0
	3	4	4.7	49.7	12.1	33.5	0	0
	4	4	0	25.9	18.4	49.4	6.3	0
	5	1	0	0	68.1	31.9	0	0
3	1	9	36.6	29.4	12.5	15.2	5.1	1.3
	2	6	26.0	28.1	23.5	13.9	6.4	2.1
	3	4	4.0	27.4	27.1	32.8	8.6	0
	4	3	0	20.5	39.1	40.4	0	0

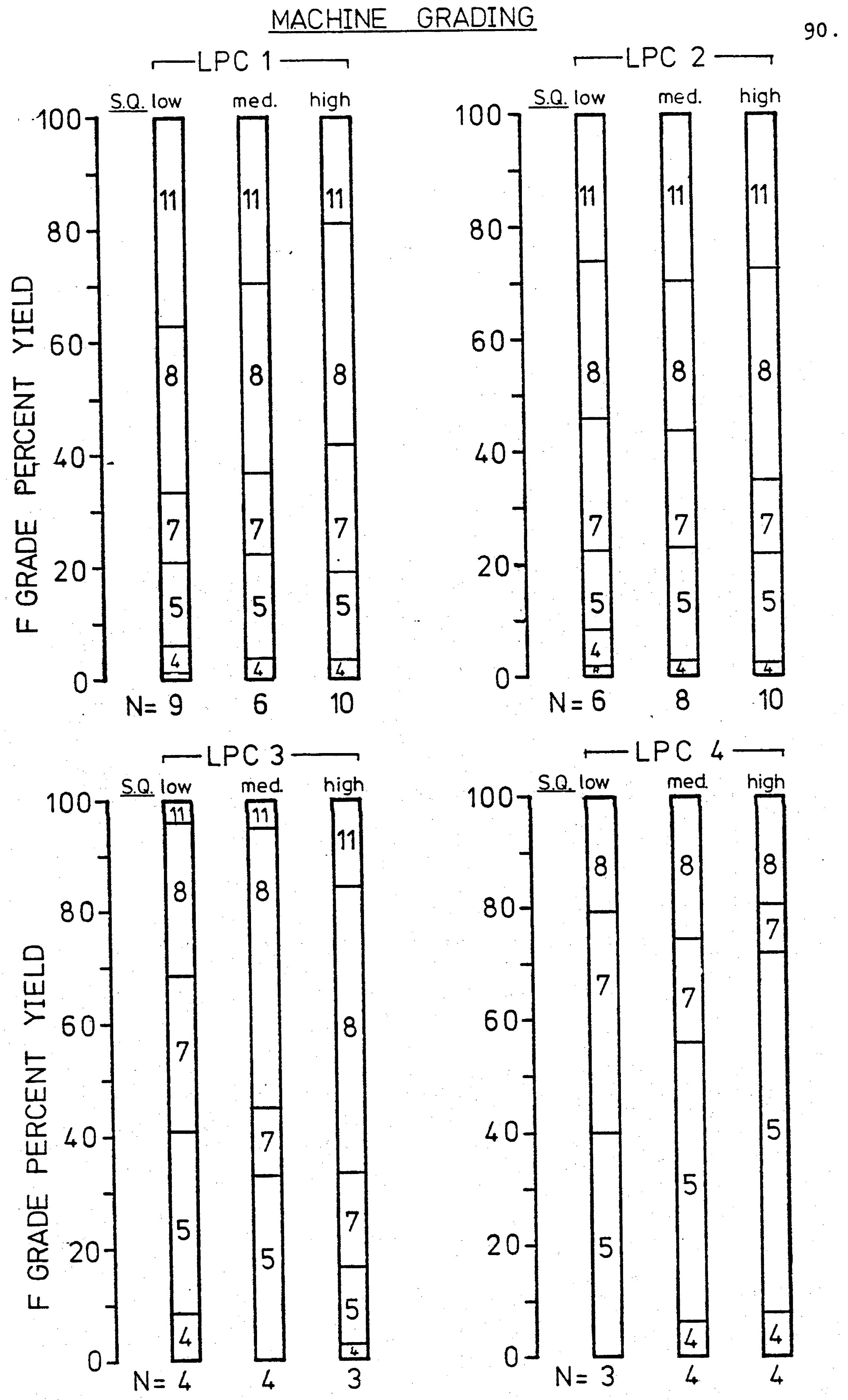


FIGURE 4.12. Mechanical stress grading yields for the various log position classes (LPC) for the three site qualities (SQ) of compartments 104 and 105.

TABLE 4.30b

Percentage yields in the visual grades for the various log position classes for the three site quality areas of cpts. 104,105

SQ	LPC	No. of logs	Visual grade percentage yield					
			F11	F8	F7	F5	F5HI	Reject
1	1	10	12.6	26.6	17.4	18.6	14.0	10.9
	2	10	8.4	34.9	21.5	22.4	9.6	3.1
	3	3	5.5	32.1	16.1	29.7	6.6	10.0
	4	4	5.0	8.6	5.8	19.9	25.9	34.7
	5	1	0	0	0	0	100	0
2	1	6	11.9	18.5	23.3	36.4	2.9	9.9
	2	8	2.9	27.0	33.7	16.5	16.0	4.0
	3	4	0	21.2	3.1	50.3	2.9	22.6
	4	4	0	19.3	0	31.0	31.0	18.8
	5	1	0	0	0	34.0	31.9	34.0
3	1	9	16.8	21.4	8.8	19.5	22.3	11.2
	2	6	6.0	30.4	14.4	13.1	10.7	25.5
	3	4	12.3	14.8	14.5	16.9	29.9	11.5
	4	3	0	10.3	0	10.3	69.2	10.3

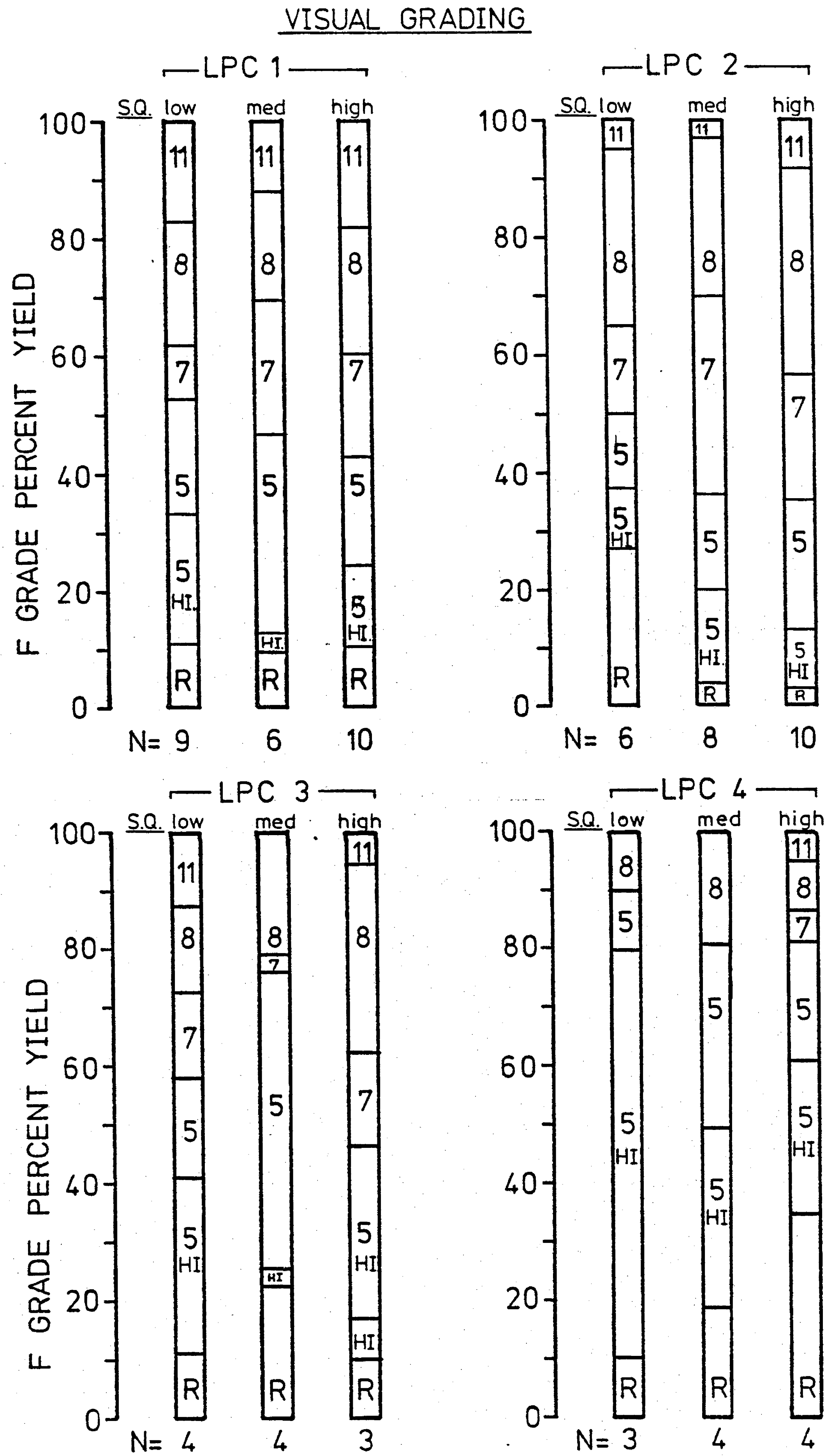


FIGURE 4.13. Visual stress grading yields for the various log position classes (LPC) for the three site qualities (SQ) of compartments 104 and 105.

logs. Machine grading yields, however, showed some decrease in F11 yield as site quality increased for the butt logs, possibly because branch size increases as site quality increases. This, however, was not reflected in the second logs where F11 yield was constant at about 28%.

Visual grading produced about 10% reject for site qualities 1 and 2 for the butt logs and about 4% for the second logs for all site qualities. In site quality 3 the butt logs produced a high 26% reject. The reason for this is unknown. LPC 3 and 4 produced between 10% and 30% reject, increasing with increasing site quality. However, the number of logs in each group was small.

In summary, site quality did not appear to affect machine grade yields significantly except for perhaps the yield of F11 from the butt logs where it decreased with increasing site quality, and for the small effect of the higher percentage of juvenile wood in the smaller logs which increased the yield of grades below F5 from the lowest site quality.

Visual grading yields appeared to be affected by site quality in as much as the percentage of juvenile or "heart-in" wood was affected by log size. As site quality decreases log size decreases and the "heart-in" yield increases. The yield of F7+ was smallest for the lowest site quality. Grade yields were generally superior from MSG than from VG. MSG produced very low percentages of reject and F4 grade and a high percentage of F11, F8 and F7 grades for the two bottom logs of F8 for the third log position class. The yields of these grades using visual means were lower for all log positions.

Apparent average whole tree grade yields were determined using the first four log position classes. These are given in Table 4.31. Because of unequal representation in each log position class these yields may not be representative of the stands sampled. They do, however, demonstrate the insignificant differences in yields between the three site qualities for MSG and, for VG the high yields of low grade material from the low site quality area.

TABLE 4.31

Apparent whole tree percentage yields in the mechanical and visual grades for the three site quality areas of cpts. 104, 105

(a) Machine grade percentage yield

SQ	*F11*	*F8*	*F7*	*F5*	*F4*	*Reject*
1	18.8	39.4	17.0	21.2	3.7	0.0
2	20.0	34.8	15.9	26.3	3.0	0.0
3	21.3	27.4	22.5	22.0	5.6	1.1

(b) Visual grade percentage yield

SQ	*F11*	*F8*	*F7*	*F5*	*F5HI*	*Reject*
1	8.8	28.3	17.0	22.6	12.2	11.0
2	5.0	21.4	18.3	33.2	9.9	12.3
3	10.4	21.2	10.7	15.8	26.5	15.4

4.5.3 *Compartment 139 - 4 initial spacings.*

Mechanical and visual grade yields for each log position class for the four initial spacings are given in Tables 4.32a and 4.32b and Figures 4.14, 4.15 and 4.16. Only small numbers of butt logs were recovered from the 3.05 m x 3.05 m and 3.66 m x 3.66 m spacings and no conclusions could be drawn about them.

This compartment produced a significant amount of timber with excessive twist which is reflected in the yield results. An examination of the piece grade results (Appendix E) showed that cpt. 139

TABLE 4.32a

Percentage yields in the mechanical grades for the various log position classes for the four spacings in compartment 139

Square spacing	*LPC*	*No. of logs*	*Machine grade percentage yield*					
			F11	*F8*	*F7*	*F5*	*F4*	*Reject*
1.83 m	1	6	10.6	35.6	16.9	26.4	0	10.6
	2	5	0	41.3	0	0	0	58.7
	3	4	0	0	31.1	15.6	0	53.3
	4	2	0	0	0	100	0	0
2.44 m	1	4	24.4	13.3	7.3	32.5	14.8	7.7
	2	5	9.1	22.9	38.9	29.1	0	0
	3	4	0	25.2	37.2	15.0	7.7	15.0
	4	3	0	0	34.1	47.7	0	18.2
3.05 m	1	2	15.6	36.2	8.3	15.0	24.9	0
	2	6	5.6	27.0	27.8	27.5	6.0	6
	3	5	0	14.3	35.7	42.8	7.2	0
	4	1	0	0	50.0	50.0	0	0
	5	1	0	0	50.0	0	0	50
3.66 m	1	3	20.7	23.7	19.0	8.4	23.4	4.8
	2	4	6.9	19.5	18.8	34.4	13.6	6.8
	3	6	0	42.8	21.4	21.7	6.8	7.3
	4	2	0	38.2	19.7	42.1	0	0
	5	2	0	0	0	80.0	0	20.0

TABLE 4.32b

Percentage yields in the visual grades for the various log position classes for the four spacings in compartment 139

Square spacing	LPC	No. of logs	F11	Visual grade percentage yields F8	F7	F5	F5HI	Reject
1.83 m	1	6	0	25.7	25.4	5.6	32.0	11.3
	2	5	0	0	16.4	16.9	7.9	58.7
	3	4	0	15.6	0	0	13.3	71.1
	4	2	0	48.3	0	0	51.7	0
2.44 m	1	4	0	11.1	28.2	16.8	36.3	7.7
	2	5	8	13.6	13.6	13.6	44.2	6.9
	3	4	0	7.2	6.8	0	37.6	48.4
	4	3	0	0	0	0	47.7	52.3
3.05 m	1	2	7.8	8.3	16.9	35.4	31.6	0
	2	6	2.5	9.3	9.1	23.9	18.6	36.5
	3	5	0	9.5	4.8	23.8	45.2	16.7
	4	1	0	0	0	50.0	50.0	0
	5	1	0	0	0	0	50.0	50.0
3.66 m	1	3	0	36.9	12.1	18.6	27.7	4.8
	2	4	6.8	4.2	20.7	21.0	30.3	17.0
	3	6	0	12.5	17.2	18.0	29.0	23.3
	4	2	0	0	17.4	17.4	32.6	32.6
	5	2	0	0	0	0	80.0	20.0

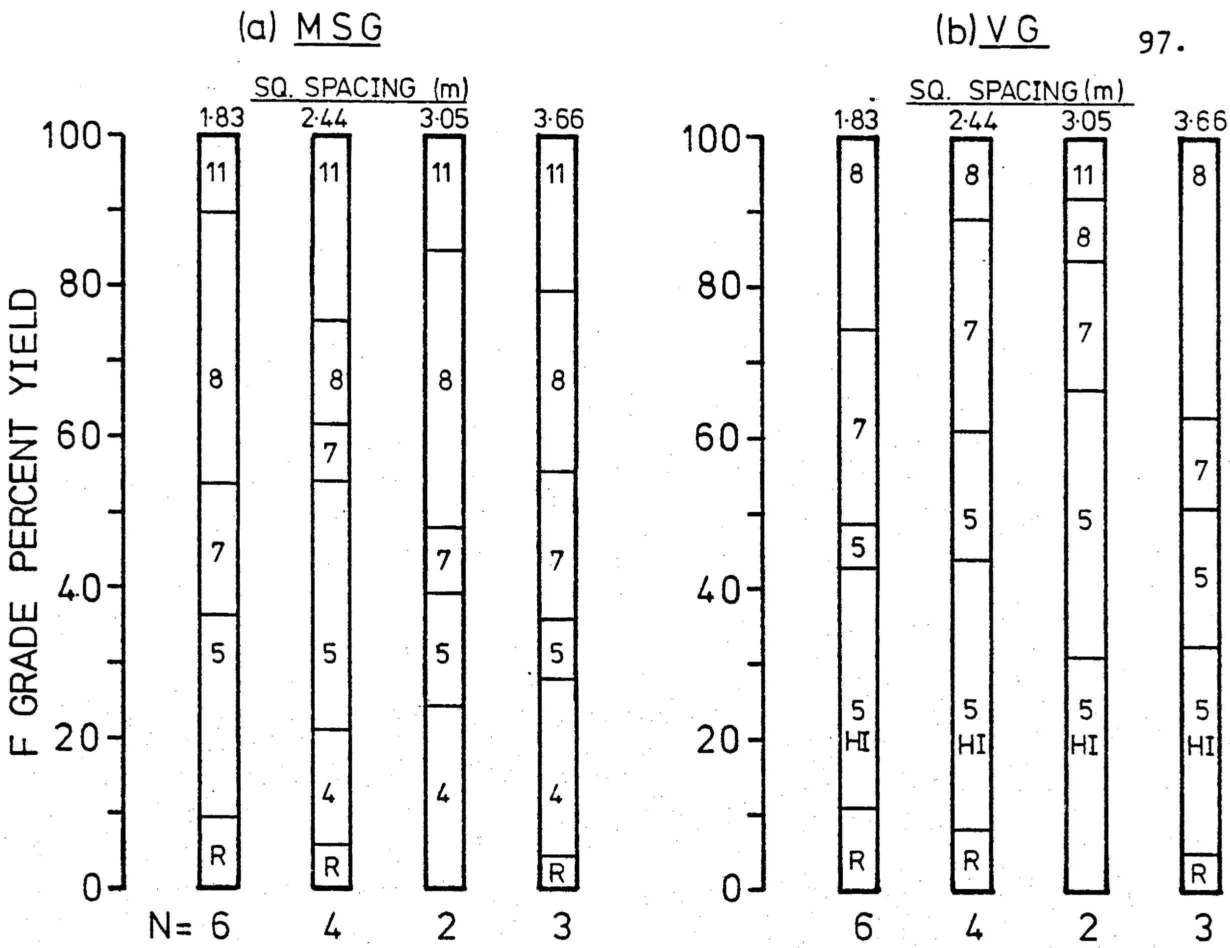


FIGURE 4.14 Mechanical and visual grade yields for the butt logs (LPC11) sampled from the four spacings in compartment 139.

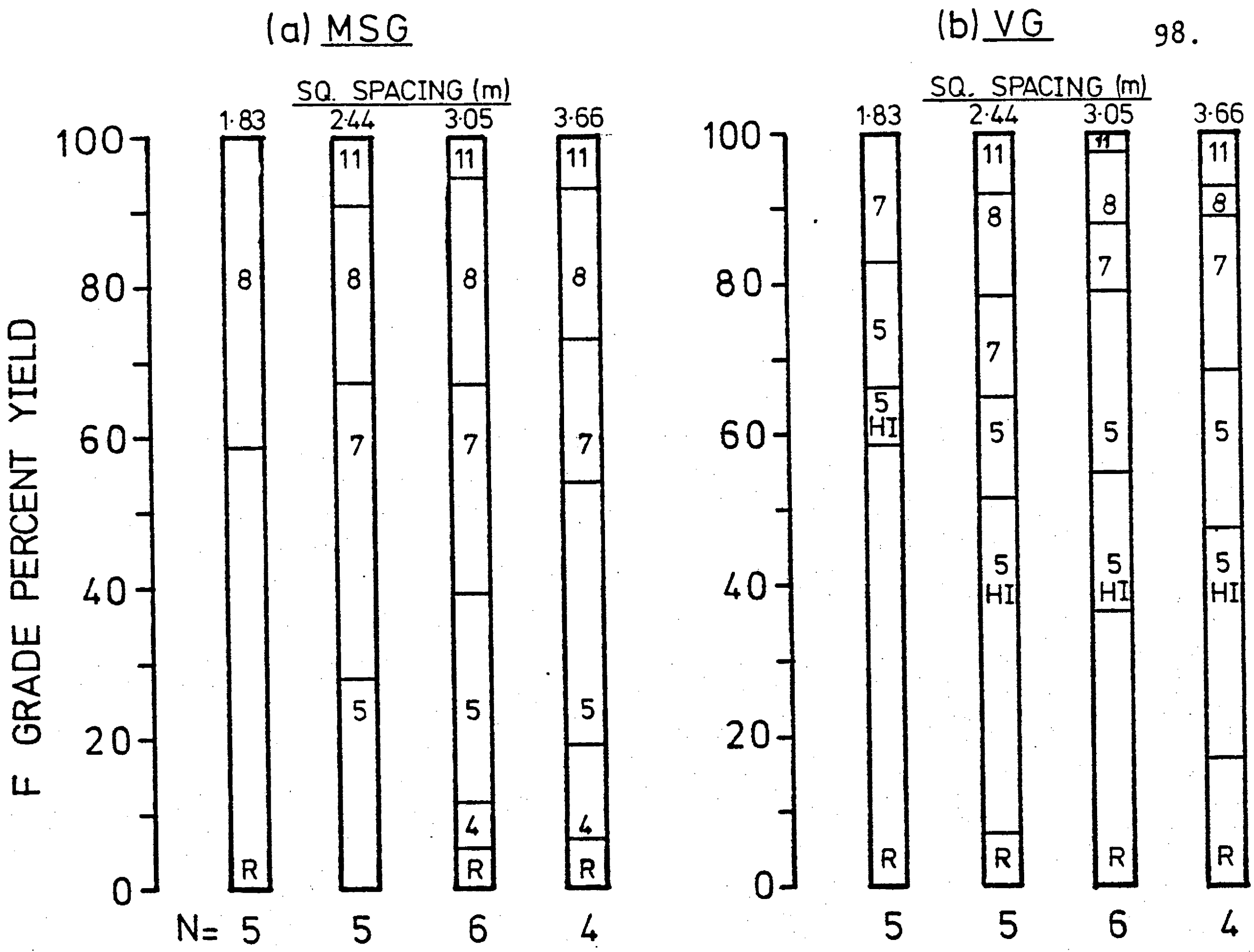


FIGURE 4.15. Mechanical and visual grade yields for the second logs (LPC 2) sampled from the four spacings in compartment 139.

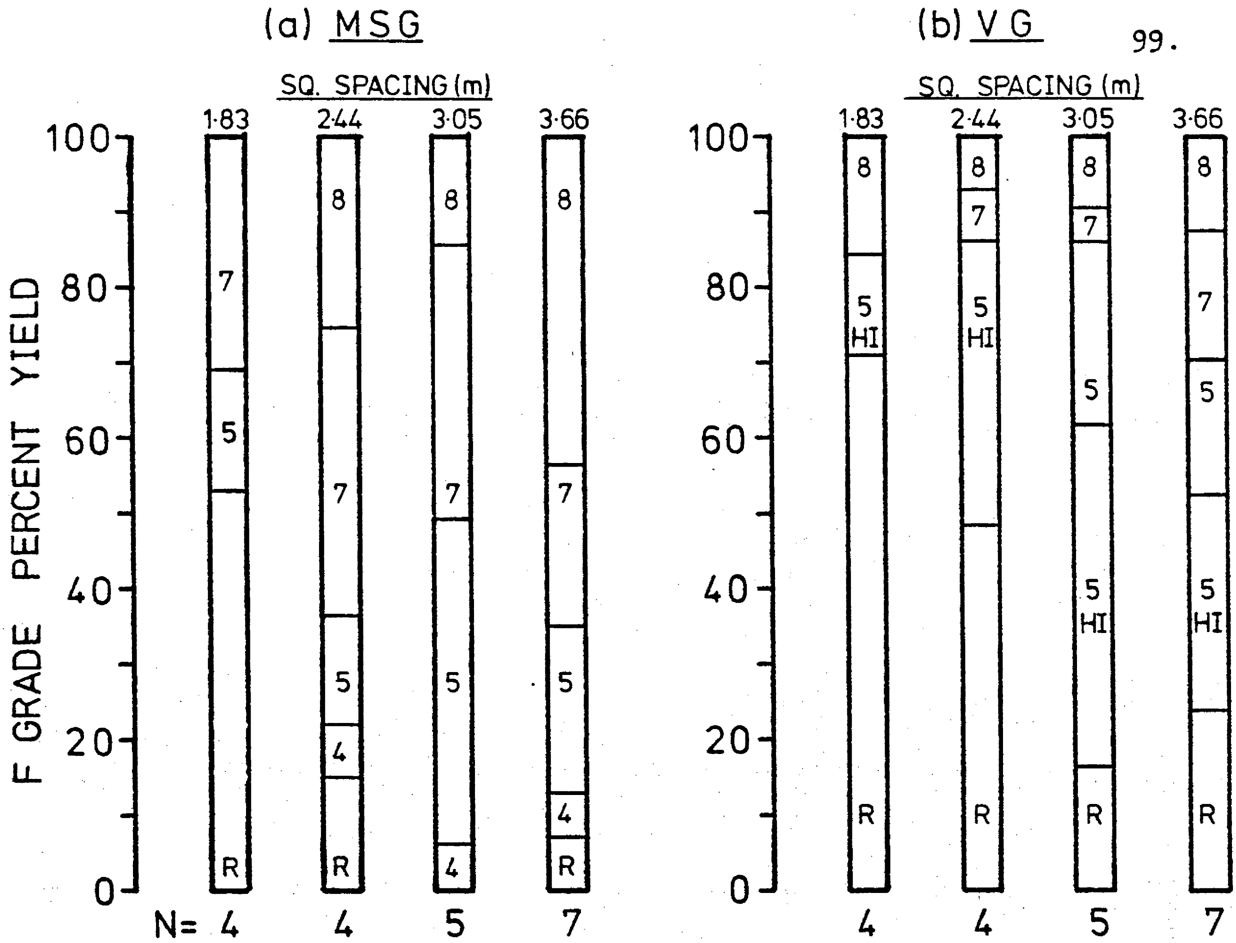


FIGURE 4.16. Mechanical and visual grade yields for the third logs (LPC 3) sampled from the four spacings in compartment 139.

produced more highly twisted timber than any of the others. It is suspected this compartment was planted with experimental cuttings left over from the work of *M.R. Jacobs (1939)* and highly twisted wood came from trees of the same clone *(A.G. Brown pers. comm., 1980)*. Generally any reject over 5% in the MSG results was due to excessive twist. Twist had the most effect on grade yields in the second and third log positions of the 1.83 m x 1.83 m spacing where it was the cause of reject for all the MSG and most of the VG yield.

Taking into consideration the problem of twist there appear to be some trends in the grade yields for the various spacings. For example for the first and second logs MSG generally produced decreasing yields of F5+ as spacing increased, and for the second logs decreasing F7+ yields. All pieces graded as reject for LPC 2 and LPC 3 at the 1.83 m spacing graded as F5 when twist was disregarded. For the third logs spacing appeared to have little consistent effect on machine grade yields ignoring the effect of twist.

As spacing increases branch size increases and timber grade would be expected to decrease. *Persson's (1975)* work on Scots pine *(P. sylvestris)* indicated that, as spacing increased, the lower logs produced increasingly inferior timber, a result mirrored to some extent here.

Visual grading produced roughly similar grade yields for the four spacings for the butt logs if the reject arising from the twisted pieces for the 1.83 m and 2.44 m spacings is ignored. The second and third logs produced confusing results with high percentages of reject in some classes. (All pieces graded as reject for LPC 2 at the 1.83 m spacing would have been graded as F5HI if twist had been disregarded. If this was done for LPC 3 as well, only 18% of the product from this log position would have been rejected and the remainder graded as F5HI.) These logs, however, generally produced decreasing yields of F5HI as spacing increased. This is to be expected because of the increasing size of the logs in any one log position class as spacing increases. Also as spacing increased the yield of F5+ grades appeared to increase, e.g. for the second logs the 1.83 m spacing produced 33% and the 3.66 m, 53%. For the third logs the 1.83 m spacing produced 16% F5+ and the 3.66 m 48%.

In general the closer spacings produced the lowest yields of low grade wood, at least for the first and second logs. The wider spacings however produced superior yields for the third logs. These conclusions are based on fairly small sample sizes and for this reason should be treated with some caution.

Apparent average whole tree grade yields were determined using the first three position classes. These are given in Table 4.33. Because of unequal representation and a small sample size in each log position class these yields may not be representative of the stands sampled. For these reasons and the complication of the highly twisted timber no conclusions are drawn about the effect of spacing on whole tree grade yields.

4.5.4 *Compartment 149.*

Mechanical and visual grade yields for the first three log position classes are given in Tables 4.34 and 4.35 and Figure 4.17.

Large percentages of reject were recovered from all three LPC's for both grading methods. It varied from 20% to 36% for the MSG and from 11% to 33% for VG. MSG also produced fairly large yields of F4 so that 40 - 50% of the volume was graded at less than F5. This result is probably due to the large percentage of low density, low stiffness juvenile wood in the small, young logs. The age of the stand (24 years) plus the fact that it was unthinned would have allowed the juvenile core to be of great significance in limiting the yields of the higher grades

TABLE 4.33

Apparent whole tree percentage yields in the mechanical and visual grades for the four spacings in compartment 139

(a) Machine grade percentage yield

Square spacing	*F11*	*F8*	*F7*	*F5*	*F4*	*Reject*
1.83 m	4.6	30.2	13.9	14.9	0	36.4*
2.44 m	12.6	16.8	25.0	29.8	7.7	8.2
3.05 m	7.9	27.1	22.4	26.8	13.6	2.1
3.66 m	10.5	25.7	19.8	22.0	15.8	6.3

(b) Visual grade percentage yield

Square spacing	*F11*	*F8*	*F7*	*F5*	*F5HI*	*Reject*
1.83 m	0.0	14.6	17.0	8.4	19.7	40.4*
2.44 m	2.2	9.7	16.7	10.6	40.0	20.7
3.05 m	3.9	9.0	10.9	28.3	30.8	17.1
3.66 m	2.7	17.2	16.9	19.6	29.4	14.2

* These high reject yields were due to excessive twist in the recovered timber and not to a spacing effect. Most timber graded as reject from this spacing would have been graded F7 and F5 using MSG and as F5HI using VG if twist was neglected.

TABLE 4.34a

Percentage yields in the mechanical grades for the various log position classes of compartment 149

LPC	No. of logs	Machine grade percentage yield					
		F11	F8	F7	F5	F4	Reject
1	8	0	10.5	15.8	25.1	12.7	35.9
2	3	0	0	14.1	32.9	34.1	18.8
3	7	0	5.3	15.9	42.2	15.9	20.6
4	2	0	0	23.0	50.8	0	26.2

TABLE 4.34b

Percentage yields in the visual grades for the various log position classes of compartment 149

LPC	No. of logs	Visual grade percentage yield					
		F11	F8	F7	F5	F5HI	Reject
1	8	5.3	7.9	13.7	20.4	27.9	25.0
2	3	0	0	0	18.8	48.2	32.9
3	7	0	5.3	5.3	15.9	63.1	10.3
4	2	0	0	0	0	100	0

TABLE 4.35

Apparent whole tree percentage yields in the mechanical and visual grades for compartment 149

(a) Machine grade percentage yields

F11	F8	F7	F5	F4	Reject
0.0	6.9	15.5	31.8	17.9	27.9

(b) Visual grade percentage yields

F11	F8	F7	F5	F5HI	Reject
2.7	5.6	8.4	18.7	42.5	22.1

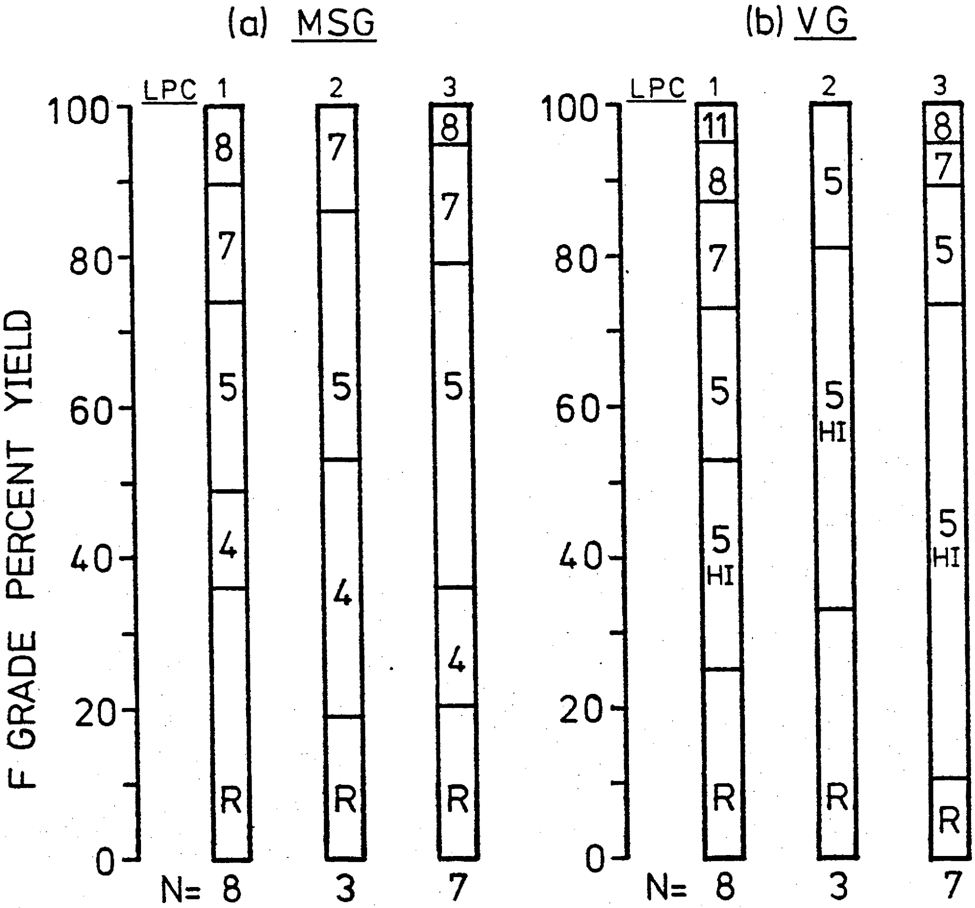


FIGURE 4.17. Mechanical and visual grade yields for the various log position classes for trees from compartment 149.

(less than 25% of F7+ grade). This is borne out by the visual grading results which produced 28%, 48% and 63% in the F5HI grade for the first, second and third logs respectively.

Machine grading produced a slightly inferior grade distribution for the butt logs because of a large reject percentage. This large reject percentage was also reflected in the visual grading. An inspection of the grade recovery data (Appendix E) showed that many of the pieces rejected by one method were graded differently by the other method. Visual grading relies on defect size and type and MSG relies on measured stiffness over a short span for grade determination so there must be differences in grade results between the two methods.

Apparent average whole tree grade recoveries were determined using the first three position classes. These are given in Table 4.35. Because of unequal representation in each log position class these yields may not be representative of the sampled stand. They do however demonstrate the overall differences between the two grading systems in their yields below F5 grade, i.e. 46% for MSG and 22% for VG.

4.5.5 *Compartment 162a.*

Mechanical and visual grading yields for the first three log position classes are given in Tables 4.36 and 4.37 and in Figure 4.18.

TABLE 4.36a

Percentage yields in the mechanical grades for the various log position classes of compartment 162a

LPC	*No. of logs*	*Machine grade percentage yields*					
		F11	*F8*	*F7*	*F5*	*F4*	*Reject*
1	5	0	4.3	5.0	36.8	24.0	29.8
2	5	0	0	35.1	36.8	28.1	0
3	5	0	0	25.0	75.0	0	0

TABLE 4.36b

Percentage yields in the visual grades for the various log position classes of compartment 162a

LPC	No. of logs	Visual grade percentage yield					
		F11	F8	F7	F5	F5HI	Reject
1	5	0	9.3	0	12.4	54.7	23.6
2	5	0	0	7.6	8.8	74.3	9.4
3	5	0	0	0	0	100	0

TABLE 4.37

Apparent whole tree percentage yields in the mechanical and visual grades for compartment 162a

(a) Machine grade percentage yield

F11	F8	F7	F5	F4	Reject
0.0	2.2	18.0	41.8	22.3	15.6

(b) Visual grade percentage yield

F11	F8	F7	F5	F5HI	Reject
0.0	4.9	2.6	9.5	67.3	15.6

The butt logs produced large yields of reject for both grading systems; little reject was produced from the other logs. The large reject yield from machine grading was the result of low density corewood since the pieces rejected by machine grading graded F5HI visually and, must therefore have had fairly small defects. The problems of machine grading low density juvenile wood were investigated by *Anton (1979)* who found that 50% of scantlings produced from 13 year old radiata pine trees were rejected even though 95% actually met the strength requirements for F5.

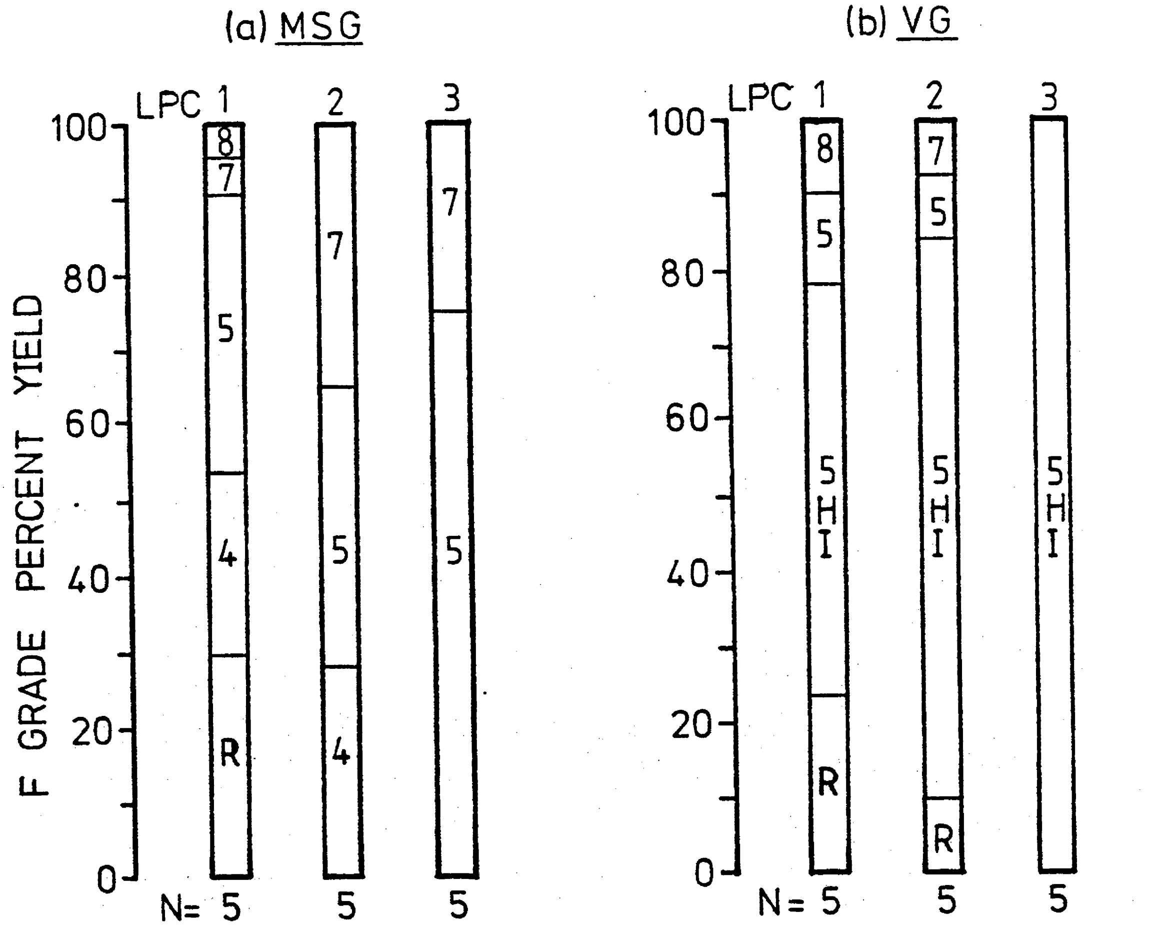


FIGURE 4.18. Mechanical and visual grade yields for the three log position classes sampled from compartment 162a.

Interestingly the pieces rejected by visual grading in this study were graded F5 or F4 by MSG indicating that the pieces with defects large enough to cause them to be rejected by visual grading had reasonably high stiffness and probably came from the outer sections of the log where density was highest.

Large percentages of F4 MSG grade were produced by the butt and second logs (24% and 28% respectively) again, probably because of low density core wood.

Visual grading produced increasing percentages of F5HI as log position increased because of decrease in log size.

Both grading methods produced a negligible yield of F8 and little F7. Visual grading produced little other than F5HI and reject.

Apparent average whole tree grade yields were determined using the first three log position classes. These are given in Table 4.37. Because of the small sample size these yields may not be representative of the sampled stand. However, they do indicate that MSG produces 38% below F5 and VG only 16%.

4.5.6 *Comparison between 3 age classes.*

Compartment 162a (19 years), 149 (23 years) and the 2.4 m spacing in cpt. 139 (30 years) were all unthinned, low pruned (except for cpt. 139) and had similar initial spacings (cpt. 149 was planted at 2.74 m x 2.74 m and the others at 2.44 m x 2.44 m). Grade yields using both mechanical grading and visual grading for the first three log position classes for the three age classes are given in Tables 4.32, 4.34 and 4.36 and are shown in Figure 4.19.

The butt log yields for both grading systems show there is a general increase in the yields of F7+ and F5+ grades and that there is a general decrease in the reject percentage as age increases. The fairly high reject yields for the 23 year old stand could have been an

FIGURE 4.19. Mechanical and visual grade yields for (a) butt, (b) second, (c) third and (d) apparent average whole tree grade yields for three different aged stands. Initial square spacings were 2.44 m, 2.74 m and 2.44 m for the 19, 23 and 30 year old stands respectively. Stands were unthinned and the 19 and 23 year old stands had been low pruned.

Fig 4·19 (a) LOG POSITION CLASS 1

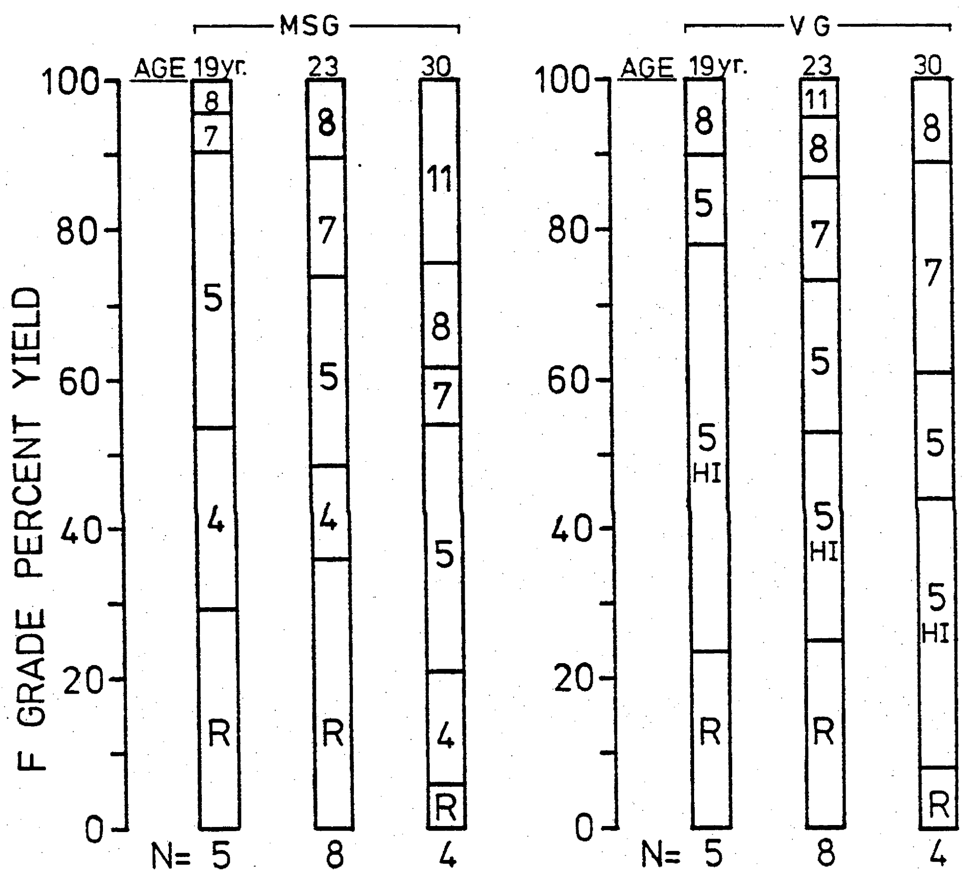


Fig 4·19 (b) LOG POSITION CLASS 2

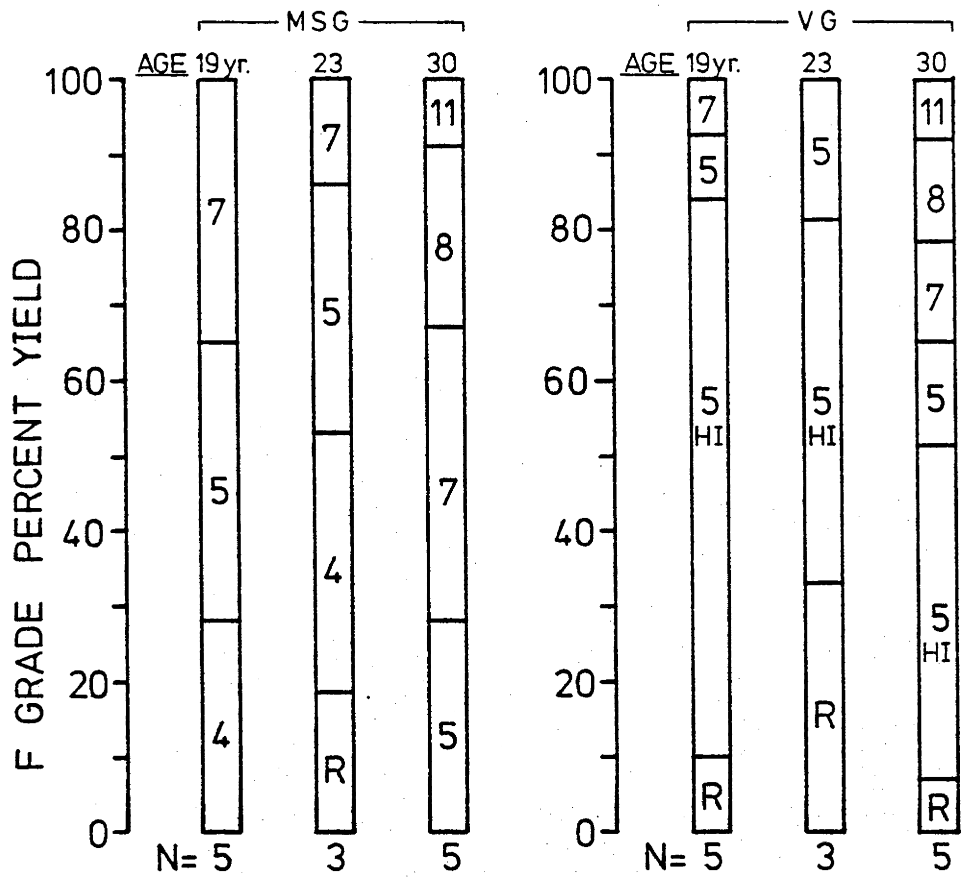


Fig 4·19 (c) LOG POSITION CLASS 3

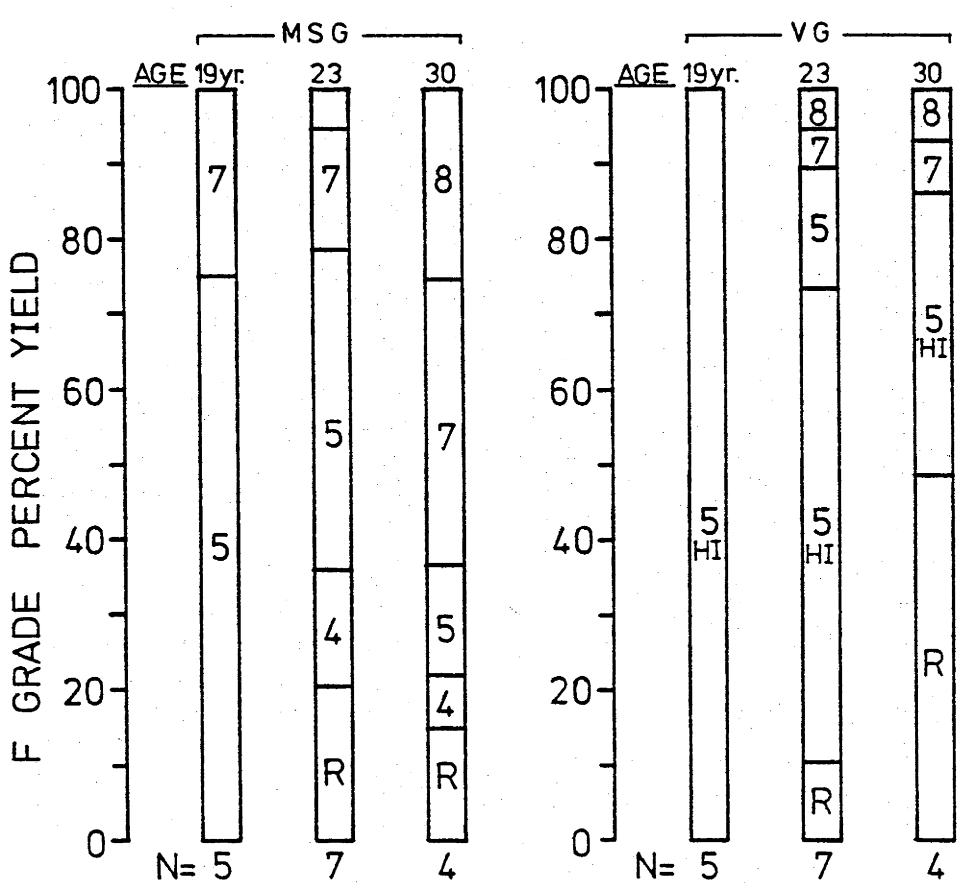
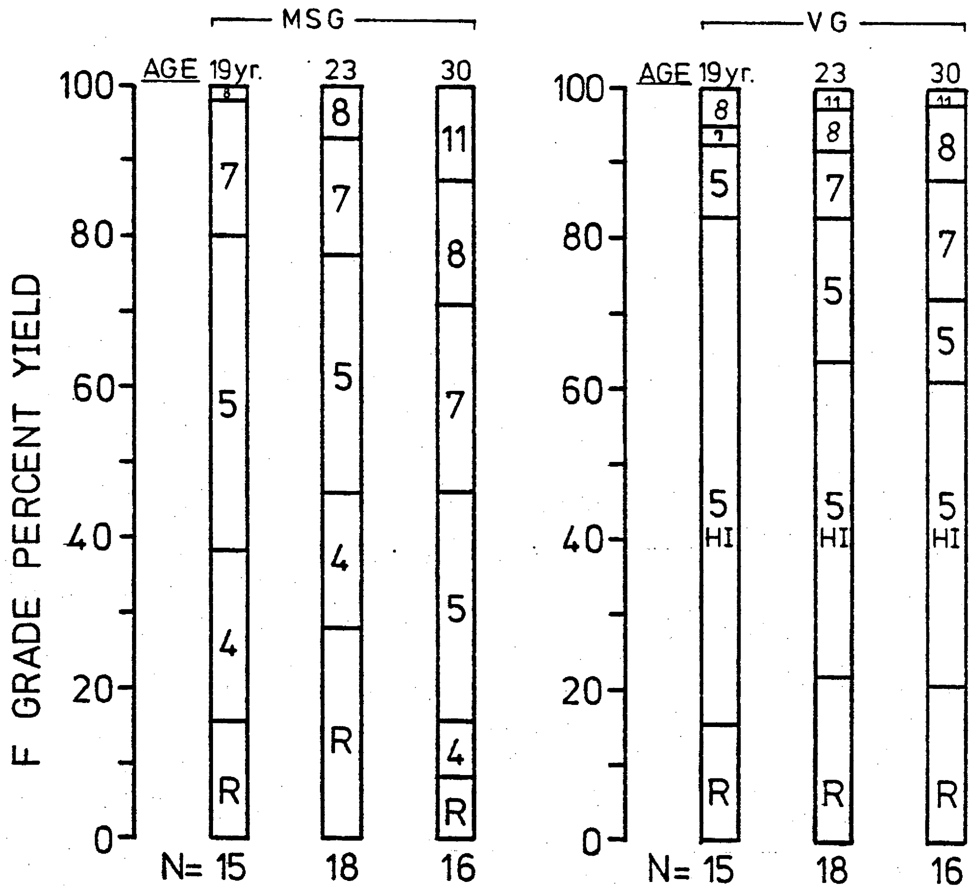


Fig 4·19(d) Apparent average whole tree grade yields.



effect of the slightly wider spacing caused by a greater diameter of core wood. A significant amount of F11 grade (24%) was produced only from the 30 year old butt logs using machine grading. Butt log yields in the F7 and higher grades were 9%, 26% and 46% for the 19, 23 and 30 year trees respectively for machine grading and 10%, 27% and 39% for visual grading. F5+ yields were 46%, 64% and 79% for MSG and 22%, 47% and 56% for visual grading (excluding F5HI).

The second logs showed the same trends (excluding the 23 year old group because of the small sample size). F7+ yields for MSG were 35% for the 19 year old trees and 62% for the 30 year. Corresponding figures for visual grading were 8% and 35%. F5+ yields were 72% and 100% for MSG and 16% and 49% for VG (not including F5HI).

The third logs produced a strange result for the 19 year old stand where all material recovered was graded as F5+ for MSG and F5HI for VG. This was possibly due to the small sample size. The 30 year age class produced larger F8, F7+ and F5+ yields than did the 23 year old trees using MSG and smaller yields of F4 and reject. Visual grading however produced a large reject yield for the 30 year age class; an unusual result considering the excellent yields from machine grading.

In summary the 30 year old trees produced significantly better grade recoveries than did the younger trees for both visual and machine grading. The third logs, however, produced some unusual results possibly because of the small quantity of timber recovered. F5HI yield decreased as tree age increased. This is the expected result because older trees would contain a higher percentage of mature timber than do younger trees under the same management regime. *Zobel, Ralston and Roberds (1965)* report "a good positive curvilinear relationship between age of stand and weighted specific gravity of whole trees" and "a strong relationship between age of stand and proportion of core wood to outer wood" for stands of loblolly pine in the United States.

Generally, as age increased machine grading produced superior grade results; although for the young trees with high percentages of juvenile wood visual grading produced far less volume in the grades below F5 and F5HI than did machine grading. F4 and reject can present marketing problems and are usually sold at prices well below that for F5. In section 4.5.5 it was mentioned that all the pieces rejected by MSG were graded F5HI by the visual rules and all pieces rejected by the visual rules were graded as F5 or F4 by machine. Some producers of radiata pine scantling are taking advantage of this situation by machine grading all the pieces and only marking those attaining an F5 or higher grade. The pieces below F5 (i.e. F4 and reject) are then visually graded and if they meet the requirements are stamped F5HI.

Apparent average whole tree grade yields for the three age classes are shown in Figure 4.19d. There were, however, unequal numbers of logs in each position class and as a result the yields are not necessarily representative of the age classes. They do, however, indicate that for MSG the 30 year old trees produce a far better yield pattern than the younger age classes. It is interesting to compare the grade yields from the two grading systems especially for the 30 year age class where MSG produced a more useful distribution of grades.

Booth (1969) reports a similar result from a machine grading yield study of stands of slash, patula and loblolly pines of various age classes from the north coast of New South Wales. The timber in the study was separated into F14, F11, F7 and F4 stress grades. The results presented by Booth for each species are summarised below:

Loblolly pine:

1. Age 18 - 20 years. yielded 9% F7, 29% F4 and 62% reject.
2. Age 26 years. yielded 6% F7, 28% F4 and 66% reject.

Slash pine:

1. Age 18 - 20 years. yielded 2% F7, 20% F4 and 78% reject.
2. Age 26 years. yielded 20% F7, 28% F4 and 52% reject.

Patula pine:

1. Age 13 years. yielded 9% F7, 36% F4 and 55% reject.
2. Age 18 years. yielded 7% F7, 43% F4 and 50% reject.
3. Age 23 years. yielded 26% F7, 52% F4 and 22% reject.
4. Age 37 years. yielded 77% F7, 19% F4 and 4% reject (including 4% F14 and 19% F11).

These results indicate that for slash pine and patula pine significantly better machine grade yields are achieved as the trees age. Grade yields were, however, similar for the two age classes in loblolly pine. No reason was given for this anomaly.

4.5.7 *Comparison between logs with small branches and logs with large branches.*

Logs from cpts. 79, 104 and 105 were separated on the basis of maximum branch size (BSMAX) and grade yields were calculated for two BSMAX groups for the butt and second logs. The butt logs were divided into two groups one group with BSMAX >32 mm and the other with BSMAX ≤32 mm, for the second logs 40 mm was the comparable figure.

These branch sizes were chosen because they gave approximately equal numbers in each group. Results are given in Table 4.38 and in Figure 4.20.

For both log positions the group with the larger branches produced smaller percentages of F11, F8 and F7 and largerpercentages of F5, F4 and reject by MSG than did the group with smaller branches possibly because larger branch sizes could lower the timber stiffness. Larger branches would be more likely to occur on larger trees so that another contributing factor could be the small loss of stiffness due to a slightly lower density in the mature wood of the larger and, therefore, faster growing trees. A significant negative correlation was found to exist between the ring width and density of the mature wood from these trees in a separate study reported by *Welsh (1979)*.

Visual grading also produced a larger reject yield in the group with larger branches, but only for the butt log. Both groups produced about the same reject yield for the second logs. There were similar yields for most of the other visual grades for both log positions with perhaps the logs with largest branch size producing slightly better grade yields. This result is unexpected; defect size should influence visual grade to a greater extent than machine grade. The larger branch size logs, which were of larger diameter, were cut into larger pieces than the smaller branch size logs, (mean sedub of the two groups were 387 mm for the >32 mm and 308 mm for the ≤32 mm for the butt logs and 352 and 305 for the second logs). Defect size has a significantly decreasing influence on grade as section size increases for visual grading because of a decreasing knot area ratio (KAR) and the decreasing likelihood of the defect being a margin knot, but only a small influence on mechanical grade *(Grant, 1979)*. The

TABLE 4.38

Percentage yields in the mechanical and visual grades for butt logs with largest branch diameter greater than 32 mm or equal to or less than 32 mm and for second logs with largest branch diameter greater than 40 mm or equal to or less than 40 mm. All logs recovered from compartments 79, 104 and 105 are included.

(a) Machine grading

LPC	BSMAX (mm)	No. of logs	Machine grade percentage yield					
			F11	F8	F7	F5	F4	Reject
1	≤32	9	32.5	27.3	22.2	9.5	7.6	1.0
1	>32	12	17.0	25.2	12.7	32.4	11.3	1.4
2	≤40	10	17.7	38.9	16.0	20.4	6.9	0
2	>40	8	14.8	25.4	11.1	39.8	8.9	0

(b) Visual grading

LPC	BSMAX (mm)	No. of logs	Visual grade percentage yield					
			F11	F8	F7	F5	F5HI	Reject
1	≤ 32	9	24.1	19.1	16.5	14.1	17.7	8.6
1	> 32	12	23.7	25.4	13.1	16.8	6.7	14.4
2	≤ 40	10	10.9	32.0	13.8	23.7	10.3	9.3
2	> 40	8	11.5	28.3	23.2	19.8	8.2	9.0

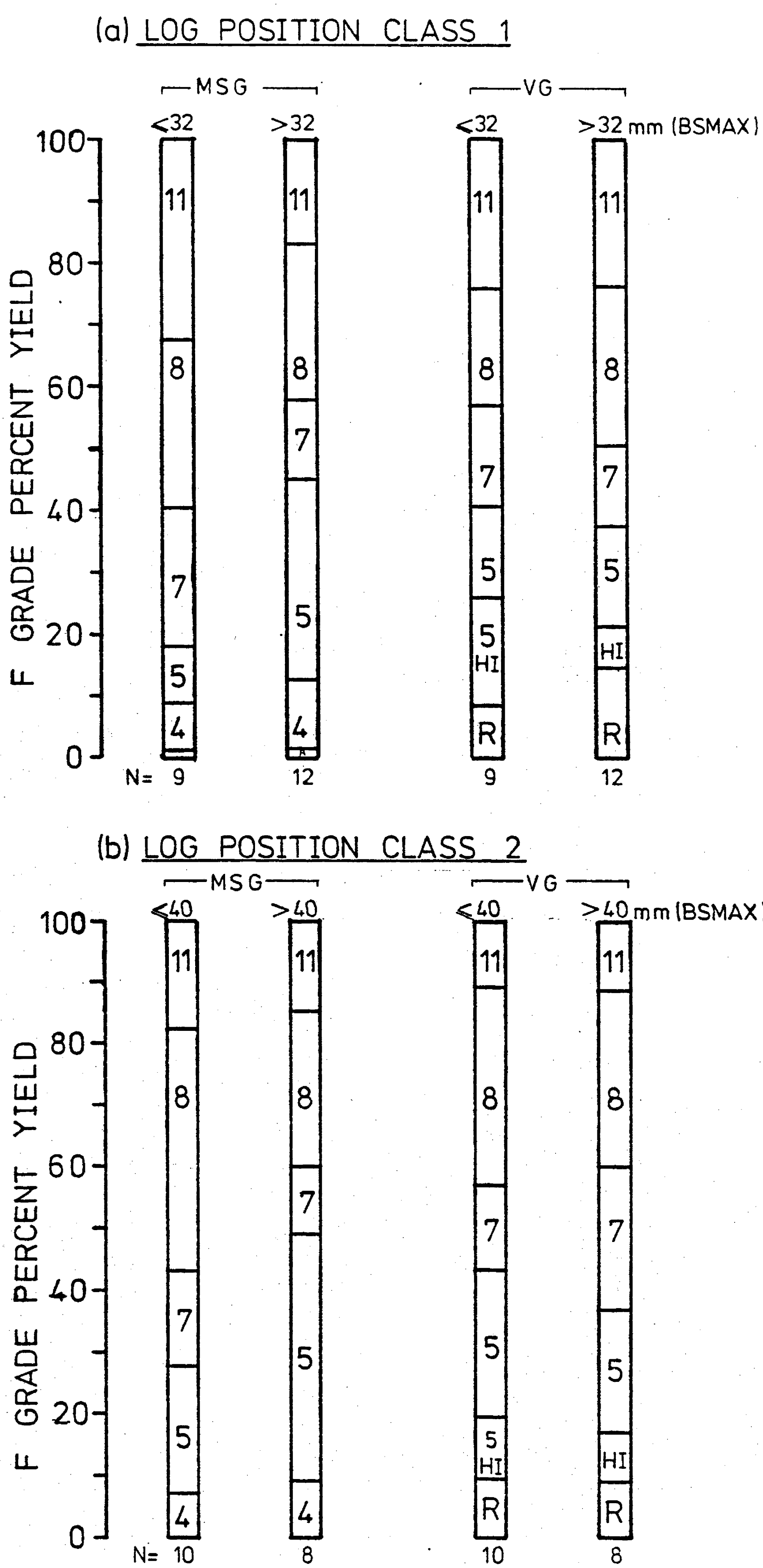


FIGURE 4.20. Mechanical and visual grade yields for butt logs with their largest branch diameter greater than 32 mm and less or equal to 32 mm and for second logs with their largest branch diameter greater than 40 mm and less or equal to 40 mm. Logs from cpts. 79, 104 and 105.

cores of the logs were all cut into 35 mm x 100 mm sizes irrespective of log size and therefore these pieces would be expected to be graded at a lower grade as branch size increased. This was the case at least for the butt logs where the reject yield was 14% for the large branch size group and 9% for the other.

In conclusion, the logs with larger branches produced inferior MSG grades for the butt and second logs. This effect however did not appear in the visual results except for a slightly greater reject yield from the larger branch size butt logs (14%) compared to the yield from the smaller branch size logs (9%). The results for visual grading are probably attributable to the difference in sawn sizes for the two groups with the larger branch size group being sawn into larger sizes than the other group.

4.5.8 *Comparison between logs with small branches and logs with large branches but with the four largest trees excluded.*

Because of the findings in section 4.5.1 when grading the 250 mm and 300 mm pieces (visual grading upgraded these sizes to F11 and machine grading downgraded them to F7 and F5) the butt logs with sedub >450 mm and second logs with sedub >400 mm were removed from the yield results given in section 4.5.7 (Table 4.38). The modified results are given in Table 4.39 and Figure 4.21.

The yield results in Figure 4.21 show similar trends to those in Figure 4.20 except that for MSG the differences between the yields from the two groups for both logs are less. However the differences have been augmented for the VG yields with the larger branch size logs producing slightly better grade yields than the other logs.

Exclusion of the largest trees probably influenced the overall result because some of these trees also had very large branches. Elimination of the pieces cut from these logs would have assisted the grade yield pattern to some extent and this is what appeared to happen.

TABLE 4.39

Percentage yields in the mechanical and visual grades for butt logs with largest branch diameter greater than 32 mm and less than or equal to 32 mm and for second logs with largest branch diameter greater than 40 mm and less or equal to 40 mm. All logs recovered from cpts. 79, 104 and 105 are included except for trees with sedub greater than 450 mm at 4.95 m above ground (ie. Trees 1, 2, 9, 10).

(a) Machine grading

LPC	BSMAX (mm)	No. of logs	F11	Machine grade percentage yield				
				F8	F7	F5	F4	Reject
1	≤32	8	33.0	37.0	9.9	10.7	8.0	1.3
1	>32	9	27.1	28.5	15.0	16.0	11.8	1.6
2	≤40	8	25.8	37.5	18.7	12.4	5.6	0
2	>40	6	18.7	37.5	13.8	27.2	2.7	0

(b) Visual grading

LPC	BSMAX (mm)	No. of logs	F11	Machine grade percentage yield				
				F8	F7	F5	F5HI	Reject
1	≤32	8	17.0	14.8	15.8	18.3	22.1	11.9
1	>32	9	12.1	26.5	16.7	22.9	7.4	14.5
2	≤40	8	5.6	37.4	5.5	24.0	15.2	12.3
2	>40	6	9.9	32.0	29.8	8.7	11.2	8.4

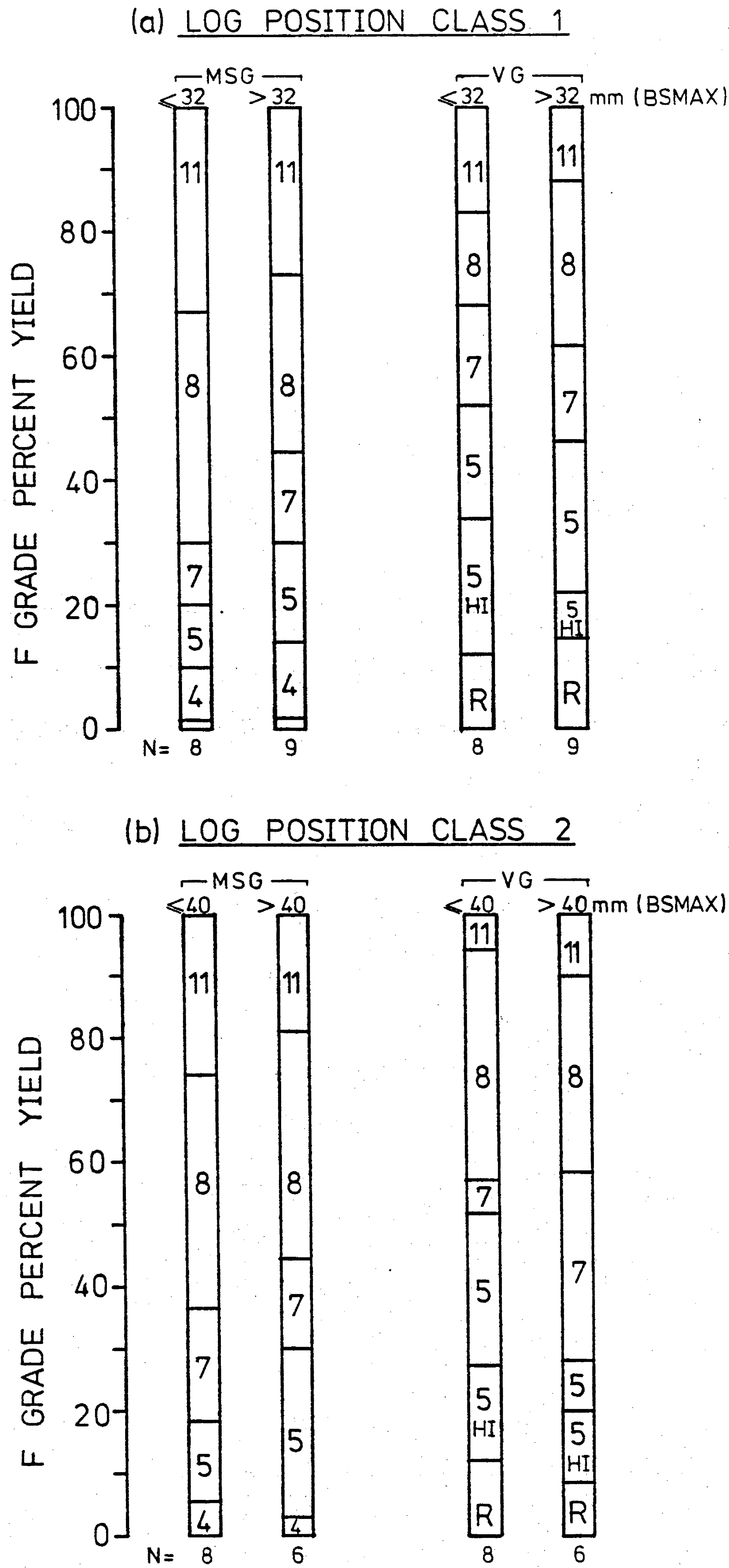


FIGURE 4.21. Data as in Figure 4.20 but with butt logs with an sedub >450 mm and second logs with sedub >400 mm eliminated.

4.6 *Mill door product values.*

The calculation of total product value as a percentage of log volume (TMV/m^3L and TVV/m^3L) and total product value as a percentage of product volume (TMV/m^3P and TVV/m^3P) was described in section 3.16. Results for the various groups are presented by log position classes in both tabular and graphical form.

The graphs do not show the number of logs recovered in each group and reference must be made to the tables for this information Generally however if less than four logs were recovered then that group was not included in the graphs.

4.6.1 *Compartment 79.*

Product values are given in Table 4.40 and Figure 4.22. Machine grade value of the recovered timber (TMV/m^3P) increased slightly with increasing log position class up to the fifth log. This reflected the trend towards a higher percentage of F7+ grade and a lower percentage of reject with increasing log position (Figure 4.10). A high yield of F4 and reject caused the low value for the sixth log.

TABLE 4.40

Mill door product values as a percentage of log volume and product volume for the various log position classes of compartment 79. Produc value includes all timber recovered.

LPC	*No. of logs*	*TMV/m³L*	*TVV/m³L*	*TMV/m³P*	*TVV/m³P*
		units/m³			
1	10	48.04	48.57	104.60	105.74
2	10	58.74	58.34	106.48	105.74
3	10	56.98	50.08	108.07	95.03
4	10	55.92	49.36	110.35	97.40
5	10	48.26	45.56	113.21	106.87
6	3	26.20	23.63	102.52	92.46

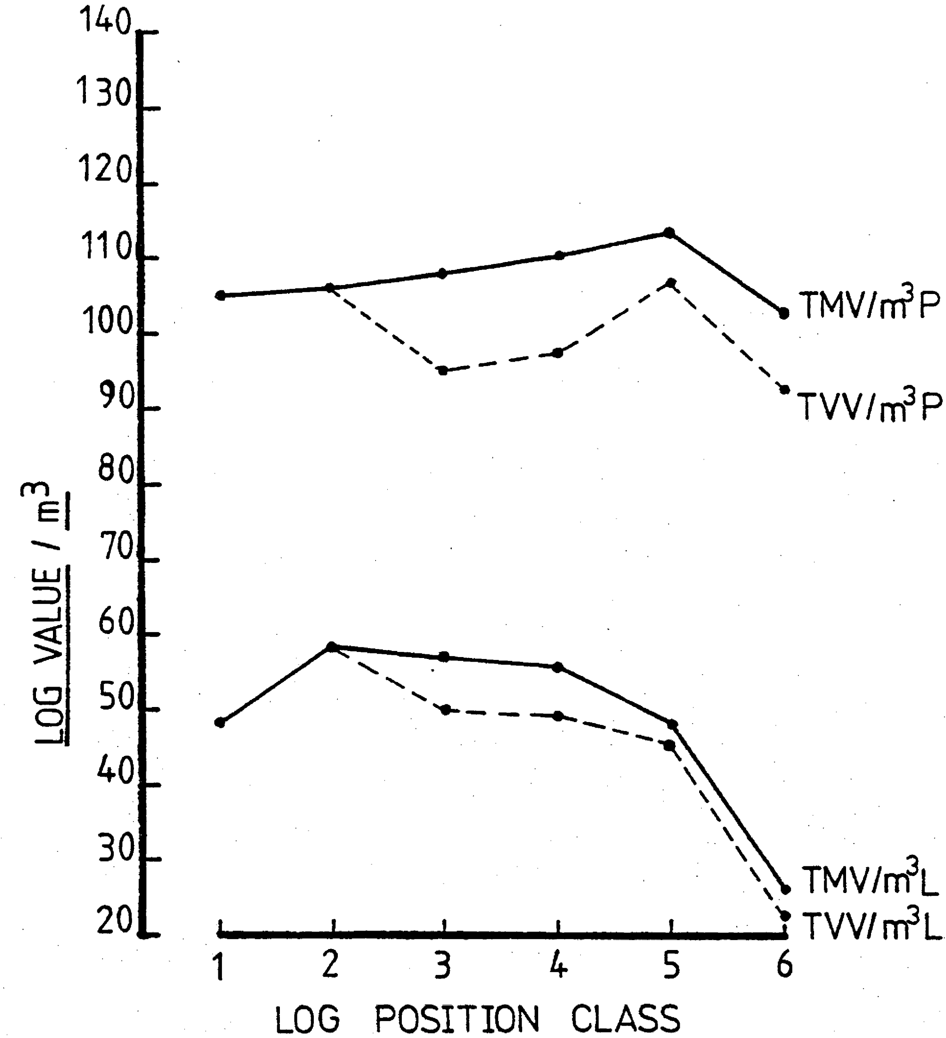


FIGURE 4.22. Log value/m^3 of product and log value/m^3 of log for various log position classes for compartment 79. The values plotted were determined from logs cut from 10 trees. Product value was assessed by both mechanical (MV) and visual (VV) grading.

Visual grade value of the timber (TVV/m^3P) was the same for the first two logs (and roughly the same as for MSG) but decreased significantly for the third and fourth logs, reflecting high reject and low F7+ yields from these logs. Low reject yields for the boards and scantlings caused the high value for the fifth logs. The sixth log value was due to a large yield of reject material.

Section 4.5.1. gives an explanation for the relatively poor yields in the higher grades for machine grading and the relatively good yields in the higher grades for visual grading obtained from the butt and second logs. In that section some of the largest logs were eliminated to demonstrate the effect this would have on grade yields. The product values of these new groups were calculated and are given in Table 4.41. The machine grade values for both the butt and second logs were higher than the original values because of the better grade yields obtained after elimination of the largest logs. The visual grade value was lower for the butt logs because of inferior grade yields after elimination of the largest logs and slightly higher for the second logs. (The visual grade yields were actually slightly better for the second logs after the largest logs were eliminated.)

TABLE 4.41

Mill door product values as a percentage of log volume and product volume for the first two log position classes of compartment 79 and the mill door product values after elimination of the four largest logs in each class. Product value includes all timber recovered.

LPC	*No. of logs*	*TMV/m^3L*	*TVV/m^3L*	*TMV/m^3P*	*TVV/m^3P*
		units/m^3			
1	10	48.04	48.57	104.60	105.74
1	6	50.45	47.87	105.12	99.74
2	10	58.74	58.34	106.48	105.74
2	6	61.48	58.95	111.11	106.54

Second logs produced the highest values for either grading method when log volume was used as a basis for calculation. *Waugh (1979b)* also found that second logs produced the highest values per cubic metre of log for stands of radiata pine in Victoria.

TMV/m^3L and TVV/m^3L followed the same general trends with the TVV/m^3L generally having lower values. The butt log had lower values than the second, third and fourth logs possibly due to the lower recovery from the butt log. The general decrease in values after log 2 is also due to some extent to decreasing percentage recoveries as log size decreased.

Figure 4.23 shows the mean cumulative percentage contribution to mill door value of the various log position classes for the ten trees sampled from cpt. 79. The butt log contributes about 30% to total value the first two logs about 56%, the first three about 76% and the first four logs 90% of the trees total recovered value.

A linear relationship was found to exist between the value of the timber recovered from each of the ten trees and tree diameter under bark at 5 m above ground level for both grading methods. These relationships are shown in Figure 4.24.

4.6.2 *Compartments 104, 105 - 3 site qualities.*

Product values for the various log positions for the three site qualities are given in Table 4.42 and Figure 4.25. Trends for all four values (i.e. TMV/m^3P, TMV/m^3L, TVV/m^3P, TVV/m^3L) were similar as log position class increased, the highest value generally being produced by the second logs with the exception of the TMV/m^3P and TVV/m^3P values for the second logs from the low site quality area. This was due to a large reject yield for VG and a large F4 yield for MSG.

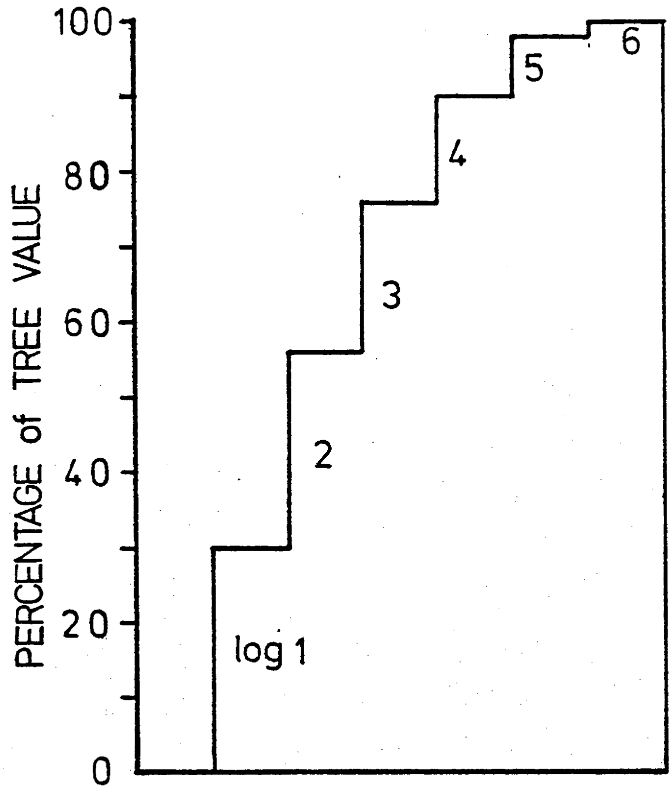


FIGURE 4.23. Mean cumulative percentage contribution to tree mill door value as assessed by mechanical grading of the various log position classes for the 10 trees from compartment 79.

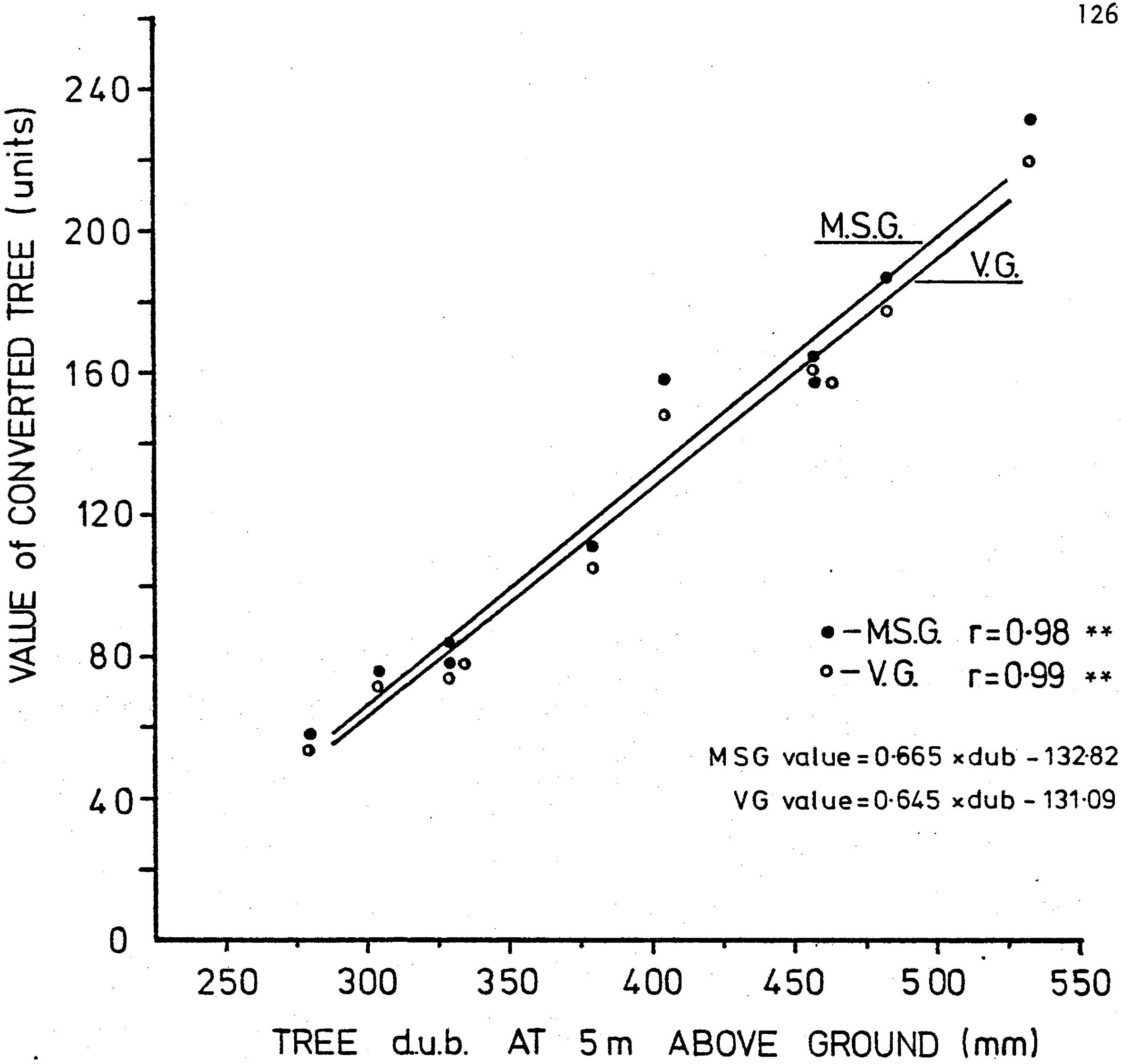


FIGURE 4.24. Regressions of the value of a converted tree as assessed by visual and mechanical grading on tree diameter under bark at 5 m above ground for 10 trees from compartment 79.
** Significant at 1% level.

The highest site quality area produced slightly higher values for most log positions based on product volume (TMV/m^3P and TVV/m^3P), probably due to the effect of a larger percentage of juvenile wood in the smaller logs from the lower site quality areas (section 4.5.2).

TABLE 4.42

Mill door product values as a percentage of log volume and product volume for the various log position classes of the three site quality areas of compartments 104 and 105. Product value includes all timber recovered.

SQ	*LPC*	*No. of logs*	*TMV/m^3L*	*TVV/m^3L*	*TMV/m^3P*	*TVV/m^3P*
			units /m^3			
1	1	10	54.55	50.84	112.12	104.51
	2	10	59.77	56.92	118.41	112.76
	3	3	57.97	53.87	113.80	105.76
	4	4	40.74	35.86	110.04	96.84
2	1	6	50.10	46.15	106.16	97.79
	2	8	58.89	55.90	115.62	109.75
	3	4	57.89	50.26	113.96	98.94
	4	4	43.73	39.96	103.49	94.56
3	1	9	48.33	45.04	108.31	100.93
	2	6	58.13	50.66	109.03	95.03
	3	4	52.54	50.56	111.70	107.50
	4	3	53.30	49.36	109.85	101.74

Results for the values based on log volume show that generally value increased slightly with increasing SQ. Contributing to this would have been the effect of the increasing percentage of juvenile wood as SQ decreased as well the lower recoveries from the smaller logs from the lower site qualities (discussed in section 4.3).

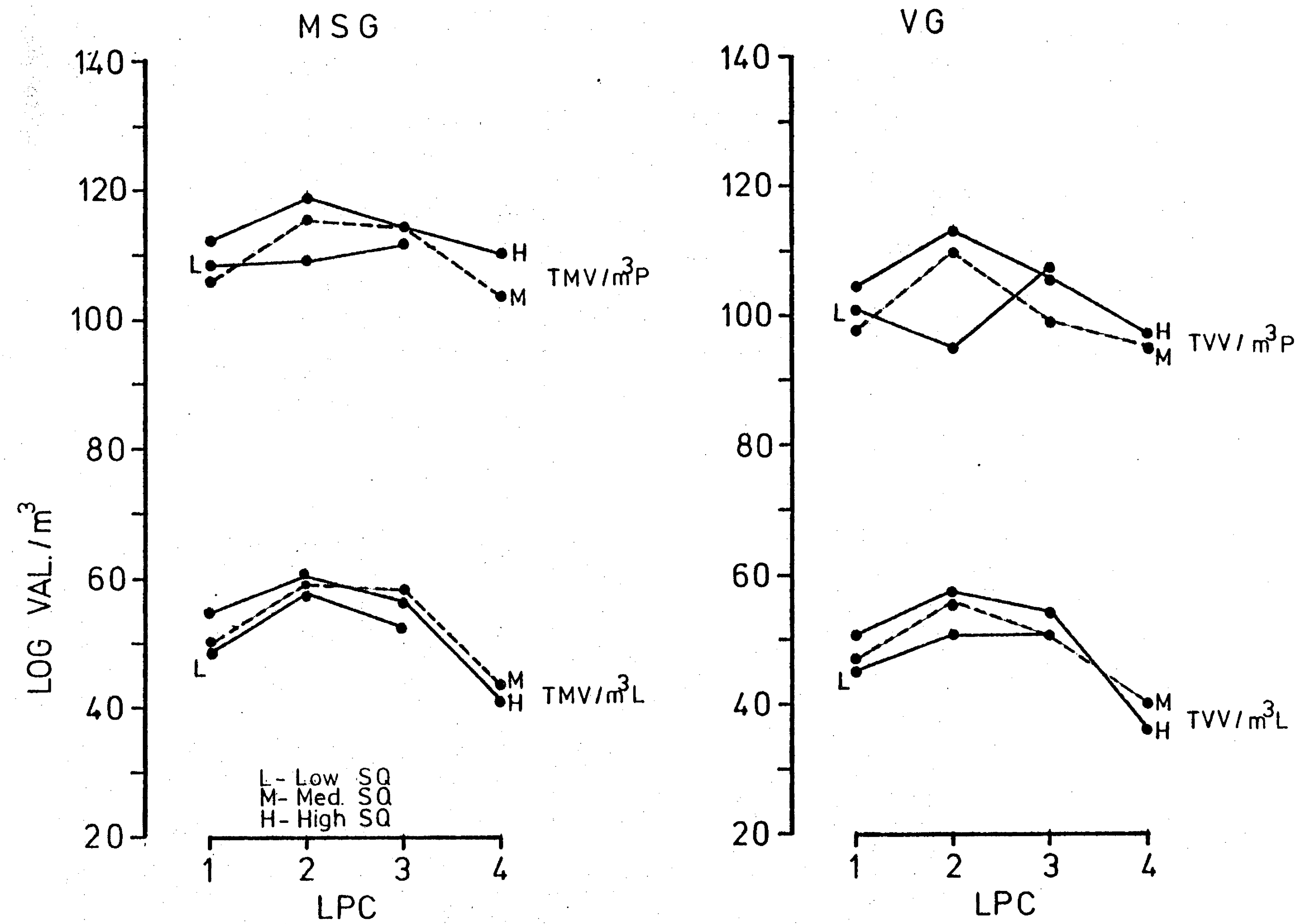


FIGURE 4.25. Log value /m^3 of product and log value /m^3 of log for 3 site qualities and various log position classes of compartments 104 and 105. The values were determined from between 4 and 10 logs per stratum and assessed by both mechanical and visual grading.

To summarize, the high site quality area generally produced slightly higher values than the lower quality areas probably because of the larger log sizes. There was, however, little difference between the values for the three SQ's for most log positions.

Second logs generally produced the highest values on both log volume and produce volume bases.

4.6.3 *Compartment 139 - four initial spacings.*

Product values are given in Table 4.43 and Figure 4.26 for the four initial spacings. Section 4.5.3 showed the best grade recoveries for the first two logs were achieved by the closer spacings; the wider spacings were superior for the third logs. The values based on produce volume (TMV/m^3P and TVV/m^3P) in Figure 4.26 show the 2.44 m spacing produced the most valuable timber from the second logs; the wider spacings produced timber of higher value for the third logs. Unfortunately, the number of butt logs recovered from the wider spacings was really too small for any conclusions to be drawn. Also the 1.83 m spacing was down graded in value terms by excessive twist in some of the pieces recovered from the second and third log positions; therefore the values would not be representative of the true value of the timber from that spacing if twist could be eliminated. (Section 4.5.3

Values based on log volume (TMV/m^3L and TVV/m^3L) show that there was no discernable difference between the values for the wider spacings except for the third logs where the wider spacings produced higher values. This result would no doubt be due to log size effects i.e. an increasing percentage of juvenile wood and lower recoveries as diameter decreases. The low overall values for the 1.83 m spacing would be mostly due to the generally lower overall timber recoveries from the small logs produced from that spacing.

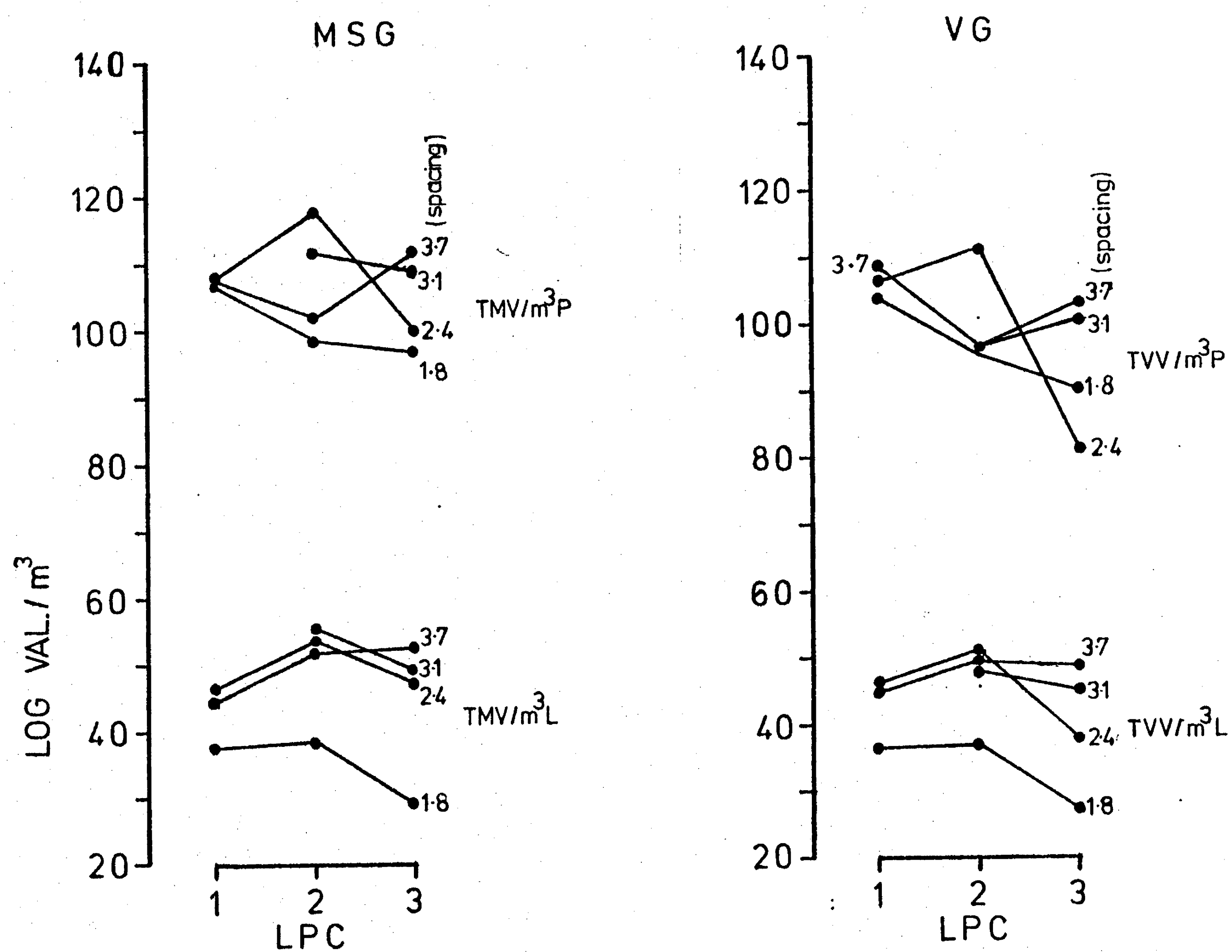


FIGURE 4.26. Log value /m^3 of product and log value /m^3 of log for various spacings and log position classes for compartment 139. The values were determined from between 4 and 10 logs per stratum and assessed by both mechanical and visual grading.

Second logs produced the highest values based on log volumes.

TABLE 4.43

Mill door product values as a percentage of log volume and product volume for the various log position classes of the four spacings in compartment 139. Product value includes all timber recovered.

Square Spacing (m)	*LPC*	*No. of logs*	*TMV/m^{3}L*	*TVV/m^{3}L*	*TMV/m^{3}P*	*TVV/m^{3}P*
			units /m^3			
1.83	1	6	37.45	36.43	106.70	103.79
	2	5	38.39	37.18	98.52	95.42
	3	4	29.14	27.21	96.78	90.34
2.44	1	6	46.62	46.14	107.54	106.42
	2	5	53.75	51.07	117.76	111.88
	3	4	47.13	38.33	100.03	81.36
	4	3	34.36	28.05	99.54	81.27
3.05	1	2	42.43	42.33	111.48	111.23
	2	6	55.57	47.97	111.46	96.22
	3	5	49.18	45.42	109.01	100.68
	4	1	-	-	-	-
3.66	1	3	44.62	44.91	108.29	108.97
	2	5	52.07	49.53	102.09	97.12
	3	7	52.33	48.40	111.78	103.40
	4	2	44.65	43.25	94.19	91.24

4.6.4 *Compartments 149 and 162a.*

Product values are given in Table 4.44 and Figure 4.27 for these two compartments. Compartment 149 produced slightly higher values by visual grading than by machine grading for log position classes 1 and 3. The second logs could not be properly evaluated for this compartment because of small sample size.

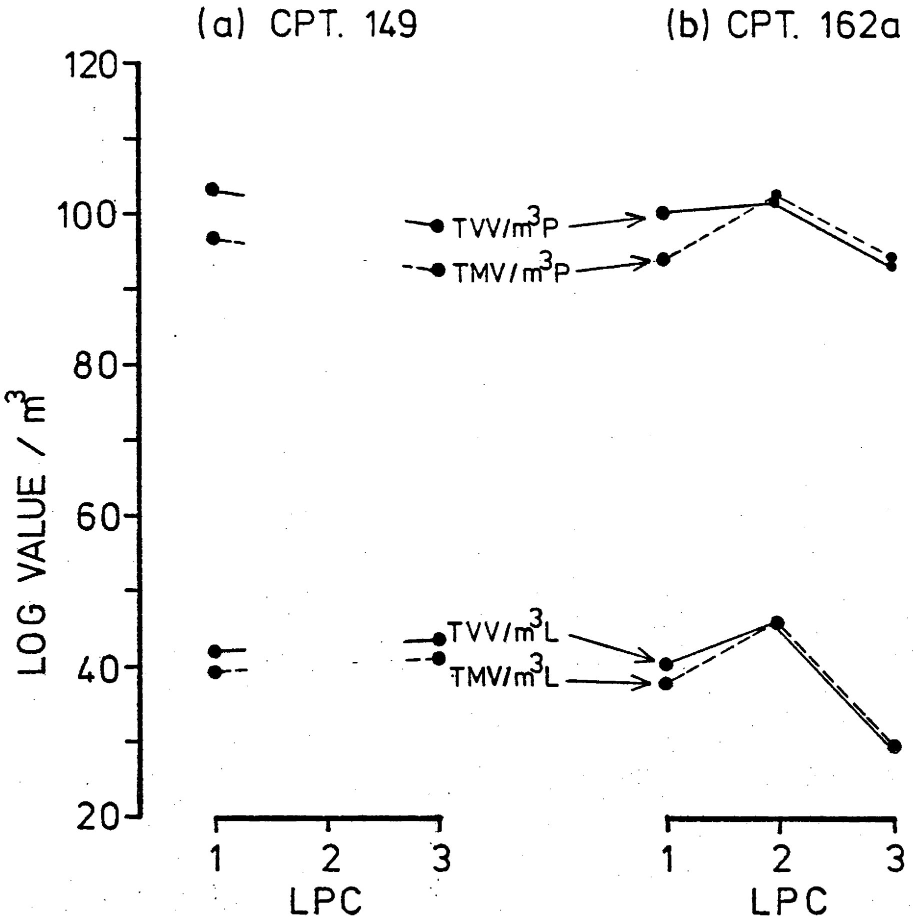


FIGURE 4.27. Log value /m^3 of product and log value /m^3 of log for the various log position classes of compartments 149 and 162a. The values were determined from between 5 and 8 logs per stratum and were assessed by both mechanical and visual grading.

TABLE 4.44

Mill door product values as a percentage of log volume and product volume for the various log position classes of compartment 149 and compartment 162a. Product value includes all timber recovered.

LPC	*No. of logs*	*TMV/m³L*	*TVV/m³L*	*TMV/m³P*	*TVV/m³P*
		units /m³			
		(a) Cpt. 149.			
1	8	39.31	42.02	96.79	103.46
2	3	31.85	31.55	93.13	92.27
3	7	41.09	43.74	92.70	98.69
		(b) Cpt. 162a.			
1	5	37.94	40.41	94.13	100.28
2	5	46.15	45.52	102.87	101.47
3	5	29.92	29.51	94.53	93.25

Compartment 162a produced similar values by both grading systems for log position classes two and three but slightly higher values by visual grading for the butt logs when compared to the values by machine grading.

Visual grading therefore appears slightly more profitable for these younger trees since many of the pieces graded F4 or reject by machine, because of low stiffness, were visually graded F5HI (Appendix E contains the full grading data for all recovered pieces). This has also been observed by *Anton (1979)*.

The low values (TMV/m^3L and TVV/m^3L) for the third logs from compartment 162a were no doubt due to low recoveries from the very small logs from that log position class. The second logs from cpt. 162a produced higher values than either of the other log positions on both log volume and product volume bases thus following the same general trend observed for most of the other compartments.

4.6.5 *Comparison between three age classes.*

Compartments 162a, 149 and the 2.44 m x 2.44 m spacing in cpt. 139 were all unthinned, low pruned (except cpt. 139) and had similar initial spacings (cpt.149 was planted at 2.75 m x 2.75 m, the others at 2.44 m x 2.44 m). Product values for these three compartments are given in Tables 4.43 and 4.44 and are shown together in Figure 4.28.

The machine grading results show an increase in both product value (TMV/m^3P) and low value (TMV/m^3L) as age increases. Actual percentage increases in TMV/m^3P as age increased from 19 to 30 years was 14%, 14% and 6% for the butt, second and third logs respectively. There were however generally only small differences between the product values for the 19 and 23 year old trees. Similar trends were also found for the machine grade values based on log volume (TMV/m^3L).

Visual grading also resulted in higher values for the 30 year old trees for the butt and second logs. The third logs produced lower values for the 30 year old trees than did the other age classes. This was due to an unusually high percentage of reject (49%) possibly because of the small quantity of timber recovered.

Figure 4.28 shows also that the second logs produced the most valuable timber for both the 19 and 30 year age classes.

4.6.6 *The relationship between value /m^3 of log volume and log sedub.*

Regression analyses were carried out for machine grade values /m^3 of log volume (MV/m^3L) on log sedub for all logs from trees 23 years and older. The 19 year old trees were excluded because they produced particularly small logs and were not representative of a large percentage of the other logs. Various equations were fitted to the data but polynomials gave the best fit. Regressions were performed

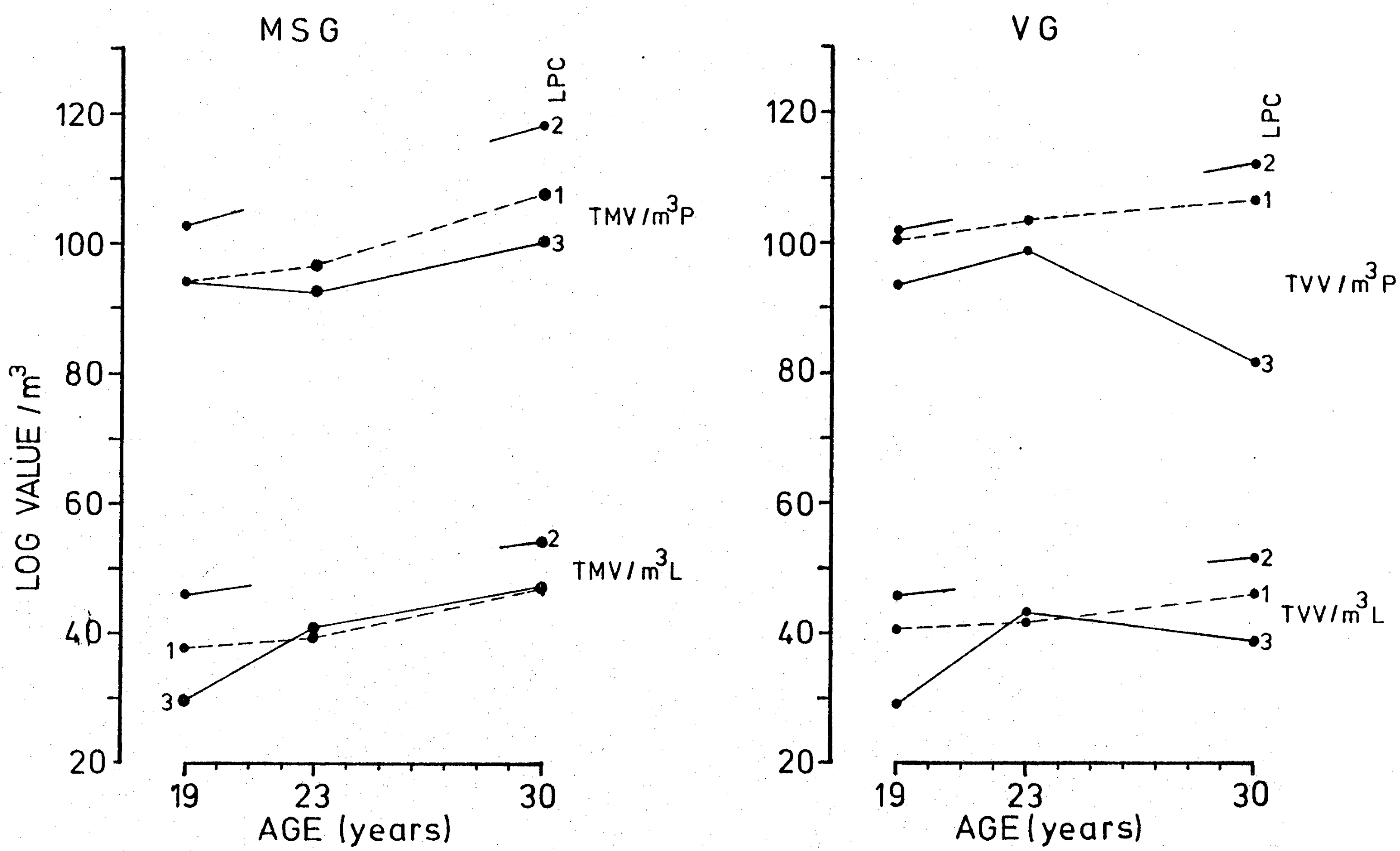


FIGURE 4.28. Log value $/m^3$ of product and log value $/m^3$ of log for the various log position classes of 3 age groups. The values were determined from between 5 and 8 logs per stratum and assessed by both mechanical and visual grading.

firstly with all logs included (equation 4.3) and then with butt logs excluded (equation 4.4). These relationships are plotted in Figure 4.29.

$$MV/m^3L = 7.098 + 0.2544x - 2.716 \times 10^{-4}\ x^2 - 1.622 \times 10^{-7}\ x^3 \ldots\ldots 4.3$$

$$MV/m^3L = 0.1356 + 0.3287x - 4.565 \times 10^{-4}\ x^2 - 8.275 \times 10^{-9}\ x^3 \ldots\ldots 4.4$$

where x is the log small end diameter under bark

and for 4.3 N = 215, r = 0.55
4.4 N = 155, r = 0.63

The shape of the curves is typical for this type of data except perhaps for the drop as diameter increases above 350 mm. *Humphreys (1970)* reports a steadily increasing mill door log value as diameter increases above 400 mm and he states that this holds for all species and for all present sawing methods. However, *Waugh (1979a)* found a relationship similar to Figure 4.29 in a study of the economics of sawing regrowth eucalypts.

One explanation for the drop in MV/m^3L as sedub increases above 350 mm would be that lower percentage recoveries were obtained from the larger logs (section 4.3). Another factor contributing to this drop would be the fairly poor grade yields obtained from the larger section sizes cut from the largest logs (section 4.5.1).

4.6.7 *Relationships between (1) log value and log sedub and (2) between volume of timber recovered and log sedub.*

4.6.7.1 Relationship between log value and log sedub for compartments 79, 104, 105, 139 and 149 combined.

Regressions of log value on log sedub for both MSG and VG values were carried out for combined data from compartments 79, 104, 105, 139 and 149 using various non linear models. Polynomials were found to provide the best fit. The relationships are given in Equations 4.5 and 4.6 for MSG value and VG value respectively. These equations are

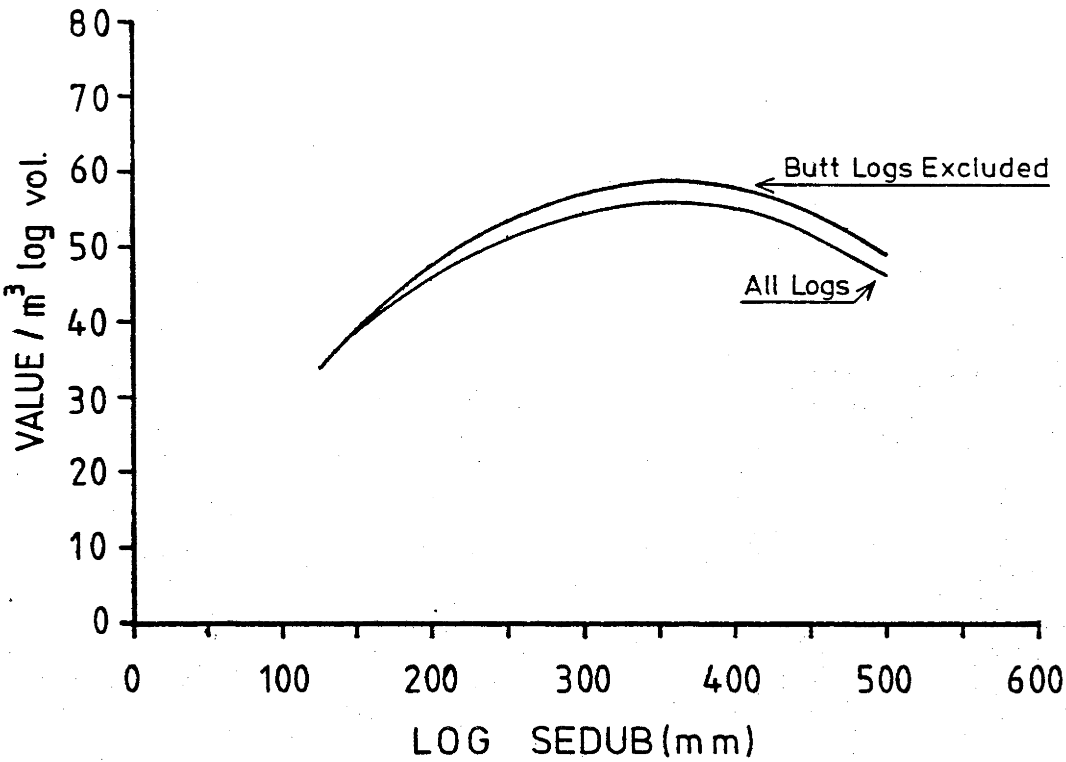


FIGURE 4.29. Regression of value /m^3 of log volume on log small end diameter under bark for all logs excluding butt logs and for all logs from compartments 79, 104, 105, 139 and 149. Value was assessed by machine grading.

are drawn in Figure 4.30.

Log value (MSG) = $5.42 - 8.84 \times 10^{-2}x + 6.09 \times 10^{-4}x^2 - 4.41 \times 10^{-7}x^3$ 4.5

where x is the log sedub, N = 215 and r = 0.98.

Log value (VG) = $2.99 - 4.80 \times 10^{-2}x + 4.00 \times 10^{-4}x^2 - 1.59 \times 10^{-7}x^3$ 4.6

Where x is the log sedub, N = 215, r = 0.96.

Equations 4.5 and 4.6 are almost identical, with MSG generally giving the higher values except for the logs with diameters greater than 500 mm and less than 175 mm. The slightly lower values found for the larger logs by MSG were a result of the sawing of larger than normal sizes from them (section 4.5.1). In practice, the visual grade values would be actually lower than the machine grade values for the large logs when sawing sections normally in demand in the market place (section 4.6.1). The identical (MSG and VG) values for the small logs is due to the effect of machine grading juvenile wood using a grading program (Appendix B) designed for mature wood. This practice places machine grading at a disadvantage relative to visual grading (section 4.6.4).

4.6.7.2 Relationships between (1) log value and log sedub and (2) between volume of timber recovered and log sedub for compartment 79.

The polynomial model was found to give the best fit for both relationships considered here. The regression of log value (MSG) on log sedub for data from compartment 79 is given in Equation 4.7. The regression of volume of timber recovered on log sedub for compartment 79 data was given previously in section 4.3 as Equation 4.1. Equation 4.1 and 4.7 are drawn in Figure 4.31.

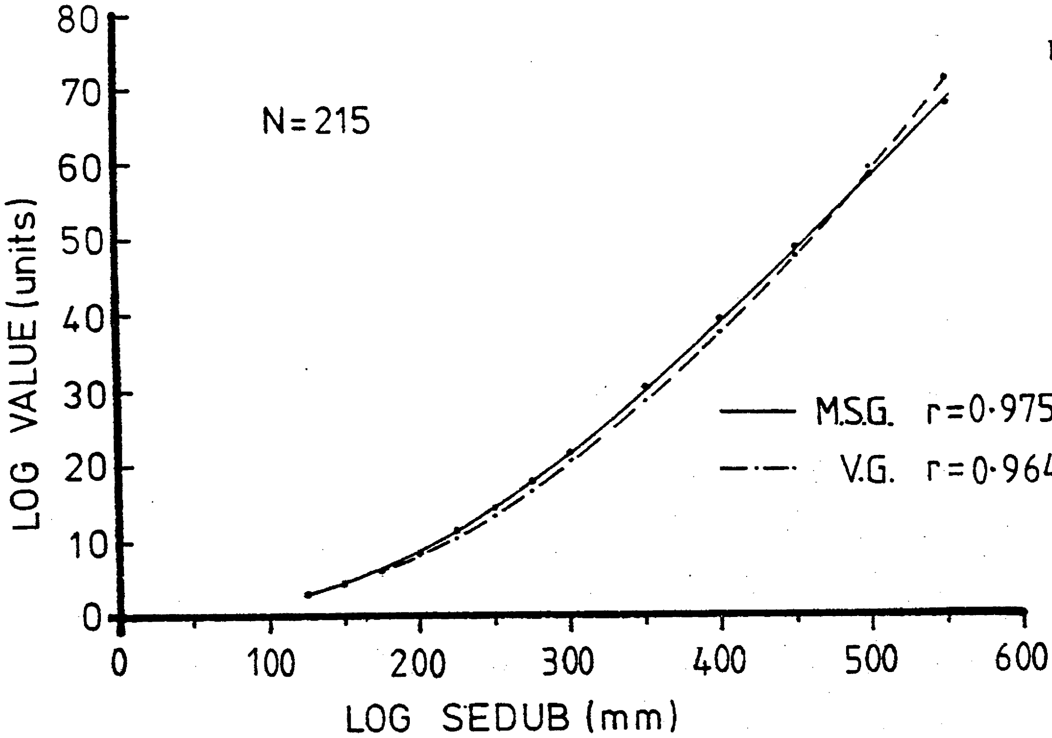


FIGURE 4.30. Regression of log value as assessed by mechanical and visual grading on log small end diameter under bark for 215 logs from compartments 79, 104, 105, 139 and 149.

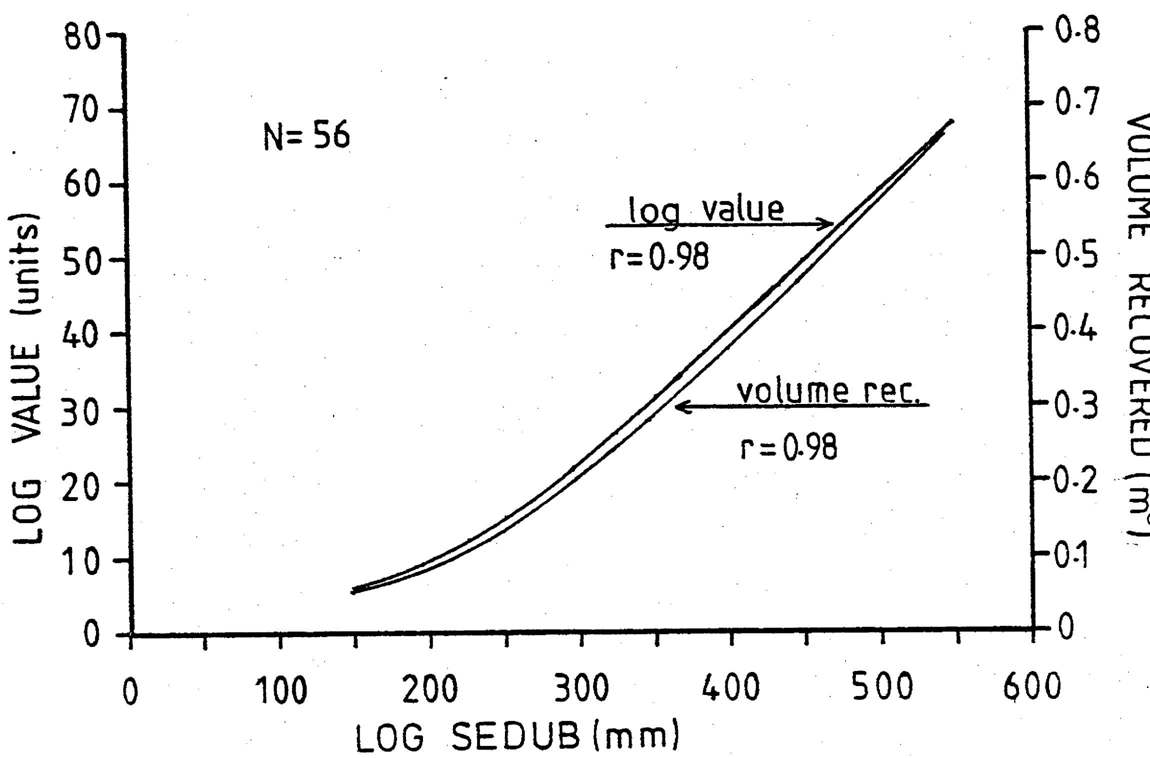


FIGURE 4.31. Regressions of log value as assessed by mechanical grading on log small end diameter under bark (sedub) and of actual volume of timber recovered on log sedub. Logs were from compartment 79 and were 4.95 m long.

$$\text{Log value (MSG)} = 10.73 - 0.1262x + 7.09 \times 10^{-4}x^2 - 5.29 \times 10^{-7}x^3 \quad \ldots\ldots\ldots\ldots\ldots 4.7$$

where x is log sedub, N = 54 and R = 0.98.

The similarity between the two curves in Figure 4.31 is interesting because it shows that for any particular log size the expected value of the timber recovered from that log size is only slightly above the value calculated by multiplying the volume recovered in m^3 by 100. In fact the expected log value (MSG) can be calculated quite accurately for most log sizes, say between 250 mm and 450 mm, by multiplying the average volume recovered in m^3 by somewhere between 105 and 110. In other words the average MSG value/unit volume of timber in the logs was somewhere between the value/unit volume of the F5 and F7 grades. This result is similar to that reported by *Buick (1969)* (mentioned in section 3.2) where some 34 year old trees produced a mean stress grade of about F7.

4.7 *The effect of branch size on log value / m^3 of product.*

The data relating log sedub, branch size and log value /m^3 of product (MV/m^3P and VV/m^3P) were analysed using the GLSAP package (section 4.2) as follows:

1. Linear regressions of log value /m^3 product (both MSG and VG) on sedub, BN, BSMAX, $\overline{\text{BS5}}$, $\overline{\text{BS10}}$, $\overline{\text{BS15}}$ and $\overline{\text{BS}}$.
2. Multiple regressions of log value /m^3 product on sedub and BN, sedub and BSMAX, sedub and $\overline{\text{BS5}}$, sedub and $\overline{\text{BS10}}$, sedub and $\overline{\text{BS15}}$, sedub and $\overline{\text{BS}}$.
3. Residuals of all significant regressions were analysed and in no case was there any linear trend in the residual values.

For these analyses the data were divided into two groups - one included the 36 and 38 year classes (cpts. 79, 104, 105) because of similar silvicultural treatment and the other the 23 and 30 year class (cpts. 139, 149). These latter age classes were combined because the 23 year old trees were of similar size to some of the trees from the 30 year old stand (Figure 4.1). The 19 year age class was excluded because of the relatively small size of the trees. Each log position class was analysed separately.

4.7.1 *The relationship between log value /m^3 of product and log sedub.*

No significant linear relationship was found to exist between MV/m^{3}P and sedub or between VV/m^{3}P and sedub in either the 36+38 year age group or the 23+30 year group for any log position class, indicating that for any log position and tree age class log size does not affect timber value. This result however can be different when branch size is included in the regression; this will be discussed in section 4.7.6.

One would expect the smaller logs in any particular log position class and age group would have a larger percentage of juvenile wood and therefore be of lower value. It seems, however, this is not the case and that the tendency towards larger branch size in the larger logs (section 4.2.3) may compensate for the smaller percentage of corewood in these logs.

4.7.2 *The relationship between log value /m^3 of product and the number of branches per log.*

No significant linear relationship was found between MV/m^{3}P or VV/m^{3}P and number of branches. Branch number does not appear to affect timber value for either age group for any log position.

4.7.3 *The relationship between log value /m^3 of product and mean branch size per log.*

No significant linear relationship was found between MV/m^{3}P or VV/m^{3}P and $\overline{BS}$. $\overline{BS}$ did not influence timber value for either age group for any log position.

4.7.4 *The relationships between log value /m^3 of product and maximum branch size for the 23-30 year age group.*

No significant linear relationships could be found between MV/m^{3}P or VV/m^{3}P and maximum branch size (ie. BSMAX, $\overline{BS5}$, $\overline{BS10}$ and $\overline{BS15}$) for any of the log position classes in the 23-30 year age group. Branch size data were plotted against timber value for the various log position classes for this age group and no non linear trends appeared to exist for any data group.

The maximum branch size would be expected to have some influence on timber value but, in this case, because the stands were unthinned, the log sizes were small and branch size was, perhaps, restricted enough that effects on timber grade were minimal.

Lower values of some logs, through excessive twist in the sawn timber, may also have affected this result; most of the twisted timber came from the smaller logs from the 1.83 m spacing of cpt. 139.

4.7.5 *The relationships between log value /m^3 of product and maximum branch size for the 36 - 38 year age group.*

Significant linear relationships were found between MV/m^{3}P and most maximum branch size parameters (ie. BSMAX, $\overline{BS5}$, $\overline{BS10}$, $\overline{BS15}$) for the first four log position classes and between VV/m^{3}P and most parameters for the first, third and fourth log positions.

Results are given in Tables 4.45 and 4.46 for MSG and VG respectively; some of the relationships are plotted in Figures 4.32 and 4.33.

For any maximum branch size indicator, slope appeared to decrease as log position class increased. For example for the regression of MV/m^{3}P on $\overline{BS10}$, slopes were -0.899, -0.654, -0.440 and 0.418 for the first, second, third and fourth logs respectively. There was little difference between the correlation coefficients within each log position class for both systems of grading, with perhaps a slight preference for BSMAX and $\overline{BS5}$ for MSG and $\overline{BS5}$ for visual grading.

TABLE 4.45

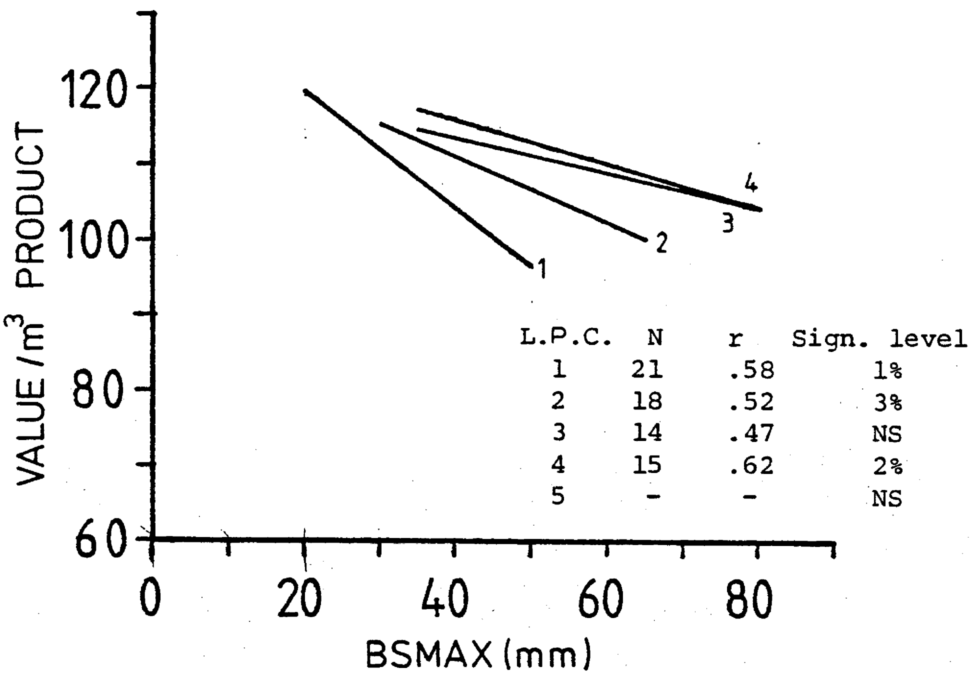
Regression coefficients for the relationships between log value /m^3 product (value assessed by mechanical grading) and branch size for compartments 79, 104 and 105 for the various log position classes.

LPC	*Independent Variable*	*Dependent Variable*	*Slope*	*Constant term*	R	*No. of logs*	*Sign level*
1	BSMAX	MV/m^{3}P	-0.771	134.85	0.58	21	1%
	$\overline{BS5}$	"	-0.910	135.08	0.54	21	2%
	$\overline{BS10}$	"	-0.899	131.67	0.47	20	4%
	$\overline{BS15}$	"	-1.041	132.89	0.56	14	4%
2	BSMAX	MV/m^{3}P	-0.438	128.61	0.52	18	3%
	$\overline{BS5}$	"	-0.481	127.80	0.48	18	5%
	$\overline{BS10}$	"	-0.654	131.98	0.51	17	4%
	$\overline{BS15}$	"	-0.838	135.66	0.54	17	3%
3	BSMAX	MV/m^{3}P	-0.223	122.45	0.46	14	NS
	$\overline{BS5}$	"	-0.369	126.98	0.55	14	5%
	$\overline{BS10}$	"	-0.440	127.76	0.53	14	5%
	$\overline{BS15}$	"	-0.498	127.99	0.52	14	6%
4	BSMAX	MV/m^{3}P	-0.293	127.68	0.62	15	2%
	$\overline{BS5}$	"	-0.382	129.37	0.63	15	2%
	$\overline{BS10}$	"	-0.418	128.82	0.60	15	2%
	$\overline{BS15}$	"	-0.429	127.70	0.57	15	3%
5	No significant relationships found.						

TABLE 4.46

Regression coefficients for the relationships between log value $/m^3$ product (value assessed by visual grading) and branch size for compartments 79, 104 and 105 for the various log position classes.

LPC	*Independent Variable*	*Dependent Variable*	*Slope*	*Constant term*	*R*	*No. of logs*	*Sign level*
1	BSMAX	VV/m^3P	-0.715	127.66	0.47	21	4%
	$\overline{BS5}$	"	-0.999	132.39	0.52	21	2%
	$\overline{BS10}$	"	-0.909	125.87	0.43	20	6%
	$\overline{BS15}$	"	-1.225	131.84	0.56	14	4%
2	No significant relationships found.						
3	BSMAX	VV/m^3P	-0.441	123.42	0.60	14	3%
	$\overline{BS5}$	"	-0.636	128.34	0.62	14	2%
	$\overline{BS10}$	"	-0.778	130.42	0.61	14	2%
	$\overline{BS15}$	"	-0.915	131.98	0.62	14	2%
4	BSMAX	VV/m^3P	-0.311	116.98	0.42	15	NS
	$\overline{BS5}$	"	-0.533	124.75	0.55	15	4%
	$\overline{BS10}$	"	-0.632	126.04	0.57	15	3%
	$\overline{BS15}$	"	-0.692	126.05	0.57	15	3%
5	No significant relationships found.						



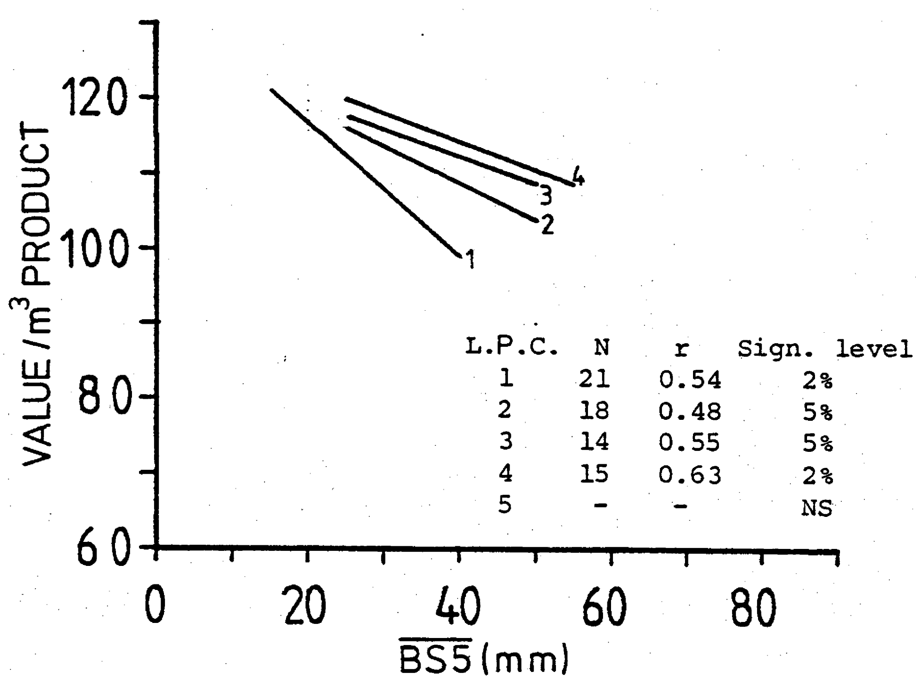
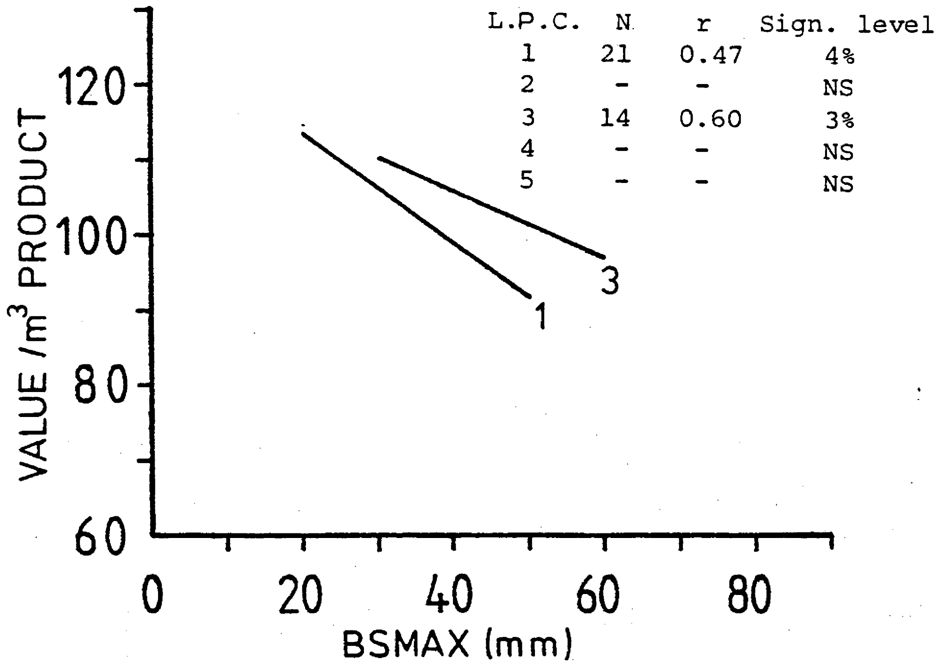


FIGURE 4.32. Regressions of log value /m^3 of product on branch size for various log position classes. Product value was assessed by machine grading and logs were from compartments 79, 104 and 105.



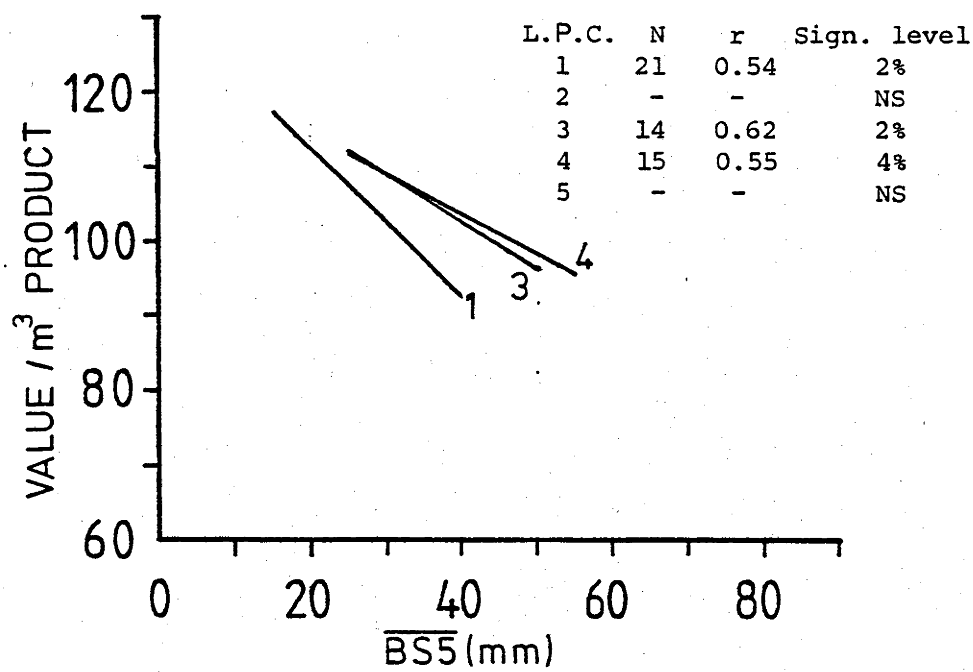


FIGURE 4.33. Regressions of log value /m^3 of product on branch size for various log position classes. Product value was assessed by visual grading and logs were from compartments 79, 104 and 105.

These results indicate that branch size has most effect on timber value in the butt log and is of decreasing importance with increasing log position class. For example a BSMAX increase from 20 mm to 50 mm in the butt log would decrease MV/m^3P by about 20% whereas for the second log such an increase would result in only an 11% decrease.

Contributing to this result was the fairly high percentage of volume below F5 (MSG) in the butt logs with large branches (reported in section 4.5.7). This did not occur to such an extent in the second logs. The visual grading produced a much larger reject yield from the butt logs with large branches when compared to the logs with smaller branches. This effect did not occur in the second logs and indeed the larger branch size logs produced a generally better grade result than did the logs with smaller branches; possibly the reason that no relationship could be found between VV/m^3P and maximum branch size for the second logs. Another factor could be the observation made by *Fenton, Sutton and Tustin (1971)* that in the fourth and fifth logs branch diameter was well above the maximum knot size recorded in the sawn timber, the logs being too small in diameter to have contained the maximum branch size. Knots of maximum branch size could have been removed in the slabs. The log size may also be a contributing factor; with the smaller, younger trees of the 23 and 30 year group no relationships were found between timber value and branch size (section 4.7.4); the upper logs of the older trees would be about the same size and age as the younger trees.

For any particular maximum branch size, as log position increases timber value increases (Figure 4.32 and 4.33) to some extent because of the increasing contribution to overall log value of increasing yields of high grade board stock as log position class increases (section 4.4).

4.7.6 *The relationship between log value /m^3 of product and the combination of log size and branch size.*

Section 4.7.5 described relationships between timber value and certain branch size parameters. Most of these relationships were not improved significantly when log diameter was introduced into the regressions as another factor. There were however significant improvements in some of the relationships. These were for LPC1 (visual grading values) and for LPC2 (MSG values). No improvements were found for LPC 3 and 4. The multiple regression equations showing better correlations are given in Equations 4.8 to 4.14. Equations 4.8, 4.12 and 4.13 are plotted in Figure 4.34 for the range of log sizes occurring naturally within each log position class.

<u>LPC1</u> $VV/m^3P = 0.0850 \times \text{sedub} - 1.277 \times \text{BSMAX} + 116.71$ 4.8

where r = 0.68, N = 21, sign at 1% level.

$VV/m^3P = 0.0773 \times \text{sedub} - 1.582 \times \overline{\text{BS5}} + 121.95$ 4.9

where r = 0.70, N = 21, sign at 1% level.

$VV/m^3P = 0.0659 \times \text{sedub} - 1.505 \times \overline{\text{BS10}} + 118.02$ 4.10

where r = 0.58, N = 21, sign at 3% level.

$VV/m^3P = 0.0607 \times \text{sedub} - 1.776 \times \overline{\text{BS15}} + 123.4$ 4.11

where r = 0.65, N = 14, sign at 5% level.

$MV/m^3P = 0.01903 \times \text{sedub} - 0.897 \times \text{BSMAX} + 132.4$ 4.12

where r = 0.59, N = 21, sign at 2% level.

This multiple regression was highly significant. However, there was no significant improvement over the simple regression presented in Table 4.45.

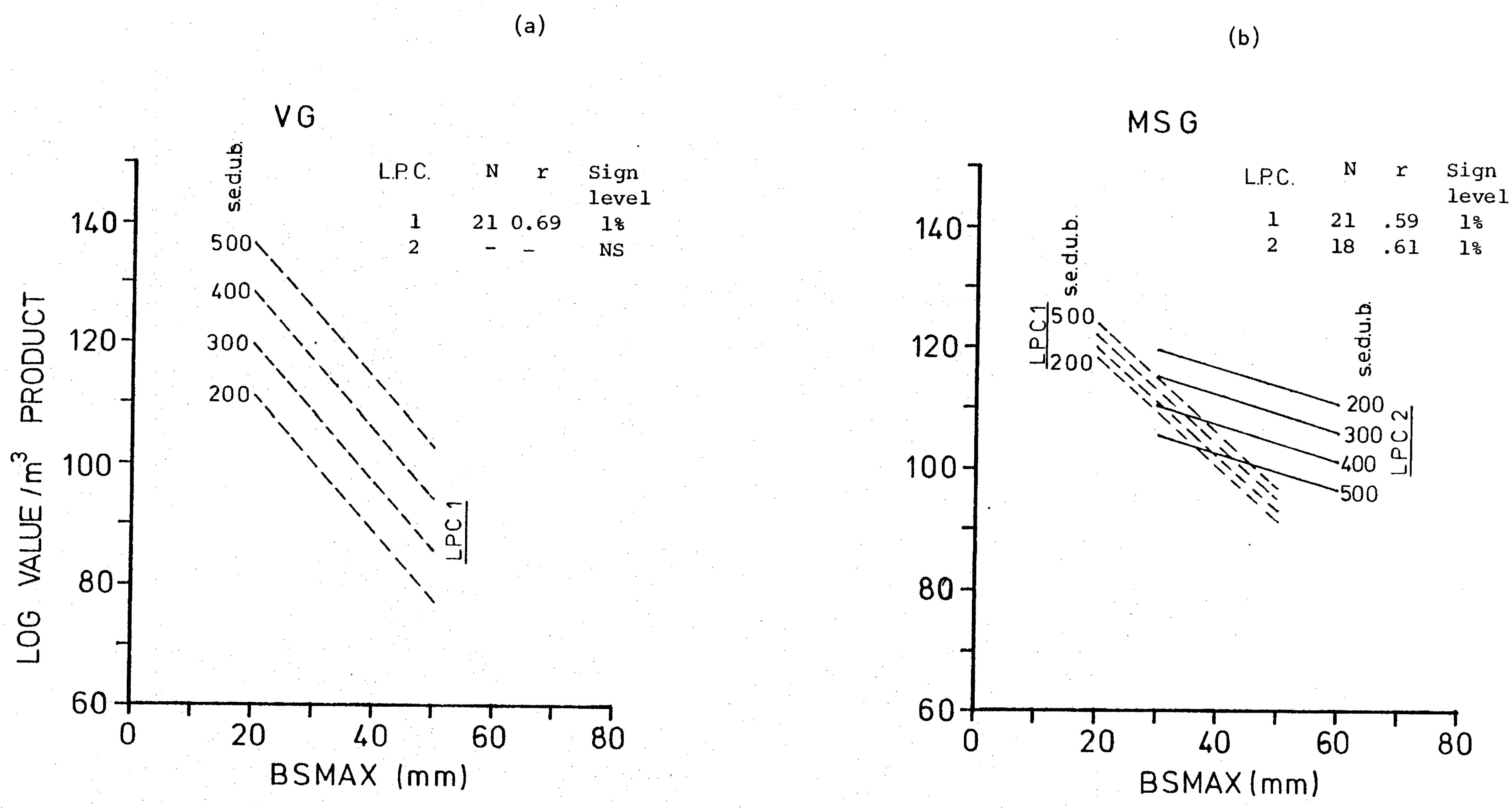


FIGURE 4.34. Multiple regressions of log value /m^3 of product on log small end diameter under bark and the maximum branch size per log for log position classes 1 and 2. Value was assessed by both visual and mechanical grading and logs were from compartments 79, 104 and 105.

<u>LPC2</u> $MV/m^3P = -0.0464 \times sedub - 0.303 \times BSMAX + 138.1$ 4.13

where r = 0.61, N = 18, sign at 3% level.

$MV/m^3P = -0.0492 \times sedub - 0.313 \times \overline{BS5} + 137.8$ 14.4

where r = 0.59, N = 18, sign at 4% level.

<u>LPC3</u> & <u>LPC4</u> - No improvements found.

As shown in Figure 4.34a log value $(VG)/m^3$ of product (VV/m^3P) for the butt logs increased with increasing log size for a particular maximum branch size (BSMAX). For example for a BSMAX of 40 mm a 200 mm log would have a value of about 90 units/m^3 and a 500 mm log 113 units/m^3 (a 26% increase).

The larger logs were generally sawn into larger scantling sections (Figure 3.1) so the defects due to a particular branch size would have less of a downgrading effect on the larger sections. (This aspect was also discussed in section 4.5.7) and greater yields of the higher grades would be expected from the larger logs. (Visual grading rules relate defect size and position to timber thickness and width to determine grade.) This result could also be the result of the larger logs having greater clearwood areas in the mature timber relative to the smaller logs, thus decreasing the chance of defects in the sawn wood. This was observed by *Fenton (1967)*. *Fenton (1967)* reports unpublished work by *Tustin (1970)* - "The production of larger logs, albeit with larger branches, increases the chances of avoiding defects; some results are available for visually graded timber from Ashley Forest and showed about the same proportionate yield of framing grades from three different initial spacings".

Another possible contributing factor is the larger percentage of juvenile wood in the small logs relative to the larger ones thus increasing the percentage of low visual grades in the small logs (an aspect discussed in section 4.5.1).

The relationship between MV/m^3P and BSMAX (Figure 4.34b) was not significantly improved by consideration of log size for the butt log although there was a slight trend towards larger values for the larger logs for any particular BSMAX. The diminished effect of log size on value, in this instance, is probably due to the small effect small increases in width have on timber stiffness *(Grant, 1979)*. Wood density could also contribute to this diminished effect. A machine grade is based on timber stiffness which is highly dependent on both density and defect size. For any constant dëfect size (constant BSMAX) timber density could be slightly higher in the mature wood of smaller logs because of the slower growth of the mature wood *(Welsh, 1979)*.

For the second log position class the opposite trend occurred for machine grading values ie. timber value (MV/m^3P) decreased as log size increased. The arguments put forward in the previous discussion about the butt logs make this result seem unlikely - perhaps the higher timber density of the smaller, slower growth logs might have been enough to raise grades (and therefore values) to give this effect. One other possible reason is the grading problem associated with the wider pieces. Many of the wide scantlings were down graded for some unexplained reason (discussed in section 4.5.7) and most of these pieces came from the largest logs in cpt. 79. This would have depressed the values for those logs and this could have contributed to the effect. There were only four logs in this category however out of 18 for the group and as the effect did not occur in the butt logs this can probably be ruled out as a possible explanation. Multiple regressions were performed on the data after exclusion of the four largest trees. This analysis produced similar trends to the previous one except that for the butt log, diameter had slightly more effect on value and slightly less effect for the second log.

CHAPTER 5

GENERAL DISCUSSION

5.1 *Factors affecting tree growth and timber quality in radiata pine plantations.*

Many factors affect the growth characteristics of trees in man-made forests and therefore indirectly the type and value of products they produce. The three most important general ones are:

1. species and their provenance
2. site factors
3. silvicultural treatment

Radiata pine has been chosen for most of the softwood plantations in the southern states of Australia because of its fast growth rate and potential for producing high quality wood products so that improving the genotype to eliminate undesirable trees from future plantations is very important. There have been encouraging results justifying tree improvement programs to develop the best quality stock for plantation forests *(Fielding, 1967)*.

Site factors include:

1. rainfall and moisture availability
2. temperature
3. soil structure and fertility
4. drainage
5. solar radiation
6. light intensity
7. conditions that lead to compression wood formation or other undesirable 'abnormalities'

Silvicultural treatments include:

1. cultivation
2. initial spacing
3. fertilization
4. chemical weed control
5. pruning
6. thinning
7. irrigation

Most site variables and silvicultural treatments affect the tree's rate of growth, the nature of the growth and tree form (including bole, crown and branching characteristics). This in turn affects the wood quality which influences the end use and value of the timber.

The direct results of the forest manager's decisions with regard to these factors were indicated by *Brazier (1976)* and these are shown in Figure 5.1.

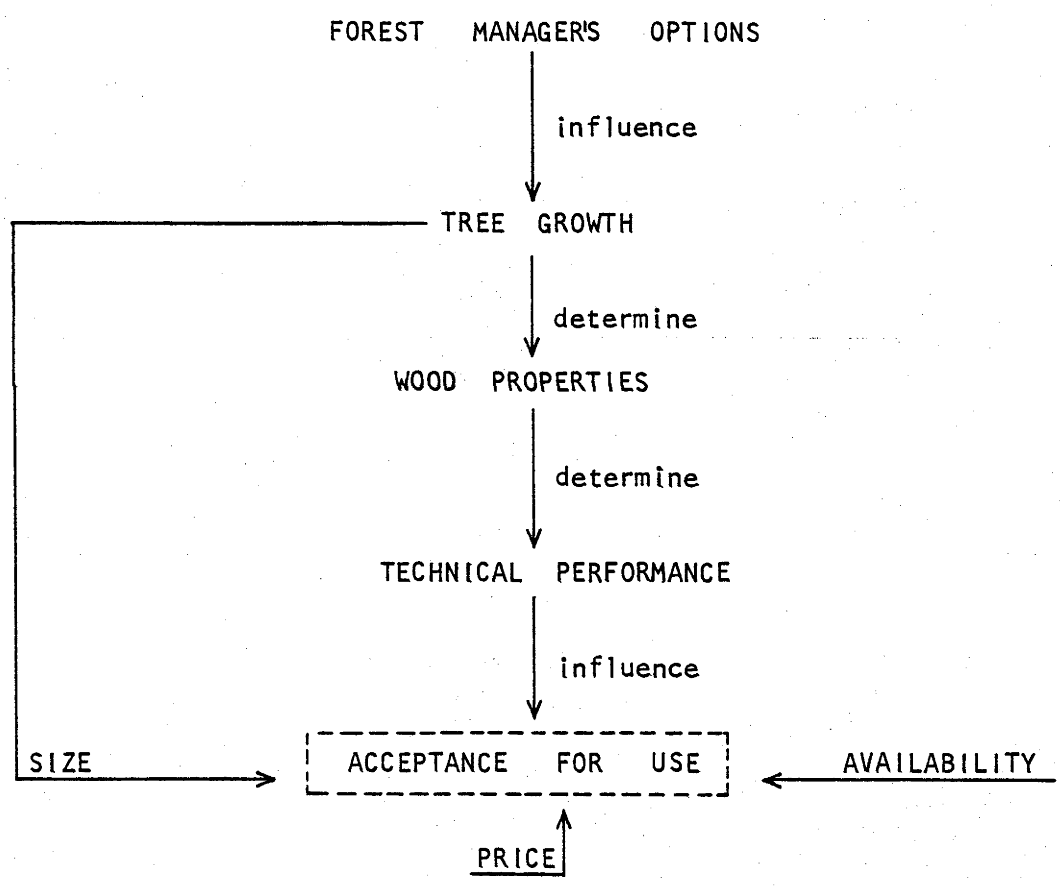


Figure 5.1. How the forester influences timber use

The wood technologist is concerned with the effects of the forest manager's actions on the various wood properties and the quality of the timber produced. The end user of the timber judges its suitability for a particular purpose from consideration of its likely technical performance in service. *Brazier (1976)* summarized the important factors governing technical performance and the wood properties affecting them. A modified version of this is presented in Figure 5.2.

TECHNICAL PERFORMANCE FACTOR	*WOOD PROPERTY INFLUENCING THE TECHNICAL PERFORMANCE FACTOR*
Stiffness and strength	Knots, density, grain direction, juvenile wood.
Shrinkage and hygroscopic movement	Grain direction, juvenile wood, compression wood, density.
Sawing and machining	Grain direction, texture, compression wood, density, knots.
Nail holding	Density, juvenile wood, texture.

Figure 5.2. Important technical performance criteria relevant to sawn timber utilization and the wood properties that affect the performance criteria.

The strength of mature radiata pine scantlings is limited mainly by knots and sloping grain. Density also influences the strength of clear timber but it is not generally the limiting factor in determining the grade of mature wood. Minimum strength normally determines stress grade in mature radiata pine timber and this minimum strength is predominantly limited by knots and grain direction.

Scantlings cut from juvenile radiata pine wood, however, have low density and therefore low stiffness and stress grade is generally limited by density as well as knots and sloping grain. *Anton (1979)* showed that radiata pine scantling cut from 13 year old trees had low stiffness but relatively high strength; this high strength being due to small knot size. In this case the end use of the wood (i.e. stress grade) would be limited more by low stiffness than by strength considerations.

The size and number of knots in radiata pine is directly related to the branching characteristics of the tree. Forest practices which prolong the growth of branches usually result in larger branches and, therefore, larger knots in the sawn timber. Initial spacing and thinning practice have an important effect on branch size and condition; wider spacing and/or earlier thinning result in larger branch sizes; close spacing and/or inadequate or no thinning, however, result in the death of the lower branches and unsound or loose knots in the resulting timber. These may reduce the future market value of the trees.

Average tree density is seriously affected by forest practices only in so far as the proportion of low density juvenile wood is affected. However, generally, the density of wood is slightly decreased by practices which increase the tree's rate of growth. The combination of knot characteristics and timber density and the overall effect on the strength and stiffness of timber has not yet been studied in any great detail.

Grain direction is an important property influencing wood quality because it affects distortion during drying, dimensional stability, strength and machining quality. Studies of the effects of silvicultural practices on spiral grain are conflicting and, as a result, very few definite conclusions can be drawn *(Boyd, 1967)*. However, because spiral grain occurs mainly in the juvenile wood, practices which increase the proportion of juvenile wood will decrease the overall quality of the wood.

Silvicultural practices also influence stem form. Taper is increased by wide spacing and heavy thinning but reduced by heavy green pruning. Undesirable compression wood is produced if an asymmetric crown develops. To avoid this, plants should be established in a straight and upright position and steep sites or sites exposed to strong prevailing winds are best avoided.

Generally the forest manager looks for ways of increasing total wood yield providing he does not stray too far from normally accepted management practice. In a review of tree and stand growth in radiata pine plantations in N.S.W. (*Forrest, 1972*) the most desirable management objective was "to balance total production, size class distribution and discounted value returns. The regime to achieve this would result in a stable and vigorous plantation where total merchantable volume production would be slightly less than the maximum possible."

Forrest suggests for normal sites an initial spacing of 2.4 m x 2.4 m resulting in about 1500 trees per hectare at first thinning if there is a market for pulp or chips. This stocking would satisfy requirements for branch size, pruning potential and crop tree selection. If the first commercial thinning is for sawlogs, however, the stocking should then be about half this figure, the surplus having been removed earlier and achieved through non-commercial thinning, sometimes referred to as thinning to waste, rather than wide initial spacing. Forrest only advocates wide spacing with the best establishment techniques and with genetically improved stock or on poor sites. At the present time the practice in New South Wales is to plant at spacings wider than 2.4 m x 2.4 m. (Generally 3 m x 2.5 m or 3 m x 3 m and small areas of 2.5 m x 2.5 m.

Forrest also suggests that there is little financial advantage in attempting to ensure non-competitive growth conditions through wide spacings since total yield could be reduced by about 20% and large branches could reduce product value. Branch size would also be a factor limiting product quality if intensive thinning became the trend; pruning, as a means of controlling branch size, would probably then be essential.

5.2 *This study, and its implications for forest management.*

This study shows, using present methods of timber grading, high yields of relatively high grade, i.e. F7 and higher (F7+), can be produced from radiata pine trees 30 years and over, grown using established silvicultural practices. These trees generally produced high yields of F7+ (MSG) from at least the first three logs in each tree. Visual grading produced increasingly smaller yields of these grades as log position class increased because of the decreasing size of the logs.

The effect of site quality on grade yield was rather complex in that higher site qualities produced larger trees with larger branches and would therefore be expected to produce timber of lower grade than lower site qualities. However, larger trees are usually converted to larger section sizes than smaller trees thus diminishing the effect of the larger branch sizes on timber grade. The smaller trees would also contain a higher percentage of juvenile wood tending to reduce the yields of the higher grades from these trees. In this study, the three different site qualities in compartments 104 and 105 produced similar yields except for the lowest site quality which produced higher yields of the lower grades by both grading methods because of the larger percentage of juvenile wood in the smaller trees. Generally the highest site quality produced the most valuable timber. On the other hand, compartment 79, which produced the largest trees of all and may be assumed to be of higher site quality than cpts. 104 and 105, produced timber of lower value than any site quality in the latter. This result was probably due to the far larger branch diameters on the largest trees sampled from cpt. 79, (increasing branch diameter on logs from cpts. 79, 104 and 105 tended to lower the product value of the logs, especially for the lower logs. If maximum branch size can be kept under control (eg. < 40mm in the butt log) higher site qualities in the A.C.T. could produce timber of greater value than lower site qualities).

Age had an effect on yields in the higher grades. There was little difference in grade yields for the 19 and 23 year old stands but the 30 year old stand produced far better grade yields especially when machine grading. This result is probably due to the higher percentage of mature wood in the older trees.

Maximum branch size increased linearly with spacing so that increasing spacing could have a depressing effect on grade yields. However, the evidence suggests that in the A.C.T. depression of grade yields by excessive branch size due to wide spacing (e.g. up to 3.66 m x 3.66 m) would be minimal. This is borne out by the good grade yield results for cpts. 79, 104 and 105 where initial spacing was 3.66 m x 3.66 m. In this study, the closer spacings produced the lowest yields of low grade wood, for the first and second log position classes but the wider spacings produced superior yields for the third LPC. Sample sizes were, however, too small for any firm conclusions to be drawn.

The effect of log size on sawn recovery should also be considered by the forest manager. Larger logs generally produce higher percentage yields than smaller logs and are therefore of greater value to industry. Sawmillers could also contribute to an improvement in grade recovery by converting trees with poor branching characteristics into larger timber sizes.

CHAPTER 6

CONCLUSIONS

1. Tree diameter and mean tree height increased linearly with increasing spacing.

2. The number of branches per log increased linearly with increasing log position class for both thinned (cpt. 79) and unthinned (cpt. 139) stands.

3. Branch size parameters based on the largest branches per log (ie. BSMAX, $\overline{BS5}$, $\overline{BS10}$, $\overline{BS15}$) all increased linearly with log position class in cpt. 79. Mean branch size per log, however, showed no increase.

4. Spacing did not significantly affect the number of branches per log except for the second logs where it decreased with increasing spacing.

5. Most branch size parameters (ie. $\overline{BS}$, BSMAX, $\overline{BS5}$, $\overline{BS10}$, $\overline{BS15}$) increased linearly with spacing for all log positions. As spacing increased the largest branches on a log increased in diameter by about the same percentage as the average branch diameter.

6. Most of the branch size parameters based on the largest branches per log, increased linearly with log position class for all four spacings. However as spacing increased the size of the largest branches became independent of log position. Average branch diameter decreased slightly with increasing log position class for the 1.83 m x 1.83 m and 3.66 m x 3.66 m spacings.

7. As a result of thinning in cpt. 79 branch sizes in the third and higher logs increased significantly. Branch sizes in the butt and second logs were not affected.

8. There was a positive linear relationship between most branch size indicators and log sedub for both the thinned and unthinned stands for most log positions. No relationship was found to exist between the number of branches and log sedub.

9. Timber volume recoveries as a percentage of log volume generally increased with increasing log diameter. Some of the butt logs however produced lower volumes than expected but this was probably due to the method of calculating log volume.

10. About 30% to 35% of the boards recovered from the butt logs from the older, thinned stands was graded as reject but this decreased with increasing log position class.

11. Scantling yields from the older stands in the F5+ (MSG) were generally greater than 90% of total yield for most log position classes and site qualities. Yields in the higher grades, i.e. F7+ were generally greater than 70% of total yield for at least the lower three log position classes. Machine grading yields were not significantly affected by site quality.

12. Scantling yields (VG) from the older stands produced inferior grade distributions than did machine grading; the yields of the higher grades being reduced by the large percentage of juvenile wood in the smaller logs from the lower site quality areas and by the large percentage of juvenile wood in the smaller logs from the higher log position classes.

13. The two closer spacings generally produced the lowest yields of low grade scantling (ignoring twist) for the first two logs. The wider spacings, however, produced superior yields from the third logs. Sample size was, however, quite small.

14. The 19 and 23 year old, unthinned stands, produced small yields of scantling in the higher grades (F7+) whereas the 30 year old (unthinned) stand produced reasonable yields of these grades especiall when machine grading.

15. Logs with large branches produced scantling of inferior machine grade than did logs with small branches. This effect did not, however, occur for visual grading.

16. Log value /m^3 of product appeared to be affected by site quality only in as much as the larger percentage of juvenile wood in the smaller trees from the lower site qualities depressed the values from these areas. Log value /m^3 of log generally decreased with decreasing site quality.

17. Log value /m^3 of product and log value /m^3 of log increased with increasing age.

18. The average ex-mill door value/unit volume of timber (using machine grading) for the logs in this study lay between the ex-mill door value/unit volume of the F5 and F7 scantling grades.

19. There was a negative linear relationship between branch size and log value /m^3 of product for the older thinned stands. The slope of the relationship however, decreased with increasing log position class, ie. branch size had most effect on value in the butt logs and was of decreasing importance with increasing log position class.

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APPENDIX A

Instructions for mill operators

Headrig Sawyer

Loading 1. Small end about 1ft. from end headblock.

2. Orientate bowed logs so that bow is at 45° concave upwards away from the headblocks.

Sawing

A. 6-10in. S.e.d.

1. 1st cut. Use the linebar and shadowline to make a first cut 2in. from and parallel to the pith.

   Set the line bar to ½ marked s.e.d. less 2in. plus small end bark thickness. For example, for a 9in. log, 4½-2 plus bark thickness of ½in. gives 3in.

   Set the small end headblock and, if the log has taper, move the line bar back an inch or so and move the butt end across until the shadowline appears parallel to the centre line of the log.

2. 2nd cut. Turn the log 90° and using the shadowline position the log so that the second cut will be parallel to the log centreline and give a small end arris with no more than a ½in. width strip of wane.

3. 3rd cut. Turn the log a further 90°. The headrig assistant will set the backstand gauges to 4 3/16in. (+ 1/16in. tolerance).

   After the cut bring the carriage back past the saw so that the headrig assistant can check that the cant measures 4 3/16in. (+ 1/16in.) at the butt end of the log.

4. Discharge the cant.

B. 11-14in s.e.d.

1. Procedure is similar to that for 6-10in s.e.d. logs.

2. Linebar settings are ½ marked s.e.d. less 4¼in. plus bark thickness.

3. Backstand gauge setting for the 3rd cut is 8½in. (+ 1/16in.).

4. If a 11-14in. class is so badly formed that a 8½in. cant cannot be cut, use the 6-10in. class cutting pattern.

5. Cants will be resawn by the breastbench.

C. 15in. plus s.e.d.

1. Procedure as before except that linebar settings are ½ marked s.e.d. less 6¼in. plus bark thickness and backstand gauge setting for the 3rd cut is 12 3/4in.

Headrig assistant

1. As the log is returned after each cut the sawn face is to be swept with a broom. This is to prevent sawdust build up on the log bearers and headblock faces.

2. The backstand gauges are to be correctly set:

Cut	4 3/16in.	6-10in s.e.d. logs
	$8\frac{1}{2}$in.	11-14in. s.e.d. logs
	12 3/4in.	15in. plus s.e.d. logs.
	Tolerance + 1/16in. all sizes	

   If the cant is oversize loosen the gauges and if undersize tighten the gauges.

   The distance from outside saw to the log bearer nose is 3/4in. Thus the backstand face to log bearer nose distances are 3 7/16in., 7 3/4in., 12in. (+ 1/16in.) respectively.

3. Check the cant thickness at the butt end of the log after the 3rd cut (the headrig sawyer will bring the cant back past the saw). The cant deck assistant will tell you if thickness is incorrect at the small end of the log.

4. Be particularly careful moving about on the carriage. Never move onto the carriage unless the headrig sawyer has given you the nod.

Cantdeck assistant

1. Check that cant thickness at the small end of the log is correct

4 3/16in.	6-10in sed logs
8½in.	11-14in sed logs
12 3/4in.	15in. sed plus logs

Tolerance + 1/16in. all sizes.

Advise the headrig assistant of the actual size (signal II O.K.)

2. Check that the sawyer is not exceeding the wane allowances (max. width of strip of wane is ½in.) on logs of normal form. Wane allowances may be exceeded with bowed or kinked logs.

3. Assist the breastbench sawyer by turning all slabs so that their sawn surface is facing downwards and all cants so that the unsawn face points towards the breastbench sawyer.

4. Using a white aerosol paint spray for bark surfaces and a black lumber crayon for sawn surfaces, mark the uppermost surface of each slab and cant so that tree and log identification is clearly legible to the breastbench sawyer, tailer out and marker. The identification will be the same as for the log, for example 012/1, with further identification of the part of the log, for example 012/1/1, 012/1/2, 012/1/3 for the first, second and third slabs and 012/1/4 for the cant. The order of parts will be recorded on a blackboard visible to the breastbench crew and the marker.

5. An operation time sheet will be filled in. The time from load to load (loading a log on the carriage) will be recorded and within that period delays due to abnormalities (adjustments, downtime) will be recorded.

Breastbench sawyer

1. The aim is to produce 16ft. long within-wane-allowance 1 9/16in. thickness material as far as possible and otherwise to produce maximum widths of 1in. boards.

2. Sizes to be cut

Thickness	Width
1 9/16in.	4 3/16, 6¼, 10 3/4, 12 13/16.
1in.	3 3/16, 4 3/16
	5¼, 6¼
	7 3/8
	8½, 9½, 10½.

3. Maximum length of docking 1in. boards for wane to give a minimum 10% improvement in realisation over narrower full length boards. Minimum merchantable length 6ft.

Maximum full-length	Optional width for shorter boards						
Width	4in.	5in.	6in.	7in.	8in.	9in.	10in.
3	3	6	7	9	10	10	10
4		3	5	7	8	9	10
5			2	4	6	7	9
6				2	3	5	7
7					1	2	5
8						1	3
9							2

4. Whenever possible slabs are to be sawn vertically using the hob. Waney edged boards will be edged with one free cut and one gauged cut using the hob. The hob is to be used whenever possible to minimise sawing and tailingout inaccuracies.

5. Slabs should be cut to 1 9/16in. material if it is apparent that at least a 4 3/16 x 1 9/16in. full length, within wane allowance piece can be cut. If a mistake over wane is made and providing no more than 4ft of waney material needs to be docked do not resaw the piece to 4x1in. If a wider but less than full length piece can be cut from an unedged 1 9/16in. board the maximum dockings to still give a 10 percent improvement in realisation are given below. Minimum desired board length is 12ft.

Maximum full length	Optional width for shorter boards			
width	6	8	10	12
4	4	4		
6		3	4	
8			2	4
10				1

6. Do not double flitch different parts of a log (i.e. two slabs) as this may confuse the marker. Different parts of a single slab may be double flitched.

Breastbench marker

1. Check the dimensions of 1 9/16in thick material sawn from slabs and thickness only of material sawn from cants. Tolerance + 1/16in. Dimensions of 1in. thick material need not be checked.

2. Using black lumber crayon mark on piece number very clearly at the "butt end" of the piece (i.e. at the face at the end nearest the breastbench). Underline all numbers which could be inverted.

3. Record tree, log, part, piece size against the right piece number on form 1. Entries must be tidy and the sheets kept in good condition so that the data can be punched up directly from the sheets.

4. Keep a careful eye on log part identifications. On the blackboard continually rub out the log parts which have been sawn.

5. The order of entries on form 1 is intended to enable the tree to be put back together. If the sawyer saws a board from a slab, puts it aside unedged, and saws another board and edges that before edging the first, leave a gap for the first started board on form 1 and give the second started, but first finished board, the next number reserving the number before for the first started board.

6. Record the time taken to process log parts on an operation sheet, Record abnormalities (adjustments, downtime).

Stacker

1. Carry the marked pieces from the breastbench and stack the 1½in. thick timber into width-segregated packets and all widths of 1in. material into a single packet. All face marked numbers will be at the same end of the packet. The packets will be arranged end on to the mill door on 12in. high bearers.

2. Completed packets will be centre strapped, placed on roller pallets and rolled out of the building so that they can be loaded onto a truck by forklift.

3. Packet specifications for the various dimensions are:

	4x1½	6x1½	8x1½	10x1½	12x1½	1inch
Pieces/layer	9	6	5	4	3	max.width 3'6"
No. layers	20	20	20	20	20	30
Internal fillets	Above layers 8 and 16					above layers 12 and 24
Pieces/packet	80	120	100	80	60	Variable

4. Pieces will be stacked consistently from left to right (facing breastbench) one layer at a time. When each packet layer is completed paint the surface with anti-sapstain solution. Packets should be well made and sides and ends should be vertical.

Forklift operator

1. Keep the headrig line deck supplied with logs. Be sure that the tagged and s.e.d. marked end faces the headrig sawyer.

2. Assist the breastbench crew with slab removal.

3. Assist the stacker with removal of completed packets.

4. Load completed packets onto the truck.

APPENDIX B

Forestry Commission of NSW softwood grading programs

Published 1974 Issued by Wood Technology Division

SOFTWOOD GRADING PROGRAM - THICKNESS RANGE 25-40 mm

YELLOW PROGRAM CARD

		MACHINE UNIT SIZE 0.1905 mm		
Grade*	Color Code**	Cutoff Points (Units)	Deflection Range (mm)	M of E Range (GPa)
F11	Purple	20	0 - 3.81	Max - 11.58
F8	Green	28	3.62 - 5.33	12.19 - 8.27
F5	Black	42	5.14 - 8.00	8.58 - 5.52
F4	Red	56	7.81 - 10.67	5.65 - 4.14
Reject		-	10.48 - Max	4.21 - 0

		MACHINE UNIT SIZE 0.381 mm		
Grade*	Color Code**	Cutoff Points (Units)	Deflection Range (mm)	M of E Range (GPa)
F11	Purple	10	0 - 3.81	Max - 11.58
F8	Green	14	3.43 - 5.33	12.87 - 8.27
F5	Black	21	4.95 - 8.00	8.91 - 5.52
F4	Red	28	7.62 - 10.67	5.79 - 4.14
Reject		-	10.29 - Max	4.29 - 0

* SUGGESTED GRADES ARE TO BE VERIFIED BY THE OPERATOR FROM TEST SAMPLES

** Color Code as per AS1613-1974

DIMENSIONS (mm)		LOAD PER mm WIDTH (N)	EXTREME FIBER STRESS (kPa)
Wide	Thick		
1	25	3.61	7920
1	26	4.06	8230
1	27	4.55	8550
1	28	5.07	8870
1	29	5.63	9180
1	30	6.23	9500
1	31	6.88	9820
1	32	7.57	10 130

DIMENSIONS (mm)		LOAD PER mm WIDTH (N)	EXTREME FIBER STRESS (kPa)
Wide	Thick		
1	33	8.30	10 450
1	34	9.08	10 770
1	35	9.90	11 080
1	36	10.77	11 400
1	37	11.70	11 720
1	38	12.67	12 030
1	39	13.70	12 350
1	40	14.78	12 670

Example Load required for 100 x 30 mm material

= 100 x 6.23

= 623 N

SOFTWOOD GRADING PROGRAM - THICKNESS RANGE 38-51 mm

RED PROGRAM CARD

		MACHINE UNIT SIZE 0.1905 mm		
Grade*	Color Code**	Cutoff Points (Units)	Deflection Range (mm)	M of E Range (GPa)
F11	Purple	16	0 — 3.05	Max — 11.03
F8	Green	22	2.86 — 4.19	11.77 — 8.02
F5	Black	32	4.00 — 6.10	8.41 — 5.52
F4	Red	42	5.91 — 8.00	5.69 — 4.20
Reject		-	7.81 — Max	4.31 — 0

		MACHINE UNIT SIZE 0.381 mm		
Grade*	Color Code**	Cutoff Points (Units)	Deflection Range (mm)	M of E Range (GPa)
F11	Purple	8	0 — 3.05	Max — 11.03
F8	Green	11	2.67 — 4.19	12.61 — 8.02
F5	Black	16	3.81 — 6.10	8.83 — 5.52
F4	Red	21	5.72 — 8.00	5.88 — 4.20
Reject		-	7.62 — Max	4.41 — 0

* SUGGESTED GRADES ARE TO BE VERIFIED BY THE OPERATOR FROM TEST SAMPLES

** Color Code as per AS1613-1974

DIMENSIONS (mm)		LOAD PER mm WIDTH (N)	EXTREME FIBER STRESS (kPa)
Wide	Thick		
1	38	9.65	9170
1	39	10.44	9410
1	40	11.26	9650
1	41	12.12	9890
1	42	13.03	10 130
1	43	13.99	10 380
1	44	14.99	10 620

DIMENSIONS (mm)		LOAD PER mm WIDTH (N)	EXTREME FIBER STRESS (kPa)
Wide	Thick		
1	45	16.03	10 860
1	46	17.12	11 100
1	47	18.26	11 340
1	48	19.46	11 580
1	49	20.70	11 820
1	50	21.99	12 060
1	51	23.34	12 310

Example Load required for 75 x 40 mm material
= 75 x 11.26
= 845 N

APPENDIX C

Initial (unprocessed) sample piece data

553.0	1	1	4	64	16	0	0	0	0	0	0	0	0	0
552.0	1	1	4	64	16	16	6672	5	0	0	0	0	0	0
546.0	1	1	4	64	24	16	8610	6	94	2	2	0	12	3
551.0	1	1	4	64	24	16	8234	11	95	3	4	0	12	1
547.0	1	1	4	64	24	16	7909	7	95	4	5	2	11	3
548.0	1	1	4	64	24	16	8035	10	97	2	4	0	11	2
550.0	1	1	4	64	24	16	8185	11	98	3	6	0	11	1
549.0	1	1	4	64	24	16	8389	11	98	8	11	5	11	1
556.0	1	1	4	96	16	16	4141	1	0	0	0	0	0	0
544.0	1	1	1	96	24	16	13330	6	5	1	1	1	0	3
545.0	1	1	3	128	24	11	12420	6	4	2	6	1	0	3
555.0	1	1	4	128	24	16	17550	6	5	2	3	3	0	3
541.0	1	1	2	128	24	14	15710	6	6	0	1	3	0	3
542.0	1	1	4	160	24	16	0	6	96	0	4	0	9	0
539.0	1	1	4	192	24	14	0	7	95	8	0	0	10	0
543.0	1	1	4	192	24	12	0	6	96	5	0	0	10	0
538.0	1	1	4	192	24	16	0	6	96	9	15	8	10	0
554.0	1	1	4	192	24	16	0	8	97	0	0	0	0	0
521.0	1	2	4	64	24	16	7748	8	94	3	9	3	12	3
519.0	1	2	4	64	24	16	7622	9	94	3	3	0	11	3
518.0	1	2	4	64	24	16	8201	7	94	4	4	0	11	3
522.0	1	2	4	64	24	16	7324	8	95	0	4	4	11	3
520.0	1	2	4	64	24	16	8203	6	95	0	8	8	12	3
523.0	1	2	4	64	24	16	8010	11	96	8	3	0	11	1
524.0	1	2	4	64	24	16	7978	10	97	3	2	0	11	1
516.0	1	2	4	80	16	15	7812	3	0	0	0	0	0	0
517.0	1	2	3	96	16	16	9666	5	0	0	0	0	0	0
514.0	1	2	2	96	24	12	9560	7	5	5	2	3	0	3
513.0	1	2	1	128	24	16	17380	9	5	5	4	5	0	3
506.0	1	2	4	128	24	16	18550	7	5	2	1	2	0	2
515.0	1	2	4	160	24	16	0	6	96	0	6	1	10	0
509.0	1	2	4	192	24	16	0	7	96	6	2	0	10	0
508.0	1	2	4	192	24	16	0	9	97	0	7	0	11	0
319.0	1	3	4	64	16	16	5717	3	0	0	0	0	0	0
316.0	1	3	4	64	24	16	7450	8	7	5	7	5	0	1
318.0	1	3	4	64	24	16	7400	10	8	29	2	2	11	1
315.0	1	3	4	64	24	16	7320	7	8	2	11	7	0	3
317.0	1	3	4	64	24	16	7580	10	9	18	8	2	0	1
313.0	1	3	3	80	16	12	5886	3	0	0	0	0	0	0
322.0	1	3	4	96	16	15	8450	3	0	0	0	0	0	0
312.0	1	3	2	96	24	16	12510	8	6	15	4	2	0	3
310.0	1	3	1	112	16	9	6102	5	0	0	0	0	0	0
314.0	1	3	4	128	24	16	17380	9	5	14	1	3	13	3
321.0	1	3	4	128	24	16	16500	8	6	7	8	1	0	3
311.0	1	3	1	128	24	16	16610	7	6	19	9	2	9	2
324.0	1	3	4	128	24	16	16590	9	7	3	3	2	0	3
320.0	1	3	4	128	24	16	15730	9	7	5	10	2	0	2
353.0	1	4	4	64	24	15	7180	9	94	2	3	0	11	2
351.0	1	4	3	64	24	16	8628	10	94	4	9	0	11	3
357.0	1	4	4	64	24	16	7753	8	95	5	11	0	12	3
356.0	1	4	4	64	24	15	7011	10	95	1	9	0	11	2
355.0	1	4	4	64	24	15	6970	11	97	16	3	0	11	1
354.0	1	4	4	64	24	15	6937	11	97	14	2	0	11	1
349.0	1	4	1	96	16	12	6788	3	0	0	0	0	0	0

359.0	1	4	4	96	24	15	11660	9	5	6	9	2	0	3
350.0	1	4	2	96	24	15	11480	7	6	19	11	2	0	3
358.0	1	4	4	128	24	15	15100	11	6	5	1	1	0	2
352.0	1	4	4	128	24	15	14750	7	6	4	4	3	0	3
107.0	1	5	1	48	16	12	3704	3	0	0	0	0	0	0
110.0	1	5	3	64	16	9	3621	3	0	0	0	0	0	0
109.0	1	5	4	64	24	16	7470	11	7	22	5	2	0	1
108.0	1	5	4	64	24	16	7680	11	7	8	3	1	0	1
589.0	2	1	1	48	16	16	5702	5	0	0	0	0	0	0
603.0	2	1	4	64	16	16	7122	3	0	0	0	0	0	0
599.0	2	1	4	64	16	15	6584	3	0	0	0	0	0	0
597.0	2	1	4	64	24	16	8710	8	93	1	5	0	12	3
598.0	2	1	4	64	24	16	8446	8	94	0	3	0	0	3
593.0	2	1	4	64	24	15	8137	9	94	2	3	0	12	3
594.0	2	1	4	64	24	15	7630	9	96	6	6	1	11	3
595.0	2	1	4	64	24	15	7096	10	97	4	8	0	10	2
596.0	2	1	4	64	24	16	7244	11	99	15	13	4	11	1
584.0	2	1	2	80	16	6	3824	1	0	0	0	0	0	0
591.0	2	1	3	112	16	11	9177	3	0	0	0	0	0	0
592.0	2	1	3	128	24	16	19010	8	5	3	13	4	0	3
590.0	2	1	1	128	24	16	18740	7	5	1	7	1	0	3
585.0	2	1	2	128	24	11	13920	6	6	2	6	1	0	1
604.0	2	1	4	160	24	16	0	7	0	8	0	0	9	0
602.0	2	1	4	160	24	16	0	7	96	0	4	0	11	0
601.0	2	1	4	192	24	16	0	6	96	0	6	0	10	0
600.0	2	1	4	192	24	16	0	7	96	0	0	0	10	0
600.1	2	1	4	192	24	15	0	6	97	0	0	0	11	0
588.0	2	1	4	192	24	15	0	10	97	0	0	0	10	0
574.0	2	2	3	48	16	13	4578	5	0	0	0	0	0	0
583.0	2	2	4	64	16	16	5702	5	0	0	0	0	0	0
582.0	2	2	4	64	24	16	7826	8	94	1	2	0	11	3
581.0	2	2	4	64	24	16	8045	8	94	2	2	0	11	3
579.0	2	2	4	64	24	15	8257	8	94	3	3	0	12	3
578.0	2	2	4	64	24	16	8260	8	94	2	2	0	11	3
573.0	2	2	3	64	24	15	8710	7	94	3	4	0	12	3
579.1	2	2	4	64	24	16	7554	9	97	5	2	3	11	2
580.0	2	2	4	64	24	16	7136	10	98	18	3	0	11	1
571.0	2	2	1	96	16	16	9608	5	0	0	0	0	0	0
586.0	2	2	4	112	16	9	6940	5	0	0	0	0	0	0
587.0	2	2	4	128	24	16	17620	6	4	2	2	1	0	3
572.0	2	2	2	128	24	16	18050	7	5	3	4	1	0	0
577.0	2	2	4	192	24	16	0	8	94	0	0	0	9	0
575.0	2	2	4	192	24	16	0	6	95	4	7	0	9	0
578.1	2	2	4	192	24	16	0	9	96	0	5	0	10	0
576.0	2	2	4	192	24	16	0	8	98	0	0	2	10	0
562.0	2	3	4	64	24	15	8245	9	94	0	2	0	12	3
559.0	2	3	4	64	24	16	8373	8	94	2	3	0	11	3
560.0	2	3	4	64	24	16	7945	10	95	3	3	0	11	2
563.0	2	3	4	64	24	15	7056	10	97	4	4	0	11	2
561.0	2	3	4	64	24	15	7483	10	97	0	5	0	11	3
565.0	2	3	4	64	24	16	7451	11	98	14	5	0	11	1
564.0	2	3	4	64	24	16	7220	10	98	16	5	0	11	1
569.0	2	3	4	96	16	11	7057	5	0	0	0	0	0	0
566.0	2	3	2	96	24	13	10340	6	4	0	2	6	0	3

567.0	2	3	3	112	16	10	8140	5	0	0	0	0	0	0
570.0	2	3	4	128	24	15	16860	10	7	3	1	1	0	0
568.0	2	3	4	160	24	16	0	9	97	0	9	0	9	0
558.0	2	3	4	192	24	15	0	9	96	0	0	0	11	0
557.0	2	3	4	192	24	15	0	9	97	0	0	0	11	0
373.0	2	4	4	48	16	16	4860	5	0	0	0	0	0	0
353.0	2	4	3	48	16	16	5174	5	0	0	0	0	0	0
361.0	2	4	2	48	16	11	3468	5	0	0	0	0	0	0
370.0	2	4	4	64	16	16	5397	5	0	0	0	0	0	0
360.0	2	4	1	64	16	16	6754	3	0	0	0	0	0	0
366.0	2	4	4	64	24	16	7610	8	7	6	3	1	0	2
369.0	2	4	4	64	24	16	7220	10	8	10	2	3	0	2
368.0	2	4	4	64	24	16	7680	10	8	5	4	1	0	2
367.0	2	4	4	64	24	16	7250	11	8	8	3	1	0	1
364.0	2	4	3	96	24	16	12920	9	6	3	1	1	0	3
362.0	2	4	2	96	24	16	12900	9	7	9	2	4	0	2
372.0	2	4	4	128	24	16	16650	7	5	1	2	1	0	2
371.0	2	4	4	128	24	16	15780	9	7	9	3	0	0	1
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249.1	2	5	3	48	16	6	1864	3	0	0	0	0	0	0
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259.2	2	5	4	48	16	6	1705	3	0	0	0	0	0	0
259.1	2	5	4	48	16	9	2354	3	0	0	0	0	0	0
258.2	2	5	4	64	16	8	3200	3	0	0	0	0	0	0
258.1	2	5	4	64	16	6	2320	3	0	0	0	0	0	0
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254.0	2	5	4	64	24	16	7610	7	7	10	9	1	0	1
257.0	2	5	4	64	24	16	7970	10	10	14	4	3	0	1
255.0	2	5	4	64	24	16	7700	10	97	8	4	3	11	1
256.0	2	5	4	64	24	12	7969	10	98	9	6	0	11	1
253.0	2	5	4	96	16	9	5113	3	0	0	0	0	0	0
252.0	2	5	4	96	16	7	4211	3	0	0	0	0	0	0
250.0	2	5	2	112	16	6	3696	5	0	0	0	0	0	0
251.0	2	5	4	128	24	15	15810	11	7	17	2	5	13	1
129.0	2	6	4	48	16	16	4948	3	0	0	0	0	0	0
131.0	2	6	4	64	24	16	7990	11	8	24	28	2	0	1
130.0	2	6	4	64	24	16	7850	11	8	20	10	5	11	1
133.0	2	6	2	64	24	6	4180	10	94	6	0	0	12	1
132.0	2	6	2	96	24	8	6170	10	9	24	5	2	0	1
126.0	2	7	1	48	16	11	3213	5	0	0	0	0	0	0
128.0	2	7	4	64	16	16	6040	3	0	0	0	0	0	0
127.0	2	7	4	64	24	16	7220	11	7	31	3	7	0	1
497.0	3	1	4	64	24	16	9817	6	93	0	5	2	12	3
496.0	3	1	4	64	24	16	9100	9	93	2	2	0	11	3
481.0	3	1	2	64	24	16	9475	8	93	1	3	0	12	3
499.0	3	1	4	64	24	16	8431	10	94	0	10	2	11	3
498.0	3	1	4	64	24	16	8678	7	94	1	15	0	11	3
502.0	3	1	4	64	24	15	7371	11	96	8	11	3	11	1
500.0	3	1	4	64	24	15	7206	10	96	3	23	0	11	2
501.0	3	1	4	64	24	15	6992	10	98	18	17	0	11	1
480.0	3	1	1	96	24	15	13410	6	4	9	2	3	0	3
487.0	3	1	4	96	24	10	8980	8	5	0	6	1	0	2
482.0	3	1	3	128	16	8	6970	5	0	0	0	0	0	0
483.0	3	1	4	128	24	13	15150	7	6	2	1	4	0	3

495.0	3	1	4	192	16	10	14324	5	0	0	0	0	0	0
486.0	3	1	4	192	24	15	0	7	97	0	3	0	10	0
484.0	3	1	4	192	24	14	0	7	97	2	6	4	10	0
485.0	3	1	4	192	24	16	0	9	98	8	2	0	10	0
512.0	3	2	1	64	24	16	9250	7	93	4	4	0	11	3
491.0	3	2	4	64	24	16	9491	6	93	1	3	0	11	3
493.0	3	2	4	64	24	16	8050	7	94	3	2	3	11	3
492.0	3	2	4	64	24	16	8902	7	94	3	3	11	11	3
488.0	3	2	4	64	24	16	8741	9	94	0	0	2	11	3
494.0	3	2	4	64	24	16	7702	10	95	6	8	2	11	2
489.0	3	2	4	64	24	16	7744	10	95	5	3	0	10	1
490.0	3	2	4	64	24	16	7187	11	96	18	13	0	11	1
507.0	3	2	4	96	16	16	10335	5	0	0	0	0	0	0
511.0	3	2	2	96	24	14	11910	0	0	3	5	1	0	3
510.0	3	2	4	160	24	16	0	7	6	0	5	1	9	0
504.0	3	2	4	192	24	11	0	7	95	6	0	0	10	0
503.0	3	2	4	192	24	16	0	6	96	5	2	2	10	0
505.0	3	2	4	192	24	16	0	6	97	3	13	2	10	0
191.0	3	3	1	48	16	7	2285	2	0	0	0	0	0	0
202.0	3	3	4	64	24	16	0	8	7	0	0	0	0	0
201.0	3	3	4	64	24	16	7890	8	7	14	4	2	0	2
201.1	3	3	4	64	24	16	7480	10	8	17	4	1	0	1
200.0	3	3	4	64	24	16	7190	10	8	31	8	5	0	1
198.0	3	3	4	64	24	16	8210	8	95	4	5	0	11	3
197.0	3	3	4	64	24	16	8912	7	95	0	0	3	11	3
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193.0	3	3	2	96	24	0	0	0	0	0	0	0	0	0
203.0	3	3	3	96	24	10	8650	6	4	5	3	7	11	3
195.1	3	3	4	96	24	14	11760	7	4	5	1	2	0	3
194.0	3	3	4	128	24	16	16920	7	5	6	2	2	0	2
192.0	3	3	1	128	24	15	17090	9	6	8	4	1	0	3
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323.0	3	4	1	48	16	16	4882	3	0	0	0	0	0	0
335.0	3	4	4	64	16	16	6637	5	0	0	0	0	0	0
326.0	3	4	3	64	16	13	5012	3	0	0	0	0	0	0
332.0	3	4	4	64	24	15	7080	10	8	13	13	2	0	2
329.0	3	4	4	64	24	16	7550	10	8	21	10	2	0	1
328.0	3	4	4	64	24	16	8420	9	10	15	3	2	0	2
331.0	3	4	4	64	24	16	7808	10	96	6	4	0	11	2
330.0	3	4	4	64	24	16	7211	11	98	13	4	0	11	1
325.0	3	4	2	80	16	12	5902	4	0	0	0	0	0	0
334.0	3	4	4	128	24	16	18000	9	6	9	2	2	0	2
333.0	3	4	4	128	24	16	16900	9	6	15	2	5	0	2
327.0	3	4	4	128	24	14	14900	9	6	11	1	2	0	1
113.0	3	5	3	48	16	16	2678	3	0	0	0	0	0	0
119.0	3	5	4	64	16	12	4972	2	0	0	0	0	0	0
111.0	3	5	2	64	16	14	5962	5	0	0	0	0	0	0
114.1	3	5	4	64	24	15	7810	8	6	4	5	1	0	3
112.0	3	5	1	64	24	15	7530	6	6	5	6	2	0	3
118.0	3	5	4	64	24	15	7760	9	7	16	7	1	11	2
116.0	3	5	4	64	24	15	7010	11	7	27	4	1	0	1
114.0	3	5	3	64	24	15	7070	10	7	2	2	3	0	2
117.0	3	5	4	64	24	15	6930	11	8	34	8	1	0	1

115.0	3	5	3	96	24	15	11860	9	6	16	3	3	11	1
82.0	3	6	1	48	16	13	3947	3	0	0	0	0	0	0
89.0	3	6	4	64	16	16	6459	3	0	0	0	0	0	0
87.0	3	6	4	64	24	0	0	0	0	0	0	0	0	0
88.0	3	6	4	64	24	16	7680	11	7	25	3	2	0	1
86.0	3	6	4	64	24	16	7880	11	7	33	6	1	0	1
85.0	3	6	4	64	24	16	7770	7	7	10	1	1	10	2
84.0	3	6	3	80	16	11	6088	3	0	0	0	0	0	0
180.0	4	1	2	48	16	9	3148	3	0	0	0	0	0	0
185.0	4	1	4	64	24	16	9210	8	6	3	7	2	0	2
189.0	4	1	4	64	24	16	8070	8	9	10	12	3	0	2
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186.0	4	1	4	64	24	16	7390	10	10	16	26	2	0	1
187.0	4	1	4	64	24	15	9047	9	94	1	4	0	12	2
181.0	4	1	1	96	16	16	11913	5	0	0	0	0	0	0
184.0	4	1	4	96	24	14	13680	9	4	10	5	2	0	1
182.0	4	1	3	96	24	16	15550	6	4	13	1	2	0	3
183.0	4	1	4	128	24	15	17890	11	6	1	3	2	0	1
190.0	4	1	4	128	24	16	20350	10	8	16	3	2	0	1
247.0	4	2	1	48	16	11	3157	3	0	0	0	0	0	0
245.0	4	2	4	48	16	0	0	0	0	0	0	0	0	0
239.0	4	2	4	48	16	15	5246	3	0	0	0	0	0	0
244.0	4	2	4	64	16	15	4384	3	0	0	0	0	0	0
243.0	4	2	4	64	16	15	6122	3	0	0	0	0	0	0
242.0	4	2	4	64	24	0	0	0	0	0	0	0	0	0
246.0	4	2	4	64	24	16	9310	6	4	6	5	2	12	3
240.0	4	2	4	64	24	16	8880	7	5	3	4	2	0	2
244.1	4	2	4	64	24	15	7490	8	7	6	3	2	0	2
241.0	4	2	4	64	24	16	7710	7	8	4	3	2	0	2
238.0	4	2	4	96	24	15	13000	7	4	3	2	3	0	2
248.0	4	2	3	96	24	14	12530	7	5	7	2	2	0	3
237.0	4	2	4	128	24	16	17390	7	5	5	1	1	10	2
73.0	4	3	2	48	16	15	5328	1	0	0	0	0	0	0
81.0	4	3	4	64	16	16	6740	3	0	0	0	0	0	0
77.0	4	3	4	64	24	16	8440	7	6	2	7	3	0	2
78.0	4	3	4	64	24	16	7800	9	7	15	13	6	0	2
79.0	4	3	4	64	24	16	7280	11	10	46	4	9	0	1
80.0	4	3	4	64	24	16	7994	10	96	14	2	0	12	1
76.0	4	3	1	80	16	16	8709	5	0	0	0	0	0	0
74.0	4	3	3	96	24	14	12280	7	4	23	5	2	14	2
75.0	4	3	3	96	24	16	12450	9	7	7	12	4	0	1
134.0	4	4	2	64	16	15	6624	2	0	0	0	0	0	0
136.0	4	4	3	64	24	16	7830	7	4	4	1	1	0	2
135.0	4	4	1	64	24	14	7040	8	6	5	2	1	0	2
139.0	4	4	4	64	24	16	8060	8	7	7	1	1	0	2
138.0	4	4	4	64	24	16	7320	11	8	30	70	4	0	1
137.0	4	4	4	64	24	16	7370	11	9	31	8	1	11	1
140.0	4	5	1	48	16	9	2820	3	0	0	0	0	0	0
143.0	4	5	3	64	16	13	5089	5	0	0	0	0	0	0
141.0	4	5	4	64	24	15	7120	11	7	24	2	1	0	1
142.0	4	5	4	64	24	15	6770	10	8	46	3	3	0	1
344.0	5	1	4	64	16	16	7508	2	0	0	0	0	0	0
340.0	5	1	4	64	24	16	8300	9	7	15	2	1	10	2
342.0	5	1	4	64	24	16	7920	7	10	0	0	0	0	0

343.0	5	1	4	64	24	16	8827	10	95	3	3	0	11	2
341.0	5	1	4	64	24	15	7356	10	97	16	28	2	11	1
337.0	5	1	2	80	16	13	7657	1	0	0	0	0	0	0
339.0	5	1	3	96	16	14	8698	5	0	0	0	0	0	0
336.0	5	1	1	96	24	16	14880	7	4	2	1	2	0	3
347.0	5	1	4	128	24	15	18510	7	4	3	1	1	0	1
345.0	5	1	4	128	24	15	16640	8	4	2	1	2	0	1
348.0	5	1	4	128	24	9	1970	7	5	3	1	2	0	3
338.0	5	1	3	128	24	16	19920	7	6	1	4	1	0	2
346.0	5	1	4	128	24	15	16240	11	9	31	8	4	0	1
227.0	5	2	1	48	16	16	5587	4	0	0	0	0	0	0
232.0	5	2	4	64	24	16	7500	11	6	22	11	5	0	1
234.0	5	2	4	64	24	16	7730	10	7	8	3	2	0	2
231.0	5	2	4	64	24	16	8070	10	7	4	2	1	0	2
230.0	5	2	4	64	24	16	0	11	9	0	0	0	0	0
235.0	5	2	4	64	24	14	7862	9	94	0	3	2	12	2
233.0	5	2	4	64	24	16	7368	11	98	24	9	3	11	1
236.0	5	2	3	96	16	16	10417	5	0	0	0	0	0	0
229.0	5	2	4	128	24	16	18560	9	5	1	1	2	0	2
228.0	5	2	4	128	24	15	16910	9	6	8	2	1	11	2
6.0	5	3	4	48	16	16	6346	3	0	0	0	0	0	0
5.0	5	3	4	48	16	15	5581	5	0	0	0	0	0	0
4.0	5	3	4	48	16	16	6818	3	0	0	0	0	0	0
2.0	5	3	3	48	16	16	5116	2	0	0	0	0	0	0
9.0	5	3	4	64	24	16	9180	8	4	7	4	2	0	3
1.0	5	3	1	64	24	16	9120	8	5	2	5	2	10	2
8.0	5	3	4	64	24	16	8410	9	7	3	2	1	0	2
7.0	5	3	4	64	24	16	7530	11	8	26	3	4	0	1
3.0	5	3	3	96	24	16	2510	11	8	9	8	2	0	1
38.0	5	4	1	48	16	15	4848	3	0	0	0	0	0	0
37.0	5	4	2	64	16	12	5347	3	0	0	0	0	0	0
36.0	5	4	4	64	16	15	5981	3	0	0	0	0	0	0
33.0	5	4	4	64	24	15	7470	9	6	2	1	2	0	2
35.0	5	4	4	64	24	15	7050	11	8	30	4	1	0	1
34.0	5	4	4	64	24	15	6760	11	9	31	1	3	0	1
32.0	5	4	3	64	24	15	7923	10	94	2	2	0	11	2
31.0	5	4	3	80	16	11	6184	2	0	0	0	0	0	0
44.0	5	5	4	48	16	8	2557	3	0	0	0	0	0	0
39.0	5	5	1	48	16	12	3604	3	0	0	0	0	0	0
43.0	5	5	4	64	24	15	7640	8	6	14	6	1	0	2
42.0	5	5	4	64	24	15	7090	11	8	21	5	2	11	1
41.0	5	5	4	64	24	16	7880	11	8	28	4	1	0	1
40.0	5	5	3	80	16	10	4970	4	0	0	0	0	0	0
206.0	6	1	4	48	16	9	2979	3	0	0	0	0	0	0
212.0	6	1	4	64	24	15	8610	7	4	6	1	2	0	3
208.0	6	1	4	64	24	16	8790	9	7	13	2	2	0	2
209.0	6	1	4	64	24	16	8180	11	9	4	13	8	0	1
211.0	6	1	4	64	24	16	8449	10	95	0	2	0	12	2
210.0	6	1	4	64	24	16	7610	11	98	8	10	6	11	1
205.0	6	1	2	80	16	13	7713	3	0	0	0	0	0	0
204.0	6	1	1	80	16	12	6520	5	0	0	0	0	0	0
212.1	6	1	4	96	24	16	14360	8	4	42	5	2	0	2
207.0	6	1	4	96	24	16	13310	11	7	19	3	9	0	1
59.0	6	2	2	64	16	14	6456	3	0	0	0	0	0	0

65.0	6	2	4	64	24	16	8250	7	4	5	3	1	0	2
62.0	6	2	4	64	24	16	8430	8	5	12	1	1	0	2
64.0	6	2	4	64	24	16	8030	11	7	15	3	4	0	1
63.0	6	2	4	64	24	16	7840	9	7	11	9	3	0	1
60.0	6	2	3	80	16	15	8809	3	0	0	0	0	0	0
58.0	6	2	1	80	16	16	9239	3	0	0	0	0	0	0
61.0	6	2	3	96	24	15	11620	9	6	4	1	4	0	1
46.0	6	3	2	64	16	12	5332	2	0	0	0	0	0	0
51.0	6	3	4	64	24	16	9220	7	4	10	1	1	0	3
47.0	6	3	3	64	24	14	7820	8	4	6	3	1	0	3
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48.0	6	3	4	64	24	16	7910	7	6	6	2	2	0	2
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45.0	6	3	1	80	16	15	0	2	0	0	0	0	0	0
26.0	6	4	1	48	16	15	4744	3	0	0	0	0	0	0
30.0	6	4	4	64	16	14	5555	3	0	0	0	0	0	0
28.0	6	4	4	64	24	16	7890	7	4	2	1	3	0	2
27.0	6	4	3	64	24	16	8210	9	4	4	2	1	0	2
29.0	6	4	4	64	24	16	7952	11	94	9	4	0	11	1
11.0	6	5	4	64	24	16	8160	11	7	13	1	2	0	1
10.0	6	5	4	64	24	16	7890	11	7	18	3	3	0	1
223.0	7	1	4	64	16	14	6565	3	0	0	0	0	0	0
226.0	7	1	4	64	24	16	9370	9	4	2	2	3	0	3
222.0	7	1	4	64	24	16	8990	9	7	2	5	2	0	1
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265.0	7	2	4	128	24	16	19370	8	6	4	5	2	0	2
101.0	7	3	3	48	16	15	5537	2	0	0	0	0	0	0
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105.0	7	3	4	64	24	16	8220	10	8	39	5	1	0	1
104.0	7	3	4	64	24	16	8340	11	9	13	4	2	0	1
103.0	7	3	4	64	24	15	8610	8	10	1	14	5	0	2
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52.0	7	5	1	48	16	8	2620	3	0	0	0	0	0 0
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56.0	7	5	4	64	24	16	7960	11	7	25	3	4	0 1
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528.0	8	1	4	64	24	16	8468	9	95	0	6	0	11 2
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537.0	8	1	4	160	24	12	0	6	4	0	0	0	10 0
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279.0	8	2	4	64	24	16	7657	10	97	28	3	0	11 0
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272.0	8	2	2	96	16	16	10400	4	0	0	0	0	0 0
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273.0	8	2	3	96	24	13	10870	8	6	0	0	0	0 0
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153.0	9	4	4	64	16	16	7079	3	0	0	0	0	0	0
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443.0	10	1	4	64	16	0	0	0	0	0	0	0	0	0
415.0	10	1	1	64	24	11	0	6	94	0	2	0	0	3
422.0	10	1	4	64	24	16	7830	9	94	2	2	0	11	2
423.0	10	1	4	64	24	16	3822	1	95	0	0	0	0	0
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421.0	10	1	3	96	24	14	11630	7	5	1	0	3	0	2
442.0	10	1	4	96	24	16	12320	9	7	1	4	7	0	2
418.0	10	1	2	160	24	16	0	6	96	0	0	0	9	0
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420.0	10	1	3	160	24	10	0	6	97	0	3	0	10	0
439.0	10	1	4	192	24	15	0	7	96	0	7	0	10	0

440.0	10	1	4	192	24	15	0	6	97	0	2	0	10	0
437.0	10	1	4	192	24	9	0	6	97	0	3	2	9	0
429.0	10	1	4	192	24	12	0	7	98	0	9	0	11	0
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385.0	10	2	4	64	24	16	9030	10	8	4	2	1	0	1
382.0	10	2	4	64	24	16	8860	8	8	5	7	3	0	2
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379.0	10	2	3	64	24	16	7403	9	94	3	3	0	11	0
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386.0	10	2	4	64	24	16	9006	10	96	2	5	4	11	2
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384.0	10	2	4	64	24	16	9889	10	97	9	8	0	10	1
374.0	10	2	1	96	16	16	8839	5	0	0	0	0	0	0
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377.0	10	2	2	160	24	16	0	7	96	0	12	0	10	0
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389.0	10	2	4	192	24	15	0	9	98	0	3	0	11	0
387.0	10	2	4	192	24	16	0	9	98	0	3	0	10	0
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410.0	10	3	4	64	24	16	9330	11	96	2	4	0	11	1
399.0	10	3	4	64	24	16	8049	10	96	2	6	2	12	3
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408.0	10	3	4	64	24	12	9985	10	97	2	0	0	11	2
409.0	10	3	4	64	24	16	9060	10	97	1	5	0	11	2
414.0	10	3	4	96	16	9	4938	4	0	0	0	0	0	0
394.0	10	3	3	96	16	14	7853	3	0	0	0	0	0	0
392.0	10	3	1	96	24	16	11760	7	6	5	3	2	0	3
393.0	10	3	2	128	24	16	16800	6	6	1	3	1	0	2
413.0	10	3	4	128	24	16	16070	7	7	2	3	3	13	3
411.0	10	3	4	192	24	16	0	10	97	0	8	0	11	0
395.0	10	3	4	192	24	16	0	7	97	0	2	0	9	0
396.0	10	3	4	192	24	16	0	9	97	0	4	0	10	0
412.0	10	3	4	192	24	16	0	9	97	0	7	0	10	0
166.0	10	4	1	64	16	11	3977	3	0	0	0	0	0	0
167.0	10	4	2	64	24	16	7840	9	7	1	4	3	0	3
178.0	10	4	4	64	24	16	9040	10	8	9	1	5	0	1
175.0	10	4	4	64	24	16	8190	9	8	0	6	3	12	2
179.0	10	4	4	64	24	16	7440	10	8	2	2	1	0	1
177.0	10	4	4	64	24	16	10230	10	9	11	8	3	0	1
176.0	10	4	4	64	24	16	9290	10	9	6	7	2	0	2
168.0	10	4	3	80	16	16	7273	3	0	0	0	0	0	0
165.0	10	4	1	96	24	16	11650	10	7	4	5	2	12	3
174.0	10	4	4	128	16	10	7451	3	0	0	0	0	0	0
169.0	10	4	3	128	24	16	16920	8	7	4	1	4	0	3
171.0	10	4	4	128	24	16	16210	10	7	1	3	3	10	1
170.0	10	4	4	128	24	16	16020	9	7	1	1	5	0	3
173.0	10	4	4	128	24	16	16670	9	8	2	1	2	0	3
172.0	10	4	4	128	24	16	16850	9	8	2	2	1	0	1

286.0	10	5	1	48	16	16	4840	3	0	0	0	0	0	0
287.0	10	5	4	64	16	14	5186	3	0	0	0	0	0	0
296.0	10	5	4	64	16	16	6252	3	0	0	0	0	0	0
290.0	10	5	2	64	16	12	4517	3	0	0	0	0	0	0
292.0	10	5	4	64	24	16	7210	7	7	2	2	1	11	3
295.0	10	5	4	64	24	16	7730	9	8	5	7	4	0	2
294.0	10	5	4	64	24	16	8770	11	9	19	14	9	0	1
293.0	10	5	4	64	24	16	7920	11	9	9	8	2	0	1
285.0	10	5	1	80	16	16	7202	3	0	0	0	0	0	0
288.0	10	5	4	96	24	14	10030	9	7	5	1	4	11	3
289.0	10	5	4	128	24	16	16150	8	7	0	5	1	0	1
291.0	10	5	4	128	24	16	18730	8	7	5	4	1	0	2
20.0	10	6	1	48	16	11	3741	3	0	0	0	0	0	0
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23.0	10	6	4	64	24	16	7340	10	8	6	7	3	0	3
24.1	10	6	4	64	24	16	7240	11	9	56	4	1	0	1
25.0	10	6	3	64	24	13	6340	10	9	1	4	3	0	2
22.0	10	6	4	64	24	16	7500	11	9	14	7	3	11	1
2409.0	11	1	4	48	16	10	4033	3	0	0	0	0	0	0
2407.0	11	1	4	64	24	0	0	0	0	0	0	0	0	0
2406.0	11	1	4	64	24	16	10820	8	4	5	4	3	11	2
2408.0	11	1	4	64	24	16	9620	7	5	3	12	3	0	1
2370.0	11	2	4	48	16	14	4492	4	0	0	0	0	0	0
2368.0	11	2	1	48	16	8	2814	3	0	0	0	0	0	0
2369.0	11	2	4	64	24	15	8140	11	6	33	8	0	0	1
2387.0	11	3	4	48	16	15	4636	5	0	0	0	0	0	0
2389.0	11	3	4	48	16	10	3052	3	0	0	0	0	0	0
2388.0	11	3	4	48	16	15	4532	4	0	0	0	0	0	0
2251.0	12	1	4	48	16	10	4153	3	0	0	0	0	0	0
2248.0	12	1	3	48	16	16	6591	3	0	0	0	0	0	0
2248.1	12	1	1	48	16	16	0	3	0	0	0	0	0	0
2250.0	12	1	4	64	24	16	8790	11	8	15	5	11	0	1
2249.0	12	1	4	64	24	16	9120	11	8	17	1	5	0	1
2207.0	12	2	4	64	16	16	7480	2	0	0	0	0	0	0
2206.0	12	2	4	64	24	0	0	0	0	0	0	0	0	0
2205.0	12	2	4	64	24	0	0	0	0	0	0	0	0	0
2204.0	12	3	4	64	16	16	6657	5	0	0	0	0	0	0
2203.0	12	3	4	64	24	0	0	0	0	0	0	0	0	0
2202.0	12	3	4	64	24	0	0	0	0	0	0	0	0	0
2199.0	13	1	3	48	16	10	3832	3	0	0	0	0	0	0
2194.0	13	1	4	64	24	14	8450	7	4	2	5	3	0	2
2195.0	13	1	4	64	24	14	7110	7	8	13	8	6	0	2
2197.0	13	1	4	64	24	13	6840	11	8	8	2	2	12	1
2196.0	13	1	4	64	24	14	6330	11	10	20	7	4	0	1
2198.0	13	1	3	96	24	16	14010	8	5	18	2	3	0	1
2097.0	13	2	4	48	16	16	5439	4	0	0	0	0	0	0
2096.0	13	2	4	64	16	16	7127	3	0	0	0	0	0	0
2083.0	13	2	3	64	24	16	8870	9	5	20	6	2	0	2
2093.0	13	2	4	64	24	16	7930	9	6	20	6	2	0	2
2094.0	13	2	4	64	24	16	7850	11	7	45	4	4	0	1
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2244.0	13	3	3	48	16	14	4443	2	0	0	0	0	0	0
2247.0	13	3	4	64	16	11	4825	3	0	0	0	0	0	0

2245.0	13	3	4	64	24	12	5490	11	7	20	8	1	0	1
2246.0	13	3	4	64	24	14	6840	7	8	5	9	1	0	2
2383.0	14	1	2	48	16	9	3644	3	0	0	0	0	0	0
2382.0	14	1	3	48	16	16	6124	3	0	0	0	0	0	0
2381.0	14	1	4	48	16	10	3789	3	0	0	0	0	0	0
2386.0	14	1	4	64	16	13	6770	4	0	0	0	0	0	0
2385.0	14	1	4	64	24	0	0	0	0	0	0	0	0	0
2384.0	14	1	4	64	24	0	0	0	0	0	0	0	0	0
2380.0	14	1	4	64	24	16	8600	11	7	20	9	8	0	1
2378.0	14	1	4	64	24	16	10410	9	7	3	3	6	0	1
2379.0	14	1	4	64	24	16	8400	11	10	24	24	4	0	1
2082.0	14	2	3	64	16	15	6740	3	0	0	0	0	0	0
2084.0	14	2	4	64	24	0	0	0	0	0	0	0	0	0
2086.0	14	2	4	64	24	16	8960	7	4	3	4	6	0	2
2085.0	14	2	4	64	24	16	7650	11	8	39	3	2	11	1
2090.0	14	3	4	48	16	16	5405	3	0	0	0	0	0	0
2087.0	14	3	3	48	16	15	5523	3	0	0	0	0	0	0
2089.0	14	3	4	64	24	16	7900	11	7	63	6	4	11	1
2088.0	14	3	4	64	24	16	8170	10	7	22	4	5	0	2
2106.0	14	4	4	48	16	15	4518	5	0	0	0	0	0	0
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2319.0	15	1	3	64	24	16	10900	7	3	7	1	9	0	3
2322.0	15	1	4	64	24	16	9220	8	7	14	8	14	9	2
2321.0	15	1	4	64	24	16	8390	11	7	64	5	1	0	1
2320.0	15	1	4	64	24	16	10190	8	7	4	14	10	0	2
1985.0	15	2	4	48	16	15	5720	2	0	0	0	0	0	0
1984.0	15	2	4	48	16	15	6002	4	0	0	0	0	0	0
1981.0	15	2	3	64	16	12	6488	2	0	0	0	0	0	0
1983.0	15	2	4	64	24	15	8530	8	5	30	5	1	11	2
1982.0	15	2	4	64	24	15	8140	11	7	56	2	4	0	1
2074.0	15	3	4	64	24	16	8790	11	7	54	14	2	0	1
2073.0	15	3	4	64	24	16	8820	11	7	50	6	5	0	1
2287.0	16	1	2	64	16	15	6272	2	0	0	0	0	0	0
2286.0	16	1	4	64	16	16	8442	3	0	0	0	0	0	0
2283.0	16	1	4	64	24	15	9340	6	4	9	11	3	0	2
2285.0	16	1	4	64	24	0	8810	8	6	12	17	11	0	2
2284.0	16	1	4	64	24	16	8580	11	7	19	9	2	0	1
2288.0	16	1	3	96	24	16	14260	11	6	21	2	3	13	1
1943.0	16	2	4	48	16	16	5333	3	0	0	0	0	0	0
1939.0	16	2	3	48	16	16	5961	3	0	0	0	0	0	0
1938.0	16	2	2	48	16	12	4870	3	0	0	0	0	0	0
1937.0	16	2	1	48	16	16	5924	3	0	0	0	0	0	0
1940.0	16	2	4	64	24	16	8860	8	6	3	2	3	9	2
1942.0	16	2	4	64	24	16	7920	11	7	54	3	0	10	1
1941.0	16	2	4	64	24	16	7350	11	7	52	4	3	0	1
2419.0	16	3	3	48	16	11	3835	3	0	0	0	0	0	0
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2420.0	16	3	4	64	24	0	0	0	0	0	0	0	0	0
2421.0	16	3	4	64	24	15	7230	11	7	54	4	4	0	1
2422.1	16	3	4	64	24	16	8150	9	8	17	3	1	0	3
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2177.0	16	4	4	48	16	10	2988	3	0	0	0	0	0	0
2176.0	16	4	4	64	24	15	6890	11	8	36	3	2	10	1
2175.0	16	4	4	64	24	14	6860	7	8	19	2	1	0	2

2137.0	17	1	4	48	16	16	5203	4	0	0	0	0	0	0
2140.0	17	1	4	64	24	0	0	0	0	0	0	0	0	0
2139.0	17	1	4	64	24	0	0	0	0	0	0	0	0	0
2138.0	17	1	4	64	24	0	0	0	0	0	0	0	0	0
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2213.0	17	2	1	48	16	10	3602	3	0	0	0	0	0	0
2214.0	17	2	3	64	16	12	5641	3	0	0	0	0	0	0
2211.0	17	2	4	64	24	0	0	0	0	0	0	0	0	0
2212.0	17	2	4	64	24	0	0	0	0	0	0	0	0	0
2210.0	17	2	4	64	24	0	0	0	0	0	0	0	0	0
2151.0	17	3	4	64	24	0	0	0	0	0	0	0	0	0
2150.0	17	3	4	64	24	0	0	0	0	0	0	0	0	0
2293.0	18	1	2	48	16	11	3374	5	0	0	0	0	0	0
2289.0	18	1	1	48	16	11	3614	5	0	0	0	0	0	0
2292.0	18	1	4	48	16	16	4574	5	0	0	0	0	0	0
2290.0	18	1	4	48	16	16	2039	5	0	0	0	0	0	0
2291.0	18	1	4	48	16	16	4362	5	0	0	0	0	0	0
2376.0	18	2	1	48	16	11	3424	4	0	0	0	0	0	0
2377.0	18	2	1	48	16	15	4200	5	0	0	0	0	0	0
2375.0	18	2	4	64	24	0	0	0	0	0	0	0	0	0
2374.0	18	2	4	64	24	14	6620	11	8	18	16	3	0	1
2130.0	19	1	3	64	16	16	7866	3	0	0	0	0	0	0
2129.0	19	1	4	64	24	16	9610	7	6	14	3	3	0	2
2127.0	19	1	4	64	24	16	9470	8	6	24	10	6	11	2
2128.0	19	1	4	64	24	16	8820	11	7	40	7	5	0	1
2115.0	19	2	4	64	16	16	6160	4	0	0	0	0	0	0
2113.0	19	2	4	64	24	16	8610	11	7	55	13	3	0	1
2114.0	19	2	4	64	24	16	8270	11	7	52	2	3	11	1
2143.0	19	3	4	48	16	10	3434	3	0	0	0	0	0	0
2142.0	19	3	4	64	24	0	0	0	0	0	0	0	0	0
2141.0	19	3	4	64	24	0	0	0	0	0	0	0	0	0
1950.0	20	1	4	48	16	12	4910	3	0	0	0	0	0	0
1947.0	20	1	4	64	24	16	9470	10	5	31	9	1	0	2
1951.0	20	1	3	64	24	13	7970	7	6	20	9	1	12	2
1949.0	20	1	4	64	24	16	9580	9	6	19	11	8	0	2
1948.0	20	1	4	64	24	16	8780	11	8	22	48	12	0	1
2323.0	20	2	1	48	16	11	3348	3	0	0	0	0	0	0
2337.0	20	2	4	64	16	15	7182	4	0	0	0	0	0	0
2336.0	20	2	4	64	24	15	7980	11	7	19	4	4	0	1
2335.0	20	2	4	64	24	15	8060	11	8	9	5	4	0	1
2323.1	20	2	1	64	24	16	8290	10	9	30	27	4	0	1
2336.1	20	2	4	64	24	15	6960	8	9	4	5	5	0	2
2058.0	21	1	3	48	16	15	5262	2	0	0	0	0	0	0
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2048.1	21	1	4	64	24	15	9650	7	4	1	2	1	0	2
2048.0	21	1	4	64	24	16	8990	7	6	8	3	2	0	2
2049.0	21	1	4	64	24	15	7370	11	8	10	8	7	0	1
2051.0	21	1	4	64	24	15	8800	11	8	11	5	3	0	2
2050.0	21	1	4	64	24	15	7060	11	8	23	6	4	10	1
2049.1	21	1	4	64	24	16	8040	11	8	38	6	3	0	1
2057.0	21	1	3	96	24	16	15890	8	3	21	5	1	0	2
2170.0	21	2	1	48	16	13	5068	5	0	0	0	0	0	0
2169.0	21	2	2	64	16	0	0	0	0	0	0	0	0	0
2173.0	21	2	4	64	24	0	0	0	0	0	0	0	0	0

2172.0	21	2	4	64	24	0	0	0	0	0	0	0	0	0
2171.0	21	2	4	64	24	0	0	0	0	0	0	0	0	0
2174.0	21	2	3	64	24	16	9230	9	5	1	4	4	0	2
2394.0	21	3	1	48	16	15	5183	3	0	0	0	0	0	0
2397.0	21	3	4	64	24	15	8440	7	5	4	10	4	0	3
2396.0	21	3	4	64	24	15	7720	11	7	13	10	2	0	2
2395.0	21	3	4	64	24	15	8000	11	8	4	5	6	0	1
2005.0	22	1	3	48	16	8	3164	3	0	0	0	0	0	0
1998.0	22	1	1	48	16	13	5153	3	0	0	0	0	0	0
1999.0	22	1	2	64	16	16	7424	3	0	0	0	0	0	0
2000.0	22	1	4	64	24	16	8510	8	7	2	6	7	0	2
2002.0	22	1	4	64	24	16	7930	11	8	18	2	14	12	1
2003.0	22	1	4	64	24	16	9550	11	9	4	3	2	0	3
2001.0	22	1	4	64	24	16	7790	11	9	5	5	3	0	1
2004.0	22	1	3	96	24	16	15160	8	4	8	2	7	12	2
2444.0	22	2	4	64	16	16	7085	3	0	0	0	0	0	0
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2445.0	22	2	4	64	24	0	0	0	0	0	0	0	0	0
2443.0	22	2	4	64	24	0	0	0	0	0	0	0	0	0
2446.0	22	2	4	64	24	0	0	0	0	0	0	0	0	0
2442.0	22	2	4	64	24	16	8140	7	6	11	4	2	0	0
2441.0	22	2	3	80	16	11	6791	3	0	0	0	0	0	0
2440.0	22	2	3	96	24	16	14060	9	6	10	5	2	0	2
2414.0	22	3	3	64	16	16	7712	3	0	0	0	0	0	0
2416.0	22	3	4	64	24	0	0	0	0	0	0	0	0	0
2415.0	22	3	4	64	24	15	7580	6	5	4	5	2	12	2
2418.0	22	3	4	64	24	15	7310	8	7	13	7	6	0	3
2417.0	22	3	4	64	24	15	6990	11	10	22	13	2	0	1
2043.0	22	4	4	64	16	16	5735	3	0	0	0	0	0	0
2041.0	22	4	4	64	24	14	6500	10	7	14	4	3	0	2
2042.0	22	4	4	64	24	16	7070	11	8	37	5	3	11	1
2734.0	23	1	1	64	16	7	3480	3	0	0	0	0	0	0
2739.0	23	1	4	80	16	16	9451	3	0	0	0	0	0	0
2740.0	23	1	4	96	24	0	0	0	0	0	0	0	0	0
2735.0	23	1	2	112	16	9	8196	3	0	0	0	0	0	0
2736.0	23	1	4	128	24	16	19200	7	5	9	3	2	0	2
2737.0	23	1	4	128	24	15	16400	11	7	21	1	4	0	1
2738.0	23	1	4	128	24	16	17320	10	10	31	3	5	0	1
2280.0	23	2	3	48	16	16	5828	3	0	0	0	0	0	0
2274.0	23	2	2	48	16	14	5556	4	0	0	0	0	0	0
2282.0	23	2	1	64	16	16	7388	4	0	0	0	0	0	0
2275.0	23	2	3	64	24	16	9270	7	4	8	3	5	0	2
2279.0	23	2	4	64	24	13	7220	6	7	3	8	4	0	3
2278.0	23	2	4	64	24	14	6820	11	7	15	6	12	0	1
2277.0	23	2	4	64	24	16	8050	11	7	37	13	6	10	1
2276.0	23	2	4	64	24	16	8240	7	7	10	4	7	10	2
2273.0	23	2	1	80	16	11	6843	3	0	0	0	0	0	0
2281.0	23	2	3	96	24	16	12480	10	8	11	4	8	12	1
1974.0	23	3	1	48	16	15	5138	5	0	0	0	0	0	0
1975.0	23	3	2	64	16	0	0	0	0	0	0	0	0	0
1979.0	23	3	4	64	24	16	8480	10	7	7	3	2	0	2
1976.0	23	3	4	64	24	14	7160	8	7	10	5	11	0	2
1978.0	23	3	4	64	24	16	8060	10	9	35	3	6	0	1
1977.0	23	3	4	64	24	15	7290	11	9	46	6	10	0	1

1980.0	23	3	3	96	24	14	11530	10	5	1	1	3	12	2
1934.0	23	4	3	48	16	16	4594	5	0	0	0	0	0	0
1935.0	23	4	4	64	24	0	0	0	0	0	0	0	0	0
1936.0	23	4	4	64	24	16	7460	11	8	60	9	4	0	1
2832.0	24	1	4	48	16	15	6265	2	0	0	0	0	0	0
2831.0	24	1	4	64	24	0	0	0	0	0	0	0	0	0
2829.0	24	1	4	64	24	0	0	0	0	0	0	0	0	0
2828.0	24	1	4	64	24	16	9340	7	4	6	4	3	0	3
2830.0	24	1	4	64	24	15	8130	9	8	6	4	3	0	2
2827.1	24	1	4	64	24	14	6490	11	8	15	7	7	0	1
2826.0	24	1	4	96	16	15	10430	3	0	0	0	0	0	0
2824.0	24	1	3	96	24	16	15791	8	2	0	8	0	11	3
2827.0	24	1	4	96	24	16	14163	9	5	0	6	0	10	2
2825.0	24	1	4	128	24	16	17430	10	10	36	1	2	0	1
2063.0	24	2	4	64	24	16	9110	8	4	10	4	2	0	2
2062.0	24	2	4	64	24	16	8200	7	6	18	4	5	0	2
2059.0	24	2	4	64	24	16	8960	8	6	7	8	3	12	2
2061.0	24	2	4	64	24	0	7860	11	8	41	9	3	0	1
2060.0	24	2	4	64	24	16	7680	9	8	13	2	6	0	2
2066.0	24	2	3	80	16	16	9348	2	0	0	0	0	0	0
2064.0	24	2	2	112	16	12	9926	3	0	0	0	0	0	0
2065.0	24	2	3	128	24	16	17660	11	6	8	2	1	0	1
2359.0	24	3	4	48	16	11	3992	3	0	0	0	0	0	0
2361.0	24	3	2	64	16	12	5448	3	0	0	0	0	0	0
2360.0	24	3	1	64	16	16	7108	4	0	0	0	0	0	0
2357.0	24	3	4	64	24	0	0	0	0	0	0	0	0	0
2355.0	24	3	4	64	24	0	0	0	0	0	0	0	0	0
2358.0	24	3	4	64	24	16	8800	7	5	1	3	4	0	3
2356.0	24	3	4	64	24	16	7580	11	8	20	5	1	0	1
2351.0	24	3	3	80	16	14	7895	3	0	0	0	0	0	0
2350.0	24	3	3	96	24	16	12900	9	6	14	7	1	16	2
2263.0	24	4	4	64	24	0	0	0	0	0	0	0	0	0
2266.0	24	4	4	64	24	0	0	0	0	0	0	0	0	0
2261.0	24	4	4	64	24	0	0	0	0	0	0	0	0	0
2262.0	24	4	4	64	24	16	7290	11	7	73	9	3	0	1
2201.0	24	5	4	64	24	0	0	0	0	0	0	0	0	0
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2023.0	25	1	3	48	16	16	3988	3	0	0	0	0	0	0
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2021.0	25	1	4	64	24	16	9060	8	6	9	3	4	10	2
2018.0	25	1	4	64	24	15	8310	8	7	5	4	10	0	2
2019.0	25	1	4	64	24	15	7780	11	9	20	23	1	0	1
2020.0	25	1	4	64	24	16	8320	11	9	19	11	19	0	1
2017.0	25	1	1	80	16	16	10150	3	0	0	0	0	0	0
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2112.0	25	2	3	48	16	13	4750	3	0	0	0	0	0	0
2110.0	25	2	4	48	16	16	4398	4	0	0	0	0	0	0
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2111.0	25	2	3	64	24	16	8530	9	7	13	9	2	0	2
2108.0	25	2	4	64	24	16	7760	11	8	36	13	3	10	1
2109.0	25	2	4	64	24	14	7160	11	8	27	2	6	0	2
2157.0	25	3	2	48	16	15	5345	2	0	0	0	0	0	0
2160.0	25	3	4	64	24	0	0	0	0	0	0	0	0	0
2158.0	25	3	4	64	24	0	0	0	0	0	0	0	0	0

2159.0	25	3	4	64	24	0	0	0	0	0	0	0	0 0
2101.0	25	4	4	48	16	13	4344	5	0	0	0	0	0 0
2100.0	25	4	4	48	16	13	4029	5	0	0	0	0	0 0
2098.0	25	4	2	64	16	16	6170	4	0	0	0	0	0 0
2099.0	25	4	4	64	24	0	0	0	0	0	0	0	0 0
2253.0	26	1	1	48	16	15	6058	3	0	0	0	0	0 0
2254.0	26	1	2	64	16	12	6308	3	0	0	0	0	0 0
2258.0	26	1	4	64	24	0	0	0	0	0	0	0	0 0
2256.0	26	1	4	64	24	0	0	0	0	0	0	0	0 0
2255.0	26	1	4	64	24	16	9810	7	4	2	3	4	0 2
2257.0	26	1	4	64	24	14	7200	11	8	8	9	2	0 1
2252.0	26	1	3	96	24	15	12750	11	7	4	3	7	14 1
2217.0	26	3	4	64	24	16	8420	10	7	5	3	2	0 2
2215.0	26	3	4	64	24	16	8530	11	7	10	2	2	0 1
2216.0	26	3	4	64	24	16	7540	11	8	23	3	2	0 1
2402.0	27	1	1	48	16	13	4280	2	0	0	0	0	0 0
2392.0	27	1	3	64	16	15	6569	3	0	0	0	0	0 0
2401.0	27	1	4	64	16	14	6591	2	0	0	0	0	0 0
2398.0	27	1	4	64	24	0	0	0	0	0	0	0	0 0
2400.0	27	1	4	64	24	0	0	0	0	0	0	0	0 0
2399.0	27	1	4	64	24	16	8160	11	8	12	26	2	0 1
2393.0	27	1	3	96	24	15	11520	11	7	4	2	5	14 1
2362.0	27	2	1	64	16	12	4974	3	0	0	0	0	0 0
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2367.0	27	2	3	64	16	15	6005	3	0	0	0	0	0 0
2365.0	27	2	4	64	24	15	7460	6	7	6	5	2	12 2
2363.0	27	2	4	64	24	15	7450	11	7	6	1	1	0 1
2364.0	27	2	4	64	24	16	8050	11	8	37	1	1	0 1
2338.0	27	3	2	48	16	16	4814	4	0	0	0	0	0 0
2339.0	27	3	4	64	16	16	5958	3	0	0	0	0	0 0
2340.0	27	3	4	64	24	0	0	0	0	0	0	0	0 0
2342.0	27	3	4	64	24	0	0	0	0	0	0	0	0 0
2341.0	27	3	4	64	24	16	7720	11	8	19	2	5	0 1
2072.0	27	4	4	64	24	13	5560	11	8	25	8	3	0 1
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2055.0	28	1	4	48	16	16	4826	2	0	0	0	0	0 0
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2053.0	28	1	3	64	24	0	0	0	0	0	0	0	0 0
2054.0	28	1	4	64	24	16	8500	7	7	10	7	5	0 2
2055.1	28	1	4	64	24	16	7430	11	8	48	14	3	0 1
2006.0	28	2	2	64	16	9	4211	3	0	0	0	0	0 0
2008.0	28	2	4	64	24	16	8050	11	7	39	8	2	0 1
2007.0	28	2	4	64	24	16	8180	11	7	13	1	2	12 1
2092.0	28	3	4	64	24	16	8100	11	6	24	3	3	0 1
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2135.0	29	1	4	48	16	16	5602	3	0	0	0	0	0 0
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2123.0	29	3	3	48	16	0	0	0	0	0	0	0	0 0
2126.0	29	3	4	64	16	16	6403	3	0	0	0	0	0 0
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2075.0	29	4	4	64	24	16	7050	11	7	46	15	2	0	1
2081.0	30	1	3	48	16	12	4277	3	0	0	0	0	0	0
2080.0	30	1	4	48	16	12	4336	5	0	0	0	0	0	0
2077.0	30	1	3	64	24	0	0	0	0	0	0	0	0	0
2078.0	30	1	4	64	24	13	6640	11	7	43	6	1	0	2
2079.0	30	1	4	64	24	13	6910	11	8	24	6	10	9	1
2164.0	30	2	4	64	16	15	7016	3	0	0	0	0	0	0
2161.0	30	2	3	64	16	16	7634	3	0	0	0	0	0	0
2163.0	30	2	4	64	24	0	0	0	0	0	0	0	0	0
2162.0	30	2	4	64	24	0	0	0	0	0	0	0	0	0
2209.0	30	3	4	64	24	0	0	0	0	0	0	0	0	0
2208.0	30	3	4	64	24	16	8350	11	7	25	3	1	0	1
2815.0	31	1	4	48	16	14	5450	3	0	0	0	0	0	0
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2391.0	31	1	2	48	16	16	5913	5	0	0	0	0	0	0
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2811.0	31	1	4	64	24	16	9100	11	8	20	6	8	0	1
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2031.0	31	2	4	48	16	16	5255	3	0	0	0	0	0	0
2025.0	31	2	1	48	16	12	0	3	0	0	0	0	0	0
2029.0	31	2	4	64	24	0	0	0	0	0	0	0	0	0
2027.0	31	2	4	64	24	16	8950	7	5	10	3	7	0	3
2030.0	31	2	4	64	24	15	7730	8	8	37	9	3	0	2
2028.0	31	2	4	64	24	16	7840	10	8	33	5	7	0	2
2025.1	31	2	1	64	24	16	7130	11	8	59	12	0	11	1
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2146.0	31	3	4	64	24	0	0	0	0	0	0	0	0	0
2145.0	31	3	4	64	24	0	0	0	0	0	0	0	0	0
2147.0	31	3	4	64	24	0	0	0	0	0	0	0	0	0
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2178.0	31	4	3	48	16	12	3748	3	0	0	0	0	0	0
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2179.0	31	4	4	64	24	0	0	0	0	0	0	0	0	0
2181.0	31	4	4	64	24	0	0	0	0	0	0	0	0	0
2748.0	32	1	4	48	16	16	5648	5	0	0	0	0	0	0
2747.0	32	1	4	64	16	16	6661	4	0	0	0	0	0	0
2749.0	32	1	4	64	16	15	6688	3	0	0	0	0	0	0
2745.0	32	1	4	64	24	0	0	0	0	0	0	0	0	0
2746.0	32	1	4	64	24	0	0	0	0	0	0	0	0	0
2741.0	32	1	3	80	16	10	6054	3	0	0	0	0	0	0
2744.0	32	1	4	96	16	7	4812	3	0	0	0	0	0	0
2743.0	32	1	4	96	24	12	10478	8	8	0	0	10	10	2
2742.0	32	1	4	128	24	14	15240	11	6	11	2	3	0	1
1971.0	32	2	4	64	16	16	6962	3	0	0	0	0	0	0
1965.0	32	2	2	64	24	15	8230	9	6	14	3	2	0	3

1970.0	32	2	4	64	24	16	7130	11	7	20	8	2	0	1
1967.0	32	2	4	64	24	16	8500	7	7	19	4	3	0	2
1969.0	32	2	4	64	24	16	8410	11	8	40	6	5	0	2
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1973.0	32	2	3	80	16	16	8817	2	0	0	0	0	0	0
1966.0	32	2	4	80	16	14	8184	3	0	0	0	0	0	0
1972.0	32	2	3	96	24	16	12820	9	7	8	1	3	0	2
1956.0	32	3	2	48	16	14	4535	3	0	0	0	0	0	0
1955.0	32	3	4	64	16	16	6452	5	0	0	0	0	0	0
1953.0	32	3	4	64	24	16	7550	9	7	28	15	3	0	2
1952.0	32	3	4	64	24	16	7620	9	7	7	4	2	0	2
1954.0	32	3	4	64	24	16	7290	10	8	24	10	3	0	1
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2750.0	33	1	3	48	16	9	3608	3	0	0	0	0	0	0
2755.0	33	1	4	96	16	16	11350	3	0	0	0	0	0	0
2754.0	33	1	4	96	16	10	7218	4	0	0	0	0	0	0
2753.0	33	1	4	112	16	16	13272	4	0	0	0	0	0	0
2752.0	33	1	4	128	16	13	0	0	0	0	0	0	0	0
2751.0	33	1	4	128	16	13	11340	5	0	0	0	0	0	0
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2267.0	33	2	2	64	16	9	4455	3	0	0	0	0	0	0
2259.0	33	2	1	64	16	13	6520	3	0	0	0	0	0	0
2260.0	33	2	2	64	16	11	5587	3	0	0	0	0	0	0
2271.0	33	2	4	64	24	13	7610	6	4	6	3	1	0	3
2269.0	33	2	4	64	24	16	8810	10	6	0	5	6	9	3
2270.0	33	2	4	64	24	16	8500	10	8	11	6	13	0	2
2268.0	33	2	4	64	24	15	8520	10	8	7	0	1	0	1
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1963.0	33	3	4	48	16	10	3503	3	0	0	0	0	0	0
1962.0	33	3	4	64	16	15	6364	3	0	0	0	0	0	0
1959.0	33	3	4	64	24	15	8010	7	6	4	4	3	10	2
1961.0	33	3	4	64	24	15	7280	11	7	21	4	2	0	1
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1958.0	33	3	2	96	16	0	0	0	0	0	0	0	0	0
1964.0	33	3	3	96	24	15	11630	7	4	1	2	4	13	3
1986.0	33	4	3	64	16	11	4088	3	0	0	0	0	0	0
1989.0	33	4	4	64	24	0	0	0	0	0	0	0	0	0
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1988.0	33	4	4	64	24	16	7300	11	9	39	8	5	9	1
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2116.0	34	1	1	64	16	9	4998	3	0	0	0	0	0	0
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2122.0	34	1	3	64	24	16	10040	7	6	6	4	5	0	3
2118.0	34	1	4	64	24	15	8300	11	8	13	8	15	0	1
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2155.0	34	2	4	48	16	16	5617	3	0	0	0	0	0	0
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2152.0	34	2	4	64	24	0	0	0	0	0	0	0	0	0
2154.0	34	2	4	64	24	0	0	0	0	0	0	0	0	0
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2189.0	34	3	3	64	16	15	7260	4	0	0	0	0	0	0
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2192.0	34	3	4	64	24	0	0	0	0	0	0	0	0	0
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2190.0	34	3	4	64	24	15	8250	11	6	5	3	5	0	1
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2804.0	35	1	4	64	24	0	0	0	0	0	0	0	0	0
2806.0	35	1	4	64	24	0	0	0	0	0	0	0	0	0
2805.0	35	1	4	64	24	0	0	0	0	0	0	0	0	0
2799.0	35	1	3	96	16	7	4928	3	0	0	0	0	0	0
2801.0	35	1	3	128	16	13	11966	3	0	0	0	0	0	0
2800.0	35	1	3	128	16	9	8241	3	0	0	0	0	0	0
2802.0	35	1	3	128	16	12	12575	3	0	0	0	0	0	0
2430.0	35	3	3	48	16	16	5184	5	0	0	0	0	0	0
2428.0	35	3	2	64	16	12	5461	5	0	0	0	0	0	0
2423.0	35	3	1	64	16	14	5691	3	0	0	0	0	0	0
2427.0	35	3	4	64	24	0	0	0	0	0	0	0	0	0
2426.0	35	3	4	64	24	0	0	0	0	0	0	0	0	0
2425.0	35	3	4	64	24	0	0	0	0	0	0	0	0	0
2424.0	35	3	4	64	24	0	0	0	0	0	0	0	0	0
2430.1	35	3	3	64	24	16	8430	6	7	19	2	4	0	2
2429.0	35	3	3	96	24	16	12580	11	7	35	2	1	0	1
2102.0	35	4	4	64	24	0	0	0	0	0	0	0	0	0
2103.0	35	4	4	64	24	16	7420	9	7	26	9	3	10	2
2104.0	35	4	4	64	24	15	7100	8	8	22	4	4	0	2
1498.0	36	1	4	64	16	16	7475	3	0	0	0	0	0	0
1491.0	36	1	2	64	16	9	4500	4	0	0	0	0	0	0
1497.0	36	1	4	64	24	0	0	0	0	0	0	0	0	0
1495.0	36	1	4	64	24	0	0	0	0	0	0	0	0	0
1494.0	36	1	4	64	24	13	8080	7	3	6	7	1	0	3
1496.0	36	1	4	64	24	16	8040	11	8	7	7	8	0	1
1493.0	36	1	3	80	16	16	9230	4	0	3	0	0	0	0
1492.0	36	1	2	96	24	13	11760	7	4	6	3	3	0	2
1768.0	36	2	1	48	16	7	2286	3	0	0	0	0	0	0
1771.0	36	2	4	64	24	0	0	0	0	0	0	0	0	0
1773.0	36	2	4	64	24	16	8530	7	6	2	5	2	0	2
1772.0	36	2	4	64	24	16	7630	11	7	14	4	1	0	1
1770.0	36	2	4	64	24	16	8562	8	93	0	0	0	11	2
1774.0	36	2	4	64	24	16	8219	11	94	0	3	0	11	1
1769.0	36	2	2	64	24	15	8612	9	94	2	3	3	11	3
1932.0	36	3	4	64	16	16	6144	3	0	0	0	0	0	0
1928.0	36	3	2	64	16	8	3273	4	0	0	0	0	0	0
1929.0	36	3	4	64	24	16	7560	9	6	4	6	3	9	2
1930.0	36	3	4	64	24	16	7130	11	7	43	3	2	0	1
1931.0	36	3	4	64	24	16	7350	11	8	32	2	3	0	1
1933.0	36	3	3	80	16	16	7750	5	0	0	0	0	0	0
1825.0	36	4	2	48	16	10	2696	3	0	0	0	0	0	0
1812.0	36	4	4	64	16	10	3490	3	0	0	0	0	0	0
1815.0	36	4	4	64	16	10	3455	5	0	0	0	0	0	0
1813.0	36	4	4	64	24	0	0	0	0	0	0	0	0	0
1814.0	36	4	4	64	24	15	6720	11	9	37	8	5	0	1
2009.0	37	1	4	64	24	15	9280	9	4	9	3	2	0	3
2013.0	37	1	4	64	24	16	8610	9	7	12	2	4	0	2
2011.0	37	1	4	64	24	16	7540	11	9	30	11	4	0	1

2010.0	37	1	4	64	24	16	8070	9	9	12	9	7	0	2
2012.0	37	1	4	64	24	16	7440	11	9	32	6	1	0	1
2015.0	37	1	3	96	16	15	11493	3	0	0	0	0	0	0
2016.0	37	1	2	96	24	14	12620	9	6	1	2	2	0	2
2014.0	37	1	3	128	24	16	18260	8	6	3	3	4	10	2
1990.0	37	2	1	48	16	16	6048	3	0	0	0	0	0	0
1993.0	37	2	3	64	16	16	7841	3	0	0	0	0	0	0
1997.0	37	2	4	64	24	16	8480	8	7	2	2	7	9	2
1994.0	37	2	4	64	24	16	8110	9	7	3	3	3	0	2
1996.0	37	2	4	64	24	16	7610	11	8	28	5	3	0	1
1995.0	37	2	4	64	24	16	7560	10	9	32	2	4	0	1
1991.0	37	2	2	80	16	16	9338	5	0	0	0	0	0	0
1992.0	37	2	2	96	24	16	13200	10	6	6	3	3	0	1
2306.0	37	3	2	48	16	14	5052	3	0	0	0	0	0	0
2311.0	37	3	4	48	16	16	5633	2	0	0	0	0	0	2
2307.0	37	3	1	64	16	16	7330	3	0	0	0	0	0	0
2308.0	37	3	4	64	24	0	0	0	0	0	0	0	0	0
2312.0	37	3	3	64	24	16	8200	9	6	5	8	2	0	0
2310.0	37	3	4	64	24	16	7790	8	7	15	4	2	0	2
2309.0	37	3	4	64	24	16	7470	11	8	44	10	3	0	1
2314.0	37	4	2	48	16	14	4652	3	0	0	0	0	0	0
2315.0	37	4	3	48	16	13	4284	3	0	0	0	0	0	0
2313.0	37	4	1	48	16	16	4928	5	0	0	0	0	0	0
2318.0	37	4	4	64	24	0	0	0	0	0	0	0	0	0
2317.0	37	4	4	64	24	16	7330	11	8	45	17	0	11	1
2316.0	37	4	4	64	24	16	7560	10	8	17	7	18	0	2
1946.0	37	5	4	64	16	9	3441	4	0	0	0	0	0	0
1945.0	37	5	4	64	24	14	6147	3	0	0	0	0	0	0
1944.0	37	5	4	64	24	14	6560	11	7	19	3	3	0	1
1945.1	37	5	4	64	24	14	6120	11	7	47	15	2	0	1
2785.0	38	1	2	48	16	13	5224	3	0	0	0	0	0	0
2778.0	38	1	4	48	16	16	6009	5	0	0	0	0	0	0
2782.0	38	1	4	48	16	15	5654	3	0	0	0	0	0	0
2780.0	38	1	4	64	24	0	0	0	0	0	0	0	0	0
2781.0	38	1	4	64	24	0	0	0	0	0	0	0	0	0
2779.0	38	1	4	64	24	14	7190	10	7	8	3	2	0	1
2788.0	38	1	1	96	16	8	5492	3	0	0	0	0	0	0
2784.0	38	1	4	96	24	14	11889	9	7	3	0	3	10	3
2783.0	38	1	4	128	24	15	15890	11	8	5	8	4	0	1
2222.0	38	2	4	48	16	8	2631	3	0	0	0	0	0	0
2223.0	38	2	1	64	16	15	7346	4	0	0	0	0	0	0
2220.0	38	2	4	64	24	0	0	0	0	0	0	0	0	0
2218.0	38	2	4	64	24	0	0	0	0	0	0	0	0	0
2219.0	38	2	4	64	24	16	0	11	8	8	4	3	10	1
2221.0	38	2	4	64	24	16	8050	7	8	9	2	3	0	2
2231.0	38	2	3	80	16	13	7411	3	0	0	0	0	0	0
2230.0	38	2	3	96	24	16	11880	10	7	8	2	3	13	1
2236.0	38	3	4	48	16	16	5016	2	0	0	0	0	0	0
2232.0	38	3	1	48	16	13	4504	5	0	0	0	0	0	0
2242.0	38	3	3	48	16	16	5414	3	0	0	0	0	0	0
2237.0	38	3	2	48	16	14	5450	4	0	0	0	0	0	0
2234.0	38	3	4	64	24	16	7310	11	8	12	2	1	0	1
2233.0	38	3	4	64	24	16	7380	10	8	4	5	5	0	2
2235.0	38	3	4	64	24	16	7450	11	8	6	3	3	0	1

2243.0	38	3	3	96	24	16	11310	11	7	3	1	4	15	1
2391.0	39	1	2	48	16	16	0	4	0	0	0	0	0	0
2390.0	39	1	1	48	16	9	3362	3	0	0	0	0	0	0
2405.0	39	1	4	64	24	0	0	0	0	0	0	0	0	0
2403.0	39	1	4	64	24	16	8670	9	10	26	12	8	0	2
2404.0	39	1	4	64	24	16	7770	11	10	22	7	7	0	1
2434.0	39	2	4	48	16	15	4977	3	0	0	0	0	0	0
2448.0	39	2	1	64	16	16	0	4	0	0	0	0	0	0
2431.0	39	2	4	64	24	15	8270	10	7	6	4	12	9	2
2433.0	39	2	4	64	24	15	7480	10	9	14	3	1	0	1
2432.0	39	2	4	64	24	15	7640	10	9	48	13	2	0	1
2373.0	39	3	4	64	16	7	3054	3	0	0	0	0	0	0
2371.0	39	3	4	64	24	0	0	0	0	0	0	0	0	0
2371.1	39	3	4	64	24	16	8450	11	6	25	2	2	0	1
2372.0	39	3	4	64	24	10	5010	11	6	40	2	4	0	1
2327.0	40	2	1	48	16	14	4996	3	0	0	0	0	0	0
2334.0	40	2	3	48	16	12	4538	4	0	0	0	0	0	0
2328.0	40	2	2	48	16	15	6295	3	0	0	0	0	0	0
2332.0	40	2	4	64	24	0	0	0	0	0	0	0	0	0
2331.0	40	2	4	64	24	0	0	0	0	0	0	0	0	0
2329.0	40	2	4	64	24	16	9020	9	6	12	3	3	0	3
2330.1	40	2	4	64	24	15	7520	11	7	33	4	3	0	1
2330.2	40	2	4	64	24	15	8450	7	7	9	5	2	0	2
2330.0	40	2	4	64	24	15	7260	11	10	40	3	11	0	1
2333.0	40	2	3	96	24	15	12690	6	4	2	3	6	0	2
2069.0	40	3	4	64	24	16	8390	7	6	14	2	2	0	2
2067.0	40	3	4	64	24	16	7880	11	7	33	6	3	0	1
2070.0	40	3	3	64	24	16	8330	7	7	32	11	4	10	2
2068.0	40	3	4	64	24	16	7900	11	8	42	9	7	0	1
2047.0	40	4	4	48	16	16	4747	3	0	0	0	0	0	0
2044.0	40	4	3	64	16	14	5514	4	0	0	0	0	0	0
2045.0	40	4	4	64	24	16	7820	9	7	24	5	7	0	3
2046.0	40	4	4	64	24	16	7660	11	8	44	12	5	11	1
2188.0	41	2	2	64	16	13	5797	2	0	0	0	0	0	0
2185.0	41	2	4	64	24	0	0	0	0	0	0	0	0	0
2182.0	41	2	4	64	24	0	0	0	0	0	0	0	0	0
2184.0	41	2	4	64	24	16	6950	9	9	9	1	4	11	2
2183.0	41	2	4	64	24	16	6890	11	9	31	4	3	0	1
2187.0	41	2	3	80	16	16	9150	2	0	0	0	0	0	0
2186.0	41	2	3	96	24	16	12500	11	6	23	2	5	0	2
2298.0	41	3	4	64	16	16	6173	4	0	0	0	0	0	0
2299.0	41	3	2	64	16	12	4701	3	0	0	0	0	0	0
2294.0	41	3	1	64	16	11	4597	4	0	0	0	0	0	0
2300.0	41	3	3	64	24	16	7990	7	5	7	1	5	0	3
2295.0	41	3	4	64	24	16	7370	7	8	38	5	2	0	2
2297.0	41	3	4	64	24	16	7110	9	8	35	11	4	0	2
2296.0	41	3	4	64	24	16	6290	11	9	50	19	0	0	1
2224.0	41	4	3	64	16	12	4318	4	0	0	0	0	0	0
2225.0	41	4	4	64	24	0	0	0	0	0	0	0	0	0
2226.0	41	4	4	64	24	0	0	0	0	0	0	0	0	0
2227.1	41	4	4	64	24	16	7390	7	7	12	2	2	0	2
2227.0	41	4	4	64	24	15	6870	11	8	64	9	0	0	1
1534.0	42	1	1	48	16	8	3275	3	0	13	6	3	12	2
1533.0	42	1	2	64	24	16	10483	9	93	8	5	0	12	3

1539.0	42	1	4	64	24	16	9632	10	94	4	0	2	11	2
1536.0	42	1	4	64	24	16	8211	9	97	6	8	7	11	2
1538.0	42	1	4	64	24	14	6660	9	98	7	6	3	10	2
1537.0	42	1	4	64	24	16	7556	11	99	14	16	4	11	1
1532.0	42	1	3	96	24	16	15270	7	3	10	3	3	0	2
1535.0	42	1	1	96	24	16	14140	8	6	0	0	0	0	0
1778.0	42	2	4	64	16	16	6480	2	0	0	0	0	0	0
1766.0	42	2	4	64	16	16	7265	5	0	0	0	0	0	0
1775.0	42	2	4	64	24	0	0	0	0	0	0	0	0	0
1776.0	42	2	4	64	24	16	8090	11	7	13	9	1	0	1
1777.0	42	2	4	64	24	16	8080	11	9	22	25	2	11	1
1767.0	42	2	3	96	24	16	12790	10	7	2	6	2	0	1
1923.0	42	3	1	64	16	12	5497	3	0	0	0	0	0	0
1927.0	42	3	4	64	24	16	8410	9	6	3	2	2	10	2
1924.0	42	3	4	64	24	16	7980	10	6	7	4	3	0	2
1925.0	42	3	4	64	24	16	7510	11	8	49	4	6	0	1
1631.0	42	5	4	64	24	0	0	0	0	0	0	0	0	0
1632.0	42	5	4	64	24	10	4803	11	94	10	0	0	10	1
2716.0	43	1	2	48	16	10	3400	3	0	0	0	0	0	0
2721.0	43	1	4	64	16	11	4857	3	0	0	0	0	0	0
2723.0	43	1	3	64	24	15	7940	9	7	0	3	5	0	2
2722.0	43	1	4	96	24	0	0	0	0	0	0	0	0	0
2717.0	43	1	4	128	24	14	15210	8	6	6	2	3	0	2
2720.0	43	1	4	128	24	14	13980	10	8	7	7	8	0	1
2719.0	43	1	4	128	24	14	13760	11	8	10	3	2	0	1
2718.0	43	1	4	128	24	14	13620	10	9	5	4	5	0	1
1638.0	43	2	2	64	16	16	6591	3	0	0	0	0	0	0
1646.0	43	2	4	64	24	15	8000	8	5	2	6	3	0	2
1642.0	43	2	4	64	24	16	7820	9	7	1	14	5	10	2
1645.0	43	2	4	64	24	15	6960	11	8	17	2	1	0	1
1643.0	43	2	4	64	24	15	6510	11	8	13	9	2	0	1
1637.0	43	2	1	64	24	11	6020	8	8	4	3	3	0	3
1644.0	43	2	4	64	24	16	6940	11	9	29	2	2	0	1
1641.0	43	2	4	96	24	12	9860	9	5	2	4	2	0	3
1639.0	43	2	3	96	24	13	10000	7	5	5	2	9	12	2
1640.0	43	2	4	96	24	15	11530	8	6	5	6	1	0	2
1679.0	44	2	4	48	16	15	5379	3	0	0	0	0	0	0
1678.0	44	2	4	64	24	14	8210	0	0	2	7	6	11	2
1681.0	44	2	4	96	16	13	7621	3	0	0	0	0	0	0
1580.0	44	2	4	96	16	14	8157	5	0	0	0	0	0	0
1577.0	44	2	4	96	24	16	12170	11	7	19	8	13	0	1
1682.0	44	2	4	112	16	15	10068	5	0	0	0	0	0	0
1489.0	44	3	2	48	16	15	5532	3	0	0	0	0	0	0
1490.0	44	3	1	48	16	11	4023	3	0	0	0	0	0	0
1485.0	44	3	3	64	16	15	6612	2	0	0	0	0	0	0
1486.0	44	3	4	64	24	15	7900	9	7	11	1	2	0	2
1488.0	44	3	4	64	24	15	7760	8	7	17	18	1	0	2
1487.0	44	3	4	64	24	15	6869	11	96	28	7	0	11	1
1795.0	44	4	4	48	16	15	4868	3	0	0	0	0	0	0
1798.0	44	4	4	64	24	16	8570	8	0	3	5	2	11	2
1796.0	44	4	4	64	24	15	7708	11	94	14	1	2	11	1
1797.0	44	4	4	64	24	15	7324	11	95	16	0	0	11	1
1917.0	46	1	2	64	16	15	11060	3	0	0	0	0	0	0
1914.0	46	1	1	64	16	12	6059	3	0	0	0	0	0	0

1913.0	46	1	4	64	16	15	6387	3	0	0	0	0	0	0
1909.0	46	1	4	64	24	16	8540	7	7	2	13	4	0	2
1912.0	46	1	4	64	24	16	7610	11	9	21	13	3	0	1
1910.0	46	1	4	64	24	16	7450	9	9	17	8	2	0	2
1911.0	46	1	4	64	24	16	7110	11	9	31	14	5	11	1
1916.0	46	1	3	96	24	15	13200	7	5	1	2	1	10	2
1915.0	46	1	3	128	24	16	16060	11	7	6	2	6	0	1
1546.0	46	2	1	48	16	14	4757	3	0	0	0	0	0	0
1572.0	46	2	4	64	16	7	3357	2	0	0	0	0	0	0
1554.0	46	2	3	64	16	15	7507	2	0	6	6	4	12	3
1571.0	46	2	4	64	24	0	0	0	0	0	0	0	0	0
1549.0	46	2	1	64	24	0	0	0	0	0	0	0	0	0
1569.0	46	2	4	64	24	16	6834	11	8	33	5	0	10	1
1570.0	46	2	4	64	24	16	6850	10	10	37	3	0	9	1
1556.0	46	2	2	64	24	13	7924	8	93	3	2	0	10	3
1568.0	46	2	4	64	24	16	7705	9	95	4	0	0	10	2
1555.0	46	2	3	96	24	16	12320	9	6	0	0	0	0	0
1692.0	46	3	1	48	16	15	4974	3	0	0	0	0	0	0
1701.0	46	3	4	64	16	15	6178	3	0	0	0	0	0	0
1699.0	46	3	4	64	24	0	0	0	0	0	0	0	0	0
1700.0	46	3	4	64	24	15	6970	7	7	24	4	2	0	2
1698.0	46	3	4	64	24	15	7315	9	94	9	2	0	11	2
1688.0	46	4	2	48	16	13	4361	3	0	0	0	0	0	0
1684.0	46	4	3	48	16	12	3876	3	0	0	0	0	0	0
1683.0	46	4	1	64	16	13	5298	3	0	0	0	0	0	0
1687.0	46	4	4	64	24	0	0	0	0	0	0	0	0	0
1685.0	46	4	4	64	24	0	8030	10	7	12	3	2	0	2
1686.0	46	4	4	64	24	14	6200	11	8	7	4	1	0	1
2724.0	47	1	1	48	16	8	3376	1	0	0	0	0	0	0
2729.0	47	1	4	48	16	15	6090	5	0	0	0	0	0	0
2732.0	47	1	3	80	16	10	6790	3	0	0	0	0	0	0
2731.0	47	1	4	96	24	0	0	0	0	0	0	0	0	0
2733.0	47	1	3	96	24	0	0	0	0	0	0	0	0	0
2730.0	47	1	4	96	24	15	15530	8	4	0	4	0	11	3
2725.0	47	1	4	128	24	15	19090	10	6	9	2	8	0	1
2728.0	47	1	4	128	24	16	19900	10	10	32	4	3	0	2
2727.0	47	1	4	128	24	16	18330	10	10	31	23	1	0	1
2726.0	47	1	4	128	24	16	18640	10	10	20	9	2	0	1
2765.0	47	2	4	48	16	16	6367	2	0	0	0	0	0	0
2756.0	47	2	1	64	16	12	6191	1	0	0	0	0	0	0
2761.0	47	2	4	64	24	0	0	0	0	0	0	0	0	0
2764.0	47	2	4	64	24	0	0	0	0	0	0	0	0	0
2763.0	47	2	4	64	24	0	0	0	0	0	0	0	0	0
2762.0	47	2	4	64	24	0	0	0	0	0	0	0	0	0
2766.0	47	2	4	96	16	14	11767	3	0	1	0	0	0	0
2757.0	47	2	3	96	16	16	12251	3	0	0	0	0	0	0
2760.0	47	2	4	128	16	13	11620	5	0	0	0	0	0	0
2758.0	47	2	4	128	24	14	18200	7	4	2	1	2	11	2
2759.0	47	2	4	128	24	16	18750	9	5	7	3	2	0	2
2787.0	47	3	2	48	16	11	4374	3	0	0	0	0	0	0
2789.0	47	3	3	64	16	11	5913	3	0	0	0	0	0	0
2797.0	47	3	4	64	16	16	7690	3	0	0	0	0	0	0
2793.0	47	3	4	64	24	16	9380	9	7	13	3	2	0	2
2796.0	47	3	4	64	24	16	8610	8	7	31	5	4	0	2

2794.0	47	3	4	64	24	16	8260	11	7	38	3	4	0	1
2795.0	47	3	4	64	24	16	8050	11	8	28	3	3	0	1
2790.0	47	3	4	80	16	12	7192	3	0	0	0	0	0	0
2786.0	47	3	1	80	16	15	9022	3	0	0	0	0	0	0
2792.0	47	3	4	112	16	16	14000	4	0	0	0	0	0	0
2791.0	47	3	4	128	24	14	17050	8	6	13	4	3	12	2
1484.0	47	5	1	64	16	14	6256	3	0	0	0	0	0	0
1480.0	47	5	3	64	16	15	6485	3	0	0	0	0	0	0
1483.0	47	5	4	64	16	16	6603	4	0	0	0	0	0	0
1482.0	47	5	4	64	24	0	0	0	0	0	0	0	0	0
1481.0	47	5	4	64	24	0	0	0	0	0	0	0	0	0
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1824.0	48	1	4	64	16	13	4943	4	0	0	0	0	0	0
1831.0	48	1	2	64	24	14	8315	7	4	5	9	1	0	2
1821.0	48	1	4	64	24	15	9450	7	4	2	3	6	0	2
1826.0	48	1	3	64	24	15	8740	7	7	2	13	8	0	3
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1822.0	48	1	4	64	24	16	8818	8	94	1	3	3	11	3
1823.0	48	1	4	64	24	12	5553	11	97	7	4	2	10	1
1516.0	48	2	4	48	16	14	5217	5	0	0	0	0	0	0
1520.0	48	2	3	48	16	13	4908	3	0	0	0	0	0	0
1517.0	48	2	2	48	16	13	5270	5	0	0	0	0	0	0
1518.0	48	2	1	64	16	14	7248	3	0	0	0	0	0	0
1515.0	48	2	4	64	24	0	0	0	0	0	0	0	0	0
1513.0	48	2	4	64	24	0	0	0	0	0	0	0	0	0
1512.0	48	2	4	64	24	0	0	0	0	0	0	0	0	0
1514.0	48	2	4	64	24	14	6560	11	8	15	5	6	0	1
1519.0	48	2	3	96	24	16	13380	11	5	12	3	5	12	2
1861.0	48	3	4	48	16	11	3681	3	0	0	0	0	0	0
1860.0	48	3	4	64	24	16	7980	8	6	3	4	3	0	2
1857.0	48	3	4	64	24	16	8430	9	6	10	5	3	0	3
1859.0	48	3	4	64	24	16	7320	11	8	43	8	3	0	1
1858.0	48	3	4	64	24	16	7733	10	95	6	3	3	11	1
1862.0	48	3	3	96	24	16	12880	10	5	12	2	2	11	2
1618.0	48	4	3	48	16	9	2648	3	0	0	0	0	0	0
1630.0	48	4	1	48	16	14	4405	5	0	0	0	0	0	0
1619.0	48	4	4	64	24	16	7430	9	8	25	0	3	9	1
1621.0	48	4	4	64	24	14	7095	10	94	0	4	2	10	3
1620.0	48	4	4	64	24	16	7760	10	97	10	8	2	10	1
1856.0	48	5	4	64	24	16	7290	11	8	35	7	2	0	1
1855.0	48	5	4	64	24	16	7370	11	8	6	5	4	0	1
2767.0	49	1	1	48	16	11	3963	3	0	0	0	0	0	0
2777.0	49	1	4	64	16	16	7098	2	0	0	0	0	0	0
2772.0	49	1	4	64	16	16	7664	2	0	0	0	0	0	0
2776.0	49	1	4	64	24	0	0	0	0	0	0	0	0	0
2773.0	49	1	4	64	24	0	0	0	0	0	0	0	0	0
2774.0	49	1	4	64	24	0	0	0	0	0	0	0	0	0
2775.0	49	1	4	64	24	16	7490	11	9	39	7	2	0	1
2768.0	49	1	2	96	16	13	8764	3	0	0	0	0	0	0
2771.0	49	1	4	128	24	16	18900	8	4	7	2	2	12	2
2769.0	49	1	4	128	24	14	16400	7	4	13	4	1	11	3
2770.0	49	1	4	128	24	15	16200	9	6	3	1	2	0	2
1733.0	49	2	4	64	24	16	7630	9	7	10	4	3	0	2
1740.0	49	2	2	64	24	16	7830	9	7	10	2	3	0	2

1732.0	49	2	4	64	24	16	8190	11	8	18	15	2	0	1
1734.0	49	2	4	64	24	16	7210	10	8	32	2	2	0	1
1736.0	49	2	4	64	24	16	8100	10	9	1	3	1	0	2
1737.0	49	2	4	64	24	16	8890	6	10	5	5	1	0	3
1735.0	49	2	4	64	24	16	7320	10	10	25	8	2	0	1
1738.0	49	2	3	80	16	15	8718	4	0	0	0	0	0	0
1731.0	49	2	2	96	16	16	10520	3	0	0	0	0	0	0
1739.0	49	2	3	128	24	0	0	0	0	0	0	0	0	0
1740.1	49	2	1	128	24	16	17680	8	4	24	2	2	0	2
1690.0	49	3	2	64	16	9	3884	3	0	0	0	0	0	0
1693.0	49	3	4	64	24	0	0	0	0	0	0	0	0	0
1695.0	49	3	4	64	24	0	0	0	0	0	0	0	0	0
1694.0	49	3	4	64	24	0	0	0	0	0	0	0	0	0
1696.0	49	3	4	64	24	15	6992	7	6	4	3	3	10	2
1689.0	49	3	2	64	24	15	7540	8	10	14	1	4	0	2
1697.0	49	3	4	64	24	15	7761	8	94	2	3	2	11	3
1691.0	49	3	3	96	24	15	12120	7	5	16	2	3	0	2
1636.0	49	5	4	48	16	13	3513	5	0	0	0	0	0	0
1633.0	49	5	4	64	24	14	6792	10	10	8	5	0	10	2
1634.0	49	5	4	64	24	12	5468	11	96	5	4	0	10	1
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2348.0	50	1	4	48	16	16	5597	2	0	0	0	0	0	0
2349.0	50	1	2	64	16	15	6924	5	0	0	0	0	0	0
2346.0	50	1	4	64	24	0	0	0	0	0	0	0	0	0
2347.0	50	1	4	64	24	0	0	0	0	0	0	0	0	0
2343.0	50	1	4	64	24	0	0	0	0	0	0	0	0	0
2345.0	50	1	4	64	24	15	6410	11	10	24	9	9	0	1
2344.0	50	1	4	64	24	15	6630	11	10	15	14	1	0	1
2354.0	50	1	3	96	24	16	13850	6	3	5	15	2	0	3
2352.0	50	1	1	96	24	15	12400	7	4	14	1	5	0	3
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1846.0	50	2	1	48	16	8	2400	3	0	0	0	0	0	0
1845.0	50	2	2	48	16	16	5134	5	0	0	0	0	0	0
1852.0	50	2	4	48	16	16	4570	3	0	0	0	0	0	0
1854.0	50	2	3	64	24	16	7860	6	5	5	4	5	0	2
1848.0	50	2	4	64	24	16	7780	8	7	5	7	4	0	2
1850.0	50	2	4	64	24	16	6940	11	8	7	5	2	10	1
1849.0	50	2	4	64	24	16	6951	11	9	26	6	7	0	1
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1853.0	50	2	3	64	24	16	8920	10	96	2	6	2	11	2
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1702.0	50	3	1	48	16	10	2923	3	0	0	0	0	0	0
1716.0	50	3	4	64	16	15	5600	5	0	0	0	0	0	0
1713.0	50	3	4	64	24	16	9040	11	8	7	2	4	0	2
1714.0	50	3	4	64	24	15	6720	11	9	16	4	2	0	1
1715.0	50	3	4	64	24	15	7320	11	9	23	7	3	0	1
1711.0	50	3	4	64	24	14	6973	10	94	1	5	0	11	3
1712.0	50	3	4	96	24	12	8390	11	6	3	3	1	0	2
1500.0	50	4	1	48	16	14	4020	3	0	0	0	0	0	0
1499.0	50	4	2	48	16	15	4495	5	0	0	0	0	0	0
1501.0	50	4	2	64	24	0	0	0	0	0	0	0	0	0
1504.0	50	4	4	64	24	15	6800	8	7	2	17	6	0	2
1503.1	50	4	4	64	24	9	3780	11	8	36	6	7	9	1
1502.0	50	4	4	64	24	16	6870	11	8	12	6	6	0	1

2649.0	51	1	4	48	16	16	5336	2	0	0	0	0	0	0
2645.0	51	1	3	64	16	12	5528	3	0	0	0	0	0	0
2647.0	51	1	4	64	24	0	0	0	0	0	0	0	0	0
2646.0	51	1	4	64	24	0	0	0	0	0	0	0	0	0
2648.0	51	1	4	64	24	0	0	0	0	0	0	0	0	0
2622.0	52	1	4	64	16	15	6991	3	0	0	0	0	0	0
2621.0	52	1	4	64	24	0	0	0	0	0	0	0	0	0
2620.0	52	1	4	64	24	0	0	0	0	0	0	0	0	0
2619.0	52	1	3	80	16	12	7673	3	0	0	0	0	0	0
2494.0	52	2	4	64	24	13	6670	8	7	5	5	2	0	2
2496.0	52	2	4	64	24	16	7750	11	7	19	4	1	0	1
2495.0	52	2	4	64	24	16	7310	11	8	19	4	1	0	1
2565.0	53	1	2	64	16	9	3546	3	0	0	0	0	0	0
2564.0	53	1	4	64	16	13	5104	5	0	0	0	0	0	0
2562.0	53	1	4	64	24	15	6830	11	9	17	14	3	0	1
2563.0	53	1	4	64	24	15	6580	11	10	31	20	2	0	1
2470.0	53	2	4	64	16	15	5056	5	0	0	0	0	0	0
2469.0	53	2	4	64	24	16	6510	11	9	37	5	2	0	1
2450.0	54	1	1	48	16	13	4680	3	0	0	0	0	0	0
2449.0	54	1	2	48	16	13	3605	3	0	0	0	0	0	0
2462.0	54	1	4	64	16	14	6262	3	0	0	0	0	0	0
2453.0	54	1	3	64	24	15	8250	10	8	3	3	2	11	3
2461.0	54	1	4	64	24	16	7700	11	8	18	2	1	0	1
2459.0	54	1	4	64	24	16	8100	11	8	9	4	2	0	2
2460.0	54	1	4	64	24	16	7320	11	10	28	3	3	8	1
2607.0	54	2	1	64	16	13	5260	3	0	0	0	0	0	0
2610.0	54	2	4	64	24	0	0	0	0	0	0	0	0	0
2609.0	54	2	4	64	24	16	7180	11	9	33	2	3	0	1
2608.0	54	2	4	64	24	16	7600	11	9	16	2	3	0	1
2535.0	54	3	4	64	16	12	4578	5	0	0	0	0	0	0
2533.0	54	3	4	64	24	16	7440	11	7	22	1	1	0	1
2534.0	54	3	4	64	24	16	7370	11	8	31	5	2	0	1
2663.0	55	1	4	48	16	13	4673	3	0	0	0	0	0	0
2662.0	55	1	4	64	24	0	0	0	0	0	0	0	0	0
2664.0	55	1	3	64	24	0	0	0	0	0	0	0	0	0
2661.0	55	1	4	64	24	15	7120	11	9	19	20	1	10	1
2660.0	55	1	4	64	24	16	7850	11	9	3	3	4	10	1
2492.0	55	3	4	48	16	16	4339	5	0	0	0	0	0	0
2493.0	55	3	4	48	16	13	3653	4	0	0	0	0	0	0
2491.0	55	3	4	48	16	16	4379	5	0	0	0	0	0	0
2591.0	56	1	4	64	24	0	0	0	0	0	0	0	0	0
2590.0	56	1	3	64	24	16	7720	8	8	11	4	5	12	2
2593.0	56	1	4	64	24	15	6790	11	10	6	11	20	0	1
2592.0	56	1	4	64	24	14	5690	11	10	22	1	1	0	1
2518.0	56	2	4	48	16	16	4500	3	0	0	0	0	0	0
2516.0	56	2	4	64	24	15	7050	9	7	7	9	8	0	2
2516.1	56	2	4	64	24	15	6320	11	8	25	1	8	0	1
2517.0	56	2	4	64	24	16	6670	11	9	24	9	1	0	1
2458.0	56	3	4	48	16	13	3509	5	0	0	0	0	0	0
2457.0	56	3	4	48	16	13	3493	5	0	0	0	0	0	0
2475.0	57	1	4	48	16	13	4147	2	0	0	0	0	0	0
2474.0	57	1	4	64	16	15	5762	3	0	0	0	0	0	0
2471.0	57	1	3	64	24	13	6530	7	7	15	5	3	0	2
2472.0	57	1	4	64	24	16	7570	9	8	3	5	4	11	2

2473.0	57	1	4	64	24	16	7290	11	10	17	6	8	0	1
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2529.0	57	2	3	64	16	15	5660	4	0	0	0	0	0	0
2530.0	57	2	4	64	24	16	6870	11	7	19	3	2	0	1
2531.0	57	2	4	64	24	16	6930	10	9	26	3	3	0	1
2489.0	57	3	4	64	24	16	6870	11	8	16	3	3	0	1
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2501.0	58	1	1	48	16	12	4138	3	0	0	0	0	0	0
2519.0	58	1	3	48	16	16	5091	3	0	0	0	0	0	0
2522.0	58	1	4	64	24	0	0	0	0	0	0	0	0	0
2521.0	58	1	4	64	24	14	6200	11	9	26	10	2	0	1
2520.0	58	1	4	64	24	14	6680	11	10	14	5	6	0	1
2573.0	58	2	4	48	16	16	4475	5	0	0	0	0	0	0
2570.0	58	2	3	48	16	12	3687	3	0	0	0	0	0	0
2572.0	58	2	4	64	24	16	6830	11	8	28	5	2	0	1
2571.0	58	2	4	64	24	16	7450	11	8	12	1	3	10	1
2488.0	58	3	4	48	16	13	3561	5	0	0	0	0	0	0
2487.0	58	3	4	48	16	16	4130	5	0	0	0	0	0	0
2486.0	58	3	4	48	16	16	4357	5	0	0	0	0	0	0
2482.0	59	1	2	48	16	14	4943	5	0	0	0	0	0	0
2481.0	59	1	3	64	16	14	6271	4	0	0	0	0	0	0
2485.0	59	1	4	64	24	0	0	0	0	0	0	0	0	0
2476.0	59	1	1	64	24	11	6140	7	6	1	6	2	0	3
2480.0	59	1	3	64	24	16	7850	10	9	8	4	2	0	2
2484.0	59	1	4	64	24	16	7580	11	9	12	5	2	0	1
2484.1	59	1	4	64	24	16	7460	11	10	22	11	9	0	1
2483.0	59	1	4	64	24	14	6660	10	10	9	24	3	0	2
2569.0	59	2	4	48	16	16	5035	3	0	0	0	0	0	0
2568.0	59	2	4	64	24	0	0	0	0	0	0	0	0	0
2567.0	59	2	4	64	24	0	0	0	0	0	0	0	0	0
2566.0	59	2	4	64	24	16	7270	8	8	20	3	2	0	2
2574.0	59	2	3	96	24	0	0	0	0	0	0	0	0	0
2694.0	59	3	3	48	16	16	4828	5	0	0	0	0	0	0
2696.0	59	3	4	64	24	0	0	0	0	0	0	0	0	0
2697.0	59	3	4	64	24	16	7370	11	8	15	2	2	0	1
2695.0	59	3	4	64	24	15	6500	11	9	27	2	3	0	1
2613.0	60	1	3	48	16	15	5347	3	0	0	0	0	0	0
2516.0	60	1	4	64	16	16	6573	3	0	0	0	0	0	0
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2615.0	60	1	4	64	24	15	6830	11	9	25	5	2	0	1
2601.0	60	2	4	48	16	14	4326	3	0	0	0	0	0	0
2600.0	60	2	4	64	24	0	0	0	0	0	0	0	0	0
2599.0	60	2	4	64	24	0	0	0	0	0	0	0	0	0
1521.0	60	5	3	48	16	16	4297	5	0	0	0	0	0	0
1524.0	60	5	4	64	16	16	5730	3	0	0	0	0	0	0
1522.0	60	5	4	64	24	0	0	0	0	0	0	0	0	0
1523.0	60	5	4	64	24	16	6890	11	8	27	2	1	0	1
876.0	61	1	3	48	16	16	5794	3	0	0	0	0	0	0
879.0	61	1	4	64	24	16	9200	9	5	1	3	3	0	3
880.0	61	1	4	64	24	16	8260	9	6	5	3	4	0	2
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881.0	61	1	4	64	24	16	8000	9	7	4	3	1	0	3
882.1	61	1	4	64	24	16	7340	10	9	14	3	2	0	1
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885.0	61	1	4	64	24	16	7189	10	97	19	4	0	11	2
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875.0	61	1	1	96	24	11	9760	7	6	0	6	6	11	3
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884.0	61	1	4	128	24	16	18010	0	0	1	2	2	12	1
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638.0	61	2	4	64	16	16	6719	3	0	0	0	0	0	0
629.0	61	2	2	64	16	15	6692	4	0	0	0	0	0	0
636.0	61	2	4	64	24	0	0	0	0	0	0	0	0	0
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634.0	61	2	4	64	24	16	7710	8	5	2	3	3	0	3
637.0	61	2	4	64	24	16	7600	8	7	10	2	1	0	2
630.0	61	2	3	96	16	10	6355	4	0	0	0	0	0	0
633.0	61	2	4	96	24	13	10953	7	4	0	6	0	11	3
624.0	61	2	1	96	24	15	12988	7	4	2	7	0	10	3
631.0	61	2	3	112	16	16	11991	3	0	0	0	0	0	0
625.0	61	2	4	128	24	15	16770	8	3	2	1	2	9	2
632.0	61	2	4	128	24	16	16920	7	5	1	4	4	0	2
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677.0	61	3	4	64	16	16	5871	5	0	0	0	0	0	0
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665.0	61	3	2	96	16	12	7872	3	0	0	0	0	0	0
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1361.0	61	5	3	48	16	13	4836	4	0	0	0	0	0	0
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1113.0	62	1	2	48	16	16	5654	1	0	0	0	0	0	0
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1119.0	62	1	4	64	16	16	7116	5	0	0	0	0	0	0
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1115.0	62	1	4	64	24	16	9200	9	6	3	4	2	0	2
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1118.0	62	1	4	64	24	16	8820	10	9	5	3	4	0	1
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1335.0	62	3	4	64	24	16	8230	8	0	4	3	3	10	2
1334.0	62	3	4	64	24	0	0	0	0	0	0	0	0	0
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1138.0	63	2	4	64	16	15	5572	3	0	0	0	0	0	0
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1431.0	63	3	2	64	16	13	6005	3	0	0	0	0	0	0
1435.0	63	3	4	64	24	0	0	0	0	0	0	0	0	0
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1437.0	63	3	4	64	24	16	7138	10	96	10	5	2	10	1
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1377.0	63	4	4	64	16	9	4065	3	0	1	3	3	13	3
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1185.0	65	2	4	64	24	16	7660	11	8	15	5	5	0	1
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920.0	66	2	4	64	24	16	7720	8	7	28	2	2	0	2
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922.0	66	2	4	128	24	16	17770	8	5	16	3	2	0	1
1561.0	66	3	4	48	16	16	5754	2	0	0	0	0	0	0
1558.0	66	3	4	64	24	0	0	0	0	0	0	0	0	0
1559.0	66	3	4	64	24	0	0	0	0	0	0	0	0	0
1550.0	66	3	1	64	24	16	8594	7	94	0	6	0	11	2
1560.0	66	3	4	64	24	16	8451	10	94	7	2	2	11	2
1557.0	66	3	4	64	24	15	7520	8	95	8	2	0	12	2
1540.0	66	3	2	96	24	16	13200	10	5	4	3	3	0	2
1628.0	66	4	2	64	16	14	5708	3	0	0	0	0	0	0
1626.0	66	4	4	64	24	16	0	0	0	0	0	0	0	0
1629.0	66	4	4	64	24	0	0	0	0	0	0	0	0	0
1623.0	66	4	4	64	24	16	8529	10	95	8	0	2	11	3
1625.0	66	4	4	64	24	16	7595	10	97	26	6	8	11	1
1624.0	66	4	4	64	24	16	7740	11	97	20	0	0	11	1
1164.0	67	1	4	48	16	8	3294	2	0	0	0	0	0	0
1155.0	67	1	2	48	16	6	2319	3	0	0	0	0	0	0
1154.0	67	1	1	48	16	13	5194	3	0	0	0	0	0	0
1162.0	67	1	4	64	16	15	6192	5	0	0	0	0	0	0
1156.0	67	1	3	64	16	16	8691	4	0	0	0	0	0	0

1158.0	67	1	4	64	24	15	9950	6	2	2	1	1	0	3
1160.0	67	1	4	64	24	15	9070	7	3	5	4	3	10	3
1151.0	67	1	3	64	24	10	5830	7	4	1	2	1	0	3
1161.0	67	1	4	64	24	15	8390	9	6	5	4	1	0	2
1159.0	67	1	4	64	24	15	8840	9	7	3	2	2	0	2
1153.0	67	1	4	96	16	13	9095	3	0	0	0	0	0	0
1165.0	67	1	4	96	24	13	11910	7	4	1	5	5	0	3
1157.0	67	1	4	128	24	16	21400	6	3	3	2	1	0	3
1163.0	67	1	4	128	24	16	19858	7	4	4	1	2	13	1
1152.0	67	1	4	128	24	15	16540	9	5	11	3	3	10	2
1237.0	67	2	1	48	16	16	6294	4	0	0	0	0	0	0
1243.0	67	2	3	64	16	16	7896	3	0	0	0	0	0	0
1242.0	67	2	4	64	16	15	7049	3	0	0	0	0	0	0
1241.0	67	2	4	64	24	0	0	0	0	0	0	0	0	0
1239.0	67	2	4	64	24	0	0	0	0	0	0	0	0	0
1240.0	67	2	4	64	24	0	0	0	0	0	0	0	0	0
1238.0	67	2	4	64	24	0	0	0	0	0	0	0	0	0
1244.0	67	2	3	96	24	16	15000	7	1	9	2	2	0	1
1236.0	67	2	4	112	16	16	13236	3	0	0	0	0	0	0
1218.0	67	4	4	48	16	16	5329	2	0	0	0	0	0	0
1219.0	67	4	4	64	24	16	8840	9	6	3	4	1	12	3
1217.0	67	4	3	64	24	16	8170	7	7	1	3	3	0	2
1220.0	67	4	4	64	24	16	7660	11	9	24	2	2	0	1
1430.0	67	5	4	64	16	15	6286	3	0	0	0	0	0	0
1429.0	67	5	4	64	24	0	0	0	0	0	0	0	0	0
1428.0	67	5	4	64	24	15	7115	11	8	0	14	0	10	1
1386.0	68	1	4	64	24	0	0	0	0	0	0	0	0	0
1384.0	68	1	4	64	24	0	0	0	0	0	0	0	0	0
1383.0	68	1	4	64	24	0	0	0	0	0	0	0	0	0
1382.0	68	1	4	64	24	0	0	0	0	0	0	0	0	0
1379.0	68	1	2	64	24	0	0	0	0	0	0	0	0	0
1385.0	68	1	4	64	24	0	0	0	0	0	0	0	0	0
1380.0	68	1	3	80	16	14	7255	2	0	0	0	0	0	0
1381.0	68	1	3	96	24	16	12000	8	5	4	1	5	12	2
1378.0	68	1	1	96	24	16	12340	7	6	0	0	0	0	0
1468.0	68	2	4	64	16	12	5215	3	0	0	0	0	0	0
1464.0	68	2	4	64	24	16	7110	7	94	1	5	0	11	3
1469.0	68	2	1	64	24	12	5701	8	94	1	3	0	12	3
1467.0	68	2	4	64	24	16	7268	9	94	1	0	0	11	2
1465.0	68	2	4	64	24	16	6764	9	96	5	2	0	11	2
1466.0	68	2	4	64	24	16	6832	11	97	12	0	2	11	1
1470.0	68	2	3	96	24	16	11510	8	5	5	3	3	12	2
1212.0	68	3	4	48	16	16	4651	2	0	0	0	0	0	0
1207.0	68	3	2	48	16	0	0	0	0	0	0	0	0	0
1208.0	68	3	3	64	16	13	5109	3	0	0	0	0	0	0
1209.0	68	3	4	64	24	0	0	0	0	0	0	0	0	0
1211.1	68	3	4	64	24	16	6990	11	7	9	2	1	0	1
1211.0	68	3	4	64	24	16	8155	9	8	4	3	0	10	2
1210.0	68	3	4	64	24	16	6880	11	9	25	4	1	0	1
1208.1	68	3	3	64	24	16	5060	7	9	1	5	4	0	2
1287.0	68	4	4	64	16	15	5524	5	0	0	0	0	0	0
1285.0	68	4	4	64	24	0	0	0	0	0	0	0	0	0
1286.0	68	4	4	64	24	0	0	0	0	0	0	0	0	0
958.0	69	1	2	64	16	6	3166	3	0	0	0	0	0	0

963.0	69	1	4	64	24	0	0	0	0	0	0	0	0	0
964.0	69	1	4	64	24	0	0	0	0	0	0	0	0	0
962.0	69	1	4	64	24	0	0	0	0	0	0	0	0	0
947.0	69	1	1	64	24	13	8740	6	2	2	2	1	0	3
961.0	69	1	4	64	24	16	10000	9	4	4	21	1	11	2
966.0	69	1	4	64	24	16	10410	8	4	3	3	1	0	2
965.0	69	1	4	64	24	16	8440	8	8	8	8	4	0	2
955.0	69	1	4	96	24	0	0	0	0	0	0	0	0	0
960.0	69	1	4	96	24	16	15598	7	4	0	4	0	11	2
959.0	69	1	3	96	24	15	14173	6	8	0	25	8	10	3
954.0	69	1	4	128	24	13	16280	9	5	3	11	1	11	1
967.0	69	1	4	128	24	14	16310	11	6	1	18	1	11	2
973.0	69	2	4	64	16	16	6967	3	0	0	0	0	0	0
977.0	69	2	4	64	16	11	5472	5	8	0	0	0	0	0
970.0	69	2	4	64	24	0	0	0	0	0	0	0	0	0
969.0	69	2	4	64	24	16	9770	8	4	1	2	1	0	3
971.0	69	2	4	64	24	16	7970	10	8	31	13	4	0	1
972.0	69	2	4	64	24	16	8000	11	8	18	9	3	0	1
976.0	69	2	4	96	24	15	13624	9	4	7	22	9	10	2
974.0	69	2	4	96	24	16	15103	8	4	8	3	2	11	3
968.0	69	2	3	96	24	15	13541	8	4	3	2	0	11	3
975.0	69	2	4	128	24	16	18050	9	7	3	19	4	0	2
1408.0	69	3	1	48	16	14	5317	3	0	0	0	0	0	0
1419.0	69	3	3	48	16	16	6230	3	0	0	0	0	0	0
1414.0	69	3	4	64	24	0	0	0	0	0	0	0	0	0
1418.0	69	3	4	64	24	16	8568	8	94	0	2	2	11	3
1415.0	69	3	4	64	24	16	8089	10	94	4	2	2	10	2
1416.0	69	3	4	64	24	16	7346	10	97	22	1	0	10	1
1417.0	69	3	4	64	24	16	7725	10	97	3	1	2	11	2
1420.0	69	3	3	96	24	16	13430	9	5	2	4	3	13	2
1409.0	69	3	1	96	24	16	14090	7	5	6	2	1	11	2
1199.0	69	4	1	48	16	7	2288	2	0	0	0	0	0	0
1201.0	69	4	3	48	16	6	2061	1	0	0	0	0	0	0
1200.0	69	4	2	64	16	10	4481	3	0	0	0	0	0	0
1206.0	69	4	4	64	16	14	5976	2	0	0	0	0	0	0
1203.0	69	4	4	64	24	15	7990	9	7	8	2	2	0	2
1204.0	69	4	4	64	24	15	7480	11	8	19	5	3	0	1
1205.0	69	4	4	64	24	15	7490	7	8	8	3	1	0	2
1202.0	69	4	3	96	24	12	10080	7	5	2	3	3	12	2
1460.0	69	5	1	48	16	16	5276	3	0	0	0	0	0	0
1461.0	69	5	4	64	24	16	8258	10	95	8	2	7	11	2
1463.0	69	5	4	64	24	16	8171	9	95	8	3	0	11	3
1462.0	69	5	4	64	24	15	7231	11	97	12	9	2	11	1
1003.0	70	1	1	64	16	16	8080	3	0	0	0	0	0	0
1002.0	70	1	4	64	16	12	5390	5	0	0	0	0	0	0
995.0	70	1	4	64	24	0	0	0	0	0	0	0	0	0
989.0	70	1	3	64	24	16	9990	7	4	6	2	3	11	3
988.0	70	1	4	64	24	16	10050	10	4	4	3	5	0	3
991.0	70	1	4	64	24	16	9000	9	4	4	3	2	0	2
994.0	70	1	4	64	24	16	9090	9	7	9	2	2	0	2
992.0	70	1	4	64	24	16	8950	9	8	19	4	3	0	1
993.0	70	1	4	64	24	16	8540	11	8	25	6	1	0	1
980.0	70	1	2	80	16	14	8280	2	0	0	0	0	0	0
987.0	70	1	4	128	24	16	18460	8	4	2	2	4	0	1

1001.0	70	1	4	128	24	16	18820	9	4	5	5	5	0	2
1046.0	70	2	4	64	16	16	7777	3	0	0	0	0	0	0
1045.0	70	2	4	64	16	16	7312	4	0	0	0	0	0	0
1041.0	70	2	4	64	24	16	8420	9	6	4	4	3	0	2
1043.0	70	2	4	64	24	16	8050	11	7	11	6	2	0	1
1044.0	70	2	4	64	24	16	7960	8	7	6	3	2	0	2
1042.0	70	2	4	64	24	16	8340	11	8	23	5	1	0	1
1035.0	70	2	3	80	16	15	9375	4	0	0	0	0	0	0
1034.0	70	2	2	80	16	14	7966	3	0	0	0	0	0	0
1047.0	70	2	4	96	24	16	13423	8	4	7	3	2	11	2
1040.0	70	2	4	96	24	16	13080	8	7	0	9	0	11	2
1309.0	70	3	2	64	16	13	6477	4	0	0	0	0	0	0
1308.0	70	3	1	64	16	0	0	0	0	0	0	0	0	0
1310.0	70	3	3	64	24	0	0	0	0	0	0	0	0	0
1312.0	70	3	4	64	24	0	0	0	0	0	0	0	0	0
1315.0	70	3	4	64	24	0	0	0	0	0	0	0	0	0
1313.0	70	3	4	64	24	0	0	0	0	0	0	0	0	0
1314.0	70	3	4	64	24	0	0	0	0	0	0	0	0	0
1311.0	70	3	3	96	24	16	12540	10	7	5	6	2	12	2
1388.0	70	4	1	64	16	11	4808	3	0	0	0	0	0	0
1391.0	70	4	4	64	24	0	0	0	0	0	0	0	0	0
1392.0	70	4	4	64	24	0	0	0	0	0	0	0	0	0
1390.0	70	4	4	64	24	0	0	0	0	0	0	0	0	0
1387.0	70	4	3	64	24	0	0	0	0	0	0	0	0	0
1389.0	70	4	4	64	24	0	0	0	0	0	0	0	0	0
1076.0	71	1	4	48	16	14	6583	1	0	0	0	0	0	0
1068.0	71	1	3	48	16	10	3914	3	0	0	0	0	0	0
1066.0	71	1	1	48	16	10	4153	3	0	0	0	0	0	0
1074.0	71	1	4	64	16	14	5884	5	0	0	0	0	0	0
1071.0	71	1	4	64	24	16	10170	9	3	2	2	2	0	3
1070.0	71	1	2	64	24	16	10590	6	4	5	3	1	11	3
1073.0	71	1	4	64	24	16	8740	9	8	9	4	1	0	2
1072.0	71	1	4	64	24	16	8120	11	8	12	1	5	0	1
1067.0	71	1	3	96	24	0	0	0	0	0	0	0	0	0
1075.0	71	1	4	96	24	15	13622	10	7	0	5	3	10	2
1069.0	71	1	4	96	24	16	15263	10	7	0	0	0	0	0
1793.0	71	2	4	48	16	16	5157	3	0	0	0	0	0	0
1785.0	71	2	2	48	16	13	3568	4	0	0	0	0	0	0
1792.0	71	2	1	64	16	12	5346	3	0	0	0	0	0	0
1789.0	71	2	4	64	24	0	0	0	0	0	0	0	0	0
1791.0	71	2	4	64	24	0	0	0	0	0	0	0	0	0
1790.0	71	2	4	64	24	0	0	0	0	0	0	0	0	0
1788.0	71	2	4	64	24	16	9710	0	0	5	4	2	0	2
1786.0	71	2	2	96	24	14	13140	8	4	4	3	1	0	2
1794.0	71	2	4	96	24	16	12700	11	7	13	6	3	0	1
1829.0	71	3	3	64	16	15	5981	5	0	0	0	0	0	0
1828.0	71	3	2	64	16	11	4932	3	0	0	0	0	0	0
1819.0	71	3	4	64	16	16	6395	3	0	0	0	0	0	0
1816.0	71	3	4	64	24	0	0	0	0	0	0	0	0	0
1818.0	71	3	4	64	24	16	7850	11	8	30	6	2	0	1
1817.0	71	3	4	64	24	12	5850	10	10	12	10	2	10	1
1886.0	71	4	4	48	16	16	4752	3	0	0	0	0	0	0
1885.0	71	4	4	64	24	16	8110	7	5	14	2	0	9	0
1884.0	71	4	4	64	24	16	7680	11	7	30	4	4	0	1

1885.1	71	4	4	64	24	14	6770	11	7	17	6	4	0	1
1600.0	72	1	4	48	16	16	34240	30	0	0	0	0	0	0
1599.0	72	1	4	64	24	0	0	0	0	0	0	0	0	0
1597.0	72	1	4	64	24	0	0	0	0	0	0	0	0	0
1603.0	72	1	1	64	24	11	7138	7	92	2	2	2	11	3
1602.0	72	1	4	64	24	10	6577	9	93	2	2	0	11	3
1598.0	72	1	4	64	24	16	9598	11	93	0	2	0	11	1
1596.0	72	1	4	64	24	16	10009	7	93	0	6	0	11	3
1604.0	72	1	2	80	16	16	9816	2	0	0	0	0	0	0
1601.0	72	1	3	96	24	14	12840	11	4	4	2	3	0	1
1899.0	72	2	3	48	16	12	4276	3	0	0	0	0	0	0
1896.0	72	2	4	64	24	16	7121	0	0	0	0	0	0	0
1898.0	72	2	3	64	24	16	8600	7	5	7	2	4	0	2
1897.1	72	2	4	64	24	16	8570	8	5	8	3	2	0	2
1894.0	72	2	4	64	24	16	8660	7	5	3	2	2	0	2
1895.0	72	2	4	64	24	16	7260	11	7	45	5	10	0	1
1897.0	72	2	4	96	24	13	12078	6	4	5	5	11	10	3
1594.0	72	3	4	48	16	14	4193	3	0	0	0	0	0	0
1590.0	72	3	2	64	16	15	6060	2	0	0	0	0	0	0
1591.0	72	3	4	64	24	16	7615	9	7	3	2	4	10	2
1592.0	72	3	4	64	24	16	7170	11	8	32	3	0	9	1
1593.0	72	3	4	64	24	16	7749	10	94	9	3	2	10	1
1595.0	72	3	3	80	16	15	7163	3	0	0	0	0	0	0
1000.0	73	1	4	64	16	16	6679	3	0	0	0	0	0	0
1008.0	73	1	1	64	24	16	8810	6	5	8	1	1	0	3
996.0	73	1	4	64	24	16	8080	7	7	12	3	3	0	2
999.0	73	1	4	64	24	16	7730	9	8	22	1	2	0	2
997.0	73	1	4	64	24	16	7720	10	8	14	4	2	0	2
998.0	73	1	4	64	24	16	7610	10	9	15	10	5	10	2
1005.0	73	1	4	80	16	12	6276	3	0	0	0	0	0	0
1009.0	73	1	3	96	24	16	13542	7	5	3	6	0	10	3
1007.0	73	1	4	128	24	16	17910	7	4	5	2	2	11	2
1006.0	73	1	4	128	24	16	17120	7	5	13	1	2	0	2
1010.0	73	1	4	128	24	16	16410	11	6	11	4	4	0	1
1004.0	73	1	4	128	24	15	16500	11	6	9	1	2	0	2
1055.0	73	2	4	48	16	15	4853	4	0	0	0	0	0	0
1052.0	73	2	4	64	16	15	5113	5	0	0	0	0	0	0
1048.0	73	2	4	64	24	16	7610	8	7	15	2	1	0	2
1039.0	73	2	1	64	24	16	8170	10	7	8	1	1	0	3
1051.0	73	2	4	64	24	16	7260	10	8	23	1	1	0	2
1049.0	73	2	4	64	24	16	7190	10	9	18	3	5	0	2
1036.0	73	2	4	64	24	16	7310	10	9	15	11	2	0	1
1050.0	73	2	4	64	24	16	7551	9	94	5	8	1	11	3
1053.0	73	2	2	80	16	16	8043	4	0	0	0	0	0	0
1038.0	73	2	3	96	16	16	9962	3	0	0	0	0	0	0
1054.0	73	2	4	128	24	16	15690	8	4	10	1	4	0	2
1037.0	73	2	4	128	24	16	16750	7	5	13	1	2	0	2
1036.1	73	2	4	128	24	16	15410	9	7	20	2	0	0	1
986.0	73	3	4	64	16	16	5901	3	0	0	0	0	0	0
985.0	73	3	4	64	24	0	0	0	0	0	0	0	0	0
982.0	73	3	4	64	24	11	5240	10	8	15	2	2	0	2
984.0	73	3	4	64	24	16	6940	11	9	32	4	1	0	1
983.0	73	3	4	64	24	16	7140	10	9	24	6	1	0	1
978.0	73	3	2	64	24	14	6632	8	95	3	3	0	11	3

979.0	73	3	2	80	16	9	4207	3	0	0	0	0	0	0
981.0	73	3	4	96	24	16	11838	8	7	12	10	2	10	2
990.0	73	3	4	128	24	16	15060	11	8	21	2	2	0	1
1664.0	73	4	1	48	16	15	4126	5	0	0	0	0	0	0
1669.0	73	4	4	64	16	8	2900	3	0	0	0	0	0	0
1668.0	73	4	4	64	24	0	0	0	0	0	0	0	0	0
1666.0	73	4	4	64	24	0	0	0	0	0	0	0	0	0
1665.0	73	4	4	64	24	0	0	0	0	0	0	0	0	0
1661.0	73	4	2	64	24	15	7160	9	8	12	4	1	0	2
1667.0	73	4	4	64	24	16	6980	10	10	13	4	3	0	1
1670.0	73	4	3	96	24	16	11180	10	8	20	3	3	12	2
1131.0	74	1	4	64	24	16	7808	3	0	0	0	0	0	0
1124.0	74	1	2	64	24	16	9550	0	0	8	3	3	0	3
1133.0	74	1	4	64	24	16	9130	6	4	7	4	2	0	3
1130.0	74	1	4	64	24	16	8670	9	6	6	3	3	0	2
1127.0	74	1	4	64	24	16	8490	9	7	2	3	2	0	2
1128.0	74	1	4	64	24	16	8100	11	9	8	4	3	10	1
1129.0	74	1	4	64	24	16	8390	10	10	7	3	2	0	1
1125.0	74	1	3	80	16	14	8214	5	0	0	0	0	0	0
1132.0	74	1	4	128	24	16	18000	7	4	2	3	2	0	1
1126.0	74	1	4	128	24	16	18800	8	4	6	1	1	0	2
957.0	74	2	4	48	16	16	5498	5	0	0	0	0	0	0
938.0	74	2	1	48	16	12	4063	3	0	0	0	0	0	0
953.0	74	2	4	64	16	15	7383	4	0	0	0	0	0	0
953.1	74	2	4	64	24	15	7244	0	0	0	0	0	0	0
951.0	74	2	4	64	24	0	0	0	0	0	0	0	0	0
948.0	74	2	3	64	24	16	10314	0	0	0	0	0	0	0
948.1	74	2	3	64	24	16	9070	0	4	10	5	3	0	2
952.0	74	2	4	64	24	16	8670	8	6	5	2	2	11	2
950.0	74	2	4	64	24	16	7550	11	8	24	2	1	0	1
949.0	74	2	4	64	24	10	5160	8	8	2	2	5	0	2
953.2	74	2	4	96	24	11	10543	7	4	0	5	0	10	3
956.0	74	2	4	128	24	13	14470	7	4	13	6	2	0	2
1663.0	74	3	4	48	16	13	4074	3	0	0	0	0	0	0
1660.0	74	3	4	48	16	11	0	0	0	0	0	0	0	0
1655.0	74	3	2	64	16	13	5080	3	0	0	0	0	0	0
1659.0	74	3	4	64	24	15	7890	0	0	7	3	2	0	2
1658.0	74	3	4	64	24	0	0	0	0	0	0	0	0	0
1656.0	74	3	4	64	24	0	0	0	0	0	0	0	0	0
1657.0	74	3	4	64	24	16	7710	11	8	21	7	1	0	1
1662.0	74	3	4	96	24	15	11830	7	5	2	2	1	12	2
1727.0	74	4	2	48	16	15	4511	4	0	0	0	0	0	0
1579.0	74	4	4	48	16	15	4388	3	0	0	0	0	0	0
1578.1	74	4	4	64	24	16	8720	11	6	6	3	3	0	2
1578.0	74	4	4	64	24	15	7050	11	95	18	4	2	11	1
1577.0	74	4	4	64	24	15	6974	11	96	10	2	2	10	1
1653.0	75	1	4	48	16	15	5158	3	0	0	0	0	0	0
1649.0	75	1	4	64	16	11	5111	3	0	0	0	0	0	0
1651.0	75	1	4	64	24	15	7860	11	0	16	4	6	10	1
1650.0	75	1	4	64	24	0	0	0	0	0	0	0	0	0
1647.0	75	1	1	64	24	9	5600	6	3	4	2	1	0	3
1654.0	75	1	2	64	24	15	8870	6	6	2	5	2	0	3
1652.0	75	1	4	64	24	15	8740	9	8	0	6	3	0	2
1648.0	75	1	1	96	24	15	13470	11	4	4	7	2	0	2

1616.0	75	2	4	48	16	15	5202	2	0	0	0	0	0	0
1607.0	75	2	2	48	16	16	5271	5	0	0	0	0	0	0
1615.0	75	2	4	64	24	0	0	0	0	0	0	0	0	0
1614.0	75	2	4	64	24	0	0	0	0	0	0	0	0	0
1613.0	75	2	4	64	24	0	0	0	0	0	0	0	0	0
1612.0	75	2	4	64	24	16	8960	7	5	2	2	3	10	3
1606.0	75	2	1	96	16	8	5273	3	0	0	0	0	0	0
1605.0	75	2	3	96	24	16	13020	11	5	10	2	3	0	1
1506.0	75	3	1	48	16	15	5224	3	0	0	0	0	0	0
1511.0	75	3	4	64	16	15	6903	5	0	0	0	0	0	0
1510.0	75	3	4	64	24	15	7200	7	4	20	2	1	0	2
1505.0	75	3	2	64	24	15	8570	6	5	0	10	2	0	3
1507.0	75	3	3	64	24	16	8690	8	6	2	2	2	0	2
1508.0	75	3	4	64	24	16	7900	7	7	1	10	2	0	2
1509.0	75	3	4	64	24	15	6711	11	8	18	7	0	10	1
1676.0	75	4	4	48	16	16	4836	5	0	0	0	0	0	0
1671.0	75	4	1	48	16	14	4259	3	0	0	0	0	0	0
1673.0	75	4	3	64	16	16	6379	3	0	0	0	0	0	0
1674.0	75	4	4	64	24	0	0	0	0	0	0	0	0	0
1672.0	75	4	4	64	24	0	0	0	0	0	0	0	0	0
1675.0	75	4	4	64	24	0	0	0	0	0	0	0	0	0
931.0	76	1	2	48	16	16	5508	5	0	0	0	0	0	0
933.0	76	1	4	64	16	14	6977	3	0	0	0	0	0	0
925.0	76	1	3	64	16	6	3123	3	0	0	0	0	0	0
928.0	76	1	4	64	24	0	0	0	0	0	0	0	0	0
930.0	76	1	4	64	24	12	6430	6	4	7	4	3	0	2
927.0	76	1	4	64	24	11	5823	7	4	2	6	0	11	2
929.0	76	1	4	64	24	16	8370	11	7	3	9	3	0	1
925.1	76	1	1	64	24	16	8350	11	8	10	10	2	0	1
932.0	76	1	4	80	16	7	4290	3	0	0	0	0	0	0
924.0	76	1	2	96	16	7	4759	3	0	0	0	0	0	0
926.0	76	1	3	96	24	13	12324	6	4	0	7	0	10	3
934.0	76	1	4	96	24	16	14532	9	6	0	2	0	10	2
935.0	76	1	4	96	24	16	13030	11	8	0	8	8	10	1
1745.0	76	2	4	48	16	15	4871	2	0	0	0	0	0	0
1744.1	76	2	4	64	24	16	7190	0	0	8	5	2	0	1
1743.0	76	2	4	64	24	0	0	0	0	0	0	0	0	0
1742.0	76	2	4	64	24	0	0	0	0	0	0	0	0	0
1741.0	76	2	4	64	24	0	0	0	0	0	0	0	0	0
1748.0	76	2	4	64	24	16	8420	6	4	13	10	2	0	3
1745.1	76	2	4	64	24	16	8170	6	6	12	3	3	0	3
1744.0	76	2	4	64	24	16	7430	11	8	15	6	0	10	1
1747.0	76	2	4	96	16	8	4979	3	0	0	0	0	0	0
1746.0	76	2	2	96	24	16	12150	7	5	1	2	4	12	2
1748.1	76	2	4	96	24	6	12360	7	6	4	2	2	0	2
1531.0	76	3	1	64	16	10	3945	3	0	0	0	0	0	0
1530.0	76	3	4	64	16	16	6030	2	0	0	0	0	0	0
1527.0	76	3	4	64	24	0	0	0	0	0	0	0	0	0
1525.0	76	3	3	64	24	0	0	0	0	0	0	0	0	0
1526.0	76	3	2	64	24	11	5480	7	4	1	1	3	0	2
1528.0	76	3	4	64	24	16	8340	8	6	8	0	0	10	3
1529.0	76	3	4	64	24	16	7040	11	8	11	2	1	0	1
1545.0	76	4	1	48	16	15	4060	2	0	0	0	0	0	0
1547.0	76	4	2	48	16	11	3068	3	0	0	0	0	0	0

1541.0	76	4	4	48	16	12	3481	3	0	0	0	0	0	0
1544.0	76	4	4	64	16	16	5878	3	0	0	0	0	0	0
1542.0	76	4	4	64	24	0	0	0	0	0	0	0	0	0
1543.0	76	4	4	64	24	16	6795	11	8	31	0	0	10	1
1062.0	77	1	4	48	16	16	5886	2	0	0	0	0	0	0
1056.0	77	1	2	48	16	16	5743	3	0	0	0	0	0	0
1061.0	77	1	4	64	16	16	7068	3	0	0	0	0	0	0
1057.0	77	1	3	64	24	15	8960	9	4	1	6	2	0	3
1058.0	77	1	4	64	24	16	8980	8	5	1	3	2	10	2
1060.0	77	1	4	64	24	16	8520	10	9	4	13	1	0	1
1059.0	77	1	4	64	24	14	7427	11	95	6	15	9	0	1
1063.0	77	1	4	96	16	10	7577	3	0	0	0	0	0	0
1061.1	77	1	4	96	24	15	14124	8	4	0	3	0	10	3
1064.0	77	1	4	96	24	14	12580	7	6	7	3	6	11	3
1065.0	77	1	4	128	24	16	18540	11	6	10	1	3	0	2
1728.0	77	2	1	48	16	13	4146	3	0	0	0	0	0	0
1725.0	77	2	2	48	16	14	4642	4	0	0	0	0	0	0
1724.0	77	2	4	64	24	0	0	0	0	0	0	0	0	0
1721.0	77	2	4	64	24	16	8340	7	7	1	3	2	0	2
1722.0	77	2	4	64	24	16	7810	10	8	18	5	1	0	1
1723.0	77	2	4	64	24	16	7913	11	98	3	6	0	11	1
1726.0	77	2	3	80	16	15	8142	2	0	0	0	0	0	0
1729.0	77	2	4	96	16	9	5828	3	0	0	0	0	0	0
1730.0	77	2	4	96	24	16	13290	10	7	7	3	5	12	1
1867.0	77	3	1	48	16	11	37430	30	0	0	0	0	0	0
1868.0	77	3	2	48	16	13	4155	3	0	0	7	0	0	0
1864.0	77	3	4	64	24	0	0	0	0	0	0	0	0	0
1865.0	77	3	4	64	24	0	0	0	0	0	0	0	0	0
1866.1	77	3	4	64	24	14	7630	7	6	5	3	2	0	2
1863.0	77	3	4	64	24	15	6570	8	8	3	4	3	0	2
1866.0	77	3	4	64	24	15	7050	11	8	20	3	4	0	1
1869.0	77	3	3	96	24	16	12990	0	0	4	2	4	0	1
1573.0	77	4	3	64	16	15	5829	3	0	0	0	0	0	0
1575.0	77	4	4	64	24	0	0	0	0	0	0	0	0	0
1574.0	77	4	4	64	24	0	0	0	0	0	0	0	0	0
1576.0	77	4	4	64	24	16	8043	11	96	3	2	0	11	1
1166.0	78	1	1	48	16	16	6810	2	0	0	0	0	0	0
1174.0	78	1	4	64	16	16	6905	3	0	0	0	0	0	0
1171.0	78	1	4	64	24	16	8900	0	0	10	5	8	0	2
1167.0	78	1	2	64	24	16	9230	0	0	7	0	2	12	3
1170.0	78	1	4	64	24	16	9600	7	4	8	2	1	0	3
1173.0	78	1	4	64	24	16	8500	7	7	11	4	3	11	2
1172.0	78	1	4	64	24	16	8540	11	9	10	3	5	0	1
1176.0	78	1	4	96	16	9	0	0	0	0	0	0	0	0
1168.0	78	1	3	96	24	16	14300	6	3	7	5	1	0	2
1177.0	78	1	4	96	24	16	14950	8	4	4	6	3	0	3
1175.1	78	1	4	128	24	6	7150	0	0	6	2	10	0	2
1175.0	78	1	4	128	24	5	5900	0	0	10	1	1	0	2
1169.0	78	1	4	128	24	16	18520	7	6	10	2	3	0	1
1033.0	78	2	4	64	16	11	4232	3	0	0	0	0	0	0
1031.0	78	2	4	64	24	16	8940	8	6	9	7	1	0	3
1032.0	78	2	4	64	24	16	8030	7	6	4	5	4	9	2
1029.0	78	2	4	64	24	16	7840	9	7	8	5	3	0	2
1030.0	78	2	4	64	24	16	7770	11	7	33	3	0	0	1

1023.0	78	2	1	80	16	11	5638	3	0	0	0	0	0	0
1024.0	78	2	2	96	16	15	10289	4	0	0	0	0	0	0
1028.0	78	2	4	96	16	16	11143	3	0	0	0	0	0	0
1027.0	78	2	4	96	24	16	13360	7	4	5	8	3	10	2
1025.0	78	2	3	96	24	15	13388	10	5	0	12	0	11	3
1026.0	78	2	4	96	24	16	12933	6	7	2	10	0	10	2
1843.0	78	3	4	64	16	16	6789	3	0	0	0	0	0	0
1844.0	78	3	1	64	16	14	6292	3	0	0	0	0	0	0
1838.0	78	3	4	64	24	0	0	0	0	0	0	0	0	0
1836.0	78	3	4	64	24	16	8500	6	5	17	4	5	0	2
1840.0	78	3	4	64	24	15	7220	6	6	13	1	6	0	2
1841.0	78	3	2	64	24	15	7330	9	7	14	4	2	0	2
1837.0	78	3	4	64	24	16	7680	11	7	23	5	2	0	1
1839.0	78	3	4	64	24	16	7320	11	8	42	7	1	0	1
1842.0	78	3	4	96	24	16	12770	7	6	3	2	3	0	2
1584.0	78	4	4	48	16	11	3338	3	0	0	0	0	0	0
1585.0	78	4	4	64	16	16	6017	2	0	0	0	0	0	0
1581.0	78	4	4	64	24	0	0	0	0	0	0	0	0	0
1582.0	78	4	4	64	24	0	0	0	0	0	0	0	0	0
1583.0	78	4	4	64	24	0	0	0	0	0	0	0	0	0
1580.0	78	4	4	64	24	15	7509	9	94	3	1	0	11	3
1018.0	79	1	4	64	16	15	6586	3	0	0	0	0	0	0
1011.0	79	1	1	64	16	16	7779	3	0	0	0	0	0	0
1017.0	79	1	4	64	24	16	7450	8	4	5	2	6	0	2
1014.0	79	1	4	64	24	16	9760	10	4	2	1	3	0	2
1015.0	79	1	4	64	24	16	9270	9	6	10	3	2	0	2
1016.0	79	1	4	64	24	16	8820	10	7	13	13	1	13	1
1021.0	79	1	4	80	16	8	5096	4	0	0	0	0	0	0
1012.0	79	1	3	96	16	14	9755	4	0	0	0	0	0	0
1020.0	79	1	4	96	24	12	11649	6	2	0	7	0	10	3
1013.0	79	1	4	96	24	13	13823	9	2	2	4	2	11	1
1019.0	79	1	4	96	24	14	12952	6	3	0	4	0	11	3
1022.0	79	1	4	96	24	15	13287	9	6	10	6	5	11	2
1548.0	79	2	2	48	16	15	15480	30	0	0	0	0	0	0
1567.0	79	2	4	64	16	12	6724	3	0	0	0	0	0	0
1552.0	79	2	1	64	24	15	9537	7	93	2	4	0	11	3
1562.0	79	2	4	64	24	15	8532	10	94	2	2	0	11	2
1565.0	79	2	4	64	24	15	7930	10	94	11	3	0	10	2
1566.0	79	2	4	64	24	15	8875	10	94	3	4	5	11	2
1563.0	79	2	4	64	24	16	8291	11	95	9	5	0	10	1
1564.0	79	2	4	64	24	15	7800	11	96	9	4	3	10	1
1553.0	79	2	3	96	24	15	13460	7	3	2	4	3	0	2
1551.0	79	2	1	96	24	15	13490	7	4	1	4	7	13	2
1757.0	79	3	1	48	16	15	5375	4	0	0	0	0	0	0
1764.0	79	3	4	64	16	11	4863	3	0	0	0	0	0	0
1761.0	79	3	4	64	24	0	0	0	0	0	0	0	0	0
1758.0	79	3	2	64	24	0	0	0	0	0	0	0	0	0
1760.0	79	3	4	64	24	0	0	0	0	0	0	0	0	0
1763.0	79	3	4	64	24	0	0	0	0	0	0	0	0	0
1759.0	79	3	4	64	24	0	0	0	0	0	0	0	0	0
1762.0	79	3	4	64	24	16	7000	11	8	17	4	1	0	1
1765.0	79	3	3	96	24	16	13280	10	5	2	4	2	0	2
1847.0	79	4	2	48	16	13	4434	5	0	0	0	0	0	0
1827.0	79	4	1	48	16	15	5101	3	0	0	0	0	0	0

1833.0	79	4	4	64	24	0	0	0	0	0	0	0	0	0
1834.0	79	4	4	64	24	16	7930	10	7	25	6	3	0	1
1835.1	79	4	4	64	24	16	7890	11	8	23	4	0	0	0
1835.0	79	4	4	64	24	16	7483	11	97	16	3	2	10	1
1832.0	79	4	4	80	16	16	8359	5	0	0	0	0	0	0
1906.0	80	1	4	48	16	16	5710	2	0	0	0	0	0	0
1900.0	80	1	1	64	16	9	4507	3	0	0	0	0	0	0
1908.0	80	1	3	64	24	15	8720	6	3	7	3	1	0	3
1905.0	80	1	4	64	24	16	9050	6	4	2	4	1	0	2
1901.0	80	1	2	64	24	16	9610	6	4	5	2	1	0	3
1902.0	80	1	4	64	24	14	7900	7	5	10	2	0	0	3
1904.0	80	1	4	64	24	16	7810	11	7	4	5	3	0	1
1903.0	80	1	4	64	24	16	7790	11	8	17	9	11	9	1
1907.0	80	1	3	96	24	16	13280	7	6	8	2	4	11	1
1882.0	80	2	4	48	16	16	5681	2	0	0	0	0	0	0
1883.0	80	2	2	48	16	16	5466	3	0	0	0	0	0	0
1877.0	80	2	4	64	24	16	8020	9	5	15	3	0	0	2
1880.0	80	2	4	64	24	16	8760	6	5	7	5	1	0	2
1879.0	80	2	4	64	24	16	7420	9	7	1	8	6	0	2
1878.0	80	2	4	64	24	16	7220	11	7	32	3	2	10	1
1881.0	80	2	3	96	24	0	0	0	0	0	0	0	0	0
1611.0	80	3	4	48	16	16	4810	3	0	0	0	0	0	0
1617.0	80	3	1	64	16	15	6166	2	0	0	0	0	0	0
1610.0	80	3	4	64	24	0	0	0	0	0	0	0	0	0
1609.0	80	3	4	64	24	0	0	0	0	0	0	0	0	0
1608.0	80	3	4	64	24	0	0	0	0	0	0	0	0	0
1622.0	80	3	4	64	24	0	0	0	0	0	0	0	0	0
1589.0	80	4	4	48	16	16	4340	4	0	0	0	0	0	0
1586.0	80	4	1	64	16	16	5884	3	0	0	0	0	0	0
1588.0	80	4	4	64	24	0	0	0	0	0	0	0	0	0
1587.0	80	4	4	64	24	14	6710	11	8	21	0	0	10	1
2843.0	81	1	4	64	16	16	4772	3	0	0	0	0	0	0
2838.0	81	1	4	64	24	16	9520	7	6	4	4	3	0	3
2842.0	81	1	4	64	24	16	8570	9	7	9	5	7	0	1
2843.1	81	1	4	64	24	16	7930	10	8	1	23	5	0	2
2841.0	81	1	4	64	24	16	8570	9	8	10	5	3	0	2
2840.0	81	1	4	64	24	16	8550	9	8	6	8	2	0	2
2839.0	81	1	4	96	24	13	12039	7	7	0	4	8	10	3
2838.1	81	1	4	128	24	15	17860	7	6	14	3	5	11	2
2834.0	81	1	3	128	24	16	18160	8	6	13	2	1	12	2
2837.0	81	1	4	128	24	16	18160	9	8	2	13	3	0	2
2836.0	81	1	4	128	24	16	17380	11	8	15	28	7	0	2
2835.0	81	1	4	128	24	16	17070	11	8	25	18	2	0	1
2833.0	81	1	3	158	24	16	0	8	95	5	4	0	10	0
862.0	81	2	1	48	16	8	2800	3	0	0	0	0	0	0
826.0	81	2	2	48	16	16	5321	3	0	0	0	0	0	0
834.0	81	2	4	64	16	16	6246	4	0	0	0	0	0	0
831.0	81	2	4	64	24	0	0	0	0	0	0	0	0	0
827.0	81	2	2	64	24	16	8880	6	4	2	4	2	0	3
833.0	81	2	4	64	24	16	7760	7	5	9	3	1	0	2
830.0	81	2	4	64	24	15	7107	9	97	9	6	2	11	2
832.0	81	2	4	64	24	16	7501	11	98	15	4	0	10	1
825.0	81	2	1	96	24	11	9000	7	5	13	0	2	10	3
836.0	81	2	4	96	24	12	10087	4	9	9	0	2	11	3

835.0	81	2	4	128	24	0	0	0	0	0	0	0	0	0
829.0	81	2	4	128	24	16	17610	7	6	3	3	1	0	2
828.0	81	2	4	128	24	16	16220	7	6	4	2	2	0	2
833.1	81	2	4	128	24	16	17520	9	7	1	2	1	0	2
1397.0	81	3	4	64	24	0	0	0	0	0	0	0	0	0
1396.0	81	3	4	64	24	0	0	0	0	0	0	0	0	0
1395.0	81	3	4	64	24	0	0	0	0	0	0	0	0	0
1393.0	81	3	1	64	24	0	0	0	0	0	0	0	0	0
1399.0	81	3	4	64	24	12	5587	9	96	4	4	1	11	2
1398.0	81	3	4	64	24	16	7340	10	97	14	0	2	10	1
1394.0	81	3	3	96	24	0	0	0	0	0	0	0	0	0
1213.0	81	4	4	48	16	0	0	0	0	0	0	0	0	0
1216.0	81	4	4	64	24	15	7380	9	8	10	1	3	0	2
1214.0	81	4	4	64	24	16	7370	11	8	10	8	2	0	3
1215.0	81	4	4	64	24	16	7330	11	9	29	4	9	0	1
901.0	82	1	4	48	16	7	2476	1	0	0	0	0	0	0
888.0	82	1	2	64	16	16	7553	5	0	0	0	0	0	0
893.0	82	1	4	64	24	16	9450	7	4	2	2	2	0	3
899.0	82	1	4	64	24	16	9370	10	7	2	3	1	0	3
896.0	82	1	4	64	24	16	9000	9	7	7	3	5	10	2
895.0	82	1	4	64	24	15	8360	10	7	8	3	2	0	1
894.0	82	1	4	64	24	15	8210	8	7	3	3	0	0	3
891.0	82	1	4	64	24	16	7280	11	7	4	6	7	0	1
897.0	82	1	4	64	24	16	8930	10	9	10	6	4	0	1
887.0	82	1	1	80	16	16	8970	4	0	0	0	0	0	0
900.0	82	1	4	128	24	0	0	0	0	0	0	0	0	0
890.0	82	1	3	128	24	13	15500	7	3	2	3	3	0	3
891.1	82	1	4	128	24	16	19790	7	5	2	1	2	0	3
901.1	82	1	4	128	24	16	18160	10	6	5	1	1	0	2
898.0	82	1	4	128	24	16	18330	8	6	9	2	2	0	2
892.0	82	1	4	128	24	16	19070	7	6	1	1	1	0	2
889.0	82	1	3	158	24	15	0	6	95	0	0	0	0	0
657.0	82	2	3	48	16	6	2100	1	0	0	0	0	0	0
652.0	82	2	1	48	16	7	2457	1	0	0	0	0	0	0
659.0	82	2	4	64	16	16	7293	3	0	0	0	0	0	0
658.0	82	2	4	64	16	0	0	0	0	0	0	0	0	0
656.0	82	2	3	64	24	15	8500	7	4	2	3	1	0	3
662.0	82	2	4	64	24	16	9430	8	5	7	3	2	0	3
663.0	82	2	4	64	24	16	8910	7	5	4	3	3	0	2
655.0	82	2	4	64	24	14	7750	7	6	1	5	1	0	3
662.1	82	2	4	64	24	15	7500	7	7	4	2	1	0	2
660.0	82	2	4	64	24	15	8150	9	7	2	4	1	10	2
661.0	82	2	4	64	24	15	7780	11	8	16	5	2	0	1
669.0	82	2	4	80	16	15	8662	3	0	0	0	0	0	0
653.0	82	2	1	96	24	15	12986	7	5	3	5	0	11	3
668.0	82	2	4	128	24	15	18290	8	4	1	3	1	0	3
654.0	82	2	4	128	24	14	16130	8	5	3	0	1	0	2
655.1	82	2	4	128	24	15	17790	9	6	6	1	2	0	2
742.0	82	3	4	64	16	16	6592	4	0	0	0	0	0	0
737.0	82	3	1	64	24	0	0	0	0	0	0	0	0	0
740.0	82	3	4	64	24	16	8630	7	4	2	2	1	0	2
746.0	82	3	4	64	24	13	7290	8	5	1	4	2	0	3
738.0	82	3	4	64	24	16	9110	8	5	2	5	2	0	2
739.0	82	3	4	64	24	16	8780	9	7	16	6	2	0	2

741.0	82	3	4	64	24	16	8150	7	8	14	4	6	10	2
744.0	82	3	3	96	24	16	14102	7	4	0	13	0	0	3
745.0	82	3	4	128	24	15	17220	7	5	4	1	1	0	1
743.0	82	3	4	128	24	16	18090	9	6	2	4	2	0	2
1358.0	82	4	3	64	16	9	4400	3	0	0	0	0	0	0
1355.0	82	4	4	64	16	16	7143	5	0	0	0	0	0	0
1359.0	82	4	1	64	24	0	0	0	0	0	0	0	0	0
1354.0	82	4	4	64	24	0	0	0	0	0	0	0	0	0
1353.0	82	4	4	64	24	0	0	0	0	0	0	0	0	0
1351.0	82	4	4	64	24	0	0	0	0	0	0	0	0	0
1352.0	82	4	4	64	24	16	8305	11	8	6	5	3	9	1
1357.0	82	4	3	96	24	16	13940	9	4	5	3	3	0	3
1371.0	82	5	1	48	16	14	5056	3	0	0	0	0	0	0
1370.0	82	5	4	64	16	15	7118	3	0	0	0	0	0	0
1368.0	82	5	4	64	24	0	0	0	0	0	0	0	0	0
1367.0	82	5	4	64	24	0	0	0	0	0	0	0	0	0
1369.0	82	5	4	64	24	16	8370	10	10	0	0	0	9	3
1362.0	82	5	3	80	16	7	3456	3	0	0	0	0	0	0
628.0	83	1	4	64	16	8	3708	3	0	0	0	0	0	0
623.0	83	1	4	64	16	11	4619	5	0	0	0	0	0	0
619.0	83	1	4	64	24	16	9680	7	4	0	5	2	0	2
620.0	83	1	4	64	24	16	8320	11	7	8	3	1	11	1
622.0	83	1	4	64	24	15	7500	10	9	3	4	2	0	1
621.0	83	1	4	64	24	16	7900	10	9	17	4	5	9	1
616.0	83	1	2	80	16	16	8955	3	0	0	0	0	0	0
615.0	83	1	1	80	16	13	7794	1	0	0	0	0	0	0
617.0	83	1	3	96	24	16	14056	10	4	4	4	0	0	2
627.0	83	1	4	128	24	11	13850	7	3	7	1	2	0	2
626.0	83	1	4	128	24	15	17010	8	5	2	3	1	0	2
618.0	83	1	4	128	24	16	19060	9	5	2	3	2	0	1
716.0	83	2	3	48	16	8	2851	2	0	0	0	0	0	0
715.0	83	2	2	48	16	11	3791	1	0	0	0	0	0	0
714.0	83	2	1	48	16	15	5100	3	0	0	0	0	0	0
721.0	83	2	4	64	16	16	6024	4	0	0	0	0	0	0
719.0	83	2	4	64	24	16	9340	6	4	2	2	6	9	2
720.0	83	2	4	64	24	16	7520	7	7	17	2	1	0	2
717.0	83	2	4	64	24	16	7620	6	7	10	1	2	0	2
718.0	83	2	4	64	24	16	7030	11	8	24	23	1	0	1
730.0	83	2	4	96	16	15	9719	3	0	0	0	0	0	0
722.0	83	2	4	128	24	16	17830	6	4	1	2	1	11	2
729.0	83	2	4	128	24	16	17520	8	5	4	3	2	0	2
1350.0	83	3	4	64	24	0	0	0	0	0	0	0	0	0
1347.0	83	3	4	64	24	0	0	0	0	0	0	0	0	0
1346.0	83	3	4	64	24	0	0	0	0	0	0	0	0	0
1348.0	83	3	4	64	24	16	8620	8	7	15	5	0	10	3
1338.0	83	3	1	64	24	16	8617	9	94	9	2	2	10	2
1356.0	83	3	4	96	24	16	12720	7	5	3	4	2	0	2
1349.0	83	3	4	96	24	15	11450	8	7	6	4	2	12	2
2845.0	84	1	3	48	16	13	5122	2	0	0	0	0	0	0
2844.0	84	1	3	48	16	10	3927	3	0	0	0	0	0	0
2861.0	84	1	4	64	16	16	6763	5	0	0	0	0	0	0
2848.0	84	1	3	64	16	10	4872	4	0	0	0	0	0	0
2846.0	84	1	3	64	16	10	4994	3	0	0	0	0	0	0
2858.0	84	1	4	64	24	16	9380	6	4	8	10	0	0	3

2859.0	84	1	4	64	24	16	8770	6	5	9	8	2	0	2
2857.0	84	1	4	64	24	16	9570	6	5	6	1	2	11	3
2860.0	84	1	4	64	24	16	8500	6	7	5	10	4	0	2
2856.0	84	1	4	96	16	11	7285	3	0	0	0	0	0	0
2851.0	84	1	2	96	24	13	12280	10	4	0	11	0	10	3
2849.0	84	1	3	96	24	15	13110	7	5	4	2	3	10	3
2850.0	84	1	1	112	16	14	11907	2	0	0	0	0	0	0
2855.0	84	1	4	128	24	13	14910	8	6	14	1	5	13	2
2854.0	84	1	4	128	24	15	16540	8	6	6	2	7	0	2
2852.0	84	1	4	128	24	16	17580	11	7	3	6	4	12	1
2847.0	84	1	4	128	24	16	17950	9	7	6	21	7	0	2
2853.0	84	1	4	128	24	15	15910	10	8	1	4	4	0	1
790.0	84	2	1	48	16	11	3832	5	0	0	0	0	0	0
787.2	84	2	3	48	16	9	3160	3	0	0	0	0	0	0
787.1	84	2	3	48	16	6	2092	1	0	0	0	0	0	0
791.0	84	2	2	48	16	9	3146	3	0	0	0	0	0	0
800.0	84	2	4	48	16	0	0	0	0	0	0	0	0	0
798.0	84	2	4	64	16	16	5506	5	0	0	0	0	0	0
789.0	84	2	1	64	24	13	7550	7	3	1	6	1	0	3
794.0	84	2	4	64	24	16	8790	7	5	1	2	4	11	3
796.0	84	2	4	64	24	16	7570	8	6	3	3	2	0	2
797.0	84	2	4	64	24	16	7520	9	7	4	4	1	0	2
795.0	84	2	4	64	24	16	6900	11	8	9	2	1	0	2
788.0	84	2	3	128	24	16	18280	6	4	4	1	1	0	2
799.0	84	2	4	128	24	16	18940	7	4	2	4	1	0	2
793.0	84	2	4	128	24	16	18060	7	4	2	4	1	10	2
801.0	84	2	4	128	24	16	17860	9	5	4	3	3	0	2
792.0	84	2	4	128	24	16	15800	7	6	7	1	3	10	2
755.0	84	3	4	64	16	16	5498	5	0	0	0	0	0	0
747.0	84	3	1	64	24	13	7280	7	3	2	4	2	0	3
753.0	84	3	4	64	24	15	7410	7	5	2	3	2	10	2
751.0	84	3	4	64	24	16	8470	7	6	1	3	2	0	2
754.0	84	3	4	64	24	16	6820	11	7	15	15	1	0	1
752.0	84	3	4	64	24	16	7470	8	8	10	3	1	0	2
757.0	84	3	4	80	16	15	8867	4	0	0	0	0	0	0
749.0	84	3	3	96	16	15	9441	3	0	0	0	0	0	0
748.0	84	3	2	112	16	15	11239	3	0	0	0	0	0	0
756.0	84	3	4	128	24	13	15030	6	4	1	1	2	12	2
750.0	84	3	4	128	24	16	17450	8	5	4	2	2	0	2
758.0	84	3	4	128	24	15	16310	9	5	1	6	1	0	2
1406.0	84	5	4	48	16	8	2945	3	0	0	0	0	0	0
1405.0	84	5	4	64	24	0	0	0	0	0	0	0	0	0
1404.0	84	5	4	64	24	0	0	0	0	0	0	0	0	0
1403.0	84	5	4	64	24	0	0	0	0	0	0	0	0	0
1402.0	84	5	4	64	24	0	0	0	0	0	0	0	0	0
1400.0	84	5	1	80	16	14	7716	4	0	0	0	0	0	0
1401.0	84	5	3	96	24	15	11080	9	6	2	3	3	12	2
849.0	85	1	3	64	16	0	0	0	0	0	0	0	0	0
856.0	85	1	4	64	24	0	0	0	0	0	0	0	0	0
854.0	85	1	4	64	24	16	8670	7	7	2	2	1	0	3
857.0	85	1	4	64	24	16	7810	9	8	5	2	3	0	2
855.1	85	1	4	64	24	16	8500	8	8	1	2	4	0	3
855.0	85	1	4	64	24	16	7520	9	8	2	5	2	0	2
858.0	85	1	4	64	24	16	7820	11	9	8	9	1	0	1

850.0	85	1	3	80	16	6	3447	2	0	0	0	0	0	0
848.0	85	1	2	80	16	11	6105	5	0	0	0	0	0	0
860.0	85	1	4	96	16	9	5518	1	0	0	0	0	0	0
847.0	85	1	1	96	24	15	12970	7	7	0	4	2	10	3
853.0	85	1	4	128	24	15	16720	7	5	2	2	0	0	3
859.0	85	1	4	128	24	14	14770	6	6	2	4	1	0	2
852.0	85	1	4	128	24	16	17260	9	6	3	21	6	0	2
851.0	85	1	4	128	24	11	11820	11	7	6	1	2	0	1
814.0	85	2	2	48	16	10	3268	5	0	0	0	0	0	0
821.0	85	2	4	64	16	16	5639	5	0	0	0	0	0	0
817.0	85	2	4	64	24	0	0	0	0	0	0	0	0	0
823.0	85	2	4	64	24	16	8020	7	4	2	2	1	0	3
819.0	85	2	4	64	24	16	7650	9	6	3	2	1	0	2
820.0	85	2	4	64	24	16	6500	10	8	3	5	1	0	2
818.0	85	2	4	64	24	16	6560	10	8	2	11	1	0	2
813.0	85	2	1	80	16	13	6585	4	0	0	0	0	0	0
816.0	85	2	3	96	24	16	12359	8	6	0	8	2	10	3
815.0	85	2	2	96	24	16	12001	6	8	0	7	4	10	3
822.0	85	2	4	128	24	16	15770	8	5	3	2	2	0	2
824.0	85	2	4	128	24	16	15220	8	6	2	8	1	0	2
649.0	85	3	4	48	16	9	2703	3	0	0	0	0	0	0
647.0	85	3	3	64	16	14	5530	3	0	0	0	0	0	0
646.0	85	3	4	64	16	15	5744	3	0	0	0	0	0	0
645.0	85	3	4	64	24	16	6500	0	0	5	8	3	0	2
642.0	85	3	4	64	24	16	7320	10	7	3	9	2	0	2
643.0	85	3	4	64	24	16	6410	9	8	4	5	2	0	2
644.0	85	3	4	64	24	16	6120	11	9	13	2	1	0	1
641.0	85	3	1	96	16	11	6279	3	0	0	0	0	0	0
640.0	85	3	2	96	24	16	12111	7	5	0	2	0	10	3
650.0	85	3	4	128	24	16	15500	9	6	3	2	2	0	1
648.0	85	3	4	128	24	16	15250	10	7	2	2	1	10	2
1250.0	85	4	4	64	24	0	0	0	0	0	0	0	0	0
1249.0	85	4	4	64	24	0	0	0	0	0	0	0	0	0
1248.0	85	4	4	64	24	0	0	0	0	0	0	0	0	0
1247.0	85	4	4	64	24	16	6850	9	0	6	7	0	9	2
1246.0	85	4	2	64	24	12	5520	9	0	6	4	0	10	3
1251.0	85	4	4	96	24	16	1350	9	6	2	2	2	0	2
1245.0	85	4	1	96	24	11	7580	7	6	1	3	2	0	2
735.0	86	1	3	64	16	15	6578	4	0	0	0	0	0	0
728.0	86	1	1	64	16	15	7238	2	0	0	0	0	0	0
727.0	86	1	4	64	16	15	5678	3	0	0	0	0	0	0
736.0	86	1	2	64	16	11	4768	3	5	0	0	0	0	0
723.0	86	1	4	64	24	15	8110	7	4	0	3	1	0	2
725.0	86	1	4	64	24	16	8520	6	5	2	3	1	0	2
736.1	86	1	2	64	24	16	8860	7	6	1	2	1	10	3
724.0	86	1	4	64	24	15	7100	11	6	3	3	1	0	1
726.0	86	1	4	64	24	16	7560	7	7	1	19	1	0	2
734.0	86	1	3	96	24	12	11055	6	4	11	6	2	0	3
732.0	86	1	4	128	24	15	18580	6	3	4	2	1	12	3
733.0	86	1	4	128	24	15	17210	6	4	1	1	1	0	3
731.0	86	1	4	128	24	15	16200	7	5	4	1	3	0	2
863.0	86	1	4	128	24	16	16520	8	7	8	5	3	0	2
864.0	86	2	3	64	16	10	4641	3	0	0	0	0	0	0
861.0	86	2	1	64	16	12	5296	4	0	0	0	0	0	0

868.0	86	2	4	64	24	0	0	0	0	0	0	0	0	0
867.0	86	2	4	64	24	16	8660	7	4	2	3	3	0	2
871.0	86	2	4	64	24	16	7640	7	6	4	13	2	0	2
871.1	86	2	4	64	24	16	7170	8	7	17	2	1	0	2
872.0	86	2	4	64	24	16	7000	11	8	22	3	3	0	1
869.0	86	2	4	64	24	16	7200	8	8	13	4	1	0	2
870.0	86	2	4	64	24	16	8511	7	93	3	3	0	11	3
866.0	86	2	4	80	16	16	9455	3	0	0	0	0	0	0
865.0	86	2	2	80	16	16	0	0	0	0	0	0	0	0
873.0	86	2	4	96	24	16	12941	9	5	6	3	0	11	3
865.1	86	2	4	128	24	16	17420	7	4	4	2	4	0	2
1344.0	86	3	3	48	16	14	5296	3	0	0	0	0	0	0
1343.0	86	3	4	64	16	13	5846	3	0	0	0	0	0	0
1342.0	86	3	4	64	24	0	0	0	0	0	0	0	0	0
1341.0	86	3	4	64	24	0	0	0	0	0	0	0	0	0
1340.0	86	3	4	64	24	0	0	0	0	0	0	0	0	0
1339.0	86	3	4	64	24	16	8231	9	94	6	1	0	11	2
1345.0	86	3	4	96	24	16	12440	7	5	2	7	3	12	2
1284.0	86	4	1	48	16	14	4103	3	0	0	0	0	0	0
1283.0	86	4	4	64	16	15	5417	5	0	0	0	0	0	0
1282.0	86	4	4	64	24	0	0	0	0	0	0	0	0	0
1281.0	86	4	4	64	24	0	0	0	0	0	0	0	0	0
1280.0	86	4	4	64	24	13	6411	8	94	2	2	0	10	2
1279.0	86	4	3	80	16	15	7913	3	0	0	0	0	0	0
1278.0	86	4	1	80	16	12	6357	3	0	0	0	0	0	0
1307.0	86	5	4	64	16	16	6404	4	0	0	0	0	0	0
1301.0	86	5	1	64	16	9	3772	3	0	0	0	0	0	0
1306.0	86	5	4	64	24	0	0	0	0	0	0	0	0	0
1305.0	86	5	4	64	24	0	0	0	0	0	0	0	0	0
767.0	87	1	4	64	16	16	6189	5	0	0	0	0	0	0
759.0	87	1	1	64	24	16	9130	9	4	4	9	2	0	2
765.0	87	1	4	64	24	16	8260	8	5	2	4	2	0	3
766.0	87	1	4	64	24	16	7920	10	7	2	3	2	10	2
763.0	87	1	4	64	24	16	8370	7	7	1	5	1	0	2
764.0	87	1	4	64	24	16	7830	11	8	4	18	3	0	1
760.0	87	1	3	80	16	15	8487	5	0	0	0	0	0	0
786.0	87	1	4	96	24	15	12580	10	5	7	5	5	10	3
776.0	87	1	4	128	16	16	16950	5	0	4	1	1	0	1
782.0	87	1	4	128	24	16	18050	8	4	6	1	1	0	1
777.0	87	1	4	128	24	16	16420	11	6	11	3	3	0	1
785.0	87	1	4	128	24	16	17530	9	6	3	3	1	0	1
761.0	87	1	3	128	24	16	18710	7	6	1	4	3	0	3
784.0	87	1	4	128	24	16	16310	9	7	6	1	2	0	1
762.0	87	1	3	158	24	15	0	7	7	0	0	0	10	0
775.0	87	2	4	64	16	9	4232	2	0	0	0	0	0	0
774.0	87	2	4	64	16	16	5961	4	0	0	0	0	0	0
768.0	87	2	2	64	16	10	4491	2	0	0	0	0	0	0
780.0	87	2	2	64	24	16	8810	9	4	6	5	4	11	3
772.0	87	2	4	64	24	16	7280	8	5	7	2	4	0	2
773.0	87	2	4	64	24	16	7580	8	7	10	3	4	0	2
770.0	87	2	4	64	24	16	7500	7	7	8	3	1	0	2
771.0	87	2	4	64	24	16	7360	11	8	9	2	3	0	1
781.0	87	2	1	96	24	0	0	0	0	0	0	0	0	0
778.0	87	2	4	96	24	16	14470	9	4	0	5	0	0	3

769.0	87	2	2	128	24	15	17650	7	3	2	6	1	0	2
783.0	87	2	3	128	24	16	17470	8	5	1	1	1	0	3
779.0	87	2	4	128	24	16	16990	8	5	6	3	2	0	2
694.0	87	3	4	64	16	16	5823	5	0	0	0	0	0	0
699.0	87	3	3	64	16	12	5324	5	0	0	0	0	0	0
697.0	87	3	1	64	16	16	6759	4	0	0	0	0	0	0
691.0	87	3	4	64	24	0	0	0	0	0	0	0	0	0
692.0	87	3	4	64	24	16	7850	8	5	8	2	2	0	2
690.0	87	3	4	64	24	16	7850	8	7	6	5	1	0	2
693.0	87	3	4	64	24	16	7240	7	8	8	2	1	10	2
698.0	87	3	2	96	16	15	9258	3	0	0	0	0	0	0
696.0	87	3	4	96	24	16	12573	10	6	5	8	3	10	3
701.0	87	3	4	128	24	0	0	0	0	0	0	0	0	0
700.0	87	3	3	128	24	14	15550	7	5	2	2	1	0	2
695.0	87	3	4	128	24	16	15610	9	7	5	1	1	10	1
1445.2	87	4	4	64	24	6	2713	10	9	2	1	2	10	1
1444.1	87	4	4	64	24	8	3821	6	94	3	1	0	10	2
1443.2	87	4	4	64	24	6	3111	6	94	2	0	2	11	3
1443.1	87	4	4	64	24	8	4066	7	95	1	0	0	11	3
1446.0	87	4	4	64	24	16	7360	10	96	4	5	3	10	1
1445.1	87	4	4	64	24	8	3699	11	96	5	5	2	10	1
1444.2	87	4	4	64	24	6	2950	7	97	2	2	1	10	2
1441.0	87	4	3	96	16	13	8247	3	0	0	0	0	0	0
1440.1	87	4	1	96	16	6	3898	3	0	0	0	0	0	0
1440.0	87	4	1	96	16	6	3853	3	0	0	0	0	0	0
1442.0	87	4	3	128	24	13	12880	10	8	15	14	6	0	1
1277.0	87	5	4	48	16	9	2751	3	0	0	0	0	0	0
1272.0	87	5	2	48	16	13	4321	5	0	0	0	0	0	0
1271.0	87	5	1	64	16	13	5570	2	0	0	0	0	0	0
1276.0	87	5	4	64	24	0	0	0	0	0	0	0	0	0
1275.0	87	5	4	64	24	0	0	0	0	0	0	0	0	0
1273.0	87	5	3	64	24	0	0	0	0	0	0	0	0	0
1274.0	87	5	4	64	24	16	7990	10	10	14	5	0	10	2
688.0	88	1	4	48	16	13	5106	3	0	0	0	0	0	0
686.0	88	1	3	48	16	16	5804	5	0	0	0	0	0	0
667.0	88	1	1	48	16	6	2324	1	0	0	0	0	10	0
683.0	88	1	4	64	16	16	6507	5	0	0	0	0	0	0
679.0	88	1	4	64	24	16	8900	7	4	1	1	1	0	2
672.0	88	1	2	64	24	16	9360	7	4	5	0	0	0	3
681.0	88	1	4	64	24	16	8560	7	6	5	4	3	0	2
680.0	88	1	4	64	24	16	8180	11	7	2	2	1	0	1
682.0	88	1	4	64	24	16	7910	11	8	7	15	2	0	1
689.0	88	1	4	96	24	13	12341	6	3	0	4	2	0	3
666.0	88	1	1	96	24	12	11440	6	4	0	4	5	10	3
678.0	88	1	4	128	24	16	18130	9	4	5	2	2	9	2
687.0	88	1	4	128	24	16	18420	9	5	3	4	2	0	2
809.0	88	2	4	64	16	16	5848	5	0	0	0	0	0	0
807.0	88	2	4	64	24	16	8750	7	4	4	5	3	0	3
805.0	88	2	4	64	24	16	8270	9	5	1	2	2	10	2
808.0	88	2	4	64	24	16	7690	8	7	5	1	1	0	3
806.0	88	2	4	64	24	16	7330	11	7	8	1	2	0	1
804.0	88	2	3	80	16	15	8721	3	0	0	0	0	0	0
803.0	88	2	2	80	16	15	8602	3	0	0	0	0	0	0
802.0	88	2	1	80	16	15	8443	2	0	0	0	0	0	0

812.0	88	2	4	96	24	15	13413	7	3	3	8	0	10	2
811.0	88	2	4	128	24	16	17180	7	4	1	1	1	0	1
810.0	88	2	4	128	24	16	17740	7	5	2	2	1	11	2
1270.0	88	3	4	48	16	16	5640	2	0	0	0	0	0	0
1262.0	88	3	2	48	16	14	4944	3	0	0	0	0	0	0
1269.0	88	3	4	64	24	0	0	0	0	0	0	0	0	0
1266.0	88	3	4	64	24	0	0	0	0	0	0	0	0	0
1268.0	88	3	4	64	24	0	0	0	0	0	0	0	0	0
1267.0	88	3	4	64	24	0	0	0	0	0	0	0	0	0
1264.0	88	3	3	64	24	16	8405	8	0	3	7	0	10	3
1263.0	88	3	1	80	16	11	6302	3	0	0	0	0	0	0
1265.0	88	3	3	96	24	15	11470	9	7	4	4	1	0	1
1221.0	88	4	1	64	16	11	4570	3	0	0	0	0	0	0
1230.0	88	4	3	64	16	9	3733	2	0	0	0	0	0	0
1225.0	88	4	4	64	16	13	5597	3	0	0	0	0	0	0
1224.0	88	4	4	64	24	16	7650	11	8	21	2	4	0	1
1222.0	88	4	4	64	24	16	8170	8	8	0	2	2	0	2
1223.0	88	4	4	64	24	16	7480	11	8	36	2	3	0	1
1230.1	88	4	3	64	24	10	5250	7	8	5	2	2	0	3
1226.0	88	4	3	96	24	16	12700	9	6	12	2	5	12	2
1227.0	88	5	1	48	16	13	4138	4	0	0	0	0	0	0
1228.0	88	5	4	64	24	16	7770	11	7	17	3	2	0	1
1229.0	88	5	4	64	24	16	7670	11	8	1	4	2	0	1
837.0	89	1	1	64	16	11	5278	5	0	0	0	0	0	0
838.0	89	1	2	64	16	16	7683	3	0	0	0	0	0	0
841.0	89	1	4	64	24	16	9820	7	3	4	5	1	0	3
842.0	89	1	4	64	24	16	8940	7	6	0	4	4	11	3
843.0	89	1	4	64	24	16	8530	9	7	6	4	1	0	2
844.0	89	1	4	64	24	16	8430	11	8	2	3	3	0	1
843.1	89	1	4	64	24	16	7900	11	8	8	9	2	0	1
839.0	89	1	3	96	16	10	6690	3	0	0	0	0	0	0
846.0	89	1	4	96	24	13	12469	7	4	0	10	0	10	3
840.0	89	1	4	96	24	16	13760	8	4	0	7	0	11	2
845.0	89	1	4	128	24	16	19270	0	0	5	4	3	0	2
1191.0	89	2	1	64	16	13	6118	3	0	0	0	0	0	0
1194.0	89	2	4	64	24	16	8900	8	4	3	9	4	11	3
1198.0	89	2	4	64	24	16	8430	7	5	3	2	2	0	3
1195.0	89	2	4	64	24	16	8030	8	7	0	1	4	0	2
1196.0	89	2	4	64	24	16	7590	11	8	11	3	3	0	1
1197.0	89	2	4	64	24	16	7480	11	8	15	1	3	0	1
1193.0	89	2	3	96	24	15	13160	7	3	5	2	1	0	3
1192.0	89	2	1	96	24	16	13022	7	4	0	2	0	10	3
1322.1	89	3	1	48	16	6	1921	3	0	0	0	0	0	0
1322.2	89	3	1	48	16	7	2361	2	0	0	0	0	0	0
1326.0	89	3	4	48	16	16	5588	3	0	0	0	0	0	0
1324.0	89	3	4	64	24	0	0	0	0	0	0	0	0	0
1323.0	89	3	4	64	24	0	0	0	0	0	0	0	0	0
1325.0	89	3	4	64	24	0	0	0	0	0	0	0	0	0
1327.0	89	3	3	80	16	12	6518	3	0	0	0	0	0	0
1328.0	89	3	3	96	24	15	12310	8	5	2	6	6	0	2
1320.0	89	4	4	64	16	11	4425	5	0	0	0	0	0	0
1321.0	89	4	3	64	16	14	6259	3	0	0	0	0	0	0
1319.0	89	4	4	64	24	0	0	0	0	0	0	0	0	0
1317.0	89	4	4	64	24	0	0	0	0	0	0	0	0	0

1318.0	89	4	4	64	24	14	6705	9	7	5	0	0	10	1
1316.0	89	4	1	80	16	11	5795	3	0	0	0	0	0	0
710.0	90	1	4	64	16	15	5684	5	0	0	0	0	0	0
708.0	90	1	4	64	24	16	8290	8	6	1	7	2	0	3
709.0	90	1	4	64	24	16	7750	8	8	5	8	5	10	2
706.0	90	1	4	64	24	16	7780	8	8	8	3	3	0	2
707.0	90	1	4	64	24	16	7340	10	9	10	8	10	0	1
702.0	90	1	1	80	16	15	7737	2	0	0	0	0	0	0
704.0	90	1	2	80	16	10	5451	3	0	0	0	0	0	0
713.0	90	1	4	96	16	11	6938	1	0	0	0	0	0	0
703.0	90	1	3	96	24	16	14379	7	6	0	8	6	11	3
705.0	90	1	4	128	24	16	17500	7	5	2	10	0	0	3
710.0	90	1	4	128	24	16	16540	6	5	2	1	1	0	2
712.0	90	1	4	128	24	16	17490	8	5	7	2	1	0	2
711.0	90	1	4	128	24	16	16510	11	6	3	5	1	0	1
606.0	90	2	1	64	16	6	2900	3	0	0	0	0	0	0
607.0	90	2	2	64	16	12	6109	5	0	0	0	0	0	0
614.0	90	2	4	64	24	0	0	0	0	0	0	0	0	0
610.0	90	2	4	64	24	16	7910	6	6	2	3	6	0	2
613.0	90	2	4	64	24	16	6820	11	8	12	3	2	0	1
611.0	90	2	4	64	24	16	6940	9	8	9	9	2	0	2
612.0	90	2	4	64	24	16	6790	11	9	9	5	2	0	1
608.0	90	2	4	96	16	14	8613	3	0	0	0	0	0	0
609.0	90	2	4	96	24	16	12048	10	6	5	8	3	11	3
605.0	90	2	4	128	24	16	14790	9	7	5	7	1	0	1
1426.0	90	3	3	48	16	16	5137	4	0	0	0	0	0	0
1425.0	90	3	4	64	16	16	6407	3	0	0	0	0	0	0
1424.0	90	3	4	64	24	0	0	0	0	0	0	0	0	0
1410.0	90	3	1	64	24	0	0	0	0	0	0	0	0	0
1421.0	90	3	4	64	24	16	7720	9	94	0	3	1	11	3
1423.0	90	3	4	64	24	16	6518	10	98	8	2	3	11	1
1422.0	90	3	4	64	24	16	6982	10	98	5	2	0	10	2
1427.0	90	3	3	96	24	16	10930	11	7	10	1	2	0	1
1447.0	90	4	1	48	16	15	4672	4	0	0	0	0	0	0
1451.0	90	4	4	64	16	14	5346	3	0	0	0	0	0	0
1452.0	90	4	3	64	24	16	6972	9	94	0	2	0	11	2
1448.0	90	4	4	64	24	16	7147	10	95	3	3	0	11	2
1449.0	90	4	4	64	24	16	6711	10	97	8	3	0	10	1
1450.0	90	4	4	64	24	16	6858	10	97	5	2	0	10	2
2538.0	91	1	2	48	16	11	3951	3	0	0	0	0	0	0
2536.0	91	1	1	48	16	13	4729	5	0	0	0	0	0	0
2543.0	91	1	4	64	16	15	7072	3	0	0	0	0	0	0
2539.0	91	1	3	64	24	14	7800	6	7	6	3	2	0	3
2542.0	91	1	4	64	24	16	8110	8	8	4	4	6	0	2
2541.0	91	1	4	64	24	16	6450	10	9	13	9	6	0	1
2540.0	91	1	4	64	24	16	8020	10	10	3	3	4	0	2
2640.0	91	2	4	48	16	16	4849	5	0	0	0	0	0	0
2643.0	91	2	4	48	16	15	4623	5	0	0	0	0	0	0
2642.0	91	2	4	48	16	16	4513	5	0	0	0	0	0	0
2641.0	91	2	4	48	16	16	4471	5	0	0	0	0	0	0
2644.0	91	2	4	80	16	11	5267	3	0	0	0	0	0	0
2452.0	91	3	4	64	24	15	6890	11	8	8	4	4	0	1
2451.0	91	3	4	64	24	16	7110	11	8	13	2	3	0	1
2682.0	92	1	4	64	24	0	0	0	0	0	0	0	0	0

2679.0	92	1	4	64	24	16	7790	0	0	10	7	4	0	2
2675.0	92	1	2	64	24	0	0	0	0	0	0	0	0	0
2678.0	92	1	4	64	24	16	9090	8	6	4	2	1	0	3
2681.0	92	1	4	64	24	16	7970	11	9	10	9	4	0	2
2680.0	92	1	4	64	24	16	7700	11	10	30	3	7	0	1
2677.0	92	1	3	112	16	11	8507	3	0	0	0	0	0	0
2676.0	92	1	3	128	24	15	16310	9	7	3	1	6	0	2
2710.0	92	2	4	48	16	10	3298	3	0	0	0	0	0	0
2709.0	92	2	4	64	24	0	0	0	0	0	0	0	0	0
2708.0	92	2	4	64	24	0	0	0	0	0	0	0	0	0
2706.0	92	2	4	64	24	0	0	0	0	0	0	0	0	0
2707.0	92	2	4	64	24	16	7160	11	9	18	10	3	0	1
2712.0	92	2	3	80	16	16	8041	3	0	0	0	0	0	0
2711.0	92	2	3	96	24	0	0	0	0	0	0	0	0	0
2638.0	92	3	4	48	16	16	5062	3	0	1	1	3	0	0
2624.0	92	3	1	64	16	12	5364	9	10	0	0	0	0	0
2637.0	92	3	4	64	24	16	7300	9	8	23	3	2	10	2
2635.0	92	3	4	64	24	16	7540	11	8	5	3	3	0	2
2636.0	92	3	4	64	24	16	7720	11	9	32	15	4	0	1
2639.0	92	3	3	64	24	16	9190	10	10	24	3	5	0	2
2636.1	92	3	4	64	24	15	6510	11	10	25	3	1	0	1
2456.0	92	4	4	64	16	11	3975	3	0	0	0	0	0	0
2454.0	92	4	4	64	24	16	7440	11	8	30	3	1	0	1
2455.0	92	4	4	64	24	16	6800	11	10	42	2	2	0	1
2514.0	93	1	3	64	16	7	3066	3	0	0	0	0	0	0
2504.0	93	1	4	64	24	15	8190	8	7	6	3	4	0	2
2502.0	93	1	3	64	24	16	8460	7	7	1	6	6	10	2
2506.0	93	1	4	64	24	15	8310	10	8	2	3	6	10	2
2505.0	93	1	4	64	24	16	8070	11	10	13	5	5	0	1
2503.0	93	1	4	64	24	16	7990	11	10	22	11	5	0	1
2515.0	93	1	2	80	16	13	7631	3	0	0	0	0	0	0
2513.0	93	1	3	96	24	16	12588	10	9	7	5	1	10	1
2606.0	93	2	1	64	16	12	5431	3	0	0	0	0	0	0
2605.0	93	2	4	64	16	9	3670	5	0	0	0	0	0	0
2604.0	93	2	4	64	16	16	4422	5	0	0	0	0	0	0
2605.1	93	2	4	64	24	16	8300	0	0	45	17	3	0	1
2603.0	93	2	4	64	24	0	0	0	0	0	0	0	0	0
2598.0	93	2	2	64	24	12	6130	10	7	6	1	2	0	2
2602.0	93	2	4	64	24	16	8230	11	9	12	5	3	0	1
2686.0	93	3	4	48	16	16	4806	2	0	0	0	0	0	0
2683.0	93	3	3	48	16	16	4890	3	0	0	0	0	0	0
2684.0	93	3	4	64	24	0	0	0	0	0	0	0	0	0
2685.0	93	3	4	64	24	16	7560	11	9	25	9	2	0	1
2672.0	94	1	4	64	16	15	6169	3	0	0	0	0	0	0
2669.0	94	1	1	64	16	8	3875	3	0	0	0	0	0	0
2674.0	94	1	3	64	24	0	0	0	0	0	0	0	0	0
2670.0	94	1	4	64	24	16	8190	11	9	9	13	3	10	1
2671.0	94	1	4	64	24	15	6940	11	10	21	9	3	0	1
2652.0	94	2	4	64	16	13	5757	3	0	0	0	0	0	0
2651.0	94	2	4	64	24	12	5610	11	8	7	3	3	12	1
2650.0	94	2	4	64	24	13	6400	11	9	7	3	5	0	1
2507.0	95	1	1	48	16	13	4714	3	0	0	0	0	0	0
2512.0	95	1	4	64	24	14	7750	9	6	4	4	4	0	2
2509.0	95	1	4	64	24	16	7830	9	8	19	4	2	0	2

2511.0	95	1	4	64	24	16	7260	8	10	15	4	6	0	2
2510.0	95	1	4	64	24	16	7110	11	10	22	5	10	0	1
2508.0	95	1	2	80	16	12	6517	3	0	0	0	0	0	0
2668.0	95	2	4	64	16	16	6048	3	0	0	0	0	0	0
2667.0	95	2	4	64	24	0	0	0	0	0	0	0	0	0
2666.0	95	2	4	64	24	16	7130	10	9	24	5	2	0	1
2665.0	95	2	3	80	16	9	4008	2	0	0	0	0	0	0
2497.0	95	3	3	48	16	14	4644	3	0	0	0	0	0	0
2500.0	95	3	4	64	16	16	6128	5	0	0	0	0	0	0
2498.0	95	3	4	64	24	16	7000	11	8	26	3	3	0	1
2499.0	95	3	4	64	24	16	7100	11	10	23	2	9	0	1
2527.0	95	4	4	64	24	14	6250	11	7	18	2	4	0	1
2528.0	95	4	4	64	24	15	6700	11	8	22	2	5	10	1
2558.0	96	1	4	48	16	13	3495	3	0	0	0	0	0	0
2548.0	96	1	1	48	16	10	3195	3	0	0	0	0	0	0
2553.0	96	1	3	64	16	8	3350	2	0	0	0	0	0	0
2555.0	96	1	4	64	24	16	7910	8	6	0	4	4	0	2
2554.0	96	1	3	64	24	15	7030	7	7	2	3	3	0	3
2556.0	96	1	4	64	24	16	6700	11	8	20	1	1	0	1
2557.0	96	1	4	64	24	16	6570	11	10	36	4	4	0	1
2657.0	96	2	4	64	24	0	0	0	0	0	0	0	0	0
2656.0	96	2	3	64	24	0	0	0	0	0	0	0	0	0
2658.0	96	2	4	64	24	16	6350	11	8	21	1	1	0	1
2659.0	96	2	4	64	24	16	7850	7	8	1	2	1	0	2
2479.0	96	3	4	64	16	12	3976	5	0	0	0	0	0	0
2477.0	96	3	4	64	24	16	6750	9	7	10	2	1	0	2
2478.0	96	3	4	64	24	15	5860	10	8	51	6	6	0	1
2468.0	97	1	4	48	16	13	4610	4	0	0	0	0	0	0
2463.0	97	1	1	48	16	14	5264	2	0	0	0	0	0	0
2465.0	97	1	4	64	24	16	8330	9	8	12	2	4	0	2
2466.0	97	1	4	64	24	16	7460	11	9	18	12	2	9	1
2467.0	97	1	4	64	24	16	7790	11	10	13	2	4	0	1
2464.0	97	1	3	80	16	15	7714	3	0	0	0	0	0	0
2561.0	97	2	4	48	16	16	4571	3	0	0	0	0	0	0
2552.0	97	2	1	48	16	14	4170	3	0	0	0	0	0	0
2559.0	97	2	4	64	24	0	0	0	0	0	0	0	0	0
2560.0	97	2	4	64	24	16	7170	10	10	27	4	3	0	1
2551.0	97	3	4	64	24	16	7020	11	8	28	4	3	0	1
2550.0	97	3	4	64	24	16	7180	11	8	22	2	1	0	1
2617.0	98	1	3	48	16	11	4256	3	0	0	0	0	0	0
2625.0	98	1	1	64	16	12	5810	3	0	0	0	0	0	0
2618.0	98	1	3	64	24	14	7950	7	6	4	2	3	0	3
2628.0	98	1	4	64	24	16	8170	11	9	1	3	7	0	1
2626.0	98	1	4	64	24	16	8470	11	10	9	4	6	0	2
2627.0	98	1	4	64	24	16	7330	10	10	18	14	4	0	1
2698.0	98	2	3	64	16	16	6564	3	0	0	0	0	0	0
2701.0	98	2	4	64	24	0	0	0	0	0	0	0	0	0
2699.0	98	2	4	64	24	16	8040	8	6	3	3	1	0	2
2700.0	98	2	4	64	24	16	6970	11	8	20	2	2	0	1
2655.0	98	3	4	64	16	16	6084	3	0	0	0	0	0	0
2653.0	98	3	4	64	24	16	7790	9	6	2	3	1	0	2
2654.0	98	3	4	64	24	16	6750	11	9	30	3	2	0	1
2597.0	99	1	3	48	16	15	5351	2	0	0	0	0	0	0
2595.0	99	1	1	48	16	9	3132	3	0	0	0	0	0	0

2589.0	99	1	2	48	16	11	3812	3	0	0	0	0	0	0
2588.0	99	1	4	64	16	14	6046	3	0	0	0	0	0	0
2584.0	99	1	4	64	24	16	8530	6	7	3	3	1	0	2
2587.0	99	1	4	64	24	15	7590	8	10	6	2	4	0	2
2586.0	99	1	4	64	24	15	6820	11	10	22	5	3	0	1
2585.0	99	1	4	64	24	15	7520	10	10	21	4	6	0	1
2583.0	99	1	1	96	16	10	6001	3	0	0	0	0	0	0
2596.0	99	1	3	96	24	0	0	0	0	0	0	0	0	0
2623.0	99	2	1	64	16	14	6458	2	0	0	0	0	0	0
2629.0	99	2	3	64	16	14	6193	3	0	0	0	0	0	0
2634.0	99	2	4	64	16	16	7020	3	0	0	0	0	0	0
2631.0	99	2	4	64	24	0	0	0	0	0	0	0	0	0
2633.0	99	2	4	64	24	0	0	0	0	0	0	0	0	0
2632.0	99	2	4	64	24	16	6930	11	8	30	9	2	0	1
2630.0	99	2	3	96	24	0	0	0	0	0	0	0	0	0
2702.0	99	3	3	64	16	16	6730	2	0	0	0	0	0	0
2705.0	99	3	4	64	24	0	0	0	0	0	0	0	0	0
2703.0	99	3	4	64	24	0	0	0	0	0	0	0	0	0
2704.0	99	3	4	64	24	16	7510	11	7	21	5	4	0	1
2715.0	99	4	4	48	16	9	2769	3	0	0	0	0	0	0
2713.0	99	4	4	64	24	0	0	0	0	0	0	0	0	0
2714.0	99	4	4	64	24	14	6470	7	7	17	2	3	0	1
2575.0	100	1	1	48	16	9	3891	3	0	0	0	0	0	0
2580.0	100	1	4	48	16	16	5065	3	0	0	0	0	0	0
2579.0	100	1	4	64	24	0	0	0	0	0	0	0	0	0
2577.0	100	1	4	64	24	16	9670	9	6	10	8	12	11	2
2576.0	100	1	4	64	24	14	7400	9	7	4	2	1	0	2
2578.0	100	1	4	64	24	16	7970	10	10	19	7	1	0	2
2582.0	100	1	3	80	16	16	8628	3	0	0	0	0	0	0
2594.0	100	1	2	80	16	14	7392	3	0	0	0	0	0	0
2581.0	100	1	3	96	24	16	13092	10	8	7	11	0	11	1
2693.0	100	2	4	48	16	15	4655	5	0	0	0	0	0	0
2689.0	100	2	4	64	16	13	5060	3	0	0	0	0	0	0
2692.0	100	2	4	64	24	0	0	0	0	0	0	0	0	0
2690.0	100	2	4	64	24	16	6860	10	9	9	3	2	12	2
2691.0	100	2	4	64	24	16	6360	11	10	28	12	2	0	1
2688.0	100	2	2	80	16	12	5453	3	0	0	0	0	0	0
2687.0	100	2	3	96	24	0	0	0	0	0	0	0	0	0
2537.0	100	3	2	48	16	14	4018	3	0	0	0	0	0	0
2547.0	100	3	4	64	16	14	5157	3	0	0	0	0	0	0
2544.0	100	3	4	64	24	16	7380	7	7	10	4	3	0	2
2549.0	100	3	3	64	24	16	7610	8	7	3	4	5	0	3
2546.0	100	3	4	64	24	16	6650	11	8	28	1	11	10	1
2545.0	100	3	4	64	24	16	6430	11	9	38	3	2	0	1

APPENDIX D

Computer program TEDYP

```
700.    F5=100 'MSG F5 BASE RATE/CUBIC METRE
701.    F7=110 'F7
702.    F8=115 'F8
703.    F9=125 'F11
704.    F4=80 'F4
705.    F1=50 'REJECT
710.    G5=100 'VISUAL F5 BASE RATE/CUBIC METRE
711.    G6=100 'F5 HEART IN
712.    G7=110 'F7
713.    G8=115 'F8
714.    G9=125 'F11
715.    G1=50 'REJECT
720.    B1=145 'CLEAR BASE RATE/CUB.M. REL TO F5
721.    B2=145 'JOINERY
722.    B3=145 'SELECT
723.    B4=145 'STANDARD
724.    B5=80 'REJECT
900.     READ A$,B$
1000.   FILE RESTORE #1=A$
1010.   FILE SCRATCH WIDTH(144,144)#2=B$
1015.   Z=0
1020.   Z=Z+1
1025.    IF Z>1500 GOTO 3000
1026.   N=T1=L=P1=W2=W3=T2=T3=T=S=B=M=P=D=0
1027.   V8=V2=U2=V=T2=M=S2=V3=V8=U3=V=T3=M=S3=0
1028.    V4=V5=L2=T5=T6=0
1030.   INPUT #1,N,T9,L,P1,W1,T1,L1,W,V,M,T,S,B,M9,P
1040.   W2=W1*25.4/16
1050.   T2=T1*25.4/16
1060.   L2=L1*12*25.4
1070.   V2=W2*T2*L2*1E-9 'ROUGH SAWN VOLUME
1080.   W3=(W1/16-.125)*25.4
1090.   T3=(T1/16-.125)*25.4
1100.   V3=W3*T3*L2*1E-9 'ACTUAL MACHINED VOLUME
1101.   IF L1>0 GOTO 1110 'ASSIGN LENGTH=16FT IF IT IS ZERO
1102.   L3=4876.8
1103.   V4=W2*T2*L3*1E-9 'LIKELY ROUGHSAWN VOLUME
1104.   V5=W3*T3*L3*1E-9 'LIKELY MACHINED VOLUME
1110.   IF V3>0 GOTO 1115
1112.   D=0
1113.   GOTO 1120
1115.   D=W/1000/V3 'DENSITY OF STICK
1120.   REM
1150.   IF T1=16 GOTO 1540 'BOARDS BYPASS
1160.   IF V=6 GOTO 1240
1170.   IFV=7 GOTO 1250
1180.   IFV=8 GOTO 1260
1190.   IF V=9 GOTO 1270
1200.   IF V=10 GOTO1280
1210.   IF V=11 GOTO 1290
1220.   V=0
1230.   GOTO 1300
1240.   V=11
1245.   GOTO 1300
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1250.    V=8
1255.    GOTO 1300
1260.    V=7
1265.    GOTO 1300
1270.    V=5
1275.    GOTO 1300
1280.    V=1
1285.    GOTO 1300
1290.    V=51
1300.    IF M=1 GOTO 1400 'MCH GRADE
1301.    IF M=2 GOTO 1400
1302.    IF M=3 GOTO 1400
1303.    IF M=4 GOTO 1400
1304.    IF M=91 GOTO 1400
1305.    IF M=92 GOTO 1400
1306.    IF M=93 GOTO 1400
1310.    IF M=5 GOTO 1410
1311.    IF M=6 GOTO 1410
1312.    IF M=94 GOTO 1410
1320.    IF M=7 GOTO 1420
1321.    IF M=95 GOTO 1420
1330.    IF M=8 GOTO 1430
1331.     IF M=96 GOTO 1430
1332.    IF M=97 GOTO 1430
1340.    IF M=9 GOTO 1440
1341.    IF M=98 GOTO 1440
1350.    IF M=10 GOTO 1450
1351.    IF M=99 GOTO 1450
1360.    M=0
1370.    GOTO 1500
1400.    M=11
1405.    GOTO 1500
1410.    M=8
1415.    GOTO 1500
1420.    M=7
1425.    GOTO 1500
1430.    M=5
1435.    GOTO 1500
1440.    M=4
1445.    GOTO 1500
1450.    M=1
1455.    GOTO 1500
1500.    IF T<=.45*W3 GOTO 1530 'CHECK FOR EXCESSIVE TWIST
1510.    V=1
1520.    M=1
1530.    GOTO 1700 'SCANTLING BYPASS
1540.    IF V=1 GOTO 1610 'BOARD GRADES
1550.    IF V=2 GOTO 1620
1560.    IF V=3 GOTO 1630
1570.     IF V=4 GOTO 1640
1580.    IF V=5 GOTO 1650
1590.     V8=V=0
1600.     GOTO 1700
1610.    V8=21
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1615.    GOTO 1700
1620.    V8=22
1625.    GOTO 1700
1630.    V8=23
1635.    GOTO 1700
1640.    V8=24
1645.    GOTO 1700
1650.    V8=25
1700.    IF T1=16 GOTO 2100 'BOARDS BYPASS
1710.    REM
1720.    IF M>0 GOTO 1800
1730.    S2=0
1740.    S3=0
1750.    GOTO 1900
1800.    IF M=11 GOTO 1810
1801.    IF M=8 GOTO 1820
1802.    IF M=7 GOTO 1830
1803.    IF M=5 GOTO 1840
1804.    IF M=4 GOTO 1850
1805.    IF M=1 GOTO 1860
1806.    GOTO 1730
1810.    S2=V2*F9 'SAWN VALUE OF STICK,MCH GRADE
1811.    S3=V3*F9 'MACHINED VALUE OF STICK,MCH GRADE
1815.    GOTO 1900
1820.    S2=V2*F8
1821.    S3=V3*F8
1825.    GOTO 1900
1830.    S2=V2*F7
1831.    S3=V3*F7
1835.    GOTO 1900
1840.    S2=V2*F5
1841.    S3=V3*F5
1845.    GOTO1900
1850.    S2=V2*F4
1851.    S3=V3*F4
1855.    GOTO 1900
1860.    S2=V2*F1
1861.    S3=V3*F1
1900.    IF V>0 GOTO 2000
1910.    T5=0
1920.    T6=0
1930.    GOTO 2200 'BYPASS BOARD ANALYSIS
2000.    IF V=11 GOTO 2010
2001.    IF V=8 GOTO 2020
2002.    IF V=7 GOTO2030
2003.    IF V=5 GOTO2040
2004.    IF V=51 GOTO 2050
2005.    IF V=1 GOTO 2060
2006.    GOTO 1910
2010.    T5=V2*G9 'SAWN VALUE OF STICK,VISUAL GRADE
2011.    T6=V3*G9 'MACHINED VALUE OF STICK,VISUAL GRADE
2015.    GOTO 2100
2020.    T5=V2*G8
2021.    T6=V3*G8
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2025.     GOTO 2100
2030.     T5=V2*G7
2031.     T6=V3*G7
2035.     GOTO 2100
2040.     T5=V2*G5
2041.     T6=V3*G5
2045.     GOTO 2100
2050.     T5=V2*G6
2051.     T6=V3*G6
2055.     GOTO 2100
2060.     T5=V2*G1
2061.     T6=V3*G1
2065.     GOTO 2200 'BYPASS BOARD ANALYSIS
2100.      IF T1=24 GOTO 2200
2104.      V=0
2105.      IF V8>0 GOTO 2130
2110.     U2=U3=0
2120.     GOTO 2200
2130.     IF V8=21 GOTO 2140
2131.     IF V8=22 GOTO 2150
2132.     IF V8=23 GOTO 2160
2133.     IF V8=24 GOTO 2170
2134.     IF V8=25 GOTO 2180
2135.     GOTO 2110
2140.     U2=V2*B1 'SAWN VALUE OF BOARD
2141.     U3=V3*B1 'MACHINED VALUE OF BOARD
2145.     GOTO 2200
2150.      U2=V2*B2
2151.     U3=V3*B2
2155.     GOTO 2200
2160.     U2=V2*B3
2161.     U3=V3*B3
2165.     GOTO 2200
2170.     U2=V2*B4
2171.     U3=V3*B4
2175.     GOTO 2200
2180.     U2=V2*B5
2181.     U3=V3*B5
2200.     PRINT #2 USING 2300,N,T9,L,P1,W2,W3,T2,T3,L2,T,S,B,M9,P,D
2201.      PRINT #2 USING 2301,V2*1000,U2,T5,S2,V3*1000,V8,U3;
2202.     PRINT #2 USING 2302,V,T6,M,S3,V4*1000,V5*1000
2300.     : ####.# ### # # ### ### ## ## #### ## ## ## ## # ###
2301.     : ##.### #.### #.### #.### ##.### ## #.###
2302.     : ## #.### ## #.### ##.### ##.###
2310.     IF END #1 GOTO 3000
2320.     GOTO 1020
3000.      FILES
3010.      STOP
```

END OF OUTPUT

APPENDIX E

TYL series data files

FILE TYLO1

553.0	1	1	4	102	98	25	22	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	12.585	10.668
552.0	1	1	4	102	98	25	22	4877	0	0	0	0	0	625	12.585	1.007	.000	.000	10.668	25	.853	0	.000	0	.000	.000	.000
546.0	1	1	4	102	98	38	35	4877	2	2	0	12	3	514	18.878	.000	2.360	2.171	16.764	0	.000	11	2.095	8	1.928	.000	.000
551.0	1	1	4	102	98	38	35	4877	3	4	0	12	1	491	18.878	.000	1.888	2.077	16.764	0	.000	51	1.676	7	1.844	.000	.000
547.0	1	1	4	102	98	38	35	4877	4	5	2	11	3	472	18.878	.000	2.171	2.077	16.764	0	.000	8	1.928	7	1.844	.000	.000
548.0	1	1	4	102	98	38	35	4877	2	4	0	11	2	479	18.878	.000	.944	1.888	16.764	0	.000	1	.838	5	1.676	.000	.000
550.0	1	1	4	102	98	38	35	4877	3	6	0	11	1	488	18.878	.000	1.888	1.510	16.764	0	.000	51	1.676	4	1.341	.000	.000
549.0	1	1	4	102	98	38	35	4877	8	11	5	11	1	500	18.878	.000	1.888	1.510	16.764	0	.000	51	1.676	4	1.341	.000	.000
556.0	1	1	4	152	149	25	22	4877	0	0	0	0	0	256	18.878	2.737	.000	.000	16.174	21	2.345	0	.000	0	.000	.000	.000
544.0	1	1	1	152	149	38	35	4877	1	1	1	0	3	524	28.317	.000	3.540	3.256	25.416	0	.000	11	3.177	8	2.923	.000	.000
545.0	1	1	3	203	200	38	35	3353	2	6	1	0	3	530	25.957	.000	3.245	3.245	23.422	0	.000	11	2.928	11	2.928	.000	.000
555.0	1	1	4	203	200	38	35	4877	2	3	3	0	3	515	37.756	.000	4.719	4.342	34.069	0	.000	11	4.259	8	3.918	.000	.000
541.0	1	1	2	203	200	38	35	4267	0	1	3	0	3	527	33.036	.000	4.130	3.799	29.810	0	.000	11	3.726	8	3.428	.000	.000
542.0	1	1	4	254	251	38	35	4877	0	4	0	9	0	0	47.195	.000	5.899	4.719	42.721	0	.000	11	5.340	5	4.272	.000	.000
539.0	1	1	4	305	302	38	35	4267	8	0	0	10	0	0	49.554	.000	5.699	5.451	44.952	0	.000	8	5.169	7	4.945	.000	.000
543.0	1	1	4	305	302	38	35	3658	5	0	0	10	0	0	42.475	.000	5.309	4.248	38.530	0	.000	11	4.816	5	3.853	.000	.000
538.0	1	1	4	305	302	38	35	4877	9	15	8	10	0	0	56.634	.000	7.079	5.663	51.373	0	.000	11	6.422	5	5.137	.000	.000
554.0	1	1	4	305	302	38	35	4877	0	0	0	0	0	0	56.634	.000	6.230	5.663	51.373	0	.000	7	5.651	5	5.137	.000	.000
521.0	1	2	4	102	98	38	35	4877	3	9	3	12	3	462	18.878	.000	2.077	2.171	16.764	0	.000	7	1.844	8	1.928	.000	.000
519.0	1	2	4	102	98	38	35	4877	3	3	0	11	3	455	18.878	.000	1.888	2.171	16.764	0	.000	5	1.676	8	1.928	.000	.000
518.0	1	2	4	102	98	38	35	4877	4	4	0	11	3	489	18.878	.000	2.171	2.171	16.764	0	.000	8	1.928	8	1.928	.000	.000
522.0	1	2	4	102	98	38	35	4877	0	4	4	11	3	437	18.878	.000	2.077	2.077	16.764	0	.000	7	1.844	7	1.844	.000	.000
520.0	1	2	4	102	98	38	35	4877	0	8	8	12	3	489	18.878	.000	2.360	2.077	16.764	0	.000	11	2.095	7	1.844	.000	.000
523.0	1	2	4	102	98	38	35	4877	8	3	0	11	1	478	18.878	.000	1.888	1.888	16.764	0	.000	51	1.676	5	1.676	.000	.000
524.0	1	2	4	102	98	38	35	4877	3	2	0	11	1	476	18.878	.000	.944	1.888	16.764	0	.000	1	.838	5	1.676	.000	.000
516.0	1	2	4	127	124	25	22	4572	0	0	0	0	0	621	14.748	2.139	.000	.000	12.582	23	1.824	0	.000	0	.000	.000	.000
517.0	1	2	3	152	149	25	22	4877	0	0	0	0	0	598	18.878	1.510	.000	.000	16.174	25	1.294	0	.000	0	.000	.000	.000
514.0	1	2	2	152	149	38	35	3658	5	2	3	0	3	502	21.238	.000	2.442	2.442	19.062	0	.000	8	2.192	8	2.192	.000	.000
513.0	1	2	1	203	200	38	35	4877	5	4	5	0	3	510	37.756	.000	3.776	4.342	34.069	0	.000	5	3.407	8	3.918	.000	.000
506.0	1	2	4	203	200	38	35	4877	2	1	2	0	2	544	37.756	.000	4.342	4.342	34.069	0	.000	8	3.918	8	3.918	.000	.000
515.0	1	2	4	254	251	38	35	4877	0	6	1	10	0	0	47.195	.000	5.899	4.719	42.721	0	.000	11	5.340	5	4.272	.000	.000
509.0	1	2	4	305	302	38	35	4877	6	2	0	10	0	0	56.634	.000	6.513	5.663	51.373	0	.000	8	5.908	5	5.137	.000	.000
508.0	1	2	4	305	302	38	35	4877	0	7	0	11	0	0	56.634	.000	5.663	5.663	51.373	0	.000	5	5.137	5	5.137	.000	.000
319.0	1	3	4	102	98	25	22	4877	0	0	0	0	0	536	12.585	1.825	.000	.000	10.668	23	1.547	0	.000	0	.000	.000	.000
316.0	1	3	4	102	98	38	35	4877	5	7	5	0	1	444	18.878	.000	2.077	2.077	16.764	0	.000	7	1.844	7	1.844	.000	.000
318.0	1	3	4	102	98	38	35	4877	29	2	2	11	1	441	18.878	.000	.944	1.888	16.764	0	.000	1	.838	5	1.676	.000	.000
315.0	1	3	4	102	98	38	35	4877	2	11	7	0	3	437	18.878	.000	2.171	1.888	16.764	0	.000	8	1.928	5	1.676	.000	.000
317.0	1	3	4	102	98	38	35	4877	18	8	2	0	1	452	18.878	.000	.944	1.510	16.764	0	.000	1	.838	4	1.341	.000	.000
313.0	1	3	3	127	124	25	22	3658	0	0	0	0	0	585	11.799	1.711	.000	.000	10.066	23	1.460	0	.000	0	.000	.000	.000
322.0	1	3	4	152	149	25	22	4572	0	0	0	0	0	557	17.698	2.566	.000	.000	15.163	23	2.199	0	.000	0	.000	.000	.000
312.0	1	3	2	152	149	38	35	4877	15	4	2	0	3	492	28.317	.000	3.115	3.256	25.416	0	.000	7	2.796	8	2.923	.000	.000
310.0	1	3	1	178	175	25	22	2743	0	0	0	0	0	573	12.389	.991	.000	.000	10.646	25	.852	0	.000	0	.000	.000	.000
314.0	1	3	4	203	200	38	35	4877	14	1	3	13	3	510	37.756	.000	3.776	4.342	34.069	0	.000	5	3.407	8	3.918	.000	.000
321.0	1	3	4	203	200	38	35	4877	7	8	1	0	3	484	37.756	.000	4.153	4.342	34.069	0	.000	7	3.748	8	3.918	.000	.000
311.0	1	3	1	203	200	38	35	4877	19	9	2	9	2	488	37.756	.000	4.342	4.342	34.069	0	.000	8	3.918	8	3.918	.000	.000
324.0	1	3	4	203	200	38	35	4877	3	3	2	0	3	487	37.756	.000	3.776	4.153	34.069	0	.000	5	3.407	7	3.748	.000	.000
320.0	1	3	4	203	200	38	35	4877	5	10	2	0	2	462	37.756	.000	3.776	4.153	34.069	0	.000	5	3.407	7	3.748	.000	.000
353.0	1	4	4	102	98	38	35	4572	2	3	0	11	2	457	17.698	.000	1.770	2.035	15.716	0	.000	5	1.572	8	1.807	.000	.000
351.0	1	4	3	102	98	38	35	4877	4	9	0	11	3	515	18.878	.000	.944	2.171	16.764	0	.000	1	.838	8	1.928	.000	.000
357.0	1	4	4	102	98	38	35	4877	5	11	0	12	3	462	18.878	.000	2.077	2.077	16.764	0	.000	7	1.844	7	1.844	.000	.000
356.0	1	4	4	102	98	38	35	4572	1	9	0	11	2	446	17.698	.000	.885	1.947	15.716	0	.000	1	.786	7	1.729	.000	.000
355.0	1	4	4	102	98	38	35	4572	16	3	0	11	1	443	17.698	.000	1.770	1.770	15.716	0	.000	51	1.572	5	1.572	.000	.000
354.0	1	4	4	102	98	38	35	4572	14	2	0	11	1	441	17.698	.000	1.770	1.770	15.716	0	.000	51	1.572	5	1.572	.000	.000
349.0	1	4	1	152	149	25	22	3658	0	0	0	0	0	560	14.158	2.053	.000	.000	12.131	23	1.759	0	.000	0	.000	.000	.000

359.0	1	4	4	152	149	38	35	4572	6	9	2	0	3	489	26.547	.000	2.655	3.053	23.828	0	.000	5	2.383	8	2.740	.000	.000
350.0	1	4	2	152	149	38	35	4572	19	11	2	0	3	482	26.547	.000	3.053	3.053	23.828	0	.000	8	2.740	8	2.740	.000	.000
358.0	1	4	4	203	200	38	35	4572	5	1	1	0	2	473	35.396	.000	3.540	4.071	31.939	0	.000	51	3.194	8	3.673	.000	.000
352.0	1	4	4	203	200	38	35	4572	4	4	3	0	3	462	35.396	.000	4.071	4.071	31.939	0	.000	8	3.673	8	3.673	.000	.000
107.0	1	5	1	76	73	25	22	3658	0	0	0	0	0	624	7.079	1.026	.000	.000	5.936	23	.861	0	.000	0	.000	.000	.000
110.0	1	5	3	102	98	25	22	2743	0	0	0	0	0	603	7.079	1.026	.000	.000	6.001	23	.870	0	.000	0	.000	.000	.000
109.0	1	5	4	102	98	38	35	4877	22	5	2	0	1	446	18.878	.000	1.888	2.077	16.764	0	.000	51	1.676	7	1.844	.000	.000
108.0	1	5	4	102	98	38	35	4877	8	3	1	0	1	458	18.878	.000	1.888	2.077	16.764	0	.000	51	1.676	7	1.844	.000	.000
589.0	2	1	1	76	73	25	22	4877	0	0	0	0	0	720	9.439	.755	.000	.000	7.915	25	.633	0	.000	0	.000	.000	.000
603.0	2	1	4	102	98	25	22	4877	0	0	0	0	0	668	12.585	1.825	.000	.000	10.668	23	1.547	0	.000	0	.000	.000	.000
599.0	2	1	4	102	98	25	22	4572	0	0	0	0	0	658	11.799	1.711	.000	.000	10.001	23	1.450	0	.000	0	.000	.000	.000
597.0	2	1	4	102	98	38	35	4877	1	5	0	12	3	520	18.878	.000	2.077	2.360	16.764	0	.000	7	1.844	11	2.095	.000	.000
598.0	2	1	4	102	98	38	35	4877	0	3	0	0	3	504	18.878	.000	2.077	2.171	16.764	0	.000	7	1.844	8	1.928	.000	.000
593.0	2	1	4	102	98	38	35	4572	2	3	0	12	3	518	17.698	.000	1.770	2.035	15.716	0	.000	5	1.572	8	1.807	.000	.000
594.0	2	1	4	102	98	38	35	4572	6	6	1	11	3	485	17.698	.000	1.770	1.770	15.716	0	.000	5	1.572	5	1.572	.000	.000
595.0	2	1	4	102	98	38	35	4572	4	8	0	10	2	452	17.698	.000	.885	1.770	15.716	0	.000	1	.786	5	1.572	.000	.000
596.0	2	1	4	102	98	38	35	4877	15	13	4	11	1	432	18.878	.000	1.888	.944	16.764	0	.000	51	1.676	1	.838	.000	.000
584.0	2	1	2	127	124	25	22	1829	0	0	0	0	0	760	5.899	.855	.000	.000	5.033	21	.730	0	.000	0	.000	.000	.000
591.0	2	1	3	178	175	25	22	3353	0	0	0	0	0	705	15.142	2.196	.000	.000	13.012	23	1.887	0	.000	0	.000	.000	.000
592.0	2	1	3	203	200	38	35	4877	3	13	4	0	3	558	37.756	.000	4.153	4.342	34.069	0	.000	7	3.748	8	3.918	.000	.000
590.0	2	1	1	203	200	38	35	4877	1	7	1	0	3	550	37.756	.000	4.342	4.342	34.069	0	.000	8	3.918	8	3.918	.000	.000
585.0	2	1	2	203	200	38	35	3353	2	6	1	0	1	594	25.957	.000	3.245	2.985	23.422	0	.000	11	2.928	8	2.694	.000	.000
604.0	2	1	4	254	251	38	35	4877	8	0	0	9	0	0	47.195	.000	5.427	.000	42.721	0	.000	8	4.913	0	.000	.000	.000
602.0	2	1	4	254	251	38	35	4877	0	4	0	11	0	0	47.195	.000	5.427	4.719	42.721	0	.000	8	4.913	5	4.272	.000	.000
601.0	2	1	4	305	302	38	35	4877	0	6	0	10	0	0	56.634	.000	7.079	5.663	51.373	0	.000	11	6.422	5	5.137	.000	.000
600.0	2	1	4	305	302	38	35	4877	0	0	0	10	0	0	56.634	.000	6.513	5.663	51.373	0	.000	8	5.908	5	5.137	.000	.000
600.1	2	1	4	305	302	38	35	4572	0	0	0	11	0	0	53.094	.000	6.637	5.309	48.163	0	.000	11	6.020	5	4.816	.000	.000
588.0	2	1	4	305	302	38	35	4572	0	0	0	10	0	0	53.094	.000	2.655	5.309	48.163	0	.000	1	2.408	5	4.816	.000	.000
574.0	2	2	3	76	73	25	22	3962	0	0	0	0	0	712	7.669	.614	.000	.000	6.431	25	.514	0	.000	0	.000	.000	.000
583.0	2	2	4	102	98	25	22	4877	0	0	0	0	0	534	12.585	1.007	.000	.000	10.668	25	.853	0	.000	0	.000	.000	.000
582.0	2	2	4	102	98	38	35	4877	1	2	0	11	3	467	18.878	.000	2.077	2.171	16.764	0	.000	7	1.844	8	1.928	.000	.000
581.0	2	2	4	102	98	38	35	4877	2	2	0	11	3	480	18.878	.000	2.077	2.171	16.764	0	.000	7	1.844	8	1.928	.000	.000
579.0	2	2	4	102	98	38	35	4572	3	3	0	12	3	525	17.698	.000	1.947	2.035	15.716	0	.000	7	1.729	8	1.807	.000	.000
578.0	2	2	4	102	98	38	35	4877	2	2	0	11	3	493	18.878	.000	2.077	2.171	16.764	0	.000	7	1.844	8	1.928	.000	.000
573.0	2	2	3	102	98	38	35	4572	3	4	0	12	3	554	17.698	.000	2.035	2.035	15.716	0	.000	8	1.807	8	1.807	.000	.000
579.1	2	2	4	102	98	38	35	4877	5	2	3	11	2	451	18.878	.000	1.888	1.888	16.764	0	.000	5	1.676	5	1.676	.000	.000
580.0	2	2	4	102	98	38	35	4877	18	3	0	11	-1	426	18.878	.000	.944	1.510	16.764	0	.000	1	.838	4	1.341	.000	.000
571.0	2	2	1	152	149	25	22	4877	0	0	0	0	0	594	18.878	1.510	.000	.000	16.174	25	1.294	0	.000	0	.000	.000	.000
586.0	2	2	4	178	175	25	22	2743	0	0	0	0	0	652	12.389	.991	.000	.000	10.646	25	.852	0	.000	0	.000	.000	.000
587.0	2	2	4	203	200	38	35	4877	2	2	1	0	3	517	37.756	.000	4.719	4.719	34.069	0	.000	11	4.259	11	4.259	.000	.000
572.0	2	2	2	203	200	38	35	4877	3	4	1	0	0	530	37.756	.000	4.342	4.342	34.069	0	.000	8	3.918	8	3.918	.000	.000
577.0	2	2	4	305	302	38	35	4877	0	0	0	9	0	0	56.634	.000	6.230	6.513	51.373	0	.000	7	5.651	8	5.908	.000	.000
575.0	2	2	4	305	302	38	35	4877	4	7	0	9	0	0	56.634	.000	7.079	6.230	51.373	0	.000	11	6.422	7	5.651	.000	.000
578.1	2	2	4	305	302	38	35	4877	0	5	0	10	0	0	56.634	.000	5.663	5.663	51.373	0	.000	5	5.137	5	5.137	.000	.000
576.0	2	2	4	305	302	38	35	4877	0	0	2	10	0	0	56.634	.000	6.230	4.531	51.373	0	.000	7	5.651	4	4.110	.000	.000
562.0	2	3	4	102	98	38	35	4572	0	2	0	12	3	525	17.698	.000	1.770	2.035	15.716	0	.000	5	1.572	8	1.807	.000	.000
559.0	2	3	4	102	98	38	35	4877	2	3	0	11	3	499	18.878	.000	2.077	2.171	16.764	0	.000	7	1.844	8	1.928	.000	.000
560.0	2	3	4	102	98	38	35	4877	3	3	0	11	2	474	18.878	.000	.944	2.077	16.764	0	.000	1	.838	7	1.844	.000	.000
563.0	2	3	4	102	98	38	35	4572	4	4	0	11	2	449	17.698	.000	.885	1.770	15.716	0	.000	1	.786	5	1.572	.000	.000
561.0	2	3	4	102	98	38	35	4572	0	5	0	11	3	476	17.698	.000	.885	1.770	15.716	0	.000	1	.786	5	1.572	.000	.000
565.0	2	3	4	102	98	38	35	4877	14	5	0	11	1	444	18.878	.000	1.888	1.510	16.764	0	.000	51	1.676	4	1.341	.000	.000
564.0	2	3	4	102	98	38	35	4877	16	5	0	11	1	431	18.878	.000	.944	1.510	16.764	0	.000	1	.838	4	1.341	.000	.000
569.0	2	3	4	152	149	25	22	3353	0	0	0	0	0	635	12.979	1.038	.000	.000	11.120	25	.890	0	.000	0	.000	.000	.000
566.0	2	3	2	152	149	38	35	3962	0	2	6	0	3	501	23.007	.000	2.876	2.876	20.651	0	.000	11	2.581	11	2.581	.000	.000

567.0	2	3	3	178	175	25	22	3048	0	0	0	0	0	688	13.765	1.101	.000	.000	11.829	25	.946	0	.000	0	.000	.000	.000
570.0	2	3	4	203	200	38	35	4572	3	1	1	0	0	528	35.396	.000	1.770	3.894	31.939	0	.000	1	1.597	7	3.513	.000	.000
568.0	2	3	4	254	251	38	35	4877	0	9	0	9	0	0	47.195	.000	4.719	4.719	42.721	0	.000	5	4.272	5	4.272	.000	.000
558.0	2	3	4	305	302	38	35	4572	0	0	0	11	0	0	53.094	.000	5.309	5.309	48.163	0	.000	5	4.816	5	4.816	.000	.000
557.0	2	3	4	305	302	38	35	4572	0	0	0	11	0	0	53.094	.000	5.309	5.309	48.163	0	.000	5	4.816	5	4.816	.000	.000
373.0	2	4	4	76	73	25	22	4877	0	0	0	0	0	614	9.439	.755	.000	.000	7.915	25	.633	0	.000	0	.000	.000	.000
363.0	2	4	3	76	73	25	22	4877	0	0	0	0	0	654	9.439	.755	.000	.000	7.915	25	.633	0	.000	0	.000	.000	.000
361.0	2	4	2	76	73	25	22	3353	0	0	0	0	0	637	6.489	.519	.000	.000	5.442	25	.435	0	.000	0	.000	.000	.000
370.0	2	4	4	102	98	25	22	4877	0	0	0	0	0	506	12.585	1.007	.000	.000	10.668	25	.853	0	.000	0	.000	.000	.000
360.0	2	4	1	102	98	25	22	4877	0	0	0	0	0	633	12.585	1.825	.000	.000	10.668	23	1.547	0	.000	0	.000	.000	.000
366.0	2	4	4	102	98	38	35	4877	6	3	1	0	2	454	18.878	.000	2.077	2.077	16.764	0	.000	7	1.844	7	1.844	.000	.000
369.0	2	4	4	102	98	38	35	4877	10	2	3	0	2	431	18.878	.000	.944	1.888	16.764	0	.000	1	.838	5	1.676	.000	.000
368.0	2	4	4	102	98	38	35	4877	5	4	1	0	2	458	18.878	.000	.944	1.888	16.764	0	.000	1	.838	5	1.676	.000	.000
367.0	2	4	4	102	98	38	35	4877	8	3	1	0	1	432	18.878	.000	1.888	1.888	16.764	0	.000	51	1.676	5	1.676	.000	.000
364.0	2	4	3	152	149	38	35	4877	3	1	1	0	3	508	28.317	.000	2.832	3.256	25.416	0	.000	5	2.542	8	2.923	.000	.000
362.0	2	4	2	152	149	38	35	4877	9	2	4	0	2	508	28.317	.000	2.832	3.115	25.416	0	.000	5	2.542	7	2.796	.000	.000
372.0	2	4	4	203	200	38	35	4877	1	2	1	0	2	489	37.756	.000	4.342	4.342	34.069	0	.000	8	3.918	8	3.918	.000	.000
371.0	2	4	4	203	200	38	35	4877	9	3	0	0	1	463	37.756	.000	3.776	4.153	34.069	0	.000	5	3.407	7	3.748	.000	.000
365.0	2	4	4	203	200	38	35	4877	3	1	3	0	2	480	37.756	.000	1.888	3.776	34.069	0	.000	1	1.703	5	3.407	.000	.000
249.1	2	5	3	76	73	25	22	1829	0	0	0	0	0	628	3.540	.513	.000	.000	2.968	23	.430	0	.000	0	.000	.000	.000
249.0	2	5	3	76	73	25	22	2134	0	0	0	0	0	635	4.130	.599	.000	.000	3.463	23	.502	0	.000	0	.000	.000	.000
259.2	2	5	4	76	73	25	22	1829	0	0	0	0	0	574	3.540	.513	.000	.000	2.968	23	.430	0	.000	0	.000	.000	.000
259.1	2	5	4	76	73	25	22	2743	0	0	0	0	0	529	5.309	.770	.000	.000	4.452	23	.646	0	.000	0	.000	.000	.000
258.2	2	5	4	102	98	25	22	2438	0	0	0	0	0	600	6.293	.912	.000	.000	5.334	23	.773	0	.000	0	.000	.000	.000
258.1	2	5	4	102	98	25	22	1829	0	0	0	0	0	580	4.719	.684	.000	.000	4.000	23	.580	0	.000	0	.000	.000	.000
258.0	2	5	4	102	98	25	22	1829	0	0	0	0	0	0	4.719	.684	.000	.000	4.000	23	.580	0	.000	0	.000	.000	.000
254.0	2	5	4	102	98	38	35	4877	10	9	1	0	1	454	18.878	.000	2.171	2.077	16.764	0	.000	8	1.928	7	1.844	.000	.000
257.0	2	5	4	102	98	38	35	4877	14	4	3	0	1	475	18.878	.000	.944	.944	16.764	0	.000	1	.838	1	.838	.000	.000
255.0	2	5	4	102	98	38	35	4877	8	4	3	11	1	459	18.878	.000	.944	1.888	16.764	0	.000	1	.838	5	1.676	.000	.000
256.0	2	5	4	102	98	38	35	3658	9	6	0	11	1	634	14.158	.000	.708	1.133	12.573	0	.000	1	.629	4	1.006	.000	.000
253.0	2	5	4	152	149	25	22	2743	0	0	0	0	0	562	10.619	1.540	.000	.000	9.098	23	1.319	0	.000	0	.000	.000	.000
252.0	2	5	4	152	149	25	22	2134	0	0	0	0	0	595	8.259	1.198	.000	.000	7.076	23	1.026	0	.000	0	.000	.000	.000
250.0	2	5	2	178	175	25	22	1829	0	0	0	0	0	521	8.259	.661	.000	.000	7.098	25	.568	0	.000	0	.000	.000	.000
251.0	2	5	4	203	200	38	35	4572	17	2	5	13	1	495	35.396	.000	3.540	3.894	31.939	0	.000	51	3.194	7	3.513	.000	.000
129.0	2	6	4	76	73	25	22	4877	0	0	0	0	0	625	9.439	1.369	.000	.000	7.915	23	1.148	0	.000	0	.000	.000	.000
131.0	2	6	4	102	98	38	35	4877	24	28	2	0	1	477	18.878	.000	1.888	1.888	16.764	0	.000	51	1.676	5	1.676	.000	.000
130.0	2	6	4	102	98	38	35	4877	20	10	5	11	1	468	18.878	.000	1.888	1.888	16.764	0	.000	51	1.676	5	1.676	.000	.000
133.0	2	6	2	102	98	38	35	1829	6	0	0	12	1	665	7.079	.000	.354	.814	6.286	0	.000	1	.314	8	.723	.000	.000
132.0	2	6	2	152	149	38	35	2438	24	5	2	0	1	486	14.158	.000	.708	1.133	12.708	0	.000	1	.635	4	1.017	.000	.000
126.0	2	7	1	76	73	25	22	3353	0	0	0	0	0	590	6.489	.519	.000	.000	5.442	25	.435	0	.000	0	.000	.000	.000
128.0	2	7	4	102	98	25	22	4877	0	0	0	0	0	566	12.585	1.825	.000	.000	10.668	23	1.547	0	.000	0	.000	.000	.000
127.0	2	7	4	102	98	38	35	4877	31	3	7	0	1	431	18.878	.000	1.888	2.077	16.764	0	.000	51	1.676	7	1.844	.000	.000
497.0	3	1	4	102	98	38	35	4877	0	5	2	12	3	586	18.878	.000	2.360	2.360	16.764	0	.000	11	2.095	11	2.095	.000	.000
496.0	3	1	4	102	98	38	35	4877	2	2	0	11	3	543	18.878	.000	1.888	2.360	16.764	0	.000	5	1.676	11	2.095	.000	.000
481.0	3	1	2	102	98	38	35	4877	1	3	0	12	3	565	18.878	.000	2.077	2.360	16.764	0	.000	7	1.844	11	2.095	.000	.000
499.0	3	1	4	102	98	38	35	4877	0	10	2	11	3	503	18.878	.000	.944	2.171	16.764	0	.000	1	.838	8	1.928	.000	.000
498.0	3	1	4	102	98	38	35	4877	1	15	0	11	3	518	18.878	.000	2.171	2.171	16.764	0	.000	8	1.928	8	1.928	.000	.000
502.0	3	1	4	102	98	38	35	4572	8	11	3	11	1	469	17.698	.000	1.770	1.770	15.716	0	.000	51	1.572	5	1.572	.000	.000
500.0	3	1	4	102	98	38	35	4572	3	23	0	11	2	459	17.698	.000	.885	1.770	15.716	0	.000	1	.786	5	1.572	.000	.000
501.0	3	1	4	102	98	38	35	4572	18	17	0	11	1	445	17.698	.000	.885	1.416	15.716	0	.000	1	.786	4	1.257	.000	.000
480.0	3	1	1	152	149	38	35	4572	9	2	3	0	3	563	26.547	.000	3.318	3.318	23.828	0	.000	11	2.978	11	2.978	.000	.000
487.0	3	1	4	152	149	38	35	3048	0	6	1	0	2	565	17.698	.000	1.947	2.035	15.885	0	.000	7	1.747	8	1.827	.000	.000
482.0	3	1	3	203	200	25	22	2438	0	0	0	0	0	643	12.585	1.007	.000	.000	10.840	25	.867	0	.000	0	.000	.000	.000
483.0	3	1	4	203	200	38	35	3962	2	1	4	0	3	547	30.677	.000	3.528	3.528	27.681	0	.000	8	3.183	8	3.183	.000	.000

495.0	3	1	4	305	302	25	22	3048	0	0	0	0	0	701	23.597	1.888	.000	.000	20.433	25	1.635	0	.000	0	.000	.000	.000
486.0	3	1	4	305	302	38	35	4572	0	3	0	10	0	0	53.094	.000	6.106	5.309	48.163	0	.000	8	5.539	5	4.816	.000	.000
484.0	3	1	4	305	302	38	35	4267	2	6	4	10	0	0	49.554	.000	5.699	4.955	44.952	0	.000	8	5.169	5	4.495	.000	.000
485.0	3	1	4	305	302	38	35	4877	8	2	0	10	0	0	56.634	.000	5.663	4.531	51.373	0	.000	5	5.137	4	4.110	.000	.000
512.0	3	2	1	102	98	38	35	4877	4	4	0	11	3	552	18.878	.000	2.171	2.360	16.764	0	.000	8	1.928	11	2.095	.000	.000
491.0	3	2	4	102	98	38	35	4877	1	3	0	11	3	566	18.878	.000	2.360	2.360	16.764	0	.000	11	2.095	11	2.095	.000	.000
493.0	3	2	4	102	98	38	35	4877	3	2	3	11	3	480	18.878	.000	2.171	2.171	16.764	0	.000	8	1.928	8	1.928	.000	.000
492.0	3	2	4	102	98	38	35	4877	3	3	11	11	3	531	18.878	.000	2.171	2.171	16.764	0	.000	8	1.928	8	1.928	.000	.000
488.0	3	2	4	102	98	38	35	4877	0	0	2	11	3	521	18.878	.000	1.888	2.171	16.764	0	.000	5	1.676	8	1.928	.000	.000
494.0	3	2	4	102	98	38	35	4877	6	8	2	11	2	459	18.878	.000	.944	2.077	16.764	0	.000	1	.838	7	1.844	.000	.000
489.0	3	2	4	102	98	38	35	4877	5	3	0	10	1	462	18.878	.000	.944	2.077	16.764	0	.000	1	.838	7	1.844	.000	.000
490.0	3	2	4	102	98	38	35	4877	18	13	0	11	1	429	18.878	.000	1.888	1.888	16.764	0	.000	51	1.676	5	1.676	.000	.000
507.0	3	2	4	152	149	25	22	4877	0	0	0	0	0	639	18.878	1.510	.000	.000	16.174	25	1.294	0	.000	0	.000	.000	.000
511.0	3	2	2	152	149	38	35	4267	3	5	1	0	3	536	24.777	.000	.000	.000	22.239	0	.000	0	.000	0	.000	.000	.000
510.0	3	2	4	254	251	38	35	4877	0	5	1	9	0	0	47.195	.000	5.427	5.427	42.721	0	.000	8	4.913	8	4.913	.000	.000
504.0	3	2	4	305	302	38	35	3353	6	0	0	10	0	0	38.936	.000	4.478	4.283	35.319	0	.000	8	4.062	7	3.885	.000	.000
503.0	3	2	4	305	302	38	35	4877	5	2	2	10	0	0	56.634	.000	7.079	5.663	51.373	0	.000	11	6.422	5	5.137	.000	.000
505.0	3	2	4	305	302	38	35	4877	3	13	2	10	0	0	56.634	.000	7.079	5.663	51.373	0	.000	11	6.422	5	5.137	.000	.000
191.0	3	3	1	76	73	25	22	2134	0	0	0	0	0	660	4.130	.599	.000	.000	3.463	22	.502	0	.000	0	.000	.000	.000
202.0	3	3	4	102	98	38	35	4877	0	0	0	0	0	0	18.878	.000	2.077	2.077	16.764	0	.000	7	1.844	7	1.844	.000	.000
201.0	3	3	4	102	98	38	35	4877	14	4	2	0	2	471	18.878	.000	2.077	2.077	16.764	0	.000	7	1.844	7	1.844	.000	.000
201.1	3	3	4	102	98	38	35	4877	17	4	1	0	1	446	18.878	.000	.944	1.888	16.764	0	.000	1	.838	5	1.676	.000	.000
200.0	3	3	4	102	98	38	35	4877	31	8	5	0	1	429	18.878	.000	.944	1.888	16.764	0	.000	1	.838	5	1.676	.000	.000
198.0	3	3	4	102	98	38	35	4877	4	5	0	11	3	490	18.878	.000	2.077	2.077	16.764	0	.000	7	1.844	7	1.844	.000	.000
197.0	3	3	4	102	98	38	35	4877	0	0	3	11	3	532	18.878	.000	2.171	2.077	16.764	0	.000	8	1.928	7	1.844	.000	.000
199.0	3	3	4	102	98	38	35	4877	10	2	0	11	1	448	18.878	.000	.944	1.510	16.764	0	.000	1	.838	4	1.341	.000	.000
193.0	3	3	2	152	149	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	28.317	25.416
203.0	3	3	3	152	149	38	35	3048	5	3	7	11	3	545	17.698	.000	2.212	2.212	15.885	0	.000	11	1.986	11	1.986	.000	.000
195.1	3	3	4	152	149	38	35	4267	5	1	2	0	3	529	24.777	.000	2.849	3.097	22.239	0	.000	8	2.558	11	2.780	.000	.000
194.0	3	3	4	203	200	38	35	4877	6	2	2	0	2	497	37.756	.000	4.342	4.342	34.069	0	.000	8	3.918	8	3.918	.000	.000
192.0	3	3	1	203	200	38	35	4572	8	4	1	0	3	535	35.396	.000	3.540	4.071	31.939	0	.000	5	3.194	8	3.673	.000	.000
196.0	3	3	4	203	200	38	35	4877	8	2	2	0	2	535	37.756	.000	1.888	4.153	34.069	0	.000	1	1.703	7	3.748	.000	.000
195.0	3	3	4	203	200	38	35	4877	6	3	10	0	2	499	37.756	.000	1.888	3.020	34.069	0	.000	1	1.703	4	2.725	.000	.000
323.0	3	4	1	76	73	25	22	4877	0	0	0	0	0	617	9.439	1.369	.000	.000	7.915	23	1.148	0	.000	0	.000	.000	.000
335.0	3	4	4	102	98	25	22	4877	0	0	0	0	0	622	12.585	1.007	.000	.000	10.668	25	.853	0	.000	0	.000	.000	.000
326.0	3	4	3	102	98	25	22	3962	0	0	0	0	0	578	10.226	1.483	.000	.000	8.668	23	1.257	0	.000	0	.000	.000	.000
332.0	3	4	4	102	98	38	35	4572	13	13	2	0	2	450	17.698	.000	.885	1.770	15.716	0	.000	1	.786	5	1.572	.000	.000
329.0	3	4	4	102	98	38	35	4877	21	10	2	0	1	450	18.878	.000	.944	1.888	16.764	0	.000	1	.838	5	1.676	.000	.000
328.0	3	4	4	102	98	38	35	4877	15	3	2	0	2	502	18.878	.000	1.888	.944	16.764	0	.000	5	1.676	1	.838	.000	.000
331.0	3	4	4	102	98	38	35	4877	6	4	0	11	2	466	18.878	.000	.944	1.888	16.764	0	.000	1	.838	5	1.676	.000	.000
330.0	3	4	4	102	98	38	35	4877	13	4	0	11	1	430	18.878	.000	1.888	1.510	16.764	0	.000	51	1.676	4	1.341	.000	.000
325.0	3	4	2	127	124	25	22	3658	0	0	0	0	0	586	11.799	1.711	.000	.000	10.066	24	1.460	0	.000	0	.000	.000	.000
334.0	3	4	4	203	200	38	35	4877	9	2	2	0	2	528	37.756	.000	3.776	4.342	34.069	0	.000	5	3.407	8	3.918	.000	.000
333.0	3	4	4	203	200	38	35	4877	15	2	5	0	2	496	37.756	.000	3.776	4.342	34.069	0	.000	5	3.407	8	3.918	.000	.000
327.0	3	4	4	203	200	38	35	4267	11	1	2	0	1	500	33.036	.000	3.304	3.799	29.810	0	.000	5	2.981	8	3.428	.000	.000
113.0	3	5	3	76	73	25	22	4877	0	0	0	0	0	338	9.439	1.369	.000	.000	7.915	23	1.148	0	.000	0	.000	.000	.000
119.0	3	5	4	102	98	25	22	3658	0	0	0	0	0	621	9.439	1.369	.000	.000	8.001	22	1.160	0	.000	0	.000	.000	.000
111.0	3	5	2	102	98	25	22	4267	0	0	0	0	0	639	11.012	.881	.000	.000	9.334	25	.747	0	.000	0	.000	.000	.000
114.1	3	5	4	102	98	38	35	4572	4	5	1	0	3	497	17.698	.000	1.947	2.035	15.716	0	.000	7	1.729	8	1.807	.000	.000
112.0	3	5	1	102	98	38	35	4572	5	6	2	0	3	479	17.698	.000	2.212	2.035	15.716	0	.000	11	1.965	8	1.807	.000	.000
118.0	3	5	4	102	98	38	35	4572	16	7	1	11	2	494	17.698	.000	1.770	1.947	15.716	0	.000	5	1.572	7	1.729	.000	.000
116.0	3	5	4	102	98	38	35	4572	27	4	1	0	1	446	17.698	.000	1.770	1.947	15.716	0	.000	51	1.572	7	1.729	.000	.000
114.0	3	5	3	102	98	38	35	4572	2	2	3	0	2	450	17.698	.000	.885	1.947	15.716	0	.000	1	.786	7	1.729	.000	.000
117.0	3	5	4	102	98	38	35	4572	34	8	1	0	1	441	17.698	.000	1.770	1.770	15.716	0	.000	51	1.572	5	1.572	.000	.000

115.0	3	5	3	152	149	38	35	4572	16	3	3	11	1	498	26.547	.000	2.655	3.053	23.828	0	.000	5	2.383	8	2.740	.000	.000
82.0	3	6	1	76	73	25	22	3962	0	0	0	0	0	614	7.669	1.112	.000	.000	6.431	23	.932	0	.000	0	.000	.000	.000
89.0	3	6	4	102	98	25	22	4877	0	0	0	0	0	605	12.585	1.825	.000	.000	10.668	23	1.547	0	.000	0	.000	.000	.000
87.0	3	6	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
88.0	3	6	4	102	98	38	35	4877	25	3	2	0	1	458	18.878	.000	1.888	2.077	16.764	0	.000	51	1.676	7	1.844	.000	.000
86.0	3	6	4	102	98	38	35	4877	33	6	1	0	1	470	18.878	.000	1.888	2.077	16.764	0	.000	51	1.676	7	1.844	.000	.000
85.0	3	6	4	102	98	38	35	4877	10	1	1	10	2	463	18.878	.000	2.171	2.077	16.764	0	.000	8	1.928	7	1.844	.000	.000
84.0	3	6	3	127	124	25	22	3353	0	0	0	0	0	660	10.815	1.568	.000	.000	9.227	23	1.338	0	.000	0	.000	.000	.000
180.0	4	1	2	76	73	25	22	2743	0	0	0	0	0	707	5.309	.770	.000	.000	4.452	23	.646	0	.000	0	.000	.000	.000
185.0	4	1	4	102	98	38	35	4877	3	7	2	0	2	549	18.878	.000	2.077	2.171	16.764	0	.000	7	1.844	8	1.928	.000	.000
189.0	4	1	4	102	98	38	35	4877	10	12	3	0	2	481	18.878	.000	2.077	1.510	16.764	0	.000	7	1.844	4	1.341	.000	.000
188.0	4	1	4	102	98	38	35	4877	16	16	5	10	2	486	18.878	.000	.944	1.510	16.764	0	.000	1	.838	4	1.341	.000	.000
186.0	4	1	4	102	98	38	35	4877	16	26	2	0	1	441	18.878	.000	.944	.944	16.764	0	.000	1	.838	1	.838	.000	.000
187.0	4	1	4	102	98	38	35	4572	1	4	0	12	2	576	17.698	.000	1.770	2.035	15.716	0	.000	5	1.572	8	1.807	.000	.000
181.0	4	1	1	152	149	25	22	4877	0	0	0	0	0	737	18.878	1.510	.000	.000	16.174	25	1.294	0	.000	0	.000	.000	.000
184.0	4	1	4	152	149	38	35	4267	10	5	2	0	1	615	24.777	.000	2.478	3.097	22.239	0	.000	5	2.224	11	2.780	.000	.000
182.0	4	1	3	152	149	38	35	4877	13	1	2	0	3	612	28.317	.000	3.540	3.540	25.416	0	.000	11	3.177	11	3.177	.000	.000
183.0	4	1	4	203	200	38	35	4572	1	3	2	0	1	560	35.396	.000	3.540	4.071	31.939	0	.000	51	3.194	8	3.673	.000	.000
190.0	4	1	4	203	200	38	35	4877	16	3	2	0	1	597	37.756	.000	1.888	3.776	34.069	0	.000	1	1.703	5	3.407	.000	.000
247.0	4	2	1	76	73	25	22	3353	0	0	0	0	0	580	6.489	.941	.000	.000	5.442	23	.789	0	.000	0	.000	.000	.000
245.0	4	2	4	76	73	25	22	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	9.439	7.915
239.0	4	2	4	76	73	25	22	4572	0	0	0	0	0	707	8.849	1.283	.000	.000	7.420	23	1.076	0	.000	0	.000	.000	.000
244.0	4	2	4	102	98	25	22	4572	0	0	0	0	0	438	11.799	1.711	.000	.000	10.001	23	1.450	0	.000	0	.000	.000	.000
243.0	4	2	4	102	98	25	22	4572	0	0	0	0	0	612	11.799	1.711	.000	.000	10.001	23	1.450	0	.000	0	.000	.000	.000
242.0	4	2	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
246.0	4	2	4	102	98	38	35	4877	6	5	2	12	3	555	18.878	.000	2.360	2.360	16.764	0	.000	11	2.095	11	2.095	.000	.000
240.0	4	2	4	102	98	38	35	4877	3	4	2	0	2	530	18.878	.000	2.171	2.171	16.764	0	.000	8	1.928	8	1.928	.000	.000
244.1	4	2	4	102	98	38	35	4572	6	3	2	0	2	477	17.698	.000	1.947	1.947	15.716	0	.000	7	1.729	7	1.729	.000	.000
241.0	4	2	4	102	98	38	35	4877	4	3	2	0	2	460	18.878	.000	2.171	1.888	16.764	0	.000	8	1.928	5	1.676	.000	.000
238.0	4	2	4	152	149	38	35	4572	3	2	3	0	2	546	26.547	.000	3.053	3.318	23.828	0	.000	8	2.740	11	2.978	.000	.000
248.0	4	2	3	152	149	38	35	4267	7	2	2	0	3	563	24.777	.000	2.849	2.849	22.239	0	.000	8	2.558	8	2.558	.000	.000
237.0	4	2	4	203	200	38	35	4877	5	1	1	10	2	510	37.756	.000	4.342	4.342	34.069	0	.000	8	3.918	8	3.918	.000	.000
73.0	4	3	2	76	73	25	22	4572	0	0	0	0	0	718	8.849	1.283	.000	.000	7.420	21	1.076	0	.000	0	.000	.000	.000
81.0	4	3	4	102	98	25	22	4877	0	0	0	0	0	632	12.585	1.825	.000	.000	10.668	23	1.547	0	.000	0	.000	.000	.000
77.0	4	3	4	102	98	38	35	4877	2	7	3	0	2	503	18.878	.000	2.171	2.171	16.764	0	.000	8	1.928	8	1.928	.000	.000
78.0	4	3	4	102	98	38	35	4877	15	13	6	0	2	465	18.878	.000	1.888	2.077	16.764	0	.000	5	1.676	7	1.844	.000	.000
79.0	4	3	4	102	98	38	35	4877	46	4	9	0	1	434	18.878	.000	.944	.944	16.764	0	.000	1	.838	1	.838	.000	.000
80.0	4	3	4	102	98	38	35	4877	14	2	0	12	1	477	18.878	.000	.944	1.888	16.764	0	.000	1	.838	5	1.676	.000	.000
76.0	4	3	1	127	124	25	22	4877	0	0	0	0	0	649	15.732	1.259	.000	.000	13.421	25	1.074	0	.000	0	.000	.000	.000
74.0	4	3	3	152	149	38	35	4267	23	5	2	14	2	552	24.777	.000	2.849	3.097	22.239	0	.000	8	2.558	11	2.780	.000	.000
75.0	4	3	3	152	149	38	35	4877	7	12	4	0	1	490	28.317	.000	2.832	3.115	25.416	0	.000	5	2.542	7	2.796	.000	.000
134.0	4	4	2	102	98	25	22	4572	0	0	0	0	0	662	11.799	1.711	.000	.000	10.001	22	1.450	0	.000	0	.000	.000	.000
136.0	4	4	3	102	98	38	35	4877	4	1	1	0	2	467	18.878	.000	2.171	2.360	16.764	0	.000	8	1.928	11	2.095	.000	.000
135.0	4	4	1	102	98	38	35	4267	5	2	1	0	2	480	16.518	.000	1.817	1.900	14.668	0	.000	7	1.614	8	1.687	.000	.000
139.0	4	4	4	102	98	38	35	4877	7	1	1	0	2	481	18.878	.000	2.077	2.077	16.764	0	.000	7	1.844	7	1.844	.000	.000
138.0	4	4	4	102	98	38	35	4877	30	70	4	0	1	437	18.878	.000	1.888	1.888	16.764	0	.000	51	1.676	5	1.676	.000	.000
137.0	4	4	4	102	98	38	35	4877	31	8	1	11	1	440	18.878	.000	1.888	1.510	16.764	0	.000	51	1.676	4	1.341	.000	.000
140.0	4	5	1	76	73	25	22	2743	0	0	0	0	0	633	5.309	.770	.000	.000	4.452	23	.646	0	.000	0	.000	.000	.000
143.0	4	5	3	102	98	25	22	3962	0	0	0	0	0	587	10.226	.818	.000	.000	8.668	25	.693	0	.000	0	.000	.000	.000
141.0	4	5	4	102	98	38	35	4572	24	2	1	0	1	453	17.698	.000	1.770	1.947	15.716	0	.000	51	1.572	7	1.729	.000	.000
142.0	4	5	4	102	98	38	35	4572	46	3	3	0	1	431	17.698	.000	.885	.885	15.716	0	.000	1	.786	1	.786	.000	.000
344.0	5	1	4	102	98	25	22	4877	0	0	0	0	0	704	12.585	1.825	.000	.000	10.668	22	1.547	0	.000	0	.000	.000	.000
340.0	5	1	4	102	98	38	35	4877	15	2	1	10	2	495	18.878	.000	1.888	2.077	16.764	0	.000	5	1.676	7	1.844	.000	.000
342.0	5	1	4	102	98	38	35	4877	0	0	0	0	0	472	18.878	.000	2.171	.944	16.764	0	.000	8	1.928	1	.838	.000	.000

343.0	5	1	4	102	98	38	35	4877	3	3	0	11	2	527	18.878	.000	.944	2.077	16.764	0	.000	1	.838	7	1.844	.000	.000
341.0	5	1	4	102	98	38	35	4572	16	28	2	11	1	468	17.698	.000	.885	1.770	15.716	0	.000	1	.786	5	1.572	.000	.000
337.0	5	1	2	127	124	25	22	3962	0	0	0	0	0	702	12.782	1.853	.000	.000	10.905	21	1.581	0	.000	0	.000	.000	.000
339.0	5	1	3	152	149	25	22	4267	0	0	0	0	0	615	16.518	1.321	.000	.000	14.152	25	1.132	0	.000	0	.000	.000	.000
336.0	5	1	1	152	149	38	35	4877	2	1	2	0	3	585	28.317	.000	3.256	3.540	25.416	0	.000	8	2.923	11	3.177	.000	.000
347.0	5	1	4	203	200	38	35	4572	3	1	1	0	1	580	35.396	.000	4.071	4.425	31.939	0	.000	8	3.673	11	3.992	.000	.000
345.0	5	1	4	203	200	38	35	4572	2	1	2	0	1	521	35.396	.000	3.894	4.425	31.939	0	.000	7	3.513	11	3.992	.000	.000
348.0	5	1	4	203	200	38	35	2743	3	1	2	0	3	103	21.238	.000	2.442	2.442	19.164	0	.000	8	2.204	8	2.204	.000	.000
338.0	5	1	3	203	200	38	35	4877	1	4	1	0	2	585	37.756	.000	4.342	4.342	34.069	0	.000	8	3.918	8	3.918	.000	.000
346.0	5	1	4	203	200	38	35	4572	31	8	4	0	1	508	35.396	.000	3.540	2.832	31.939	0	.000	51	3.194	4	2.555	.000	.000
227.0	5	2	1	76	73	25	22	4877	0	0	0	0	0	706	9.439	1.369	.000	.000	7.915	24	1.148	0	.000	0	.000	.000	.000
232.0	5	2	4	102	98	38	35	4877	22	11	5	0	1	447	18.878	.000	1.888	2.171	16.764	0	.000	51	1.676	8	1.928	.000	.000
234.0	5	2	4	102	98	38	35	4877	8	3	2	0	2	461	18.878	.000	.944	2.077	16.764	0	.000	1	.838	7	1.844	.000	.000
231.0	5	2	4	102	98	38	35	4877	4	2	1	0	2	481	18.878	.000	.944	2.077	16.764	0	.000	1	.838	7	1.844	.000	.000
230.0	5	2	4	102	98	38	35	4877	0	0	0	0	0	0	18.878	.000	1.888	1.510	16.764	0	.000	51	1.676	4	1.341	.000	.000
235.0	5	2	4	102	98	38	35	4267	0	3	2	12	2	536	16.518	.000	1.652	1.900	14.668	0	.000	5	1.467	8	1.687	.000	.000
233.0	5	2	4	102	98	38	35	4877	24	9	3	11	1	440	18.878	.000	1.888	1.510	16.764	0	.000	51	1.676	4	1.341	.000	.000
236.0	5	2	3	152	149	25	22	4877	0	0	0	0	0	644	18.878	1.510	.000	.000	16.174	25	1.294	0	.000	0	.000	.000	.000
229.0	5	2	4	203	200	38	35	4877	1	1	2	0	2	545	37.756	.000	3.776	4.342	34.069	0	.000	5	3.407	8	3.918	.000	.000
228.0	5	2	4	203	200	38	35	4572	8	2	1	11	2	529	35.396	.000	3.540	4.071	31.939	0	.000	5	3.194	8	3.673	.000	.000
6.0	5	3	4	76	73	25	22	4877	0	0	0	0	0	802	9.439	1.369	.000	.000	7.915	23	1.148	0	.000	0	.000	.000	.000
5.0	5	3	4	76	73	25	22	4572	0	0	0	0	0	752	8.849	.708	.000	.000	7.420	25	.594	0	.000	0	.000	.000	.000
4.0	5	3	4	76	73	25	22	4877	0	0	0	0	0	861	9.439	1.369	.000	.000	7.915	23	1.148	0	.000	0	.000	.000	.000
2.0	5	3	3	76	73	25	22	4877	0	0	0	0	0	646	9.439	1.369	.000	.000	7.915	22	1.148	0	.000	0	.000	.000	.000
9.0	5	3	4	102	98	38	35	4877	7	4	2	0	3	548	18.878	.000	2.077	2.360	16.764	0	.000	7	1.844	11	2.095	.000	.000
1.0	5	3	1	102	98	38	35	4877	2	5	2	10	2	544	18.878	.000	2.077	2.171	16.764	0	.000	7	1.844	8	1.928	.000	.000
8.0	5	3	4	102	98	38	35	4877	3	2	1	0	2	502	18.878	.000	1.888	2.077	16.764	0	.000	5	1.676	7	1.844	.000	.000
7.0	5	3	4	102	98	38	35	4877	26	3	4	0	1	449	18.878	.000	1.888	1.888	16.764	0	.000	51	1.676	5	1.676	.000	.000
3.0	5	3	3	152	149	38	35	4877	9	8	2	0	1	99	28.317	.000	2.832	2.832	25.416	0	.000	51	2.542	5	2.542	.000	.000
38.0	5	4	1	76	73	25	22	4572	0	0	0	0	0	653	8.849	1.283	.000	.000	7.420	23	1.076	0	.000	0	.000	.000	.000
37.0	5	4	2	102	98	25	22	3658	0	0	0	0	0	668	9.439	1.369	.000	.000	8.001	23	1.160	0	.000	0	.000	.000	.000
36.0	5	4	4	102	98	25	22	4572	0	0	0	0	0	598	11.799	1.711	.000	.000	10.001	23	1.450	0	.000	0	.000	.000	.000
33.0	5	4	4	102	98	38	35	4572	2	1	2	0	2	475	17.698	.000	1.770	2.035	15.716	0	.000	5	1.572	8	1.807	.000	.000
35.0	5	4	4	102	98	38	35	4572	30	4	1	0	1	449	17.698	.000	1.770	1.770	15.716	0	.000	51	1.572	5	1.572	.000	.000
34.0	5	4	4	102	98	38	36	4572	31	1	3	0	1	430	17.698	.000	1.770	1.416	15.716	0	.000	51	1.572	4	1.257	.000	.000
32.0	5	4	3	102	98	38	35	4572	2	2	0	11	2	504	17.698	.000	.885	2.035	15.716	0	.000	1	.786	8	1.807	.000	.000
31.0	5	4	3	127	124	25	22	3353	0	0	0	0	0	670	10.815	1.568	.000	.000	9.227	22	1.338	0	.000	0	.000	.000	.000
44.0	5	5	4	76	73	25	22	2438	0	0	0	0	0	646	4.719	.684	.000	.000	3.957	23	.574	0	.000	0	.000	.000	.000
39.0	5	5	1	76	73	25	22	3658	0	0	0	0	0	607	7.079	1.026	.000	.000	5.936	23	.861	0	.000	0	.000	.000	.000
43.0	5	5	4	102	98	38	35	4572	14	6	1	0	2	486	17.698	.000	1.947	2.035	15.716	0	.000	7	1.729	8	1.807	.000	.000
42.0	5	5	4	102	98	38	35	4572	21	5	2	11	1	451	17.698	.000	1.770	1.770	15.716	0	.000	51	1.572	5	1.572	.000	.000
41.0	5	5	4	102	98	38	35	4877	28	4	1	0	1	470	18.878	.000	1.888	1.888	16.764	0	.000	51	1.676	5	1.676	.000	.000
40.0	5	5	3	127	124	25	22	3048	0	0	0	0	0	593	9.832	1.426	.000	.000	8.388	24	1.216	0	.000	0	.000	.000	.000
206.0	6	1	4	76	73	25	22	2743	0	0	0	0	0	669	5.309	.770	.000	.000	4.452	23	.646	0	.000	0	.000	.000	.000
212.0	6	1	4	102	98	38	35	4572	6	1	2	0	3	548	17.698	.000	2.035	2.212	15.716	0	.000	8	1.807	11	1.965	.000	.000
208.0	6	1	4	102	98	38	35	4877	13	2	2	0	2	524	18.878	.000	1.888	2.077	16.764	0	.000	5	1.676	7	1.844	.000	.000
209.0	6	1	4	102	98	38	35	4877	4	13	8	0	1	488	18.878	.000	1.888	1.510	16.764	0	.000	51	1.676	4	1.341	.000	.000
211.0	6	1	4	102	98	38	35	4877	0	2	0	12	2	504	18.878	.000	.944	2.077	16.764	0	.000	1	.838	7	1.844	.000	.000
210.0	6	1	4	102	98	38	35	4877	8	10	6	11	1	454	18.878	.000	1.888	1.510	16.764	0	.000	51	1.676	4	1.341	.000	.000
205.0	6	1	2	127	124	25	22	3962	0	0	0	0	0	707	12.782	1.853	.000	.000	10.905	23	1.581	0	.000	0	.000	.000	.000
204.0	6	1	1	127	124	25	22	3658	0	0	0	0	0	648	11.799	.944	.000	.000	10.066	25	.805	0	.000	0	.000	.000	.000
212.1	6	1	4	152	149	38	35	4877	42	5	2	0	2	565	28.317	.000	3.115	3.540	25.416	0	.000	7	2.796	11	3.177	.000	.000
207.0	6	1	4	152	149	38	35	4877	19	3	9	0	1	524	28.317	.000	2.832	3.115	25.416	0	.000	51	2.542	7	2.796	.000	.000
59.0	6	2	2	102	98	25	22	4267	0	0	0	0	0	692	11.012	1.597	.000	.000	9.334	23	1.353	0	.000	0	.000	.000	.000

65.0	6	2	4	102	98	38	35	4877	5	3	1	0	2	492	18.878	.000	2.171	2.360	16.764	0	.000	8	1.928	11	2.095	.000	.000
62.0	6	2	4	102	98	38	35	4877	12	1	1	0	2	503	18.878	.000	2.077	2.171	16.764	0	.000	7	1.844	8	1.928	.000	.000
64.0	6	2	4	102	98	38	35	4877	15	3	4	0	1	479	18.878	.000	1.888	2.077	16.764	0	.000	51	1.676	7	1.844	.000	.000
63.0	6	2	4	102	98	38	35	4877	11	9	3	0	1	468	18.878	.000	1.888	2.077	16.764	0	.000	5	1.676	7	1.844	.000	.000
60.0	6	2	3	127	124	25	22	4572	0	0	0	0	0	700	14.748	2.139	.000	.000	12.582	23	1.824	0	.000	0	.000	.000	.000
58.0	6	2	1	127	124	25	22	4877	0	0	0	0	0	688	15.732	2.281	.000	.000	13.421	23	1.946	0	.000	0	.000	.000	.000
61.0	6	2	3	152	149	38	35	4572	4	1	4	0	1	488	26.547	.000	2.655	3.053	23.828	0	.000	5	2.383	8	2.740	.000	.000
46.0	6	3	2	102	98	25	22	3658	0	0	0	0	0	666	9.439	1.369	.000	.000	8.001	22	1.160	0	.000	0	.000	.000	.000
51.0	6	3	4	102	98	38	35	4877	10	1	1	0	3	550	18.878	.000	2.171	2.360	16.764	0	.000	8	1.928	11	2.095	.000	.000
47.0	6	3	3	102	98	38	35	4267	6	3	1	0	3	533	16.518	.000	1.817	2.065	14.668	0	.000	7	1.614	11	1.834	.000	.000
50.0	6	3	4	102	98	38	35	4877	6	2	2	0	2	473	18.878	.000	1.888	2.171	16.764	0	.000	5	1.676	8	1.928	.000	.000
48.0	6	3	4	102	98	38	35	4877	6	2	2	0	2	472	18.878	.000	2.171	2.171	16.764	0	.000	8	1.928	8	1.928	.000	.000
49.0	6	3	4	102	98	38	35	4877	18	0	0	10	1	466	18.878	.000	1.888	2.077	16.764	0	.000	51	1.676	7	1.844	.000	.000
45.0	6	3	1	127	124	25	22	4572	0	0	0	0	0	0	14.748	2.139	.000	.000	12.582	22	1.824	0	.000	0	.000	.000	.000
26.0	6	4	1	76	73	25	22	4572	0	0	0	0	0	639	8.849	1.283	.000	.000	7.420	23	1.076	0	.000	0	.000	.000	.000
30.0	6	4	4	102	98	25	22	4267	0	0	0	0	0	595	11.012	1.597	.000	.000	9.334	23	1.353	0	.000	0	.000	.000	.000
28.0	6	4	4	102	98	38	35	4877	2	1	3	0	2	471	18.878	.000	2.171	2.360	16.764	0	.000	8	1.928	11	2.095	.000	.000
27.0	6	4	3	102	98	38	35	4877	4	2	1	0	2	490	18.878	.000	1.888	2.360	16.764	0	.000	5	1.676	11	2.095	.000	.000
29.0	6	4	4	102	98	38	35	4877	9	4	0	11	1	474	18.878	.000	1.888	2.171	16.764	0	.000	51	1.676	8	1.928	.000	.000
11.0	6	5	4	102	98	38	35	4877	13	1	2	0	1	487	18.878	.000	1.888	2.077	16.764	0	.000	51	1.676	7	1.844	.000	.000
10.0	6	5	4	102	98	38	35	4877	18	3	3	0	1	471	18.878	.000	1.888	2.077	16.764	0	.000	51	1.676	7	1.844	.000	.000
223.0	7	1	4	102	98	25	22	4267	0	0	0	0	0	703	11.012	1.597	.000	.000	9.334	23	1.353	0	.000	0	.000	.000	.000
226.0	7	1	4	102	98	38	35	4877	2	2	3	0	3	559	18.878	.000	1.888	2.360	16.764	0	.000	5	1.676	11	2.095	.000	.000
222.0	7	1	4	102	98	38	35	4877	2	5	2	0	1	536	18.878	.000	1.888	2.077	16.764	0	.000	5	1.676	7	1.844	.000	.000
221.0	7	1	4	102	98	38	35	4267	13	33	5	0	1	496	16.518	.000	1.652	1.652	14.668	0	.000	51	1.467	5	1.467	.000	.000
220.0	7	1	4	102	98	38	35	3658	17	30	10	0	1	482	14.158	.000	1.416	1.133	12.573	0	.000	51	1.257	4	1.006	.000	.000
219.0	7	1	4	102	98	38	35	4877	8	21	1	0	2	497	18.878	.000	2.077	1.510	16.764	0	.000	7	1.844	4	1.341	.000	.000
224.0	7	1	3	127	124	25	22	2438	0	0	0	0	0	0	7.866	1.141	.000	.000	6.711	23	.973	0	.000	0	.000	.000	.000
217.0	7	1	4	152	149	25	22	4267	0	0	0	0	0	687	16.518	2.395	.000	.000	14.152	23	2.052	0	.000	0	.000	.000	.000
214.0	7	1	2	152	149	25	22	3962	5	7	5	0	2	699	15.338	2.224	.000	.000	13.141	23	1.906	0	.000	0	.000	.000	.000
213.0	7	1	1	152	149	38	35	3353	12	1	3	0	2	581	19.468	.000	2.141	2.433	17.474	0	.000	7	1.922	11	2.184	.000	.000
225.0	7	1	3	152	149	38	35	4877	10	7	4	0	3	573	28.317	.000	1.416	2.265	25.416	0	.000	1	1.271	4	2.033	.000	.000
216.0	7	1	4	203	200	38	35	4877	0	0	0	0	0	0	37.756	.000	.000	.000	34.069	0	.000	0	.000	0	.000	.000	.000
218.0	7	1	4	203	200	38	35	4877	5	6	1	0	2	616	37.756	.000	4.719	4.719	34.069	0	.000	11	4.259	11	4.259	.000	.000
215.0	7	1	4	203	200	38	35	4877	0	0	0	0	2	549	37.756	.000	3.776	4.153	34.069	0	.000	5	3.407	7	3.748	.000	.000
261.0	7	2	3	76	73	25	22	2438	0	0	0	0	0	746	4.719	.684	.000	.000	3.957	23	.574	0	.000	0	.000	.000	.000
271.0	7	2	4	102	98	25	22	3048	0	0	0	0	0	662	7.866	1.141	.000	.000	6.667	23	.967	0	.000	0	.000	.000	.000
270.0	7	2	4	102	98	25	22	4877	0	0	0	0	0	646	12.585	1.825	.000	.000	10.668	23	1.547	0	.000	0	.000	.000	.000
263.0	7	2	1	102	98	25	22	2743	0	0	0	0	0	672	7.079	1.026	.000	.000	6.001	23	.870	0	.000	0	.000	.000	.000
262.0	7	2	2	102	98	25	22	3048	0	0	0	0	0	665	7.866	1.141	.000	.000	6.667	23	.967	0	.000	0	.000	.000	.000
266.0	7	2	4	102	98	38	35	4877	0	3	3	0	2	538	18.878	.000	2.077	2.077	16.764	0	.000	7	1.844	7	1.844	.000	.000
260.0	7	2	3	102	98	38	35	4572	4	2	2	0	3	581	17.698	.000	2.035	1.947	15.716	0	.000	8	1.807	7	1.729	.000	.000
268.0	7	2	4	102	98	38	35	4877	33	14	5	0	1	444	18.878	.000	1.888	1.888	16.764	0	.000	51	1.676	5	1.676	.000	.000
267.0	7	2	4	102	98	38	35	4877	4	3	3	0	1	484	18.878	.000	1.888	1.888	16.764	0	.000	51	1.676	5	1.676	.000	.000
269.0	7	2	4	102	98	38	35	4877	9	4	0	11	1	491	18.878	.000	1.888	1.888	16.764	0	.000	51	1.676	5	1.676	.000	.000
264.0	7	2	4	203	200	38	35	4877	3	1	1	0	2	569	37.756	.000	4.342	4.342	34.069	0	.000	8	3.918	8	3.918	.000	.000
265.0	7	2	4	203	200	38	35	4877	4	5	2	0	2	569	37.756	.000	4.153	4.342	34.069	0	.000	7	3.748	8	3.918	.000	.000
101.0	7	3	3	76	73	25	22	4572	0	0	0	0	0	746	8.849	1.283	.000	.000	7.420	22	1.076	0	.000	0	.000	.000	.000
98.0	7	3	2	76	73	25	22	4877	0	0	0	0	0	648	9.439	1.369	.000	.000	7.915	22	1.148	0	.000	0	.000	.000	.000
106.0	7	3	4	102	98	38	35	4877	0	5	4	0	2	521	18.878	.000	2.077	2.077	16.764	0	.000	7	1.844	7	1.844	.000	.000
105.0	7	3	4	102	98	38	35	4877	39	5	1	0	1	490	18.878	.000	.944	1.888	16.764	0	.000	1	.838	5	1.676	.000	.000
104.0	7	3	4	102	98	38	35	4877	13	4	2	0	1	497	18.878	.000	1.888	1.510	16.764	0	.000	51	1.676	4	1.341	.000	.000
103.0	7	3	4	102	98	38	35	4572	1	14	5	0	2	548	17.698	.000	1.947	.885	15.716	0	.000	7	1.729	1	.786	.000	.000
102.0	7	3	3	152	149	38	35	4572	4	5	2	12	2	544	26.547	.000	1.327	2.920	23.828	0	.000	1	1.191	7	2.621	.000	.000

100.0	7	3	1	152	149	38	35	3048	2	3	4	0	2	602	17.698	.000	.885	1.416	15.885	0	.000	1	.794	4	1.271	.000	.000
66.0	7	4	2	102	98	25	22	3658	0	0	0	0	0	660	9.439	1.369	.000	.000	8.001	22	1.160	0	.000	0	.000	.000	.000
72.0	7	4	3	102	98	38	35	4267	2	3	2	0	3	522	16.518	.000	2.065	2.065	14.668	0	.000	11	1.834	11	1.834	.000	.000
71.0	7	4	4	102	98	38	35	4877	1	3	6	0	2	528	18.878	.000	2.077	2.360	16.764	0	.000	7	1.844	11	2.095	.000	.000
68.0	7	4	4	102	98	38	35	4267	16	1	2	0	1	475	16.518	.000	1.652	1.900	14.668	0	.000	51	1.467	8	1.687	.000	.000
69.0	7	4	4	102	98	38	35	4877	45	2	3	0	1	452	18.878	.000	.944	.944	16.764	0	.000	1	.838	1	.838	.000	.000
70.0	7	4	4	102	98	38	35	4877	5	1	2	0	1	487	18.878	.000	1.888	1.888	16.764	0	.000	51	1.676	5	1.676	.000	.000
67.0	7	4	1	102	98	38	35	3962	0	3	0	11	2	525	15.338	.000	1.687	1.764	13.621	0	.000	7	1.498	8	1.566	.000	.000
52.0	7	5	1	76	73	25	22	2438	0	0	0	0	0	662	4.719	.684	.000	.000	3.957	23	.574	0	.000	0	.000	.000	.000
54.0	7	5	3	76	73	25	22	3658	0	0	0	0	0	638	7.079	1.026	.000	.000	5.936	23	.861	0	.000	0	.000	.000	.000
57.0	7	5	4	102	98	25	22	4877	0	0	0	0	0	645	12.585	1.825	.000	.000	10.668	23	1.547	0	.000	0	.000	.000	.000
53.0	7	5	2	102	98	25	22	3353	0	0	0	0	0	641	8.652	1.255	.000	.000	7.334	23	1.063	0	.000	0	.000	.000	.000
55.0	7	5	4	102	98	38	35	4877	35	2	4	0	1	473	18.878	.000	1.888	2.077	16.764	0	.000	51	1.676	7	1.844	.000	.000
56.0	7	5	4	102	98	38	35	4877	25	3	4	0	1	475	18.878	.000	1.888	2.077	16.764	0	.000	51	1.676	7	1.844	.000	.000
527.0	8	1	4	102	98	38	35	4877	2	2	0	11	2	533	18.878	.000	2.077	2.171	16.764	0	.000	7	1.844	8	1.928	.000	.000
528.0	8	1	4	102	98	38	35	4877	0	6	0	11	2	505	18.878	.000	1.888	2.077	16.764	0	.000	5	1.676	7	1.844	.000	.000
529.0	8	1	4	102	98	38	35	4877	2	2	0	11	2	498	18.878	.000	1.888	2.077	16.764	0	.000	5	1.676	7	1.844	.000	.000
530.0	8	1	4	102	98	38	35	4877	7	3	0	10	2	486	18.878	.000	.944	1.888	16.764	0	.000	1	.838	5	1.676	.000	.000
531.0	8	1	4	102	98	38	35	4877	18	6	2	11	1	502	18.878	.000	.944	1.510	16.764	0	.000	1	.838	4	1.341	.000	.000
532.0	8	1	4	102	98	38	35	4572	5	6	0	11	1	496	17.698	.000	1.770	1.416	15.716	0	.000	51	1.572	4	1.257	.000	.000
534.0	8	1	4	127	124	25	22	3962	0	0	0	0	0	656	12.782	1.853	.000	.000	10.905	24	1.581	0	.000	0	.000	.000	.000
525.0	8	1	1	152	149	38	35	4267	12	10	1	0	3	563	24.777	.000	2.849	3.097	22.239	0	.000	8	2.558	11	2.780	.000	.000
526.0	8	1	2	203	200	38	35	3353	0	1	0	13	3	590	25.957	.000	2.985	3.245	23.422	0	.000	8	2.694	11	2.928	.000	.000
533.0	8	1	4	203	200	38	35	4877	1	3	1	0	2	522	37.756	.000	3.776	4.342	34.069	0	.000	5	3.407	8	3.918	.000	.000
537.0	8	1	4	254	251	38	35	3658	0	0	0	10	0	0	35.396	.000	4.425	4.425	32.041	0	.000	11	4.005	11	4.005	.000	.000
535.0	8	1	4	254	251	38	35	4572	0	4	0	10	0	0	44.245	.000	5.088	4.425	40.051	0	.000	8	4.606	5	4.005	.000	.000
536.0	8	1	4	305	302	38	35	4572	0	0	0	11	0	0	53.094	.000	6.106	5.309	48.163	0	.000	8	5.539	5	4.816	.000	.000
275.0	8	2	1	76	73	25	22	4877	0	0	0	0	0	645	9.439	.755	.000	.000	7.915	25	.633	0	.000	0	.000	.000	.000
282.0	8	2	4	102	98	25	22	4877	0	0	0	0	0	626	12.585	1.825	.000	.000	10.668	23	1.547	0	.000	0	.000	.000	.000
281.0	8	2	4	102	98	38	35	4877	6	3	2	0	2	460	18.878	.000	1.888	2.077	16.764	0	.000	5	1.676	7	1.844	.000	.000
280.0	8	2	4	102	98	38	35	4877	15	5	3	0	1	438	18.878	.000	1.888	1.510	16.764	0	.000	51	1.676	4	1.341	.000	.000
279.0	8	2	4	102	98	38	35	4877	28	3	0	11	0	457	18.878	.000	.944	1.888	16.764	0	.000	1	.838	5	1.676	.000	.000
278.0	8	2	4	102	98	38	35	4877	6	3	3	11	2	465	18.878	.000	.944	1.888	16.764	0	.000	1	.838	5	1.676	.000	.000
272.0	8	2	2	152	149	25	22	4877	0	0	0	0	0	643	18.878	2.737	.000	.000	16.174	24	2.345	0	.000	0	.000	.000	.000
284.0	8	2	4	152	149	38	35	3962	11	2	3	0	2	523	23.007	.000	2.301	2.646	20.651	0	.000	5	2.065	8	2.375	.000	.000
273.0	8	2	3	152	149	38	35	3962	0	0	0	0	0	526	23.007	.000	2.531	2.646	20.651	0	.000	7	2.272	8	2.375	.000	.000
273.1	8	2	3	152	149	38	35	3658	10	2	0	0	3	570	21.238	.000	2.336	2.442	19.062	0	.000	7	2.097	8	2.192	.000	.000
277.0	8	2	4	203	200	38	35	4877	3	2	6	0	2	525	37.756	.000	4.153	4.342	34.069	0	.000	7	3.748	8	3.918	.000	.000
283.0	8	2	4	203	200	38	35	4877	1	2	1	0	1	496	37.756	.000	4.153	4.342	34.069	0	.000	7	3.748	8	3.918	.000	.000
276.0	8	2	4	203	200	38	35	4877	4	2	2	0	2	493	37.756	.000	4.153	4.342	34.069	0	.000	7	3.748	8	3.918	.000	.000
274.0	8	2	3	203	200	38	35	4877	2	1	2	0	2	508	37.756	.000	4.153	4.342	34.069	0	.000	7	3.748	8	3.918	.000	.000
154.0	8	3	1	76	73	25	22	4877	0	0	0	0	0	678	9.439	.755	.000	.000	7.915	25	.633	0	.000	0	.000	.000	.000
163.0	8	3	3	102	98	25	22	3962	0	0	0	0	0	630	10.226	1.483	.000	.000	8.668	23	1.257	0	.000	0	.000	.000	.000
159.0	8	3	4	102	98	38	35	4877	4	5	4	0	2	480	18.878	.000	.944	2.077	16.764	0	.000	1	.838	7	1.844	.000	.000
161.0	8	3	4	102	98	38	35	4572	25	11	2	0	1	429	17.698	.000	1.770	1.770	15.716	0	.000	51	1.572	5	1.572	.000	.000
162.0	8	3	4	102	98	38	35	4572	10	9	1	0	2	449	17.698	.000	.885	1.770	15.716	0	.000	1	.786	5	1.572	.000	.000
162.1	8	3	4	102	98	38	35	4572	6	3	5	12	2	482	17.698	.000	1.947	1.770	15.716	0	.000	7	1.729	5	1.572	.000	.000
160.0	8	3	4	102	98	38	35	4877	7	8	1	10	1	442	18.878	.000	1.888	1.888	16.764	0	.000	51	1.676	5	1.676	.000	.000
155.0	8	3	2	127	124	25	22	3658	0	0	0	0	0	690	11.799	1.711	.000	.000	10.066	24	1.460	0	.000	0	.000	.000	.000
158.0	8	3	4	152	149	25	22	4572	0	0	0	0	0	700	17.698	2.566	.000	.000	15.163	23	2.199	0	.000	0	.000	.000	.000
164.0	8	3	3	152	149	38	35	4572	4	7	2	0	2	541	26.547	.000	2.655	3.053	23.828	0	.000	5	2.383	8	2.740	.000	.000
157.0	8	3	4	203	200	38	35	4572	2	1	1	0	2	518	35.396	.000	3.540	4.071	31.939	0	.000	5	3.194	8	3.673	.000	.000
156.0	8	3	4	203	200	38	35	3962	7	1	2	0	1	525	30.677	.000	3.068	3.374	27.681	0	.000	5	2.768	7	3.045	.000	.000
90.0	8	4	1	76	73	25	22	4877	0	0	0	0	0	631	9.439	.755	.000	.000	7.915	25	.633	0	.000	0	.000	.000	.000

91.0	8	4	2	102	98	38	35	4877	6	8	1	10	3	511	18.878	.000	2.171	2.171	16.764	0	.000	8	1.928	8	1.928	.000	.000
94.1	8	4	4	102	98	38	35	4877	1	3	2	0	2	483	18.878	.000	1.888	2.171	16.764	0	.000	5	1.676	8	1.928	.000	.000
97.0	8	4	4	102	98	38	35	4877	2	3	3	13	2	483	18.878	.000	2.077	2.171	16.764	0	.000	7	1.844	8	1.928	.000	.000
96.0	8	4	4	102	98	38	35	4877	23	2	4	10	1	435	18.878	.000	1.888	2.077	16.764	0	.000	51	1.676	7	1.844	.000	.000
95.0	8	4	4	102	98	38	35	4877	20	3	1	0	1	443	18.878	.000	1.888	2.077	16.764	0	.000	51	1.676	7	1.844	.000	.000
94.0	8	4	4	102	98	38	35	4877	13	4	1	0	1	530	18.878	.000	1.888	1.510	16.764	0	.000	51	1.676	4	1.341	.000	.000
92.0	8	4	3	152	149	38	35	4877	13	2	3	0	3	524	28.317	.000	3.115	3.256	25.416	0	.000	7	2.796	8	2.923	.000	.000
93.0	8	4	3	152	149	38	35	4877	15	1	1	0	1	471	28.317	.000	2.832	3.115	25.416	0	.000	51	2.542	7	2.796	.000	.000
125.0	8	5	3	102	98	25	22	2743	0	0	0	0	0	654	7.079	1.026	.000	.000	6.001	23	.870	0	.000	0	.000	.000	.000
120.0	8	5	1	102	98	25	22	2438	0	0	0	0	0	628	6.293	.912	.000	.000	5.334	23	.773	0	.000	0	.000	.000	.000
122.0	8	5	4	102	98	38	35	2743	5	1	5	11	2	467	10.619	.000	1.062	1.221	9.430	0	.000	5	.943	8	1.084	.000	.000
124.0	8	5	4	102	98	38	35	2743	5	5	0	11	1	483	10.619	.000	1.062	1.221	9.430	0	.000	51	.943	8	1.084	.000	.000
123.0	8	5	4	102	98	38	35	2743	13	2	0	11	1	458	10.619	.000	1.062	1.168	9.430	0	.000	51	.943	7	1.037	.000	.000
121.0	8	5	3	152	149	38	35	2743	11	2	5	0	2	485	15.928	.000	.796	1.752	14.297	0	.000	1	.715	7	1.573	.000	.000
468.0	9	1	3	76	73	25	22	1829	0	3	0	10	0	760	3.540	.513	.000	.000	2.968	23	.430	0	.000	0	.000	.000	.000
465.0	9	1	1	102	98	25	22	4877	0	0	0	0	0	956	12.585	1.825	.000	.000	10.668	23	1.547	0	.000	0	.000	.000	.000
469.0	9	1	4	102	98	38	35	4877	3	0	0	12	3	627	18.878	.000	2.077	2.360	16.764	0	.000	7	1.844	11	2.095	.000	.000
473.0	9	1	4	102	98	38	35	4877	3	5	0	11	3	592	18.878	.000	1.888	2.360	16.764	0	.000	5	1.676	11	2.095	.000	.000
470.0	9	1	4	102	98	38	35	4572	2	2	0	11	3	579	17.698	.000	2.035	2.035	15.716	0	.000	8	1.807	8	1.807	.000	.000
471.0	9	1	4	102	98	38	35	4572	4	4	11	12	3	556	17.698	.000	1.947	1.770	15.716	0	.000	7	1.729	5	1.572	.000	.000
474.0	9	1	4	102	98	38	35	4877	0	4	2	11	2	567	18.878	.000	2.077	1.888	16.764	0	.000	7	1.844	5	1.676	.000	.000
472.0	9	1	4	102	98	38	35	4877	7	8	0	10	1	580	18.878	.000	1.888	1.510	16.764	0	.000	51	1.676	4	1.341	.000	.000
475.0	9	1	4	102	98	38	35	4877	17	7	8	11	1	554	18.878	.000	1.888	1.510	16.764	0	.000	51	1.676	4	1.341	.000	.000
476.0	9	1	4	152	149	25	22	1829	0	0	0	0	0	833	7.079	1.026	.000	.000	6.065	21	.879	0	.000	0	.000	.000	.000
466.0	9	1	2	152	149	38	35	4572	14	2	2	0	3	608	26.547	.000	3.318	3.318	23.828	0	.000	11	2.978	11	2.978	.000	.000
467.0	9	1	3	203	200	38	35	3658	1	6	1	0	3	609	28.317	.000	3.540	3.540	25.552	0	.000	11	3.194	11	3.194	.000	.000
477.0	9	1	4	254	251	38	35	2438	0	7	0	10	0	0	23.597	.000	2.950	2.950	21.361	0	.000	11	2.670	11	2.670	.000	.000
458.0	9	1	4	254	251	38	35	4877	9	3	0	9	0	0	47.195	.000	5.191	5.191	42.721	0	.000	7	4.699	7	4.699	.000	.000
478.0	9	1	4	254	251	38	35	4267	2	4	0	10	0	0	41.295	.000	5.162	4.542	37.381	0	.000	11	4.673	7	4.112	.000	.000
464.0	9	1	1	254	251	38	35	4267	0	0	0	0	0	0	41.295	.000	4.749	4.542	37.381	0	.000	8	4.299	7	4.112	.000	.000
461.0	9	1	4	305	302	38	35	4877	0	3	0	10	0	0	56.634	.000	7.079	7.079	51.373	0	.000	11	6.422	11	6.422	.000	.000
479.0	9	1	4	305	302	38	35	4267	2	3	0	10	0	0	49.554	.000	5.699	5.451	44.952	0	.000	8	5.169	7	4.945	.000	.000
459.0	9	1	4	305	302	38	35	4877	3	0	0	10	0	0	56.634	.000	6.513	6.230	51.373	0	.000	8	5.908	7	5.651	.000	.000
460.0	9	1	4	305	302	38	35	4877	0	2	0	11	0	0	56.634	.000	7.079	6.230	51.373	0	.000	11	6.422	7	5.651	.000	.000
454.0	9	2	4	76	73	25	22	3658	0	0	0	0	0	659	7.079	1.026	.000	.000	5.936	23	.861	0	.000	0	.000	.000	.000
446.0	9	2	4	76	73	25	22	2134	0	0	0	0	0	696	4.130	.599	.000	.000	3.463	23	.502	0	.000	0	.000	.000	.000
457.0	9	2	1	76	73	25	22	2743	0	0	0	0	0	788	5.309	.770	.000	.000	4.452	21	.646	0	.000	0	.000	.000	.000
449.0	9	2	4	76	73	25	22	2134	0	0	0	0	0	682	4.130	.599	.000	.000	3.463	23	.502	0	.000	0	.000	.000	.000
445.0	9	2	4	76	73	25	22	2438	0	0	0	0	0	421	4.719	.684	.000	.000	3.957	23	.574	0	.000	0	.000	.000	.000
450.0	9	2	4	102	98	25	22	1829	0	0	0	0	0	673	4.719	.378	.000	.000	4.000	25	.320	0	.000	0	.000	.000	.000
456.0	9	2	1	152	149	38	35	4267	3	4	1	0	3	606	24.777	.000	3.097	3.097	22.239	0	.000	11	2.780	11	2.780	.000	.000
463.0	9	2	3	178	175	25	22	2743	0	0	0	0	0	683	12.389	.991	.000	.000	10.646	25	.852	0	.000	0	.000	.000	.000
462.0	9	2	3	203	200	38	35	3353	5	5	5	0	3	609	25.957	.000	3.245	3.245	23.422	0	.000	11	2.928	11	2.928	.000	.000
452.0	9	2	4	203	200	38	35	4877	0	3	1	0	3	610	37.756	.000	4.342	4.719	34.069	0	.000	8	3.918	11	4.259	.000	.000
447.0	9	2	4	203	200	38	35	4877	6	3	3	1	0	552	37.756	.000	3.776	4.342	34.069	0	.000	51	3.407	8	3.918	.000	.000
448.0	9	2	4	203	200	38	35	2743	2	3	1	0	1	569	21.238	.000	2.442	2.442	19.164	0	.000	8	2.204	8	2.204	.000	.000
453.0	9	2	4	305	302	38	35	4267	0	2	0	9	0	0	49.554	.000	6.194	5.451	44.952	0	.000	11	5.619	7	4.945	.000	.000
444.0	9	2	4	305	302	38	35	4877	0	0	0	10	0	0	56.634	.000	6.513	5.663	51.373	0	.000	8	5.908	5	5.137	.000	.000
455.0	9	2	4	305	302	38	35	4877	0	0	0	10	0	0	56.634	.000	5.663	5.663	51.373	0	.000	5	5.137	5	5.137	.000	.000
451.0	9	2	4	305	302	38	35	4877	8	0	0	10	0	0	56.634	.000	6.513	5.663	51.373	0	.000	8	5.908	5	5.137	.000	.000
306.0	9	3	4	102	98	25	22	4877	0	0	0	0	0	656	12.585	1.825	.000	.000	10.668	22	1.547	0	.000	0	.000	.000	.000
305.0	9	3	4	102	98	38	35	4877	6	17	2	0	3	499	18.878	.000	1.888	2.077	16.764	0	.000	5	1.676	7	1.844	.000	.000
297.0	9	3	2	102	98	38	35	4877	7	7	2	0	3	579	18.878	.000	2.171	2.077	16.764	0	.000	8	1.928	7	1.844	.000	.000
304.0	9	3	4	102	98	38	35	4877	22	13	2	0	1	483	18.878	.000	1.888	2.077	16.764	0	.000	51	1.676	7	1.844	.000	.000

303.0	9	3	4	102	98	38	35	4877	17	6	2	12	1	488	18.878	.000	.944	2.077	16.764	0	.000	1	.838	7	1.844	.000	.000
302.0	9	3	4	102	98	38	35	4877	0	0	0	11	3	512	18.878	.000	2.171	1.888	16.764	0	.000	8	1.928	5	1.676	.000	.000
309.0	9	3	4	127	124	25	22	3658	0	0	0	0	0	690	11.799	.944	.000	.000	10.066	25	.805	0	.000	0	.000	.000	.000
298.0	9	3	1	152	149	38	35	4877	11	1	3	0	3	577	28.317	.000	1.416	3.115	25.416	0	.000	1	1.271	7	2.796	.000	.000
299.0	9	3	3	178	175	25	22	2438	0	0	0	0	0	623	11.012	.881	.000	.000	9.464	25	.757	0	.000	0	.000	.000	.000
308.0	9	3	4	203	200	38	35	4267	2	2	1	0	3	591	33.036	.000	3.799	3.799	29.810	0	.000	8	3.428	8	3.428	.000	.000
307.0	9	3	4	203	200	38	35	4877	4	3	2	0	2	568	37.756	.000	4.153	4.342	34.069	0	.000	7	3.748	8	3.918	.000	.000
300.0	9	3	3	203	200	38	35	4267	1	2	1	0	3	584	33.036	.000	3.799	3.799	29.810	0	.000	8	3.428	8	3.428	.000	.000
301.0	9	3	4	203	200	38	35	4877	5	3	3	0	2	554	37.756	.000	1.888	4.342	34.069	0	.000	1	1.703	8	3.918	.000	.000
153.0	9	4	4	102	98	25	22	4877	0	0	0	0	0	664	12.585	1.825	.000	.000	10.668	23	1.547	0	.000	0	.000	.000	.000
146.0	9	4	3	102	98	25	22	2743	0	0	0	0	0	699	7.079	1.026	.000	.000	6.001	23	.870	0	.000	0	.000	.000	.000
152.0	9	4	4	102	98	38	35	4877	6	3	1	0	2	483	18.878	.000	2.077	2.171	16.764	0	.000	7	1.844	8	1.928	.000	.000
149.0	9	4	4	102	98	38	35	4877	4	11	5	0	2	512	18.878	.000	1.888	2.077	16.764	0	.000	5	1.676	7	1.844	.000	.000
150.0	9	4	4	102	98	38	35	4877	18	3	2	0	1	488	18.878	.000	1.888	2.077	16.764	0	.000	51	1.676	7	1.844	.000	.000
151.0	9	4	4	102	98	38	35	4877	15	3	0	11	1	487	18.878	.000	.944	2.077	16.764	0	.000	1	.838	7	1.844	.000	.000
144.0	9	4	2	152	149	38	35	2743	3	2	2	0	3	539	15.928	.000	1.832	1.991	14.297	0	.000	8	1.644	11	1.787	.000	.000
148.0	9	4	4	152	149	38	35	4877	7	1	6	0	3	532	28.317	.000	3.115	3.540	25.416	0	.000	7	2.796	11	3.177	.000	.000
145.0	9	4	1	152	149	38	35	3962	7	13	0	11	2	546	23.007	.000	2.646	2.646	20.651	0	.000	8	2.375	8	2.375	.000	.000
147.0	9	4	4	203	200	38	35	4877	2	1	6	0	2	508	37.756	.000	3.776	4.342	34.069	0	.000	51	3.407	8	3.918	.000	.000
18.0	9	5	3	76	73	25	22	3962	0	0	0	0	0	626	7.669	1.112	.000	.000	6.431	23	.932	0	.000	0	.000	.000	.000
17.0	9	5	4	76	73	25	22	4267	0	0	0	0	0	690	8.259	1.198	.000	.000	6.926	23	1.004	0	.000	0	.000	.000	.000
16.0	9	5	4	102	98	38	35	4877	19	7	3	0	1	471	18.878	.000	1.888	2.171	16.764	0	.000	5	1.676	8	1.928	.000	.000
13.0	9	5	4	102	98	38	35	4877	8	3	0	11	3	517	18.878	.000	1.888	2.171	16.764	0	.000	5	1.676	8	1.928	.000	.000
14.0	9	5	4	102	98	38	35	4877	2	9	0	11	2	483	18.878	.000	1.888	2.171	16.764	0	.000	5	1.676	8	1.928	.000	.000
15.0	9	5	4	102	98	38	35	4877	15	12	0	11	1	472	18.878	.000	1.888	2.077	16.764	0	.000	51	1.676	7	1.844	.000	.000
12.0	9	5	1	127	124	25	22	4572	0	0	0	0	0	672	14.748	2.139	.000	.000	12.582	22	1.824	0	.000	0	.000	.000	.000
19.0	9	5	3	152	149	38	35	4267	6	3	1	0	2	491	24.777	.000	2.849	2.849	22.239	0	.000	8	2.558	8	2.558	.000	.000
438.0	10	1	4	76	73	25	22	2743	0	0	0	0	0	630	5.309	.770	.000	.000	4.452	21	.646	0	.000	0	.000	.000	.000
419.0	10	1	3	76	73	25	22	3353	0	0	0	0	0	608	6.489	.941	.000	.000	5.442	23	.789	0	.000	0	.000	.000	.000
443.0	10	1	4	102	98	25	22	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	12.585	10.668
415.0	10	1	1	102	98	38	35	3353	0	2	0	0	3	0	12.979	.000	1.622	1.493	11.525	0	.000	11	1.441	8	1.325	.000	.000
422.0	10	1	4	102	98	38	35	4877	2	2	0	11	2	467	18.878	.000	1.888	2.171	16.764	0	.000	5	1.676	8	1.928	.000	.000
423.0	10	1	4	102	98	38	35	4877	0	0	0	0	0	228	18.878	.000	.000	2.077	16.764	0	.000	0	.000	7	1.844	.000	.000
430.0	10	1	4	102	98	38	35	4877	1	4	0	11	2	482	18.878	.000	1.888	2.077	16.764	0	.000	5	1.676	7	1.844	.000	.000
434.0	10	1	4	102	98	38	35	4572	3	13	2	11	2	523	17.698	.000	1.770	1.770	15.716	0	.000	5	1.572	5	1.572	.000	.000
433.0	10	1	4	102	98	38	35	4267	0	4	2	12	3	492	16.518	.000	1.900	1.652	14.668	0	.000	8	1.687	5	1.467	.000	.000
425.0	10	1	4	102	98	38	35	4877	2	4	2	11	2	547	18.878	.000	.944	1.888	16.764	0	.000	1	.838	5	1.676	.000	.000
428.0	10	1	4	102	98	38	35	4877	2	8	0	12	2	495	18.878	.000	1.888	1.888	16.764	0	.000	5	1.676	5	1.676	.000	.000
435.0	10	1	4	102	98	38	35	4877	1	6	0	11	2	593	18.878	.000	.944	1.888	16.764	0	.000	1	.838	5	1.676	.000	.000
427.0	10	1	4	102	98	38	35	4877	2	13	2	11	2	544	18.878	.000	.944	1.888	16.764	0	.000	1	.838	5	1.676	.000	.000
431.0	10	1	4	102	98	38	35	4877	0	4	0	11	2	542	18.878	.000	.944	1.888	16.764	0	.000	1	.838	5	1.676	.000	.000
423.1	10	1	4	102	98	38	35	4877	1	5	0	11	2	508	18.878	.000	.944	1.510	16.764	0	.000	1	.838	4	1.341	.000	.000
432.0	10	1	4	102	98	38	35	4877	4	9	2	11	1	573	18.878	.000	1.888	1.510	16.764	0	.000	51	1.676	4	1.341	.000	.000
426.0	10	1	4	102	98	38	35	4877	4	4	2	11	2	591	18.878	.000	.944	1.510	16.764	0	.000	1	.838	4	1.341	.000	.000
436.0	10	1	4	102	98	38	35	4877	4	12	2	11	1	582	18.878	.000	.944	1.510	16.764	0	.000	1	.838	4	1.341	.000	.000
424.0	10	1	4	102	98	38	35	4877	1	7	2	11	2	561	18.878	.000	.944	1.510	16.764	0	.000	1	.838	4	1.341	.000	.000
417.0	10	1	2	152	149	25	22	4267	0	0	0	0	0	567	16.518	2.395	.000	.000	14.152	23	2.052	0	.000	0	.000	.000	.000
441.0	10	1	4	152	149	38	35	3353	3	14	7	0	3	491	19.468	.000	2.433	2.239	17.474	0	.000	11	2.184	8	2.009	.000	.000
421.0	10	1	3	152	149	38	35	4267	1	0	3	0	2	523	24.777	.000	2.849	2.849	22.239	0	.000	8	2.558	8	2.558	.000	.000
442.0	10	1	4	152	149	38	35	4877	1	4	7	0	2	485	28.317	.000	2.832	3.115	25.416	0	.000	5	2.542	7	2.796	.000	.000
418.0	10	1	2	254	251	38	35	4877	0	0	0	9	0	0	47.195	.000	5.899	4.719	42.721	0	.000	11	5.340	5	4.272	.000	.000
416.0	10	1	1	254	251	38	35	4877	0	6	0	9	0	0	47.195	.000	5.899	4.719	42.721	0	.000	11	5.340	5	4.272	.000	.000
420.0	10	1	3	254	251	38	35	3048	0	3	0	10	0	0	29.497	.000	3.687	2.950	26.701	0	.000	11	3.338	5	2.670	.000	.000
439.0	10	1	4	305	302	38	35	4572	0	7	0	10	0	0	53.094	.000	6.106	5.309	48.163	0	.000	8	5.539	5	4.816	.000	.000

440.0	10	1	4	305	302	38	35	4572	0	2	0	10	0	0	53.094	.000	6.637	5.309	48.163	0	.000	11	6.020	5	4.816	.000	.000
437.0	10	1	4	305	302	38	35	2743	0	3	2	9	0	0	31.856	.000	3.982	3.186	28.898	0	.000	11	3.612	5	2.890	.000	.000
429.0	10	1	4	305	302	38	35	3658	0	9	0	11	0	0	42.475	.000	4.885	3.398	38.530	0	.000	8	4.431	4	3.082	.000	.000
391.0	10	2	4	102	98	25	22	2438	0	0	0	0	0	594	6.293	.912	.000	.000	5.334	23	.773	0	.000	0	.000	.000	.000
385.0	10	2	4	102	98	38	35	4877	4	2	1	0	1	539	18.878	.000	.944	1.888	16.764	0	.000	1	.838	5	1.676	.000	.000
382.0	10	2	4	102	98	38	35	4877	5	7	3	0	2	529	18.878	.000	2.077	1.888	16.764	0	.000	7	1.844	5	1.676	.000	.000
383.0	10	2	4	102	98	38	35	4877	5	6	4	0	1	555	18.878	.000	.944	1.888	16.764	0	.000	1	.838	5	1.676	.000	.000
379.0	10	2	3	102	98	38	35	4877	3	3	0	11	0	442	18.878	.000	1.888	2.171	16.764	0	.000	5	1.676	8	1.928	.000	.000
380.0	10	2	4	102	98	38	35	4877	1	6	0	12	3	464	18.878	.000	1.888	2.077	16.764	0	.000	5	1.676	7	1.844	.000	.000
386.0	10	2	4	102	98	38	35	4877	2	5	4	11	2	537	18.878	.000	.944	1.888	16.764	0	.000	1	.838	5	1.676	.000	.000
381.0	10	2	4	102	98	38	35	4877	0	9	0	11	3	433	18.878	.000	.944	1.888	16.764	0	.000	1	.838	5	1.676	.000	.000
384.0	10	2	4	102	98	38	35	4877	9	8	0	10	1	590	18.878	.000	.944	1.888	16.764	0	.000	1	.838	5	1.676	.000	.000
374.0	10	2	1	152	149	25	22	4877	0	0	0	0	0	546	18.878	1.510	.000	.000	16.174	25	1.294	0	.000	0	.000	.000	.000
376.0	10	2	2	203	200	25	22	4877	0	0	0	0	0	551	25.171	2.014	.000	.000	21.680	25	1.734	0	.000	0	.000	.000	.000
390.0	10	2	4	203	200	38	35	3658	2	2	1	0	2	493	28.317	.000	2.832	2.832	25.552	0	.000	5	2.555	5	2.555	.000	.000
375.0	10	2	1	254	251	38	35	4877	0	0	0	10	0	0	47.195	.000	4.719	4.719	42.721	0	.000	5	4.272	5	4.272	.000	.000
378.0	10	2	3	254	251	38	35	3048	0	0	0	10	0	0	29.497	.000	3.687	2.950	26.701	0	.000	11	3.338	5	2.670	.000	.000
377.0	10	2	2	254	251	38	35	4877	0	12	0	10	0	0	47.195	.000	5.427	4.719	42.721	0	.000	8	4.913	5	4.272	.000	.000
379.1	10	2	4	305	302	38	35	4877	0	4	0	10	0	0	56.634	.000	6.230	5.663	51.373	0	.000	7	5.651	5	5.137	.000	.000
388.0	10	2	4	305	302	38	35	4877	0	2	0	9	0	0	56.634	.000	6.230	5.663	51.373	0	.000	7	5.651	5	5.137	.000	.000
379.2	10	2	4	305	302	38	35	4877	0	0	0	9	0	0	56.634	.000	5.663	4.531	51.373	0	.000	5	5.137	4	4.110	.000	.000
389.0	10	2	4	305	302	38	35	4572	0	3	0	11	0	0	53.094	.000	5.309	4.248	48.163	0	.000	5	4.816	4	3.853	.000	.000
387.0	10	2	4	305	302	38	35	4877	0	3	0	10	0	0	56.634	.000	5.663	4.531	51.373	0	.000	5	5.137	4	4.110	.000	.000
397.0	10	3	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
398.0	10	3	4	102	98	38	35	4877	0	4	2	11	2	482	18.878	.000	.944	2.077	16.764	0	.000	1	.838	7	1.844	.000	.000
410.0	10	3	4	102	98	38	35	4877	2	4	0	11	1	557	18.878	.000	1.888	1.888	16.764	0	.000	51	1.676	5	1.676	.000	.000
399.0	10	3	4	102	98	38	35	4877	2	6	2	12	3	480	18.878	.000	.944	1.888	16.764	0	.000	1	.838	5	1.676	.000	.000
400.0	10	3	4	102	98	38	35	4877	0	7	0	11	2	527	18.878	.000	.944	1.888	16.764	0	.000	1	.838	5	1.676	.000	.000
408.0	10	3	4	102	98	38	35	3658	2	0	0	11	2	794	14.158	.000	.708	1.416	12.573	0	.000	1	.629	5	1.257	.000	.000
409.0	10	3	4	102	98	38	35	4877	1	5	0	11	2	540	18.878	.000	.944	1.888	16.764	0	.000	1	.838	5	1.676	.000	.000
414.0	10	3	4	152	149	25	22	2743	0	0	0	0	0	543	10.619	1.540	.000	.000	9.098	24	1.319	0	.000	0	.000	.000	.000
394.0	10	3	3	152	149	25	22	4267	0	0	0	0	0	555	16.518	2.395	.000	.000	14.152	23	2.052	0	.000	0	.000	.000	.000
392.0	10	3	1	152	149	38	35	4877	5	3	2	0	3	463	28.317	.000	3.256	3.256	25.416	0	.000	8	2.923	8	2.923	.000	.000
393.0	10	3	2	203	200	38	35	4877	1	3	1	0	2	493	37.756	.000	4.719	4.342	34.069	0	.000	11	4.259	8	3.918	.000	.000
413.0	10	3	4	203	200	38	35	4877	2	3	3	13	3	472	37.756	.000	4.342	4.153	34.069	0	.000	8	3.918	7	3.748	.000	.000
411.0	10	3	4	305	302	38	35	4877	0	8	0	11	0	0	56.634	.000	2.832	5.663	51.373	0	.000	1	2.569	5	5.137	.000	.000
395.0	10	3	4	305	302	38	35	4877	0	2	0	9	0	0	56.634	.000	6.513	5.663	51.373	0	.000	8	5.908	5	5.137	.000	.000
396.0	10	3	4	305	302	38	35	4877	0	4	0	10	0	0	56.634	.000	5.663	5.663	51.373	0	.000	5	5.137	5	5.137	.000	.000
412.0	10	3	4	305	302	38	35	4877	0	7	0	10	0	0	56.634	.000	5.663	5.663	51.373	0	.000	5	5.137	5	5.137	.000	.000
166.0	10	4	1	102	98	25	22	3353	0	0	0	0	0	542	8.652	1.255	.000	.000	7.334	23	1.063	0	.000	0	.000	.000	.000
167.0	10	4	2	102	98	38	35	4877	1	4	3	0	3	468	18.878	.000	1.888	2.077	16.764	0	.000	5	1.676	7	1.844	.000	.000
178.0	10	4	4	102	98	38	35	4877	9	1	5	0	1	539	18.878	.000	.944	1.888	16.764	0	.000	1	.838	5	1.676	.000	.000
175.0	10	4	4	102	98	38	35	4877	0	6	3	12	2	489	18.878	.000	1.888	1.888	16.764	0	.000	5	1.676	5	1.676	.000	.000
179.0	10	4	4	102	98	38	35	4877	2	2	1	0	1	444	18.878	.000	.944	1.888	16.764	0	.000	1	.838	5	1.676	.000	.000
177.0	10	4	4	102	98	38	35	4877	11	8	3	0	1	610	18.878	.000	.944	1.510	16.764	0	.000	1	.838	4	1.341	.000	.000
176.0	10	4	4	102	98	38	35	4877	6	7	2	0	2	554	18.878	.000	.944	1.510	16.764	0	.000	1	.838	4	1.341	.000	.000
168.0	10	4	3	127	124	25	22	4877	0	0	0	0	0	542	15.732	2.281	.000	-.000	13.421	23	1.946	0	.000	0	.000	.000	.000
165.0	10	4	1	152	149	38	35	4877	4	5	2	12	3	458	28.317	.000	1.416	3.115	25.416	0	.000	1	1.271	7	2.796	.000	.000
174.0	10	4	4	203	200	25	22	3048	0	0	0	0	0	550	15.732	2.281	.000	-.000	13.550	23	1.965	0	.000	0	.000	.000	.000
169.0	10	4	3	203	200	38	35	4877	4	1	4	0	3	497	37.756	.000	4.153	4.153	34.069	0	.000	7	3.748	7	3.748	.000	.000
171.0	10	4	4	203	200	38	35	4877	1	3	3	10	1	476	37.756	.000	1.888	4.153	34.069	0	.000	1	1.703	7	3.748	.000	.000
170.0	10	4	4	203	200	38	35	4877	1	1	5	0	3	470	37.756	.000	3.776	4.153	34.069	0	.000	5	3.407	7	3.748	.000	.000
173.0	10	4	4	203	200	38	35	4877	2	1	2	0	3	489	37.756	.000	3.776	3.776	34.069	0	.000	5	3.407	5	3.407	.000	.000
172.0	10	4	4	203	200	38	35	4877	2	2	1	0	1	495	37.756	.000	3.776	3.776	34.069	0	.000	5	3.407	5	3.407	.000	.000

286.0	10	5	1	76	73	25	22	4877	0	0	0	0	0	612	9.439	1.369	.000	.000	7.915	23	1.148	0	.000	0	.000	.000	.000
287.0	10	5	4	102	98	25	22	4267	0	0	0	0	0	556	11.012	1.597	.000	.000	9.334	23	1.353	0	.000	0	.000	.000	.000
296.0	10	5	4	102	98	25	22	4877	0	0	0	0	0	586	12.585	1.825	.000	.000	10.668	23	1.547	0	.000	0	.000	.000	.000
290.0	10	5	2	102	98	25	22	3658	0	0	0	0	0	565	9.439	1.369	.000	.000	8.001	23	1.160	0	.000	0	.000	.000	.000
292.0	10	5	4	102	98	38	35	4877	2	2	1	11	3	430	18.878	.000	2.171	2.077	16.764	0	.000	8	1.928	7	1.844	.000	.000
295.0	10	5	4	102	98	38	35	4877	5	7	4	0	2	461	18.878	.000	1.888	1.888	16.764	0	.000	5	1.676	5	1.676	.000	.000
294.0	10	5	4	102	98	38	35	4877	19	14	9	0	1	523	18.878	.000	1.888	1.510	16.764	0	.000	51	1.676	4	1.341	.000	.000
293.0	10	5	4	102	98	38	35	4877	9	8	2	0	1	472	18.878	.000	1.888	1.510	16.764	0	.000	51	1.676	4	1.341	.000	.000
285.0	10	5	1	127	124	25	22	4877	0	0	0	0	0	537	15.732	2.281	.000	.000	13.421	23	1.946	0	.000	0	.000	.000	.000
288.0	10	5	4	152	149	38	35	4267	5	1	4	11	3	451	24.777	.000	2.478	2.725	22.239	0	.000	5	2.224	7	2.446	.000	.000
289.0	10	5	4	203	200	38	35	4877	0	5	1	0	1	474	37.756	.000	4.153	4.153	34.069	0	.000	7	3.748	7	3.748	.000	.000
291.0	10	5	4	203	200	38	35	4877	5	4	1	0	2	550	37.756	.000	4.153	4.153	34.069	0	.000	7	3.748	7	3.748	.000	.000
20.0	10	6	1	76	73	25	22	3353	0	0	0	0	0	687	6.489	.941	.000	.000	5.442	23	.789	0	.000	0	.000	.000	.000
24.0	10	6	4	102	98	25	22	4877	0	0	0	0	0	288	12.585	1.825	.000	.000	10.668	23	1.547	0	.000	0	.000	.000	.000
21.0	10	6	4	102	98	38	35	4877	5	4	2	0	3	433	18.878	.000	2.077	2.077	16.764	0	.000	7	1.844	7	1.844	.000	.000
23.0	10	6	4	102	98	38	35	4877	6	7	3	0	3	438	18.878	.000	.944	1.888	16.764	0	.000	1	.838	5	1.676	.000	.000
24.1	10	6	4	102	98	38	35	4877	56	4	1	0	1	432	18.878	.000	.944	.944	16.764	0	.000	1	.838	1	.838	.000	.000
25.0	10	6	3	102	98	38	35	3962	1	4	3	0	2	465	15.338	.000	.767	1.227	13.621	0	.000	1	.681	4	1.090	.000	.000
22.0	10	6	4	102	98	38	35	4877	14	7	3	11	1	447	18.878	.000	1.888	1.510	16.764	0	.000	51	1.676	4	1.341	.000	.000

FILE TYL11

2409.0	11	1	4	76	73	25	22	3048	0	0	0	0	0	816	5.899	.855	.000	.000	4.947	23	.717	0	.000	0	.000	.000	.000
2407.0	11	1	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
2406.0	11	1	4	102	98	38	35	4877	5	4	3	11	2	645	18.878	.000	2.077	2.360	16.764	0	.000	7	1.844	11	2.095	.000	.000
2408.0	11	1	4	102	98	38	35	4877	3	12	3	0	1	574	18.878	.000	2.171	2.171	16.764	0	.000	8	1.928	8	1.928	.000	.000
2370.0	11	2	4	76	73	25	22	4267	0	0	0	0	0	649	8.259	1.198	.000	.000	6.926	24	1.004	0	.000	0	.000	.000	.000
2368.0	11	2	1	76	73	25	22	2438	0	0	0	0	0	711	4.719	.684	.000	.000	3.957	23	.574	0	.000	0	.000	.000	.000
2369.0	11	2	4	102	98	38	35	4572	33	8	0	0	1	518	17.698	.000	1.770	2.035	15.716	0	.000	51	1.572	8	1.807	.000	.000
2387.0	11	3	4	76	73	25	22	4572	0	0	0	0	0	625	8.849	.708	.000	.000	7.420	25	.594	0	.000	0	.000	.000	.000
2389.0	11	3	4	76	73	25	22	3048	0	0	0	0	0	617	5.899	.855	.000	.000	4.947	23	.717	0	.000	0	.000	.000	.000
2388.0	11	3	4	76	73	25	22	4572	0	0	0	0	0	611	8.849	1.283	.000	.000	7.420	24	1.076	0	.000	0	.000	.000	.000
2251.0	12	1	4	76	73	25	22	3048	0	0	0	0	0	840	5.899	.855	.000	.000	4.947	23	.717	0	.000	0	.000	.000	.000
2248.0	12	1	3	76	73	25	22	4877	0	0	0	0	0	833	9.439	1.369	.000	.000	7.915	23	1.148	0	.000	0	.000	.000	.000
2248.1	12	1	1	76	73	25	22	4877	0	0	0	0	0	0	9.439	1.369	.000	.000	7.915	23	1.148	0	.000	0	.000	.000	.000
2250.0	12	1	4	102	98	38	35	4877	15	5	11	0	1	524	18.878	.000	1.888	1.888	16.764	0	.000	51	1.676	5	1.676	.000	.000
2249.0	12	1	4	102	98	38	35	4877	17	1	5	0	1	544	18.878	.000	1.888	1.888	16.764	0	.000	51	1.676	5	1.676	.000	.000
2207.0	12	2	4	102	98	25	22	4877	0	0	0	0	0	701	12.585	1.825	.000	.000	10.668	22	1.547	0	.000	0	.000	.000	.000
2206.0	12	2	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
2205.0	12	2	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
2204.0	12	3	4	102	98	25	22	4877	0	0	0	0	0	624	12.585	1.007	.000	.000	10.668	25	.853	0	.000	0	.000	.000	.000
2203.0	12	3	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
2202.0	12	3	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
2199.0	13	1	3	76	73	25	22	3048	0	0	0	0	0	775	5.899	.855	.000	.000	4.947	23	.717	0	.000	0	.000	.000	.000
2194.0	13	1	4	102	98	38	35	4267	2	5	3	0	2	576	16.518	.000	1.900	2.065	14.668	0	.000	8	1.687	11	1.834	.000	.000
2195.0	13	1	4	102	98	38	35	4267	13	8	6	0	2	485	16.518	.000	1.900	1.652	14.668	0	.000	8	1.687	5	1.467	.000	.000
2197.0	13	1	4	102	98	38	35	3962	8	2	2	12	1	502	15.338	.000	1.534	1.534	13.621	0	.000	51	1.362	5	1.362	.000	.000
2196.0	13	1	4	102	98	38	35	4267	20	7	4	0	1	432	16.518	.000	1.652	.826	14.668	0	.000	51	1.467	1	.733	.000	.000
2198.0	13	1	3	152	149	38	35	4877	18	2	3	0	1	551	28.317	.000	3.115	3.256	25.416	0	.000	7	2.796	8	2.923	.000	.000
2097.0	13	2	4	76	73	25	22	4877	0	0	0	0	0	687	9.439	1.369	.000	.000	7.915	24	1.148	0	.000	0	.000	.000	.000
2096.0	13	2	4	102	98	25	22	4877	0	0	0	0	0	668	12.585	1.825	.000	.000	10.668	23	1.547	0	.000	0	.000	.000	.000
2083.0	13	2	3	102	98	38	35	4877	20	6	2	0	2	529	18.878	.000	1.888	2.171	16.764	0	.000	5	1.676	8	1.928	.000	.000
2093.0	13	2	4	102	98	38	35	4877	20	6	2	0	2	473	18.878	.000	1.888	2.171	16.764	0	.000	5	1.676	8	1.928	.000	.000
2094.0	13	2	4	102	98	38	35	4877	45	4	4	0	1	468	18.878	.000	.944	.944	16.764	0	.000	1	.838	1	.838	.000	.000
2095.0	13	2	4	102	98	38	35	4877	48	15	5	0	1	431	18.878	.000	.944	.944	16.764	0	.000	1	.838	1	.838	.000	.000
2244.0	13	3	3	76	73	25	22	4267	0	0	0	0	0	642	8.259	1.198	.000	.000	6.926	22	1.004	0	.000	0	.000	.000	.000
2247.0	13	3	4	102	98	25	22	3353	0	0	0	0	0	658	8.652	1.255	.000	.000	7.334	23	1.063	0	.000	0	.000	.000	.000
2245.0	13	3	4	102	98	38	35	3658	20	8	1	0	1	437	14.158	.000	1.416	1.557	12.573	0	.000	51	1.257	7	1.383	.000	.000
2246.0	13	3	4	102	98	38	35	4267	5	9	1	0	2	466	16.518	.000	1.900	1.652	14.668	0	.000	8	1.687	5	1.467	.000	.000
2383.0	14	1	2	76	73	25	22	2743	0	0	0	0	0	818	5.309	.770	.000	.000	4.452	23	.646	0	.000	0	.000	.000	.000
2382.0	14	1	3	76	73	25	22	4877	0	0	0	0	0	774	9.439	1.369	.000	.000	7.915	23	1.148	0	.000	0	.000	.000	.000
2381.0	14	1	4	76	73	25	22	3048	0	0	0	0	0	766	5.899	.855	.000	.000	4.947	23	.717	0	.000	0	.000	.000	.000
2386.0	14	1	4	102	98	25	22	3962	0	0	0	0	0	781	10.226	1.483	.000	.000	8.668	24	1.257	0	.000	0	.000	.000	.000
2385.0	14	1	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
2384.0	14	1	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
2380.0	14	1	4	102	98	38	35	4877	20	9	8	0	1	513	18.878	.000	1.888	2.077	16.764	0	.000	51	1.676	7	1.844	.000	.000
2378.0	14	1	4	102	98	38	35	4877	3	3	6	0	1	621	18.878	.000	1.888	2.077	16.764	0	.000	5	1.676	7	1.844	.000	.000
2379.0	14	1	4	102	98	38	35	4877	24	24	4	0	1	501	18.878	.000	1.888	.944	16.764	0	.000	51	1.676	1	.838	.000	.000
2082.0	14	2	3	102	98	25	22	4572	0	0	0	0	0	674	11.799	1.711	.000	.000	10.001	23	1.450	0	.000	0	.000	.000	.000
2084.0	14	2	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
2086.0	14	2	4	102	98	38	35	4877	3	4	6	0	2	534	18.878	.000	2.171	2.360	16.764	0	.000	8	1.928	11	2.095	.000	.000
2085.0	14	2	4	102	98	38	35	4877	39	3	2	11	1	456	18.878	.000	1.888	1.888	16.764	0	.000	51	1.676	5	1.676	.000	.000
2090.0	14	3	4	76	73	25	22	4877	0	0	0	0	0	683	9.439	1.369	.000	.000	7.915	23	1.148	0	.000	0	.000	.000	.000
2087.0	14	3	3	76	73	25	22	4572	0	0	0	0	0	744	8.849	1.283	.000	.000	7.420	23	1.076	0	.000	0	.000	.000	.000
2089.0	14	3	4	102	98	38	35	4877	63	6	4	11	1	471	18.878	.000	.944	.944	16.764	0	.000	1	.838	1	.838	.000	.000
2088.0	14	3	4	102	98	38	35	4877	22	4	5	0	2	487	18.878	.000	.944	2.077	16.764	0	.000	1	.838	7	1.844	.000	.000

2106.0	14	4	4	76	73	25	22	4572	0	0	0	0	0	609	8.849	.708	.000	.000	7.420	25	.594	0	.000	0	.000	.000	.000
2105.0	14	4	4	76	73	25	22	4877	0	0	0	0	0	610	9.439	.755	.000	.000	7.915	25	.633	0	.000	0	.000	.000	.000
2319.0	15	1	3	102	98	38	35	4877	7	1	9	0	3	650	18.878	.000	2.171	2.360	16.764	0	.000	8	1.928	11	2.095	.000	.000
2322.0	15	1	4	102	98	38	35	4877	14	8	14	9	2	550	18.878	.000	2.077	2.077	16.764	0	.000	7	1.844	7	1.844	.000	.000
2321.0	15	1	4	102	98	38	35	4877	64	5	1	0	1	500	18.878	.000	.944	.944	16.764	0	.000	1	.838	1	.838	.000	.000
2320.0	15	1	4	102	98	38	35	4877	4	14	10	0	2	608	18.878	.000	2.077	2.077	16.764	0	.000	7	1.844	7	1.844	.000	.000
1985.0	15	2	4	76	73	25	22	4572	0	0	0	0	0	771	8.849	1.283	.000	.000	7.420	22	1.076	0	.000	0	.000	.000	.000
1984.0	15	2	4	76	73	25	22	4572	0	0	0	0	0	809	8.849	1.283	.000	.000	7.420	24	1.076	0	.000	0	.000	.000	.000
1981.0	15	2	3	102	98	25	22	3658	0	0	0	0	0	811	9.439	1.369	.000	.000	8.001	22	1.160	0	.000	0	.000	.000	.000
1983.0	15	2	4	102	98	38	35	4572	30	5	1	11	2	543	17.698	.000	1.947	2.035	15.716	0	.000	7	1.729	8	1.807	.000	.000
1982.0	15	2	4	102	98	38	35	4572	56	2	4	0	1	518	17.698	.000	.885	.885	15.716	0	.000	1	.786	1	.786	.000	.000
2074.0	15	3	4	102	98	38	35	4877	54	14	2	0	1	524	18.878	.000	.944	.944	16.764	0	.000	1	.838	1	.838	.000	.000
2073.0	15	3	4	102	98	38	35	4877	50	6	5	0	1	526	18.878	.000	.944	.944	16.764	0	.000	1	.838	1	.838	.000	.000
2287.0	16	1	2	102	98	25	22	4572	0	0	0	0	0	627	11.799	1.711	.000	.000	10.001	22	1.450	0	.000	0	.000	.000	.000
2286.0	16	1	4	102	98	25	22	4877	0	0	0	0	0	791	12.585	1.825	.000	.000	10.668	23	1.547	0	.000	0	.000	.000	.000
2283.0	16	1	4	102	98	38	35	4572	9	11	3	0	2	594	17.698	.000	2.212	2.212	15.716	0	.000	11	1.965	11	1.965	.000	.000
2285.0	16	1	4	102	98	38	35	0	12	17	11	0	2	0	.000	.000	.000	.000	.000	0	.000	7	.000	8	.000	18.878	16.764
2284.0	16	1	4	102	98	38	35	4877	19	9	2	0	1	512	18.878	.000	1.888	2.077	16.764	0	.000	51	1.676	7	1.844	.000	.000
2288.0	16	1	3	152	149	38	35	4877	21	2	3	13	1	561	28.317	.000	2.832	3.256	25.416	0	.000	51	2.542	8	2.923	.000	.000
1943.0	16	2	4	76	73	25	22	4877	0	0	0	0	0	674	9.439	1.369	.000	.000	7.915	23	1.148	0	.000	0	.000	.000	.000
1939.0	16	2	3	76	73	25	22	4877	0	0	0	0	0	753	9.439	1.369	.000	.000	7.915	23	1.148	0	.000	0	.000	.000	.000
1938.0	16	2	2	76	73	25	22	3658	0	0	0	0	0	820	7.079	1.026	.000	.000	5.936	23	.861	0	.000	0	.000	.000	.000
1937.0	16	2	1	76	73	25	22	4877	0	0	0	0	0	748	9.439	1.369	.000	.000	7.915	23	1.148	0	.000	0	.000	.000	.000
1940.0	16	2	4	102	98	38	35	4877	3	2	3	9	2	529	18.878	.000	2.077	2.171	16.764	0	.000	7	1.844	8	1.928	.000	.000
1942.0	16	2	4	102	98	38	35	4877	54	3	0	10	1	472	18.878	.000	.944	.944	16.764	0	.000	1	.838	1	.838	.000	.000
1941.0	16	2	4	102	98	38	35	4877	52	4	3	0	1	438	18.878	.000	.944	.944	16.764	0	.000	1	.838	1	.838	.000	.000
2419.0	16	3	3	76	73	25	22	3353	0	0	0	0	0	705	6.489	.941	.000	.000	5.442	23	.789	0	.000	0	.000	.000	.000
2422.0	16	3	4	102	98	25	22	4877	0	0	0	0	0	588	12.585	1.825	.000	.000	10.668	24	1.547	0	.000	0	.000	.000	.000
2420.0	16	3	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
2421.0	16	3	4	102	98	38	35	4572	54	4	4	0	1	460	17.698	.000	.885	.885	15.716	0	.000	1	.786	1	.786	.000	.000
2422.1	16	3	4	102	98	38	35	4877	17	3	1	0	3	486	18.878	.000	1.888	1.888	16.764	0	.000	5	1.676	5	1.676	.000	.000
2422.2	16	3	4	102	98	38	35	4267	8	6	3	0	2	492	16.518	.000	1.652	1.652	14.668	0	.000	5	1.467	5	1.467	.000	.000
2177.0	16	4	4	76	73	25	22	3048	0	0	0	0	0	604	5.899	.855	.000	.000	4.947	23	.717	0	.000	0	.000	.000	.000
2176.0	16	4	4	102	98	38	35	4572	36	3	2	10	1	438	17.698	.000	1.770	1.770	15.716	0	.000	51	1.572	5	1.572	.000	.000
2175.0	16	4	4	102	98	38	35	4267	19	2	1	0	2	468	16.518	.000	1.900	1.652	14.668	0	.000	8	1.687	5	1.467	.000	.000
2137.0	17	1	4	76	73	25	22	4877	0	0	0	0	0	657	9.439	1.369	.000	.000	7.915	24	1.148	0	.000	0	.000	.000	.000
2140.0	17	1	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
2139.0	17	1	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
2138.0	17	1	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
2137.1	17	1	4	102	98	38	35	4877	4	2	4	0	1	509	18.878	.000	1.888	2.171	16.764	0	.000	51	1.676	8	1.928	.000	.000
2213.0	17	2	1	76	73	25	22	3048	0	0	0	0	0	728	5.899	.855	.000	.000	4.947	23	.717	0	.000	0	.000	.000	.000
2214.0	17	2	3	102	98	25	22	3658	0	0	0	0	0	705	9.439	1.369	.000	.000	8.001	23	1.160	0	.000	0	.000	.000	.000
2211.0	17	2	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
2212.0	17	2	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
2210.0	17	2	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
2151.0	17	3	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
2150.0	17	3	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
2293.0	18	1	2	76	73	25	22	3353	0	0	0	0	0	620	6.489	.519	.000	.000	5.442	25	.435	0	.000	0	.000	.000	.000
2289.0	18	1	1	76	73	25	22	3353	0	0	0	0	0	664	6.489	.519	.000	.000	5.442	25	.435	0	.000	0	.000	.000	.000
2292.0	18	1	4	76	73	25	22	4877	0	0	0	0	0	578	9.439	.755	.000	.000	7.915	25	.633	0	.000	0	.000	.000	.000
2290.0	18	1	4	76	73	25	22	4877	0	0	0	0	0	258	9.439	.755	.000	.000	7.915	25	.633	0	.000	0	.000	.000	.000
2291.0	18	1	4	76	73	25	22	4877	0	0	0	0	0	551	9.439	.755	.000	.000	7.915	25	.633	0	.000	0	.000	.000	.000
2376.0	18	2	1	76	73	25	22	3353	0	0	0	0	0	629	6.489	.941	.000	.000	5.442	24	.789	0	.000	0	.000	.000	.000
2377.0	18	2	1	76	73	25	22	4572	0	0	0	0	0	566	8.849	.708	.000	.000	7.420	25	.594	0	.000	0	.000	.000	.000

2375.0	18	2	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
2374.0	18	2	4	102	98	38	35	4267	18	16	3	0	1	451	16.518	.000	1.652	1.652	14.668	0	.000	51	1.467	5	1.467	.000	.000
2130.0	19	1	3	102	98	25	22	4877	0	0	0	0	0	737	12.585	1.825	.000	.000	10.668	23	1.547	0	.000	0	.000	.000	.000
2129.0	19	1	4	102	98	38	35	4877	14	3	3	0	2	573	18.878	.000	2.171	2.171	16.764	0	.000	8	1.928	8	1.928	.000	.000
2127.0	19	1	4	102	98	38	35	4877	24	10	6	11	2	565	18.878	.000	2.077	2.171	16.764	0	.000	7	1.844	8	1.928	.000	.000
2128.0	19	1	4	102	98	38	35	4877	40	7	5	0	1	526	18.878	.000	1.888	2.077	16.764	0	.000	51	1.676	7	1.844	.000	.000
2115.0	19	2	4	102	98	25	22	4877	0	0	0	0	0	577	12.585	1.825	.000	.000	10.668	24	1.547	0	.000	0	.000	.000	.000
2113.0	19	2	4	102	98	38	35	4877	55	13	3	0	1	514	18.878	.000	.944	.944	16.764	0	.000	1	.838	1	.838	.000	.000
2114.0	19	2	4	102	98	38	35	4877	52	2	3	11	1	493	18.878	.000	.944	.944	16.764	0	.000	1	.838	1	.838	.000	.000
2143.0	19	3	4	76	73	25	22	3048	0	0	0	0	0	694	5.899	.855	.000	.000	4.947	23	.717	0	.000	0	.000	.000	.000
2142.0	19	3	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
2141.0	19	3	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
1950.0	20	1	4	76	73	25	22	3658	0	0	0	0	0	827	7.079	1.026	.000	.000	5.936	23	.861	0	.000	0	.000	.000	.000
1947.0	20	1	4	102	98	38	35	4877	31	9	1	0	2	565	18.878	.000	.944	2.171	16.764	0	.000	1	.838	8	1.928	.000	.000
1951.0	20	1	3	102	98	38	35	3962	20	9	1	12	2	585	15.338	.000	1.764	1.764	13.621	0	.000	8	1.566	8	1.566	.000	.000
1949.0	20	1	4	102	98	38	35	4877	19	11	8	0	2	571	18.878	.000	1.888	2.171	16.764	0	.000	5	1.676	8	1.928	.000	.000
1948.0	20	1	4	102	98	38	35	4877	22	48	12	0	1	524	18.878	.000	1.888	1.888	16.764	0	.000	51	1.676	5	1.676	.000	.000
2323.0	20	2	1	76	73	25	22	3353	0	0	0	0	0	615	6.489	.941	.000	.000	5.442	23	.789	0	.000	0	.000	.000	.000
2337.0	20	2	4	102	98	25	22	4572	0	0	0	0	0	718	11.799	1.711	.000	.000	10.001	24	1.450	0	.000	0	.000	.000	.000
2336.0	20	2	4	102	98	38	35	4572	19	4	4	0	1	508	17.698	.000	1.770	1.947	15.716	0	.000	51	1.572	7	1.729	.000	.000
2335.0	20	2	4	102	98	38	35	4572	9	5	4	0	1	513	17.698	.000	1.770	1.770	15.716	0	.000	51	1.572	5	1.572	.000	.000
2323.1	20	2	1	102	98	38	35	4877	30	27	4	0	1	495	18.878	.000	.944	1.510	16.764	0	.000	1	.838	4	1.341	.000	.000
2336.1	20	2	4	102	98	38	35	4572	4	5	5	0	2	443	17.698	.000	1.947	1.416	15.716	0	.000	7	1.729	4	1.257	.000	.000

FILE TYL21

2058.0	21	1	3	76	73	25	22	4572	0	0	0	0	0	709	8.849	1.283	.000	.000	7.420	22	1.076	0	.000	0	.000	.000	.000
2052.0	21	1	4	76	73	25	22	4572	0	0	0	0	0	825	8.849	1.283	.000	.000	7.420	22	1.076	0	.000	0	.000	.000	.000
2048.1	21	1	4	102	98	38	35	4572	1	2	1	0	2	614	17.698	.000	2.035	2.212	15.716	0	.000	8	1.807	11	1.965	.000	.000
2048.0	21	1	4	102	98	38	35	4877	8	3	2	0	2	536	18.878	.000	2.171	2.171	16.764	0	.000	8	1.928	8	1.928	.000	.000
2049.0	21	1	4	102	98	38	35	4572	10	8	7	0	1	469	17.698	.000	1.770	1.770	15.716	0	.000	51	1.572	5	1.572	.000	.000
2051.0	21	1	4	102	98	38	35	4572	11	5	3	0	2	560	17.698	.000	1.770	1.770	15.716	0	.000	51	1.572	5	1.572	.000	.000
2050.0	21	1	4	102	98	38	35	4572	23	6	4	10	1	449	17.698	.000	1.770	1.770	15.716	0	.000	51	1.572	5	1.572	.000	.000
2049.1	21	1	4	102	98	38	35	4877	38	6	3	0	1	480	18.878	.000	1.888	1.888	16.764	0	.000	51	1.676	5	1.676	.000	.000
2057.0	21	1	3	152	149	38	35	4877	21	5	1	0	2	625	28.317	.000	3.115	3.540	25.416	0	.000	7	2.796	11	3.177	.000	.000
2170.0	21	2	1	76	73	25	22	3962	0	0	0	0	0	788	7.669	.614	.000	.000	6.431	25	.514	0	.000	0	.000	.000	.000
2169.0	21	2	2	102	98	25	22	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	12.585	10.668
2173.0	21	2	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
2172.0	21	2	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
2171.0	21	2	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
2174.0	21	2	3	102	98	38	35	4877	1	4	4	0	2	551	18.878	.000	1.888	2.171	16.764	0	.000	5	1.676	8	1.928	.000	.000
2394.0	21	3	1	76	73	25	22	4572	0	0	0	0	0	698	8.849	1.283	.000	.000	7.420	23	1.076	0	.000	0	.000	.000	.000
2397.0	21	3	4	102	98	38	35	4572	4	10	4	0	3	537	17.698	.000	2.035	2.035	15.716	0	.000	8	1.807	8	1.807	.000	.000
2396.0	21	3	4	102	98	38	35	4572	13	10	2	0	2	491	17.698	.000	1.770	1.947	15.716	0	.000	51	1.572	7	1.729	.000	.000
2395.0	21	3	4	102	98	38	35	4572	4	5	6	0	1	509	17.698	.000	1.770	1.770	15.716	0	.000	51	1.572	5	1.572	.000	.000
2005.0	22	1	3	76	73	25	22	2438	0	0	0	0	0	799	4.719	.684	.000	.000	3.957	23	.574	0	.000	0	.000	.000	.000
1998.0	22	1	1	76	73	25	22	3962	0	0	0	0	0	801	7.669	1.112	.000	.000	6.431	23	.932	0	.000	0	.000	.000	.000
1999.0	22	1	2	102	98	25	22	4877	0	0	0	0	0	696	12.585	1.825	.000	.000	10.668	23	1.547	0	.000	0	.000	.000	.000
2000.0	22	1	4	102	98	38	35	4877	2	6	7	0	2	508	18.878	.000	2.077	2.077	16.764	0	.000	7	1.844	7	1.844	.000	.000
2002.0	22	1	4	102	98	38	35	4877	18	2	14	12	1	473	18.878	.000	1.888	1.888	16.764	0	.000	51	1.676	5	1.676	.000	.000
2003.0	22	1	4	102	98	38	35	4877	4	3	2	0	3	570	18.878	.000	1.888	1.510	16.764	0	.000	51	1.676	4	1.341	.000	.000
2001.0	22	1	4	102	98	38	35	4877	5	5	3	0	1	465	18.878	.000	1.888	1.510	16.764	0	.000	51	1.676	4	1.341	.000	.000
2004.0	22	1	3	152	149	38	35	4877	8	2	7	12	2	596	28.317	.000	3.115	3.540	25.416	0	.000	7	2.796	11	3.177	.000	.000
2444.0	22	2	4	102	98	25	22	4877	0	0	0	0	0	664	12.585	1.825	.000	.000	10.668	23	1.547	0	.000	0	.000	.000	.000
2447.0	22	2	1	102	98	25	22	2743	0	0	0	0	0	741	7.079	1.026	.000	.000	6.001	23	.870	0	.000	0	.000	.000	.000
2445.0	22	2	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
2443.0	22	2	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
2446.0	22	2	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
2442.0	22	2	4	102	98	38	35	4877	11	4	2	0	0	486	18.878	.000	2.171	2.171	16.764	0	.000	8	1.928	8	1.928	.000	.000
2441.0	22	2	3	127	124	25	22	3353	0	0	0	0	0	736	10.815	1.568	.000	.000	9.227	23	1.338	0	.000	0	.000	.000	.000
2440.0	22	2	3	152	149	38	35	4877	10	5	2	0	2	553	28.317	.000	2.832	3.256	25.416	0	.000	5	2.542	8	2.923	.000	.000
2414.0	22	3	3	102	98	25	22	4877	0	0	0	0	0	723	12.585	1.825	.000	.000	10.668	23	1.547	0	.000	0	.000	.000	.000
2416.0	22	3	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
2415.0	22	3	4	102	98	38	35	4572	4	5	2	12	2	482	17.698	.000	2.212	2.035	15.716	0	.000	11	1.965	8	1.807	.000	.000
2418.0	22	3	4	102	98	38	35	4572	13	7	6	0	3	465	17.698	.000	1.947	1.947	15.716	0	.000	7	1.729	7	1.729	.000	.000
2417.0	22	3	4	102	98	38	35	4572	22	13	2	0	1	445	17.698	.000	1.770	.885	15.716	0	.000	51	1.572	1	.786	.000	.000
2043.0	22	4	4	102	98	25	22	4877	0	0	0	0	0	538	12.585	1.825	.000	.000	10.668	23	1.547	0	.000	0	.000	.000	.000
2041.0	22	4	4	102	98	38	35	4267	14	4	3	0	2	443	16.518	.000	.826	1.817	14.668	0	.000	1	.733	7	1.614	.000	.000
2042.0	22	4	4	102	98	38	35	4877	37	5	3	11	1	422	18.878	.000	1.888	1.888	16.764	0	.000	51	1.676	5	1.676	.000	.000
2734.0	23	1	1	102	98	25	22	2134	0	0	0	0	0	746	5.506	.798	.000	.000	4.667	23	.677	0	.000	0	.000	.000	.000
2739.0	23	1	4	127	124	25	22	4877	0	0	0	0	0	704	15.732	2.281	.000	.000	13.421	23	1.946	0	.000	0	.000	.000	.000
2740.0	23	1	4	152	149	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	28.317	25.416
2735.0	23	1	2	178	175	25	22	2743	0	0	0	0	0	770	12.389	1.796	.000	.000	10.646	23	1.544	0	.000	0	.000	.000	.000
2736.0	23	1	4	203	200	38	35	4877	9	3	2	0	2	564	37.756	.000	4.342	4.342	34.069	0	.000	8	3.918	8	3.918	.000	.000
2737.0	23	1	4	203	200	38	35	4572	21	1	4	0	1	513	35.396	.000	3.540	3.894	31.939	0	.000	51	3.194	7	3.513	.000	.000
2738.0	23	1	4	203	200	38	35	4877	31	3	5	0	1	508	37.756	.000	1.888	1.888	34.069	0	.000	1	1.703	1	1.703	.000	.000
2280.0	23	2	3	76	73	25	22	4877	0	0	0	0	0	736	9.439	1.369	.000	.000	7.915	23	1.148	0	.000	0	.000	.000	.000
2274.0	23	2	2	76	73	25	22	4267	0	0	0	0	0	802	8.259	1.198	.000	.000	6.926	24	1.004	0	.000	0	.000	.000	.000
2282.0	23	2	1	102	98	25	22	4877	0	0	0	0	0	693	12.585	1.825	.000	.000	10.668	24	1.547	0	.000	0	.000	.000	.000
2275.0	23	2	3	102	98	38	35	4877	8	3	5	0	2	553	18.878	.000	2.171	2.360	16.764	0	.000	8	1.928	11	2.095	.000	.000

2279.0	23	2	4	102	98	38	35	3962	3	8	4	0	3	530	15.338	.000	1.917	1.687	13.621	0	.000	11	1.703	7	1.498	.000	.000
2278.0	23	2	4	102	98	38	35	4267	15	6	12	0	1	465	16.518	.000	1.652	1.817	14.668	0	.000	51	1.467	7	1.614	.000	.000
2277.0	23	2	4	102	98	38	35	4877	37	13	6	10	1	480	18.878	.000	1.888	2.077	16.764	0	.000	51	1.676	7	1.844	.000	.000
2276.0	23	2	4	102	98	38	35	4877	10	4	7	10	2	492	18.878	.000	2.171	2.077	16.764	0	.000	8	1.928	7	1.844	.000	.000
2273.0	23	2	1	127	124	25	22	3353	0	0	0	0	0	742	10.815	1.568	.000	.000	9.227	23	1.338	0	.000	0	.000	.000	.000
2281.0	23	2	3	152	149	38	35	4877	11	4	8	12	1	491	28.317	.000	1.416	2.832	25.416	0	.000	1	1.271	5	2.542	.000	.000
1974.0	23	3	1	76	73	25	22	4572	0	0	0	0	0	692	8.849	.708	.000	.000	7.420	25	.594	0	.000	0	.000	.000	.000
1975.0	23	3	2	102	98	25	22	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	12.585	10.668
1979.0	23	3	4	102	98	38	35	4877	7	3	2	0	2	506	18.878	.000	.944	2.077	16.764	0	.000	1	.838	7	1.844	.000	.000
1976.0	23	3	4	102	98	38	35	4267	10	5	11	0	2	488	16.518	.000	1.817	1.817	14.668	0	.000	7	1.614	7	1.614	.000	.000
1978.0	23	3	4	102	98	38	35	4877	35	3	6	0	1	481	18.878	.000	.944	1.510	16.764	0	.000	1	.838	4	1.341	.000	.000
1977.0	23	3	4	102	98	38	35	4572	46	6	10	0	1	464	17.698	.000	.885	.885	15.716	0	.000	1	.786	1	.786	.000	.000
1980.0	23	3	3	152	149	38	35	4267	1	1	3	12	2	518	24.777	.000	1.239	2.849	22.239	0	.000	1	1.112	8	2.558	.000	.000
1934.0	23	4	3	76	73	25	22	4877	0	0	0	0	0	580	9.439	.755	.000	.000	7.915	25	.633	0	.000	0	.000	.000	.000
1935.0	23	4	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
1936.0	23	4	4	102	98	38	35	4877	60	9	4	0	1	445	18.878	.000	.944	.944	16.764	0	.000	1	.838	1	.838	.000	.000
2832.0	24	1	4	76	73	25	22	4572	0	0	0	0	0	844	8.849	1.283	.000	.000	7.420	22	1.076	0	.000	0	.000	.000	.000
2831.0	24	1	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
2829.0	24	1	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
2828.0	24	1	4	102	98	38	35	4877	6	4	3	0	3	557	18.878	.000	2.171	2.360	16.764	0	.000	8	1.928	11	2.095	.000	.000
2830.0	24	1	4	102	98	38	35	4572	6	4	3	0	2	517	17.698	.000	1.770	1.770	15.716	0	.000	5	1.572	5	1.572	.000	.000
2827.1	24	1	4	102	98	38	35	4267	15	7	7	0	1	442	16.518	.000	1.652	1.652	14.668	0	.000	51	1.467	5	1.467	.000	.000
2826.0	24	1	4	152	149	25	22	4572	0	0	0	0	0	688	17.698	2.566	.000	.000	15.163	23	2.199	0	.000	0	.000	.000	.000
2824.0	24	1	3	152	149	38	35	4877	0	8	0	11	3	621	28.317	.000	3.115	3.540	25.416	0	.000	7	2.796	11	3.177	.000	.000
2827.0	24	1	4	152	149	38	35	4877	0	6	0	10	2	557	28.317	.000	2.832	3.256	25.416	0	.000	5	2.542	8	2.923	.000	.000
2825.0	24	1	4	203	200	38	35	4877	36	1	2	0	1	512	37.756	.000	1.888	1.888	34.069	0	.000	1	1.703	1	1.703	.000	.000
2063.0	24	2	4	102	98	38	35	4877	10	4	2	0	2	543	18.878	.000	2.077	2.360	16.764	0	.000	7	1.844	11	2.095	.000	.000
2062.0	24	2	4	102	98	38	35	4877	18	4	5	0	2	489	18.878	.000	2.171	2.171	16.764	0	.000	8	1.928	8	1.928	.000	.000
2069.0	24	2	4	102	98	38	35	4877	7	8	3	12	2	534	18.878	.000	2.077	2.171	16.764	0	.000	7	1.844	8	1.928	.000	.000
2061.0	24	2	4	102	98	38	35	0	41	9	3	0	1	0	.000	.000	.000	.000	.000	0	.000	51	.000	5	.000	18.878	16.764
2060.0	24	2	4	102	98	38	35	4877	13	2	6	0	2	458	18.878	.000	1.888	1.888	16.764	0	.000	5	1.676	5	1.676	.000	.000
2066.0	24	2	3	127	124	25	22	4877	0	0	0	0	0	697	15.732	2.281	.000	.000	13.421	22	1.946	0	.000	0	.000	.000	.000
2064.0	24	2	2	178	175	25	22	3658	0	0	0	0	0	699	16.518	2.395	.000	.000	14.195	23	2.058	0	.000	0	.000	.000	.000
2065.0	24	2	3	203	200	38	35	4877	8	2	1	0	1	518	37.756	.000	3.776	4.342	34.069	0	.000	51	3.407	8	3.918	.000	.000
2359.0	24	3	4	76	73	25	22	3353	0	0	0	0	0	734	6.489	.941	.000	.000	5.442	23	.789	0	.000	0	.000	.000	.000
2361.0	24	3	2	102	98	25	22	3658	0	0	0	0	0	681	9.439	1.369	.000	.000	8.001	23	1.160	0	.000	0	.000	.000	.000
2360.0	24	3	1	102	98	25	22	4877	0	0	0	0	0	666	12.585	1.825	.000	.000	10.668	24	1.547	0	.000	0	.000	.000	.000
2357.0	24	3	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
2355.0	24	3	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
2358.0	24	3	4	102	98	38	35	4877	1	3	4	0	3	525	18.878	.000	2.171	2.171	16.764	0	.000	8	1.928	8	1.928	.000	.000
2356.0	24	3	4	102	98	38	35	4877	20	5	1	0	1	452	18.878	.000	1.888	1.888	16.764	0	.000	51	1.676	5	1.676	.000	.000
2351.0	24	3	3	127	124	25	22	4267	0	0	0	0	0	672	13.765	1.996	.000	.000	11.743	23	1.703	0	.000	0	.000	.000	.000
2350.0	24	3	3	152	149	38	35	4877	14	7	1	16	2	508	28.317	.000	2.832	3.256	25.416	0	.000	5	2.542	8	2.923	.000	.000
2263.0	24	4	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
2266.0	24	4	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
2261.0	24	4	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
2262.0	24	4	4	102	98	38	35	4877	73	9	3	0	1	435	18.878	.000	.944	.944	16.764	0	.000	1	.838	1	.838	.000	.000
2201.0	24	5	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
2200.0	24	5	4	102	98	38	35	4572	20	2	2	0	1	453	17.698	.000	1.770	1.947	15.716	0	.000	51	1.572	7	1.729	.000	.000
2023.0	25	1	3	76	73	25	22	4877	0	0	0	0	0	504	9.439	1.369	.000	.000	7.915	23	1.148	0	.000	0	.000	.000	.000
2022.0	25	1	4	76	73	25	22	2438	0	0	0	0	0	813	4.719	.684	.000	.000	3.957	23	.574	0	.000	0	.000	.000	.000
2021.0	25	1	4	102	98	38	35	4877	9	3	4	10	2	540	18.878	.000	2.077	2.171	16.764	0	.000	7	1.844	8	1.928	.000	.000
2018.0	25	1	4	102	98	38	35	4572	5	4	10	0	2	529	17.698	.000	1.947	1.947	15.716	0	.000	7	1.729	7	1.729	.000	.000
2019.0	25	1	4	102	98	38	35	4572	20	23	1	0	1	495	17.698	.000	1.770	1.416	15.716	0	.000	51	1.572	4	1.257	.000	.000

2020.0	25	1	4	102	98	38	35	4877	19	11	19	0	1	496	18.878	.000	1.888	1.510	16.764	0	.000	51	1.676	4	1.341	.000	.000
2017.0	25	1	1	127	124	25	22	4877	0	0	0	0	0	756	15.732	2.281	.000	.000	13.421	23	1.946	0	.000	0	.000	.000	.000
2024.0	25	1	3	127	124	25	22	4572	0	0	0	0	0	637	14.748	2.139	.000	.000	12.582	23	1.824	0	.000	0	.000	.000	.000
2112.0	25	2	3	76	73	25	22	3962	0	0	0	0	0	739	7.669	1.112	.000	.000	6.431	23	.932	0	.000	0	.000	.000	.000
2110.0	25	2	4	76	73	25	22	4877	0	0	0	0	0	556	9.439	1.369	.000	.000	7.915	24	1.148	0	.000	0	.000	.000	.000
2107.0	25	2	4	102	98	38	35	4877	13	7	2	0	2	505	18.878	.000	2.077	2.171	16.764	0	.000	7	1.844	8	1.928	.000	.000
2111.0	25	2	3	102	98	38	35	4877	13	9	2	0	2	509	18.878	.000	1.888	2.077	16.764	0	.000	5	1.676	7	1.844	.000	.000
2108.0	25	2	4	102	98	38	35	4877	36	13	3	10	1	463	18.878	.000	1.888	1.888	16.764	0	.000	51	1.676	5	1.676	.000	.000
2109.0	25	2	4	102	98	38	35	4267	27	2	6	0	2	488	16.518	.000	1.652	1.652	14.668	0	.000	51	1.467	5	1.467	.000	.000
2157.0	25	3	2	76	73	25	22	4572	0	0	0	0	0	720	8.849	1.283	.000	.000	7.420	22	1.076	0	.000	0	.000	.000	.000
2160.0	25	3	4	102	98	38	35		0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
2158.0	25	3	4	102	98	38	35		0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
2159.0	25	3	4	102	98	38	35		0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
2101.0	25	4	4	76	73	25	22	3962	0	0	0	0	0	675	7.669	.614	.000	.000	6.431	25	.514	0	.000	0	.000	.000	.000
2100.0	25	4	4	76	73	25	22	3962	0	0	0	0	0	627	7.669	.614	.000	.000	6.431	25	.514	0	.000	0	.000	.000	.000
2098.0	25	4	2	102	98	25	22	4877	0	0	0	0	0	578	12.585	1.825	.000	.000	10.668	24	1.547	0	.000	0	.000	.000	.000
2099.0	25	4	4	102	98	38	35		0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
2253.0	26	1	1	76	73	25	22	4572	0	0	0	0	0	816	8.849	1.283	.000	.000	7.420	23	1.076	0	.000	0	.000	.000	.000
2254.0	26	1	2	102	98	25	22	3658	0	0	0	0	0	788	9.439	1.369	.000	.000	8.001	23	1.160	0	.000	0	.000	.000	.000
2258.0	26	1	4	102	98	38	35		0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
2256.0	26	1	4	102	98	38	35		0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
2255.0	26	1	4	102	98	38	35	4877	2	3	4	0	2	585	18.878	.000	2.171	2.360	16.764	0	.000	8	1.928	11	2.095	.000	.000
2257.0	26	1	4	102	98	38	35	4267	8	9	2	0	1	491	16.518	.000	1.652	1.652	14.668	0	.000	51	1.467	5	1.467	.000	.000
2252.0	26	1	3	152	149	38	35	4572	4	3	7	14	1	535	26.547	.000	2.655	2.920	23.828	0	.000	51	2.383	7	2.621	.000	.000
2217.0	26	3	4	102	98	38	35	4877	5	3	2	0	2	502	18.878	.000	.944	2.077	16.764	0	.000	1	.838	7	1.844	.000	.000
2215.0	26	3	4	102	98	38	35	4877	10	2	2	0	1	509	18.878	.000	1.888	2.077	16.764	0	.000	51	1.676	7	1.844	.000	.000
2216.0	26	3	4	102	98	38	35	4877	23	3	2	0	1	450	18.878	.000	1.888	1.888	16.764	0	.000	51	1.676	5	1.676	.000	.000
2402.0	27	1	1	76	73	25	22	3962	0	0	0	0	0	666	7.669	1.112	.000	.000	6.431	22	.932	0	.000	0	.000	.000	.000
2392.0	27	1	3	102	98	25	22	4572	0	0	0	0	0	667	11.799	1.711	.000	.000	10.001	23	1.450	0	.000	0	.000	.000	.000
2401.0	27	1	4	102	98	25	22	4267	0	0	0	0	0	706	11.012	1.597	.000	.000	9.334	22	1.353	0	.000	0	.000	.000	.000
2398.0	27	1	4	102	98	38	35		0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
2400.0	27	1	4	102	98	38	35		0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
2399.0	27	1	4	102	98	38	35	4877	12	26	2	0	1	487	18.878	.000	1.888	1.888	16.764	0	.000	51	1.676	5	1.676	.000	.000
2393.0	27	1	3	152	149	38	35	4572	4	2	5	14	1	483	26.547	.000	2.655	2.920	23.828	0	.000	51	2.383	7	2.621	.000	.000
2362.0	27	2	1	102	98	25	22	3658	0	0	0	0	0	622	9.439	1.369	.000	.000	8.001	23	1.160	0	.000	0	.000	.000	.000
2366.0	27	2	4	102	98	25	22	4572	0	0	0	0	0	609	11.799	1.711	.000	.000	10.001	23	1.450	0	.000	0	.000	.000	.000
2367.0	27	2	3	102	98	25	22	4572	0	0	0	0	0	600	11.799	1.711	.000	.000	10.001	23	1.450	0	.000	0	.000	.000	.000
2365.0	27	2	4	102	98	38	35	4572	6	5	2	12	2	475	17.698	.000	2.212	1.947	15.716	0	.000	11	1.965	7	1.729	.000	.000
2363.0	27	2	4	102	98	38	35	4572	6	1	1	0	1	474	17.698	.000	1.770	1.947	15.716	0	.000	51	1.572	7	1.729	.000	.000
2364.0	27	2	4	102	98	38	35	4877	37	1	1	0	1	480	18.878	.000	1.888	1.888	16.764	0	.000	51	1.676	5	1.676	.000	.000
2338.0	27	3	2	76	73	25	22	4877	0	0	0	0	0	608	9.439	1.369	.000	.000	7.915	24	1.148	0	.000	0	.000	.000	.000
2339.0	27	3	4	102	98	25	22	4877	0	0	0	0	0	558	12.585	1.825	.000	.000	10.668	23	1.547	0	.000	0	.000	.000	.000
2340.0	27	3	4	102	98	38	35		0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
2342.0	27	3	4	102	98	38	35		0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
2341.0	27	3	4	102	98	38	35	4877	19	2	5	0	1	461	18.878	.000	1.888	1.888	16.764	0	.000	51	1.676	5	1.676	.000	.000
2072.0	27	4	4	102	98	38	35	3962	25	8	3	0	1	408	15.338	.000	1.534	1.534	13.621	0	.000	51	1.362	5	1.362	.000	.000
2071.0	27	4	4	102	98	38	35	3962	31	13	4	0	1	412	15.338	.000	1.534	1.534	13.621	0	.000	51	1.362	5	1.362	.000	.000
2055.0	28	1	4	76	73	25	22	4877	0	0	0	0	0	610	9.439	1.369	.000	.000	7.915	22	1.148	0	.000	0	.000	.000	.000
2056.0	28	1	4	102	98	25	22	4267	0	0	0	0	0	678	11.012	1.597	.000	.000	9.334	23	1.353	0	.000	0	.000	.000	.000
2053.0	28	1	3	102	98	38	35		0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
2054.0	28	1	4	102	98	38	35	4877	10	7	5	0	2	507	18.878	.000	2.171	2.077	16.764	0	.000	8	1.928	7	1.844	.000	.000
2055.1	28	1	4	102	98	38	35	4877	48	14	3	0	1	443	18.878	.000	.944	.944	16.764	0	.000	1	.838	1	.838	.000	.000
2006.0	28	2	2	102	98	25	22	2743	0	0	0	0	0	702	7.079	1.026	.000	.000	6.001	23	.870	0	.000	0	.000	.000	.000
2008.0	28	2	4	102	98	38	35	4877	39	8	2	0	1	480	18.878	.000	1.888	2.077	16.764	0	.000	51	1.676	7	1.844	.000	.000

2007.0	28	2	4	102	98	38	35	4877	13	1	2	12	1	488	18.878	.000	1.888	2.077	16.764	0	.000	51	1.676	7	1.844	.000	.000
2092.0	28	3	4	102	98	38	35	4877	24	3	3	0	1	483	18.878	.000	1.888	2.171	16.764	0	.000	51	1.676	8	1.928	.000	.000
2091.0	28	3	4	102	98	38	35	4877	46	10	8	0	1	474	18.878	.000	.944	.944	16.764	0	.000	1	.838	1	.838	.000	.000
2135.0	29	1	4	76	73	25	22	4877	0	0	0	0	0	708	9.439	1.369	.000	.000	7.915	23	1.148	0	.000	0	.000	.000	.000
2131.0	29	1	1	76	73	25	22	3353	0	0	0	0	0	769	6.489	.941	.000	.000	5.442	23	.789	0	.000	0	.000	.000	.000
2134.0	29	1	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
2133.0	29	1	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
2132.0	29	1	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
2136.0	29	1	3	152	149	38	35	4877	9	5	4	12	1	524	28.317	.000	2.832	3.256	25.416	0	.000	51	2.542	8	2.923	.000	.000
2123.0	29	3	3	76	73	25	22	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	9.439	7.915
2126.0	29	3	4	102	98	25	22	4877	0	0	0	0	0	600	12.585	1.825	.000	.000	10.668	23	1.547	0	.000	0	.000	.000	.000
2125.0	29	3	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
2124.0	29	3	4	102	98	38	35	4877	17	5	3	0	2	446	18.878	.000	1.888	2.077	16.764	0	.000	5	1.676	7	1.844	.000	.000
2076.0	29	4	4	102	98	38	35	4877	40	11	2	0	1	437	18.878	.000	.944	2.077	16.764	0	.000	1	.838	7	1.844	.000	.000
2075.0	29	4	4	102	98	38	35	4877	46	15	2	0	1	421	18.878	.000	.944	.944	16.764	0	.000	1	.838	1	.838	.000	.000
2081.0	30	1	3	76	73	25	22	3658	0	0	0	0	0	720	7.079	1.026	.000	.000	5.936	23	.861	0	.000	0	.000	.000	.000
2080.0	30	1	4	76	73	25	22	3658	0	0	0	0	0	730	7.079	.566	.000	.000	5.936	25	.475	0	.000	0	.000	.000	.000
2077.0	30	1	3	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
2078.0	30	1	4	102	98	38	35	3962	43	6	1	0	2	487	15.338	.000	1.534	1.687	13.621	0	.000	51	1.362	7	1.498	.000	.000
2079.0	30	1	4	102	98	38	35	3962	24	6	10	9	1	507	15.338	.000	1.534	1.534	13.621	0	.000	51	1.362	5	1.362	.000	.000
2164.0	30	2	4	102	98	25	22	4572	0	0	0	0	0	702	11.799	1.711	.000	.000	10.001	23	1.450	0	.000	0	.000	.000	.000
2161.0	30	2	3	102	98	25	22	4877	0	0	0	0	0	716	12.585	1.825	.000	.000	10.668	23	1.547	0	.000	0	.000	.000	.000
2163.0	30	2	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
2162.0	30	2	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
2209.0	30	3	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
2208.0	30	3	4	102	98	38	35	4877	25	3	1	0	1	498	18.878	.000	1.888	2.077	16.764	0	.000	51	1.676	7	1.844	.000	.000

FILE TYL31

2815.0	31	1	4	76	73	25	22	4267	0	0	0	0	0	787	8.259	1.198	.000	.000	6.926	23	1.004	0	.000	0	.000	.000	.000
2814.0	31	1	4	76	73	25	22	3962	0	0	0	0	0	788	7.669	1.112	.000	.000	6.431	23	.932	0	.000	0	.000	.000	.000
2391.0	31	1	2	76	73	25	22	4877	0	0	0	0	0	747	9.439	.755	.000	.000	7.915	25	.633	0	.000	0	.000	.000	.000
2813.0	31	1	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
2812.0	31	1	4	102	98	38	35	4877	13	6	8	0	2	558	18.878	.000	1.888	2.077	16.764	0	.000	5	1.676	7	1.844	.000	.000
2811.0	31	1	4	102	98	38	35	4877	20	6	8	0	1	543	18.878	.000	1.888	1.888	16.764	0	.000	51	1.676	5	1.676	.000	.000
2808.0	31	1	3	127	124	25	22	2743	0	0	0	0	0	696	8.849	1.283	.000	.000	7.549	22	1.095	0	.000	0	.000	.000	.000
2810.0	31	1	3	152	149	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	28.317	25.416
2809.0	31	1	3	152	149	38	35	3962	25	0	11	11	2	555	23.007	.000	1.150	2.531	20.651	0	.000	1	1.033	7	2.272	.000	.000
2031.0	31	2	4	76	73	25	22	4877	0	0	0	0	0	664	9.439	1.369	.000	.000	7.915	23	1.148	0	.000	0	.000	.000	.000
2025.0	31	2	1	76	73	25	22	3658	0	0	0	0	0	0	7.079	1.026	.000	.000	5.936	23	.861	0	.000	0	.000	.000	.000
2029.0	31	2	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
2027.0	31	2	4	102	98	38	35	4877	10	3	7	0	3	534	18.878	.000	2.171	2.171	16.764	0	.000	8	1.928	8	1.928	.000	.000
2030.0	31	2	4	102	98	38	35	4572	37	9	3	0	2	492	17.698	.000	1.947	1.770	15.716	0	.000	7	1.729	5	1.572	.000	.000
2028.0	31	2	4	102	98	38	35	4877	33	5	7	0	2	468	18.878	.000	.944	1.888	16.764	0	.000	1	.838	5	1.676	.000	.000
2025.1	31	2	1	102	98	38	35	4877	59	12	0	11	1	425	18.878	.000	.944	.944	16.764	0	.000	1	.838	1	.838	.000	.000
2026.0	31	2	2	127	124	25	22	3353	0	0	0	0	0	685	10.815	1.568	.000	.000	9.227	22	1.338	0	.000	0	.000	.000	.000
2033.0	31	2	3	127	124	25	22	4267	0	0	0	0	0	642	13.765	1.996	.000	.000	11.743	24	1.703	0	.000	0	.000	.000	.000
2032.0	31	2	3	152	149	38	35	4267	3	2	3	11	2	527	24.777	.000	2.478	2.849	22.239	0	.000	5	2.224	8	2.558	.000	.000
2144.0	31	3	1	76	73	25	22	3353	0	0	0	0	0	707	6.489	.941	.000	.000	5.442	23	.789	0	.000	0	.000	.000	.000
2148.0	31	3	4	102	98	25	22	4877	0	0	0	0	0	595	12.585	1.825	.000	.000	10.668	24	1.547	0	.000	0	.000	.000	.000
2146.0	31	3	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
2145.0	31	3	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
2147.0	31	3	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
2149.0	31	3	3	152	149	38	35	4877	7	3	3	0	2	497	28.317	.000	3.115	3.115	25.416	0	.000	7	2.796	7	2.796	.000	.000
2178.0	31	4	3	76	73	25	22	3658	0	0	0	0	0	631	7.079	1.026	.000	.000	5.936	23	.861	0	.000	0	.000	.000	.000
2180.0	31	4	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
2179.0	31	4	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
2181.0	31	4	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
2748.0	32	1	4	76	73	25	22	4877	0	0	0	0	0	714	9.439	.755	.000	.000	7.915	25	.633	0	.000	0	.000	.000	.000
2747.0	32	1	4	102	98	25	22	4877	0	0	0	0	0	624	12.585	1.825	.000	.000	10.668	24	1.547	0	.000	0	.000	.000	.000
2749.0	32	1	4	102	98	25	22	4572	0	0	0	0	0	669	11.799	1.711	.000	.000	10.001	23	1.450	0	.000	0	.000	.000	.000
2745.0	32	1	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
2746.0	32	1	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
2741.0	32	1	3	127	124	25	22	3048	0	0	0	0	0	722	9.832	1.426	.000	.000	8.388	23	1.216	0	.000	0	.000	.000	.000
2744.0	32	1	4	152	149	25	22	2134	0	0	0	0	0	680	8.259	1.198	.000	.000	7.076	23	1.026	0	.000	0	.000	.000	.000
2743.0	32	1	4	152	149	38	35	3658	0	0	10	10	2	550	21.238	.000	2.336	2.124	19.062	0	.000	7	2.097	5	1.906	.000	.000
2742.0	32	1	4	203	200	38	35	4267	11	2	3	0	1	511	33.036	.000	3.304	3.799	29.810	0	.000	51	2.981	8	3.428	.000	.000
1971.0	32	2	4	102	98	25	22	4877	0	0	0	0	0	653	12.585	1.825	.000	.000	10.668	23	1.547	0	.000	0	.000	.000	.000
1965.0	32	2	2	102	98	38	35	4572	14	3	2	0	3	524	17.698	.000	1.770	2.035	15.716	0	.000	5	1.572	8	1.807	.000	.000
1970.0	32	2	4	102	98	38	35	4877	20	8	2	0	1	425	18.878	.000	1.888	2.077	16.764	0	.000	51	1.676	7	1.844	.000	.000
1967.0	32	2	4	102	98	38	35	4877	19	4	3	0	2	507	18.878	.000	2.171	2.077	16.764	0	.000	8	1.928	7	1.844	.000	.000
1969.0	32	2	4	102	98	38	35	4877	40	6	5	0	2	502	18.878	.000	1.888	1.888	16.764	0	.000	51	1.676	5	1.676	.000	.000
1968.0	32	2	4	102	98	38	35	4877	30	8	6	9	1	470	18.878	.000	1.888	1.888	16.764	0	.000	51	1.676	5	1.676	.000	.000
1973.0	32	2	3	127	124	25	22	4877	0	0	0	0	0	657	15.732	2.281	.000	.000	13.421	22	1.946	0	.000	0	.000	.000	.000
1966.0	32	2	4	127	124	25	22	4267	0	0	0	0	0	697	13.765	1.996	.000	.000	11.743	23	1.703	0	.000	0	.000	.000	.000
1972.0	32	2	3	152	149	38	35	4877	8	1	3	0	2	504	28.317	.000	2.832	3.115	25.416	0	.000	5	2.542	7	2.796	.000	.000
1956.0	32	3	2	76	73	25	22	4267	0	0	0	0	0	655	8.259	1.198	.000	.000	6.926	23	1.004	0	.000	0	.000	.000	.000
1955.0	32	3	4	102	98	25	22	4877	0	0	0	0	0	605	12.585	1.007	.000	.000	10.668	25	.853	0	.000	0	.000	.000	.000
1953.0	32	3	4	102	98	38	35	4877	28	15	3	0	2	450	18.878	.000	1.888	2.077	16.764	0	.000	5	1.676	7	1.844	.000	.000
1952.0	32	3	4	102	98	38	35	4877	7	4	2	0	2	455	18.878	.000	1.888	2.077	16.764	0	.000	5	1.676	7	1.844	.000	.000
1954.0	32	3	4	102	98	38	35	4877	24	10	3	0	1	435	18.878	.000	.944	1.888	16.764	0	.000	1	.838	5	1.676	.000	.000
1953.1	32	3	4	102	98	38	35	4877	22	5	4	0	1	436	18.878	.000	1.888	1.888	16.764	0	.000	51	1.676	5	1.676	.000	.000
1957.0	32	3	3	152	149	38	35	4877	1	6	1	0	1	464	28.317	.000	1.416	2.265	25.416	0	.000	1	1.271	4	2.033	.000	.000

2750.0	33	1	3	76	73	25	22	2743	0	0	0	0	0	810	5.309	.770	.000	.000	4.452	23	.646	0	.000	0	.000	.000	.000
2755.0	33	1	4	152	149	25	22	4877	0	0	0	0	0	702	18.878	2.737	.000	.000	16.174	23	2.345	0	.000	0	.000	.000	.000
2754.0	33	1	4	152	149	25	22	3048	0	0	0	0	0	714	11.799	1.711	.000	.000	10.109	24	1.466	0	.000	0	.000	.000	.000
2753.0	33	1	4	178	175	25	22	4877	0	0	0	0	0	701	22.024	3.194	.000	.000	18.927	24	2.744	0	.000	0	.000	.000	.000
2752.0	33	1	4	203	200	25	22	3962	0	0	0	0	0	0	20.451	.000	.000	.000	17.615	0	.000	0	.000	0	.000	.000	.000
2751.0	33	1	4	203	200	25	22	3962	0	0	0	0	0	644	20.451	1.536	.000	.000	17.615	25	1.409	0	.000	0	.000	.000	.000
2751.1	33	1	4	203	200	38	35	4267	6	2	5	0	1	573	33.036	.000	1.652	3.799	29.810	0	.000	1	1.491	8	3.428	.000	.000
2267.0	33	2	2	102	98	25	22	2743	0	0	0	0	0	742	7.079	1.026	.000	.000	6.001	23	.870	0	.000	0	.000	.000	.000
2259.0	33	2	1	102	98	25	22	3962	0	0	0	0	0	752	10.226	1.483	.000	.000	8.668	23	1.257	0	.000	0	.000	.000	.000
2260.0	33	2	2	102	98	25	22	3353	0	0	0	0	0	762	8.652	1.255	.000	.000	7.334	23	1.063	0	.000	0	.000	.000	.000
2271.0	33	2	4	102	98	38	35	3962	6	3	1	0	3	559	15.338	.000	1.917	1.917	13.621	0	.000	11	1.703	11	1.703	.000	.000
2269.0	33	2	4	102	98	38	35	4877	0	5	6	9	3	526	18.878	.000	.944	2.171	16.764	0	.000	1	.838	8	1.928	.000	.000
2270.0	33	2	4	102	98	38	35	4877	11	6	13	0	2	507	18.878	.000	.944	1.888	16.764	0	.000	1	.838	5	1.676	.000	.000
2268.0	33	2	4	102	98	38	35	4572	7	0	1	0	1	542	17.698	.000	.885	1.770	15.716	0	.000	1	.786	5	1.572	.000	.000
2272.0	33	2	3	152	149	38	35	4877	10	2	3	0	1	550	28.317	.000	1.416	3.115	25.416	0	.000	1	1.271	7	2.796	.000	.000
1963.0	33	3	4	76	73	25	22	3048	0	0	0	0	0	708	5.899	.855	.000	.000	4.947	23	.717	0	.000	0	.000	.000	.000
1962.0	33	3	4	102	98	25	22	4572	0	0	0	0	0	636	11.799	1.711	.000	.000	10.001	23	1.450	0	.000	0	.000	.000	.000
1959.0	33	3	4	102	98	38	35	4572	4	4	3	10	2	510	17.698	.000	2.035	2.035	15.716	0	.000	8	1.807	8	1.807	.000	.000
1961.0	33	3	4	102	98	38	35	4572	21	4	2	0	1	463	17.698	.000	1.770	1.947	15.716	0	.000	51	1.572	7	1.729	.000	.000
1960.0	33	3	4	102	98	38	35	4572	38	9	4	0	1	466	17.698	.000	1.770	1.947	15.716	0	.000	51	1.572	7	1.729	.000	.000
1958.0	33	3	2	152	149	25	22	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.174
1964.0	33	3	3	152	149	38	35	4572	1	2	4	13	3	488	26.547	.000	3.053	3.318	23.828	0	.000	8	2.740	11	2.978	.000	.000
1986.0	33	4	3	102	98	25	22	3353	0	0	0	0	0	557	8.652	1.255	.000	.000	7.334	23	1.063	0	.000	0	.000	.000	.000
1989.0	33	4	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
1987.0	33	4	4	102	98	38	35	4877	3	8	3	0	1	429	18.878	.000	1.888	1.888	16.764	0	.000	51	1.676	5	1.676	.000	.000
1988.0	33	4	4	102	98	38	35	4877	39	8	5	9	1	435	18.878	.000	1.888	1.510	16.764	0	.000	51	1.676	4	1.341	.000	.000
2121.0	34	1	2	102	98	25	22	3353	0	0	0	0	0	802	8.652	1.255	.000	.000	7.334	23	1.063	0	.000	0	.000	.000	.000
2120.0	34	1	4	102	98	25	22	4267	0	0	0	0	0	719	11.012	1.597	.000	.000	9.334	23	1.353	0	.000	0	.000	.000	.000
2116.0	34	1	1	102	98	25	22	2743	0	0	0	0	0	833	7.079	1.026	.000	.000	6.001	23	.870	0	.000	0	.000	.000	.000
2117.0	34	1	4	102	98	38	35	4572	7	3	3	0	2	596	17.698	.000	2.212	2.212	15.716	0	.000	11	1.965	11	1.965	.000	.000
2122.0	34	1	3	102	98	38	35	4877	6	4	5	0	3	599	18.878	.000	2.171	2.171	16.764	0	.000	8	1.928	8	1.928	.000	.000
2118.0	34	1	4	102	98	38	35	4572	13	8	15	0	1	528	17.698	.000	1.770	1.770	15.716	0	.000	51	1.572	5	1.572	.000	.000
2119.0	34	1	4	102	98	38	35	4267	13	11	2	10	1	552	16.518	.000	1.652	1.652	14.668	0	.000	51	1.467	5	1.467	.000	.000
2155.0	34	2	4	76	73	25	22	4877	0	0	0	0	0	710	9.439	1.369	.000	.000	7.915	23	1.148	0	.000	0	.000	.000	.000
2153.0	34	2	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
2152.0	34	2	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
2154.0	34	2	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
2156.0	34	2	3	152	149	38	35	4877	3	6	2	12	2	596	28.317	.000	1.416	3.540	25.416	0	.000	1	1.271	11	3.177	.000	.000
2189.0	34	3	3	102	98	25	22	4572	0	0	0	0	0	726	11.799	1.711	.000	.000	10.001	24	1.450	0	.000	0	.000	.000	.000
2193.0	34	3	4	102	98	25	22	4267	0	0	0	0	0	740	11.012	1.597	.000	.000	9.334	23	1.353	0	.000	0	.000	.000	.000
2192.0	34	3	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
2191.0	34	3	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
2190.0	34	3	4	102	98	38	35	4572	5	3	5	0	1	525	17.698	.000	1.770	2.035	15.716	0	.000	51	1.572	8	1.807	.000	.000
2798.0	35	1	2	76	73	25	22	3353	0	0	0	0	0	796	6.489	.941	.000	.000	5.442	23	.789	0	.000	0	.000	.000	.000
2803.0	35	1	4	76	73	25	22	4877	0	0	0	0	0	712	9.439	.755	.000	.000	7.915	25	.633	0	.000	0	.000	.000	.000
2807.0	35	1	4	76	73	25	22	4572	0	0	0	0	0	769	8.849	1.283	.000	.000	7.420	24	1.076	0	.000	0	.000	.000	.000
2804.0	35	1	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
2806.0	35	1	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
2805.0	35	1	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
2799.0	35	1	3	152	149	25	22	2134	0	0	0	0	0	696	8.259	1.198	.000	.000	7.076	23	1.026	0	.000	0	.000	.000	.000
2801.0	35	1	3	203	200	25	22	3962	0	0	0	0	0	679	20.451	2.965	.000	.000	17.615	23	2.554	0	.000	0	.000	.000	.000
2800.0	35	1	3	203	200	25	22	2743	0	0	0	0	0	676	14.158	2.053	.000	.000	12.195	23	1.768	0	.000	0	.000	.000	.000
2802.0	35	1	3	203	200	25	22	3658	0	0	0	0	0	773	18.878	2.737	.000	.000	16.260	23	2.358	0	.000	0	.000	.000	.000
2430.0	35	3	3	76	73	25	22	4877	0	0	0	0	0	655	9.439	.755	.000	.000	7.915	25	.633	0	.000	0	.000	.000	.000

2428.0	35	3	2	102	98	25	22	3658	0	0	0	0	0	683	9.439	.755	.000	.000	8.001	25	.640	0	.000	0	.000	.000	.000
2423.0	35	3	1	102	98	25	22	4267	0	0	0	0	0	610	11.012	1.597	.000	.000	9.334	23	1.353	0	.000	0	.000	.000	.000
2427.0	35	3	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
2426.0	35	3	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
2425.0	35	3	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
2424.0	35	3	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
2430.1	35	3	3	102	98	38	35	4877	19	2	4	0	2	503	18.878	.000	2.360	2.077	16.764	0	.000	11	2.095	7	1.844	.000	.000
2429.0	35	3	3	152	149	38	35	4877	35	2	1	0	1	495	28.317	.000	2.832	3.115	25.416	0	.000	51	2.542	7	2.796	.000	.000
2102.0	35	4	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
2103.0	35	4	4	102	98	38	35	4877	26	9	3	10	2	443	18.878	.000	1.888	2.077	16.764	0	.000	5	1.676	7	1.844	.000	.000
2104.0	35	4	4	102	98	38	35	4572	22	4	4	0	2	452	17.698	.000	1.947	1.770	15.716	0	.000	7	1.729	5	1.572	.000	.000
1498.0	36	1	4	102	98	25	22	4877	0	0	0	0	0	701	12.585	1.925	.000	.000	10.668	23	1.547	0	.000	0	.000	.000	.000
1491.0	36	1	2	102	98	25	22	2743	0	0	0	0	0	750	7.079	1.026	.000	.000	6.001	24	.870	0	.000	0	.000	.000	.000
1497.0	36	1	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
1495.0	36	1	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
1494.0	36	1	4	102	98	38	35	3962	6	7	1	0	3	593	15.338	.000	1.764	1.917	13.621	0	.000	8	1.566	11	1.703	.000	.000
1496.0	36	1	4	102	98	38	35	4877	7	7	8	0	1	480	18.878	.000	1.888	1.888	16.764	0	.000	51	1.676	5	1.676	.000	.000
1493.0	36	1	3	127	124	25	22	4877	3	0	0	0	0	688	15.732	2.281	.000	.000	13.421	24	1.946	0	.000	0	.000	.000	.000
1492.0	36	1	2	152	149	38	35	3962	6	3	3	0	2	569	23.007	.000	2.646	2.876	20.651	0	.000	8	2.375	11	2.581	.000	.000
1768.0	36	2	1	76	73	25	22	2134	0	0	0	0	0	660	4.130	.599	.000	.000	3.463	23	.502	0	.000	0	.000	.000	.000
1771.0	36	2	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
1773.0	36	2	4	102	98	38	35	4877	2	5	2	0	2	509	18.878	.000	2.171	2.171	16.764	0	.000	8	1.928	8	1.928	.000	.000
1772.0	36	2	4	102	98	38	35	4877	14	4	1	0	1	455	18.878	.000	1.888	2.077	16.764	0	.000	51	1.676	7	1.844	.000	.000
1770.0	36	2	4	102	98	38	35	4877	0	0	0	11	2	511	18.878	.000	2.077	2.360	16.764	0	.000	7	1.844	11	2.095	.000	.000
1774.0	36	2	4	102	98	38	35	4877	0	3	0	11	1	490	18.878	.000	1.888	2.171	16.764	0	.000	51	1.676	8	1.928	.000	.000
1769.0	36	2	2	102	98	38	35	4572	2	3	3	11	3	548	17.698	.000	1.770	2.035	15.716	0	.000	5	1.572	8	1.807	.000	.000
1932.0	36	3	4	102	98	25	22	4877	0	0	0	0	0	576	12.585	1.825	.000	.000	10.668	23	1.547	0	.000	0	.000	.000	.000
1928.0	36	3	2	102	98	25	22	2438	0	0	0	0	0	614	6.293	.912	.000	.000	5.334	24	.773	0	.000	0	.000	.000	.000
1929.0	36	3	4	102	98	38	35	4877	4	6	3	9	2	451	18.878	.000	1.888	2.171	16.764	0	.000	5	1.676	8	1.928	.000	.000
1930.0	36	3	4	102	98	38	35	4877	43	3	2	0	1	425	18.878	.000	1.888	2.077	16.764	0	.000	51	1.676	7	1.844	.000	.000
1931.0	36	3	4	102	98	38	35	4877	32	2	3	0	1	438	18.878	.000	1.888	1.888	16.764	0	.000	51	1.676	5	1.676	.000	.000
1933.0	36	3	3	127	124	25	22	4877	0	0	0	0	0	577	15.732	1.259	.000	.000	13.421	25	1.074	0	.000	0	.000	.000	.000
1825.0	36	4	2	76	73	25	22	3048	0	0	0	0	0	545	5.899	.855	.000	.000	4.947	23	.717	0	.000	0	.000	.000	.000
1812.0	36	4	4	102	98	25	22	3048	0	0	0	0	0	523	7.866	1.141	.000	.000	6.667	23	.967	0	.000	0	.000	.000	.000
1815.0	36	4	4	102	98	25	22	3048	0	0	0	0	0	518	7.866	.629	.000	.000	6.667	25	.533	0	.000	0	.000	.000	.000
1813.0	36	4	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
1814.0	36	4	4	102	98	38	35	4572	37	8	5	0	1	428	17.698	.000	1.770	1.416	15.716	0	.000	51	1.572	4	1.257	.000	.000
2009.0	37	1	4	102	98	38	35	4572	9	3	2	0	3	590	17.698	.000	1.770	2.212	15.716	0	.000	5	1.572	11	1.965	.000	.000
2013.0	37	1	4	102	98	38	35	4877	12	2	4	0	2	514	18.878	.000	1.888	2.077	16.764	0	.000	5	1.676	7	1.844	.000	.000
2011.0	37	1	4	102	98	38	35	4877	30	11	4	0	1	450	18.878	.000	1.888	1.510	16.764	0	.000	51	1.676	4	1.341	.000	.000
2010.0	37	1	4	102	98	38	35	4877	12	9	7	0	2	481	18.878	.000	1.888	1.510	16.764	0	.000	5	1.676	4	1.341	.000	.000
2012.0	37	1	4	102	98	38	35	4877	32	6	1	0	1	444	18.878	.000	1.888	1.510	16.764	0	.000	51	1.676	4	1.341	.000	.000
2015.0	37	1	3	152	149	25	22	4572	0	0	0	0	0	758	17.698	2.566	.000	.000	15.163	23	2.199	0	.000	0	.000	.000	.000
2016.0	37	1	2	152	149	38	35	4267	1	2	2	0	2	567	24.777	.000	2.478	2.849	22.239	0	.000	5	2.224	8	2.558	.000	.000
2014.0	37	1	3	203	200	38	35	4877	3	3	4	10	2	536	37.756	.000	4.153	4.342	34.069	0	.000	7	3.748	8	3.918	.000	.000
1990.0	37	2	1	76	73	25	22	4877	0	0	0	0	0	764	9.439	1.369	.000	.000	7.915	23	1.148	0	.000	0	.000	.000	.000
1993.0	37	2	3	102	98	25	22	4877	0	0	0	0	0	735	12.585	1.825	.000	.000	10.668	23	1.547	0	.000	0	.000	.000	.000
1997.0	37	2	4	102	98	38	35	4877	2	2	7	9	2	506	18.878	.000	2.077	2.077	16.764	0	.000	7	1.844	7	1.844	.000	.000
1994.0	37	2	4	102	98	38	35	4877	3	3	3	0	2	484	18.878	.000	1.888	2.077	16.764	0	.000	5	1.676	7	1.844	.000	.000
1996.0	37	2	4	102	98	38	35	4877	28	5	3	0	1	454	18.878	.000	1.888	1.888	16.764	0	.000	51	1.676	5	1.676	.000	.000
1995.0	37	2	4	102	98	38	35	4877	32	2	4	0	1	451	18.878	.000	.944	1.510	16.764	0	.000	1	.838	4	1.341	.000	.000
1991.0	37	2	2	127	124	25	22	4877	0	0	0	0	0	696	15.732	1.259	.000	.000	13.421	25	1.074	0	.000	0	.000	.000	.000
1992.0	37	2	2	152	149	38	35	4877	6	3	3	0	1	519	28.317	.000	1.416	3.256	25.416	0	.000	1	1.271	8	2.923	.000	.000
2306.0	37	3	2	76	73	25	22	4267	0	0	0	0	0	729	8.259	1.198	.000	.000	6.926	23	1.004	0	.000	0	.000	.000	.000

2311.0	37	3	4	76	73	25	22	4877	0	0	0	0	2	712	9.439	1.369	.000	.000	7.915	22	1.148	0	.000	0	.000	.000	.000
2307.0	37	3	1	102	98	25	22	4877	0	0	0	0	0	687	12.585	1.825	.000	.000	10.668	23	1.547	0	.000	0	.000	.000	.000
2308.0	37	3	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
2312.0	37	3	3	102	98	38	35	4877	5	8	2	0	0	489	18.878	.000	1.888	2.171	16.764	0	.000	5	1.676	8	1.928	.000	.000
2310.0	37	3	4	102	98	38	35	4877	15	4	2	0	2	465	18.878	.000	2.077	2.077	16.764	0	.000	7	1.844	7	1.844	.000	.000
2309.0	37	3	4	102	98	38	35	4877	44	10	3	0	1	446	18.878	.000	1.888	1.888	16.764	0	.000	51	1.676	5	1.676	.000	.000
2314.0	37	4	2	76	73	25	22	4267	0	0	0	0	0	672	8.259	1.198	.000	.000	6.926	23	1.004	0	.000	0	.000	.000	.000
2315.0	37	4	3	76	73	25	22	3962	0	0	0	0	0	666	7.669	1.112	.000	.000	6.431	23	.932	0	.000	0	.000	.000	.000
2313.0	37	4	1	76	73	25	22	4877	0	0	0	0	0	623	9.439	.755	.000	.000	7.915	25	.633	0	.000	0	.000	.000	.000
2318.0	37	4	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
2317.0	37	4	4	102	98	38	35	4877	45	17	0	11	1	437	18.878	.000	.944	.944	16.764	0	.000	1	.838	1	.838	.000	.000
2316.0	37	4	4	102	98	38	35	4877	17	7	18	0	2	451	18.878	.000	.944	1.888	16.764	0	.000	1	.838	5	1.676	.000	.000
1946.0	37	5	4	102	98	25	22	2743	0	0	0	0	0	573	7.079	1.026	.000	.000	6.001	24	.870	0	.000	0	.000	.000	.000
1945.0	37	5	4	102	98	38	35	4267	0	0	0	0	0	419	16.518	.000	.000	.000	14.668	0	.000	0	.000	0	.000	.000	.000
1944.0	37	5	4	102	98	38	35	4267	19	3	3	0	1	447	16.518	.000	1.652	1.817	14.668	0	.000	51	1.467	7	1.614	.000	.000
1945.1	37	5	4	102	98	38	35	4267	47	15	2	0	1	417	16.518	.000	.826	.826	14.668	0	.000	1	.733	1	.733	.000	.000
2785.0	38	1	2	76	73	25	22	3962	0	0	0	0	0	812	7.669	1.112	.000	.000	6.431	23	.932	0	.000	0	.000	.000	.000
2778.0	38	1	4	76	73	25	22	4877	0	0	0	0	0	759	9.439	.755	.000	.000	7.915	25	.633	0	.000	0	.000	.000	.000
2782.0	38	1	4	76	73	25	22	4572	0	0	0	0	0	762	8.849	1.283	.000	.000	7.420	23	1.076	0	.000	0	.000	.000	.000
2780.0	38	1	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
2781.0	38	1	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
2779.0	38	1	4	102	98	38	35	4267	8	3	2	0	1	490	16.518	.000	.826	1.817	14.668	0	.000	1	.733	7	1.614	.000	.000
2788.0	38	1	1	152	149	25	22	2438	0	0	0	0	0	679	9.439	1.369	.000	.000	8.087	23	1.173	0	.000	0	.000	.000	.000
2784.0	38	1	4	152	149	38	35	4267	3	0	3	10	3	535	24.777	.000	2.478	2.725	22.239	0	.000	5	2.224	7	2.446	.000	.000
2783.0	38	1	4	203	200	38	35	4572	5	8	4	0	1	498	35.396	.000	3.540	3.540	31.939	0	.000	51	3.194	5	3.194	.000	.000
2222.0	38	2	4	76	73	25	22	2438	0	0	0	0	0	665	4.719	.684	.000	.000	3.957	23	.574	0	.000	0	.000	.000	.000
2223.0	38	2	1	102	98	25	22	4572	0	0	0	0	0	735	11.799	1.711	.000	.000	10.001	24	1.450	0	.000	0	.000	.000	.000
2220.0	38	2	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
2218.0	38	2	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
2219.0	38	2	4	102	98	38	35	4877	8	4	3	10	1	0	18.878	.000	1.888	1.888	16.764	0	.000	51	1.676	5	1.676	.000	.000
2221.0	38	2	4	102	98	38	35	4877	9	2	3	0	2	480	18.878	.000	2.171	1.888	16.764	0	.000	8	1.928	5	1.676	.000	.000
2231.0	38	2	3	127	124	25	22	3962	0	0	0	0	0	680	12.782	1.853	.000	.000	10.905	23	1.581	0	.000	0	.000	.000	.000
2230.0	38	2	3	152	149	38	35	4877	8	2	3	13	1	467	28.317	.000	1.416	3.115	25.416	0	.000	1	1.271	7	2.796	.000	.000
2236.0	38	3	4	76	73	25	22	4877	0	0	0	0	0	634	9.439	1.369	.000	.000	7.915	22	1.148	0	.000	0	.000	.000	.000
2232.0	38	3	1	76	73	25	22	3962	0	0	0	0	0	700	7.669	.614	.000	.000	6.431	25	.514	0	.000	0	.000	.000	.000
2242.0	38	3	3	76	73	25	22	4877	0	0	0	0	0	684	9.439	1.369	.000	.000	7.915	23	1.148	0	.000	0	.000	.000	.000
2237.0	38	3	2	76	73	25	22	4267	0	0	0	0	0	787	8.259	1.198	.000	.000	6.926	24	1.004	0	.000	0	.000	.000	.000
2234.0	38	3	4	102	98	38	35	4877	12	2	1	0	1	436	18.878	.000	1.888	1.888	16.764	0	.000	51	1.676	5	1.676	.000	.000
2233.0	38	3	4	102	98	38	35	4877	4	5	5	0	2	440	18.878	.000	.944	1.888	16.764	0	.000	1	.838	5	1.676	.000	.000
2235.0	38	3	4	102	98	38	35	4877	6	3	3	0	1	444	18.878	.000	1.888	1.888	16.764	0	.000	51	1.676	5	1.676	.000	.000
2243.0	38	3	3	152	149	38	35	4877	3	1	4	15	1	445	28.317	.000	2.832	3.115	25.416	0	.000	51	2.542	7	2.796	.000	.000
2391.0	39	1	2	76	73	25	22	4877	0	0	0	0	0	0	9.439	1.369	.000	.000	7.915	24	1.148	0	.000	0	.000	.000	.000
2390.0	39	1	1	76	73	25	22	2743	0	0	0	0	0	755	5.309	.770	.000	.000	4.452	23	.646	0	.000	0	.000	.000	.000
2405.0	39	1	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
2403.0	39	1	4	102	98	38	35	4877	26	12	8	0	2	517	18.878	.000	1.888	.944	16.764	0	.000	5	1.676	1	.838	.000	.000
2404.0	39	1	4	102	98	38	35	4877	22	7	7	0	1	463	18.878	.000	1.888	.944	16.764	0	.000	51	1.676	1	.838	.000	.000
2434.0	39	2	4	76	73	25	22	4572	0	0	0	0	0	671	8.849	1.283	.000	.000	7.420	23	1.076	0	.000	0	.000	.000	.000
2448.0	39	2	1	102	98	25	22	4877	0	0	0	0	0	0	12.585	1.825	.000	.000	10.668	24	1.547	0	.000	0	.000	.000	.000
2431.0	39	2	4	102	98	38	35	4572	6	4	12	9	2	526	17.698	.000	.885	1.947	15.716	0	.000	1	.786	7	1.729	.000	.000
2433.0	39	2	4	102	98	38	35	4572	14	3	1	0	1	476	17.698	.000	.885	1.416	15.716	0	.000	1	.786	4	1.257	.000	.000
2432.0	39	2	4	102	98	38	35	4572	48	13	2	0	1	486	17.698	.000	.885	.885	15.716	0	.000	1	.786	1	.786	.000	.000
2373.0	39	3	4	102	98	25	22	2134	0	0	0	0	0	654	5.506	.798	.000	.000	4.667	23	.677	0	.000	0	.000	.000	.000
2371.0	39	3	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
2371.1	39	3	4	102	98	38	35	4877	25	2	2	0	1	504	18.878	.000	1.888	2.171	16.764	0	.000	51	1.676	8	1.928	.000	.000

2372.0	39	3	4	102	98	38	35	3048	40	2	4	0	1	478	11.799	.000	1.180	1.357	10.477	0	.000	51	1.048	8	1.205	.000	.000
2327.0	40	2	1	76	73	25	22	4267	0	0	0	0	0	721	8.259	1.198	.000	.000	6.926	23	1.004	0	.000	0	.000	.000	.000
2334.0	40	2	3	76	73	25	22	3658	0	0	0	0	0	764	7.079	1.026	.000	.000	5.936	24	.861	0	.000	0	.000	.000	.000
2328.0	40	2	2	76	73	25	22	4572	0	0	0	0	0	848	8.849	1.283	.000	.000	7.420	23	1.076	0	.000	0	.000	.000	.000
2332.0	40	2	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
2331.0	40	2	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
2329.0	40	2	4	102	98	38	35	4877	12	3	3	0	3	538	18.878	.000	1.888	2.171	16.764	0	.000	5	1.676	8	1.928	.000	.000
2330.1	40	2	4	102	98	38	35	4572	33	4	3	0	1	478	17.698	.000	1.770	1.947	15.716	0	.000	51	1.572	7	1.729	.000	.000
2330.2	40	2	4	102	98	38	35	4572	9	5	2	0	2	538	17.698	.000	2.035	1.947	15.716	0	.000	8	1.807	7	1.729	.000	.000
2330.0	40	2	4	102	98	38	35	4572	40	3	11	0	1	462	17.698	.000	1.770	.885	15.716	0	.000	51	1.572	1	.786	.000	.000
2333.0	40	2	3	152	149	38	35	4572	2	3	6	0	2	533	26.547	.000	3.318	3.318	23.828	0	.000	11	2.978	11	2.978	.000	.000
2069.0	40	3	4	102	98	38	35	4877	14	2	2	0	2	500	18.878	.000	2.171	2.171	16.764	0	.000	8	1.928	8	1.928	.000	.000
2067.0	40	3	4	102	98	38	35	4877	33	6	3	0	1	470	18.878	.000	1.888	2.077	16.764	0	.000	51	1.676	7	1.844	.000	.000
2070.0	40	3	3	102	98	38	35	4877	32	11	4	10	2	497	18.878	.000	2.171	2.077	16.764	0	.000	8	1.928	7	1.844	.000	.000
2068.0	40	3	4	102	98	38	35	4877	42	9	7	0	1	471	18.878	.000	1.888	1.888	16.764	0	.000	51	1.676	5	1.676	.000	.000
2047.0	40	4	4	76	73	25	22	4877	0	0	0	0	0	600	9.439	1.369	.000	.000	7.915	23	1.148	0	.000	0	.000	.000	.000
2044.0	40	4	3	102	98	25	22	4267	0	0	0	0	0	591	11.012	1.597	.000	.000	9.334	24	1.353	0	.000	0	.000	.000	.000
2045.0	40	4	4	102	98	38	35	4877	24	5	7	0	3	466	18.878	.000	1.888	2.077	16.764	0	.000	5	1.676	7	1.844	.000	.000
2046.0	40	4	4	102	98	38	35	4877	44	12	5	11	1	457	18.878	.000	1.888	1.888	16.764	0	.000	51	1.676	5	1.676	.000	.000

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2188.0	41	2	2	102	98	25	22	3962	0	0	0	0	0	669	10.226	1.483	.000	.000	8.668	22	1.257	0	.000	0	.000	.000	.000
2185.0	41	2	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
2182.0	41	2	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
2184.0	41	2	4	102	98	38	35	4877	9	1	4	11	2	415	18.878	.000	1.888	1.510	16.764	0	.000	5	1.676	4	1.341	.000	.000
2183.0	41	2	4	102	98	38	35	4877	31	4	3	0	1	411	18.878	.000	1.888	1.510	16.764	0	.000	51	1.676	4	1.341	.000	.000
2187.0	41	2	3	127	124	25	22	4877	0	0	0	0	0	682	15.732	2.281	.000	.000	13.421	22	1.946	0	.000	0	.000	.000	.000
2186.0	41	2	3	152	149	38	35	4877	23	2	5	0	2	492	28.317	.000	2.832	3.256	25.416	0	.000	51	2.542	8	2.923	.000	.000
2298.0	41	3	4	102	98	25	22	4877	0	0	0	0	0	579	12.585	1.825	.000	.000	10.668	24	1.547	0	.000	0	.000	.000	.000
2299.0	41	3	2	102	98	25	22	3658	0	0	0	0	0	588	9.439	1.369	.000	.000	8.001	23	1.160	0	.000	0	.000	.000	.000
2294.0	41	3	1	102	98	25	22	3353	0	0	0	0	0	627	8.652	1.255	.000	.000	7.334	24	1.063	0	.000	0	.000	.000	.000
2300.0	41	3	3	102	98	38	35	4877	7	1	5	0	3	477	18.878	.000	2.171	2.171	16.764	0	.000	8	1.928	8	1.928	.000	.000
2295.0	41	3	4	102	98	38	35	4877	38	5	2	0	2	440	18.878	.000	2.171	1.888	16.764	0	.000	8	1.928	5	1.676	.000	.000
2297.0	41	3	4	102	98	38	35	4877	35	11	4	0	2	424	18.878	.000	1.888	1.888	16.764	0	.000	5	1.676	5	1.676	.000	.000
2296.0	41	3	4	102	98	38	35	4877	50	19	0	0	1	375	18.878	.000	.944	.944	16.764	0	.000	1	.838	1	.838	.000	.000
2224.0	41	4	3	102	98	25	22	3658	0	0	0	0	0	540	9.439	1.369	.000	.000	8.001	24	1.160	0	.000	0	.000	.000	.000
2225.0	41	4	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
2226.0	41	4	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
2227.1	41	4	4	102	98	38	35	4877	12	2	2	0	2	441	18.878	.000	2.171	2.077	16.764	0	.000	8	1.928	7	1.844	.000	.000
2227.0	41	4	4	102	98	38	35	4572	64	9	0	0	1	437	17.698	.000	.885	.885	15.716	0	.000	1	.786	1	.786	.000	.000
1534.0	42	1	1	76	73	25	22	2438	13	6	3	12	2	828	4.719	.684	.000	.000	3.957	23	.574	0	.000	0	.000	.000	.000
1533.0	42	1	2	102	98	38	35	4877	8	5	0	12	3	625	18.878	.000	1.888	2.360	16.764	0	.000	5	1.676	11	2.095	.000	.000
1539.0	42	1	4	102	98	38	35	4877	4	0	2	11	2	575	18.878	.000	.944	2.171	16.764	0	.000	1	.838	8	1.928	.000	.000
1536.0	42	1	4	102	98	38	35	4877	6	8	7	11	2	490	18.878	.000	1.888	1.888	16.764	0	.000	5	1.676	5	1.676	.000	.000
1538.0	42	1	4	102	98	38	35	4267	7	6	3	10	2	454	16.518	.000	1.652	1.321	14.668	0	.000	5	1.467	4	1.173	.000	.000
1537.0	42	1	4	102	98	38	35	4877	14	16	4	11	1	451	18.878	.000	1.888	.944	16.764	0	.000	51	1.676	1	.838	.000	.000
1532.0	42	1	3	152	149	38	35	4877	10	3	3	0	2	601	28.317	.000	3.256	3.540	25.416	0	.000	8	2.923	11	3.177	.000	.000
1535.0	42	1	1	152	149	38	35	4877	0	0	0	0	0	556	28.317	.000	3.115	3.256	25.416	0	.000	7	2.796	8	2.923	.000	.000
1778.0	42	2	4	102	98	25	22	4877	0	0	0	0	0	607	12.585	1.825	.000	.000	10.668	22	1.547	0	.000	0	.000	.000	.000
1766.0	42	2	4	102	98	25	22	4877	0	0	0	0	0	681	12.585	1.007	.000	.000	10.668	25	.853	0	.000	0	.000	.000	.000
1775.0	42	2	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
1776.0	42	2	4	102	98	38	35	4877	13	9	1	0	1	483	18.878	.000	1.888	2.077	16.764	0	.000	51	1.676	7	1.844	.000	.000
1777.0	42	2	4	102	98	38	35	4877	22	25	2	11	1	482	18.878	.000	1.888	1.510	16.764	0	.000	51	1.676	4	1.341	.000	.000
1767.0	42	2	3	152	149	38	35	4877	2	6	2	0	1	503	28.317	.000	1.416	3.115	25.416	0	.000	1	1.271	7	2.796	.000	.000
1923.0	42	3	1	102	98	25	22	3658	0	0	0	0	0	687	9.439	1.369	.000	.000	8.001	23	1.160	0	.000	0	.000	.000	.000
1927.0	42	3	4	102	98	38	35	4877	3	2	2	10	2	502	18.878	.000	1.888	2.171	16.764	0	.000	5	1.676	8	1.928	.000	.000
1924.0	42	3	4	102	98	38	35	4877	7	4	3	0	2	476	18.878	.000	.944	2.171	16.764	0	.000	1	.838	8	1.928	.000	.000
1925.0	42	3	4	102	98	38	35	4877	49	4	6	0	1	448	18.878	.000	.944	.944	16.764	0	.000	1	.838	1	.838	.000	.000
1631.0	42	5	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
1632.0	42	5	4	102	98	38	35	3048	10	0	0	10	1	458	11.799	.000	1.180	1.357	10.477	0	.000	51	1.048	8	1.205	.000	.000
2716.0	43	1	2	76	73	25	22	3048	0	0	0	0	0	687	5.899	.855	.000	.000	4.947	23	.717	0	.000	0	.000	.000	.000
2721.0	43	1	4	102	98	25	22	3353	0	0	0	0	0	662	8.652	1.255	.000	.000	7.334	23	1.063	0	.000	0	.000	.000	.000
2723.0	43	1	3	102	98	38	35	4572	0	3	5	0	2	505	17.698	.000	1.770	1.947	15.716	0	.000	5	1.572	7	1.729	.000	.000
2722.0	43	1	4	152	149	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	28.317	25.416
2717.0	43	1	4	203	200	38	35	4267	6	2	3	0	2	510	33.036	.000	3.634	3.799	29.810	0	.000	7	3.279	8	3.428	.000	.000
2720.0	43	1	4	203	200	38	35	4267	7	7	8	0	1	469	33.036	.000	1.652	3.304	29.810	0	.000	1	1.491	5	2.981	.000	.000
2719.0	43	1	4	203	200	38	35	4267	10	3	2	0	1	462	33.036	.000	3.304	3.304	29.810	0	.000	51	2.981	5	2.981	.000	.000
2718.0	43	1	4	203	200	38	35	4267	5	4	5	0	1	457	33.036	.000	1.652	2.643	29.810	0	.000	1	1.491	4	2.385	.000	.000
1638.0	43	2	2	102	98	25	22	4877	0	0	0	0	0	618	12.585	1.825	.000	.000	10.668	23	1.547	0	.000	0	.000	.000	.000
1646.0	43	2	4	102	98	38	35	4572	2	6	3	0	2	509	17.698	.000	1.947	2.035	15.716	0	.000	7	1.729	8	1.807	.000	.000
1642.0	43	2	4	102	98	38	35	4877	1	14	5	10	2	466	18.878	.000	1.888	2.077	16.764	0	.000	5	1.676	7	1.844	.000	.000
1645.0	43	2	4	102	98	38	35	4572	17	2	1	0	1	443	17.698	.000	1.770	1.770	15.716	0	.000	51	1.572	5	1.572	.000	.000
1643.0	43	2	4	102	98	38	35	4572	13	9	2	0	1	414	17.698	.000	1.770	1.770	15.716	0	.000	51	1.572	5	1.572	.000	.000
1637.0	43	2	1	102	98	38	35	3353	4	3	3	0	3	522	12.979	.000	1.428	1.298	11.525	0	.000	7	1.268	5	1.153	.000	.000
1644.0	43	2	4	102	98	38	35	4877	29	2	2	0	1	414	18.878	.000	1.888	1.510	16.764	0	.000	51	1.676	4	1.341	.000	.000

1641.0	43	2	4	152	149	38	35	3658	2	4	2	0	3	517	21.238	.000	2.124	2.442	19.062	0	.000	5	1.906	8	2.192	.000	.000
1639.0	43	2	3	152	149	38	35	3962	5	2	9	12	2	484	23.007	.000	2.646	2.646	20.651	0	.000	8	2.375	8	2.375	.000	.000
1640.0	43	2	4	152	149	38	35	4572	5	6	1	0	2	484	26.547	.000	2.920	3.053	23.828	0	.000	7	2.621	8	2.740	.000	.000
1679.0	44	2	4	76	73	25	22	4572	0	0	0	0	0	725	8.849	1.283	.000	.000	7.420	23	1.076	0	.000	0	.000	.000	.000
1678.0	44	2	4	102	98	38	35	4267	2	7	6	11	2	560	16.518	.000	.000	.000	14.668	0	.000	0	.000	0	.000	.000	.000
1681.0	44	2	4	152	149	25	22	3962	0	0	0	0	0	580	15.338	2.224	.000	.000	13.141	23	1.906	0	.000	0	.000	.000	.000
1680.0	44	2	4	152	149	25	22	4267	0	0	0	0	0	576	16.518	1.321	.000	.000	14.152	25	1.132	0	.000	0	.000	.000	.000
1677.0	44	2	4	152	149	38	35	4877	19	8	13	0	1	479	28.317	.000	2.832	3.115	25.416	0	.000	51	2.542	7	2.796	.000	.000
1682.0	44	2	4	178	175	25	22	4572	0	0	0	0	0	567	20.648	1.652	.000	.000	17.744	25	1.420	0	.000	0	.000	.000	.000
1489.0	44	3	2	76	73	25	22	4572	0	0	0	0	0	746	8.849	1.283	.000	.000	7.420	23	1.076	0	.000	0	.000	.000	.000
1490.0	44	3	1	76	73	25	22	3353	0	0	0	0	0	739	6.489	.941	.000	.000	5.442	23	.789	0	.000	0	.000	.000	.000
1485.0	44	3	3	102	98	25	22	4572	0	0	0	0	0	661	11.799	1.711	.000	.000	10.001	22	1.450	0	.000	0	.000	.000	.000
1486.0	44	3	4	102	98	38	35	4572	11	1	2	0	2	503	17.698	.000	1.770	1.947	15.716	0	.000	5	1.572	7	1.729	.000	.000
1488.0	44	3	4	102	98	38	35	4572	17	18	1	0	2	494	17.698	.000	1.947	1.947	15.716	0	.000	7	1.729	7	1.729	.000	.000
1487.0	44	3	4	102	98	38	35	4572	28	7	0	11	1	437	17.698	.000	1.770	1.770	15.716	0	.000	51	1.572	5	1.572	.000	.000
1795.0	44	4	4	76	73	25	22	4572	0	0	0	0	0	656	8.849	1.283	.000	.000	7.420	23	1.076	0	.000	0	.000	.000	.000
1798.0	44	4	4	102	98	38	35	4877	3	5	2	11	2	511	18.878	.000	2.077	.000	16.764	0	.000	7	1.844	0	.000	.000	.000
1796.0	44	4	4	102	98	38	35	4572	14	1	2	11	1	490	17.698	.000	1.770	2.035	15.716	0	.000	51	1.572	8	1.807	.000	.000
1797.0	44	4	4	102	98	38	35	4572	16	0	0	11	1	466	17.698	.000	1.770	1.947	15.716	0	.000	51	1.572	7	1.729	.000	.000
1917.0	46	1	2	102	98	25	22	4572	0	0	0	0	0	0	11.799	1.711	.000	.000	10.001	23	1.450	0	.000	0	.000	.000	.000
1914.0	46	1	1	102	98	25	22	3658	0	0	0	0	0	757	9.439	1.369	.000	.000	8.001	23	1.160	0	.000	0	.000	.000	.000
1913.0	46	1	4	102	98	25	22	4572	0	0	0	0	0	639	11.799	1.711	.000	.000	10.001	23	1.450	0	.000	0	.000	.000	.000
1909.0	46	1	4	102	98	38	35	4877	2	13	4	0	2	509	18.878	.000	2.171	2.077	16.764	0	.000	8	1.928	7	1.844	.000	.000
1912.0	46	1	4	102	98	38	35	4877	21	13	3	0	1	454	18.878	.000	1.888	1.510	16.764	0	.000	51	1.676	4	1.341	.000	.000
1910.0	46	1	4	102	98	38	35	4877	17	8	2	0	2	444	18.878	.000	1.888	1.510	16.764	0	.000	5	1.676	4	1.341	.000	.000
1911.0	46	1	4	102	98	38	35	4877	31	14	5	11	1	424	18.878	.000	1.888	1.510	16.764	0	.000	51	1.676	4	1.341	.000	.000
1916.0	46	1	3	152	149	38	35	4572	1	2	1	10	2	554	26.547	.000	3.053	3.053	23.828	0	.000	8	2.740	8	2.740	.000	.000
1915.0	46	1	3	203	200	38	35	4877	6	2	6	0	1	471	37.756	.000	3.776	4.153	34.069	0	.000	51	3.407	7	3.748	.000	.000
1546.0	46	2	1	76	73	25	22	4267	0	0	0	0	0	687	8.259	1.198	.000	.000	6.926	23	1.004	0	.000	0	.000	.000	.000
1572.0	46	2	4	102	98	25	22	2134	0	0	0	0	0	719	5.506	.798	.000	.000	4.667	22	.677	0	.000	0	.000	.000	.000
1554.0	46	2	3	102	98	25	22	4572	6	6	4	12	3	751	11.799	1.711	.000	.000	10.001	22	1.450	0	.000	0	.000	.000	.000
1571.0	46	2	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
1549.0	46	2	1	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
1569.0	46	2	4	102	98	38	35	4877	33	5	0	10	1	408	18.878	.000	1.888	1.888	16.764	0	.000	51	1.676	5	1.676	.000	.000
1570.0	46	2	4	102	98	38	35	4877	37	3	0	9	1	409	18.878	.000	.944	.944	16.764	0	.000	1	.838	1	.838	.000	.000
1556.0	46	2	2	102	98	38	35	3962	3	2	0	10	3	582	15.338	.000	1.687	1.917	13.621	0	.000	7	1.498	11	1.703	.000	.000
1568.0	46	2	4	102	98	38	35	4877	4	0	0	10	2	460	18.878	.000	1.888	2.077	16.764	0	.000	5	1.676	7	1.844	.000	.000
1555.0	46	2	3	152	149	38	35	4877	0	0	0	0	0	485	28.317	.000	2.832	3.256	25.416	0	.000	5	2.542	8	2.923	.000	.000
1692.0	46	3	1	76	73	25	22	4572	0	0	0	0	0	670	8.849	1.283	.000	.000	7.420	23	1.076	0	.000	0	.000	.000	.000
1701.0	46	3	4	102	98	25	22	4572	0	0	0	0	0	618	11.799	1.711	.000	.000	10.001	23	1.450	0	.000	0	.000	.000	.000
1699.0	46	3	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
1700.0	46	3	4	102	98	38	35	4572	24	4	2	0	2	443	17.698	.000	2.035	1.947	15.716	0	.000	8	1.807	7	1.729	.000	.000
1698.0	46	3	4	102	98	38	35	4572	9	2	0	11	2	465	17.698	.000	1.770	2.035	15.716	0	.000	5	1.572	8	1.807	.000	.000
1688.0	46	4	2	76	73	25	22	3962	0	0	0	0	0	678	7.669	1.112	.000	.000	6.431	23	.932	0	.000	0	.000	.000	.000
1684.0	46	4	3	76	73	25	22	3658	0	0	0	0	0	653	7.079	1.026	.000	.000	5.936	23	.861	0	.000	0	.000	.000	.000
1683.0	46	4	1	102	98	25	22	3962	0	0	0	0	0	611	10.226	1.483	.000	.000	8.668	23	1.257	0	.000	0	.000	.000	.000
1687.0	46	4	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
1685.0	46	4	4	102	98	38	35	0	12	3	2	0	2	0	.000	.000	.000	.000	.000	0	.000	1	.000	7	.000	18.878	16.764
1686.0	46	4	4	102	98	38	35	4267	7	4	1	0	1	423	16.518	.000	1.652	1.652	14.668	0	.000	51	1.467	5	1.467	.000	.000
2724.0	47	1	1	76	73	25	22	2438	0	0	0	0	0	853	4.719	.684	.000	.000	3.957	21	.574	0	.000	0	.000	.000	.000
2729.0	47	1	4	76	73	25	22	4572	0	0	0	0	0	821	8.849	.708	.000	.000	7.420	25	.594	0	.000	0	.000	.000	.000
2732.0	47	1	3	127	124	25	22	3048	0	0	0	0	0	809	9.832	1.426	.000	.000	8.388	23	1.216	0	.000	0	.000	.000	.000
2731.0	47	1	4	152	149	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	28.317	25.416
2733.0	47	1	3	152	149	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	28.317	25.416

2730.0	47	1	4	152	149	38	35	4572	0	4	0	11	3	652	26.547	.000	2.920	3.318	23.828	0	.000	7	2.621	11	2.978	.000	.000
2725.0	47	1	4	203	200	38	35	4572	9	2	8	0	1	598	35.396	.000	1.770	4.071	31.939	0	.000	1	1.597	6	3.673	.000	.000
2728.0	47	1	4	203	200	38	35	4877	32	4	3	0	2	584	37.756	.000	1.888	1.888	34.069	0	.000	1	1.703	1	1.703	.000	.000
2727.0	47	1	4	203	200	38	35	4877	31	23	1	0	1	538	37.756	.000	1.888	1.888	34.069	0	.000	1	1.703	1	1.703	.000	.000
2726.0	47	1	4	203	200	38	35	4877	20	9	2	0	1	547	37.756	.000	1.888	1.888	34.069	0	.000	1	1.703	1	1.703	.000	.000
2765.0	47	2	4	76	73	25	22	4877	0	0	0	0	0	804	9.439	1.369	.000	.000	7.915	22	1.148	0	.000	0	.000	.000	.000
2756.0	47	2	1	102	98	25	22	3658	0	0	0	0	0	774	9.439	1.369	.000	.000	8.001	21	1.160	0	.000	0	.000	.000	.000
2761.0	47	2	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
2764.0	47	2	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
2763.0	47	2	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
2762.0	47	2	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
2766.0	47	2	4	152	149	25	22	4267	1	0	0	0	0	831	16.518	2.395	.000	.000	14.152	23	2.052	0	.000	0	.000	.000	.000
2757.0	47	2	3	152	149	25	22	4877	0	0	0	0	0	757	18.878	2.737	.000	.000	16.174	23	2.345	0	.000	0	.000	.000	.000
2760.0	47	2	4	203	200	25	22	3962	0	0	0	0	0	660	20.451	1.636	.000	.000	17.615	25	1.409	0	.000	0	.000	.000	.000
2758.0	47	2	4	203	200	38	35	4267	2	1	2	11	2	611	33.036	.000	3.799	4.130	29.810	0	.000	8	3.428	11	3.726	.000	.000
2759.0	47	2	4	203	200	38	35	4877	7	3	2	0	2	550	37.756	.000	3.776	4.342	34.069	0	.000	5	3.407	8	3.918	.000	.000
2787.0	47	3	2	76	73	25	22	3353	0	0	0	0	0	804	6.489	.941	.000	.000	5.442	23	.789	0	.000	0	.000	.000	.000
2789.0	47	3	3	102	98	25	22	3353	0	0	0	0	0	806	8.652	1.255	.000	.000	7.334	23	1.063	0	.000	0	.000	.000	.000
2797.0	47	3	4	102	98	25	22	4877	0	0	0	0	0	721	12.585	1.825	.000	.000	10.668	23	1.547	0	.000	0	.000	.000	.000
2793.0	47	3	4	102	98	38	35	4877	13	3	2	0	2	560	18.878	.000	1.888	2.077	16.764	0	.000	5	1.676	7	1.844	.000	.000
2796.0	47	3	4	102	98	38	35	4877	31	5	4	0	2	514	18.878	.000	2.077	2.077	16.764	0	.000	7	1.844	7	1.844	.000	.000
2794.0	47	3	4	102	98	38	35	4877	38	3	4	0	1	493	18.878	.000	1.888	2.077	16.764	0	.000	51	1.676	7	1.844	.000	.000
2795.0	47	3	4	102	98	38	35	4877	28	3	3	0	1	480	18.878	.000	1.888	1.888	16.764	0	.000	51	1.676	5	1.676	.000	.000
2790.0	47	3	4	127	124	25	22	3658	0	0	0	0	0	715	11.799	1.711	.000	.000	10.066	23	1.460	0	.000	0	.000	.000	.000
2786.0	47	3	1	127	124	25	22	4572	0	0	0	0	0	717	14.748	2.139	.000	.000	12.582	23	1.824	0	.000	0	.000	.000	.000
2792.0	47	3	4	178	175	25	22	4877	0	0	0	0	0	740	22.024	3.194	.000	.000	18.927	24	2.744	0	.000	0	.000	.000	.000
2791.0	47	3	4	203	200	38	35	4267	13	4	3	12	2	572	33.036	.000	3.634	3.799	29.810	0	.000	7	3.279	8	3.428	.000	.000
1484.0	47	5	1	102	98	25	22	4267	0	0	0	0	0	670	11.012	1.597	.000	.000	9.334	23	1.353	0	.000	0	.000	.000	.000
1480.0	47	5	3	102	98	25	22	4572	0	0	0	0	0	648	11.799	1.711	.000	.000	10.001	23	1.450	0	.000	0	.000	.000	.000
1483.0	47	5	4	102	98	25	22	4877	0	0	0	0	0	619	12.585	1.825	.000	.000	10.668	24	1.547	0	.000	0	.000	.000	.000
1482.0	47	5	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
1481.0	47	5	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
1830.0	48	1	2	76	73	25	22	2743	0	0	0	0	0	726	5.309	.770	.000	.000	4.452	23	.646	0	.000	0	.000	.000	.000
1824.0	48	1	4	102	98	25	22	3962	0	0	0	0	0	570	10.226	1.483	.000	.000	8.668	24	1.257	0	.000	0	.000	.000	.000
1831.0	48	1	2	102	98	38	35	4267	5	9	1	0	2	567	16.518	.000	1.900	2.065	14.668	0	.000	8	1.687	11	1.834	.000	.000
1821.0	48	1	4	102	98	38	35	4572	2	3	6	0	2	601	17.698	.000	2.035	2.212	15.716	0	.000	8	1.807	11	1.965	.000	.000
1826.0	48	1	3	102	98	38	35	4572	2	13	8	0	3	556	17.698	.000	2.035	1.947	15.716	0	.000	8	1.807	7	1.729	.000	.000
1820.0	48	1	4	102	98	38	35	4877	14	5	5	0	2	530	18.878	.000	2.171	1.510	16.764	0	.000	8	1.928	4	1.341	.000	.000
1822.0	48	1	4	102	98	38	35	4877	1	3	3	11	3	526	18.878	.000	2.077	2.171	16.764	0	.000	7	1.844	8	1.928	.000	.000
1823.0	48	1	4	102	98	38	35	3658	7	4	2	10	1	442	14.158	.000	1.416	1.416	12.573	0	.000	51	1.257	5	1.257	.000	.000
1516.0	48	2	4	76	73	25	22	4267	0	0	0	0	0	753	8.259	.661	.000	.000	6.926	25	.554	0	.000	0	.000	.000	.000
1520.0	48	2	3	76	73	25	22	3962	0	0	0	0	0	763	7.669	1.112	.000	.000	6.431	23	.932	0	.000	0	.000	.000	.000
1517.0	48	2	2	76	73	25	22	3962	0	0	0	0	0	819	7.669	.614	.000	.000	6.431	25	.514	0	.000	0	.000	.000	.000
1518.0	48	2	1	102	98	25	22	4267	0	0	0	0	0	776	11.012	1.597	.000	.000	9.334	23	1.353	0	.000	0	.000	.000	.000
1515.0	48	2	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
1513.0	48	2	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
1512.0	48	2	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
1514.0	48	2	4	102	98	38	35	4267	15	5	6	0	1	447	16.518	.000	1.652	1.652	14.668	0	.000	51	1.467	5	1.467	.000	.000
1519.0	48	2	3	152	149	38	35	4877	12	3	5	12	2	526	28.317	.000	2.832	3.256	25.416	0	.000	51	2.542	8	2.923	.000	.000
1861.0	48	3	4	76	73	25	22	3353	0	0	0	0	0	676	6.489	.941	.000	.000	5.442	23	.789	0	.000	0	.000	.000	.000
1860.0	48	3	4	102	98	38	35	4877	3	4	3	0	2	476	18.878	.000	2.077	2.171	16.764	0	.000	7	1.844	8	1.928	.000	.000
1857.0	48	3	4	102	98	38	35	4877	10	5	3	0	3	503	18.878	.000	1.888	2.171	16.764	0	.000	5	1.676	8	1.928	.000	.000
1859.0	48	3	4	102	98	38	35	4877	43	8	3	0	1	437	18.878	.000	1.888	1.888	16.764	0	.000	51	1.676	5	1.676	.000	.000
1858.0	48	3	4	102	98	38	35	4877	6	3	3	11	1	461	18.878	.000	.944	2.077	16.764	0	.000	1	.838	7	1.844	.000	.000

1862.0	48	3	3	152	149	38	35	4877	12	2	2	11	2	507	28.317	.000	1.416	3.256	25.416	0	.000	1	1.271	8	2.923	.000	.000
1618.0	48	4	3	76	73	25	22	2743	0	0	0	0	0	595	5.309	.770	.000	.000	4.452	23	.646	0	.000	0	.000	.000	.000
1630.0	48	4	1	76	73	25	22	4267	0	0	0	0	0	636	8.259	.661	.000	.000	6.926	25	.554	0	.000	0	.000	.000	.000
1619.0	48	4	4	102	98	38	35	4877	25	0	3	9	1	443	18.878	.000	1.888	1.888	16.764	0	.000	5	1.676	5	1.676	.000	.000
1621.0	48	4	4	102	98	38	35	4267	0	4	2	10	3	484	16.518	.000	.826	1.900	14.668	0	.000	1	.733	8	1.687	.000	.000
1620.0	48	4	4	102	98	38	35	4877	10	8	2	10	1	463	18.878	.000	.944	1.888	16.764	0	.000	1	.838	5	1.676	.000	.000
1856.0	48	5	4	102	98	38	35	4877	35	7	2	0	1	435	18.878	.000	1.888	1.888	16.764	0	.000	51	1.676	5	1.676	.000	.000
1855.0	48	5	4	102	98	38	35	4877	6	5	4	0	1	440	18.878	.000	1.888	1.888	16.764	0	.000	51	1.676	5	1.676	.000	.000
2767.0	49	1	1	76	73	25	22	3353	0	0	0	0	0	728	6.489	.941	.000	.000	5.442	23	.789	0	.000	0	.000	.000	.000
2777.0	49	1	4	102	98	25	22	4877	0	0	0	0	0	665	12.585	1.825	.000	.000	10.668	22	1.547	0	.000	0	.000	.000	.000
2772.0	49	1	4	102	98	25	22	4877	0	0	0	0	0	718	12.585	1.825	.000	.000	10.668	22	1.547	0	.000	0	.000	.000	.000
2776.0	49	1	4	102	98	38	35		0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
2773.0	49	1	4	102	98	38	35		0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
2774.0	49	1	4	102	98	38	35		0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
2775.0	49	1	4	102	98	38	35	4877	39	7	2	0	1	447	18.878	.000	1.888	1.510	16.764	0	.000	51	1.676	4	1.341	.000	.000
2768.0	49	1	2	152	149	25	22	3962	0	0	0	0	0	667	15.338	2.224	.000	.000	13.141	23	1.906	0	.000	0	.000	.000	.000
2771.0	49	1	4	203	200	38	35	4877	7	2	2	12	2	555	37.756	.000	4.153	4.719	34.069	0	.000	7	3.748	11	4.259	.000	.000
2769.0	49	1	4	203	200	38	35	4267	13	4	1	11	3	550	33.036	.000	3.799	4.130	29.810	0	.000	8	3.428	11	3.726	.000	.000
2770.0	49	1	4	203	200	38	35	4572	3	1	2	0	2	507	35.396	.000	3.540	4.071	31.939	0	.000	5	3.194	8	3.673	.000	.000
1733.0	49	2	4	102	98	38	35	4877	10	4	3	0	2	455	18.878	.000	1.888	2.077	16.764	0	.000	5	1.676	7	1.844	.000	.000
1740.0	49	2	2	102	98	38	35	4877	10	2	3	0	2	467	18.878	.000	1.888	2.077	16.764	0	.000	5	1.676	7	1.844	.000	.000
1732.0	49	2	4	102	98	38	35	4877	18	15	2	0	1	489	18.878	.000	1.888	1.888	16.764	0	.000	51	1.676	5	1.676	.000	.000
1734.0	49	2	4	102	98	38	35	4877	32	2	2	0	1	430	18.878	.000	.944	1.888	16.764	0	.000	1	.838	5	1.676	.000	.000
1736.0	49	2	4	102	98	38	35	4877	1	3	1	0	2	483	18.878	.000	.944	1.510	16.764	0	.000	1	.838	4	1.341	.000	.000
1737.0	49	2	4	102	98	38	35	4877	5	5	1	0	3	530	18.878	.000	2.360	.944	16.764	0	.000	11	2.095	1	.838	.000	.000
1735.0	49	2	4	102	98	38	35	4877	25	8	2	0	1	437	18.878	.000	.944	.944	16.764	0	.000	1	.838	1	.838	.000	.000
1738.0	49	2	3	127	124	25	22	4572	0	0	0	0	0	693	14.748	2.139	.000	.000	12.582	24	1.824	0	.000	0	.000	.000	.000
1731.0	49	2	2	152	149	25	22	4877	0	0	0	0	0	650	18.878	2.737	.000	.000	16.174	23	2.345	0	.000	0	.000	.000	.000
1739.0	49	2	3	203	200	38	35		0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	37.756	34.069
1740.1	49	2	1	203	200	38	35	4877	24	2	2	0	2	519	37.756	.000	4.153	4.719	34.069	0	.000	7	3.748	11	4.259	.000	.000
1690.0	49	3	2	102	98	25	22	2743	0	0	0	0	0	647	7.079	1.026	.000	.000	6.001	23	.870	0	.000	0	.000	.000	.000
1693.0	49	3	4	102	98	38	35		0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
1695.0	49	3	4	102	98	38	35		0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
1694.0	49	3	4	102	98	38	35		0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
1696.0	49	3	4	102	98	38	35	4572	4	3	3	10	2	445	17.698	.000	2.035	2.035	15.716	0	.000	8	1.807	8	1.807	.000	.000
1689.0	49	3	2	102	98	38	35	4572	14	1	4	0	2	480	17.698	.000	1.947	.885	15.716	0	.000	7	1.729	1	.786	.000	.000
1697.0	49	3	4	102	98	38	35	4572	2	3	2	11	3	494	17.698	.000	1.947	2.035	15.716	0	.000	7	1.729	8	1.807	.000	.000
1691.0	49	3	3	152	149	38	35	4572	16	2	3	0	2	509	26.547	.000	3.053	3.053	23.828	0	.000	8	2.740	8	2.740	.000	.000
1636.0	49	5	4	76	73	25	22	3962	0	0	0	0	0	546	7.669	.614	.000	.000	6.431	25	.514	0	.000	0	.000	.000	.000
1633.0	49	5	4	102	98	38	35	4267	8	5	0	10	2	463	16.518	.000	.826	.826	14.668	0	.000	1	.733	1	.733	.000	.000
1634.0	49	5	4	102	98	38	35	3658	5	4	0	10	1	435	14.158	.000	1.416	1.416	12.573	0	.000	51	1.257	5	1.257	.000	.000
1635.0	49	5	4	102	98	38	35	3658	9	4	2	10	1	421	14.158	.000	1.416	1.416	12.573	0	.000	51	1.257	5	1.257	.000	.000
2348.0	50	1	4	76	73	25	22	4877	0	0	0	0	0	707	9.439	1.369	.000	.000	7.915	22	1.148	0	.000	0	.000	.000	.000
2349.0	50	1	2	102	98	25	22	4572	0	0	0	0	0	692	11.799	.944	.000	.000	10.001	25	.800	0	.000	0	.000	.000	.000
2346.0	50	1	4	102	98	38	35		0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
2347.0	50	1	4	102	98	38	35		0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
2343.0	50	1	4	102	98	38	35		0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
2345.0	50	1	4	102	98	38	35	4572	24	9	9	0	1	408	17.698	.000	1.770	.885	15.716	0	.000	51	1.572	1	.786	.000	.000
2344.0	50	1	4	102	98	38	35	4572	15	14	1	0	1	422	17.698	.000	1.770	.885	15.716	0	.000	51	1.572	1	.786	.000	.000
2354.0	50	1	3	152	149	38	35	4877	5	15	2	0	3	545	28.317	.000	3.540	3.540	25.416	0	.000	11	3.177	11	3.177	.000	.000
2352.0	50	1	1	152	149	38	35	4572	14	1	5	0	3	520	26.547	.000	3.053	3.318	23.828	0	.000	8	2.740	11	2.978	.000	.000
2353.0	50	1	3	203	200	38	35	4877	6	3	10	0	2	527	37.756	.000	4.342	4.342	34.069	0	.000	8	3.918	8	3.918	.000	.000
1846.0	50	2	1	76	73	25	22	2438	0	0	0	0	0	606	4.719	.684	.000	.000	3.957	23	.574	0	.000	0	.000	.000	.000
1845.0	50	2	2	76	73	25	22	4877	0	0	0	0	0	649	9.439	.755	.000	.000	7.915	25	.633	0	.000	0	.000	.000	.000

1852.0	50	2	4	76	73	25	22	4877	0	0	0	0	0	577	9.439	1.369	.000	.000	7.915	23	1.148	0	.000	0	.000	.000	.000
1854.0	50	2	3	102	98	38	35	4877	5	4	5	0	2	469	18.878	.000	2.360	2.171	16.764	0	.000	11	2.095	8	1.928	.000	.000
1848.0	50	2	4	102	98	38	35	4877	5	7	4	0	2	464	18.878	.000	2.077	2.077	16.764	0	.000	7	1.844	7	1.844	.000	.000
1850.0	50	2	4	102	98	38	35	4877	7	5	2	10	1	414	18.878	.000	1.888	1.888	16.764	0	.000	51	1.676	5	1.676	.000	.000
1849.0	50	2	4	102	98	38	35	4877	26	6	7	0	1	415	18.878	.000	1.888	1.510	16.764	0	.000	51	1.676	4	1.341	.000	.000
1851.0	50	2	4	102	98	38	35	4877	16	4	6	11	2	440	18.878	.000	.944	1.510	16.764	0	.000	1	.838	4	1.341	.000	.000
1853.0	50	2	3	102	98	38	35	4877	2	6	2	11	2	532	18.878	.000	.944	1.888	16.764	0	.000	1	.838	5	1.676	.000	.000
1853.1	50	2	3	152	149	38	35	4877	4	3	3	12	1	431	28.317	.000	2.832	2.832	25.416	0	.000	51	2.542	5	2.542	.000	.000
1702.0	50	3	1	76	73	25	22	3048	0	0	0	0	0	591	5.899	.855	.000	.000	4.947	23	.717	0	.000	0	.000	.000	.000
1716.0	50	3	4	102	98	25	22	4572	0	0	0	0	0	560	11.799	.944	.000	.000	10.001	25	.800	0	.000	0	.000	.000	.000
1713.0	50	3	4	102	98	38	35	4877	7	2	4	0	2	539	18.878	.000	1.888	1.888	16.764	0	.000	51	1.676	5	1.676	.000	.000
1714.0	50	3	4	102	98	38	35	4572	16	4	2	0	1	428	17.698	.000	1.770	1.416	15.716	0	.000	51	1.572	4	1.257	.000	.000
1715.0	50	3	4	102	98	38	35	4572	23	7	3	0	1	466	17.698	.000	1.770	1.416	15.716	0	.000	51	1.572	4	1.257	.000	.000
1711.0	50	3	4	102	98	38	35	4267	1	5	0	11	3	475	16.518	.000	.826	1.900	14.668	0	.000	1	.733	8	1.687	.000	.000
1712.0	50	3	4	152	149	38	35	3658	3	3	1	0	2	440	21.238	.000	2.124	2.442	19.062	0	.000	51	1.906	8	2.192	.000	.000
1500.0	50	4	1	76	73	25	22	4267	0	0	0	0	0	580	8.259	1.198	.000	.000	6.926	23	1.004	0	.000	0	.000	.000	.000
1499.0	50	4	2	76	73	25	22	4572	0	0	0	0	0	606	8.849	.708	.000	.000	7.420	25	.594	0	.000	0	.000	.000	.000
1501.0	50	4	2	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
1504.0	50	4	4	102	98	38	35	4572	2	17	6	0	2	433	17.698	.000	1.947	1.947	15.716	0	.000	7	1.729	7	1.729	.000	.000
1503.1	50	4	4	102	98	38	35	2743	36	6	7	9	1	401	10.619	.000	1.062	1.062	9.430	0	.000	51	.943	5	.943	.000	.000
1502.0	50	4	4	102	98	38	35	4877	12	6	6	0	1	410	18.878	.000	1.888	1.888	16.764	0	.000	51	1.676	5	1.676	.000	.000

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2649.0	51	1	4	76	73	25	22	4877	0	0	0	0	0	674	9.439	1.369	.000	.000	7.915	22	1.148	0	.000	0	.000	.000	.000
2645.0	51	1	3	102	98	25	22	3658	0	0	0	0	0	691	9.439	1.369	.000	.000	8.001	23	1.160	0	.000	0	.000	.000	.000
2647.0	51	1	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
2646.0	51	1	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
2648.0	51	1	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
2622.0	52	1	4	102	98	25	22	4572	0	0	0	0	0	699	11.799	1.711	.000	.000	10.001	23	1.450	0	.000	0	.000	.000	.000
2621.0	52	1	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
2520.0	52	1	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
2619.0	52	1	3	127	124	25	22	3658	0	0	0	0	0	762	11.799	1.711	.000	.000	10.066	23	1.460	0	.000	0	.000	.000	.000
2494.0	52	2	4	102	98	38	35	3962	5	5	2	0	2	490	15.338	.000	1.687	1.687	13.621	0	.000	7	1.498	7	1.498	.000	.000
2496.0	52	2	4	102	98	38	35	4877	19	4	1	0	1	462	18.878	.000	1.888	2.077	16.764	0	.000	51	1.676	7	1.844	.000	.000
2495.0	52	2	4	102	98	38	35	4877	19	4	1	0	1	436	18.878	.000	1.888	1.888	16.764	0	.000	51	1.676	5	1.676	.000	.000
2565.0	53	1	2	102	98	25	22	2743	0	0	0	0	0	591	7.079	1.026	.000	.000	6.001	23	.870	0	.000	0	.000	.000	.000
2564.0	53	1	4	102	98	25	22	3962	0	0	0	0	0	589	10.226	.818	.000	.000	8.668	25	.693	0	.000	0	.000	.000	.000
2562.0	53	1	4	102	98	38	35	4572	17	14	3	0	1	435	17.698	.000	1.770	1.416	15.716	0	.000	51	1.572	4	1.257	.000	.000
2563.0	53	1	4	102	98	38	35	4572	31	20	2	0	1	419	17.698	.000	1.770	.885	15.716	0	.000	51	1.572	1	.786	.000	.000
2470.0	53	2	4	102	98	25	22	4572	0	0	0	0	0	506	11.799	.944	.000	.000	10.001	25	.800	0	.000	0	.000	.000	.000
2469.0	53	2	4	102	98	38	35	4877	37	5	2	0	1	388	18.878	.000	1.888	1.510	16.764	0	.000	51	1.676	4	1.341	.000	.000
2450.0	54	1	1	76	73	25	22	3962	0	0	0	0	0	728	7.669	1.112	.000	.000	6.431	23	.932	0	.000	0	.000	.000	.000
2449.0	54	1	2	76	73	25	22	3962	0	0	0	0	0	561	7.669	1.112	.000	.000	6.431	23	.932	0	.000	0	.000	.000	.000
2462.0	54	1	4	102	98	25	22	4267	0	0	0	0	0	671	11.012	1.597	.000	.000	9.334	23	1.353	0	.000	0	.000	.000	.000
2453.0	54	1	3	102	98	38	35	4572	3	3	2	11	3	525	17.698	.000	.885	1.770	15.716	0	.000	1	.786	5	1.572	.000	.000
2461.0	54	1	4	102	98	38	35	4877	18	2	1	0	1	459	18.878	.000	1.888	1.888	16.764	0	.000	51	1.676	5	1.676	.000	.000
2459.0	54	1	4	102	98	38	35	4877	9	4	2	0	2	483	18.878	.000	1.888	1.888	16.764	0	.000	51	1.676	5	1.676	.000	.000
2460.0	54	1	4	102	98	38	35	4877	28	3	3	8	1	437	18.878	.000	1.888	.944	16.764	0	.000	51	1.676	1	.838	.000	.000
2607.0	54	2	1	102	98	25	22	3962	0	0	0	0	0	607	10.226	1.483	.000	.000	8.668	23	1.257	0	.000	0	.000	.000	.000
2610.0	54	2	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
2609.0	54	2	4	102	98	38	35	4877	33	2	3	0	1	428	18.878	.000	1.888	1.510	16.764	0	.000	51	1.676	4	1.341	.000	.000
2608.0	54	2	4	102	98	38	35	4877	16	2	3	0	1	453	18.878	.000	1.888	1.510	16.764	0	.000	51	1.676	4	1.341	.000	.000
2535.0	54	3	4	102	98	25	22	3658	0	0	0	0	0	572	9.439	.755	.000	.000	8.001	25	.640	0	.000	0	.000	.000	.000
2533.0	54	3	4	102	98	38	35	4877	22	1	1	0	1	444	18.878	.000	1.888	2.077	16.764	0	.000	51	1.676	7	1.844	.000	.000
2534.0	54	3	4	102	98	38	35	4877	31	5	2	0	1	440	18.878	.000	1.888	1.888	16.764	0	.000	51	1.676	5	1.676	.000	.000
2663.0	55	1	4	76	73	25	22	3962	0	0	0	0	0	727	7.669	1.112	.000	.000	6.431	23	.932	0	.000	0	.000	.000	.000
2662.0	55	1	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
2664.0	55	1	3	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
2661.0	55	1	4	102	98	38	35	4572	19	20	1	10	1	453	17.698	.000	1.770	1.416	15.716	0	.000	51	1.572	4	1.257	.000	.000
2660.0	55	1	4	102	98	38	35	4877	3	3	4	10	1	468	18.878	.000	1.888	1.510	16.764	0	.000	51	1.676	4	1.341	.000	.000
2492.0	55	3	4	76	73	25	22	4877	0	0	0	0	0	548	9.439	.755	.000	.000	7.915	25	.633	0	.000	0	.000	.000	.000
2493.0	55	3	4	76	73	25	22	3962	0	0	0	0	0	568	7.669	1.112	.000	.000	6.431	24	.932	0	.000	0	.000	.000	.000
2491.0	55	3	4	76	73	25	22	4877	0	0	0	0	0	553	9.439	.755	.000	.000	7.915	25	.633	0	.000	0	.000	.000	.000
2591.0	56	1	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
2590.0	56	1	3	102	98	38	35	4877	11	4	5	12	2	461	18.878	.000	2.077	1.888	16.764	0	.000	7	1.844	5	1.676	.000	.000
2593.0	56	1	4	102	98	38	35	4572	6	11	20	0	1	432	17.698	.000	1.770	.885	15.716	0	.000	51	1.572	1	.786	.000	.000
2592.0	56	1	4	102	98	38	35	4267	22	1	1	0	1	388	16.518	.000	1.652	.826	14.668	0	.000	51	1.467	1	.733	.000	.000
2518.0	56	2	4	76	73	25	22	4877	0	0	0	0	0	569	9.439	1.369	.000	.000	7.915	23	1.148	0	.000	0	.000	.000	.000
2516.0	56	2	4	102	98	38	35	4572	7	9	8	0	2	449	17.698	.000	1.770	1.947	15.716	0	.000	5	1.572	7	1.729	.000	.000
2516.1	56	2	4	102	98	38	35	4572	25	1	8	0	1	402	17.698	.000	1.770	1.770	15.716	0	.000	51	1.572	5	1.572	.000	.000
2517.0	56	2	4	102	98	38	35	4877	24	9	1	0	1	398	18.878	.000	1.888	1.510	16.764	0	.000	51	1.676	4	1.341	.000	.000
2458.0	56	3	4	76	73	25	22	3962	0	0	0	0	0	546	7.669	.614	.000	.000	6.431	25	.514	0	.000	0	.000	.000	.000
2457.0	56	3	4	76	73	25	22	3962	0	0	0	0	0	543	7.669	.614	.000	.000	6.431	25	.514	0	.000	0	.000	.000	.000
2475.0	57	1	4	76	73	25	22	3962	0	0	0	0	0	645	7.669	1.112	.000	.000	6.431	22	.932	0	.000	0	.000	.000	.000
2474.0	57	1	4	102	98	25	22	4572	0	0	0	0	0	576	11.799	1.711	.000	.000	10.001	23	1.450	0	.000	0	.000	.000	.000
2471.0	57	1	3	102	98	38	35	3962	15	5	3	0	2	479	15.338	.000	1.764	1.687	13.621	0	.000	8	1.566	7	1.498	.000	.000
2472.0	57	1	4	102	98	38	35	4877	3	5	4	11	2	452	18.878	.000	1.888	1.888	16.764	0	.000	5	1.676	5	1.676	.000	.000

2473.0	57	1	4	102	98	38	35	4877	17	6	8	0	1	435	18.878	.000	1.888	.944	16.764	0	.000	51	1.676	1	.838	.000	.000
2532.0	57	2	4	76	73	25	22	4267	0	0	0	0	0	574	8.259	1.198	.000	.000	6.926	23	1.004	0	.000	0	.000	.000	.000
2529.0	57	2	3	102	98	25	22	4572	0	0	0	0	0	566	11.799	1.711	.000	.000	10.001	24	1.450	0	.000	0	.000	.000	.000
2530.0	57	2	4	102	98	38	35	4877	19	3	2	0	1	410	18.878	.000	1.888	2.077	16.764	0	.000	51	1.676	7	1.844	.000	.000
2531.0	57	2	4	102	98	38	35	4877	26	3	3	0	1	413	18.878	.000	.944	1.510	16.764	0	.000	1	.838	4	1.341	.000	.000
2489.0	57	3	4	102	98	38	35	4877	16	3	3	0	1	410	18.878	.000	1.888	1.888	16.764	0	.000	51	1.676	5	1.676	.000	.000
2490.0	57	3	4	102	98	38	35	4877	25	3	4	0	1	405	18.878	.000	1.888	1.888	16.764	0	.000	51	1.676	5	1.676	.000	.000
2501.0	58	1	1	76	73	25	22	3658	0	0	0	0	0	697	7.079	1.026	.000	.000	5.936	23	.861	0	.000	0	.000	.000	.000
2519.0	58	1	3	76	73	25	22	4877	0	0	0	0	0	643	9.439	1.369	.000	.000	7.915	23	1.148	0	.000	0	.000	.000	.000
2522.0	58	1	4	102	98	38	35		0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
2521.0	58	1	4	102	98	38	35	4267	26	10	2	0	1	423	16.518	.000	1.652	1.321	14.668	0	.000	51	1.467	4	1.173	.000	.000
2520.0	58	1	4	102	98	38	35	4267	14	5	6	0	1	455	16.518	.000	1.652	.826	14.668	0	.000	51	1.467	1	.733	.000	.000
2573.0	58	2	4	76	73	25	22	4877	0	0	0	0	0	565	9.439	.755	.000	.000	7.915	25	.633	0	.000	0	.000	.000	.000
2570.0	58	2	3	76	73	25	22	3658	0	0	0	0	0	621	7.079	1.026	.000	.000	5.936	23	.861	0	.000	0	.000	.000	.000
2572.0	58	2	4	102	98	38	35	4877	28	5	2	0	1	407	18.878	.000	1.888	1.888	16.764	0	.000	51	1.676	5	1.676	.000	.000
2571.0	58	2	4	102	98	38	35	4877	12	1	3	10	1	444	18.878	.000	1.888	1.888	16.764	0	.000	51	1.676	5	1.676	.000	.000
2488.0	58	3	4	76	73	25	22	3962	0	0	0	0	0	554	7.669	.614	.000	.000	6.431	25	.514	0	.000	0	.000	.000	.000
2487.0	58	3	4	76	73	25	22	4877	0	0	0	0	0	522	9.439	.755	.000	.000	7.915	25	.633	0	.000	0	.000	.000	.000
2486.0	58	3	4	76	73	25	22	4877	0	0	0	0	0	550	9.439	.755	.000	.000	7.915	25	.633	0	.000	0	.000	.000	.000
2482.0	59	1	2	76	73	25	22	4267	0	0	0	0	0	714	8.259	.661	.000	.000	6.926	25	.554	0	.000	0	.000	.000	.000
2481.0	59	1	3	102	98	25	22	4267	0	0	0	0	0	672	11.012	1.597	.000	.000	9.334	24	1.353	0	.000	0	.000	.000	.000
2465.0	59	1	4	102	98	38	35		0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
2476.0	59	1	1	102	98	38	35	3353	1	6	2	0	3	533	12.979	.000	1.493	1.493	11.525	0	.000	8	1.325	8	1.325	.000	.000
2480.0	59	1	3	102	98	38	35	4877	8	4	2	0	2	468	18.878	.000	.944	1.510	16.764	0	.000	1	.838	4	1.341	.000	.000
2484.0	59	1	4	102	98	38	35	4877	12	5	2	0	1	452	18.878	.000	1.888	1.510	16.764	0	.000	51	1.676	4	1.341	.000	.000
2484.1	59	1	4	102	98	38	35	4877	22	11	9	0	1	445	18.878	.000	1.888	.944	16.764	0	.000	51	1.676	1	.838	.000	.000
2483.0	59	1	4	102	98	38	35	4267	9	24	3	0	2	454	16.518	.000	.826	.826	14.668	0	.000	1	.733	1	.733	.000	.000
2569.0	59	2	4	76	73	25	22	4877	0	0	0	0	0	636	9.439	1.369	.000	.000	7.915	23	1.148	0	.000	0	.000	.000	.000
2568.0	59	2	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
2567.0	59	2	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
2566.0	59	2	4	102	98	38	35	4877	20	3	2	0	2	434	18.878	.000	2.077	1.888	16.764	0	.000	7	1.844	5	1.676	.000	.000
2574.0	59	2	3	152	149	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	28.317	25.416
2694.0	59	3	3	76	73	25	22	4877	0	0	0	0	0	610	9.439	.755	.000	.000	7.915	25	.633	0	.000	0	.000	.000	.000
2696.0	59	3	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
2697.0	59	3	4	102	98	38	35	4877	15	2	2	0	1	440	18.878	.000	1.888	1.888	16.764	0	.000	51	1.676	5	1.676	.000	.000
2695.0	59	3	4	102	98	38	35	4572	27	2	3	0	1	414	17.698	.000	1.770	1.416	15.716	0	.000	51	1.572	4	1.257	.000	.000
2613.0	60	1	3	76	73	25	22	4572	0	0	0	0	0	721	8.849	1.283	.000	.000	7.420	23	1.076	0	.000	0	.000	.000	.000
2616.0	60	1	4	102	98	25	22	4877	0	0	0	0	0	616	12.585	1.825	.000	.000	10.668	23	1.547	0	.000	0	.000	.000	.000
2614.0	60	1	4	102	98	38	35	4877	10	3	4	10	2	468	18.878	.000	.944	1.888	16.764	0	.000	1	.838	5	1.676	.000	.000
2615.0	60	1	4	102	98	38	35	4572	25	5	2	0	1	435	17.698	.000	1.770	1.416	15.716	0	.000	51	1.572	4	1.257	.000	.000
2601.0	60	2	4	76	73	25	22	4267	0	0	0	0	0	625	8.259	1.198	.000	.000	6.926	23	1.004	0	.000	0	.000	.000	.000
2600.0	60	2	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
2599.0	60	2	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
1521.0	60	5	3	76	73	25	22	4877	0	0	0	0	0	543	9.439	.755	.000	.000	7.915	25	.633	0	.000	0	.000	.000	.000
1524.0	60	5	4	102	98	25	22	4877	0	0	0	0	0	537	12.585	1.825	.000	.000	10.668	23	1.547	0	.000	0	.000	.000	.000
1522.0	60	5	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
1523.0	60	5	4	102	98	38	35	4877	27	2	1	0	1	411	18.878	.000	1.888	1.888	16.764	0	.000	51	1.676	5	1.676	.000	.000

FILE TYL61

876.0	61	1	3	76	73	25	22	4877	0	0	0	0	0	732	9.439	1.369	.000	.000	7.915	23	1.148	0	.000	0	.000	.000	.000
879.0	61	1	4	102	98	38	35	4877	1	3	3	0	3	549	18.878	.000	1.888	2.171	16.764	0	.000	5	1.676	8	1.928	.000	.000
880.0	61	1	4	102	98	38	35	4877	5	3	4	0	2	493	18.878	.000	1.888	2.171	16.764	0	.000	5	1.676	8	1.928	.000	.000
882.0	61	1	4	102	98	38	35	4877	4	3	0	9	3	512	18.878	.000	2.077	2.077	16.764	0	.000	7	1.844	7	1.844	.000	.000
881.0	61	1	4	102	98	38	35	4877	4	3	1	0	3	477	18.878	.000	1.888	2.077	16.764	0	.000	5	1.676	7	1.844	.000	.000
882.1	61	1	4	102	98	38	35	4877	14	3	2	0	1	438	18.878	.000	.944	1.510	16.764	0	.000	1	.838	4	1.341	.000	.000
883.0	61	1	4	102	98	38	35	4877	2	4	0	10	2	468	18.878	.000	.944	2.077	16.764	0	.000	1	.838	7	1.844	.000	.000
885.0	61	1	4	102	98	38	35	4877	19	4	0	11	2	429	18.878	.000	.944	1.888	16.764	0	.000	1	.838	5	1.676	.000	.000
885.1	61	1	4	152	149	38	35	4572	3	5	0	10	3	557	26.547	.000	3.053	3.318	23.828	0	.000	8	2.740	11	2.978	.000	.000
875.0	61	1	1	152	149	38	35	3353	0	6	6	11	3	559	19.468	.000	2.239	2.239	17.474	0	.000	8	2.009	8	2.009	.000	.000
874.0	61	1	2	152	149	38	35	4877	13	5	2	11	3	575	28.317	.000	3.115	3.256	25.416	0	.000	7	2.796	8	2.923	.000	.000
884.0	61	1	4	203	200	38	35	4877	1	2	2	12	1	529	37.756	.000	.000	.000	34.069	0	.000	0	.000	0	.000	.000	.000
877.0	61	1	4	203	200	38	35	4877	4	3	2	0	1	547	37.756	.000	4.342	4.719	34.069	0	.000	8	3.918	11	4.259	.000	.000
878.0	61	1	4	203	200	38	35	4572	4	0	3	0	2	534	35.396	.000	3.540	4.071	31.939	0	.000	5	3.194	8	3.673	.000	.000
886.0	61	1	4	203	200	38	35	4877	2	3	3	0	2	500	37.756	.000	3.776	4.342	34.069	0	.000	5	3.407	8	3.918	.000	.000
638.0	61	2	4	102	98	25	22	4877	0	0	0	0	0	630	12.585	1.825	.000	.000	10.668	23	1.547	0	.000	0	.000	.000	.000
629.0	61	2	2	102	98	25	22	4572	0	0	0	0	0	669	11.799	1.711	.000	.000	10.001	24	1.450	0	.000	0	.000	.000	.000
636.0	61	2	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
635.0	61	2	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
634.0	61	2	4	102	98	38	35	4877	2	3	3	0	3	460	18.878	.000	2.077	2.171	16.764	0	.000	7	1.844	8	1.928	.000	.000
637.0	61	2	4	102	98	38	35	4877	10	2	1	0	2	453	18.878	.000	2.077	2.077	16.764	0	.000	7	1.844	7	1.844	.000	.000
630.0	61	2	3	152	149	25	22	3048	0	0	0	0	0	629	11.799	1.711	.000	.000	10.109	24	1.466	0	.000	0	.000	.000	.000
633.0	61	2	4	152	149	38	35	3962	0	6	0	11	3	530	23.007	.000	2.646	2.876	20.651	0	.000	8	2.375	11	2.581	.000	.000
624.0	61	2	1	152	149	38	35	4572	2	7	0	10	3	545	26.547	.000	3.053	3.318	23.828	0	.000	8	2.740	11	2.978	.000	.000
631.0	61	2	3	178	175	25	22	4877	0	0	0	0	0	634	22.024	3.194	.000	.000	18.927	23	2.744	0	.000	0	.000	.000	.000
625.0	61	2	4	203	200	38	35	4572	2	1	2	9	2	525	35.396	.000	3.894	4.425	31.939	0	.000	7	3.513	11	3.992	.000	.000
632.0	61	2	4	203	200	38	35	4877	1	4	4	0	2	497	37.756	.000	4.342	4.342	34.069	0	.000	8	3.918	8	3.918	.000	.000
639.0	61	2	4	203	200	38	35	4877	2	2	2	0	1	472	37.756	.000	3.776	3.776	34.069	0	.000	51	3.407	5	3.407	.000	.000
677.0	61	3	4	102	98	25	22	4877	0	0	0	0	0	550	12.585	1.007	.000	.000	10.668	25	.853	0	.000	0	.000	.000	.000
664.0	61	3	1	102	98	25	22	3353	0	0	0	0	0	649	8.652	1.255	.000	.000	7.334	23	1.063	0	.000	0	.000	.000	.000
675.0	61	3	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
674.0	61	3	4	102	98	38	35	4877	2	2	1	0	3	470	18.878	.000	1.888	2.077	16.764	0	.000	5	1.676	7	1.844	.000	.000
673.0	61	3	4	102	98	38	35	4877	3	3	3	0	2	477	18.878	.000	2.171	2.077	16.764	0	.000	8	1.928	7	1.844	.000	.000
670.0	61	3	4	102	98	38	35	4877	6	4	1	0	2	534	18.878	.000	1.888	2.077	16.764	0	.000	5	1.676	7	1.844	.000	.000
676.0	61	3	4	102	98	38	35	4877	11	1	1	0	2	436	18.878	.000	1.888	1.888	16.764	0	.000	5	1.676	5	1.676	.000	.000
674.1	61	3	4	102	98	38	35	4877	11	1	2	0	2	453	18.878	.000	1.888	1.888	16.764	0	.000	5	1.676	5	1.676	.000	.000
665.0	61	3	2	152	149	25	22	3658	0	0	0	0	0	649	14.158	2.053	.000	.000	12.131	23	1.759	0	.000	0	.000	.000	.000
671.0	61	3	3	152	149	25	22	3353	0	0	0	0	0	630	12.979	1.882	.000	.000	11.120	23	1.612	0	.000	0	.000	.000	.000
685.0	61	3	4	152	149	38	35	4877	16	0	0	10	3	512	28.317	.000	2.832	3.540	25.416	0	.000	5	2.542	11	3.177	.000	.000
684.0	61	3	4	203	200	38	35	4572	7	4	1	0	1	467	35.396	.000	3.540	4.071	31.939	0	.000	5	3.194	8	3.673	.000	.000
670.1	61	3	4	203	200	38	35	4572	4	2	1	0	2	496	35.396	.000	4.071	4.071	31.939	0	.000	8	3.673	8	3.673	.000	.000
1290.0	61	4	3	76	73	25	22	3048	0	0	0	0	0	673	5.899	.855	.000	.000	4.947	23	.717	0	.000	0	.000	.000	.000
1288.0	61	4	1	76	73	25	22	2743	0	0	0	0	0	691	5.309	.770	.000	.000	4.452	23	.646	0	.000	0	.000	.000	.000
1292.0	61	4	2	102	98	25	22	3658	0	0	0	0	0	647	9.439	1.369	.000	.000	8.001	23	1.160	0	.000	0	.000	.000	.000
1296.0	61	4	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
1295.0	61	4	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
1294.0	61	4	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
1293.0	61	4	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
1289.0	61	4	1	152	149	38	35	3962	10	3	2	12	2	463	23.007	.000	2.301	2.646	20.651	0	.000	5	2.065	8	2.375	.000	.000
1291.0	61	4	3	152	149	38	35	4877	16	3	3	0	2	480	28.317	.000	2.832	3.115	25.416	0	.000	5	2.542	7	2.796	.000	.000
1361.0	61	5	3	76	73	25	22	3962	0	0	0	0	0	752	7.669	1.112	.000	.000	6.431	24	.932	0	.000	0	.000	.000	.000
1360.0	61	5	1	76	73	25	22	3962	0	0	0	0	0	667	7.669	1.112	.000	.000	6.431	24	.932	0	.000	0	.000	.000	.000
1366.0	61	5	4	102	98	25	22	3353	0	0	0	0	0	606	8.652	1.255	.000	.000	7.334	23	1.063	0	.000	0	.000	.000	.000
1364.0	61	5	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764

1363.0	61	5	4	102	98	38	35	4267	6	0	3	9	3	449	16.518	.000	.826	.000	14.668	0	.000	1	.733	0	.000	.000	.000
1365.2	61	5	4	102	98	38	35	1524	2	0	1	10	2	441	5.899	.000	.295	.649	5.239	0	.000	1	.262	7	.576	.000	.000
1365.1	61	5	4	102	98	38	35	2438	5	1	1	10	2	390	9.439	.000	1.038	1.038	8.382	0	.000	7	.922	7	.922	.000	.000
1113.0	62	1	2	76	73	25	22	4877	0	0	0	0	0	714	9.439	1.369	.000	.000	7.915	21	1.148	0	.000	0	.000	.000	.000
1123.0	62	1	4	102	98	25	22	4267	0	0	0	0	0	739	11.012	1.597	.000	.000	9.334	23	1.353	0	.000	0	.000	.000	.000
1119.0	62	1	4	102	98	25	22	4877	0	0	0	0	0	667	12.585	1.007	.000	.000	10.668	25	.853	0	.000	0	.000	.000	.000
1114.0	62	1	3	102	98	38	35	4877	1	2	4	0	3	583	18.878	.000	2.171	2.360	16.764	0	.000	8	1.928	11	2.095	.000	.000
1115.0	62	1	4	102	98	38	35	4877	3	4	2	0	2	549	18.878	.000	1.888	2.171	16.764	0	.000	5	1.676	8	1.928	.000	.000
1117.0	62	1	4	102	98	38	35	4877	1	5	3	0	3	554	18.878	.000	2.171	2.077	16.764	0	.000	8	1.928	7	1.844	.000	.000
1118.0	62	1	4	102	98	38	35	4877	5	3	4	0	1	526	18.878	.000	.944	1.510	16.764	0	.000	1	.838	4	1.341	.000	.000
1116.0	62	1	4	102	98	38	35	4877	4	1	3	10	1	526	18.878	.000	1.888	1.510	16.764	0	.000	51	1.676	4	1.341	.000	.000
1122.0	62	1	4	203	200	38	35	4877	5	2	2	0	3	590	37.756	.000	4.719	4.719	34.069	0	.000	11	4.259	11	4.259	.000	.000
1120.0	62	1	4	203	200	38	35	4877	6	1	6	10	2	565	37.756	.000	3.776	4.719	34.069	0	.000	5	3.407	11	4.259	.000	.000
1121.0	62	1	4	203	200	38	35	4877	5	2	9	10	2	559	37.756	.000	4.719	4.342	34.069	0	.000	11	4.259	8	3.918	.000	.000
1337.0	62	3	4	76	73	25	22	4267	0	0	0	0	0	726	8.259	1.198	.000	.000	6.926	23	1.004	0	.000	0	.000	.000	.000
1336.0	62	3	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
1335.0	62	3	4	102	98	38	35	4877	4	3	3	10	2	491	18.878	.000	2.077	.000	16.764	0	.000	7	1.844	0	.000	.000	.000
1334.0	62	3	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
1333.0	62	3	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
1332.0	62	3	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
1329.0	62	3	1	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
1330.0	62	3	3	127	124	25	22	4877	0	0	0	0	0	646	15.732	2.281	.000	.000	13.421	23	1.946	0	.000	0	.000	.000	.000
1331.0	62	3	3	203	200	38	35	4877	25	2	2	0	2	515	37.756	.000	4.342	4.342	34.069	0	.000	8	3.918	8	3.918	.000	.000
1474.0	62	4	1	76	73	25	22	4877	0	0	0	0	0	728	9.439	.755	.000	.000	7.915	25	.633	0	.000	0	.000	.000	.000
1479.0	62	4	3	102	98	38	35	4877	6	3	0	11	3	486	18.878	.000	1.888	2.171	16.764	0	.000	5	1.676	8	1.928	.000	.000
1478.0	62	4	4	102	98	38	35	4877	6	0	0	11	3	514	18.878	.000	.944	2.171	16.764	0	.000	1	.838	8	1.928	.000	.000
1477.0	62	4	4	102	98	38	35	4877	6	2	0	10	1	438	18.878	.000	1.888	1.888	16.764	0	.000	51	1.676	5	1.676	.000	.000
1475.0	62	4	4	102	98	38	35	4877	6	3	0	11	2	501	18.878	.000	1.888	1.888	16.764	0	.000	5	1.676	5	1.676	.000	.000
1476.0	62	4	4	102	98	38	35	4877	11	5	0	10	1	435	18.878	.000	1.888	1.888	16.764	0	.000	51	1.676	5	1.676	.000	.000
1407.0	62	5	1	76	73	25	22	2134	0	0	0	0	0	670	4.130	.599	.000	.000	3.463	23	.502	0	.000	0	.000	.000	.000
1413.0	62	5	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
1412.0	62	5	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
1411.0	62	5	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
902.0	63	1	2	102	98	25	22	4267	0	0	0	0	0	716	11.012	.881	.000	.000	9.334	25	.747	0	.000	0	.000	.000	.000
906.0	63	1	4	102	98	38	35	4572	2	7	3	0	3	575	17.698	.000	.885	2.035	15.716	0	.000	1	.786	8	1.807	.000	.000
908.0	63	1	4	102	98	38	35	4877	2	5	7	0	3	557	18.878	.000	1.888	2.077	16.764	0	.000	5	1.676	7	1.844	.000	.000
907.0	63	1	4	102	98	38	35	4877	4	3	3	0	1	534	18.878	.000	1.888	2.077	16.764	0	.000	5	1.676	7	1.844	.000	.000
910.0	63	1	4	102	98	38	35	4877	3	2	1	0	2	521	18.878	.000	.944	1.888	16.764	0	.000	1	.838	5	1.676	.000	.000
909.0	63	1	4	102	98	38	35	4877	5	10	4	0	2	507	18.878	.000	2.077	1.888	16.764	0	.000	7	1.844	5	1.676	.000	.000
903.0	63	1	3	127	124	25	22	3353	0	0	0	0	0	700	10.815	.865	.000	.000	9.227	25	.738	0	.000	0	.000	.000	.000
912.0	63	1	4	152	149	25	22	2438	0	0	0	0	0	662	9.439	1.369	.000	.000	8.087	24	1.173	0	.000	0	.000	.000	.000
905.0	63	1	4	152	149	38	35	4877	0	5	0	11	2	593	28.317	.000	3.115	3.256	25.416	0	.000	7	2.796	8	2.923	.000	.000
911.0	63	1	4	203	200	38	35	4877	24	2	6	0	2	517	37.756	.000	.000	.000	34.069	0	.000	0	.000	0	.000	.000	.000
913.0	63	1	4	203	200	38	35	4572	5	1	2	0	1	547	35.396	.000	3.894	4.071	31.939	0	.000	7	3.513	8	3.673	.000	.000
904.0	63	1	3	203	200	38	35	4267	2	8	5	0	3	593	33.036	.000	3.634	3.799	29.810	0	.000	7	3.279	8	3.428	.000	.000
1150.0	63	2	3	76	73	25	22	4877	0	0	0	0	0	696	9.439	1.369	.000	.000	7.915	23	1.148	0	.000	0	.000	.000	.000
1147.0	63	2	1	76	73	25	22	4877	0	0	0	0	0	725	9.439	1.369	.000	.000	7.915	23	1.148	0	.000	0	.000	.000	.000
1141.0	63	2	2	76	73	25	22	2134	0	0	0	0	0	714	4.130	.599	.000	.000	3.463	21	.502	0	.000	0	.000	.000	.000
1138.0	63	2	4	102	98	25	22	4572	0	0	0	0	0	557	11.799	1.711	.000	.000	10.001	23	1.450	0	.000	0	.000	.000	.000
1136.0	63	2	4	102	98	38	35	4877	3	8	2	0	3	526	18.878	.000	2.171	2.077	16.764	0	.000	8	1.928	7	1.844	.000	.000
1134.0	63	2	4	102	98	38	35	4877	4	4	3	0	2	492	18.878	.000	.944	2.077	16.764	0	.000	1	.838	7	1.844	.000	.000
1137.0	63	2	4	102	98	38	35	4877	4	17	2	0	2	459	18.878	.000	2.077	1.888	16.764	0	.000	7	1.844	5	1.676	.000	.000
1135.0	63	2	4	102	98	38	35	4877	24	3	4	0	1	438	18.878	.000	.944	1.510	16.764	0	.000	1	.838	4	1.341	.000	.000
1149.0	63	2	4	152	149	38	35	4267	8	5	1	0	3	543	24.777	.000	2.725	3.097	22.239	0	.000	7	2.446	11	2.780	.000	.000

1140.0	63	2	4	203	200	38	35	4877	7	2	4	0	3	542	37.756	.000	4.342	4.719	34.069	0	.000	8	3.918	11	4.259	.000	.000
1148.0	63	2	4	203	200	38	35	4572	1	6	2	0	2	494	35.396	.000	4.071	4.071	31.939	0	.000	8	3.673	8	3.673	.000	.000
1439.0	63	3	4	102	98	25	22	4877	0	0	0	0	0	653	12.585	1.825	.000	.000	10.668	23	1.547	0	.000	0	.000	.000	.000
1433.0	63	3	3	102	98	25	22	4877	0	0	0	0	0	700	12.585	1.825	.000	.000	10.668	23	1.547	0	.000	0	.000	.000	.000
1431.0	63	3	2	102	98	25	22	3962	0	0	0	0	0	693	10.226	1.483	.000	.000	8.668	23	1.257	0	.000	0	.000	.000	.000
1435.0	63	3	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
1438.0	63	3	4	102	98	38	35	4267	3	3	0	11	1	475	16.518	.000	.826	1.900	14.668	0	.000	1	.733	8	1.687	.000	.000
1437.0	63	3	4	102	98	38	35	4877	10	5	2	10	1	426	18.878	.000	.944	1.888	16.764	0	.000	1	.838	5	1.676	.000	.000
1436.0	63	3	4	102	98	38	35	4877	7	3	3	10	1	435	18.878	.000	1.888	1.888	16.764	0	.000	5	1.676	5	1.676	.000	.000
1434.0	63	3	3	152	149	38	35	4877	1	3	3	0	3	513	28.317	.000	3.256	3.256	25.416	0	.000	8	2.923	8	2.923	.000	.000
1432.0	63	3	1	152	149	38	35	4877	5	6	2	12	2	503	28.317	.000	2.832	3.256	25.416	0	.000	5	2.542	8	2.923	.000	.000
1377.0	63	4	4	102	98	25	22	2743	1	3	3	13	3	677	7.079	1.026	.000	.000	6.001	23	.870	0	.000	0	.000	.000	.000
1376.0	63	4	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
1375.0	63	4	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
1373.0	63	4	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
1372.0	63	4	1	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
1374.0	63	4	4	102	98	38	35	4877	31	12	2	9	1	427	18.878	.000	.944	.944	16.764	0	.000	1	.838	1	.838	.000	.000
1235.0	63	5	4	76	73	25	22	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	9.439	7.915
1234.0	63	5	4	76	73	25	22	4877	0	0	0	0	0	796	9.439	1.369	.000	.000	7.915	23	1.148	0	.000	0	.000	.000	.000
1231.0	63	5	1	76	73	25	22	3048	0	0	0	0	0	642	5.899	.855	.000	.000	4.947	23	.717	0	.000	0	.000	.000	.000
1232.0	63	5	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
1234.1	63	5	4	102	98	38	35	2743	4	1	1	0	1	445	10.619	.000	1.062	1.062	9.430	0	.000	51	.943	5	.943	.000	.000
1233.0	63	5	4	102	98	38	35	2743	8	2	1	0	1	443	10.619	.000	1.062	.850	9.430	0	.000	51	.943	4	.754	.000	.000
1112.0	64	1	4	102	98	25	22	4877	0	0	0	0	0	648	12.585	1.825	.000	.000	10.668	24	1.547	0	.000	0	.000	.000	.000
1111.0	64	1	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
1108.0	64	1	4	102	98	38	35	4572	1	1	1	0	3	552	17.698	.000	.000	.000	15.716	0	.000	0	.000	0	.000	.000	.000
1106.0	64	1	4	102	98	38	35	4877	1	2	3	0	3	549	18.878	.000	2.360	2.360	16.764	0	.000	11	2.095	11	2.095	.000	.000
1109.0	64	1	4	102	98	38	35	4877	3	2	2	0	2	508	18.878	.000	2.077	2.077	16.764	0	.000	7	1.844	7	1.844	.000	.000
1110.0	64	1	4	102	98	38	35	4877	8	3	3	0	2	493	18.878	.000	1.888	1.888	16.764	0	.000	5	1.676	5	1.676	.000	.000
1100.0	64	1	2	102	98	38	35	4877	2	5	2	11	3	513	18.878	.000	2.171	2.171	16.764	0	.000	8	1.928	8	1.928	.000	.000
1105.0	64	1	4	127	124	25	22	3353	0	0	0	0	0	715	10.815	1.568	.000	.000	9.227	23	1.338	0	.000	0	.000	.000	.000
1107.0	64	1	4	152	149	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	28.317	25.416
1101.0	64	1	3	152	149	38	35	3353	0	8	9	13	3	596	19.468	.000	2.141	2.239	17.474	0	.000	7	1.922	8	2.009	.000	.000
1103.0	64	1	4	152	149	38	35	4877	1	4	4	0	2	492	28.317	.000	3.115	3.256	25.416	0	.000	7	2.796	8	2.923	.000	.000
1104.0	64	1	4	203	200	38	35	4877	9	7	2	0	1	484	37.756	.000	4.153	4.153	34.069	0	.000	7	3.748	7	3.748	.000	.000
1102.0	64	1	3	203	200	38	35	4877	8	3	0	10	0	499	37.756	.000	4.719	3.776	34.069	0	.000	11	4.259	5	3.407	.000	.000
1095.0	64	2	4	102	98	25	22	4572	0	0	0	0	0	564	11.799	.944	.000	.000	10.001	25	.800	0	.000	0	.000	.000	.000
1089.0	64	2	1	102	98	38	35	4572	3	2	3	0	3	524	17.698	.000	2.035	2.212	15.716	0	.000	8	1.807	11	1.965	.000	.000
1091.0	64	2	4	102	98	38	35	4572	7	2	1	0	2	492	17.698	.000	2.212	2.035	15.716	0	.000	11	1.965	8	1.807	.000	.000
1093.0	64	2	4	102	98	38	35	4877	4	3	5	0	2	446	18.878	.000	2.171	2.077	16.764	0	.000	8	1.928	7	1.844	.000	.000
1092.0	64	2	4	102	98	38	35	4877	17	4	6	0	2	443	18.878	.000	1.888	2.077	16.764	0	.000	5	1.676	7	1.844	.000	.000
1099.0	64	2	4	102	98	38	35	4572	4	3	1	0	3	516	17.698	.000	1.770	1.770	15.716	0	.000	5	1.572	5	1.572	.000	.000
1094.0	64	2	4	102	98	38	35	4572	2	6	2	10	1	424	17.698	.000	1.770	1.770	15.716	0	.000	51	1.572	5	1.572	.000	.000
1090.0	64	2	3	152	149	38	35	3962	0	8	0	11	3	499	23.007	.000	2.876	2.876	20.651	0	.000	11	2.581	11	2.581	.000	.000
1097.0	64	2	4	203	200	38	35	4877	2	2	4	0	3	503	37.756	.000	4.342	4.719	34.069	0	.000	8	3.918	11	4.259	.000	.000
1098.0	64	2	4	203	200	38	35	4572	0	1	1	0	2	490	35.396	.000	3.894	4.071	31.939	0	.000	7	3.513	8	3.673	.000	.000
1096.0	64	2	4	203	200	38	35	4877	8	1	2	0	2	457	37.756	.000	3.776	4.153	34.069	0	.000	51	3.407	7	3.748	.000	.000
1088.0	65	1	4	76	73	25	22	2743	0	0	0	0	0	749	5.309	.770	.000	.000	4.452	23	.646	0	.000	0	.000	.000	.000
1078.0	65	1	3	76	73	25	22	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	9.439	7.915
1077.0	65	1	2	76	73	25	22	2743	0	0	0	0	0	751	5.309	.770	.000	.000	4.452	21	.646	0	.000	0	.000	.000	.000
1084.0	65	1	4	102	98	25	22	4877	0	0	0	0	0	635	12.585	1.007	.000	.000	10.668	25	.853	0	.000	0	.000	.000	.000
1080.0	65	1	4	102	98	38	35	4877	3	2	1	0	2	555	18.878	.000	.944	2.360	16.764	0	.000	1	.838	11	2.095	.000	.000
1082.0	65	1	4	102	98	38	35	4877	2	1	2	0	2	554	18.878	.000	2.171	2.171	16.764	0	.000	8	1.928	8	1.928	.000	.000
1083.0	65	1	4	102	98	38	35	4877	7	12	2	0	2	518	18.878	.000	1.888	1.888	16.764	0	.000	5	1.676	5	1.676	.000	.000

1081.0	65	1	4	102	98	38	35	4877	10	4	2	0	1	519	18.878	.000	1.888	1.510	16.764	0	.000	51	1.676	4	1.341	.000	.000
1085.0	65	1	4	152	149	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	28.317	25.416
1079.0	65	1	3	152	149	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	28.317	25.416
1087.0	65	1	4	203	200	38	35	4877	6	6	2	0	1	557	37.756	.000	4.153	4.342	34.069	0	.000	7	3.748	8	3.918	.000	.000
1086.0	65	1	4	203	200	38	35	4877	2	14	6	0	1	522	37.756	.000	3.776	4.342	34.069	0	.000	51	3.407	8	3.918	.000	.000
1186.0	65	2	4	102	98	25	22	4877	0	0	0	0	0	654	12.585	1.825	.000	.000	10.668	22	1.547	0	.000	0	.000	.000	.000
1178.0	65	2	1	102	98	25	22	3353	0	0	0	0	0	670	8.652	1.255	.000	.000	7.334	23	1.063	0	.000	0	.000	.000	.000
1182.0	65	2	4	102	98	38	35	4877	0	3	2	0	3	508	18.878	.000	2.171	2.171	16.764	0	.000	8	1.928	8	1.928	.000	.000
1181.0	65	2	4	102	98	38	35	4877	1	4	12	0	3	534	18.878	.000	2.171	2.077	16.764	0	.000	8	1.928	7	1.844	.000	.000
1185.0	65	2	4	102	98	38	35	4877	15	5	5	0	1	457	18.878	.000	1.888	1.888	16.764	0	.000	51	1.676	5	1.676	.000	.000
1183.0	65	2	4	102	98	38	35	4877	11	5	3	0	1	458	18.878	.000	1.888	1.888	16.764	0	.000	51	1.676	5	1.676	.000	.000
1184.0	65	2	4	102	98	38	35	4877	34	10	10	0	1	447	18.878	.000	1.888	1.510	16.764	0	.000	51	1.676	4	1.341	.000	.000
1179.0	65	2	3	152	149	38	35	4877	5	3	2	0	2	529	28.317	.000	3.115	3.540	25.416	0	.000	7	2.796	11	3.177	.000	.000
1180.0	65	2	4	203	200	38	35	4572	12	3	2	14	2	503	35.396	.000	4.071	4.071	31.939	0	.000	8	3.673	8	3.673	.000	.000
1459.0	65	3	4	102	98	25	22	3962	0	0	0	0	0	658	10.226	1.483	.000	.000	8.668	22	1.257	0	.000	0	.000	.000	.000
1455.0	65	3	4	102	98	38	35	4572	0	1	2	11	2	492	17.698	.000	2.035	2.035	15.716	0	.000	8	1.807	8	1.807	.000	.000
1453.0	65	3	1	102	98	38	35	4572	3	3	0	11	3	494	17.698	.000	1.770	2.035	15.716	0	.000	5	1.572	8	1.807	.000	.000
1458.0	65	3	4	102	98	38	35	4572	0	6	5	11	2	470	17.698	.000	1.770	1.947	15.716	0	.000	5	1.572	7	1.729	.000	.000
1456.0	65	3	4	102	98	38	35	4572	16	3	0	10	1	437	17.698	.000	.885	1.770	15.716	0	.000	1	.786	5	1.572	.000	.000
1457.0	65	3	4	102	98	38	35	4572	13	1	2	10	1	463	17.698	.000	1.770	1.770	15.716	0	.000	51	1.572	5	1.572	.000	.000
1454.0	65	3	3	152	149	38	35	4877	2	6	5	12	2	501	28.317	.000	1.416	3.256	25.416	0	.000	1	1.271	8	2.923	.000	.000
942.0	66	1	4	102	98	38	35	4877	0	0	0	0	0	465	18.878	.000	.000	.000	16.764	0	.000	0	.000	0	.000	.000	.000
936.0	66	1	2	102	98	38	35	4572	1	9	2	0	3	617	17.698	.000	2.035	2.212	15.716	0	.000	8	1.807	11	1.965	.000	.000
945.0	66	1	4	102	98	38	35	4877	9	6	2	11	1	503	18.878	.000	2.171	2.360	16.764	0	.000	8	1.928	11	2.095	.000	.000
943.0	66	1	4	102	98	38	35	4877	1	10	2	0	2	533	18.878	.000	2.171	2.171	16.764	0	.000	8	1.928	8	1.928	.000	.000
946.0	66	1	4	102	98	38	35	0	19	6	6	0	1	0	.000	.000	.000	.000	.000	0	.000	51	.000	4	.000	18.878	16.764
944.0	66	1	4	102	98	38	35	0	4	3	2	11	3	0	.000	.000	.000	.000	.000	0	.000	5	.000	8	.000	18.878	16.764
940.0	66	1	4	127	124	25	22	4877	0	0	0	0	0	743	15.732	2.281	.000	.000	13.421	24	1.946	0	.000	6	.000	.000	.000
937.0	66	1	3	152	149	38	35	3962	3	0	0	11	3	637	23.007	.000	2.876	2.876	20.651	0	.000	11	2.581	11	2.581	.000	.000
941.0	66	1	4	152	149	38	35	4877	4	3	0	11	2	583	28.317	.000	3.256	3.540	25.416	0	.000	8	2.923	11	3.177	.000	.000
939.0	66	1	4	203	200	38	35	4877	5	3	6	10	2	561	37.756	.000	3.776	4.342	34.069	0	.000	5	3.407	8	3.918	.000	.000
921.0	66	2	4	102	98	25	22	4572	0	0	0	0	0	565	11.799	.944	.000	.000	10.001	25	.800	0	.000	0	.000	.000	.000
915.0	66	2	3	102	98	25	22	4267	0	0	0	0	0	736	11.012	1.597	.000	.000	9.334	23	1.353	0	.000	0	.000	.000	.000
914.0	66	2	1	102	98	25	22	4572	0	0	0	0	0	722	11.799	1.711	.000	.000	10.001	23	1.450	0	.000	0	.000	.000	.000
915.1	66	2	3	102	98	25	22	2134	5	1	0	0	2	767	5.506	.000	.000	.000	4.667	0	.000	0	.000	7	.000	.000	.000
915.2	66	2	3	102	98	25	22	2134	4	1	3	0	2	750	5.506	.000	.000	.000	4.667	0	.000	0	.000	8	.000	.000	.000
923.0	66	2	4	102	98	38	35	3962	1	2	2	0	2	585	15.338	.000	1.764	1.917	13.621	0	.000	8	1.566	11	1.703	.000	.000
91.9	66	2	4	102	98	38	35	4877	1	1	2	0	2	530	18.878	.000	1.888	2.360	16.764	0	.000	5	1.676	11	2.095	.000	.000
917.0	66	2	4	102	98	38	35	4877	5	1	4	0	2	523	18.878	.000	2.077	2.171	16.764	0	.000	7	1.844	8	1.928	.000	.000
920.0	66	2	4	102	98	38	35	4877	28	2	2	0	2	461	18.878	.000	2.077	2.077	16.764	0	.000	7	1.844	7	1.844	.000	.000
918.0	66	2	4	102	98	38	35	4877	24	1	2	0	2	452	18.878	.000	2.171	2.077	16.764	0	.000	8	1.928	7	1.844	.000	.000
916.0	66	2	4	152	149	38	35	4572	5	8	0	10	2	537	26.547	.000	2.920	3.053	23.828	0	.000	7	2.621	8	2.740	.000	.000
922.0	66	2	4	203	200	38	35	4877	16	3	2	0	1	522	37.756	.000	4.153	4.342	34.069	0	.000	7	3.748	8	3.918	.000	.000
1561.0	66	3	4	76	73	25	22	4877	0	0	0	0	0	727	9.439	1.369	.000	.000	7.915	22	1.148	0	.000	0	.000	.000	.000
1558.0	66	3	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
1559.0	66	3	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
1550.0	66	3	1	102	98	38	35	4877	0	6	0	11	2	513	18.878	.000	2.171	2.171	16.764	0	.000	8	1.928	8	1.928	.000	.000
1560.0	66	3	4	102	98	38	35	4877	7	2	2	11	2	504	18.878	.000	.944	2.171	16.764	0	.000	1	.838	8	1.928	.000	.000
1557.0	66	3	4	102	98	38	35	4572	8	2	0	12	2	478	17.698	.000	1.947	1.947	15.716	0	.000	7	1.729	7	1.729	.000	.000
1540.0	66	3	2	152	149	38	35	4877	4	3	3	0	2	519	28.317	.000	1.416	3.256	25.416	0	.000	1	1.271	8	2.923	.000	.000
1628.0	66	4	2	102	98	25	22	4267	0	0	0	0	0	611	11.012	1.597	.000	.000	9.334	23	1.353	0	.000	0	.000	.000	.000
1626.0	66	4	4	102	98	38	35	4877	0	0	0	0	0	0	18.878	.000	.000	.000	16.764	0	.000	0	.000	0	.000	.000	.000
1629.0	66	4	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
1623.0	66	4	4	102	98	38	35	4877	8	0	2	11	3	509	18.878	.000	.944	2.077	16.764	0	.000	1	.838	7	1.844	.000	.000

1625.0	66	4	4	102	98	38	35	4877	26	6	8	11	1	453	18.878	.000	.944	1.888	16.764	0	.000	1	.838	5	1.676	.000	.000
1624.0	66	4	4	102	98	38	35	4877	20	0	0	11	1	462	18.878	.000	1.888	1.888	16.764	0	.000	51	1.676	5	1.676	.000	.000
1164.0	67	1	4	76	73	25	22	2438	0	0	0	0	0	832	4.719	.584	.000	.000	3.957	22	.574	0	.000	0	.000	.000	.000
1155.0	67	1	2	76	73	25	22	1829	0	0	0	0	0	781	3.540	.513	.000	.000	2.968	23	.430	0	.000	0	.000	.000	.000
1154.0	67	1	1	76	73	25	22	3962	0	0	0	0	0	808	7.669	1.112	.000	.000	6.431	23	.932	0	.000	0	.000	.000	.000
1162.0	67	1	4	102	98	25	22	4572	0	0	0	0	0	619	11.799	.944	.000	.000	10.001	25	.800	0	.000	0	.000	.000	.000
1156.0	67	1	3	102	98	25	22	4877	0	0	0	0	0	815	12.585	1.825	.000	.000	10.668	24	1.547	0	.000	0	.000	.000	.000
1158.0	67	1	4	102	98	38	35	4572	2	1	1	0	3	633	17.698	.000	2.212	2.212	15.716	0	.000	11	1.965	11	1.965	.000	.000
1160.0	67	1	4	102	98	38	35	4572	5	4	3	10	3	577	17.698	.000	2.035	2.212	15.716	0	.000	8	1.807	11	1.965	.000	.000
1151.0	67	1	3	102	98	38	35	3048	1	2	1	0	3	556	11.799	.000	1.357	1.475	10.477	0	.000	8	1.205	11	1.310	.000	.000
1161.0	67	1	4	102	98	38	35	4572	5	4	1	0	2	534	17.698	.000	1.770	2.035	15.716	0	.000	5	1.572	8	1.807	.000	.000
1159.0	67	1	4	102	98	38	35	4572	3	2	2	0	2	562	17.698	.000	1.770	1.947	15.716	0	.000	5	1.572	7	1.729	.000	.000
1153.0	67	1	4	152	149	25	22	3962	0	0	0	0	0	692	15.338	2.224	.000	.000	13.141	23	1.906	0	.000	0	.000	.000	.000
1165.0	67	1	4	152	149	38	35	3962	1	5	5	0	3	577	23.007	.000	2.646	2.876	20.651	0	.000	8	2.375	11	2.581	.000	.000
1157.0	67	1	4	203	200	38	35	4877	3	2	1	0	3	628	37.756	.000	4.719	4.719	34.069	0	.000	11	4.259	11	4.259	.000	.000
1163.0	67	1	4	203	200	38	35	4877	4	1	2	13	1	583	37.756	.000	4.342	4.719	34.069	0	.000	8	3.918	11	4.259	.000	.000
1152.0	67	1	4	203	200	38	35	4572	11	3	3	10	2	518	35.396	.000	3.540	4.071	31.939	0	.000	5	3.194	8	3.673	.000	.000
1237.0	67	2	1	76	73	25	22	4877	0	0	0	0	0	795	9.439	1.369	.000	.000	7.915	24	1.148	0	.000	0	.000	.000	.000
1243.0	67	2	3	102	98	25	22	4877	0	0	0	0	0	740	12.585	1.825	.000	.000	10.668	23	1.547	0	.000	0	.000	.000	.000
1242.0	67	2	4	102	98	25	22	4572	0	0	0	0	0	705	11.799	1.711	.000	.000	10.001	23	1.450	0	.000	0	.000	.000	.000
1241.0	67	2	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
1239.0	67	2	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
1240.0	67	2	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
1238.0	67	2	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
1244.0	67	2	3	152	149	38	35	4877	9	2	2	0	1	590	28.317	.000	3.256	3.540	25.416	0	.000	8	2.923	11	3.177	.000	.000
1236.0	67	2	4	178	175	25	22	4877	0	0	0	0	0	699	22.024	3.194	.000	.000	18.927	23	2.744	0	.000	0	.000	.000	.000
1218.0	67	4	4	76	73	25	22	4877	0	0	0	0	0	673	9.439	1.369	.000	.000	7.915	22	1.148	0	.000	0	.000	.000	.000
1219.0	67	4	4	102	98	38	35	4877	3	4	1	12	3	527	18.878	.000	1.888	2.171	16.764	0	.000	5	1.676	8	1.928	.000	.000
1217.0	67	4	3	102	98	38	35	4877	1	3	3	0	2	487	18.878	.000	2.171	2.077	16.764	0	.000	8	1.928	7	1.844	.000	.000
1220.0	67	4	4	102	98	38	35	4877	24	2	2	0	1	457	18.878	.000	1.888	1.510	16.764	0	.000	51	1.676	4	1.341	.000	.000
1430.0	67	5	4	102	98	25	22	4572	0	0	0	0	0	629	11.799	1.711	.000	.000	10.001	23	1.450	0	.000	0	.000	.000	.000
1429.0	67	5	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
1428.0	67	5	4	102	98	38	35	4572	0	14	0	10	1	453	17.698	.000	1.770	1.770	15.716	0	.000	51	1.572	5	1.572	.000	.000
1386.0	68	1	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
1384.0	68	1	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
1383.0	68	1	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
1382.0	68	1	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
1379.0	68	1	2	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
1385.0	68	1	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
1380.0	68	1	3	127	124	25	22	4267	0	0	0	0	0	618	13.765	1.996	.000	.000	11.743	22	1.703	0	.000	0	.000	.000	.000
1381.0	68	1	3	152	149	38	35	4877	4	1	5	12	2	472	28.317	.000	3.115	3.256	25.416	0	.000	7	2.796	8	2.923	.000	.000
1378.0	68	1	1	152	149	38	35	4877	0	0	0	0	0	486	28.317	.000	3.256	3.256	25.416	0	.000	8	2.923	8	2.923	.000	.000
1468.0	68	2	4	102	98	25	22	3658	0	0	0	0	0	652	9.439	1.369	.000	.000	8.001	23	1.160	0	.000	0	.000	.000	.000
1464.0	68	2	4	102	98	38	35	4877	1	5	0	11	3	424	18.878	.000	2.171	2.171	16.764	0	.000	8	1.928	8	1.928	.000	.000
1469.0	68	2	1	102	98	38	35	3658	1	3	0	12	3	453	14.158	.000	1.557	1.628	12.573	0	.000	7	1.383	8	1.446	.000	.000
1467.0	68	2	4	102	98	38	35	4877	1	0	0	11	2	434	18.878	.000	1.888	2.171	16.764	0	.000	5	1.676	8	1.928	.000	.000
1465.0	68	2	4	102	98	38	35	4877	5	2	0	11	2	403	18.878	.000	1.888	1.888	16.764	0	.000	5	1.676	5	1.676	.000	.000
1466.0	68	2	4	102	98	38	35	4877	12	0	2	11	1	408	18.878	.000	1.888	1.888	16.764	0	.000	51	1.676	5	1.676	.000	.000
1470.0	68	2	3	152	149	38	35	4877	5	3	3	12	2	453	28.317	.000	3.115	3.256	25.416	0	.000	7	2.796	8	2.923	.000	.000
1212.0	68	3	4	76	73	25	22	4877	0	0	0	0	0	588	9.439	1.369	.000	.000	7.915	22	1.148	0	.000	0	.000	.000	.000
1207.0	68	3	2	76	73	25	22	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	9.439	7.915
1208.0	68	3	3	102	98	25	22	3962	0	0	0	0	0	589	10.226	1.483	.000	.000	8.668	23	1.257	0	.000	0	.000	.000	.000
1209.0	68	3	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
1211.1	68	3	4	102	98	38	35	4877	9	2	1	0	1	417	18.878	.000	1.888	2.077	16.764	0	.000	51	1.676	7	1.844	.000	.000

1211.0	68	3	4	102	98	38	35	4877	4	3	0	10	2	486	18.878	.000	1.888	1.888	16.764	0	.000	5	1.676	5	1.676	.000	.000
1210.0	68	3	4	102	98	38	35	4877	25	4	1	0	1	410	18.878	.000	1.888	1.510	16.764	0	.000	51	1.676	4	1.341	.000	.000
1208.1	68	3	3	102	98	38	35	4877	1	5	4	0	2	302	18.878	.000	2.171	1.510	16.764	0	.000	8	1.928	4	1.341	.000	.000
1287.0	68	4	4	102	98	25	22	4572	0	0	0	0	0	552	11.799	.944	.000	.000	10.001	25	.800	0	.000	0	.000	.000	.000
1285.0	68	4	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
1286.0	68	4	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
958.0	69	1	2	102	98	25	22	1829	0	0	0	0	0	791	4.719	.684	.000	.000	4.000	23	.580	0	.000	0	.000	.000	.000
963.0	69	1	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
964.0	69	1	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
962.0	69	1	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
947.0	69	1	1	102	98	38	35	3962	2	2	1	0	3	642	15.338	.000	1.917	1.917	13.621	0	.000	11	1.703	11	1.703	.000	.000
961.0	69	1	4	102	98	38	35	4877	4	21	1	11	2	597	18.878	.000	1.888	2.360	16.764	0	.000	5	1.676	11	2.095	.000	.000
966.0	69	1	4	102	98	38	35	4877	3	3	1	0	2	621	18.878	.000	2.077	2.360	16.764	0	.000	7	1.844	11	2.095	.000	.000
965.0	69	1	4	102	98	38	35	4877	8	8	4	0	2	503	18.878	.000	2.077	1.888	16.764	0	.000	7	1.844	5	1.676	.000	.000
955.0	69	1	4	152	149	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	28.317	25.416
960.0	69	1	4	152	149	38	35	4877	0	4	0	11	2	614	28.317	.000	3.256	3.540	25.416	0	.000	8	2.923	11	3.177	.000	.000
959.0	69	1	3	152	149	38	35	4572	0	25	8	10	3	595	26.547	.000	3.318	2.655	23.828	0	.000	11	2.978	5	2.383	.000	.000
954.0	69	1	4	203	200	38	35	3962	3	11	1	11	1	588	30.677	.000	3.068	3.528	27.681	0	.000	5	2.768	8	3.183	.000	.000
967.0	69	1	4	203	200	38	35	4267	1	18	1	11	2	547	33.036	.000	3.304	3.799	29.810	0	.000	51	2.981	8	3.428	.000	.000
973.0	69	2	4	102	98	25	22	4877	0	0	0	0	0	653	12.585	1.825	.000	.000	10.668	23	1.547	0	.000	0	.000	.000	.000
977.0	69	2	4	102	98	25	22	3353	0	0	0	0	0	746	8.652	.692	.000	.000	7.334	25	.587	0	.000	8	.000	.000	.000
970.0	69	2	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
969.0	69	2	4	102	98	38	35	4877	1	2	1	0	3	583	18.878	.000	2.077	2.360	16.764	0	.000	7	1.844	11	2.095	.000	.000
971.0	69	2	4	102	98	38	35	4877	31	13	4	0	1	475	18.878	.000	.944	1.888	16.764	0	.000	1	.838	5	1.676	.000	.000
972.0	69	2	4	102	98	38	35	4877	18	9	3	0	1	477	18.878	.000	1.888	1.888	16.764	0	.000	51	1.676	5	1.676	.000	.000
976.0	69	2	4	152	149	38	35	4572	7	22	9	10	2	572	26.547	.000	2.655	3.318	23.828	0	.000	5	2.383	11	2.978	.000	.000
974.0	69	2	4	152	149	38	35	4877	8	3	2	11	3	594	28.317	.000	3.115	3.540	25.416	0	.000	7	2.796	11	3.177	.000	.000
968.0	69	2	3	152	149	38	35	4572	3	2	0	11	3	568	26.547	.000	2.920	3.318	23.828	0	.000	7	2.621	11	2.978	.000	.000
975.0	69	2	4	203	200	38	35	4877	3	19	4	0	2	530	37.756	.000	3.776	4.153	34.069	0	.000	5	3.407	7	3.748	.000	.000
1408.0	69	3	1	76	73	25	22	4267	0	0	0	0	0	768	8.259	1.198	.000	.000	6.926	23	1.004	0	.000	0	.000	.000	.000
1419.0	69	3	3	76	73	25	22	4877	0	0	0	0	0	787	9.439	1.369	.000	.000	7.915	23	1.148	0	.000	0	.000	.000	.000
1414.0	69	3	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
1418.0	69	3	4	102	98	38	35	4877	0	2	2	11	3	511	18.878	.000	2.077	2.171	16.764	0	.000	7	1.844	8	1.928	.000	.000
1415.0	69	3	4	102	98	38	35	4877	4	2	2	10	2	483	18.878	.000	.944	2.171	16.764	0	.000	1	.838	8	1.928	.000	.000
1416.0	69	3	4	102	98	38	35	4877	22	1	0	10	1	438	18.878	.000	.944	1.888	16.764	0	.000	1	.838	5	1.676	.000	.000
1417.0	69	3	4	102	98	38	35	4877	3	1	2	11	2	461	18.878	.000	.944	1.888	16.764	0	.000	1	.838	5	1.676	.000	.000
1420.0	69	3	3	152	149	38	35	4877	2	4	3	13	2	528	28.317	.000	2.832	3.256	25.416	0	.000	5	2.542	8	2.923	.000	.000
1409.0	69	3	1	152	149	38	35	4877	6	2	1	11	2	554	28.317	.000	3.256	3.256	25.416	0	.000	8	2.923	8	2.923	.000	.000
1199.0	69	4	1	76	73	25	22	2134	0	0	0	0	0	661	4.130	.599	.000	.000	3.463	22	.502	0	.000	0	.000	.000	.000
1201.0	69	4	3	76	73	25	22	1829	0	0	0	0	0	694	3.540	.513	.000	.000	2.968	21	.430	0	.000	0	.000	.000	.000
1200.0	69	4	2	102	98	25	22	3048	0	0	0	0	0	672	7.866	1.141	.000	.000	6.667	23	.967	0	.000	0	.000	.000	.000
1206.0	69	4	4	102	98	25	22	4267	0	0	0	0	0	640	11.012	1.597	.000	.000	9.334	22	1.353	0	.000	0	.000	.000	.000
1203.0	69	4	4	102	98	38	35	4572	8	2	2	0	2	508	17.698	.000	1.770	1.947	15.716	0	.000	5	1.572	7	1.729	.000	.000
1204.0	69	4	4	102	98	38	35	4572	19	5	3	0	1	476	17.698	.000	1.770	1.770	15.716	0	.000	51	1.572	5	1.572	.000	.000
1205.0	69	4	4	102	98	38	35	4572	8	3	1	0	2	477	17.698	.000	2.035	1.770	15.716	0	.000	8	1.807	5	1.572	.000	.000
1202.0	69	4	3	152	149	38	35	3658	2	3	3	12	2	529	21.238	.000	2.442	2.442	19.062	0	.000	8	2.192	8	2.192	.000	.000
1460.0	69	5	1	76	73	25	22	4877	0	0	0	0	0	667	9.439	1.369	.000	.000	7.915	23	1.148	0	.000	0	.000	.000	.000
1461.0	69	5	4	102	98	38	35	4877	8	2	7	11	2	493	18.878	.000	.944	2.077	16.764	0	.000	1	.838	7	1.844	.000	.000
1463.0	69	5	4	102	98	38	35	4877	8	3	0	11	3	487	18.878	.000	1.888	2.077	16.764	0	.000	5	1.676	7	1.844	.000	.000
1462.0	69	5	4	102	98	38	35	4572	12	9	2	11	1	460	17.698	.000	1.770	1.770	15.716	0	.000	51	1.572	5	1.572	.000	.000
1003.0	70	1	1	102	98	25	22	4877	0	0	0	0	0	757	12.585	1.825	.000	.000	10.668	23	1.547	0	.000	0	.000	.000	.000
1002.0	70	1	4	102	98	25	22	3658	0	0	0	0	0	674	9.439	.755	.000	.000	8.001	25	.640	0	.000	0	.000	.000	.000
995.0	70	1	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
989.0	70	1	3	102	98	38	35	4877	6	2	3	11	3	596	18.878	.000	2.171	2.360	16.764	0	.000	8	1.928	11	2.095	.000	.000

988.0	70	1	4	102	98	38	35	4877	4	3	5	0	3	600	18.878	.000	.944	2.360	16.764	0	.000	1	.838	11	2.095	.000	.000
991.0	70	1	4	102	98	38	35	4877	4	3	2	0	2	537	18.878	.000	1.888	2.360	16.764	0	.000	5	1.676	11	2.095	.000	.000
994.0	70	1	4	102	98	38	35	4877	9	2	2	0	2	542	18.878	.000	1.888	2.077	16.764	0	.000	5	1.676	7	1.844	.000	.000
992.0	70	1	4	102	98	38	35	4877	19	4	3	0	1	534	18.878	.000	1.888	1.888	16.764	0	.000	5	1.676	5	1.676	.000	.000
993.0	70	1	4	102	98	38	35	4877	25	6	1	0	1	509	18.878	.000	1.888	1.888	16.764	0	.000	51	1.676	5	1.676	.000	.000
980.0	70	1	2	127	124	25	22	4267	0	0	0	0	0	705	13.765	1.996	.000	.000	11.743	22	1.703	0	.000	0	.000	.000	.000
987.0	70	1	4	203	200	38	35	4877	2	2	4	0	1	542	37.756	.000	4.153	4.719	34.069	0	.000	7	3.748	11	4.259	.000	.000
1001.0	70	1	4	203	200	38	35	4877	5	5	5	0	2	552	37.756	.000	3.776	4.719	34.069	0	.000	5	3.407	11	4.259	.000	.000
1046.0	70	2	4	102	98	25	22	4877	0	0	0	0	0	729	12.585	1.825	.000	.000	10.668	23	1.547	0	.000	0	.000	.000	.000
1045.0	70	2	4	102	98	25	22	4877	0	0	0	0	0	685	12.585	1.825	.000	.000	10.668	24	1.547	0	.000	0	.000	.000	.000
1041.0	70	2	4	102	98	38	35	4877	4	4	3	0	2	502	18.878	.000	1.888	2.171	16.764	0	.000	5	1.676	8	1.928	.000	.000
1043.0	70	2	4	102	98	38	35	4877	11	6	2	0	1	480	18.878	.000	1.888	2.077	16.764	0	.000	51	1.676	7	1.844	.000	.000
1044.0	70	2	4	102	98	38	35	4877	6	3	2	0	2	475	18.878	.000	2.077	2.077	16.764	0	.000	7	1.844	7	1.844	.000	.000
1042.0	70	2	4	102	98	38	35	4877	23	5	1	0	1	497	18.878	.000	1.888	1.888	16.764	0	.000	51	1.676	5	1.676	.000	.000
1035.0	70	2	3	127	124	25	22	4572	0	0	0	0	0	745	14.748	2.139	.000	.000	12.582	24	1.824	0	.000	0	.000	.000	.000
1034.0	70	2	2	127	124	25	22	4267	0	0	0	0	0	678	13.765	1.996	.000	.000	11.743	23	1.703	0	.000	0	.000	.000	.000
1047.0	70	2	4	152	149	38	35	4877	7	3	2	11	2	528	28.317	.000	3.115	3.540	25.416	0	.000	7	2.796	11	3.177	.000	.000
1040.0	70	2	4	152	149	38	35	4877	0	9	0	11	2	515	28.317	.000	3.115	3.115	25.416	0	.000	7	2.796	7	2.796	.000	.000
1309.0	70	3	2	102	98	25	22	3962	0	0	0	0	0	747	10.226	1.483	.000	.000	8.668	24	1.257	0	.000	0	.000	.000	.000
1308.0	70	3	1	102	98	25	22	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	12.585	10.668
1310.0	70	3	3	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
1312.0	70	3	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
1315.0	70	3	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
1313.0	70	3	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
1314.0	70	3	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
1311.0	70	3	3	152	149	38	35	4877	5	6	2	12	2	493	28.317	.000	1.416	3.115	25.416	0	.000	1	1.271	7	2.796	.000	.000
1388.0	70	4	1	102	98	25	22	3353	0	0	0	0	0	656	8.652	1.255	.000	.000	7.334	23	1.063	0	.000	0	.000	.000	.000
1391.0	70	4	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
1392.0	70	4	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
1390.0	70	4	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
1387.0	70	4	3	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
1389.0	70	4	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764

FILE TYL71

1076.0	71	1	4	76	73	25	22	4267	0	0	0	0	0	951	8.259	1.198	.000	.000	6.926	21	1.004	0	.000	0	.000	.000	.000
1068.0	71	1	3	76	73	25	22	3048	0	0	0	0	0	791	5.899	.855	.000	.000	4.947	23	.717	0	.000	0	.000	.000	.000
1066.0	71	1	1	76	73	25	22	3048	0	0	0	0	0	840	5.899	.855	.000	.000	4.947	23	.717	0	.000	0	.000	.000	.000
1074.0	71	1	4	102	98	25	22	4267	0	0	0	0	0	630	11.012	.881	.000	.000	9.334	25	.747	0	.000	0	.000	.000	.000
1071.0	71	1	4	102	98	38	35	4877	2	2	2	0	3	607	18.878	.000	1.888	2.360	16.764	0	.000	5	1.676	11	2.095	.000	.000
1070.0	71	1	2	102	98	38	35	4877	5	3	1	11	3	632	18.878	.000	2.360	2.360	16.764	0	.000	11	2.095	11	2.095	.000	.000
1073.0	71	1	4	102	98	38	35	4877	9	4	1	0	2	521	18.878	.000	1.888	1.888	16.764	0	.000	5	1.676	5	1.676	.000	.000
1072.0	71	1	4	102	98	38	35	4877	12	1	5	0	1	484	18.878	.000	1.888	1.888	16.764	0	.000	51	1.676	5	1.676	.000	.000
1067.0	71	1	3	152	149	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	28.317	25.416
1075.0	71	1	4	152	149	38	35	4572	0	5	3	10	2	572	26.547	.000	1.327	2.920	23.828	0	.000	1	1.191	7	2.621	.000	.000
1069.0	71	1	4	152	149	38	35	4877	0	0	0	0	0	601	28.317	.000	1.416	3.115	25.416	0	.000	1	1.271	7	2.796	.000	.000
1793.0	71	2	4	76	73	25	22	4877	0	0	0	0	0	652	9.439	1.369	.000	.000	7.915	23	1.148	0	.000	0	.000	.000	.000
1785.0	71	2	2	76	73	25	22	3962	0	0	0	0	0	555	7.669	1.112	.000	.000	6.431	24	.932	0	.000	0	.000	.000	.000
1792.0	71	2	1	102	98	25	22	3658	0	0	0	0	0	668	9.439	1.369	.000	.000	8.001	23	1.160	0	.000	0	.000	.000	.000
1789.0	71	2	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
1791.0	71	2	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
1790.0	71	2	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
1788.0	71	2	4	102	98	38	35	4877	5	4	2	0	2	579	18.878	.000	.000	.000	16.764	0	.000	0	.000	0	.000	.000	.000
1786.0	71	2	2	152	149	38	35	4267	4	3	1	0	2	591	24.777	.000	2.725	3.097	22.239	0	.000	7	2.446	11	2.780	.000	.000
1794.0	71	2	4	152	149	38	35	4877	13	6	3	0	1	500	28.317	.000	2.832	3.115	25.416	0	.000	51	2.542	7	2.796	.000	.000
1829.0	71	3	3	102	98	25	22	4572	0	0	0	0	0	598	11.799	.944	.000	.000	10.001	25	.800	0	.000	0	.000	.000	.000
1828.0	71	3	2	102	98	25	22	3353	0	0	0	0	0	672	8.652	1.255	.000	.000	7.334	23	1.063	0	.000	0	.000	.000	.000
1819.0	71	3	4	102	98	25	22	4877	0	0	0	0	0	599	12.585	1.825	.000	.000	10.668	23	1.547	0	.000	0	.000	.000	.000
1816.0	71	3	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
1818.0	71	3	4	102	98	38	35	4877	30	6	2	0	1	468	18.878	.000	1.888	1.888	16.764	0	.000	51	1.676	5	1.676	.000	.000
1817.0	71	3	4	102	98	38	35	3658	12	10	2	10	1	465	14.158	.000	.708	.708	12.573	0	.000	1	.629	1	.629	.000	.000
1886.0	71	4	4	76	73	25	22	4877	0	0	0	0	0	600	9.439	1.369	.000	.000	7.915	23	1.148	0	.000	0	.000	.000	.000
1885.0	71	4	4	102	98	38	35	4877	14	2	0	9	0	484	18.878	.000	2.171	2.171	16.764	0	.000	8	1.928	8	1.928	.000	.000
1884.0	71	4	4	102	98	38	35	4877	30	4	4	0	1	458	18.878	.000	1.888	2.077	16.764	0	.000	51	1.676	7	1.844	.000	.000
1885.1	71	4	4	102	98	38	35	4267	17	6	4	0	1	462	16.518	.000	1.652	1.817	14.668	0	.000	51	1.467	7	1.614	.000	.000
1600.0	72	1	4	76	73	25	22	4877	0	0	0	0	0	437	9.439	.000	.000	.000	7.915	0	.000	0	.000	0	.000	.000	.000
1599.0	72	1	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
1597.0	72	1	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
1603.0	72	1	1	102	98	38	35	3353	2	2	2	11	3	619	12.979	.000	1.493	1.622	11.525	0	.000	8	1.325	11	1.441	.000	.000
1602.0	72	1	4	102	98	38	35	3048	2	2	0	11	3	628	11.799	.000	1.180	1.475	10.477	0	.000	5	1.048	11	1.310	.000	.000
1598.0	72	1	4	102	98	38	35	4877	0	2	0	11	1	573	18.878	.000	1.888	2.360	16.764	0	.000	51	1.676	11	2.095	.000	.000
1596.0	72	1	4	102	98	38	35	4877	0	6	0	11	3	597	18.878	.000	2.171	2.360	16.764	0	.000	8	1.928	11	2.095	.000	.000
1604.0	72	1	2	127	124	25	22	4877	0	0	0	0	0	731	15.732	2.281	.000	.000	13.421	22	1.946	0	.000	0	.000	.000	.000
1601.0	72	1	3	152	149	38	35	4267	4	2	3	0	1	577	24.777	.000	2.478	3.097	22.239	0	.000	51	2.224	11	2.780	.000	.000
1899.0	72	2	3	76	73	25	22	3658	0	0	0	0	0	720	7.079	1.026	.000	.000	5.936	23	.861	0	.000	0	.000	.000	.000
1896.0	72	2	4	102	98	38	35	4877	0	0	0	0	0	425	18.878	.000	.000	.000	16.764	0	.000	0	.000	0	.000	.000	.000
1898.0	72	2	3	102	98	38	35	4877	7	2	4	0	2	513	18.878	.000	2.171	2.171	16.764	0	.000	8	1.928	8	1.928	.000	.000
1897.1	72	2	4	102	98	38	35	4877	8	3	2	0	2	511	18.878	.000	2.077	2.171	16.764	0	.000	7	1.844	8	1.928	.000	.000
1894.0	72	2	4	102	98	38	35	4877	3	2	2	0	2	517	18.878	.000	2.171	2.171	16.764	0	.000	8	1.928	8	1.928	.000	.000
1895.0	72	2	4	102	98	38	35	4877	45	5	10	0	1	433	18.878	.000	.944	.944	16.764	0	.000	1	.838	1	.838	.000	.000
1897.0	72	2	4	152	149	38	35	3962	5	5	11	10	3	585	23.007	.000	2.876	2.876	20.651	0	.000	11	2.581	11	2.581	.000	.000
1594.0	72	3	4	76	73	25	22	4267	0	0	0	0	0	605	8.259	1.198	.000	.000	6.926	23	1.004	0	.000	0	.000	.000	.000
1590.0	72	3	2	102	98	25	22	4572	0	0	0	0	0	606	11.799	1.711	.000	.000	10.001	22	1.450	0	.000	0	.000	.000	.000
1591.0	72	3	4	102	98	38	35	4877	3	2	4	10	2	454	18.878	.000	1.888	2.077	16.764	0	.000	5	1.676	7	1.844	.000	.000
1592.0	72	3	4	102	98	38	35	4877	32	3	0	9	1	428	18.878	.000	1.888	1.888	16.764	0	.000	51	1.676	5	1.676	.000	.000
1593.0	72	3	4	102	98	38	35	4877	9	3	2	10	1	462	18.878	.000	.944	2.171	16.764	0	.000	1	.838	8	1.928	.000	.000
1595.0	72	3	3	127	124	25	22	4572	0	0	0	0	0	569	14.748	2.139	.000	.000	12.582	23	1.824	0	.000	0	.000	.000	.000
1000.0	73	1	4	102	98	25	22	4877	0	0	0	0	0	626	12.585	1.825	.000	.000	10.668	23	1.547	0	.000	0	.000	.000	.000
1008.0	73	1	1	102	98	38	35	4877	8	1	1	0	3	526	18.878	.000	2.360	2.171	16.764	0	.000	11	2.095	8	1.928	.000	.000

996.0	73	1	4	102	98	38	35	4877	12	3	3	0	2	482	18.878	.000	2.171	2.077	16.764	0	.000	8	1.928	7	1.844	.000	.000
999.0	73	1	4	102	98	38	35	4877	22	1	2	0	2	461	18.878	.000	1.888	1.888	16.764	0	.000	5	1.676	5	1.676	.000	.000
997.0	73	1	4	102	98	38	35	4877	14	4	2	0	2	461	18.878	.000	.944	1.888	16.764	0	.000	1	.838	5	1.676	.000	.000
998.0	73	1	4	102	98	38	35	4877	15	10	5	10	2	454	18.878	.000	.944	1.510	16.764	0	.000	1	.838	4	1.341	.000	.000
1005.0	73	1	4	127	124	25	22	3658	0	0	0	0	0	624	11.799	1.711	.000	.000	10.066	23	1.460	0	.000	0	.000	.000	.000
1009.0	73	1	3	152	149	38	35	4877	3	6	0	10	3	533	28.317	.000	3.256	3.256	25.416	0	.000	8	2.923	8	2.923	.000	.000
1007.0	73	1	4	203	200	38	35	4877	5	2	2	11	2	526	37.756	.000	4.342	4.719	34.069	0	.000	8	3.918	11	4.259	.000	.000
1006.0	73	1	4	203	200	38	35	4877	13	1	2	0	2	503	37.756	.000	4.342	4.342	34.069	0	.000	8	3.918	8	3.918	.000	.000
1010.0	73	1	4	203	200	38	35	4877	11	4	4	0	1	482	37.756	.000	3.776	4.342	34.069	0	.000	51	3.407	8	3.918	.000	.000
1004.0	73	1	4	203	200	38	35	4572	9	1	2	0	2	517	35.396	.000	3.540	4.071	31.939	0	.000	51	3.194	8	3.673	.000	.000
1055.0	73	2	4	76	73	25	22	4572	0	0	0	0	0	654	8.849	1.283	.000	.000	7.420	24	1.076	0	.000	0	.000	.000	.000
1052.0	73	2	4	102	98	25	22	4572	0	0	0	0	0	511	11.799	.944	.000	.000	10.001	25	.800	0	.000	0	.000	.000	.000
1048.0	73	2	4	102	98	38	35	4877	15	2	1	0	2	454	18.878	.000	2.077	2.077	16.764	0	.000	7	1.844	7	1.844	.000	.000
1039.0	73	2	1	102	98	38	35	4877	8	1	1	0	3	487	18.878	.000	.944	2.077	16.764	0	.000	1	.838	7	1.844	.000	.000
1051.0	73	2	4	102	98	38	35	4877	23	1	1	0	2	433	18.878	.000	.944	1.888	16.764	0	.000	1	.838	5	1.676	.000	.000
1049.0	73	2	4	102	98	38	35	4877	18	3	5	0	2	429	18.878	.000	.944	1.510	16.764	0	.000	1	.838	4	1.341	.000	.000
1036.0	73	2	4	102	98	38	35	4877	15	11	2	0	1	436	18.878	.000	.944	1.510	16.764	0	.000	1	.838	4	1.341	.000	.000
1050.0	73	2	4	102	98	38	35	4877	5	8	1	11	3	450	18.878	.000	1.888	2.171	16.764	0	.000	5	1.676	8	1.928	.000	.000
1053.0	73	2	2	127	124	25	22	4877	0	0	0	0	0	599	15.732	2.281	.000	.000	13.421	24	1.946	0	.000	0	.000	.000	.000
1038.0	73	2	3	152	149	25	22	4877	0	0	0	0	0	616	18.878	2.737	.000	.000	16.174	23	2.345	0	.000	0	.000	.000	.000
1054.0	73	2	4	203	200	38	35	4877	10	1	4	0	2	461	37.756	.000	4.153	4.719	34.069	0	.000	7	3.748	11	4.259	.000	.000
1037.0	73	2	4	203	200	38	35	4877	13	1	2	0	2	492	37.756	.000	4.342	4.342	34.069	0	.000	8	3.918	8	3.918	.000	.000
1036.1	73	2	4	203	200	38	35	4877	20	2	0	0	1	452	37.756	.000	3.776	4.153	34.069	0	.000	5	3.407	7	3.748	.000	.000
986.0	73	3	4	102	98	25	22	4877	0	0	0	0	0	553	12.585	1.825	.000	.000	10.668	23	1.547	0	.000	0	.000	.000	.000
985.0	73	3	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
982.0	73	3	4	102	98	38	35	3353	15	2	2	0	2	455	12.979	.000	.649	1.298	11.525	0	.000	1	.576	5	1.153	.000	.000
984.0	73	3	4	102	98	38	35	4877	32	4	1	0	1	414	18.878	.000	1.888	1.510	16.764	0	.000	51	1.676	4	1.341	.000	.000
983.0	73	3	4	102	98	38	35	4877	24	6	1	0	1	426	18.878	.000	.944	1.510	16.764	0	.000	1	.838	4	1.341	.000	.000
978.0	73	3	2	102	98	38	35	4267	3	3	0	11	3	452	16.518	.000	1.817	1.817	14.668	0	.000	7	1.614	7	1.614	.000	.000
979.0	73	3	2	127	124	25	22	2743	0	0	0	0	0	557	8.849	1.283	.000	.000	7.549	23	1.095	0	.000	0	.000	.000	.000
981.0	73	3	4	152	149	38	35	4877	12	10	2	10	2	466	28.317	.000	3.115	3.115	25.416	0	.000	7	2.796	7	2.796	.000	.000
990.0	73	3	4	203	200	38	35	4877	21	2	2	0	1	442	37.756	.000	3.776	3.776	34.069	0	.000	51	3.407	5	3.407	.000	.000
1664.0	73	4	1	76	73	25	22	4572	0	0	0	0	0	556	8.849	.708	.000	.000	7.420	25	.594	0	.000	0	.000	.000	.000
1669.0	73	4	4	102	98	25	22	2438	0	0	0	0	0	544	6.293	.912	.000	.000	5.334	23	.773	0	.000	0	.000	.000	.000
1668.0	73	4	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
1666.0	73	4	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
1665.0	73	4	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
1661.0	73	4	2	102	98	38	35	4572	12	4	1	0	2	456	17.698	.000	1.770	1.770	15.716	0	.000	5	1.572	5	1.572	.000	.000
1667.0	73	4	4	102	98	38	35	4877	13	4	3	0	1	416	18.878	.000	.944	.944	16.764	0	.000	1	.838	1	.838	.000	.000
1670.0	73	4	3	152	149	38	35	4877	20	3	3	12	2	440	28.317	.000	1.416	2.832	25.416	0	.000	1	1.271	5	2.542	.000	.000
1131.0	74	1	4	102	98	38	35	4877	0	0	0	0	0	466	18.878	.000	.000	.000	16.764	0	.000	0	.000	0	.000	.000	.000
1124.0	74	1	2	102	98	38	35	4877	8	3	3	0	3	570	18.878	.000	.000	.000	16.764	0	.000	0	.000	0	.000	.000	.000
1133.0	74	1	4	102	98	38	35	4877	7	4	2	0	3	545	18.878	.000	2.360	2.360	16.764	0	.000	11	2.095	11	2.095	.000	.000
1130.0	74	1	4	102	98	38	35	4877	6	3	3	0	2	517	18.878	.000	1.888	2.171	16.764	0	.000	5	1.676	8	1.928	.000	.000
1127.0	74	1	4	102	98	38	35	4877	2	3	2	0	2	506	18.878	.000	1.888	2.077	16.764	0	.000	5	1.676	7	1.844	.000	.000
1128.0	74	1	4	102	98	38	35	4877	8	4	3	10	1	483	18.878	.000	1.888	1.510	16.764	0	.000	51	1.676	4	1.341	.000	.000
1129.0	74	1	4	102	98	38	35	4877	7	3	2	0	1	500	18.878	.000	.944	.944	16.764	0	.000	1	.838	1	.838	.000	.000
1125.0	74	1	3	127	124	25	22	4267	0	0	0	0	0	699	13.765	1.101	.000	.000	11.743	25	.939	0	.000	0	.000	.000	.000
1132.0	74	1	4	203	200	38	35	4877	2	3	2	0	1	528	37.756	.000	4.342	4.719	34.069	0	.000	8	3.918	11	4.259	.000	.000
1126.0	74	1	4	203	200	38	35	4877	6	1	1	0	2	552	37.756	.000	4.153	4.719	34.069	0	.000	7	3.748	11	4.259	.000	.000
957.0	74	2	4	76	73	25	22	4877	0	0	0	0	0	695	9.439	.755	.000	.000	7.915	25	.633	0	.000	0	.000	.000	.000
938.0	74	2	1	76	73	25	22	3658	0	0	0	0	0	684	7.079	1.026	.000	.000	5.936	23	.861	0	.000	0	.000	.000	.000
953.0	74	2	4	102	98	25	22	4572	0	0	0	0	0	738	11.799	1.711	.000	.000	10.001	24	1.450	0	.000	0	.000	.000	.000
953.1	74	2	4	102	98	38	35	4572	0	0	0	0	0	461	17.698	.000	.000	.000	15.716	0	.000	0	.000	0	.000	.000	.000

951.0	74	2	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
948.0	74	2	3	102	98	38	35	4877	0	0	0	0	0	615	18.878	.000	.000	.000	16.764	0	.000	0	.000	0	.000	.000	.000
948.1	74	2	3	102	98	38	35	4877	10	5	3	0	2	541	18.878	.000	.000	2.360	16.764	0	.000	0	.000	11	2.095	.000	.000
952.0	74	2	4	102	98	38	35	4877	5	2	2	11	2	517	18.878	.000	2.077	2.171	16.764	0	.000	7	1.844	8	1.928	.000	.000
950.0	74	2	4	102	98	38	35	4877	24	2	1	0	1	450	18.878	.000	1.888	1.888	16.764	0	.000	51	1.676	5	1.676	.000	.000
949.0	74	2	4	102	98	38	35	3048	2	2	5	0	2	492	11.799	.000	1.298	1.180	10.477	0	.000	7	1.153	5	1.048	.000	.000
953.2	74	2	4	152	149	38	35	3353	0	5	0	10	3	603	19.468	.000	2.239	2.433	17.474	0	.000	8	2.009	11	2.184	.000	.000
956.0	74	2	4	203	200	38	35	3962	13	6	2	0	2	523	30.677	.000	3.528	3.835	27.681	0	.000	8	3.183	11	3.460	.000	.000
1663.0	74	3	4	76	73	25	22	3962	0	0	0	0	0	634	7.669	1.112	.000	.000	6.431	23	.932	0	.000	0	.000	.000	.000
1660.0	74	3	4	76	73	25	22	3353	0	0	0	0	0	0	6.489	.000	.000	.000	5.442	0	.000	0	.000	0	.000	.000	.000
1655.0	74	3	2	102	98	25	22	3962	0	0	0	0	0	586	10.226	1.483	.000	.000	8.668	23	1.257	0	.000	0	.000	.000	.000
1659.0	74	3	4	102	98	38	35	4572	7	3	2	0	2	502	17.698	.000	.000	.000	15.716	0	.000	0	.000	0	.000	.000	.000
1658.0	74	3	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
1656.0	74	3	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
1557.0	74	3	4	102	98	38	35	4877	21	7	1	0	1	460	18.878	.000	1.888	1.888	16.764	0	.000	51	1.676	5	1.676	.000	.000
1662.0	74	3	4	152	149	38	35	4572	2	2	1	12	2	496	26.547	.000	3.053	3.053	23.828	0	.000	8	2.740	8	2.740	.000	.000
1727.0	74	4	2	76	73	25	22	4572	0	0	0	0	0	608	8.849	1.283	.000	.000	7.420	24	1.076	0	.000	0	.000	.000	.000
1579.0	74	4	4	76	73	25	22	4572	0	0	0	0	0	591	8.849	1.283	.000	.000	7.420	23	1.076	0	.000	0	.000	.000	.000
1578.1	74	4	4	102	98	38	35	4877	6	3	3	0	2	520	18.878	.000	1.888	2.171	16.764	0	.000	51	1.676	8	1.928	.000	.000
1578.0	74	4	4	102	98	38	35	4572	18	4	2	11	1	449	17.698	.000	1.770	1.947	15.716	0	.000	51	1.572	7	1.729	.000	.000
1577.0	74	4	4	102	98	38	35	4572	10	2	2	10	1	444	17.698	.000	1.770	1.770	15.716	0	.000	51	1.572	5	1.572	.000	.000
1653.0	75	1	4	76	73	25	22	4572	0	0	0	0	0	695	8.849	1.283	.000	.000	7.420	23	1.076	0	.000	0	.000	.000	.000
1649.0	75	1	4	102	98	25	22	3353	0	0	0	0	0	697	8.652	1.255	.000	.000	7.334	23	1.063	0	.000	0	.000	.000	.000
1651.0	75	1	4	102	98	38	35	4572	16	4	6	10	1	500	17.698	.000	1.770	.000	15.716	0	.000	51	1.572	0	.000	.000	.000
1650.0	75	1	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
1647.0	75	1	1	102	98	38	35	2743	4	2	1	0	3	594	10.619	.000	1.327	1.327	9.430	0	.000	11	1.179	11	1.179	.000	.000
1654.0	75	1	2	102	98	38	35	4572	2	5	2	0	3	564	17.698	.000	2.212	2.035	15.716	0	.000	11	1.965	8	1.807	.000	.000
1652.0	75	1	4	102	98	38	35	4572	0	6	3	0	2	556	17.698	.000	1.770	1.770	15.716	0	.000	5	1.572	5	1.572	.000	.000
1648.0	75	1	1	152	149	38	35	4572	4	7	2	0	2	565	26.547	.000	2.655	3.318	23.828	0	.000	51	2.383	11	2.978	.000	.000
1616.0	75	2	4	76	73	25	22	4572	0	0	0	0	0	701	8.849	1.283	.000	.000	7.420	22	1.076	0	.000	0	.000	.000	.000
1607.0	75	2	2	76	73	25	22	4877	0	0	0	0	0	666	9.439	.755	.000	.000	7.915	25	.633	0	.000	0	.000	.000	.000
1615.0	75	2	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
1614.0	75	2	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
1613.0	75	2	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
1612.0	75	2	4	102	98	38	35	4877	2	2	3	10	3	534	18.878	.000	2.171	2.171	16.764	0	.000	8	1.928	8	1.928	.000	.000
1606.0	75	2	1	152	149	25	22	2438	0	0	0	0	0	652	9.439	1.369	.000	.000	8.087	23	1.173	0	.000	0	.000	.000	.000
1605.0	75	2	3	152	149	38	35	4877	10	2	3	0	1	512	28.317	.000	2.832	3.256	25.416	0	.000	51	2.542	8	2.923	.000	.000
1506.0	75	3	1	76	73	25	22	4572	0	0	0	0	0	704	8.849	1.283	.000	.000	7.420	23	1.076	0	.000	0	.000	.000	.000
1511.0	75	3	4	102	98	25	22	4572	0	0	0	0	0	690	11.799	.944	.000	.000	10.001	25	.800	0	.000	0	.000	.000	.000
1510.0	75	3	4	102	98	38	35	4572	20	2	1	0	2	458	17.698	.000	2.035	2.212	15.716	0	.000	8	1.807	11	1.965	.000	.000
1505.0	75	3	2	102	98	38	35	4572	0	10	2	0	3	545	17.698	.000	2.212	2.035	15.716	0	.000	11	1.965	8	1.807	.000	.000
1507.0	75	3	3	102	98	38	35	4877	2	2	2	0	2	518	18.878	.000	2.077	2.171	16.764	0	.000	7	1.844	8	1.928	.000	.000
1508.0	75	3	4	102	98	38	35	4877	1	10	2	0	2	471	18.878	.000	2.171	2.077	16.764	0	.000	8	1.928	7	1.844	.000	.000
1509.0	75	3	4	102	98	38	35	4572	18	7	0	10	1	427	17.698	.000	1.770	1.770	15.716	0	.000	51	1.572	5	1.572	.000	.000
1676.0	75	4	4	76	73	25	22	4877	0	0	0	0	0	611	9.439	.755	.000	.000	7.915	25	.633	0	.000	0	.000	.000	.000
1671.0	75	4	1	76	73	25	22	4267	0	0	0	0	0	615	8.259	1.198	.000	.000	6.926	23	1.004	0	.000	0	.000	.000	.000
1673.0	75	4	3	102	98	25	22	4877	0	0	0	0	0	598	12.585	1.825	.000	.000	10.668	23	1.547	0	.000	0	.000	.000	.000
1674.0	75	4	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
1672.0	75	4	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
1675.0	75	4	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
931.0	76	1	2	76	73	25	22	4877	0	0	0	0	0	696	9.439	.755	.000	.000	7.915	25	.633	0	.000	0	.000	.000	.000
933.0	76	1	4	102	98	25	22	4267	0	0	0	0	0	747	11.012	1.597	.000	.000	9.334	23	1.353	0	.000	0	.000	.000	.000
925.0	76	1	3	102	98	25	22	1829	0	0	0	0	0	781	4.719	.684	.000	.000	4.000	23	.580	0	.000	0	.000	.000	.000
928.0	76	1	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764

930.0	76	1	4	102	98	38	35	3658	7	4	3	0	2	511	14.158	.000	1.770	1.770	12.573	0	.000	11	1.572	11	1.572	.000	.000
927.0	76	1	4	102	98	38	35	3353	2	6	0	11	2	505	12.979	.000	1.493	1.622	11.525	0	.000	8	1.325	11	1.441	.000	.000
929.0	76	1	4	102	98	38	35	4877	3	9	3	0	1	499	18.878	.000	1.888	2.077	16.764	0	.000	51	1.676	7	1.844	.000	.000
925.1	76	1	1	102	98	38	35	4877	10	10	2	0	1	498	18.878	.000	1.888	1.888	16.764	0	.000	51	1.676	5	1.676	.000	.000
932.0	76	1	4	127	124	25	22	2134	0	0	0	0	0	731	6.883	.998	.000	.000	5.872	23	.851	0	.000	0	.000	.000	.000
924.0	76	1	2	152	149	25	22	2134	0	0	0	0	0	673	8.259	1.198	.000	.000	7.076	23	1.026	0	.000	0	.000	.000	.000
926.0	76	1	3	152	149	38	35	3962	0	7	0	10	3	597	23.007	.000	2.876	2.876	20.651	0	.000	11	2.581	11	2.581	.000	.000
934.0	76	1	4	152	149	38	35	4877	0	2	0	10	2	572	28.317	.000	2.832	3.256	25.416	0	.000	5	2.542	8	2.923	.000	.000
935.0	76	1	4	152	149	38	35	4877	0	8	8	10	1	513	28.317	.000	2.832	2.832	25.416	0	.000	51	2.542	5	2.542	.000	.000
1745.0	76	2	4	76	73	25	22	4572	0	0	0	0	0	656	8.849	1.283	.000	.000	7.420	22	1.076	0	.000	0	.000	.000	.000
1744.1	76	2	4	102	98	38	35	4877	8	5	2	0	1	429	18.878	.000	.000	.000	16.764	0	.000	0	.000	0	.000	.000	.000
1743.0	76	2	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
1742.0	76	2	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
1741.0	76	2	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
1748.0	76	2	4	102	98	38	35	4877	13	10	2	0	3	502	18.878	.000	2.360	2.360	16.764	0	.000	11	2.095	11	2.095	.000	.000
1745.1	76	2	4	102	98	38	35	4877	12	3	3	0	3	487	18.878	.000	2.360	2.171	16.764	0	.000	11	2.095	8	1.928	.000	.000
1744.0	76	2	4	102	98	38	35	4877	15	6	0	10	1	443	18.878	.000	1.888	1.888	16.764	0	.000	51	1.676	5	1.676	.000	.000
1747.0	76	2	4	152	149	25	22	2438	0	0	0	0	0	616	9.439	1.369	.000	.000	8.087	23	1.173	0	.000	0	.000	.000	.000
1746.0	76	2	2	152	149	38	35	4877	1	2	4	12	2	478	28.317	.000	3.256	3.256	25.416	0	.000	8	2.923	8	2.923	.000	.000
1748.1	76	2	4	152	149	38	35	4877	4	2	2	0	2	486	10.619	.000	1.221	1.221	9.531	0	.000	8	1.096	8	1.096	.000	.000
1531.0	76	3	1	102	98	25	22	3048	0	0	0	0	0	592	7.866	1.141	.000	.000	6.667	23	.967	0	.000	0	.000	.000	.000
1530.0	76	3	4	102	98	25	22	4877	0	0	0	0	0	565	12.585	1.825	.000	.000	10.668	22	1.547	0	.000	0	.000	.000	.000
1527.0	76	3	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
1525.0	76	3	3	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
1526.0	76	3	2	102	98	38	35	3353	1	1	3	0	2	475	12.979	.000	1.493	1.622	11.525	0	.000	8	1.325	11	1.441	.000	.000
1528.0	76	3	4	102	98	38	35	4877	8	0	0	10	3	497	18.878	.000	2.077	2.171	16.764	0	.000	7	1.844	8	1.928	.000	.000
1529.0	76	3	4	102	98	38	35	4877	11	2	1	0	1	420	18.878	.000	1.888	1.888	16.764	0	.000	51	1.676	5	1.676	.000	.000
1545.0	76	4	1	76	73	25	22	4572	0	0	0	0	0	547	8.849	1.283	.000	.000	7.420	22	1.076	0	.000	0	.000	.000	.000
1547.0	76	4	2	76	73	25	22	3353	0	0	0	0	0	564	6.489	.941	.000	.000	5.442	23	.789	0	.000	0	.000	.000	.000
1541.0	76	4	4	76	73	25	22	3658	0	0	0	0	0	586	7.079	1.026	.000	.000	5.936	23	.861	0	.000	0	.000	.000	.000
1544.0	76	4	4	102	98	25	22	4877	0	0	0	0	0	551	12.585	1.825	.000	.000	10.668	23	1.547	0	.000	0	.000	.000	.000
1542.0	76	4	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
1543.0	76	4	4	102	98	38	35	4877	31	0	0	10	1	405	18.878	.000	1.888	1.888	16.764	0	.000	51	1.676	5	1.676	.000	.000
1062.0	77	1	4	76	73	25	22	4877	0	0	0	0	0	744	9.439	1.369	.000	.000	7.915	22	1.148	0	.000	0	.000	.000	.000
1056.0	77	1	2	76	73	25	22	4877	0	0	0	0	0	726	9.439	1.369	.000	.000	7.915	23	1.148	0	.000	0	.000	.000	.000
1061.0	77	1	4	102	98	25	22	4877	0	0	0	0	0	663	12.585	1.825	.000	.000	10.668	23	1.547	0	.000	0	.000	.000	.000
1057.0	77	1	3	102	98	38	35	4572	1	6	2	0	3	570	17.698	.000	1.770	2.212	15.716	0	.000	5	1.572	11	1.965	.000	.000
1058.0	77	1	4	102	98	38	35	4877	1	3	2	10	2	536	18.878	.000	2.077	2.171	16.764	0	.000	7	1.844	8	1.928	.000	.000
1060.0	77	1	4	102	98	38	35	4877	4	13	1	0	1	508	18.878	.000	.944	1.510	16.764	0	.000	1	.838	4	1.341	.000	.000
1059.0	77	1	4	102	98	38	35	4267	6	15	9	0	1	506	16.518	.000	1.652	1.817	14.668	0	.000	51	1.467	7	1.614	.000	.000
1063.0	77	1	4	152	149	25	22	3048	0	0	0	0	0	750	11.799	1.711	.000	.000	10.109	23	1.466	0	.000	0	.000	.000	.000
1061.1	77	1	4	152	149	38	35	4572	0	3	0	10	3	593	26.547	.000	2.920	3.318	23.828	0	.000	7	2.621	11	2.978	.000	.000
1064.0	77	1	4	152	149	38	35	4267	7	3	6	11	3	566	24.777	.000	2.849	2.849	22.239	0	.000	8	2.558	8	2.558	.000	.000
1065.0	77	1	4	203	200	38	35	4877	10	1	3	0	2	544	37.756	.000	3.776	4.342	34.069	0	.000	51	3.407	8	3.918	.000	.000
1728.0	77	2	1	76	73	25	22	3962	0	0	0	0	0	645	7.669	1.112	.000	.000	6.431	23	.932	0	.000	0	.000	.000	.000
1725.0	77	2	2	76	73	25	22	4267	0	0	0	0	0	670	8.259	1.198	.000	.000	6.926	24	1.004	0	.000	0	.000	.000	.000
1724.0	77	2	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
1721.0	77	2	4	102	98	38	35	4877	1	3	2	0	2	497	18.878	.000	2.171	2.077	16.764	0	.000	8	1.928	7	1.844	.000	.000
1722.0	77	2	4	102	98	38	35	4877	18	5	1	0	1	466	18.878	.000	.944	1.888	16.764	0	.000	1	.838	5	1.676	.000	.000
1723.0	77	2	4	102	98	38	35	4877	3	6	0	11	1	472	18.878	.000	1.888	1.510	16.764	0	.000	51	1.676	4	1.341	.000	.000
1726.0	77	2	3	127	124	25	22	4572	0	0	0	0	0	647	14.748	2.139	.000	.000	12.582	22	1.824	0	.000	0	.000	.000	.000
1729.0	77	2	4	152	149	25	22	2743	0	0	0	0	0	641	10.619	1.540	.000	.000	9.098	23	1.319	0	.000	0	.000	.000	.000
1730.0	77	2	4	152	149	38	35	4877	7	3	5	12	1	523	28.317	.000	1.416	3.115	25.416	0	.000	1	1.271	7	2.796	.000	.000
1867.0	77	3	1	76	73	25	22	3353	0	0	0	0	0	695	6.489	.000	.000	.000	5.442	0	.000	0	.000	0	.000	.000	.000

1868.0	77	3	2	76	73	25	22	3962	0	7	0	0	0	646	7.669	1.112	.000	.000	6.431	23	.932	0	.000	0	.000	.000	.000
1864.0	77	3	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
1865.0	77	3	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
1866.1	77	3	4	102	98	38	35	4267	5	3	2	0	2	520	16.518	.000	1.900	1.900	14.668	0	.000	8	1.687	8	1.687	.000	.000
1863.0	77	3	4	102	98	38	35	4572	3	4	3	0	2	418	17.698	.000	1.947	1.770	15.716	0	.000	7	1.729	5	1.572	.000	.000
1866.0	77	3	4	102	98	38	35	4572	20	3	4	0	1	449	17.698	.000	1.770	1.770	15.716	0	.000	51	1.572	5	1.572	.000	.000
1869.0	77	3	3	152	149	38	35	4877	4	2	4	0	1	511	28.317	.000	.000	.000	25.416	0	.000	0	.000	0	.000	.000	.000
1573.0	77	4	3	102	98	25	22	4572	0	0	0	0	0	583	11.799	1.711	.000	.000	10.001	23	1.450	0	.000	0	.000	.000	.000
1575.0	77	4	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
1574.0	77	4	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
1576.0	77	4	4	102	98	38	35	4877	3	2	0	11	1	480	18.878	.000	1.888	1.888	16.764	0	.000	51	1.676	5	1.676	.000	.000
1166.0	78	1	1	76	73	25	22	4877	0	0	0	0	0	860	9.439	1.369	.000	.000	7.915	22	1.148	0	.000	0	.000	.000	.000
1174.0	78	1	4	102	98	25	22	4877	0	0	0	0	0	647	12.585	1.825	.000	.000	10.668	23	1.547	0	.000	0	.000	.000	.000
1171.0	78	1	4	102	98	38	35	4877	10	5	8	0	2	531	18.878	.000	.000	.000	16.764	0	.000	0	.000	0	.000	.000	.000
1167.0	78	1	2	102	98	38	35	4877	7	0	2	12	3	551	18.878	.000	.000	.000	16.764	0	.000	0	.000	0	.000	.000	.000
1170.0	78	1	4	102	98	38	35	4877	8	2	1	0	3	573	18.878	.000	2.171	2.360	16.764	0	.000	8	1.928	11	2.095	.000	.000
1173.0	78	1	4	102	98	38	35	4877	11	4	3	11	2	507	18.878	.000	2.171	2.077	16.764	0	.000	8	1.928	7	1.844	.000	.000
1172.0	78	1	4	102	98	38	35	4877	10	3	5	0	1	509	18.878	.000	1.888	1.510	16.764	0	.000	51	1.676	4	1.341	.000	.000
1176.0	78	1	4	152	149	25	22	2743	0	0	0	0	0	0	10.619	.000	.000	.000	9.098	0	.000	0	.000	0	.000	.000	.000
1168.0	78	1	3	152	149	38	35	4877	7	5	1	0	2	563	28.317	.000	3.540	3.540	25.416	0	.000	11	3.177	11	3.177	.000	.000
1177.0	78	1	4	152	149	38	35	4877	4	6	3	0	3	588	28.317	.000	3.115	3.540	25.416	0	.000	7	2.796	11	3.177	.000	.000
1175.1	78	1	4	203	200	38	35	1829	6	2	10	0	2	560	14.158	.000	.000	.000	12.776	0	.000	0	.000	0	.000	.000	.000
1175.0	78	1	4	203	200	38	35	1524	10	1	1	0	2	554	11.799	.000	.000	.000	10.646	0	.000	0	.000	0	.000	.000	.000
1169.0	78	1	4	203	200	38	35	4877	10	2	3	0	1	544	37.756	.000	4.342	4.342	34.069	0	.000	8	3.918	8	3.918	.000	.000
1033.0	78	2	4	102	98	25	22	3353	0	0	0	0	0	577	8.652	1.255	.000	.000	7.334	23	1.063	0	.000	0	.000	.000	.000
1031.0	78	2	4	102	98	38	35	4877	9	7	1	0	3	533	18.878	.000	2.077	2.171	16.764	0	.000	7	1.844	8	1.928	.000	.000
1032.0	78	2	4	102	98	38	35	4877	4	5	4	9	2	479	18.878	.000	2.171	2.171	16.764	0	.000	8	1.928	8	1.928	.000	.000
1029.0	78	2	4	102	98	38	35	4877	8	5	3	0	2	468	18.878	.000	1.888	2.077	16.764	0	.000	5	1.676	7	1.844	.000	.000
1030.0	78	2	4	102	98	38	35	4877	33	3	0	0	1	463	18.878	.000	1.888	2.077	16.764	0	.000	51	1.676	7	1.844	.000	.000
1023.0	78	2	1	127	124	25	22	3353	0	0	0	0	0	611	10.815	1.568	.000	.000	9.227	23	1.338	0	.000	0	.000	.000	.000
1024.0	78	2	2	152	149	25	22	4572	0	0	0	0	0	679	17.698	2.566	.000	.000	15.163	24	2.199	0	.000	0	.000	.000	.000
1028.0	78	2	4	152	149	25	22	4877	0	0	0	0	0	689	18.878	2.737	.000	.000	16.174	23	2.345	0	.000	0	.000	.000	.000
1027.0	78	2	4	152	149	38	35	4877	5	8	3	10	2	526	28.317	.000	3.256	3.540	25.416	0	.000	8	2.923	11	3.177	.000	.000
1025.0	78	2	3	152	149	38	35	4572	0	12	0	11	3	562	26.547	.000	1.327	3.053	23.828	0	.000	1	1.191	8	2.740	.000	.000
1026.0	78	2	4	152	149	38	35	4877	2	10	0	10	2	509	28.317	.000	3.540	3.115	25.416	0	.000	11	3.177	7	2.796	.000	.000
1843.0	78	3	4	102	98	25	22	4877	0	0	0	0	0	636	12.585	1.825	.000	.000	10.668	23	1.547	0	.000	0	.000	.000	.000
1844.0	78	3	1	102	98	25	22	4267	0	0	0	0	0	674	11.012	1.597	.000	.000	9.334	23	1.353	0	.000	0	.000	.000	.000
1838.0	78	3	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
1836.0	78	3	4	102	98	38	35	4877	17	4	5	0	2	507	18.878	.000	2.360	2.171	16.764	0	.000	11	2.095	8	1.928	.000	.000
1840.0	78	3	4	102	98	38	35	4572	13	1	6	0	2	459	17.698	.000	2.212	2.035	15.716	0	.000	11	1.965	8	1.807	.000	.000
1841.0	78	3	2	102	98	38	35	4572	14	4	2	0	2	466	17.698	.000	1.770	1.947	15.716	0	.000	5	1.572	7	1.729	.000	.000
1837.0	78	3	4	102	98	38	35	4877	23	5	2	0	1	458	18.878	.000	1.888	2.077	16.764	0	.000	51	1.676	7	1.844	.000	.000
1839.0	78	3	4	102	98	38	35	4877	42	7	1	0	1	437	18.878	.000	1.888	1.888	16.764	0	.000	51	1.676	5	1.676	.000	.000
1842.0	78	3	4	152	149	38	35	4877	3	2	3	0	2	502	28.317	.000	3.256	3.256	25.416	0	.000	8	2.923	8	2.923	.000	.000
1584.0	78	4	4	76	73	25	22	3353	0	0	0	0	0	613	6.489	.941	.000	.000	5.442	23	.789	0	.000	0	.000	.000	.000
1585.0	78	4	4	102	98	25	22	4877	0	0	0	0	0	564	12.585	1.825	.000	.000	10.668	22	1.547	0	.000	0	.000	.000	.000
1581.0	78	4	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
1582.0	78	4	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
1583.0	78	4	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
1580.0	78	4	4	102	98	38	35	4572	3	1	0	11	3	478	17.698	.000	1.770	2.035	15.716	0	.000	5	1.572	8	1.807	.000	.000
1018.0	79	1	4	102	98	25	22	4572	0	0	0	0	0	659	11.799	1.711	.000	.000	10.001	23	1.450	0	.000	0	.000	.000	.000
1011.0	79	1	1	102	98	25	22	4877	0	0	0	0	0	729	12.585	1.825	.000	.000	10.668	23	1.547	0	.000	0	.000	.000	.000
1017.0	79	1	4	102	98	38	35	4877	5	2	6	0	2	444	18.878	.000	2.077	2.360	16.764	0	.000	7	1.844	11	2.095	.000	.000
1014.0	79	1	4	102	98	38	35	4877	2	1	3	0	2	582	18.878	.000	.944	2.360	16.764	0	.000	1	.838	11	2.095	.000	.000

1015.0	79	1	4	102	98	38	35	4877	10	3	2	0	2	553	18.878	.000	1.888	2.171	16.764	0	.000	5	1.676	8	1.928	.000	.000
1016.0	79	1	4	102	98	38	35	4877	13	13	1	13	1	526	18.878	.000	.944	2.077	16.764	0	.000	1	.838	7	1.844	.000	.000
1021.0	79	1	4	127	124	25	22	2438	0	0	0	0	0	759	7.866	1.141	.000	.000	6.711	24	.973	0	.000	0	.000	.000	.000
1012.0	79	1	3	152	149	25	22	4267	0	0	0	0	0	689	16.518	2.395	.000	.000	14.152	24	2.052	0	.000	0	.000	.000	.000
1020.0	79	1	4	152	149	38	35	3658	0	7	0	10	3	611	21.238	.000	2.655	2.655	19.062	0	.000	11	2.383	11	2.383	.000	.000
1013.0	79	1	4	152	149	38	35	3962	2	4	2	11	1	669	23.007	.000	2.301	2.876	20.651	0	.000	5	2.065	11	2.581	.000	.000
1019.0	79	1	4	152	149	38	35	4267	0	4	0	11	3	582	24.777	.000	3.097	3.097	22.239	0	.000	11	2.780	11	2.780	.000	.000
1022.0	79	1	4	152	149	38	35	4572	10	6	5	11	2	558	26.547	.000	2.655	3.053	23.828	0	.000	5	2.383	8	2.740	.000	.000
1548.0	79	2	2	76	73	25	22	4572	0	0	0	0	0	0	8.849	.000	.000	.000	7.420	0	.000	0	.000	0	.000	.000	.000
1567.0	79	2	4	102	98	25	22	3658	0	0	0	0	0	840	9.439	1.369	.000	.000	8.001	23	1.160	0	.000	0	.000	.000	.000
1552.0	79	2	1	102	98	38	35	4572	2	4	0	11	3	607	17.698	.000	2.035	2.212	15.716	0	.000	8	1.807	11	1.965	.000	.000
1562.0	79	2	4	102	98	38	35	4572	2	2	0	11	2	543	17.698	.000	.885	2.035	15.716	0	.000	1	.786	8	1.807	.000	.000
1565.0	79	2	4	102	98	38	35	4572	11	3	0	10	2	505	17.698	.000	.885	2.035	15.716	0	.000	1	.786	8	1.807	.000	.000
1566.0	79	2	4	102	98	38	35	4572	3	4	5	11	2	565	17.698	.000	.885	2.035	15.716	0	.000	1	.786	8	1.807	.000	.000
1563.0	79	2	4	102	98	38	35	4877	9	5	0	10	1	495	18.878	.000	1.888	2.077	16.764	0	.000	51	1.676	7	1.844	.000	.000
1564.0	79	2	4	102	98	38	35	4572	9	4	3	10	1	496	17.698	.000	1.770	1.770	15.716	0	.000	51	1.572	5	1.572	.000	.000
1553.0	79	2	3	152	149	38	35	4572	2	4	3	0	2	565	26.547	.000	3.053	3.318	23.828	0	.000	8	2.740	11	2.978	.000	.000
1551.0	79	2	1	152	149	38	35	4572	1	4	7	13	2	566	26.547	.000	3.053	3.318	23.828	0	.000	8	2.740	11	2.978	.000	.000
1757.0	79	3	1	76	73	25	22	4572	0	0	0	0	0	724	8.849	1.283	.000	.000	7.420	24	1.076	0	.000	0	.000	.000	.000
1764.0	79	3	4	102	98	25	22	3353	0	0	0	0	0	663	8.652	1.255	.000	.000	7.334	23	1.063	0	.000	0	.000	.000	.000
1761.0	79	3	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
1758.0	79	3	2	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
1760.0	79	3	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
1763.0	79	3	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
1759.0	79	3	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
1762.0	79	3	4	102	98	38	35	4877	17	4	1	0	1	418	18.878	.000	1.888	1.888	16.764	0	.000	51	1.676	5	1.676	.000	.000
1765.0	79	3	3	152	149	38	35	4877	2	4	2	0	2	522	28.317	.000	1.416	3.256	25.416	0	.000	1	1.271	8	2.923	.000	.000
1847.0	79	4	2	76	73	25	22	3962	0	0	0	0	0	689	7.669	.614	.000	.000	6.431	25	.514	0	.000	0	.000	.000	.000
1827.0	79	4	1	76	73	25	22	4572	0	0	0	0	0	687	8.849	1.283	.000	.000	7.420	23	1.076	0	.000	0	.000	.000	.000
1833.0	79	4	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
1834.0	79	4	4	102	98	38	35	4877	25	6	3	0	1	473	18.878	.000	.944	2.077	16.764	0	.000	1	.838	7	1.844	.000	.000
1835.1	79	4	4	102	98	38	35	4877	23	4	0	0	0	471	18.878	.000	1.888	1.888	16.764	0	.000	51	1.676	5	1.676	.000	.000
1835.0	79	4	4	102	98	38	35	4877	16	3	2	10	1	446	18.878	.000	1.888	1.888	16.764	0	.000	51	1.676	5	1.676	.000	.000
1832.0	79	4	4	127	124	25	22	4877	0	0	0	0	0	623	15.732	1.259	.000	.000	13.421	25	1.074	0	.000	0	.000	.000	.000
1906.0	80	1	4	76	73	25	22	4877	0	0	0	0	0	721	9.439	1.369	.000	.000	7.915	22	1.148	0	.000	0	.000	.000	.000
1900.0	80	1	1	102	98	25	22	2743	0	0	0	0	0	751	7.079	1.026	.000	.000	6.001	23	.870	0	.000	0	.000	.000	.000
1908.0	80	1	3	102	98	38	35	4572	7	3	1	0	3	555	17.698	.000	2.212	2.212	15.716	0	.000	11	1.965	11	1.965	.000	.000
1905.0	80	1	4	102	98	38	35	4877	2	4	1	0	2	540	18.878	.000	2.360	2.360	16.764	0	.000	11	2.095	11	2.095	.000	.000
1901.0	80	1	2	102	98	38	35	4877	5	2	1	0	3	573	18.878	.000	2.360	2.360	16.764	0	.000	11	2.095	11	2.095	.000	.000
1902.0	80	1	4	102	98	38	35	4267	10	2	0	0	3	539	16.518	.000	1.900	1.900	14.668	0	.000	8	1.687	8	1.687	.000	.000
1904.0	80	1	4	102	98	38	35	4877	4	5	3	0	1	466	18.878	.000	1.888	2.077	16.764	0	.000	51	1.676	7	1.844	.000	.000
1903.0	80	1	4	102	98	38	35	4877	17	9	11	9	1	465	18.878	.000	1.888	1.888	16.764	0	.000	51	1.676	5	1.676	.000	.000
1907.0	80	1	3	152	149	38	35	4877	8	2	4	11	1	522	28.317	.000	3.256	3.256	25.416	0	.000	8	2.923	8	2.923	.000	.000
1882.0	80	2	4	76	73	25	22	4877	0	0	0	0	0	718	9.439	1.369	.000	.000	7.915	22	1.148	0	.000	0	.000	.000	.000
1883.0	80	2	2	76	73	25	22	4877	0	0	0	0	0	691	9.439	1.369	.000	.000	7.915	23	1.148	0	.000	0	.000	.000	.000
1877.0	80	2	4	102	98	38	35	4877	15	3	0	0	2	478	18.878	.000	1.888	2.171	16.764	0	.000	5	1.676	8	1.928	.000	.000
1880.0	80	2	4	102	98	38	35	4877	7	5	1	0	2	523	18.878	.000	2.360	2.171	16.764	0	.000	11	2.095	8	1.928	.000	.000
1879.0	80	2	4	102	98	38	35	4877	1	8	6	0	2	443	18.878	.000	1.888	2.077	16.764	0	.000	5	1.676	7	1.844	.000	.000
1878.0	80	2	4	102	98	38	35	4877	32	3	2	10	1	431	18.878	.000	1.888	2.077	16.764	0	.000	51	1.676	7	1.844	.000	.000
1881.0	80	2	3	152	149	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	28.317	25.416
1611.0	80	3	4	76	73	25	22	4877	0	0	0	0	0	608	9.439	1.369	.000	.000	7.915	23	1.148	0	.000	0	.000	.000	.000
1617.0	80	3	1	102	98	25	22	4572	0	0	0	0	0	617	11.799	1.711	.000	.000	10.001	22	1.450	0	.000	0	.000	.000	.000
1610.0	80	3	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
1609.0	80	3	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
1608.0	80	3	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
1622.0	80	3	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
1589.0	80	4	4	76	73	25	22	4877	0	0	0	0	0	548	9.439	1.369	.000	.000	7.915	24	1.148	0	.000	0	.000	.000	.000
1586.0	80	4	1	102	98	25	22	4877	0	0	0	0	0	552	12.585	1.825	.000	.000	10.668	23	1.547	0	.000	0	.000	.000	.000
1588.0	80	4	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
1587.0	80	4	4	102	98	38	35	4267	21	0	0	10	1	457	16.518	.000	1.652	1.652	14.668	0	.000	51	1.467	5	1.467	.000	.000

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2843.0	81	1	4	102	98	25	22	4877	0	0	0	0	0	447	12.585	1.825	.000	.000	10.668	23	1.547	0	.000	0	.000	.000	.000
2838.0	81	1	4	102	98	38	35	4877	4	4	3	0	3	568	18.878	.000	2.171	2.171	16.764	0	.000	8	1.928	8	1.928	.000	.000
2842.0	81	1	4	102	98	38	35	4877	9	5	7	0	1	511	18.878	.000	1.888	2.077	16.764	0	.000	5	1.676	7	1.844	.000	.000
2843.1	81	1	4	102	98	38	35	4877	1	23	5	0	2	473	18.878	.000	.944	1.888	16.764	0	.000	1	.838	5	1.676	.000	.000
2841.0	81	1	4	102	98	38	35	4877	10	5	3	0	2	511	18.878	.000	1.888	1.888	16.764	0	.000	5	1.676	5	1.676	.000	.000
2840.0	81	1	4	102	98	38	35	4877	6	8	2	0	2	510	18.878	.000	1.888	1.888	16.764	0	.000	5	1.676	5	1.676	.000	.000
2839.0	81	1	4	152	149	38	35	3962	0	4	8	10	3	583	23.007	.000	2.646	2.531	20.651	0	.000	8	2.375	7	2.272	.000	.000
2838.1	81	1	4	203	200	38	35	4572	14	3	5	11	2	559	35.396	.000	4.071	4.071	31.939	0	.000	8	3.673	8	3.673	.000	.000
2834.0	81	1	3	203	200	38	35	4877	13	2	1	12	2	533	37.756	.000	4.153	4.342	34.069	0	.000	7	3.748	8	3.918	.000	.000
2837.0	81	1	4	203	200	38	35	4877	2	13	3	0	2	533	37.756	.000	3.776	3.776	34.069	0	.000	5	3.407	5	3.407	.000	.000
2836.0	81	1	4	203	200	38	35	4877	15	28	7	0	2	510	37.756	.000	3.776	3.776	34.069	0	.000	51	3.407	5	3.407	.000	.000
2835.0	81	1	4	203	200	38	35	4877	25	18	2	0	1	501	37.756	.000	3.776	3.776	34.069	0	.000	51	3.407	5	3.407	.000	.000
2833.0	81	1	3	251	248	38	35	4877	5	4	0	10	0	0	46.605	.000	5.127	5.127	42.180	0	.000	7	4.640	7	4.640	.000	.000
862.0	81	2	1	76	73	25	22	2438	0	0	0	0	0	708	4.719	.684	.000	.000	3.957	23	.574	0	.000	0	.000	.000	.000
826.0	81	2	2	76	73	25	22	4877	0	0	0	0	0	672	9.439	1.369	.000	.000	7.915	23	1.148	0	.000	0	.000	.000	.000
834.0	81	2	4	102	98	25	22	4877	0	0	0	0	0	585	12.585	1.825	.000	.000	10.668	24	1.547	0	.000	0	.000	.000	.000
831.0	81	2	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
827.0	81	2	2	102	98	38	35	4877	2	4	2	0	3	530	18.878	.000	2.360	2.360	16.764	0	.000	11	2.095	11	2.095	.000	.000
833.0	81	2	4	102	98	38	35	4877	9	3	1	0	2	463	18.878	.000	2.171	2.171	16.764	0	.000	8	1.928	8	1.928	.000	.000
830.0	81	2	4	102	98	38	35	4572	9	6	2	11	2	452	17.698	.000	1.770	1.770	15.716	0	.000	5	1.572	5	1.572	.000	.000
832.0	81	2	4	102	98	38	35	4877	15	4	0	10	1	447	18.878	.000	1.888	1.510	16.764	0	.000	51	1.676	4	1.341	.000	.000
825.0	81	2	1	152	149	38	35	3353	13	0	2	10	3	515	19.468	.000	2.239	2.239	17.474	0	.000	8	2.009	8	2.009	.000	.000
836.0	81	2	4	152	149	38	35	3658	9	0	2	11	3	529	21.238	.000	.000	1.699	19.062	0	.000	0	.000	4	1.525	.000	.000
835.0	81	2	4	203	200	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	37.756	34.069
829.0	81	2	4	203	200	38	35	4877	3	3	1	0	2	517	37.756	.000	4.342	4.342	34.069	0	.000	8	3.918	8	3.918	.000	.000
828.0	81	2	4	203	200	38	35	4877	4	2	2	0	2	476	37.756	.000	4.342	4.342	34.069	0	.000	8	3.918	8	3.918	.000	.000
833.1	81	2	4	203	200	38	35	4877	1	2	1	0	2	514	37.756	.000	3.776	4.153	34.069	0	.000	5	3.407	7	3.748	.000	.000
1397.0	81	3	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
1396.0	81	3	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
1395.0	81	3	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
1393.0	81	3	1	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
1399.0	81	3	4	102	98	38	35	3658	4	4	1	11	2	444	14.158	.000	1.416	1.416	12.573	0	.000	5	1.257	5	1.257	.000	.000
1398.0	81	3	4	102	98	38	35	4877	14	0	2	10	1	438	18.878	.000	.944	1.888	16.764	0	.000	1	.838	5	1.676	.000	.000
1394.0	81	3	3	152	149	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	28.317	25.416
1213.0	81	4	4	76	73	25	22	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	9,439	7.915
1216.0	81	4	4	102	98	38	35	4572	10	1	3	0	2	470	17.698	.000	1.770	1.770	15.716	0	.000	5	1.572	5	1.572	.000	.000
1214.0	81	4	4	102	98	38	35	4877	10	8	2	0	3	440	18.878	.000	1.888	1.888	16.764	0	.000	51	1.676	5	1.676	.000	.000
1215.0	81	4	4	102	98	38	35	4877	29	4	9	0	1	437	18.878	.000	1.888	1.510	16.764	0	.000	51	1.676	4	1.341	.000	.000
901.0	82	1	4	76	73	25	22	2134	0	0	0	0	0	715	4.130	.599	.000	.000	3.463	21	.502	0	.000	0	.000	.000	.000
888.0	82	1	2	102	98	25	22	4877	0	0	0	0	0	708	12.585	1.007	.000	.000	10.668	25	.853	0	.000	0	.000	.000	.000
893.0	82	1	4	102	98	38	35	4877	2	2	2	0	3	564	18.878	.000	2.171	2.360	16.764	0	.000	8	1.928	11	2.095	.000	.000
899.0	82	1	4	102	98	38	35	4877	2	3	1	0	3	559	18.878	.000	.944	2.077	16.764	0	.000	1	.838	7	1.844	.000	.000
896.0	82	1	4	102	98	38	35	4877	7	3	5	10	2	537	18.878	.000	1.888	2.077	16.764	0	.000	5	1.676	7	1.844	.000	.000
895.0	82	1	4	102	98	38	35	4572	8	3	2	0	1	532	17.698	.000	.885	1.947	15.716	0	.000	1	.786	7	1.729	.000	.000
894.0	82	1	4	102	98	38	35	4572	3	3	0	0	3	522	17.698	.000	1.947	1.947	15.716	0	.000	7	1.729	7	1.729	.000	.000
891.0	82	1	4	102	98	38	35	4877	4	6	7	0	1	434	18.878	.000	1.888	2.077	16.764	0	.000	51	1.676	7	1.844	.000	.000
897.0	82	1	4	102	98	38	35	4877	10	6	4	0	1	533	18.878	.000	.944	1.510	16.764	0	.000	1	.838	4	1.341	.000	.000
887.0	82	1	1	127	124	25	22	4877	0	0	0	0	0	668	15.732	2.281	.000	.000	13.421	24	1.946	0	.000	0	.000	.000	.000
900.0	82	1	4	203	200	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	37.756	34.069
890.0	82	1	3	203	200	38	35	3962	2	3	3	0	3	560	30.677	.000	3.528	3.835	27.681	0	.000	8	3.183	11	3.460	.000	.000
891.1	82	1	4	203	200	38	35	4877	2	1	2	0	3	581	37.756	.000	4.342	4.342	34.069	0	.000	8	3.918	8	3.918	.000	.000
901.1	82	1	4	203	200	38	35	4877	5	1	1	0	2	533	37.756	.000	1.888	4.342	34.069	0	.000	1	1.703	8	3.918	.000	.000
898.0	82	1	4	203	200	38	35	4877	9	2	2	0	2	538	37.756	.000	4.153	4.342	34.069	0	.000	7	3.748	8	3.918	.000	.000
892.0	82	1	4	203	200	38	35	4877	1	1	1	0	2	560	37.756	.000	4.342	4.342	34.069	0	.000	8	3.918	8	3.918	.000	.000

689.0	82	1	3	251	248	38	35	4572	0	0	0	0	0	0	43.692	.000	5.462	4.806	39.544	0	.000	11	4.943	7	4.350	.000	.000
657.0	82	2	3	76	73	25	22	1829	0	0	0	0	0	708	3.540	.513	.000	.000	2.968	21	.430	0	.000	0	.000	.000	.000
652.0	82	2	1	76	73	25	22	2134	0	0	0	0	0	710	4.130	.599	.000	.000	3.463	21	.502	0	.000	0	.000	.000	.000
659.0	82	2	4	102	98	25	22	4877	0	0	0	0	0	684	12.585	1.825	.000	.000	10.668	23	1.547	0	.000	0	.000	.000	.000
658.0	82	2	4	102	98	25	22	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	12.585	10.668
656.0	82	2	3	102	98	38	35	4572	2	3	1	0	3	541	17.698	.000	2.035	2.212	15.716	0	.000	8	1.807	11	1.965	.000	.000
662.0	82	2	4	102	98	38	35	4877	7	3	2	0	3	563	18.878	.000	2.077	2.171	16.764	0	.000	7	1.844	8	1.928	.000	.000
663.0	82	2	4	102	98	38	35	4877	4	3	3	0	2	531	18.878	.000	2.171	2.171	16.764	0	.000	8	1.928	8	1.928	.000	.000
655.0	82	2	4	102	98	38	35	4267	1	5	1	0	3	528	16.518	.000	1.900	1.900	14.668	0	.000	8	1.687	8	1.687	.000	.000
662.1	82	2	4	102	98	38	35	4572	4	2	1	0	2	477	17.698	.000	2.035	1.947	15.716	0	.000	8	1.807	7	1.729	.000	.000
660.0	82	2	4	102	98	38	35	4572	2	4	1	10	2	519	17.698	.000	1.770	1.947	15.716	0	.000	5	1.572	7	1.729	.000	.000
661.0	82	2	4	102	98	38	35	4572	16	5	2	0	1	495	17.698	.000	1.770	1.770	15.716	0	.000	51	1.572	5	1.572	.000	.000
669.0	82	2	4	127	124	25	22	4572	0	0	0	0	0	688	14.748	2.139	.000	.000	12.582	23	1.824	0	.000	0	.000	.000	.000
653.0	82	2	1	152	149	38	35	4572	3	5	0	11	3	545	26.547	.000	3.053	3.053	23.828	0	.000	8	2.740	8	2.740	.000	.000
668.0	82	2	4	203	200	38	35	4572	1	3	1	0	3	573	35.396	.000	3.894	4.425	31.939	0	.000	7	3.513	11	3.992	.000	.000
654.0	82	2	4	203	200	38	35	4267	3	0	1	0	2	541	33.036	.000	3.634	3.799	29.810	0	.000	7	3.279	8	3.428	.000	.000
655.1	82	2	4	203	200	38	35	4572	6	1	2	0	2	557	35.396	.000	3.540	4.071	31.939	0	.000	5	3.194	8	3.673	.000	.000
742.0	82	3	4	102	98	25	22	4877	0	0	0	0	0	618	12.585	1.825	.000	.000	10.668	24	1.547	0	.000	0	.000	.000	.000
737.0	82	3	1	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
740.0	82	3	4	102	98	38	35	4877	2	2	1	0	2	515	18.878	.000	2.171	2.360	16.764	0	.000	8	1.928	11	2.095	.000	.000
746.0	82	3	4	102	98	38	35	3962	1	4	2	0	3	535	15.338	.000	1.687	1.764	13.621	0	.000	7	1.498	8	1.566	.000	.000
738.0	82	3	4	102	98	38	35	4877	2	5	2	0	2	543	18.878	.000	2.077	2.171	16.764	0	.000	7	1.844	8	1.928	.000	.000
739.0	82	3	4	102	98	38	35	4877	16	6	2	0	2	524	18.878	.000	1.888	2.077	16.764	0	.000	5	1.676	7	1.844	.000	.000
741.0	82	3	4	102	98	38	35	4877	14	4	6	10	2	486	18.878	.000	2.171	1.888	16.764	0	.000	8	1.928	5	1.676	.000	.000
744.0	82	3	3	152	149	38	35	4877	0	13	0	0	3	555	28.317	.000	3.256	3.540	25.416	0	.000	8	2.923	11	3.177	.000	.000
745.0	82	3	4	203	200	38	35	4572	4	1	1	0	1	539	35.396	.000	4.071	4.071	31.939	0	.000	8	3.673	8	3.673	.000	.000
743.0	82	3	4	203	200	38	35	4877	2	4	2	0	2	531	37.756	.000	3.776	4.342	34.069	0	.000	5	3.407	8	3.918	.000	.000
1358.0	82	4	3	102	98	25	22	2743	0	0	0	0	0	733	7.079	1.026	.000	.000	6.001	23	.870	0	.000	0	.000	.000	.000
1355.0	82	4	4	102	98	25	22	4877	0	0	0	0	0	670	12.585	1.007	.000	.000	10.668	25	.853	0	.000	0	.000	.000	.000
1359.0	82	4	1	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
1354.0	82	4	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
1353.0	82	4	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
1351.0	82	4	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
1352.0	82	4	4	102	98	38	35	4877	6	5	3	9	1	495	18.878	.000	1.888	1.888	16.764	0	.000	51	1.676	5	1.676	.000	.000
1357.0	82	4	3	152	149	38	35	4877	5	3	3	0	3	548	28.317	.000	2.832	3.540	25.416	0	.000	5	2.542	11	3.177	.000	.000
1371.0	82	5	1	76	73	25	22	4267	0	0	0	0	0	730	8.259	1.198	.000	.000	6.926	23	1.004	0	.000	0	.000	.000	.000
1370.0	82	5	4	102	98	25	22	4572	0	0	0	0	0	712	11.799	1.711	.000	.000	10.001	23	1.450	0	.000	0	.000	.000	.000
1368.0	82	5	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
1367.0	82	5	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
1369.0	82	5	4	102	98	38	35	4877	0	0	0	9	3	499	18.878	.000	.944	.944	16.764	0	.000	1	.838	1	.838	.000	.000
1362.0	82	5	3	127	124	25	22	2134	0	0	0	0	0	589	6.883	.998	.000	.000	5.872	23	.851	0	.000	0	.000	.000	.000
628.0	83	1	4	102	98	25	22	2438	0	0	0	0	0	695	6.293	.912	.000	.000	5.334	23	.773	0	.000	0	.000	.000	.000
623.0	83	1	4	102	98	25	22	3353	0	0	0	0	0	630	8.652	.692	.000	.000	7.334	25	.587	0	.000	0	.000	.000	.000
619.0	83	1	4	102	98	38	35	4877	0	5	2	0	2	577	18.878	.000	2.171	2.360	16.764	0	.000	8	1.928	11	2.095	.000	.000
620.0	83	1	4	102	98	38	35	4877	8	3	1	11	1	496	18.878	.000	1.888	2.077	16.764	0	.000	51	1.676	7	1.844	.000	.000
622.0	83	1	4	102	98	38	35	4572	3	4	2	0	1	477	17.698	.000	.885	1.416	15.716	0	.000	1	.786	4	1.257	.000	.000
621.0	83	1	4	102	98	38	35	4877	17	4	5	9	1	471	18.878	.000	.944	1.510	16.764	0	.000	1	.838	4	1.341	.000	.000
616.0	83	1	2	127	124	25	22	4877	0	0	0	0	0	667	15.732	2.281	.000	.000	13.421	23	1.946	0	.000	0	.000	.000	.000
615.0	83	1	1	127	124	25	22	3962	0	0	0	0	0	715	12.782	1.853	.000	.000	10.905	21	1.581	0	.000	0	.000	.000	.000
617.0	83	1	3	152	149	38	35	4877	4	4	0	0	2	553	28.317	.000	1.416	3.540	25.416	0	.000	1	1.271	11	3.177	.000	.000
627.0	83	1	4	203	200	38	35	3353	7	1	2	0	2	591	25.957	.000	2.985	3.245	23.422	0	.000	8	2.694	11	2.928	.000	.000
626.0	83	1	4	203	200	38	35	4572	2	3	1	0	2	533	35.396	.000	3.894	4.071	31.939	0	.000	7	3.513	8	3.673	.000	.000
618.0	83	1	4	203	200	38	35	4877	2	3	2	0	1	559	37.756	.000	3.776	4.342	34.069	0	.000	5	3.407	8	3.918	.000	.000
716.0	83	2	3	76	73	25	22	2438	0	0	0	0	0	720	4.719	.684	.000	.000	3.957	22	.574	0	.000	0	.000	.000	.000

715.0	83	2	2	76	73	25	22	3353	0	0	0	0	0	697	6.489	.941	.000	.000	5.442	21	.789	0	.000	0	.000	.000	.000
714.0	83	2	1	76	73	25	22	4572	0	0	0	0	0	687	8.849	1.283	.000	.000	7.420	23	1.076	0	.000	0	.000	.000	.000
721.0	83	2	4	102	98	25	22	4877	0	0	0	0	0	565	12.585	1.825	.000	.000	10.668	24	1.547	0	.000	0	.000	.000	.000
719.0	83	2	4	102	98	38	35	4877	2	2	6	9	2	557	18.878	.000	2.360	2.360	16.764	0	.000	11	2.095	11	2.095	.000	.000
720.0	83	2	4	102	98	38	35	4877	17	2	1	0	2	449	18.878	.000	2.171	2.077	16.764	0	.000	8	1.928	7	1.844	.000	.000
717.0	83	2	4	102	98	38	35	4877	10	1	2	0	2	455	18.878	.000	2.360	2.077	16.764	0	.000	11	2.095	7	1.844	.000	.000
718.0	83	2	4	102	98	38	35	4877	24	23	1	0	1	419	18.878	.000	1.888	1.888	16.764	0	.000	51	1.676	5	1.676	.000	.000
730.0	83	2	4	152	149	25	22	4572	0	0	0	0	0	641	17.698	2.566	.000	.000	15.163	23	2.199	0	.000	0	.000	.000	.000
722.0	83	2	4	203	200	38	35	4877	1	2	1	11	2	523	37.756	.000	4.719	4.719	34.069	0	.000	11	4.259	11	4.259	.000	.000
729.0	83	2	4	203	200	38	35	4877	4	3	2	0	2	514	37.756	.000	4.153	4.342	34.069	0	.000	7	3.748	8	3.918	.000	.000
1350.0	83	3	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
1347.0	83	3	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
1346.0	83	3	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
1348.0	83	3	4	102	98	38	35	4877	15	5	0	10	3	514	18.878	.000	2.077	2.077	16.764	0	.000	7	1.844	7	1.844	.000	.000
1338.0	83	3	1	102	98	38	35	4877	9	2	2	10	2	514	18.878	.000	1.888	2.171	16.764	0	.000	5	1.676	8	1.928	.000	.000
1356.0	83	3	4	152	149	38	35	4877	3	4	2	0	2	500	28.317	.000	3.256	3.256	25.416	0	.000	8	2.923	8	2.923	.000	.000
1349.0	83	3	4	152	149	38	35	4572	6	4	2	12	2	481	26.547	.000	2.920	2.920	23.828	0	.000	7	2.621	7	2.621	.000	.000
2845.0	84	1	3	76	73	25	22	3962	0	0	0	0	0	796	7.669	1.112	.000	.000	6.431	22	.932	0	.000	0	.000	.000	.000
2844.0	84	1	3	76	73	25	22	3048	0	0	0	0	0	794	5.899	.855	.000	.000	4.947	23	.717	0	.000	0	.000	.000	.000
2861.0	84	1	4	102	98	25	22	4877	0	0	0	0	0	634	12.585	1.007	.000	.000	10.668	25	.853	0	.000	0	.000	.000	.000
2848.0	84	1	3	102	98	25	22	3048	0	0	0	0	0	731	7.866	1.141	.000	.000	6.667	24	.967	0	.000	0	.000	.000	.000
2846.0	84	1	3	102	98	25	22	3048	0	0	0	0	0	749	7.866	1.141	.000	.000	6.667	23	.967	0	.000	0	.000	.000	.000
2858.0	84	1	4	102	98	38	35	4877	8	10	0	0	3	560	18.878	.000	2.360	2.360	16.764	0	.000	11	2.095	11	2.095	.000	.000
2859.0	84	1	4	102	98	38	35	4877	9	8	2	0	2	523	18.878	.000	2.360	2.171	16.764	0	.000	11	2.095	8	1.928	.000	.000
2857.0	84	1	4	102	98	38	35	4877	6	1	2	11	3	571	18.878	.000	2.360	2.171	16.764	0	.000	11	2.095	8	1.928	.000	.000
2860.0	84	1	4	102	98	38	35	4877	5	10	4	0	2	507	18.878	.000	2.360	2.077	16.764	0	.000	11	2.095	7	1.844	.000	.000
2856.0	84	1	4	152	149	25	22	3353	0	0	0	0	0	655	12.979	1.882	.000	.000	11.120	23	1.612	0	.000	0	.000	.000	.000
2851.0	84	1	2	152	149	38	35	3962	0	11	0	10	3	595	23.007	.000	1.150	2.876	20.651	0	.000	1	1.033	11	2.581	.000	.000
2849.0	84	1	3	152	149	38	35	4572	4	2	3	10	3	550	26.547	.000	3.053	3.053	23.828	0	.000	8	2.740	8	2.740	.000	.000
2850.0	84	1	1	178	175	25	22	4267	0	0	0	0	0	719	19.271	2.794	.000	.000	16.561	22	2.401	0	.000	0	.000	.000	.000
2855.0	84	1	4	203	200	38	35	3962	14	1	5	13	2	539	30.677	.000	3.374	3.528	27.681	0	.000	7	3.045	8	3.183	.000	.000
2854.0	84	1	4	203	200	38	35	4572	6	2	7	0	2	518	35.396	.000	3.894	4.071	31.939	0	.000	7	3.513	8	3.673	.000	.000
2852.0	84	1	4	203	200	38	35	4877	3	6	4	12	1	516	37.756	.000	3.776	4.153	34.069	0	.000	51	3.407	7	3.748	.000	.000
2847.0	84	1	4	203	200	38	35	4877	6	21	7	0	2	527	37.756	.000	3.776	4.153	34.069	0	.000	5	3.407	7	3.748	.000	.000
2853.0	84	1	4	203	200	38	35	4572	1	4	4	0	1	498	35.396	.000	1.770	3.540	31.939	0	.000	1	1.597	5	3.194	.000	.000
790.0	84	2	1	76	73	25	22	3353	0	0	0	0	0	704	6.489	.519	.000	.000	5.442	25	.435	0	.000	0	.000	.000	.000
787.2	84	2	3	76	73	25	22	2743	0	0	0	0	0	710	5.309	.770	.000	.000	4.452	23	.646	0	.000	0	.000	.000	.000
787.1	84	2	3	76	73	25	22	1829	0	0	0	0	0	705	3.540	.513	.000	.000	2.968	21	.430	0	.000	0	.000	.000	.000
791.0	84	2	2	76	73	25	22	2743	0	0	0	0	0	707	5.309	.770	.000	.000	4.452	23	.646	0	.000	0	.000	.000	.000
800.0	84	2	4	76	73	25	22	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	9.439	7.915
798.0	84	2	4	102	98	25	22	4877	0	0	0	0	0	516	12.585	1.007	.000	.000	10.668	25	.853	0	.000	0	.000	.000	.000
789.0	84	2	1	102	98	38	35	3962	1	6	1	0	3	554	15.338	.000	1.764	1.917	13.621	0	.000	8	1.566	11	1.703	.000	.000
794.0	84	2	4	102	98	38	35	4877	1	2	4	11	3	524	18.878	.000	2.171	2.171	16.764	0	.000	8	1.928	8	1.928	.000	.000
796.0	84	2	4	102	98	38	35	4877	3	3	2	0	2	452	18.878	.000	2.077	2.171	16.764	0	.000	7	1.844	8	1.928	.000	.000
797.0	84	2	4	102	98	38	35	4877	4	4	1	0	2	449	18.878	.000	1.888	2.077	16.764	0	.000	5	1.676	7	1.844	.000	.000
795.0	84	2	4	102	98	38	35	4877	9	2	1	0	2	412	18.878	.000	1.888	1.888	16.764	0	.000	51	1.676	5	1.676	.000	.000
788.0	84	2	3	203	200	38	35	4877	4	1	1	0	2	537	37.756	.000	4.719	4.719	34.069	0	.000	11	4.259	11	4.259	.000	.000
799.0	84	2	4	203	200	38	35	4877	2	4	1	0	2	556	37.756	.000	4.342	4.719	34.069	0	.000	8	3.918	11	4.259	.000	.000
793.0	84	2	4	203	200	38	35	4877	2	4	1	10	2	530	37.756	.000	4.342	4.719	34.069	0	.000	8	3.918	11	4.259	.000	.000
801.0	84	2	4	203	200	38	35	4877	4	3	3	0	2	524	37.756	.000	3.776	4.342	34.069	0	.000	5	3.407	8	3.918	.000	.000
792.0	84	2	4	203	200	38	35	4877	7	1	3	10	2	464	37.756	.000	4.342	4.342	34.069	0	.000	8	3.918	8	3.918	.000	.000
755.0	84	3	4	102	98	25	22	4877	0	0	0	0	0	515	12.585	1.007	.000	.000	10.668	25	.853	0	.000	0	.000	.000	.000
747.0	84	3	1	102	98	38	35	3962	2	4	2	0	3	534	15.338	.000	1.764	1.917	13.621	0	.000	8	1.566	11	1.703	.000	.000
753.0	84	3	4	102	98	38	35	4572	2	3	2	10	2	471	17.698	.000	2.035	2.035	15.716	0	.000	8	1.807	8	1.807	.000	.000

751.0	84	3	4	102	98	38	35	4877	1	3	2	0	2	505	18.878	.000	2.171	2.171	16.764	0	.000	8	1.928	8	1.928	.000	.000
754.0	84	3	4	102	98	38	35	4877	15	15	1	0	1	407	18.878	.000	1.888	2.077	16.764	0	.000	51	1.676	7	1.844	.000	.000
752.0	84	3	4	102	98	38	35	4877	10	3	1	0	2	446	18.878	.000	2.077	1.888	16.764	0	.000	7	1.844	5	1.676	.000	.000
757.0	84	3	4	127	124	25	22	4572	0	0	0	0	0	705	14.748	2.139	.000	.000	12.582	24	1.824	0	.000	0	.000	.000	.000
749.0	84	3	3	152	149	25	22	4572	0	0	0	0	0	623	17.698	2.566	.000	.000	15.163	23	2.199	0	.000	0	.000	.000	.000
748.0	84	3	2	178	175	25	22	4572	0	0	0	0	0	633	20.648	2.994	.000	.000	17.744	23	2.573	0	.000	0	.000	.000	.000
756.0	84	3	4	203	200	38	35	3962	1	1	2	12	2	543	30.677	.000	3.835	3.835	27.681	0	.000	11	3.460	11	3.460	.000	.000
750.0	84	3	4	203	200	38	35	4877	4	2	2	0	2	512	37.756	.000	4.153	4.342	34.069	0	.000	7	3.748	8	3.918	.000	.000
758.0	84	3	4	203	200	38	35	4572	1	6	1	0	2	511	35.396	.000	3.540	4.071	31.939	0	.000	5	3.194	8	3.673	.000	.000
1406.0	84	5	4	76	73	25	22	2438	0	0	0	0	0	744	4.719	.684	.000	.000	3.957	23	.574	0	.000	0	.000	.000	.000
1405.0	84	5	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
1404.0	84	5	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
1403.0	84	5	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
1402.0	84	5	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
1400.0	84	5	1	127	124	25	22	4267	0	0	0	0	0	657	13.765	1.996	.000	.000	11.743	24	1.703	0	.000	0	.000	.000	.000
1401.0	84	5	3	152	149	38	35	4572	2	3	3	12	2	465	26.547	.000	2.655	3.053	23.828	0	.000	5	2.383	8	2.740	.000	.000
849.0	85	1	3	102	98	25	22	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	12.585	10.668
856.0	85	1	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
854.0	85	1	4	102	98	38	35	4877	2	2	1	0	3	517	18.878	.000	2.171	2.077	16.764	0	.000	8	1.928	7	1.844	.000	.000
857.0	85	1	4	102	98	38	35	4877	5	2	3	0	2	466	18.878	.000	1.888	1.888	16.764	0	.000	5	1.676	5	1.676	.000	.000
855.1	85	1	4	102	98	38	35	4877	1	2	4	0	3	507	18.878	.000	2.077	1.888	16.764	0	.000	7	1.844	5	1.676	.000	.000
855.0	85	1	4	102	98	38	35	4877	2	5	2	0	2	449	18.878	.000	1.888	1.888	16.764	0	.000	5	1.676	5	1.676	.000	.000
858.0	85	1	4	102	98	38	35	4877	8	9	1	0	1	466	18.878	.000	1.888	1.510	16.764	0	.000	51	1.676	4	1.341	.000	.000
850.0	85	1	3	127	124	25	22	1829	0	0	0	0	0	685	5.899	.855	.000	.000	5.033	22	.730	0	.000	0	.000	.000	.000
848.0	85	1	2	127	124	25	22	3353	0	0	0	0	0	662	10.815	.865	.000	.000	9.227	25	.738	0	.000	0	.000	.000	.000
860.0	85	1	4	152	149	25	22	2743	0	0	0	0	0	607	10.619	1.540	.000	.000	9.098	21	1.319	0	.000	0	.000	.000	.000
847.0	85	1	1	152	149	38	35	4572	0	4	2	10	3	544	26.547	.000	3.053	2.920	23.828	0	.000	8	2.740	7	2.621	.000	.000
853.0	85	1	4	203	200	38	35	4572	2	2	0	0	3	523	35.396	.000	4.071	4.071	31.939	0	.000	8	3.673	8	3.673	.000	.000
859.0	85	1	4	203	200	38	35	4267	2	4	1	0	2	495	33.036	.000	4.130	3.799	29.810	0	.000	11	3.726	8	3.428	.000	.000
852.0	85	1	4	203	200	38	35	4877	3	21	6	0	2	507	37.756	.000	3.776	4.342	34.069	0	.000	5	3.407	8	3.918	.000	.000
851.0	85	1	4	203	200	38	35	3353	6	1	2	0	1	505	25.957	.000	2.596	2.855	23.422	0	.000	51	2.342	7	2.576	.000	.000
814.0	85	2	2	76	73	25	22	3048	0	0	0	0	0	661	5.899	.472	.000	.000	4.947	25	.396	0	.000	0	.000	.000	.000
821.0	85	2	4	102	98	25	22	4877	0	0	0	0	0	529	12.585	1.007	.000	.000	10.668	25	.853	0	.000	0	.000	.000	.000
817.0	85	2	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
823.0	85	2	4	102	98	38	35	4877	2	2	1	0	3	478	18.878	.000	2.171	2.360	16.764	0	.000	8	1.928	11	2.095	.000	.000
819.0	85	2	4	102	98	38	35	4877	3	2	1	0	2	456	18.878	.000	1.888	2.171	16.764	0	.000	5	1.676	8	1.928	.000	.000
820.0	85	2	4	102	98	38	35	4877	3	5	1	0	2	388	18.878	.000	.944	1.888	16.764	0	.000	1	.838	5	1.676	.000	.000
818.0	85	2	4	102	98	38	35	4877	2	11	1	0	2	391	18.878	.000	.944	1.888	16.764	0	.000	1	.838	5	1.676	.000	.000
813.0	85	2	1	127	124	25	22	3962	0	0	0	0	0	604	12.782	1.853	.000	.000	10.905	24	1.581	0	.000	0	.000	.000	.000
816.0	85	2	3	152	149	38	35	4877	0	8	2	10	3	486	28.317	.000	3.115	3.256	25.416	0	.000	7	2.796	8	2.923	.000	.000
815.0	85	2	2	152	149	38	35	4877	0	7	4	10	3	472	28.317	.000	3.540	2.832	25.416	0	.000	11	3.177	5	2.542	.000	.000
822.0	85	2	4	203	200	38	35	4877	3	2	2	0	2	463	37.756	.000	4.153	4.342	34.069	0	.000	7	3.748	8	3.918	.000	.000
824.0	85	2	4	203	200	38	35	4877	2	8	1	0	2	447	37.756	.000	4.153	4.342	34.069	0	.000	7	3.748	8	3.918	.000	.000
649.0	85	3	4	76	73	25	22	2743	0	0	0	0	0	607	5.309	.770	.000	.000	4.452	23	.646	0	.000	0	.000	.000	.000
647.0	85	3	3	102	98	25	22	4267	0	0	0	0	0	592	11.012	1.597	.000	.000	9.334	23	1.353	0	.000	0	.000	.000	.000
646.0	85	3	4	102	98	25	22	4572	0	0	0	0	0	574	11.799	1.711	.000	.000	10.001	23	1.450	0	.000	0	.000	.000	.000
645.0	85	3	4	102	98	38	35	4877	5	8	3	0	2	388	18.878	.000	.000	.000	16.764	0	.000	0	.000	0	.000	.000	.000
642.0	85	3	4	102	98	38	35	4877	3	9	2	0	2	437	18.878	.000	.944	2.077	16.764	0	.000	1	.838	7	1.844	.000	.000
643.0	85	3	4	102	98	38	35	4877	4	5	2	0	2	382	18.878	.000	1.888	1.888	16.764	0	.000	5	1.676	5	1.676	.000	.000
644.0	85	3	4	102	98	38	35	4877	13	2	1	0	1	365	18.878	.000	1.888	1.510	16.764	0	.000	51	1.676	4	1.341	.000	.000
641.0	85	3	1	152	149	25	22	3353	0	0	0	0	0	565	12.979	1.882	.000	.000	11.120	23	1.612	0	.000	0	.000	.000	.000
640.0	85	3	2	152	149	38	35	4877	0	2	0	10	3	477	28.317	.000	3.256	3.256	25.416	0	.000	8	2.923	8	2.923	.000	.000
650.0	85	3	4	203	200	38	35	4877	3	2	2	0	1	455	37.756	.000	3.776	4.342	34.069	0	.000	5	3.407	8	3.918	.000	.000
648.0	85	3	4	203	200	38	35	4877	2	2	1	10	2	448	37.756	.000	1.888	4.153	34.069	0	.000	1	1.703	7	3.748	.000	.000

1250.0	85	4	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
1249.0	85	4	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
1248.0	85	4	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
1247.0	85	4	4	102	98	38	35	4877	6	7	0	9	2	409	18.878	.000	1.888	.000	16.764	0	.000	5	1.676	0	.000	.000	.000
1246.0	85	4	2	102	98	38	35	3658	6	4	0	10	3	439	14.158	.000	1.416	.000	12.573	0	.000	5	1.257	0	.000	.000	.000
1251.0	85	4	4	152	149	38	35	4877	2	2	2	0	2	53	28.317	.000	2.832	3.256	25.416	0	.000	5	2.542	8	2.923	.000	.000
1245.0	85	4	1	152	149	38	35	3353	1	3	2	0	2	434	19.468	.000	2.239	2.239	17.474	0	.000	8	2.009	8	2.009	.000	.000
735.0	86	1	3	102	98	25	22	4572	0	0	0	0	0	658	11.799	1.711	.000	.000	10.001	24	1.450	0	.000	0	.000	.000	.000
728.0	86	1	1	102	98	25	22	4572	0	0	0	0	0	724	11.799	1.711	.000	.000	10.001	22	1.450	0	.000	0	.000	.000	.000
727.0	86	1	4	102	98	25	22	4572	0	0	0	0	0	568	11.799	1.711	.000	.000	10.001	23	1.450	0	.000	0	.000	.000	.000
736.0	86	1	2	102	98	25	22	3353	0	0	0	0	0	650	8.652	1.255	.000	.000	7.334	23	1.063	0	.000	5	.000	.000	.000
723.0	86	1	4	102	98	38	35	4572	0	3	1	0	2	516	17.698	.000	2.035	2.212	15.716	0	.000	8	1.807	11	1.965	.000	.000
725.0	86	1	4	102	98	38	35	4877	2	3	1	0	2	508	18.878	.000	2.360	2.171	16.764	0	.000	11	2.095	8	1.928	.000	.000
736.1	86	1	2	102	98	38	35	4877	1	2	1	10	3	529	18.878	.000	2.171	2.171	16.764	0	.000	8	1.928	8	1.928	.000	.000
724.0	86	1	4	102	98	38	35	4572	3	3	1	0	1	452	17.698	.000	1.770	2.035	15.716	0	.000	51	1.572	8	1.807	.000	.000
726.0	86	1	4	102	98	38	35	4877	1	19	1	0	2	451	18.878	.000	2.171	2.077	16.764	0	.000	8	1.928	7	1.844	.000	.000
734.0	86	1	3	152	149	38	35	3658	11	6	2	0	3	580	21.238	.000	2.655	2.655	19.062	0	.000	11	2.383	11	2.383	.000	.000
732.0	86	1	4	203	200	38	35	4572	4	2	1	12	3	582	35.396	.000	4.425	4.425	31.939	0	.000	11	3.992	11	3.992	.000	.000
733.0	86	1	4	203	200	38	35	4572	1	1	1	0	3	539	35.396	.000	4.425	4.425	31.939	0	.000	11	3.992	11	3.992	.000	.000
731.0	86	1	4	203	200	38	35	4572	4	1	3	0	2	507	35.396	.000	4.071	4.071	31.939	0	.000	8	3.673	8	3.673	.000	.000
863.0	86	1	4	203	200	38	35	4877	8	5	3	0	2	485	37.756	.000	4.153	4.153	34.069	0	.000	7	3.748	7	3.748	.000	.000
864.0	86	2	3	102	98	25	22	3048	0	0	0	0	0	696	7.866	1.141	.000	.000	6.667	23	.967	0	.000	0	.000	.000	.000
861.0	86	2	1	102	98	25	22	3658	0	0	0	0	0	662	9.439	1.369	.000	.000	8.001	24	1.160	0	.000	0	.000	.000	.000
868.0	86	2	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
867.0	86	2	4	102	98	38	35	4877	2	3	3	0	2	517	18.878	.000	2.171	2.360	16.764	0	.000	8	1.928	11	2.095	.000	.000
871.0	86	2	4	102	98	38	35	4877	4	13	2	0	2	456	18.878	.000	2.171	2.171	16.764	0	.000	8	1.928	8	1.928	.000	.000
871.1	86	2	4	102	98	38	35	4877	17	2	1	0	2	428	18.878	.000	2.077	2.077	16.764	0	.000	7	1.844	7	1.844	.000	.000
872.0	86	2	4	102	98	38	35	4877	22	3	3	0	1	418	18.878	.000	1.888	1.888	16.764	0	.000	51	1.676	5	1.676	.000	.000
869.0	86	2	4	102	98	38	35	4877	13	4	1	0	2	429	18.878	.000	2.077	1.888	16.764	0	.000	7	1.844	5	1.676	.000	.000
870.0	86	2	4	102	98	38	35	4877	3	3	0	11	3	508	18.878	.000	2.171	2.360	16.764	0	.000	8	1.928	11	2.095	.000	.000
866.0	86	2	4	127	124	25	22	4877	0	0	0	0	0	704	15.732	2.281	.000	.000	13.421	23	1.946	0	.000	0	.000	.000	.000
865.0	86	2	2	127	124	25	22	4877	0	0	0	0	0	0	15.732	.000	.000	.000	13.421	0	.000	0	.000	0	.000	.000	.000
873.0	86	2	4	152	149	38	35	4877	6	3	0	11	3	509	28.317	.000	2.832	3.256	25.416	0	.000	5	2.542	8	2.923	.000	.000
865.1	86	2	4	203	200	38	35	4877	4	2	4	0	2	511	37.756	.000	4.342	4.719	34.069	0	.000	8	3.918	11	4.259	.000	.000
1344.0	86	3	3	76	73	25	22	4267	0	0	0	0	0	765	8.259	1.198	.000	.000	6.926	23	1.004	0	.000	0	.000	.000	.000
1343.0	86	3	4	102	98	25	22	3962	0	0	0	0	0	674	10.226	1.483	.000	.000	8.668	23	1.257	0	.000	0	.000	.000	.000
1342.0	86	3	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
1341.0	86	3	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
1340.0	86	3	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
1339.0	86	3	4	102	98	38	35	4877	6	1	0	11	2	491	18.878	.000	1.888	2.171	16.764	0	.000	5	1.676	8	1.928	.000	.000
1345.0	86	3	4	152	149	38	35	4877	2	7	3	12	2	489	28.317	.000	3.256	3.256	25.416	0	.000	8	2.923	8	2.923	.000	.000
1284.0	86	4	1	76	73	25	22	4267	0	0	0	0	0	592	8.259	1.198	.000	.000	6.926	23	1.004	0	.000	0	.000	.000	.000
1283.0	86	4	4	102	98	25	22	4572	0	0	0	0	0	542	11.799	.944	.000	.000	10.001	25	.800	0	.000	0	.000	.000	.000
1282.0	86	4	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
1281.0	86	4	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
1280.0	86	4	4	102	98	38	35	3962	2	2	0	10	2	471	15.338	.000	1.687	1.764	13.621	0	.000	7	1.498	8	1.566	.000	.000
1279.0	86	4	3	127	124	25	22	4572	0	0	0	0	0	629	14.748	2.139	.000	.000	12.582	23	1.824	0	.000	0	.000	.000	.000
1278.0	86	4	1	127	124	25	22	3658	0	0	0	0	0	632	11.799	1.711	.000	.000	10.066	23	1.460	0	.000	0	.000	.000	.000
1307.0	86	5	4	102	98	25	22	4877	0	0	0	0	0	600	12.585	1.825	.000	.000	10.668	24	1.547	0	.000	0	.000	.000	.000
1301.0	86	5	1	102	98	25	22	2743	0	0	0	0	0	629	7.079	1.026	.000	.000	6.001	23	.870	0	.000	0	.000	.000	.000
1306.0	86	5	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
1305.0	86	5	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
767.0	87	1	4	102	98	25	22	4877	0	0	0	0	0	580	12.585	1.007	.000	.000	10.668	25	.853	0	.000	0	.000	.000	.000
759.0	87	1	1	102	98	38	35	4877	4	9	2	0	2	545	18.878	.000	1.888	2.360	16.764	0	.000	5	1.676	11	2.095	.000	.000

765.0	87	1	4	102	98	38	35	4877	2	4	2	0	3	493	18.878	.000	2.077	2.171	16.764	0	.000	7	1.844	8	1.928	.000	.000
766.0	87	1	4	102	98	38	35	4877	2	3	2	10	2	472	18.878	.000	.944	2.077	16.764	0	.000	1	.838	7	1.844	.000	.000
763.0	87	1	4	102	98	38	35	4877	1	5	1	0	2	499	18.878	.000	2.171	2.077	16.764	0	.000	8	1.928	7	1.844	.000	.000
764.0	87	1	4	102	98	38	35	4877	4	18	3	0	1	467	18.878	.000	1.888	1.888	16.764	0	.000	51	1.676	5	1.676	.000	.000
760.0	87	1	3	127	124	25	22	4572	0	0	0	0	0	675	14.748	1.180	.000	.000	12.582	25	1.007	0	.000	0	.000	.000	.000
786.0	87	1	4	152	149	38	35	4572	7	5	5	10	3	528	26.547	.000	1.327	3.053	23.828	0	.000	1	1.191	8	2.740	.000	.000
776.0	87	1	4	203	200	25	22	4877	4	1	1	0	1	782	25.171	2.014	.000	.000	21.680	25	1.734	0	.000	0	.000	.000	.000
782.0	87	1	4	203	200	38	35	4877	6	1	1	0	1	530	37.756	.000	4.153	4.719	34.069	0	.000	7	3.748	11	4.259	.000	.000
777.0	87	1	4	203	200	38	35	4877	11	3	3	0	1	482	37.756	.000	3.776	4.342	34.069	0	.000	51	3.407	8	3.918	.000	.000
785.0	87	1	4	203	200	38	35	4877	3	3	1	0	1	515	37.756	.000	3.776	4.342	34.069	0	.000	5	3.407	8	3.918	.000	.000
761.0	87	1	3	203	200	38	35	4877	1	4	3	0	3	549	37.756	.000	4.342	4.342	34.069	0	.000	8	3.918	8	3.918	.000	.000
784.0	87	1	4	203	200	38	35	4877	6	1	2	0	1	479	37.756	.000	3.776	4.153	34.069	0	.000	5	3.407	7	3.748	.000	.000
762.0	87	1	3	251	248	38	35	4572	0	0	0	10	0	0	43.692	.000	5.025	4.806	39.544	0	.000	8	4.548	7	4.350	.000	.000
775.0	87	2	4	102	98	25	22	2743	0	0	0	0	0	705	7.079	1.026	.000	.000	6.001	22	.870	0	.000	0	.000	.000	.000
774.0	87	2	4	102	98	25	22	4877	0	0	0	0	0	559	12.585	1.825	.000	.000	10.668	24	1.547	0	.000	0	.000	.000	.000
768.0	87	2	2	102	98	25	22	3048	0	0	0	0	0	674	7.866	1.141	.000	.000	6.667	22	.967	0	.000	0	.000	.000	.000
780.0	87	2	2	102	98	38	35	4877	6	5	4	11	3	526	18.878	.000	1.888	2.360	16.764	0	.000	5	1.676	11	2.095	.000	.000
772.0	87	2	4	102	98	38	35	4877	7	2	4	0	2	434	18.878	.000	2.077	2.171	16.764	0	.000	7	1.844	8	1.928	.000	.000
773.0	87	2	4	102	98	38	35	4877	10	3	4	0	2	452	18.878	.000	2.077	2.077	16.764	0	.000	7	1.844	7	1.844	.000	.000
770.0	87	2	4	102	98	38	35	4877	8	3	1	0	2	447	18.878	.000	2.171	2.077	16.764	0	.000	8	1.928	7	1.844	.000	.000
771.0	87	2	4	102	98	38	35	4877	9	2	3	0	1	439	18.878	.000	1.888	1.888	16.764	0	.000	51	1.676	5	1.676	.000	.000
781.0	87	2	1	152	149	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	28.317	25.416
778.0	87	2	4	152	149	38	35	4877	0	5	0	0	3	569	28.317	.000	2.832	3.540	25.416	0	.000	5	2.542	11	3.177	.000	.000
769.0	87	2	2	203	200	38	35	4572	2	6	1	0	2	553	35.396	.000	4.071	4.425	31.939	0	.000	8	3.673	11	3.992	.000	.000
783.0	87	2	3	203	200	38	35	4877	1	1	1	0	3	513	37.756	.000	4.153	4.342	34.069	0	.000	7	3.748	8	3.918	.000	.000
779.0	87	2	4	203	200	38	35	4877	6	3	2	0	2	499	37.756	.000	4.153	4.342	34.069	0	.000	7	3.748	8	3.918	.000	.000
694.0	87	3	4	102	98	25	22	4877	0	0	0	0	0	546	12.585	1.007	.000	.000	10.668	25	.853	0	.000	0	.000	.000	.000
699.0	87	3	3	102	98	25	22	3658	0	0	0	0	0	665	9.439	.755	.000	.000	8.001	25	.640	0	.000	0	.000	.000	.000
697.0	87	3	1	102	98	25	22	4877	0	0	0	0	0	634	12.585	1.825	.000	.000	10.668	24	1.547	0	.000	0	.000	.000	.000
691.0	87	3	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
692.0	87	3	4	102	98	38	35	4877	8	2	2	0	2	468	18.878	.000	2.077	2.171	16.764	0	.000	7	1.844	8	1.928	.000	.000
690.0	87	3	4	102	98	38	35	4877	6	5	1	0	2	468	18.878	.000	2.077	2.077	16.764	0	.000	7	1.844	7	1.844	.000	.000
693.0	87	3	4	102	98	38	35	4877	8	2	1	10	2	432	18.878	.000	2.171	1.888	16.764	0	.000	8	1.928	5	1.676	.000	.000
698.0	87	3	2	152	149	25	22	4572	0	0	0	0	0	611	17.698	2.566	.000	.000	15.163	23	2.199	0	.000	0	.000	.000	.000
696.0	87	3	4	152	149	38	35	4877	5	8	3	10	3	495	28.317	.000	1.416	3.256	25.416	0	.000	1	1.271	8	2.923	.000	.000
701.0	87	3	4	203	200	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	37.756	34.069
700.0	87	3	3	203	200	38	35	4267	2	2	1	0	2	522	33.036	.000	3.799	3.799	29.810	0	.000	8	3.428	8	3.428	.000	.000
695.0	87	3	4	203	200	38	35	4877	5	1	1	10	1	458	37.756	.000	3.776	4.153	34.069	0	.000	5	3.407	7	3.748	.000	.000
1445.2	87	4	4	102	98	38	35	1829	2	1	2	10	1	432	7.079	.000	.354	.566	6.286	0	.000	1	.314	4	.503	.000	.000
1444.1	87	4	4	102	98	38	35	2438	3	1	0	10	2	456	9.439	.000	1.180	1.085	8.382	0	.000	11	1.048	8	.964	.000	.000
1443.2	87	4	4	102	98	38	35	1829	2	0	2	11	3	495	7.079	.000	.885	.814	6.286	0	.000	11	.786	8	.723	.000	.000
1443.1	87	4	4	102	98	38	35	2438	1	0	0	11	3	485	9.439	.000	1.085	1.038	8.382	0	.000	8	.964	7	.922	.000	.000
1446.0	87	4	4	102	98	38	35	4877	4	5	3	10	1	439	18.878	.000	.944	1.888	16.764	0	.000	1	.838	5	1.676	.000	.000
1445.1	87	4	4	102	98	38	35	2438	5	5	2	10	1	441	9.439	.000	.944	.944	8.382	0	.000	51	.838	5	.838	.000	.000
1444.2	87	4	4	102	98	38	35	1829	2	2	1	10	2	469	7.079	.000	.814	.708	6.286	0	.000	8	.723	5	.629	.000	.000
1441.0	87	4	3	152	149	25	22	3962	0	0	0	0	0	628	15.338	2.224	.000	.000	13.141	23	1.906	0	.000	0	.000	.000	.000
1440.1	87	4	1	152	149	25	22	1829	0	0	0	0	0	643	7.079	1.026	.000	.000	6.065	23	.879	0	.000	0	.000	.000	.000
1440.0	87	4	1	152	149	25	22	1829	0	0	0	0	0	635	7.079	1.026	.000	.000	6.065	23	.879	0	.000	0	.000	.000	.000
1442.0	87	4	3	203	200	38	35	3962	15	14	6	0	1	465	30.677	.000	1.534	3.068	27.681	0	.000	1	1.384	5	2.768	.000	.000
1277.0	87	5	4	76	73	25	22	2743	0	0	0	0	0	618	5.309	.770	.000	.000	4.452	23	.646	0	.000	0	.000	.000	.000
1272.0	87	5	2	76	73	25	22	3962	0	0	0	0	0	672	7.669	.614	.000	.000	6.431	25	.514	0	.000	0	.000	.000	.000
1271.0	87	5	1	102	98	25	22	3962	0	0	0	0	0	643	10.226	1.483	.000	.000	8.668	22	1.257	0	.000	0	.000	.000	.000
1276.0	87	5	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
1275.0	87	5	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764

1273.0	87	5	3	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
1274.0	87	5	4	102	98	38	35	4877	14	5	0	10	2	477	18.878	.000	.944	.944	16.764	0	.000	1	.838	1	.838	.000	.000
688.0	88	1	4	76	73	25	22	3962	0	0	0	0	0	794	7.669	1.112	.000	.000	6.431	23	.932	0	.000	0	.000	.000	.000
686.0	88	1	3	76	73	25	22	4877	0	0	0	0	0	733	9.439	.755	.000	.000	7.915	25	.633	0	.000	0	.000	.000	.000
667.0	88	1	1	76	73	25	22	1829	0	0	0	10	0	783	3.540	.513	.000	.000	2.968	21	.430	0	.000	0	.000	.000	.000
683.0	88	1	4	102	98	25	22	4877	0	0	0	0	0	610	12.585	1.007	.000	.000	10.668	25	.853	0	.000	0	.000	.000	.000
679.0	88	1	4	102	98	38	35	4877	1	1	1	0	2	531	18.878	.000	2.171	2.360	16.764	0	.000	8	1.928	11	2.095	.000	.000
672.0	88	1	2	102	98	38	35	4877	5	0	0	0	3	558	18.878	.000	2.171	2.360	16.764	0	.000	8	1.928	11	2.095	.000	.000
681.0	88	1	4	102	98	38	35	4877	5	4	3	0	2	511	18.878	.000	2.171	2.171	16.764	0	.000	8	1.928	8	1.928	.000	.000
680.0	88	1	4	102	98	38	35	4877	2	2	1	0	1	488	18.878	.000	1.888	2.077	16.764	0	.000	51	1.676	7	1.844	.000	.000
682.0	88	1	4	102	98	38	35	4877	7	15	2	0	1	472	18.878	.000	1.888	1.888	16.764	0	.000	51	1.676	5	1.676	.000	.000
689.0	88	1	4	152	149	38	35	3962	0	4	2	0	3	598	23.007	.000	2.876	2.876	20.651	0	.000	11	2.581	11	2.581	.000	.000
666.0	88	1	1	152	149	38	35	3658	0	4	5	10	3	600	21.238	.000	2.655	2.655	19.062	0	.000	11	2.383	11	2.383	.000	.000
678.0	88	1	4	203	200	38	35	4877	5	2	2	9	2	532	37.756	.000	3.776	4.719	34.069	0	.000	5	3.407	11	4.259	.000	.000
687.0	88	1	4	203	200	38	35	4877	3	4	2	0	2	541	37.756	.000	3.776	4.342	34.069	0	.000	5	3.407	8	3.918	.000	.000
809.0	88	2	4	102	98	25	22	4877	0	0	0	0	0	548	12.585	1.007	.000	.000	10.668	25	.853	0	.000	0	.000	.000	.000
807.0	88	2	4	102	98	38	35	4877	4	5	3	0	3	522	18.878	.000	2.171	2.360	16.764	0	.000	8	1.928	11	2.095	.000	.000
805.0	88	2	4	102	98	38	35	4877	1	2	2	10	2	493	18.878	.000	1.888	2.171	16.764	0	.000	5	1.676	8	1.928	.000	.000
808.0	88	2	4	102	98	38	35	4877	5	1	1	0	3	459	18.878	.000	2.077	2.077	16.764	0	.000	7	1.844	7	1.844	.000	.000
806.0	88	2	4	102	98	38	35	4877	8	1	2	0	1	437	18.878	.000	1.888	2.077	16.764	0	.000	51	1.676	7	1.844	.000	.000
804.0	88	2	3	127	124	25	22	4572	0	0	0	0	0	693	14.748	2.139	.000	.000	12.582	23	1.824	0	.000	0	.000	.000	.000
803.0	88	2	2	127	124	25	22	4572	0	0	0	0	0	684	14.748	2.139	.000	.000	12.582	23	1.824	0	.000	0	.000	.000	.000
802.0	88	2	1	127	124	25	22	4572	0	0	0	0	0	671	14.748	2.139	.000	.000	12.582	22	1.824	0	.000	0	.000	.000	.000
812.0	88	2	4	152	149	38	35	4572	3	8	0	10	2	563	26.547	.000	3.053	3.318	23.828	0	.000	8	2.740	11	2.978	.000	.000
811.0	88	2	4	203	200	38	35	4877	1	1	1	0	1	504	37.756	.000	4.342	4.719	34.069	0	.000	8	3.918	11	4.259	.000	.000
810.0	88	2	4	203	200	38	35	4877	2	2	1	11	2	521	37.756	.000	4.342	4.342	34.069	0	.000	8	3.918	8	3.918	.000	.000
1270.0	88	3	4	76	73	25	22	4877	0	0	0	0	0	713	9.439	1.369	.000	.000	7.915	22	1.148	0	.000	0	.000	.000	.000
1262.0	88	3	2	76	73	25	22	4267	0	0	0	0	0	714	8.259	1.198	.000	.000	6.926	23	1.004	0	.000	0	.000	.000	.000
1269.0	88	3	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
1266.0	88	3	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
1268.0	88	3	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
1267.0	88	3	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
1264.0	88	3	3	102	98	38	35	4877	3	7	0	10	3	501	18.878	.000	2.077	.000	16.764	0	.000	7	1.844	0	.000	.000	.000
1263.0	88	3	1	127	124	25	22	3353	0	0	0	0	0	683	10.815	1.568	.000	.000	9.227	23	1.338	0	.000	0	.000	.000	.000
1265.0	88	3	3	152	149	38	35	4572	4	4	1	0	1	481	26.547	.000	2.655	2.920	23.828	0	.000	5	2.383	7	2.621	.000	.000
1221.0	88	4	1	102	98	25	22	3353	0	0	0	0	0	623	8.652	1.255	.000	.000	7.334	23	1.063	0	.000	0	.000	.000	.000
1230.0	88	4	3	102	98	25	22	2743	0	0	0	0	0	622	7.079	1.026	.000	.000	6.001	22	.870	0	.000	0	.000	.000	.000
1225.0	88	4	4	102	98	25	22	3962	0	0	0	0	0	646	10.226	1.483	.000	.000	8.668	23	1.257	0	.000	0	.000	.000	.000
1224.0	88	4	4	102	98	38	35	4877	21	2	4	0	1	456	18.878	.000	1.888	1.888	16.764	0	.000	51	1.676	5	1.676	.000	.000
1222.0	88	4	4	102	98	38	35	4877	0	2	2	0	2	487	18.878	.000	2.077	1.888	16.764	0	.000	7	1.844	5	1.676	.000	.000
1223.0	88	4	4	102	98	38	35	4877	36	2	3	0	1	446	18.878	.000	1.888	1.888	16.764	0	.000	51	1.676	5	1.676	.000	.000
1230.1	88	4	3	102	98	38	35	3048	5	2	2	0	3	501	11.799	.000	1.357	1.180	10.477	0	.000	8	1.205	5	1.048	.000	.000
1226.0	88	4	3	152	149	38	35	4877	12	2	5	12	2	500	28.317	.000	2.832	3.256	25.416	0	.000	5	2.542	8	2.923	.000	.000
1227.0	88	5	1	76	73	25	22	3962	0	0	0	0	0	643	7.669	1.112	.000	.000	6.431	24	.932	0	.000	0	.000	.000	.000
1228.0	88	5	4	102	98	38	35	4877	17	3	2	0	1	463	18.878	.000	1.888	2.077	16.764	0	.000	51	1.676	7	1.844	.000	.000
1229.0	88	5	4	102	98	38	35	4877	1	4	2	0	1	458	18.878	.000	1.888	1.888	16.764	0	.000	51	1.676	5	1.676	.000	.000
837.0	89	1	1	102	98	25	22	3353	0	0	0	0	0	720	8.652	.692	.000	.000	7.334	25	.587	0	.000	0	.000	.000	.000
838.0	89	1	2	102	98	25	22	4877	0	0	0	0	0	720	12.585	1.825	.000	.000	10.668	23	1.547	0	.000	0	.000	.000	.000
841.0	89	1	4	102	98	38	35	4877	4	5	1	0	3	586	18.878	.000	2.171	2.360	16.764	0	.000	8	1.928	11	2.095	.000	.000
842.0	89	1	4	102	98	38	35	4877	0	4	4	11	3	533	18.878	.000	2.171	2.171	16.764	0	.000	8	1.928	8	1.928	.000	.000
843.0	89	1	4	102	98	38	35	4877	6	4	1	0	2	509	18.878	.000	1.888	2.077	16.764	0	.000	5	1.676	7	1.844	.000	.000
844.0	89	1	4	102	98	38	35	4877	2	3	3	0	1	503	18.878	.000	1.888	1.888	16.764	0	.000	51	1.676	5	1.676	.000	.000
843.1	89	1	4	102	98	38	35	4877	8	9	2	0	1	471	18.878	.000	1.888	1.888	16.764	0	.000	51	1.676	5	1.676	.000	.000
839.0	89	1	3	152	149	25	22	3048	0	0	0	0	0	662	11.799	1.711	.000	.000	10.109	23	1.466	0	.000	0	.000	.000	.000

846.0	89	1	4	152	149	38	35	3962	0	10	0	10	3	604	23.007	.000	2.646	2.876	20.651	0	.000	8	2.375	11	2.581	.000	.000
840.0	89	1	4	152	149	38	35	4877	0	7	0	11	2	541	28.317	.000	3.115	3.540	25.416	0	.000	7	2.796	11	3.177	.000	.000
845.0	89	1	4	203	200	38	35	4877	5	4	3	0	2	566	37.756	.000	.000	.000	34.069	0	.000	0	.000	0	.000	.000	.000
1191.0	89	2	1	102	98	25	22	3962	0	0	0	0	0	706	10.226	1.483	.000	.000	8.668	23	1.257	0	.000	0	.000	.000	.000
1194.0	89	2	4	102	98	38	35	4877	3	9	4	11	3	531	18.878	.000	2.077	2.360	16.764	0	.000	7	1.844	11	2.095	.000	.000
1198.0	89	2	4	102	98	38	35	4877	3	2	2	0	3	503	18.878	.000	2.171	2.171	16.764	0	.000	8	1.928	8	1.928	.000	.000
1195.0	89	2	4	102	98	38	35	4877	0	1	4	0	2	479	18.878	.000	2.077	2.077	16.764	0	.000	7	1.844	7	1.844	.000	.000
1196.0	89	2	4	102	98	38	35	4877	11	3	3	0	1	453	18.878	.000	1.888	1.888	16.764	0	.000	51	1.676	5	1.676	.000	.000
1197.0	89	2	4	102	98	38	35	4877	15	1	3	0	1	446	18.878	.000	1.888	1.888	16.764	0	.000	51	1.676	5	1.676	.000	.000
1193.0	89	2	3	152	149	38	35	4572	5	2	1	0	3	552	26.547	.000	3.053	3.318	23.828	0	.000	8	2.740	11	2.978	.000	.000
1192.0	89	2	1	152	149	38	35	4877	0	2	0	10	3	512	28.317	.000	3.256	3.540	25.416	0	.000	8	2.923	11	3.177	.000	.000
1322.1	89	3	1	76	73	25	22	1829	0	0	0	0	0	647	3.540	.513	.000	.000	2.968	23	.430	0	.000	0	.000	.000	.000
1322.2	89	3	1	76	73	25	22	2134	0	0	0	0	0	682	4.130	.599	.000	.000	3.463	22	.502	0	.000	0	.000	.000	.000
1326.0	89	3	4	76	73	25	22	4877	0	0	0	0	0	706	9.439	1.369	.000	.000	7.915	23	1.148	0	.000	0	.000	.000	.000
1324.0	89	3	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
1323.0	89	3	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
1325.0	89	3	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
1327.0	89	3	3	127	124	25	22	3658	0	0	0	0	0	648	11.799	1.711	.000	.000	10.066	23	1.460	0	.000	0	.000	.000	.000
1328.0	89	3	3	152	149	38	35	4572	2	6	6	0	2	517	26.547	.000	2.920	3.053	23.828	0	.000	7	2.621	8	2.740	.000	.000
1320.0	89	4	4	102	98	25	22	3353	0	0	0	0	0	603	8.652	.692	.000	.000	7.334	25	.587	0	.000	0	.000	.000	.000
1321.0	89	4	3	102	98	25	22	4267	0	0	0	0	0	671	11.012	1.597	.000	.000	9.334	23	1.353	0	.000	0	.000	.000	.000
1319.0	89	4	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
1317.0	89	4	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
1318.0	89	4	4	102	98	38	35	4267	5	0	0	10	1	457	16.518	.000	1.652	1.817	14.668	0	.000	5	1.467	7	1.614	.000	.000
1316.0	89	4	1	127	124	25	22	3353	0	0	0	0	0	628	10.815	1.568	.000	.000	9.227	23	1.338	0	.000	0	.000	.000	.000
710.0	90	1	4	102	98	25	22	4572	0	0	0	0	0	568	11.799	.944	.000	.000	10.001	25	.800	0	.000	0	.000	.000	.000
708.0	90	1	4	102	98	38	35	4877	1	7	2	0	3	495	18.878	.000	2.077	2.171	16.764	0	.000	7	1.844	8	1.928	.000	.000
709.0	90	1	4	102	98	38	35	4877	5	8	5	10	2	462	18.878	.000	2.077	1.888	16.764	0	.000	7	1.844	5	1.676	.000	.000
706.0	90	1	4	102	98	38	35	4877	8	3	3	0	2	464	18.878	.000	2.077	1.888	16.764	0	.000	7	1.844	5	1.676	.000	.000
707.0	90	1	4	102	98	38	35	4877	10	8	10	0	1	438	18.878	.000	.944	1.510	16.764	0	.000	1	.838	4	1.341	.000	.000
702.0	90	1	1	127	124	25	22	4572	0	0	0	0	0	615	14.748	2.139	.000	.000	12.582	22	1.824	0	.000	0	.000	.000	.000
704.0	90	1	2	127	124	25	22	3048	0	0	0	0	0	650	9.832	1.426	.000	.000	8.388	23	1.216	0	.000	0	.000	.000	.000
713.0	90	1	4	152	149	25	22	3353	0	0	0	0	0	624	12.979	1.882	.000	.000	11.120	21	1.612	0	.000	0	.000	.000	.000
703.0	90	1	3	152	149	38	35	4877	0	8	6	11	3	566	28.317	.000	3.256	3.256	25.416	0	.000	8	2.923	8	2.923	.000	.000
705.0	90	1	4	203	200	38	35	4877	2	10	0	0	3	514	37.756	.000	4.342	4.342	34.069	0	.000	8	3.918	8	3.918	.000	.000
710.0	90	1	4	203	200	38	35	4877	2	1	1	0	2	485	37.756	.000	4.719	4.342	34.069	0	.000	11	4.259	8	3.918	.000	.000
712.0	90	1	4	203	200	38	35	4877	7	2	1	0	2	513	37.756	.000	4.153	4.342	34.069	0	.000	7	3.748	8	3.918	.000	.000
711.0	90	1	4	203	200	38	35	4877	3	5	1	0	1	485	37.756	.000	3.776	4.342	34.069	0	.000	51	3.407	8	3.918	.000	.000
606.0	90	2	1	102	98	25	22	1829	0	0	0	0	0	725	4.719	.684	.000	.000	4.000	23	.580	0	.000	0	.000	.000	.000
607.0	90	2	2	102	98	25	22	3658	0	0	0	0	0	764	9.439	.755	.000	.000	8.001	25	.640	0	.000	0	.000	.000	.000
614.0	90	2	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
610.0	90	2	4	102	98	38	35	4877	2	3	6	0	2	472	18.878	.000	2.360	2.171	16.764	0	.000	11	2.095	8	1.928	.000	.000
613.0	90	2	4	102	98	38	35	4877	12	3	2	0	1	407	18.878	.000	1.888	1.888	16.764	0	.000	51	1.676	5	1.676	.000	.000
611.0	90	2	4	102	98	38	35	4877	9	9	2	0	2	414	18.878	.000	1.888	1.888	16.764	0	.000	5	1.676	5	1.676	.000	.000
612.0	90	2	4	102	98	38	35	4877	9	5	2	0	1	405	18.878	.000	1.888	1.510	16.764	0	.000	51	1.676	4	1.341	.000	.000
608.0	90	2	4	152	149	25	22	4267	0	0	0	0	0	609	16.518	2.395	.000	.000	14.152	23	2.052	0	.000	0	.000	.000	.000
609.0	90	2	4	152	149	38	35	4877	5	8	3	11	3	474	28.317	.000	1.416	3.256	25.416	0	.000	1	1.271	8	2.923	.000	.000
605.0	90	2	4	203	200	38	35	4877	5	7	1	0	1	434	37.756	.000	3.776	4.153	34.069	0	.000	5	3.407	7	3.748	.000	.000
1426.0	90	3	3	76	73	25	22	4877	0	0	0	0	0	649	9.439	1.369	.000	.000	7.915	24	1.148	0	.000	0	.000	.000	.000
1425.0	90	3	4	102	98	25	22	4877	0	0	0	0	0	601	12.585	1.825	.000	.000	10.668	23	1.547	0	.000	0	.000	.000	.000
1424.0	90	3	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
1410.0	90	3	1	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
1421.0	90	3	4	102	98	38	35	4877	0	3	1	11	3	461	18.878	.000	1.888	2.171	16.764	0	.000	5	1.676	8	1.928	.000	.000
1423.0	90	3	4	102	98	38	35	4877	8	2	3	11	1	389	18.878	.000	.944	1.510	16.764	0	.000	1	.838	4	1.341	.000	.000

1422.0	90	3	4	102	98	38	35	4877	5	2	0	10	2	416	18.878	.000	.944	1.510	16.764	0	.000	1	.838	4	1.341	.000	.000
1427.0	90	3	3	152	149	38	35	4877	10	1	2	0	1	430	28.317	.000	2.832	3.115	25.416	0	.000	51	2.542	7	2.796	.000	.000
1447.0	90	4	1	76	73	25	22	4572	0	0	0	0	0	630	8.849	1.283	.000	.000	7.420	24	1.076	0	.000	0	.000	.000	.000
1451.0	90	4	4	102	98	25	22	4267	0	0	0	0	0	573	11.012	1.597	.000	.000	9.334	23	1.353	0	.000	0	.000	.000	.000
1452.0	90	4	3	102	98	38	35	4877	0	2	0	11	2	416	18.878	.000	1.888	2.171	16.764	0	.000	5	1.676	8	1.928	.000	.000
1448.0	90	4	4	102	98	38	35	4877	3	3	0	11	2	426	18.878	.000	.944	2.077	16.764	0	.000	1	.838	7	1.844	.000	.000
1449.0	90	4	4	102	98	38	35	4877	8	3	0	10	1	400	18.878	.000	.944	1.888	16.764	0	.000	1	.838	5	1.676	.000	.000
1450.0	90	4	4	102	98	38	35	4877	5	2	0	10	2	409	18.878	.000	.944	1.888	16.764	0	.000	1	.838	5	1.676	.000	.000

FILE TYL91

2538.0	91	1	2	76	73	25	22	3353	0	0	0	0	0	726	6.489	.941	.000	.000	6.442	23	.789	0	.000	0	.000	.000	.000
2536.0	91	1	1	76	73	25	22	3962	0	0	0	0	0	735	7.669	.614	.000	.000	6.431	25	.514	0	.000	0	.000	.000	.000
2543.0	91	1	4	102	98	25	22	4572	0	0	0	0	0	707	11.799	1.711	.000	.000	10.001	23	1.450	0	.000	0	.000	.000	.000
2539.0	91	1	3	102	98	38	35	4267	6	3	2	0	3	532	16.518	.000	2.065	1.817	14.668	0	.000	11	1.834	7	1.614	.000	.000
2542.0	91	1	4	102	98	38	35	4877	4	4	6	0	2	484	18.878	.000	2.077	1.888	16.764	0	.000	7	1.844	5	1.676	.000	.000
2541.0	91	1	4	102	98	38	35	4877	13	9	6	0	1	385	18.878	.000	.944	1.510	16.764	0	.000	1	.838	4	1.341	.000	.000
2540.0	91	1	4	102	98	38	35	4877	3	3	4	0	2	478	18.878	.000	.944	.944	16.764	0	.000	1	.838	1	.838	.000	.000
2640.0	91	2	4	76	73	25	22	4877	0	0	0	0	0	613	9.439	.755	.000	.000	7.915	25	.633	0	.000	0	.000	.000	.000
2643.0	91	2	4	76	73	25	22	4572	0	0	0	0	0	623	8.849	.708	.000	.000	7.420	25	.594	0	.000	0	.000	.000	.000
2642.0	91	2	4	76	73	25	22	4877	0	0	0	0	0	570	9.439	.755	.000	.000	7.915	25	.633	0	.000	0	.000	.000	.000
2641.0	91	2	4	76	73	25	22	4877	0	0	0	0	0	565	9.439	.755	.000	.000	7.915	25	.633	0	.000	0	.000	.000	.000
2644.0	91	2	4	127	124	25	22	3353	0	0	0	0	0	571	10.815	1.568	.000	.000	9.227	23	1.338	0	.000	0	.000	.000	.000
2452.0	91	3	4	102	98	38	35	4572	8	4	4	0	1	438	17.698	.000	1.770	1.770	15.716	0	.000	51	1.572	5	1.572	.000	.000
2451.0	91	3	4	102	98	38	35	4877	13	2	3	0	1	424	18.878	.000	1.888	1.888	16.764	0	.000	51	1.676	5	1.676	.000	.000
2682.0	92	1	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
2679.0	92	1	4	102	98	38	35	4877	10	7	4	0	2	465	18.878	.000	.000	.000	16.764	0	.000	0	.000	0	.000	.000	.000
2675.0	92	1	2	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
2678.0	92	1	4	102	98	38	35	4877	4	2	1	0	3	542	18.878	.000	2.077	2.171	16.764	0	.000	7	1.844	8	1.928	.000	.000
2681.0	92	1	4	102	98	38	35	4877	10	9	4	0	2	475	18.878	.000	1.888	1.510	16.764	0	.000	51	1.676	4	1.341	.000	.000
2680.0	92	1	4	102	98	38	35	4877	30	3	7	0	1	459	18.878	.000	1.888	.944	16.764	0	.000	51	1.676	1	.838	.000	.000
2677.0	92	1	3	178	175	25	22	3353	0	0	0	0	0	654	15.142	2.196	.000	.000	13.012	23	1.887	0	.000	0	.000	.000	.000
2676.0	92	1	3	203	200	38	35	4572	3	1	6	0	2	511	35.396	.000	3.540	3.894	31.939	0	.000	5	3.194	7	3.513	.000	.000
2710.0	92	2	4	76	73	25	22	3048	0	0	0	0	0	667	5.899	.855	.000	.000	4.947	23	.717	0	.000	0	.000	.000	.000
2709.0	92	2	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
2708.0	92	2	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
2706.0	92	2	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
2707.0	92	2	4	102	98	38	35	4877	18	10	3	0	1	427	18.878	.000	1.888	1.510	16.764	0	.000	51	1.676	4	1.341	.000	.000
2712.0	92	2	3	127	124	25	22	4877	0	0	0	0	0	599	15.732	2.281	.000	.000	13.421	23	1.946	0	.000	0	.000	.000	.000
2711.0	92	2	3	152	149	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	28.317	25.416
2638.0	92	3	4	76	73	25	22	4877	1	1	3	0	0	640	9.439	1.369	.000	.000	7.915	23	1.148	0	.000	0	.000	.000	.000
2624.0	92	3	1	102	98	25	22	3658	0	0	0	0	0	670	9.439	.000	.000	.000	8.001	0	.000	0	.000	10	.000	.000	.000
2637.0	92	3	4	102	98	38	35	4877	23	3	2	10	2	435	18.878	.000	1.888	1.888	16.764	0	.000	5	1.676	5	1.676	.000	.000
2635.0	92	3	4	102	98	38	35	4877	5	3	3	0	2	450	18.878	.000	1.888	1.888	16.764	0	.000	51	1.676	5	1.676	.000	.000
2636.0	92	3	4	102	98	38	35	4877	32	15	4	0	1	461	18.878	.000	1.888	1.510	16.764	0	.000	51	1.676	4	1.341	.000	.000
2639.0	92	3	3	102	98	38	35	4877	24	3	5	0	2	548	18.878	.000	.944	.944	16.764	0	.000	1	.838	1	.838	.000	.000
2636.1	92	3	4	102	98	38	35	4572	25	3	1	0	1	414	17.698	.000	1.770	.885	15.716	0	.000	51	1.572	1	.786	.000	.000
2456.0	92	4	4	102	98	25	22	3353	0	0	0	0	0	542	8.652	1.255	.000	.000	7.334	23	1.063	0	.000	0	.000	.000	.000
2454.0	92	4	4	102	98	38	35	4877	30	3	1	0	1	444	18.878	.000	1.888	1.888	16.764	0	.000	51	1.676	5	1.676	.000	.000
2455.0	92	4	4	102	98	38	35	4877	42	2	2	0	1	406	18.878	.000	1.888	.944	16.764	0	.000	51	1.676	1	.838	.000	.000
2514.0	93	1	3	102	98	25	22	2134	0	0	0	0	0	657	5.506	.798	.000	.000	4.667	23	.677	0	.000	0	.000	.000	.000
2504.0	93	1	4	102	98	38	35	4572	6	3	4	0	2	521	17.698	.000	1.947	1.947	15.716	0	.000	7	1.729	7	1.729	.000	.000
2502.0	93	1	3	102	98	38	35	4877	1	6	6	10	2	505	18.878	.000	2.171	2.077	16.764	0	.000	8	1.928	7	1.844	.000	.000
2506.0	93	1	4	102	98	38	35	4572	2	3	6	10	2	529	17.698	.000	.885	1.770	15.716	0	.000	1	.786	5	1.572	.000	.000
2505.0	93	1	4	102	98	38	35	4877	13	5	5	0	1	481	18.878	.000	1.888	.944	16.764	0	.000	51	1.676	1	.838	.000	.000
2503.0	93	1	4	102	98	38	35	4877	22	11	5	0	1	477	18.878	.000	1.888	.944	16.764	0	.000	51	1.676	1	.838	.000	.000
2515.0	93	1	2	127	124	25	22	3962	0	0	0	0	0	700	12.782	1.853	.000	.000	10.905	23	1.581	0	.000	0	.000	.000	.000
2513.0	93	1	3	152	149	38	35	4877	7	5	1	10	1	495	28.317	.000	1.416	2.265	25.416	0	.000	1	1.271	4	2.033	.000	.000
2606.0	93	2	1	102	98	25	22	3658	0	0	0	0	0	679	9.439	1.369	.000	.000	8.001	23	1.160	0	.000	0	.000	.000	.000
2605.0	93	2	4	102	98	25	22	2743	0	0	0	0	0	612	7.079	.566	.000	.000	6.001	25	.480	0	.000	0	.000	.000	.000
2604.0	93	2	4	102	98	25	22	4877	0	0	0	0	0	415	12.585	1.007	.000	.000	10.668	25	.853	0	.000	0	.000	.000	.000
2605.1	93	2	4	102	98	38	35	4877	45	17	3	0	1	495	18.878	.000	.944	.944	16.764	0	.000	1	.838	1	.838	.000	.000
2603.0	93	2	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
2598.0	93	2	2	102	98	38	35	3658	6	1	2	0	2	488	14.158	.000	.708	1.557	12.573	0	.000	1	.629	7	1.383	.000	.000
2602.0	93	2	4	102	98	38	35	4877	12	5	3	0	1	491	18.878	.000	1.888	1.510	16.764	0	.000	51	1.676	4	1.341	.000	.000

2686.0	93	3	4	76	73	25	22	4877	0	0	0	0	0	607	9.439	1.369	.000	.000	7.915	22	1.148	0	.000	0	.000	.000	.000
2683.0	93	3	3	76	73	25	22	4877	0	0	0	0	0	618	9.439	1.369	.000	.000	7.915	23	1.148	0	.000	0	.000	.000	.000
2684.0	93	3	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
2685.0	93	3	4	102	98	38	35	4877	25	9	2	0	1	451	18.878	.000	1.888	1.510	16.764	0	.000	51	1.676	4	1.341	.000	.000
2672.0	94	1	4	102	98	25	22	4572	0	0	0	0	0	617	11.799	1.711	.000	.000	10.001	23	1.450	0	.000	0	.000	.000	.000
2669.0	94	1	1	102	98	25	22	2438	0	0	0	0	0	726	6.293	.912	.000	.000	5.334	23	.773	0	.000	0	.000	.000	.000
2674.0	94	1	3	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
2670.0	94	1	4	102	98	38	35	4877	9	13	3	10	1	489	18.878	.000	1.888	1.510	16.764	0	.000	51	1.676	4	1.341	.000	.000
2671.0	94	1	4	102	98	38	35	4572	21	9	3	0	1	442	17.698	.000	1.770	.885	15.716	0	.000	51	1.572	1	.786	.000	.000
2652.0	94	2	4	102	98	25	22	3962	0	0	0	0	0	664	10.226	1.483	.000	.000	8.668	23	1.257	0	.000	0	.000	.000	.000
2651.0	94	2	4	102	98	38	35	3658	7	3	3	12	1	446	14.158	.000	1.416	1.416	12.573	0	.000	51	1.257	5	1.257	.000	.000
2650.0	94	2	4	102	98	38	35	3962	7	3	5	0	1	470	15.338	.000	1.534	1.227	13.621	0	.000	51	1.362	4	1.090	.000	.000
2507.0	95	1	1	76	73	25	22	3962	0	0	0	0	0	733	7.669	1.112	.000	.000	6.431	23	.932	0	.000	0	.000	.000	.000
2512.0	95	1	4	102	98	38	35	4267	4	4	4	0	2	528	16.518	.000	1.652	1.900	14.668	0	.000	5	1.467	8	1.687	.000	.000
2509.0	95	1	4	102	98	38	35	4877	19	4	2	0	2	467	18.878	.000	1.888	1.888	16.764	0	.000	5	1.676	5	1.676	.000	.000
2511.0	95	1	4	102	98	38	35	4877	15	4	6	0	2	433	18.878	.000	2.077	.944	16.764	0	.000	7	1.844	1	.838	.000	.000
2510.0	95	1	4	102	98	38	35	4877	22	5	10	0	1	424	18.878	.000	1.888	.944	16.764	0	.000	51	1.676	1	.838	.000	.000
2508.0	95	1	2	127	124	25	22	3658	0	0	0	0	0	647	11.799	1.711	.000	.000	10.066	23	1.460	0	.000	0	.000	.000	.000
2668.0	95	2	4	102	98	25	22	4877	0	0	0	0	0	567	12.585	1.825	.000	.000	10.668	23	1.547	0	.000	0	.000	.000	.000
2667.0	95	2	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
2666.0	95	2	4	102	98	38	35	4877	24	5	2	0	1	425	18.878	.000	.944	1.510	16.764	0	.000	1	.838	4	1.341	.000	.000
2665.0	95	2	3	127	124	25	22	2743	0	0	0	0	0	531	8.849	1.283	.000	.000	7.549	22	1.095	0	.000	0	.000	.000	.000
2497.0	95	3	3	76	73	25	22	4267	0	0	0	0	0	671	8.259	1.198	.000	.000	6.926	23	1.004	0	.000	0	.000	.000	.000
2500.0	95	3	4	102	98	25	22	4877	0	0	0	0	0	574	12.585	1.007	.000	.000	10.668	25	.853	0	.000	0	.000	.000	.000
2498.0	95	3	4	102	98	38	35	4877	26	3	3	0	1	418	18.878	.000	1.888	1.888	16.764	0	.000	51	1.676	5	1.676	.000	.000
2499.0	95	3	4	102	98	38	35	4877	23	2	9	0	1	424	18.878	.000	1.888	.944	16.764	0	.000	51	1.676	1	.838	.000	.000
2527.0	95	4	4	102	98	38	35	4267	18	2	4	0	1	426	16.518	.000	1.652	1.817	14.668	0	.000	51	1.467	7	1.614	.000	.000
2528.0	95	4	4	102	98	38	35	4572	22	2	5	10	1	426	17.698	.000	1.770	1.770	15.716	0	.000	51	1.572	5	1.572	.000	.000
2558.0	96	1	4	76	73	25	22	3962	0	0	0	0	0	543	7.669	1.112	.000	.000	6.431	23	.932	0	.000	0	.000	.000	.000
2548.0	96	1	1	76	73	25	22	3048	0	0	0	0	0	646	5.899	.855	.000	.000	4.947	23	.717	0	.000	0	.000	.000	.000
2553.0	96	1	3	102	98	25	22	2438	0	0	0	0	0	628	6.293	.912	.000	.000	5.334	22	.773	0	.000	0	.000	.000	.000
2555.0	96	1	4	102	98	38	35	4877	0	4	4	0	2	472	18.878	.000	2.077	2.171	16.764	0	.000	7	1.844	8	1.928	.000	.000
2554.0	96	1	3	102	98	38	35	4572	2	3	3	0	3	447	17.698	.000	2.035	1.947	15.716	0	.000	8	1.807	7	1.729	.000	.000
2556.0	96	1	4	102	98	38	35	4877	20	1	1	0	1	400	18.878	.000	1.888	1.888	16.764	0	.000	51	1.676	5	1.676	.000	.000
2557.0	96	1	4	102	98	38	35	4877	36	4	4	0	1	392	18.878	.000	1.888	.944	16.764	0	.000	51	1.676	1	.838	.000	.000
2657.0	96	2	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
2656.0	96	2	3	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
2658.0	96	2	4	102	98	38	35	4877	21	1	1	0	1	379	18.878	.000	1.888	1.888	16.764	0	.000	51	1.676	5	1.676	.000	.000
2659.0	96	2	4	102	98	38	35	4877	1	2	1	0	2	468	18.878	.000	2.171	1.888	16.764	0	.000	8	1.928	5	1.676	.000	.000
2479.0	96	3	4	102	98	25	22	3658	0	0	0	0	0	497	9.439	.755	.000	.000	8.001	25	.640	0	.000	0	.000	.000	.000
2477.0	96	3	4	102	98	38	35	4877	10	2	1	0	2	403	18.878	.000	1.888	2.077	16.764	0	.000	5	1.676	7	1.844	.000	.000
2478.0	96	3	4	102	98	38	35	4572	51	6	6	0	1	373	17.698	.000	.885	.885	15.716	0	.000	1	.786	1	.786	.000	.000
2468.0	97	1	4	76	73	25	22	3962	0	0	0	0	0	717	7.669	1.112	.000	.000	6.431	24	.932	0	.000	0	.000	.000	.000
2463.0	97	1	1	76	73	25	22	4267	0	0	0	0	0	760	8.259	1.198	.000	.000	6.926	22	1.004	0	.000	0	.000	.000	.000
2465.0	97	1	4	102	98	38	35	4877	12	2	4	0	2	497	18.878	.000	1.888	1.888	16.764	0	.000	5	1.676	5	1.676	.000	.000
2466.0	97	1	4	102	98	38	35	4877	18	12	2	9	1	445	18.878	.000	1.888	1.510	16.764	0	.000	51	1.676	4	1.341	.000	.000
2467.0	97	1	4	102	98	38	35	4877	13	2	4	0	1	465	18.878	.000	1.888	.944	16.764	0	.000	51	1.676	1	.838	.000	.000
2464.0	97	1	3	127	124	25	22	4572	0	0	0	0	0	613	14.748	2.139	.000	.000	12.582	23	1.824	0	.000	0	.000	.000	.000
2561.0	97	2	4	76	73	25	22	4877	0	0	0	0	0	578	9.439	1.369	.000	.000	7.915	23	1.148	0	.000	0	.000	.000	.000
2552.0	97	2	1	76	73	25	22	4267	0	0	0	0	0	602	8.259	1.198	.000	.000	6.926	23	1.004	0	.000	0	.000	.000	.000
2559.0	97	2	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
2560.0	97	2	4	102	98	38	35	4877	27	4	3	0	1	428	18.878	.000	.944	.944	16.764	0	.000	1	.838	1	.838	.000	.000
2551.0	97	3	4	102	98	38	35	4877	28	4	3	0	1	419	18.878	.000	1.888	1.888	16.764	0	.000	51	1.676	5	1.676	.000	.000
2550.0	97	3	4	102	98	38	35	4877	22	2	1	0	1	428	18.878	.000	1.888	1.888	16.764	0	.000	51	1.676	5	1.676	.000	.000

2617.0	98	1	3	76	73	25	22	3353	0	0	0	0	0	782	6.489	.941	.000	.000	5.442	23	.789	0	.000	0	.000	.000	.000
2625.0	98	1	1	102	98	25	22	3658	0	0	0	0	0	726	9.439	1.369	.000	.000	8.001	23	1.160	0	.000	0	.000	.000	.000
2618.0	98	1	3	102	98	38	35	4267	4	2	3	0	3	542	16.518	.000	1.900	1.900	14.668	0	.000	8	1.687	8	1.687	.000	.000
2628.0	98	1	4	102	98	38	35	4877	1	3	7	0	1	487	18.878	.000	1.888	1.510	16.764	0	.000	51	1.676	4	1.341	.000	.000
2626.0	98	1	4	102	98	38	35	4877	9	4	6	0	2	505	18.878	.000	1.888	.944	16.764	0	.000	51	1.676	1	.838	.000	.000
2627.0	98	1	4	102	98	38	35	4877	18	14	4	0	1	437	18.878	.000	.944	.944	16.764	0	.000	1	.838	1	.838	.000	.000
2698.0	98	2	3	102	98	25	22	4877	0	0	0	0	0	615	12.585	1.825	.000	.000	10.668	23	1.547	0	.000	0	.000	.000	.000
2701.0	98	2	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
2699.0	98	2	4	102	98	38	35	4877	3	3	1	0	2	480	18.878	.000	2.077	2.171	16.764	0	.000	7	1.844	8	1.928	.000	.000
2700.0	98	2	4	102	98	38	35	4877	20	2	2	0	1	416	18.878	.000	1.888	1.888	16.764	0	.000	51	1.676	5	1.676	.000	.000
2655.0	98	3	4	102	98	25	22	4877	0	0	0	0	0	570	12.585	1.825	.000	.000	10.668	23	1.547	0	.000	0	.000	.000	.000
2653.0	98	3	4	102	98	38	35	4877	2	3	1	0	2	465	18.878	.000	1.888	2.171	16.764	0	.000	5	1.676	8	1.928	.000	.000
2654.0	98	3	4	102	98	38	35	4877	30	3	2	0	1	403	18.878	.000	1.888	1.510	16.764	0	.000	51	1.676	4	1.341	.000	.000
2597.0	99	1	3	76	73	25	22	4572	0	0	0	0	0	721	8.849	1.283	.000	.000	7.420	22	1.076	0	.000	0	.000	.000	.000
2595.0	99	1	1	76	73	25	22	2743	0	0	0	0	0	703	5.309	.770	.000	.000	4.452	23	.646	0	.000	0	.000	.000	.000
2589.0	99	1	2	76	73	25	22	3353	0	0	0	0	0	701	6.489	.941	.000	.000	5.442	23	.789	0	.000	0	.000	.000	.000
2588.0	99	1	4	102	98	25	22	4267	0	0	0	0	0	648	11.012	1.597	.000	.000	9.334	23	1.353	0	.000	0	.000	.000	.000
2584.0	99	1	4	102	98	38	35	4877	3	3	1	0	2	509	18.878	.000	2.360	2.077	16.764	0	.000	11	2.095	7	1.844	.000	.000
2587.0	99	1	4	102	98	38	35	4572	6	2	4	0	2	483	17.698	.000	1.947	.885	15.716	0	.000	7	1.729	1	.786	.000	.000
2586.0	99	1	4	102	98	38	35	4572	22	5	3	0	1	434	17.698	.000	1.770	.885	15.716	0	.000	51	1.572	1	.786	.000	.000
2585.0	99	1	4	102	98	38	35	4572	21	4	6	0	1	478	17.698	.000	.885	.885	15.716	0	.000	1	.786	1	.786	.000	.000
2583.0	99	1	1	152	149	25	22	3048	0	0	0	0	0	594	11.799	1.711	.000	.000	10.109	23	1.466	0	.000	0	.000	.000	.000
2596.0	99	1	3	152	149	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	28.317	25.416
2623.0	99	2	1	102	98	25	22	4267	0	0	0	0	0	692	11.012	1.597	.000	.000	9.334	22	1.353	0	.000	0	.000	.000	.000
2629.0	99	2	3	102	98	25	22	4267	0	0	0	0	0	663	11.012	1.597	.000	.000	9.334	23	1.353	0	.000	0	.000	.000	.000
2634.0	99	2	4	102	98	25	22	4877	0	0	0	0	0	658	12.585	1.825	.000	.000	10.668	23	1.547	0	.000	0	.000	.000	.000
2631.0	99	2	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
2633.0	99	2	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
2632.0	99	2	4	102	98	38	35	4877	30	9	2	0	1	413	18.878	.000	1.888	1.888	16.764	0	.000	51	1.676	5	1.676	.000	.000
2630.0	99	2	3	152	149	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	28.317	25.416
2702.0	99	3	3	102	98	25	22	4877	0	0	0	0	0	631	12.585	1.825	.000	.000	10.668	22	1.547	0	.000	0	.000	.000	.000
2705.0	99	3	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
2703.0	99	3	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
2704.0	99	3	4	102	98	38	35	4877	21	5	4	0	1	448	18.878	.000	1.888	2.077	16.764	0	.000	51	1.676	7	1.844	.000	.000
2715.0	99	4	4	76	73	25	22	2743	0	0	0	0	0	622	5.309	.770	.000	.000	4.452	23	.646	0	.000	0	.000	.000	.000
2713.0	99	4	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
2714.0	99	4	4	102	98	38	35	4267	17	2	3	0	1	441	16.518	.000	1.900	1.817	14.668	0	.000	8	1.687	7	1.614	.000	.000
2575.0	100	1	1	76	73	25	22	2743	0	0	0	0	0	874	5.309	.770	.000	.000	4.452	23	.646	0	.000	0	.000	.000	.000
2580.0	100	1	4	76	73	25	22	4877	0	0	0	0	0	640	9.439	1.369	.000	.000	7.915	23	1.148	0	.000	0	.000	.000	.000
2579.0	100	1	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
2577.0	100	1	4	102	98	38	35	4877	10	8	12	11	2	577	18.878	.000	1.888	2.171	16.764	0	.000	5	1.676	8	1.928	.000	.000
2576.0	100	1	4	102	98	38	35	4267	4	2	1	0	2	504	16.518	.000	1.652	1.817	14.668	0	.000	5	1.467	7	1.614	.000	.000
2578.0	100	1	4	102	98	38	35	4877	19	7	1	0	2	475	18.878	.000	.944	.944	16.764	0	.000	1	.838	1	.838	.000	.000
2582.0	100	1	3	127	124	25	22	4877	0	0	0	0	0	643	15.732	2.281	.000	.000	13.421	23	1.946	0	.000	0	.000	.000	.000
2594.0	100	1	2	127	124	25	22	4267	0	0	0	0	0	629	13.765	1.996	.000	.000	11.743	23	1.703	0	.000	0	.000	.000	.000
2581.0	100	1	3	152	149	38	35	4877	7	11	0	11	1	515	28.317	.000	1.416	2.832	25.416	0	.000	1	1.271	5	2.542	.000	.000
2693.0	100	2	4	76	73	25	22	4572	0	0	0	0	0	627	8.849	.708	.000	.000	7.420	25	.594	0	.000	0	.000	.000	.000
2689.0	100	2	4	102	98	25	22	3962	0	0	0	0	0	584	10.226	1.483	.000	.000	8.668	23	1.257	0	.000	0	.000	.000	.000
2692.0	100	2	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
2690.0	100	2	4	102	98	38	35	4877	9	3	2	12	2	409	18.878	.000	.944	1.510	16.764	0	.000	1	.838	4	1.341	.000	.000
2691.0	100	2	4	102	98	38	35	4877	28	12	2	0	1	379	18.878	.000	1.888	.944	16.764	0	.000	51	1.676	1	.838	.000	.000
2688.0	100	2	2	127	124	25	22	3658	0	0	0	0	0	542	11.799	1.711	.000	.000	10.066	23	1.460	0	.000	0	.000	.000	.000
2687.0	100	2	3	152	149	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	28.317	25.416
2537.0	100	3	2	76	73	25	22	4267	0	0	0	0	0	580	8.259	1.198	.000	.000	6.926	23	1.004	0	.000	0	.000	.000	.000

2547.0	100	3	4	102	98	25	22	4267	0	0	0	0	0	552	11.012	1.597	.000	.000	9.334	23	1.353	0	.000	0	.000	.000	.000
2544.0	100	3	4	102	98	38	35	4877	10	4	3	0	2	440	18.878	.000	2.171	2.077	16.764	0	.000	8	1.928	7	1.844	.000	.000
2549.0	100	3	3	102	98	38	35	4877	3	4	5	0	3	454	18.878	.000	2.077	2.077	16.764	0	.000	7	1.844	7	1.844	.000	.000
2546.0	100	3	4	102	98	38	35	4877	28	1	11	10	1	397	18.878	.000	1.888	1.888	16.764	0	.000	51	1.676	5	1.676	.000	.000
2545.0	100	3	4	102	98	38	35	4877	38	3	2	0	1	384	18.878	.000	1.888	1.510	16.764	0	.000	51	1.676	4	1.341	.000	.000

APPENDIX F

Computer Program TDGYLP

```
1000.   READ A$,B$
1010.   FILE RESTORE #1=A$
1011.    FILE SCRATCH WIDTH(144,144) #2=B$
1014.    PRINT #2
1015.    PRINT #2
1016.    PRINT#2
1018.    PRINT #2 USING 2900;
1019.    PRINT#2 USING 2910
1022.   PRINT #2 USING 2920;
1023.   PRINT #2 USING 2930
1024.    PRINT#2 USING 2940
1025.    A2=S3=S4=0
1026.   D1=E1=F1=F9=G1=G6=G7=G8=G9=H1=H6=H7=H8=H9=0
1027.   I1=I2=J1=J9=K1=K7=K8=K9=L1=L7=L8=L9=M1=M6=M8=0
1028.   N1=N6=N8=R1=R2=R3=R4=S1=S2=U9=V1=W1=W3=Z9=0
1030.   Z9=0
1040.   Z9=Z9+1
1050.   IF Z9>100 GOTO 2550
1060.   IF END #1 GOTO 1505
1065.    IF A1<>A OR B1<>B GOTO 1072
1070.   INPUT #1,C,A,B,C,C,C,C,P,C,C,C,C,C,C,D,E,F,G,H,I,C,J,C,K,C,L,M,N
1072.   IF Z9=1 GOTO 1080
1073.   IF A1<>A ORB1<>B GOTO 1505
1075.   IF Z9>1 GOTO 1200
1080.   A1=A
1090.   B1=B
1095.    IF D=0 OR I=0 GOTO 1101
1096.   W1=D*I
1097.   I2=I
1101.   E1=E 'SAWN VOLUME CUB M
1102.   F1=F 'BOARD VALUE
1103.   G1=G 'SCANTLING VIS GRADE VALUE
1104.   H1=H 'SCANT MSG VAL
1105.   I1=I 'MACHINED VOL
1106.   J1=J 'MACHBOARD VAL
1107.   K1=K 'SCANT VIS VAL
1108.   L1=L 'SCANT MSG VAL
1109.   M1=M 'PROJECTED EXTRA SAWN VOLUME
1110.   N1=N 'PROJ EXTRA MACHINED VOL
```

```
1120.     IF P=35 GOTO 1150
1125.     R1=M
1130.     R2=N
1132.     R3=E
1133.     R4=I
1135.      GOTO 1040
1150.     S1=M
1155.     S2=N
1156.     S3=E
1157.     S4=I
1160.     GOTO 1040
1200.      IF D=0 OR I=0 GOTO 1240
1220.     W=D*I
1222.     W1=W1+W 'SUM OF WEIGHTS
1223.     I2=I2+I
1240.     E1=E1+E
1250.     F1=F1+F
1260.     G1=G1+G
1270.     H1=H1+H
1280.     I1=I1+I
1290.     J1=J1+J
1300.     K1=K1+K
1310.     L1=L1+L
1320.     M1=M1+M
1330.     N1=N1+N
1340.     IF P=35 GOTO 1400
1350.     R1=R1+M
1360.     R2=R2+N
1365.     R3=R3+E
1366.     R4=R4+I
1370.     GOTO 1500
1400.     S1=S1+M
1410.     S2=S2+N
1415.     S3=S3+E
1420.     S4=S4+I
1500.      GOTO 1040
```

```
1505.      IF I2<>0 GOTO 1507
1506.      I2=1
1507.      D1=W1/I2
1508.      K7=J1+K1
1509.      L7=J1+L1
1510.     G7=F1+G1
1520.     H7=F1+H1
1525.      IF I1=0 OR E1=0 GOTO 2500
1530.     U9=(R2+S2)*100/I1
1540.     M8=E1+M1
1550.     F9=F1+115*R1/1000
1560.     G9=G1+100*S1/1000
1570.     H9=H1+100*S1/1000
1580.     G8=F9+G9
1590.     H8=F9+H9
1600.     N8=I1+N1
1610.     J9=J1+115*R2/1000
1620.     K9=K1+100*S2/1000
1630.     L9=L1+100*S2/1000
1640.     K8=J9+K9
1650.     L8=J9+L9
1660.     M6=(R1+R3)*100/M8
1670.     N6=(R2+R4)*100/N8
1680.      G6=(K8-K7)*100/K7
1690.      H6=(L8-L7)*100/L7
2000.     PRINT #2 USING 3000,A1,B1,D1,E1,F1,G1,H1,G7,H7;
2005.     PRINT #2 USING 3005,I1,J1,K1,L1,K7,L7
2010.     PRINT #2 USING 3010,R3*100/E1,F1*100/G7,F1*100/H7,R4*100/I1;
2020.     PRINT #2 USING 3020,J1*100/K7,J1*100/L7
2030.     PRINT #2 USING 3000,A1,B1,D1,M8,F9,G9,H9,G8,H8;
2040.     PRINT #2 USING 3005,N8,J9,K9,L9,K8,L8
2050.     PRINT #2 USING 3010,M6,F9*100/G8,F9*100/H8,N6;
2060.     PRINT #2 USING 3020,J9*100/K8,J9*100/L8
```

```
2070.    PRINT #2 USING 3070,U9;
2080.    PRINT #2 USING 3080,G6,H6
2090.    PRINT #2
2500.    IF END #1 GOTO2550
2510.    GOTO 1025
2550.    FILES
2560.    STOP
2900.    :              *************SAWN RECOVERY************
2910.    :    ************DRESSED RECOVERY*********
2920.    :  T  L  D     VOL   BOARD SCANT  SCANT  TOTVAL TOTVAL
2930.    :    VOL   BOARD SCANT  SCANT  TOTVAL TOTVAL
2940.    :                    VAL  VISVAL MSGVAL   VIS    MSG                 VAL  VISVAL MSGVAL   VIS    MSG
3000.    : ### # ### ####.## ###.## ###.## ###.## ###.## ###.##
3005.    : ####.## ###.## ###.## ###.## ###.## ###.##
3010.    :          ###.#%                      ###.#% ###.#%  ###.#%
3020.    :                      ###.#% ###.#%
3070.    :                                                     ###.#%
3080.    :                      ###.#% ###.#%
```

APPENDIX G

Tree height, log diameter and branch size data

TREE No	TOP HT. (ft) GN. CROWN LEVEL	LOG POSN.	LOG END DIA. (ins)		BRANCH HT. (ft)	BRANCH DIA.(mm) AT GIVEN HT.
1	130	1	23	18	0	
	63				10	29 20 18
					15	26 41
		1			16	
		2	18	16	16	
					20	19
					28	17 09
					29	26 32 23
					31	32 22
		2			32	
		3	16	14	32	
					36	39 13 27 13 13 10 22 12 08
					38	38 26 25
					43	22 34 29 27 36
					45	16 15 22 13
		3			48	29 04 35 35
		4	14	13	49	30 20 18 12
					53	09 41 33 11 08 31
					54	20 22 14 25
					57	28 30
					59	18 38 33 11 14
					61	18 21 26 11 15 22
					63	30 36 43 22
		4			65	
		5	9	7	89	
					91	36 27 10 49 48
					94	14 18 40 52 04 12 14 09 11 09
					97	12 12 17 42 08 09 24 07 26
					98	18 16 37
					100	26 09 16 36 11 09 06 11 07 45 07 14 12 06 11 06 62
		5			105	40 29 31 52 11 45 12 10
2	133	1	24	19	0	
	51				9	08 07 13 09
					10	38 13 27 19
					12	25 26 18 32 28
		1			16	
		2	19	16	16	
					17	24 18 18 32 14 22 13 14
					19	12 36 29 28 32
					20	27 29 12 18
					23	10 09 18 08 10 05 11 10 06 10 10 08
					24	20 30 36 28 07 15 20 16 21 15 11
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					42	38	33	18	29	23			
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					45	35	41	38					
					46	10	09	10	23	18			
					47	18	10	16	23	15	18		
		3			48	10	10	25	10				
		4	09	07	49	44	39	32					
					50	28	30	26	15				
					51	36	21						
					52	26	31	11	12	10			
					55	68	57	11	45				
					56	26	24	20	19	31			
					57	11	17	38	06	12	11		
					58	32	58	66					
					62	32	21	33	08	12	15	07	11
		4			65								
80	107	1	13	10	0								
	55				8	15	12	17	18				

```
                 11 11 15 15 19 05
                 12 09 07 05 13
                 13 10 15 14 16
                 14 05 05 05 06 07
                 15 14 18 18 11 17 05
1                16
2 10 09          16 09 06 08 05 15 15
                 18 05 05 08 05 06 07
                 19 05 15 15 17 16
                 21 15 04 13
                 22 07 05 05 08 05 10 08 05
                 23 13 12 14 11
                 24 06 11 20 13
                 25 04 07
                 26 15 15 10 10
                 28 11 07 15
                 29 10 16 17 18
                 30 04 04 17 06 10
                 31 09 09 12 11
2                32 08 13 14 07 18
3 09 08          32 07 20 05 06 08 12
                 34 21 21 27 10 18
                 37 10 18 18 08
                 39 18 25 11
                 40 12 05 10 15 11 09 13 12 08 10
                 41 10 20 06 15 27 16 11 17
                 43 11 09 08 11
                 44 25 32 26 24
                 45 05 07 09 08 06 10 24 18 16 08 08 10 05 23
                 47 09 06 10 07 07 13 37
3                48 09 11 10 09 12 24 10 09
4 08 06          49
                 50 17 06 10 10 20 23 07 10 11
                 51 25 06 09 09 19 09 19 05 11
                 53 07 12 05 10 09
                 54 28 21 15 07
                 55 25 21 13 08 12 13
                 56 13 08 21 12
                 57 24 18 16 16 48
                 60 18 20 10 16 25 14 13 10 15
                 62 25 09
                 64 10 12 09 08 09 12 12 08
4                65 15 22 11 25 14 13
```

APPENDIX H

Computer program TMAGR

```
10000.   DIM K(30),J(30),L(30),N(15)
10010.       DIM A(1000,2),B(1000,5),C(1000,5),P(1000)
10020.       DIM D(41),F(41),M(41)
10021.       DIM E(1,400)
10025.  FOR I=1 TO 500
10026.  A(I,1)=10
10027.  NEXT I
10030.       READ F 'NO.FILES
10040.        FOR I=1 TO F
10050.       READ G(I)$ 'FILES
10060.       NEXT I
10070.       READ H 'NO  GROUPS
10080.       FOR I=1 TO H
10090.        READ K(I),L(I)
10100.       NEXT I
10110.       READ K,M 'REG.BYPASS,FILE OUTPUT
10120.       IF M=0 GO TO 10150
10130.       READ M$
10140.       FILE APPEND #1=M$
10150.       FOR I=2 TO F+1
10160.        FILE RESTORE #I=G(I-1)$
10170.       NEXT I
10180.   N=N(1)=0
10181.   I=2
10182.  INPUT #I,01,02,03,04,05,06
10183.   07=08=09=0
10190.       FOR I=2 TO F+1
10200.       N=N+1
10210.  INPUT #I,A(N,2)
10240.  IF A(N,2)<>-99 GOTO 10260
10241.        IF END #I GOTO 10251
10251.        N=N-1
10252.        GOTO 10280
10260.       IF END #I GO TO 10280
10270.       GO TO 10200
10280.       NEXT I
```

```
10570.    REM SORT MOFE'S
10580.    FOR I=1 TO H
10590.    IF L(I)>K(I) GO TO 10630
10600.    L1=L(I)
10610.    L(I)=K(I)
10620.    K(I)=L1
10630.    NEXT I
10640.    FOR I=1 TO H
10650.    FOR I1=1 TO N
10660.    IF A(I1,1)<K(I) OR A(I1,1)>L(I) GO TO 10700
10670.    N(I)=N(I)+1       'NO IN GP I
10680.    B(N(I),I)=A(I1,1) 'ME (POSN GP I,GP NO)
10690.    C(N(I),I)=A(I1,2) 'MR
10700.    NEXT I1
10710.    NEXT I
10720.    REM FULL ANALYSIS ALL MR'S
10730.    FOR I1=1 TO H
10750.    Y8=C(1,I1)
10760.    W8=Y8
10770.    S8=Y8
10780.    S9=Y8*Y8
10790.    P(1)=LOG(Y8)
10800.    S1=P(1)
10810.    S2=P(1)^2
10820.    FOR I=2 TO N(I1)
10830.    P(I)=LOG(C(I,I1))
10840.    S1=S1+P(I) 'SUM LOG
10850.    S2=S2+P(I)^2
10860.    IF C(I,I1)<=Y8 GO TO 10890
10870.    Y8=C(I,I1) 'MAX MR
10880.    GO TO 10910
10890.    IF C(I,I1)>=W8 GO TO 10910
10900.    W8=C(I,I1) 'MIN MR
10910.    S8=S8+C(I,I1)
10920.    S9=S9+C(I,I1)*C(I,I1)
10930.    NEXT I
```

```
10940.        M8=S8/N(I1) 'MEAN MR
10950.        D8=SQR((S9-S8^2/N(I1))/(N(I1)-1)) 'SD MR
10960.        V8=(D8/M8)*100 'CV
10970.        M1=S1/N(I1) 'MEAN LOG
10980.        T8=U8=T1=U1=0
10990.        FOR I=1 TO N(I1)
11000.        T8=T8+(C(I,I1)-M8)^3
11010.        U8=U8+(C(I,I1)-M8)^4
11020.        NEXT I
11030.        D3=SQR((N(I1)-1)/N(I1))
11040.        T9=T8/(N(I1)*(D8*D3)^3)
11050.        U9=U8/(N(I1)*(D8*D3)^4)
11060.        D1=SQR((S2-S1^2/N(I1))/(N(I1)-1)) 'SD LOG
11070.        V1=D1/M1*100 'CV LOG
11080.        FOR I=1 TO N(I1)
11090.        T1=T1+(P(I)-M1)^3
11100.        U1=U1+(P(I)-M1)^4
11110.        NEXT I
11120.        T2=T1/(N(I1)*(D1*D3)^3)
11130.        U2=U1/(N(I1)*(D1*D3)^4)
11140.        I=2
11150.    E=2.5
11160.        D(1)=E*INT(W8/E)
11170.        F(1)=0
11180.        D(I)=D(I-1)+E
11190.        F(I)=0
11200.        IF I>40 GOTO 11370
11210.        IF D(I)>Y8 GO TO 11240 'I-1=NO GROUPS IN F DIST
11220.        I=I+1
11230.        GO TO 11180
11240.        FOR I2=1 TO N(I1)
11250.        FOR K=2 TO I
11260.        IF C(I2,I1)>=D(K-1) AND C(I2,I1)<D(K) GO TO 11280
11270.        NEXT K 'FREQ DIST
11280.        F(K-1)=F(K-1)+1
11290.        NEXT I2
```

```
11300.        M(1)=F(1)/N(I1)*100
11310.        FOR I2=2 TO I-1
11320.        M(I2)=0
11330.        NEXT I2
11340.        FOR I2=2 TO I-1
11350.        M(I2)=M(I2-1)+F(I2)/N(I1)*100 'CUM DIST
11360.        NEXT I2
11370.        GOSUB 12520
11380.    PRINT #M USING 12630,01,02,.3048*03,.3048*04,25.4*05,25.4*06
11390.        PRINT #M
11480.        PRINT #M USING 12640,N(I1),M8,M1
11490.        PRINT #M USING 12650,Y8,D8,D1
11500.        PRINT #M USING 12660,W8,V8,V1
11510.        PRINT #M USING 12670,T9,T2
11520.        PRINT #M USING 12680,U9,U2
11530.        PRINT #M
11540.        PRINT #M USING 12690,(M8-2*D8)
11550.        PRINT #M USING 12700,EXP(M1-2*D1)
11560.        PRINT #M
11561.        GO SUB 13000
11562.        PRINT #M USING 12701,L3
11563.        PRINT #M USING 12702
11564.        PRINT #M
11570.        IF I>40 GOTO 11650
11580.        PRINT #M USING 12710
11590.        FOR I2=1 TO I-1
11600.        PRINT #M USING 12720,D(I2),D(I2+1),F(I2),F(I2)/N(I1)*100,M(I2)
11610.        NEXT I2
11620.        PRINT #M
11630.        PRINT #M
11640.         GOTO 11667
11650.        PRINT #M,"GROUP HAS >40 DIST LEVELS"
11660.        PRINT #M
11667.         IF I7>1 GOTO 11670
11668.         GOTO 11676
11670.    PRINT #M," ORDERED ARRAY OF BRANCH SIZES IN MM."
```

```
11671.          PRINT #M
11672.          FOR I6=1 TO I7
11673.          PRINT #M,E(1,I6);
11674.          NEXT I6
11675.          PRINT #M
11676.          NEXT I1
11677.     IF I7>=15 GOTO 11680
11678.      07=08=09=0
11679.     GOTO 11748
11680.     FOR I6=I7-4 TO I7
11685.     07=07+E(1,I6)
11690.     NEXT I6
11695.     07=07/5
11710.     FOR I6=I7-9 TO I7
11715.     08=08+E(1,I6)
11720.     NEXT I6
11725.     08=08/10
11730.     FOR I6=I7-14 TO I7
11735.     09=09+E(1,I6)
11740.     NEXT I6
11745.     09=09/15
11748.      PRINT #M
11750.     PRINT #M USING 12801,07,08,09
11755.     PRINT #M
12460.          IF M=0 GOTO 12490
12470.     IF END #2 GOTO 12510
12480.           GOTO 12510
12490.          PRINT #M
12500.          PRINT #M
12510.     IF END #2 GOTO 12515
12513.     GOTO 10180
12515.     FILES
12516.     STOP
```

```
12520.      IF M=0 GOTO 12550
12530.      PRINT #M USING 12620
12540.       GOTO 12560
12550.      PRINT #M
12560.       PRINT #M," "DAT(1)
12570.      FOR I3=1 TO F
12580.       PRINT #M," "G(I3)$
12590.      NEXT I3
12600.      PRINT #M
12610.      RETURN
12620.      :1
12630. : TREE=### LOG=# HT=##.## GN CROWN HT=##.## DUB1=### DUB2=###
12640.      :    N=#####  MEAN=###.##  MEAN LN(X)=###.##
12650.      : MAX=###.## S.D.=###.##  S.D  LN(X)=###.##
12660.      : MIN=###.## C.V.=###.##% C.V  LN(X)=###.##%
12670.      :            SK.=###.##   SK  LN(X)=###.## (N DIST=0)
12680.      :           KUR.=###.##  KUR  LN(X)=###.#  (N DIST=3,RECT=1.8,EXP=9)
12690.      : NORMAL DIST 1/40 LOW PROB=###.## MPA
12700.      : LOG TRANSF  1/40 LOW PROB=###.## MPA
12701.      : ASTM D2915  1/40 LOW PROB=###.## MPA
12702.      : PEARSON     1/40 LOW PROB=
12710.      :     RANGE        FREQ  %FREQ  %CUM FREQ
12720.      : ###.# =<###.# #####   ###.#   ###.#
12801. : MEAN OF LARGEST 5 BRANCHES=##.# 10 BRANCHES=##.# 15 BRANCHES=##.#
13000. GOTO 13003
13003. A7=100
13005.      I7=Q=0
13010.      FOR I2=1 TO N(I1)
13020.      IF C(I2,I1) > A7 GO TO 13040
13025.      I7=I7+1
13030.      E(1,I7)=C(I2,I1)
13040.      NEXT I2
13050.       IF I7<=1 GOTO 13345
13060.      A1=E(1,1)
13070.      FOR J=2 TO I7
13080.      IF E(1,J)>=A1 GO TO 13100
13090.      A1=E(1,J)
13100.      NEXT J
13110.      K1=1
```

```
13120.          T3=99999999
13130.          FOR J=K1 TO I7
13140.          D9=A1-E(1,J)
13150.          IF D9=0 GOTO 13260
13160.          IF D9>0 GO TO 13300
13170.          T=E(1,J)
13180.          IF T>=T3 GO TO 13220
13190.          J1=J
13210.          T3=T
13220.          GO TO 13300
13260.          A3=E(1,K1)
13270.          E(1,K1)=E(1,J)
13280.          E(1,J)=A3
13290.          K1=K1+1
13300.          NEXT J
13310.          IF K1>I7 GO TO 13340
13320.          A1=E(1,J1)
13330.          GO TO 13120
13340.          REM
13345.           IF N(I1)>=40 AND I7>1 GOTO 13350
13346.           L3=0
13347.           GOTO 13500
13350.          Q=Q+1
13355.           IF Q>I7 GOTO 13346
13360.          Q1=Q/(N(I1)+1)
13370.          IF Q1>=0.025 GO TO 13385
13380.          GO TO 13350
13385.          Q2=Q-1
13390.          L3=(0.025*(N(I1)+1)-(Q2))*(E(1,Q)-E(1,Q2))+E(1,Q2)
13500.          RETURN
```

APPENDIX I

Data file T585R

1	1	457	584	479.76	7.8	55.80	50.94	0	2.3	1	5	26.80	41	26.8	0.	0.
1	2	406	457	378.77	7.6	40.92	40.52	0	0.	1	8	22.50	32	27.0	0.	0.
1	3	356	406	309.36	15.0	32.19	34.77	489	0.	2	25	22.50	39	36.6	32.9	29.7
1	4	330	356	220.06	5.5	21.93	25.04	474	0.	2	31	22.90	43	38.2	34.5	31.2
1	6	178	229	45.46	26.3	5.08	5.42	494	0.	3	52	21.30	62	52.6	47.5	42.9
2	1	483	610	520.14	9.0	56.72	55.68	0	0.	1	13	20.20	38	30.2	23.9	0.
2	2	406	483	432.80	10.1	46.13	44.91	0	0.	1	58	17.90	36	35.0	32.9	31.3
2	3	381	406	328.79	7.0	28.26	33.24	0	0.	1	48	20.70	43	41.2	38.3	34.6
2	4	356	381	262.70	16.2	23.41	27.76	495	0.	2	36	27.40	70	53.0	45.6	42.2
2	5	279	356	145.26	34.7	14.28	15.73	522	0.	2	34	32.70	96	73.8	61.2	52.5
2	6	203	279	60.44	13.1	5.45	6.24	515	0.	3	50	28.50	98	76.2	62.9	53.7
2	7	127	203	32.87	49.0	3.66	3.83	501	0.	3	90	22.40	68	61.2	54.2	49.9
3	1	406	533	374.12	8.4	37.78	38.45	0	0.	1	16	24.00	36	34.2	29.3	24.8
3	2	381	406	353.31	4.6	36.02	35.70	518	0.	1	30	19.40	43	34.8	30.3	27.5
3	3	330	381	318.50	1.1	28.08	33.94	504	8.7	2	36	27.80	57	50.4	45.2	41.1
3	4	305	330	218.04	17.1	20.33	23.08	506	0.	2	43	23.60	75	60.6	50.4	44.5
3	5	254	305	143.37	17.6	14.63	16.17	485	0.	3	47	24.80	82	60.2	52.6	46.7
3	6	178	254	93.38	28.2	10.77	11.03	525	22.0	3	66	26.80	95	68.8	59.9	55.3
4	1	305	356	217.06	9.5	19.17	22.23	573	0.	2	13	19.80	32	28.2	23.5	0.
4	2	279	305	203.69	20.0	24.25	24.23	532	13.8	2	31	17.90	34	27.4	24.2	22.3
4	3	229	279	146.22	21.5	14.08	15.56	527	0.	3	19	23.80	44	37.2	31.4	27.2
4	4	203	229	91.72	10.9	10.19	10.09	482	0.	3	49	19.90	53	39.8	35.2	31.8
4	5	152	203	44.55	29.4	3.70	3.85	489	0.	3	73	20.00	52	47.4	41.8	37.7
5	1	330	406	276.20	12.9	28.91	30.20	523	0.	2	17	20.60	36	30.6	26.7	22.5
5	2	305	330	188.58	12.8	17.21	20.02	524	0.	2	33	22.20	40	37.6	35.3	33.3
5	3	254	305	123.64	25.2	13.62	14.12	591	0.	3	20	28.40	45	41.2	37.7	33.3
5	4	203	254	97.51	35.5	10.53	11.47	529	0.	3	23	33.70	52	46.4	43.9	41.1
5	5	152	203	66.48	27.5	7.63	7.71	508	0.	3	42	26.10	44	43.6	41.4	38.6
6	1	279	330	159.03	16.0	16.04	17.34	544	0.	2	10	19.90	27	25.4	19.9	0.
6	2	254	279	126.22	28.0	14.63	15.57	544	0.	3	35	18.70	31	29.6	26.9	24.9
6	3	203	254	102.31	20.1	11.81	12.61	0	0.	3	39	18.00	44	32.4	28.5	26.3
6	4	178	203	67.05	25.0	7.71	8.55	512	0.	3	44	15.30	29	27.2	24.6	22.8
6	5	127	178	33.53	0.	3.35	3.69	479	0.	3	59	17.00	42	31.4	27.9	26.2
7	1	330	432	265.97	16.3	25.06	26.26	577	0.	2	12	23.20	37	34.2	26.3	0.
7	2	305	330	184.87	18.4	21.27	21.36	559	0.	2	46	23.90	52	45.0	40.9	37.7
7	3	254	305	121.06	12.7	10.30	11.76	554	0.	3	42	25.30	78	62.2	50.5	44.9
7	4	203	254	101.25	7.9	10.32	10.86	510	0.	3	49	20.90	66	49.6	41.9	37.9
7	5	152	203	61.42	45.4	7.40	7.73	552	0.	3	77	21.70	70	54.4	48.6	43.5
8	1	381	432	310.43	3.5	32.83	33.92	0	0.	1	14	26.60	37	32.6	29.5	0.
8	2	330	381	298.45	11.6	30.98	30.68	516	0.	2	25	30.20	54	50.2	42.7	37.9
8	3	305	330	205.94	20.3	20.49	23.24	530	0.	2	25	30.40	63	52.2	43.9	38.4
8	4	229	305	159.33	5.0	16.45	17.16	494	0.	3	55	19.20	52	44.8	40.9	36.9
8	5	203	229	53.92	21.0	5.19	6.42	510	0.	3	57	18.70	71	58.0	47.1	39.3
9	1	457	610	522.25	3.8	61.54	59.22	0	0.	1	24	18.04	32	26.4	24.2	22.3
9	2	406	457	367.95	9.8	42.07	40.70	0	0.	1	39	18.40	44	34.6	31.0	28.1
9	3	356	406	267.19	11.3	24.73	29.65	564	0.	2	34	22.30	69	45.2	38.2	33.9
9	4	305	356	178.16	9.4	18.67	21.13	528	0.	2	45	19.90	58	46.6	37.7	33.3
9	5	254	305	115.23	22.5	13.02	13.95	527	0.	3	44	25.10	56	46.2	41.3	38.0
10	1	533	737	635.58	5.5	63.73	63.96	0	1.7	1	22	24.30	39	36.8	33.6	30.3
10	2	483	533	568.65	7.6	54.66	53.74	0	0.	1	32	29.78	68	58.8	49.2	43.4
10	3	457	483	435.45	5.3	40.56	45.99	0	4.0	1	29	34.20	73	61.4	54.7	48.3
10	4	356	457	330.65	10.4	28.62	35.38	499	0.	2	47	37.60	85	75.4	69.7	64.9
10	5	305	356	206.77	23.9	23.83	23.30	506	0.	2	49	37.70	98	80.0	71.0	63.4
10	6	178	305	96.79	16.6	8.21	9.12	439	0.	3	56	34.90	96	82.4	75.5	70.1
11	1	178	229	55.24	9.0	0.	0.	0	44.0	3	14	16.64	25	22.4	19.3	0.
11	2	178	178	26.60	40.9	3.15	3.38	581	0.	3	51	13.20	28	22.2	20.0	18.8
11	3	127	178	19.79	100.0	2.39	2.39	618	0.	3	65	11.86	24	23.2	21.4	20.0
12	1	178	203	54.30	38.3	6.36	6.36	618	0.	3	40	10.50	19	16.2	14.9	14.1
12	2	152	178	44.20	24.1	0.	0.	0	314.0	3	51	11.61	23	19.2	11.9	16.9
12	3	127	152	44.20	24.1	0.	0.	0	314.0	3	71	12.30	27	21.0	19.5	18.5
13	1	254	279	87.99	5.6	9.72	9.04	529	0.	3	23	15.91	32	25.0	22.2	19.5
13	2	229	254	85.64	21.7	7.72	8.23	519	0.	3	55	13.82	27	25.0	23.2	21.9
13	3	203	229	41.50	34.4	5.01	4.92	521	0.	3	41	12.88	36	26.6	21.7	19.5
14	1	203	254	109.80	23.7	0.	0.	0	44.0	3	18	18.44	26	24.4	22.4	20.3
14	2	178	203	60.29	16.6	0.	0.	0	39.0	3	23	17.52	25	23.6	22.4	21.2
14	3	152	178	48.86	31.4	3.90	4.91	552	0.	3	33	16.30	34	30.2	26.5	23.9
14	4	127	152	15.34	100.0	1.23	1.23	610	0.	3	65	15.62	34	29.8	27.2	25.9
15	1	203	229	67.06	0.	6.45	6.62	577	0.	3	21	17.10	25	22.6	20.8	19.2
15	2	178	203	54.27	42.1	5.83	5.90	643	0.	3	46	15.40	24	22.2	21.3	20.4
15	3	152	178	33.53	0.	1.68	1.68	525	0.	3	61	13.50	32	23.8	21.6	20.3
16	1	203	254	95.33	21.7	0.	0.	597	21.3	3	24	13.13	22	18.4	17.3	16.0
16	2	203	203	79.97	37.1	7.82	7.91	578	0.	3	35	15.70	27	23.4	21.9	20.9
16	3	178	203	80.02	20.1	0.	0.	517	26.5	3	53	15.17	40	29.2	26.1	23.9
16	4	127	178	35.33	14.0	3.98	3.76	474	0.	3	47	16.83	35	33.2	29.8	27.4
17	1	178	229	74.97	10.6	0.	0.	0	204.0	3	15	17.40	22	21.0	19.2	17.4
17	2	152	178	63.24	20.5	0.	0.	0	388.0	3	41	13.70	30	24.0	20.8	18.6
17	3	127	152	33.53	0.	0.	0.	0	0.	3	44	14.70	26	24.0	21.7	20.3
18	1	178	203	34.63	100.0	2.77	2.77	519	0.	3	32	14.70	25	22.4	20.4	18.5
18	2	127	178	44.29	29.0	0.	0.	0	61.0	3	72	14.20	30	27.0	24.5	22.4
19	1	178	229	60.96	17.5	6.99	7.25	587	0.	3	14	12.30	19	17.0	14.3	0.
19	2	152	178	44.20	24.1	3.22	3.22	521	0.	3	51	13.20	27	22.2	20.0	19.0
19	3	127	152	38.47	12.9	0.	0.	0	678.0	3	67	12.54	31	24.6	21.6	19.7
20	1	203	229	69.85	8.5	6.62	7.96	583	0.	3	31	11.77	17	15.8	14.7	14.1
20	2	152	203	0.	0.	0.	0.	0	0.	3	56	10.89	22	20.8	19.5	18.5

21	1	229	305	136.65	10.9	15.07	15.61	565	0.	3	25	14.30	29	23.2	20.2	18.0
21	2	203	229	84.15	20.3	0.	0.	0	263.0	3	34	17.90	30	27.6	25.5	23.7
21	3	152	203	54.57	13.6	6.03	6.18	538	0.	3	50	17.90	35	30.4	28.6	27.2
21	4	127	152	0.	0.	0.	0.	0	0.	3	73	17.19	30	27.6	26.2	25.2
22	1	229	254	113.53	18.5	12.72	12.43	570	0.	3	22	17.20	30	25.8	22.7	20.0
22	2	229	229	118.37	21.9	0.	0.	0	74.0	3	27	17.60	33	28.2	25.6	23.5
22	3	178	229	74.58	14.3	0.	0.	0	29.0	3	40	16.80	49	32.6	28.6	26.0
22	4	152	178	42.10	25.3	3.96	4.84	459	0.	3	41	17.20	55	35.4	29.0	26.1
23	1	279	279	154.23	18.6	15.52	15.84	575	19.7	2	29	17.00	28	25.4	23.4	21.6
23	2	229	279	138.73	25.0	15.01	16.47	560	0.	3	34	19.40	55	40.6	32.7	28.4
23	3	203	229	104.24	17.4	7.01	9.96	509	11.4	3	23	21.30	42	37.4	31.8	26.5
23	4	152	203	41.44	19.1	0.	0.	0	68.0	3	51	15.35	24	22.6	21.5	20.5
24	1	305	356	188.16	12.0	18.64	19.56	569	21.7	2	28	17.00	30	25.4	22.7	21.3
24	2	254	305	145.50	19.0	16.38	17.23	550	13.0	3	61	17.20	45	33.6	30.5	28.5
24	3	178	254	128.33	27.9	0.	0.	0	35.0	3	54	17.40	34	31.4	29.3	27.8
24	4	178	178	67.06	0.	0.	0.	0	300.0	3	70	13.90	39	34.4	29.8	26.5
24	5	127	178	32.48	0.	0.	0.	0	106.0	3	62	12.30	41	35.2	29.0	25.3
25	1	229	381	102.83	36.8	12.31	11.75	572	0.	3	33	15.40	26	22.2	20.7	19.8
25	2	203	229	79.31	18.1	8.74	8.99	518	0.	3	58	12.00	37	32.4	26.7	22.5
25	3	178	203	57.71	12.9	0.	0.	0	678.0	3	53	14.30	52	37.6	29.3	25.1
25	4	127	178	40.29	58.4	0.	0.	0	71.0	3	65	13.30	39	26.8	23.3	21.0
26	1	229	254	104.21	14.8	0.	0.	0	47.0	3	14	14.60	27	21.2	16.9	0.
26	2	203	229	0.	0.	0.	0.	0	0.	3	29	13.90	27	24.2	21.2	18.1
26	3	178	203	50.29	0.	4.19	5.36	487	0.	3	31	15.40	36	28.2	23.1	20.6
26	4	152	178	0.	0.	0.	0.	0	0.	3	50	13.30	31	24.6	21.4	19.7
27	1	229	279	99.89	25.8	0.	0.	0	51.0	3	30	10.70	17	15.6	14.6	13.6
27	2	229	229	76.20	36.7	9.27	9.19	525	0.	3	69	11.60	23	20.4	18.7	17.5
27	3	178	229	68.87	27.0	0.	0.	0	95.0	3	60	11.60	19	17.4	16.4	15.8
27	4	152	178	27.24	0.	2.72	2.72	410	0.	3	86	11.40	23	18.8	17.9	17.3
28	1	203	229	67.54	25.5	6.94	6.86	533	33.0	3	13	12.10	18	16.6	14.2	0.
28	2	152	203	39.53	15.2	4.22	4.56	517	0.	3	27	13.20	28	22.0	18.5	16.8
28	3	127	152	33.53	0.	2.51	2.77	478	0.	3	28	10.30	15	14.4	13.8	13.4
29	1	229	305	89.06	15.0	0.	0.	0	130.0	3	22	17.10	45	29.2	23.6	20.5
29	2	203	229	0.	0.	0.	0.	0	0.	3	31	17.50	46	32.2	27.8	24.7
29	3	178	203	52.11	35.7	0.	0.	0	90.0	3	40	14.50	34	27.0	24.5	22.6
29	4	127	178	33.53	0.	1.68	2.68	429	0.	3	43	17.80	52	39.0	33.0	29.5
30	1	203	229	55.88	21.2	0.	0.	0	43.0	3	29	19.80	36	31.6	28.8	26.6
30	2	178	203	54.20	38.1	0.	0.	0	162.0	3	11	24.50	45	35.0	25.8	0.
30	3	127	178	33.53	0.	0.	0.	0	100.0	3	48	16.10	45	34.6	29.6	26.7
31	1	279	330	125.18	23.0	0.	0.	0	51.0	2	22	16.60	27	25.0	22.6	20.0
31	2	229	279	139.83	24.9	14.28	15.30	533	13.6	3	36	17.40	28	26.0	24.3	22.8
31	3	203	229	91.82	17.5	0.	0.	0	121.0	3	31	19.10	35	31.0	28.2	26.2
31	4	178	203	56.23	10.6	0.	0.	0	847.0	3	74	18.00	34	32.8	31.7	30.4
32	1	279	305	126.45	34.8	0.	0.	0	36.0	2	17	22.70	45	33.8	28.3	24.4
32	2	254	279	144.02	24.9	16.27	16.84	534	0.	3	23	17.70	32	30.4	26.8	22.9
32	3	229	254	110.07	16.0	8.99	10.93	478	0.	3	39	16.60	35	30.8	27.4	24.9
33	1	254	330	0.	0.	0.	0.	0	0.	3	16	23.40	54	38.2	30.6	24.4
33	2	229	254	110.28	20.0	8.63	12.86	580	0.	3	29	21.20	43	39.2	33.2	29.9
33	3	203	229	0.	0.	0.	0.	0	0.	3	43	15.90	32	27.4	25.5	24.0
33	4	152	203	57.63	12.7	0.	0.	0	41.0	3	80	14.70	32	29.6	27.4	25.9
34	1	229	330	85.53	26.5	10.22	10.22	624	0.	3	33	11.20	22	19.0	16.4	14.8
34	2	203	229	83.62	9.5	0.	0.	0	151.0	3	51	12.60	26	22.0	20.2	18.7
34	3	178	203	68.58	28.2	0.	0.	0	96.0	3	52	14.00	36	30.6	26.8	23.9
34	4	152	178	0.	0.	0.	0.	0	0.	3	54	14.40	42	32.6	27.7	24.9
35	1	305	356	124.21	59.5	0.	0.	0	68.0	2	7	24.00	45	29.0	0.	0.
35	2	279	305	0.	0.	0.	0.	0	0.	2	31	20.50	46	39.0	33.9	30.5
35	3	254	279	134.49	18.0	0.	0.	0	99.0	3	27	28.10	48	45.0	41.0	37.5
35	4	203	254	49.24	0.	0.	0.	0	52.0	3	37	21.70	54	49.0	39.4	34.3
36	1	279	330	114.65	26.2	0.	0.	0	41.0	2	19	18.90	27	24.6	22.6	20.9
36	2	229	279	103.00	3.4	10.87	11.78	508	19.4	3	34	15.30	28	25.2	23.3	20.9
36	3	203	229	79.71	36.9	8.42	8.84	492	0.	3	64	13.90	26	25.2	23.7	22.2
36	4	127	203	50.76	36.0	0.	0.	0	49.0	3	56	18.10	39	33.4	30.2	28.0
37	1	254	330	154.24	9.8	16.45	16.51	540	0.	3	31	24.40	45	40.0	36.3	34.0
37	2	254	254	124.48	25.7	11.07	13.40	548	0.	3	40	22.60	41	38.8	35.9	33.6
37	3	203	254	92.56	27.6	10.57	10.82	547	22.1	3	49	18.60	46	38.4	33.1	30.0
37	4	152	203	71.56	29.7	0.	0.	0	30.6	3	60	19.60	50	38.6	35.3	32.7
37	5	127	152	50.00	12.0	3.07	3.22	445	0.	0	68	18.30	44	38.8	34.0	30.9
38	1	279	330	132.23	22.6	0.	0.	0	34.0	2	25	17.20	29	25.6	22.8	21.1
38	2	254	279	117.33	21.2	0.	0.	0	40.0	3	50	16.50	30	28.4	26.8	25.3
38	3	229	254	104.89	27.8	10.55	11.64	513	0.	3	50	17.20	35	31.8	29.5	27.3
38	4	178	229	0.	0.	0.	0.	0	0.	3	67	18.30	56	35.8	31.5	29.4
39	1	203	254	62.66	19.7	0.	0.	0	37.0	3	43	17.00	41	35.2	31.1	28.0
39	2	178	203	65.24	27.7	4.98	6.39	520	0.	3	24	22.50	42	38.8	33.6	28.7
39	3	152	178	48.67	9.6	0.	0.	0	53.0	3	51	15.40	41	33.8	29.1	26.1
39	4	127	152	0.	0.	0.	0.	0	0.	3	82	12.20	30	26.0	23.6	22.4
40	1	254	305	0.	0.	0.	0.	0	0.	3	17	19.80	29	25.4	22.7	20.8
40	2	229	254	141.55	14.3	0.	0.	563	31.0	3	26	16.80	24	21.8	20.9	19.9
40	3	203	229	67.06	0.	7.21	7.29	484	0.	3	51	15.90	30	25.4	23.7	22.2

40	4	152	203	50.78	34.0	5.85	6.02	507	0.	3	60	18.20	31	29.6	27.7	26.5
41	1	279	330	0.	0.	0.	0.	0	0.	2	21	21.70	32	30.4	28.9	25.7
41	2	229	279	114.56	19.3	0.	0.	0	41.0	3	45	16.00	33	28.0	24.5	22.7
41	3	203	229	93.06	27.9	10.14	9.89	475	0.	3	63	15.30	32	27.4	24.8	23.5
41	4	178	203	74.01	10.8	0.	0.	0	83.0	3	58	17.10	39	33.2	30.6	28.5
42	1	229	330	136.51	2.9	13.63	14.38	551	0.	3	20	19.70	28	26.0	24.6	22.9
42	2	229	229	97.04	22.0	8.70	10.06	532	20.9	3	30	18.10	34	29.6	26.9	24.9
42	3	178	229	58.29	13.7	4.51	5.85	504	0.	3	45	17.80	34	30.4	27.5	25.7
42	4	178	178	0.	0.	0.	0.	0	0.	3	48	16.80	33	27.4	25.4	24.2
42	5	127	178	27.24	0.	0.	0.	0	160.0	3	50	15.00	27	24.2	22.1	20.9
43	1	330	381	172.65	7.1	0.	0.	494	17.3	2	10	26.50	45	34.8	26.5	0.
43	2	279	330	166.41	6.4	17.94	18.14	482	0.	2	26	24.60	37	34.0	32.7	30.9
43	3	254	279	0.	0.	0.	0.	0	0.	3	35	21.49	35	32.0	30.2	28.3
43	4	229	254	0.	0.	0.	0.	0	0.	3	29	25.20	49	42.4	38.8	35.7
44	1	279	305	0.	0.	0.	0.	0	0.	2	18	24.60	43	35.0	30.8	27.2
44	2	229	279	92.54	56.7	8.08	8.33	558	0.	3	21	24.60	44	41.4	34.9	30.4
44	3	178	229	70.01	32.7	8.19	8.34	553	0.	3	23	17.50	39	31.2	26.5	22.8
44	4	152	178	55.62	13.3	6.06	4.61	512	0.	3	46	17.20	32	29.0	27.2	25.7
45	1	229	254	0.	0.	0.	0.	0	0.	3	26	19.70	52	33.8	28.3	25.3
45	2	203	229	0.	0.	0.	0.	0	0.	3	39	17.90	38	32.6	29.7	27.5
46	1	279	330	152.96	18.3	17.16	16.41	506	0.	2	30	16.90	34	28.6	25.9	23.1
46	2	254	279	144.45	14.9	0.	0.	0	30.2	3	64	16.20	37	32.2	29.3	27.8
46	3	203	254	65.62	26.5	0.	0.	0	34.3	3	63	19.20	48	41.0	37.4	34.3
46	4	178	203	69.23	30.4	0.	0.	0	94.0	3	42	19.50	46	36.6	34.0	31.5
46	5	127	178	0.	0.	0.	0.	0	0.	3	56	18.80	57	43.4	38.6	34.3
47	1	356	356	228.57	8.6	0.	0.	606	28.6	2	28	28.10	49	46.6	41.3	37.7
47	2	279	356	194.79	32.8	0.	0.	0	53.0	2	20	27.10	65	48.2	38.6	32.6
47	3	279	279	161.88	40.2	19.58	20.06	615	0.	2	42	21.30	45	40.4	36.9	34.1
47	4	229	279	0.	0.	0.	0.	0	0.	3	68	20.30	60	49.2	45.1	41.3
47	5	178	229	63.53	47.2	0.	0.	0	112.0	3	47	23.00	61	53.4	50.2	46.4
48	1	254	305	105.32	12.5	12.23	11.96	550	0.	3	13	23.60	38	32.4	27.2	0.
48	2	229	254	119.50	24.4	0.	0.	0	73.0	3	29	17.50	35	30.6	27.3	24.1
48	3	203	229	97.91	5.6	8.09	11.09	491	0.	3	37	18.00	46	36.0	30.3	27.3
48	4	178	203	59.57	19.1	4.45	6.24	493	0.	3	43	17.90	45	39.0	35.3	31.3
48	5	127	178	33.53	0.	3.35	3.35	437	0.	3	52	15.80	37	32.2	29.5	27.4
49	1	305	381	202.79	19.7	0.	0.	0	33.0	2	31	16.80	31	27.4	25.5	23.7
49	2	279	305	214.24	13.4	20.96	21.89	511	18.9	2	45	19.80	61	44.8	38.6	34.7
49	3	254	279	127.27	4.7	0.	0.	0	65.0	3	42	21.30	44	37.8	35.0	33.1
49	4	203	254	0.	0.	0.	0.	0	0.	3	48	19.00	40	37.4	34.3	32.1
49	5	152	203	46.24	13.9	3.76	3.76	456	0.	3	49	23.20	48	45.2	42.2	40.2
50	1	279	305	182.95	9.8	0.	0.	0	38.0	2	8	32.10	44	37.4	0.	0.
50	2	254	279	145.79	13.6	13.86	14.70	473	0.	3	13	26.30	38	35.4	29.9	0.
50	3	229	254	96.87	15.4	8.98	9.59	485	0.	3	27	24.20	53	42.8	35.7	32.0
50	4	203	229	73.02	19.6	0.	0.	462	29.8	3	29	26.70	43	39.0	35.7	34.0
50	5	152	203	0.	0.	0.	0.	0	0.	3	31	21.60	40	35.4	31.7	29.5
51	1	178	203	66.21	24.0	0.	0.	0	316.0	3	0	0.	0	0.	0.	0.
51	2	127	178	0.	0.	0.	0.	0	0.	3	0	0.	0	0.	0.	0.
52	1	178	203	53.59	37.4	0.	0.	0	167.0	3	0	0.	0	0.	0.	0.
52	2	152	178	47.15	0.	4.85	5.02	461	0.	3	0	0.	0	0.	0.	0.
53	1	178	203	46.10	31.8	4.71	3.61	479	0.	3	34	14.20	25	23.8	20.8	18.9
53	2	127	178	26.76	37.4	2.48	2.14	432	0.	3	64	14.40	36	31.8	30.1	27.5
54	1	203	254	88.20	25.2	9.03	8.98	521	0.	3	22	22.40	40	36.4	33.4	28.8
54	2	178	203	58.96	14.7	0.	0.	0	40.0	3	51	22.30	56	41.0	36.9	34.3
54	3	152	178	41.53	19.3	3.99	4.16	467	0.	3	76	17.80	40	33.6	31.5	30.3
55	1	203	229	72.44	8.9	0.	0.	0	86.0	3	0	0.	0	0.	0.	0.
55	2	178	203	0.	0.	0.	0.	0	0.	3	0	0.	0	0.	0.	0.
55	3	127	178	22.26	100.0	2.20	2.20	556	0.	3	0	0.	0	0.	0.	0.
56	1	178	229	63.91	0.	0.	0.	0	36.0	3	13	18.90	29	24.4	21.1	0.
56	2	152	178	56.11	14.1	5.97	5.79	438	0.	3	38	19.20	34	32.4	31.0	28.9
56	3	127	152	12.86	100.0	1.03	1.03	544	0.	3	31	17.60	56	36.0	28.9	25.1
57	1	178	229	63.58	25.8	7.30	6.39	492	0.	3	0	0.	0	0.	0.	0.
57	2	152	178	50.45	33.5	4.97	5.64	464	0.	3	0	0.	0	0.	0.	0.
57	3	127	152	33.53	0.	3.35	3.35	407	0.	3	0	0.	0	0.	0.	0.
58	1	178	203	59.95	23.1	0.	0.	0	39.0	3	16	26.70	42	37.6	33.9	28.1
58	2	152	178	47.38	29.2	4.85	4.85	473	0.	3	31	22.00	40	35.0	31.8	29.3
58	3	127	152	22.26	100.0	1.78	1.78	541	0.	3	60	18.00	35	31.0	29.6	28.7
59	1	229	279	109.51	14.8	9.83	9.16	506	18.1	3	0	0.	0	0.	0.	0.
59	2	203	229	83.62	9.5	0.	0.	0	239.0	3	0	0.	0	0.	0.	0.
59	3	178	203	57.16	13.8	0.	0.	0	42.0	3	0	0.	0	0.	0.	0.
60	1	152	229	50.57	35.8	5.03	5.56	526	0.	3	24	17.10	26	24.8	23.2	21.5
60	2	127	152	40.45	17.1	0.	0.	0	484.0	3	59	13.60	25	24.2	23.2	22.7
61	1	356	457	326.13	2.4	28.60	33.31	523	0.	2	25	19.70	44	32.2	27.6	25.3
61	2	330	356	261.32	19.0	30.20	31.21	530	14.7	2	26	23.10	53	44.0	39.0	32.3
61	3	305	330	231.13	17.8	25.00	26.37	509	7.8	2	31	21.60	56	47.2	40.4	33.7
61	4	229	305	130.52	13.3	0.	0.	0	105.7	3	39	30.20	66	60.8	55.8	51.5
61	5	203	229	65.25	31.0	0.	0.	0	34.6	3	33	27.20	67	57.4	49.0	44.1
62	1	330	381	213.94	13.0	23.32	24.34	579	0.	2	20	23.40	39	33.0	30.2	27.5
62	2	279	330	0.	0.	0.	0.	0	0.	2	28	20.80	57	39.0	32.4	28.7
62	3	254	279	155.00	13.1	0.	0.	0	117.8	3	33	23.50	49	44.4	39.4	36.1
62	4	203	254	91.73	8.6	8.17	9.52	497	0.	3	43	21.30	44	42.6	40.0	37.1
62	5	152	203	53.75	6.4	0.	0.	0	0.	3	40	22.40	48	43.2	39.3	36.1
63	1	330	406	230.65	11.6	19.07	21.53	567	0.	2	22	27.10	44	36.6	33.2	31.1
63	2	305	330	184.60	15.9	19.73	21.66	529	0.	2	20	26.40	43	38.4	34.0	31.3
63	3	254	305	145.80	20.6	14.74	16.91	524	13.0	3	28	26.10	43	38.2	35.5	33.6
63	4	229	254	89.82	6.7	0.	0.	0	295.0	3	39	26.90	53	47.0	44.1	42.0
64	1	356	432	255.87	7.8	27.37	26.73	530	19.7	2	0	0.	0	0.	0.	0.
64	2	330	356	227.12	4.4	24.74	25.66	484	0.	2	0	0.	0	0.	0.	0.
64	3	229	305	0.	0.	0.	0.	0	0.	3	0	0.	0	0.	0.	0.
64	4	203	229	0.	0.	0.	0.	0	0.	3	0	0.	0	0.	0.	0.

65	1	305	381	213.51	12.9	0.	0.	0	38.0	2	0	0.	0	0.	0.	0.
65	2	279	305	159.18	11.3	17.96	17.92	513	0.	2	0	0.	0	0.	0.	0.
55	3	254	279	112.66	7.7	9.84	12.67	492	0.	3	0	0.	0	0.	0.	0.
65	4	203	254	0.	0.	0.	0.	0	0.	3	0	0.	0	0.	0.	0.
66	1	305	356	193.09	7.0	19.87	20.96	576	21.0	2	0	0.	0	0.	0.	0.
66	2	279	305	177.24	21.8	18.83	19.67	555	0.	2	0	0.	0	0.	0.	0.
66	3	254	279	116.10	6.8	0.	0.	0	41.0	3	0	0.	0	0.	0.	0.
66	4	203	254	93.15	10.0	6.38	8.23	0	21.9	3	0	0.	0	0.	0.	0.
67	1	279	330	0.	0.	0.	0.	608	0.	2	0	0.	0	0.	0.	0.
67	2	254	279	139.98	33.9	0.	0.	0	34.0	3	0	0.	0	0.	0.	0.
67	4	178	229	58.21	13.6	6.43	6.26	515	0.	3	0	0.	0	0.	0.	0.
67	5	127	178	42.48	23.5	0.	0.	0	65.0	3	0	0.	0	0.	0.	0.
67	3	229	254	0.	0.	0.	0.	0	0.	3	0	0.	0	0.	0.	0.
68	1	254	305	163.16	7.2	0.	0.	0	16.1	3	0	0.	0	0.	0.	0.
68	2	254	254	113.05	7.1	12.29	12.74	446	0.	3	0	0.	0	0.	0.	0.
68	3	203	254	108.32	22.6	0.	0.	0	30.0	3	0	0.	0	0.	0.	0.
68	4	152	203	43.53	23.0	0.	0.	0	33.5	3	0	0.	0	0.	0.	0.
69	1	330	356	250.36	1.6	0.	0.	0	43.0	2	0	0.	0	0.	0.	0.
69	2	305	330	192.20	9.4	19.38	22.14	561	9.6	2	0	0.	0	0.	0.	0.
69	3	254	305	149.49	9.9	13.65	16.88	533	12.6	3	0	0.	0	0.	0.	0.
69	4	229	254	88.64	25.3	10.39	10.32	540	0.	3	0	0.	0	0.	0.	0.
69	5	178	229	57.16	13.8	5.23	6.41	506	0.	3	0	0.	0	0.	0.	0.
70	1	305	330	215.90	14.1	22.19	25.57	576	8.4	2	0	0.	0	0.	0.	0.
70	2	279	305	163.55	27.9	19.08	19.89	561	0.	2	0	0.	0	0.	0.	0.
70	3	254	279	128.57	15.0	0.	0.	0	227.7	3	0	0.	0	0.	0.	0.
70	4	229	254	91.15	8.0	0.	0.	0	0.	3	0	0.	0	0.	0.	0.
71	1	279	330	167.87	15.6	15.31	18.69	611	15.6	2	0	0.	0	0.	0.	0.
71	2	254	279	137.06	16.3	0.	0.	0	58.0	3	0	0.	0	0.	0.	0.
71	3	203	254	74.10	37.8	0.	0.	0	29.0	3	0	0.	0	0.	0.	0.
71	4	152	203	56.11	14.1	6.22	6.53	487	0.	3	0	0.	0	0.	0.	0.
72	1	254	305	132.63	16.1	0.	0.	0	34.0	3	0	0.	0	0.	0.	0.
72	2	229	254	110.41	5.4	9.98	10.06	512	0.	3	0	0.	0	0.	0.	0.
72	3	203	229	79.80	37.0	8.47	9.73	501	0.	3	0	0.	0	0.	0.	0.
72	4	152	203	0.	0.	0.	0.	0	0.	3	0	0.	0	0.	0.	0.
73	1	356	406	264.12	7.9	27.74	30.16	509	0.	2	0	0.	0	0.	0.	0.
73	2	305	356	249.81	18.8	24.11	28.07	484	0.	2	0	0.	0	0.	0.	0.
73	3	279	305	154.19	11.8	15.23	15.97	458	12.2	2	0	0.	0	0.	0.	0.
73	4	229	279	120.94	10.5	0.	0.	0	71.0	3	0	0.	0	0.	0.	0.
74	1	305	356	197.23	6.0	16.57	17.50	533	0.	2	34	16.30	35	28.6	25.3	22.9
74	2	279	305	179.02	13.3	14.49	17.01	554	10.3	2	52	18.70	48	36.4	32.5	30.2
74	3	229	279	110.38	18.6	0.	0.	0	44.0	3	59	20.00	45	39.6	37.1	35.2
74	4	178	229	63.04	23.5	6.97	7.38	502	0.	3	64	20.05	56	45.2	39.5	35.9
75	1	254	305	111.92	13.2	12.49	11.35	576	17.6	3	16	10.80	19	15.4	13.8	11.1
75	2	229	254	115.89	20.2	0.	0.	0	77.0	3	38	11.80	22	19.6	17.2	15.9
75	3	203	229	98.10	17.8	10.99	10.99	522	0.	3	43	14.70	27	24.6	22.7	21.1
75	4	178	203	75.80	33.7	0.	0.	0	197.0	3	63	15.90	40	32.8	29.0	27.1
76	1	305	356	180.07	19.0	20.03	20.70	573	10.3	2	0	0.	0	0.	0.	0.
76	2	279	305	167.80	9.2	0.	0.	0	43.0	2	0	0.	0	0.	0.	0.
76	3	229	279	95.92	18.1	0.	0.	0	54.0	3	0	0.	0	0.	0.	0.
76	4	178	229	62.99	46.8	0.	0.	0	36.0	3	0	0.	0	0.	0.	0.
77	1	279	356	180.65	20.3	19.62	21.61	584	0.	2	36	15.30	25	22.6	21.0	19.8
77	2	229	279	127.51	27.5	12.47	14.41	543	15.1	3	40	18.60	40	34.6	29.8	27.4
77	3	203	229	116.92	10.2	0.	0.	0	40.0	3	77	17.40	33	32.4	31.4	30.2
77	4	178	203	60.29	16.6	0.	0.	0	125.0	3	56	20.71	47	41.6	37.8	35.1
78	1	330	381	219.82	12.6	18.12	18.25	566	0.	2	0	0.	0	0.	0.	0.
78	2	305	330	189.61	25.3	21.36	23.20	546	0.	2	0	0.	0	0.	0.	0.
78	3	279	305	143.91	13.9	16.48	16.48	502	13.2	2	0	0.	0	0.	0.	0.
78	4	229	279	82.12	19.6	0.	0.	0	158.0	3	0	0.	0	0.	0.	0.
79	1	305	381	194.37	21.4	20.83	24.47	598	0.	2	13	20.80	31	27.4	23.1	0.
79	2	254	305	158.42	9.7	14.05	17.92	561	0.	3	37	17.50	31	28.4	25.5	23.6
79	3	229	254	140.75	10.5	0.	0.	0	147.0	3	58	18.50	41	37.4	34.2	30.9
79	4	178	229	94.33	28.9	8.53	9.54	531	21.6	3	40	26.30	68	58.8	48.4	42.8
80	1	254	330	136.77	10.2	16.13	16.30	544	0.	3	28	11.70	19	18.0	16.8	15.7
80	2	229	254	108.30	14.6	0.	0.	0	31.0	3	63	10.20	20	18.0	16.9	16.3
80	3	203	229	84.97	21.1	0.	0.	0	374.0	3	73	13.40	37	29.8	27.1	25.1
80	4	152	203	50.01	37.2	0.	0.	0	50.0	3	67	14.40	48	30.2	27.0	24.9
81	1	381	508	325.53	3.3	34.00	35.07	524	0.	1	0	0.	0	0.	0.	0.
81	2	330	381	278.12	8.1	28.88	30.41	510	22.4	2	0	0.	0	0.	0.	0.
81	3	229	279	121.81	0.	0.	0.	0	315.0	3	0	0.	0	0.	0.	0.
81	4	178	229	57.16	13.8	5.83	5.50	0	16.1	3	0	0.	0	0.	0.	0.
82	1	406	483	380.37	7.2	37.59	42.62	556	9.8	1	0	0.	0	0.	0.	0.
82	2	356	406	268.92	15.0	30.47	31.90	557	4.1	2	0	0.	0	0.	0.	0.
82	3	305	356	199.53	5.3	22.10	23.10	536	9.2	2	0	0.	0	0.	0.	0.

82	4	254	305	125.90	13.2	0.	0.	0	114.0	3	0	0.	0	0.	0.	0.
82	5	203	254	73.09	31.2	0.	0.	0	85.0	3	0	0.	0	0.	0.	0.
83	1	330	381	217.85	17.0	21.00	25.12	562	0.	2	0	0.	0	0.	0.	0.
83	2	279	330	177.84	24.0	21.99	21.82	530	0.	2	0	0.	0	0.	0.	0.
83	3	254	279	133.06	0.	0.	0.	0	61.0	3	0	0.	0	0.	0.	0.
83	4	203	254	0.	0.	0.	0.	0	0.	3	0	0.	0	0.	0.	0.
84	1	406	483	334.29	18.9	35.57	39.11	567	0.	1	20	19.20	35	31.6	28.3	23.1
84	2	356	406	286.92	12.5	32.03	33.61	520	2.8	2	40	21.70	31	29.6	28.1	27.0
84	3	330	356	229.47	24.5	26.67	27.46	529	0.	2	62	19.40	44	41.6	37.4	34.5
84	4	254	330	0.	0.	0.	0.	0	0.	3	42	23.50	44	40.6	38.0	36.4
84	5	229	254	106.58	14.7	0.	0.	0	170.0	3	0	0.	0	0.	0.	0.
85	1	356	406	277.68	12.3	30.38	30.12	515	11.0	2	0	0.	0	0.	0.	0.
85	2	330	356	229.31	11.6	23.26	25.18	468	7.9	2	0	0.	0	0.	0.	0.
85	3	279	330	195.52	17.9	17.28	20.51	458	0.	2	0	0.	0	0.	0.	0.
85	4	229	279	122.52	0.	0.	0.	0	69.0	3	0	0.	0	0.	0.	0.
86	1	305	356	268.01	13.9	32.53	32.67	537	0.	2	0	0.	0	0.	0.	0.
86	2	279	305	218.34	19.0	23.36	24.25	510	8.3	2	0	0.	0	0.	0.	0.
86	3	254	279	108.07	14.4	0.	0.	0	87.0	3	0	0.	0	0.	0.	0.
86	4	203	254	86.72	45.6	0.	0.	0	63.0	3	0	0.	0	0.	0.	0.
86	5	152	203	50.20	33.2	0.	0.	0	201.0	3	0	0.	0	0.	0.	0.
87	1	406	483	362.47	12.4	35.18	39.83	535	0.	1	0	0.	0	0.	0.	0.
87	2	381	406	258.06	9.0	28.60	30.32	515	10.9	1	0	0.	0	0.	0.	0.
87	3	356	381	234.92	18.9	0.	0.	0	27.6	2	0	0.	0	0.	0.	0.
87	4	305	356	113.72	22.2	10.56	12.69	498	0.	2	0	0.	0	0.	0.	0.
87	5	229	305	0.	0.	0.	0.	0	0.	3	0	0.	0	0.	0.	0.
88	1	330	381	219.65	12.7	23.76	25.63	560	0.	2	27	20.10	32	28.8	26.4	24.6
88	2	279	330	207.44	23.3	24.02	25.19	540	0.	2	52	16.10	31	26.4	24.3	23.2
88	3	254	279	131.72	18.3	0.	0.	0	104.0	3	57	20.00	45	38.6	35.1	32.9
88	4	203	254	108.19	20.3	21.13	12.19	510	0.	3	74	20.50	45	39.2	36.9	34.6
88	5	152	203	39.96	16.1	4.28	4.45	490	0.	3	93	19.50	40	37.0	34.8	33.3
89	1	305	356	192.07	14.6	17.65	18.58	566	0.	2	0	0.	0	0.	0.	0.
89	2	254	305	141.73	6.1	15.89	16.63	513	0.	3	0	0.	0	0.	0.	0.
89	3	229	254	98.53	24.8	0.	0.	0	104.0	3	0	0.	0	0.	0.	0.
89	4	203	229	74.09	35.0	0.	0.	0	83.0	3	0	0.	0	0.	0.	0.
89	5	152	203	0.	0.	0.	0.	0	0.	0	0	0.	0	0.	0.	0.
90	1	305	381	270.84	15.5	30.08	30.67	515	0.	2	17	19.90	32	28.4	24.3	21.2
90	2	279	305	169.46	15.4	16.75	18.24	478	11.0	2	43	17.60	36	31.8	28.5	26.2
90	3	254	279	127.82	14.5	0.	0.	0	36.0	3	44	19.80	40	34.6	31.6	29.7
90	4	203	254	83.81	20.0	6.62	9.55	450	0.	3	59	19.90	42	40.8	38.4	36.4
91	1	203	254	86.83	25.2	8.11	8.22	531	0.	3	0	0.	0	0.	0.	0.
91	2	178	203	40.39	100.0	3.83	3.83	587	0.	3	0	0.	0	0.	0.	0.
91	3	127	178	32.48	0.	3.25	3.25	431	0.	3	0	0.	0	0.	0.	0.
92	1	254	330	145.53	8.9	0.	0.	0	30.0	3	32	19.10	40	34.6	30.7	27.2
92	2	229	254	110.84	16.6	0.	0.	0	216.0	3	73	16.70	32	30.6	28.8	27.8
92	3	203	229	98.69	16.1	8.59	7.46	493	0.	3	70	18.60	37	34.4	32.3	30.1
92	4	152	203	40.86	17.9	4.41	3.58	446	0.	3	78	18.20	37	35.4	33.9	32.3
93	1	229	305	122.71	12.7	11.32	11.11	524	0.	3	0	0.	0	0.	0.	0.
93	2	203	229	87.53	28.2	7.31	7.73	511	23.7	3	0	0.	0	0.	0.	0.
93	3	152	203	49.39	32.1	0.	0.	0	51.0	3	0	0.	0	0.	0.	0.
94	1	203	254	64.58	23.7	0.	0.	0	35.0	3	15	25.00	35	33.2	29.5	25.0
94	2	203	203	34.86	24.9	3.88	3.60	510	0.	3	34	18.60	42	33.0	29.6	27.1
95	1	203	279	81.46	20.3	9.05	7.43	505	0.	3	26	18.00	32	29.4	26.7	24.2
95	2	178	203	51.74	35.2	0.	0.	0	48.0	3	48	14.50	40	32.2	27.4	24.8
95	3	152	178	51.12	34.4	5.21	4.37	487	0.	3	60	15.27	30	28.8	27.1	25.7
95	4	127	152	30.38	0.	3.04	3.19	462	0.	3	66	14.60	34	28.6	26.6	25.1
96	1	203	254	82.72	20.2	9.42	8.59	462	0.	3	0	0.	0	0.	0.	0.
96	2	178	203	67.06	0.	0.	0.	0	100.0	3	0	0.	0	0.	0.	0.
96	3	152	178	40.48	19.8	3.10	3.27	410	0.	3	0	0.	0	0.	0.	0.
97	1	203	254	76.23	34.0	8.79	7.61	540	0.	3	0	0.	0	0.	0.	0.
97	2	203	203	48.37	30.7	0.	0.	0	53.0	3	0	0.	0	0.	0.	0.
97	3	127	203	33.53	0.	3.35	3.35	423	0.	3	0	0.	0	0.	0.	0.
98	1	203	279	78.40	17.1	7.83	6.65	535	0.	3	0	0.	0	0.	0.	0.
98	2	178	203	60.96	17.5	0.	0.	0	38.0	3	0	0.	0	0.	0.	0.
98	3	152	178	44.20	24.1	4.90	4.82	467	0.	3	0	0.	0	0.	0.	0.
99	1	254	305	126.08	29.2	14.05	12.07	544	25.2	3	27	18.20	43	30.2	25.8	22.7
99	2	229	254	105.04	27.9	0.	0.	0	128.0	3	46	17.40	33	31.0	27.9	25.6
99	3	178	229	60.96	17.5	0.	0.	0	122.0	3	27	20.52	36	30.4	27.9	26.0
99	4	127	178	35.88	12.4	0.	0.	0	88.0	3	34	19.90	34	30.6	28.5	27.4
100	1	254	305	127.91	29.4	12.37	14.04	568	15.1	3	14	23.10	34	29.2	26.7	0.
100	2	229	254	101.86	25.7	0.	0.	0	71.0	3	34	16.70	41	32.4	28.2	25.1
100	3	203	229	83.32	19.5	9.48	9.06	447	0.	3	37	18.50	35	31.4	29.7	27.8

APPENDIX J

Computer program T585MP

```
1000.    FILE RESTORE #1 = T585R
1010.    FILE SCRATCH #2 = T585RM
1020.    Z=0
1030.    Z=Z+1
1040.     IF Z>2000 GOTO 1200
1050.    IF END #1 GOTO 1200
1060.    INPUT #1,A,B,C,D,E,F,G,H,I,J,K,L,M,N,O,P,Q
1065.     IF G=0 OR H=0 GOTO1030
1070.     V=1915.2E-6*(C*C+D*D) 'LOG VOLUME
1080.    V2=E*100/V 'RECOVERY %
1090.    V3=H*1000/V'MSG VAL/CUB METRE LOG VOL
1100.    V4=G*1000/V 'VIS VAL/CUB METRE LOG VOL
1110.    V5=H*1000/E 'MSG VAL/CUB M REC VOL
1120.    V6=G*1000/E 'VIS VAL/CUB M REC VOL
1130.    PRINT #2 USING 2000,A,B,C,D,V,E,V2,L,M,N,O,P,Q,V3,V4,V5,V6
1140.    GOTO 1030
1200.    FILES
1210.    STOP
2000.    : ### # ### ### #### ### ## ## ##.## ## ##.# ##.# ##.# ##.# ##.# ###.# ###.#
```

APPENDIX K

Data file T585SL

1.	1	1	457	584	1053	480	46	5	26.80	41	26.8	.0	.0	48.4	53.0	106.2	116.[illegible]
2.	2	1	483	610	1159	520	45	13	20.20	38	30.2	23.9	.0	46.0	48.9	107.0	109.0
3.	3	1	406	533	860	374	44	16	24.00	36	34.2	29.3	24.9	44.7	43.9	102.8	101.0
4.	4	1	305	356	421	217	52	13	19.80	32	28.2	23.5	.0	52.8	45.5	102.4	88.3
5.	5	1	330	406	524	276	53	17	20.60	36	30.6	26.7	22.5	57.6	55.1	109.3	104.7
6.	6	1	279	330	358	159	44	10	19.90	27	25.4	19.9	.0	48.5	44.8	109.0	100.9
7.	7	1	330	432	566	266	47	12	23.20	37	34.2	26.3	.0	46.4	44.3	98.7	94.2
8.	8	1	381	432	635	310	49	14	26.60	37	32.6	29.5	.0	53.4	51.7	109.3	105.8
9.	9	1	457	610	1113	522	47	24	18.04	32	26.4	24.2	22.3	53.2	55.3	113.4	117.8
10.	10	1	533	737	1584	636	40	22	24.30	39	36.8	33.6	30.3	40.4	40.2	100.6	100.3
11.	12	1	178	203	140	54	39	40	10.50	19	16.2	14.9	14.1	45.6	45.6	117.1	117.1
12.	13	1	254	279	273	88	32	23	15.91	32	25.0	22.2	19.5	33.2	35.7	102.7	110.5
13.	15	1	203	229	179	67	37	21	17.10	25	22.6	20.8	19.2	36.9	36.0	98.7	96.2
14.	18	1	178	203	140	35	25	32	14.70	25	22.4	20.4	18.5	19.8	19.8	80.0	80.0
15.	19	1	178	229	161	61	38	14	12.30	19	17.0	14.3	.0	45.0	43.4	118.9	114.7
16.	20	1	203	229	179	70	39	31	11.77	17	15.8	14.7	14.1	44.4	36.9	114.0	94.8
17.	21	1	229	305	279	137	49	25	14.30	29	23.2	20.2	18.0	56.0	54.1	114.2	110.3
18.	22	1	229	254	224	114	51	22	17.20	30	25.8	22.7	20.0	55.5	56.8	109.5	112.0
19.	23	1	279	279	298	154	52	29	17.00	28	25.4	23.4	21.6	53.1	52.1	102.7	100.6
20.	24	1	305	356	421	188	45	28	17.00	30	25.4	22.7	21.3	46.5	44.3	104.0	99.1
21.	25	1	229	381	378	103	27	33	15.40	26	22.2	20.7	19.8	31.0	32.5	114.3	119.7
22.	28	1	203	229	179	68	38	13	12.10	18	16.6	14.2	.0	38.2	38.7	101.6	102.8
23.	34	1	229	330	309	86	28	33	11.20	22	19.0	16.4	14.8	33.1	33.1	119.5	119.5
24.	37	1	254	330	332	154	46	31	24.40	45	40.0	36.3	34.0	49.7	49.5	107.0	106.7
25.	42	1	229	330	309	137	44	20	19.70	28	26.0	24.6	22.9	46.5	44.1	105.3	99.8
26.	46	1	279	330	358	153	43	30	16.90	34	28.6	25.9	23.1	45.9	48.0	107.3	112.2
27.	48	1	254	305	302	105	35	13	23.60	38	32.4	27.2	.0	39.6	40.5	113.6	116.1
28.	53	1	178	203	140	46	33	34	14.20	25	23.8	20.8	18.9	25.9	33.7	78.3	102.2
29.	54	1	203	254	202	88	44	22	22.40	40	36.4	33.4	28.8	44.3	44.6	101.8	102.4
30.	57	1	178	229	161	64	39	0	.00	0	.0	.0	.0	39.7	45.3	100.5	114.8
31.	59	1	229	279	250	110	44	0	.00	0	.0	.0	.0	36.7	39.4	83.6	89.8
32.	60	1	152	229	145	51	35	24	17.10	26	24.8	23.2	21.5	38.4	34.8	109.9	99.5
33.	61	1	356	457	643	326	51	25	19.70	44	32.2	27.6	25.3	51.8	44.5	102.1	87.7
34.	62	1	330	381	487	214	44	20	23.40	39	33.0	30.2	27.5	50.0	47.9	113.8	109.0
35.	63	1	330	406	524	231	44	22	27.10	44	36.6	33.2	31.1	41.1	36.4	93.3	82.7
36.	64	1	356	432	600	256	43	0	.00	0	.0	.0	.0	44.5	45.6	104.5	107.0
37.	66	1	305	356	421	193	46	0	.00	0	.0	.0	.0	49.8	47.2	108.6	102.9
38.	70	1	305	330	387	216	56	0	.00	0	.0	.0	.0	66.1	57.4	118.4	102.8
39.	71	1	279	330	358	168	47	0	.00	0	.0	.0	.0	52.3	42.8	111.3	91.2
40.	73	1	356	406	558	264	47	0	.00	0	.0	.0	.0	54.0	49.7	114.2	105.0
41.	74	1	305	356	421	197	47	34	16.30	35	28.6	25.3	22.9	41.6	39.4	88.7	84.0
42.	75	1	254	305	302	112	37	16	10.80	19	15.4	13.8	11.1	37.6	41.4	115.4	111.6
43.	76	1	305	356	421	180	43	0	.00	0	.0	.0	.0	49.2	47.6	115.0	111.2
44.	77	1	279	356	392	181	46	36	15.30	25	22.6	21.0	19.8	55.2	50.1	119.6	108.6
45.	78	1	330	381	487	220	45	0	.00	0	.0	.0	.0	37.5	37.2	83.0	82.4
46.	79	1	305	381	455	194	43	13	20.80	31	27.4	23.1	.0	53.6	45.7	125.9	107.2
47.	80	1	254	330	332	137	41	28	11.70	19	18.0	16.8	15.7	49.1	48.6	119.2	117.9
48.	81	1	381	508	772	326	42	0	.00	0	.0	.0	.0	45.4	44.0	107.7	104.4
49.	82	1	406	483	762	380	50	0	.00	0	.0	.0	.0	55.9	49.3	112.0	98.8
50.	83	1	330	381	487	218	45	0	.00	0	.0	.0	.0	51.6	43.2	115.3	96.4
51.	84	1	406	483	762	334	44	20	19.20	36	31.6	28.3	23.1	51.3	46.6	117.0	106.4
52.	85	1	356	406	558	278	50	0	.00	0	.0	.0	.0	53.9	54.4	108.5	109.4
53.	86	1	305	356	421	268	64	0	.00	0	.0	.0	.0	77.6	77.3	121.9	121.4
54.	87	1	406	483	762	362	48	0	.00	0	.0	.0	.0	52.2	46.1	109.9	97.1
55.	88	1	330	381	487	220	45	27	20.10	32	28.8	26.4	24.6	52.7	48.8	116.7	108.2
56.	89	1	305	356	421	192	46	0	.00	0	.0	.0	.0	44.1	41.9	96.7	91.9
57.	90	1	305	381	456	271	59	17	19.90	32	28.4	24.3	21.2	67.2	65.9	113.2	111.1
58.	91	1	203	254	202	87	43	0	.00	0	.0	.0	.0	40.6	40.1	94.7	93.4
59.	93	1	229	305	279	123	44	0	.00	0	.0	.0	.0	39.9	40.6	90.5	92.3
60.	95	1	203	279	228	81	36	26	18.00	32	29.4	26.7	24.2	32.6	39.7	91.2	111.1
61.	96	1	203	254	202	83	41	0	.00	0	.0	.0	.0	42.4	46.5	103.8	113.9
62.	97	1	203	254	202	76	38	0	.00	0	.0	.0	.0	37.6	43.4	99.8	115.3
63.	98	1	203	279	228	78	34	0	.00	0	.0	.0	.0	29.2	34.3	84.8	99.9
64.	99	1	254	305	302	126	42	27	18.20	43	30.2	25.8	22.7	40.0	46.6	95.7	111.4
65.	100	1	254	305	302	128	42	14	23.10	34	29.2	26.7	.0	46.5	41.0	109.8	96.7
66.	1	2	406	457	716	379	53	8	22.50	32	27.0	.0	.0	56.6	57.2	107.0	108.0
67.	2	2	406	483	762	433	57	58	17.90	36	35.0	32.9	31.3	58.9	60.5	103.8	106.6
68.	3	2	381	406	594	353	60	30	19.40	43	34.8	30.3	27.5	60.1	60.7	101.0	102.0
69.	4	2	279	305	327	204	62	31	17.90	34	27.4	24.2	22.3	74.0	74.1	119.0	119.1
70.	5	2	305	330	387	189	49	33	22.20	40	37.6	35.3	33.3	51.8	44.5	106.2	91.3
71.	6	2	254	279	273	126	46	35	18.70	31	29.6	26.9	24.9	57.1	53.7	123.4	115.9
72.	7	2	305	330	387	185	48	46	23.90	52	45.0	40.9	37.7	55.2	55.0	115.5	115.1
73.	8	2	330	381	487	298	61	25	30.20	54	50.2	42.7	37.9	63.1	63.7	102.8	103.8
74.	9	2	406	457	716	368	51	39	18.40	44	34.6	31.0	28.1	56.9	58.8	110.6	114.3
75.	10	2	483	533	991	569	57	32	29.78	68	58.8	49.2	43.4	54.2	55.2	94.5	96.1
76.	11	2	178	178	121	27	22	51	13.20	28	22.2	20.0	19.8	27.9	26.0	127.1	118.4
77.	13	2	229	254	224	86	38	55	13.82	27	25.0	23.2	21.9	36.7	34.5	96.1	90.1
78.	15	2	178	203	140	54	39	46	15.40	24	22.2	21.3	20.4	42.3	41.8	108.7	107.4
~~79.~~	~~16~~	~~2~~	~~203~~	~~203~~	~~158~~	~~80~~	~~51~~	~~35~~	~~15.70~~	~~27~~	~~23.4~~	~~21.9~~	~~20.9~~	~~50.1~~	~~49.5~~	~~98.9~~	~~97.8~~
80.	19	2	152	178	105	44	42	51	13.20	27	22.2	20.0	19.0	30.7	30.7	72.9	72.9
81.	23	2	229	279	250	139	56	34	19.40	65	40.6	32.7	29.4	66.0	60.2	118.7	108.2
82.	24	2	254	305	302	146	48	61	17.20	45	33.6	30.5	28.5	57.1	54.3	118.4	112.6
83.	25	2	203	229	179	79	44	58	12.00	37	32.4	26.7	22.5	50.1	48.7	113.4	110.2
84.	27	2	229	229	201	76	38	69	11.60	23	20.4	18.7	17.5	45.8	46.1	120.6	121.7
~~85.~~	~~28~~	~~2~~	~~152~~	~~203~~	~~123~~	~~40~~	~~32~~	~~27~~	~~13.20~~	~~28~~	~~22.0~~	~~18.5~~	~~16.8~~	~~37.0~~	~~34.3~~	~~115.4~~	~~106.8~~
86.	31	2	229	279	250	140	56	36	17.40	28	26.0	24.3	22.8	61.3	57.2	109.4	102.1
87.	32	2	254	279	273	144	53	23	17.70	32	30.4	26.8	22.9	61.8	59.7	116.9	113.0
88.	33	2	229	254	224	110	49	29	21.20	43	39.2	33.2	29.9	57.4	38.5	116.6	78.3
89.	36	2	229	279	250	103	41	34	15.30	28	25.2	23.3	20.9	47.2	43.6	114.4	105.5
90.	37	2	254	254	247	124	50	40	22.60	41	38.8	35.9	33.5	54.2	44.8	107.6	88.9

91.	39	2	178	203	140	65	47	24	22.50	42	38.8	33.6	28.7	45.8	35.7	97.9	76.3
92.	42	2	229	229	201	97	48	30	18.10	34	29.6	26.9	24.9	50.1	43.3	103.7	89.7
93.	43	2	279	330	358	166	47	26	24.60	37	34.0	32.7	30.9	50.7	50.2	109.0	107.8
94.	44	2	229	279	250	93	37	21	24.60	44	41.4	34.9	30.4	33.4	32.4	90.0	87.3
95.	49	2	279	305	327	214	65	45	19.80	61	44.8	38.6	34.7	66.9	64.1	102.2	97.8
96.	50	2	254	279	273	146	53	13	26.30	38	35.4	29.9	.0	53.9	50.8	100.8	95.1
97.	52	2	152	178	105	47	45	0	.00	0	.0	.0	.0	47.8	46.2	106.5	102.9
98.	53	2	127	178	92	27	29	64	14.40	36	31.8	30.1	27.5	23.4	27.1	80.0	92.7
99.	56	2	152	178	105	56	53	38	19.20	34	32.4	31.0	28.9	55.2	56.9	103.2	106.4
100.	57	2	152	178	105	50	48	0	.00	0	.0	.0	.0	53.8	47.4	111.8	98.5
101.	58	2	152	178	105	47	45	31	22.00	40	35.0	31.8	29.3	46.2	46.2	102.4	102.4
102.	61	2	330	356	451	261	58	26	23.10	53	44.0	39.0	32.3	69.2	66.9	119.4	115.6
103.	63	2	305	330	387	185	48	20	26.40	43	38.4	34.0	31.3	56.0	51.0	117.3	106.9
104.	64	2	330	356	451	227	50	0	.00	0	.0	.0	.0	56.9	54.8	113.0	108.9
105.	65	2	279	305	327	159	49	0	.00	0	.0	.0	.0	54.8	54.9	112.6	112.8
106.	66	2	279	305	327	177	54	0	.00	0	.0	.0	.0	60.1	57.5	111.0	106.2
107.	68	2	254	254	247	113	46	0	.00	0	.0	.0	.0	51.6	49.7	112.7	108.7
108.	69	2	305	330	387	192	50	0	.00	0	.0	.0	.0	57.2	50.1	115.2	100.8
109.	70	2	279	305	327	164	50	0	.00	0	.0	.0	.0	60.8	58.3	121.6	116.7
110.	72	2	229	254	224	110	49	0	.00	0	.0	.0	.0	44.9	44.6	91.1	90.4
111.	73	2	305	356	421	250	59	0	.00	0	.0	.0	.0	66.7	57.3	112.4	96.5
112.	74	2	279	305	327	179	55	52	18.70	48	36.4	32.5	30.2	52.0	44.3	95.0	80.9
113.	77	2	229	279	250	128	51	40	18.60	40	34.6	29.8	27.4	57.8	50.0	113.0	97.8
114.	78	2	305	330	387	190	49	0	.00	0	.0	.0	.0	60.0	55.2	122.4	112.7
115.	79	2	254	305	302	158	53	37	17.50	31	28.4	25.5	23.6	59.4	46.6	113.1	88.7
116.	81	2	330	381	487	278	57	0	.00	0	.0	.0	.0	62.5	59.4	109.3	103.8
117.	82	2	356	406	558	269	48	0	.00	0	.0	.0	.0	57.1	54.6	118.6	113.3
118.	83	2	279	330	358	178	50	0	.00	0	.0	.0	.0	61.0	61.5	122.7	123.7
119.	84	2	356	406	558	287	51	40	21.70	31	29.6	28.1	27.0	60.2	57.4	117.1	111.6
120.	85	2	330	356	451	229	51	0	.00	0	.0	.0	.0	55.8	51.5	109.8	101.4
121.	86	2	279	305	327	218	67	0	.00	0	.0	.0	.0	74.1	71.4	111.1	107.0
122.	87	2	381	406	594	258	43	0	.00	0	.0	.0	.0	51.1	48.2	117.5	110.8
123.	88	2	279	330	358	207	58	52	16.10	31	26.4	24.3	23.2	70.4	67.2	121.4	115.8
124.	89	2	254	305	302	142	47	0	.00	0	.0	.0	.0	55.1	52.7	117.3	112.1
125.	90	2	279	305	327	169	52	43	17.60	36	31.8	28.5	26.2	55.7	51.2	107.6	98.8
126.	91	2	178	203	140	40	29	0	.00	0	.0	.0	.0	27.4	27.4	94.8	94.8
127.	93	2	203	229	179	88	49	0	.00	0	.0	.0	.0	43.1	40.8	88.3	83.5
128.	94	2	203	203	158	35	22	34	18.60	42	33.0	29.6	27.1	22.8	24.6	103.3	111.3
129.	1	3	356	406	558	309	55	25	22.50	39	36.6	32.9	29.7	62.3	57.6	112.4	104.1
130.	2	3	381	406	594	329	55	48	20.70	43	41.2	38.3	34.6	56.0	47.6	101.1	86.0
131.	3	3	330	381	487	319	65	36	27.80	57	50.4	45.2	41.1	69.8	57.7	106.6	88.2
132.	4	3	229	279	250	146	59	19	23.80	44	37.2	31.4	27.2	62.4	56.4	106.4	96.3
133.	5	3	254	305	302	124	41	20	28.40	45	41.2	37.7	33.3	46.8	45.1	114.2	110.2
134.	6	3	203	254	202	102	51	39	18.00	44	32.4	28.5	25.3	62.3	58.3	123.3	115.4
135.	7	3	254	305	302	121	40	42	25.30	78	62.2	50.5	44.9	39.0	34.1	97.1	85.1
136.	8	3	305	330	387	206	53	25	30.40	63	52.2	43.9	38.4	60.1	53.0	112.8	99.5
137.	9	3	356	406	558	267	48	34	22.30	69	45.2	38.2	33.9	53.1	44.3	111.0	92.6
138.	10	3	457	483	847	435	51	29	34.20	73	61.4	54.7	48.3	54.3	47.9	105.6	93.1
139.	11	3	127	178	92	20	22	65	11.86	24	23.2	21.4	20.0	26.1	26.1	120.8	120.8
140.	13	3	203	229	179	42	23	41	12.88	36	26.6	21.7	19.5	27.4	27.9	118.6	120.7
141.	14	3	152	178	105	49	47	33	16.30	34	30.2	26.5	23.9	46.8	37.2	100.5	79.8
142.	15	3	152	178	105	34	32	61	13.50	32	23.8	21.6	20.3	16.0	16.0	50.1	50.1
143.	21	3	152	203	123	55	44	50	17.90	35	30.4	28.6	27.2	50.2	49.0	113.2	110.5
144.	23	3	203	229	179	104	58	23	21.30	42	37.4	31.8	25.5	55.5	39.1	95.5	67.2
145.	26	3	178	203	140	50	36	31	15.40	36	28.2	23.1	20.6	38.4	30.0	106.6	83.3
146.	28	3	127	152	75	34	45	28	10.30	15	14.4	13.8	13.4	36.9	33.4	82.6	74.9
147.	32	3	229	254	224	110	49	39	16.60	35	30.8	27.4	24.9	48.8	40.1	99.3	81.7
148.	36	3	203	229	179	80	44	64	13.90	26	25.2	23.7	22.2	49.3	46.9	110.9	105.6
149.	37	3	203	254	202	93	46	49	18.60	46	38.4	33.1	30.0	53.4	52.2	116.9	114.2
150.	38	3	229	254	224	105	47	50	17.20	35	31.8	29.5	27.3	52.0	47.1	111.0	100.6
151.	40	3	203	229	179	67	37	51	15.90	30	25.4	23.7	22.2	40.6	40.2	108.7	107.5
152.	41	3	203	229	179	93	52	63	15.30	32	27.4	24.8	23.5	55.1	56.5	106.3	109.0
153.	42	3	178	229	161	58	36	45	17.80	34	30.4	27.5	25.7	36.3	28.0	100.4	77.4
154.	44	3	178	229	161	70	43	23	17.50	39	31.2	26.5	22.9	51.8	50.8	119.1	117.0
155.	47	3	279	279	298	162	54	42	21.30	45	40.4	36.9	34.1	67.3	65.7	123.9	121.0
156.	48	3	203	229	179	98	55	37	18.00	46	36.0	30.3	27.3	61.8	45.1	113.3	82.6
157.	50	3	229	254	224	97	43	27	24.20	53	42.8	35.7	32.0	42.8	40.1	99.0	92.7
158.	54	3	152	178	105	42	40	76	17.80	40	33.6	31.5	30.3	39.6	38.0	100.2	96.1
159.	55	3	127	178	92	22	24	0	.00	0	.0	.0	.0	24.0	24.0	98.8	98.8
160.	56	3	127	152	75	13	17	31	17.60	56	36.0	28.9	25.1	13.7	13.7	80.1	80.1
161.	57	3	127	152	75	34	45	0	.00	0	.0	.0	.0	44.6	44.6	99.9	99.9
162.	58	3	127	152	75	22	30	60	18.00	35	31.0	29.6	29.7	23.7	23.7	80.0	80.0

163.	61	3	305	330	387	231	60	31	21.60	56	47.2	40.4	33.7	68.2	64.6	114.1	108.2
164.	63	3	254	305	302	146	48	28	26.10	43	38.2	35.5	33.5	56.0	48.9	116.0	101.1
165.	65	3	254	279	273	113	41	0	.00	0	.0	.0	.0	46.5	36.1	112.5	87.3
166.	69	3	254	305	302	149	50	0	.00	0	.0	.0	.0	55.9	45.2	112.9	91.3
167.	72	3	203	229	179	80	44	0	.00	0	.0	.0	.0	54.2	47.2	121.9	106.1
168.	73	3	279	305	327	154	47	0	.00	0	.0	.0	.0	48.8	46.5	103.6	98.8
169.	75	3	203	229	179	98	55	43	14.70	27	24.6	22.7	21.1	61.3	61.3	112.0	112.0
170.	78	3	279	305	327	144	44	0	.00	0	.0	.0	.0	50.4	50.4	114.5	114.5
171.	82	3	305	356	421	200	47	0	.00	0	.0	.0	.0	54.9	52.5	115.8	110.8
172.	84	3	330	356	451	229	51	62	19.40	44	41.6	37.4	34.5	60.8	59.1	119.7	116.2
173.	85	3	279	330	358	196	55	0	.00	0	.0	.0	.0	57.3	48.3	104.9	88.4
174.	91	3	127	178	92	32	35	0	.00	0	.0	.0	.0	35.5	35.5	100.1	100.1
175.	92	3	203	229	179	99	55	70	18.60	37	34.4	32.3	30.1	41.6	47.9	75.6	87.0
176.	95	3	152	178	105	51	49	60	15.27	30	28.8	27.1	25.7	41.6	49.7	85.5	101.9
177.	96	3	152	178	105	40	39	0	.00	0	.0	.0	.0	31.2	29.5	80.8	76.6
178.	97	3	127	203	110	34	31	0	.00	0	.0	.0	.0	30.5	30.5	99.9	99.9
179.	98	3	152	178	105	44	42	0	.00	0	.0	.0	.0	45.9	46.7	109.0	110.9
180.	100	3	203	229	179	83	46	37	18.50	35	31.4	29.7	27.9	50.5	52.9	108.7	113.8
181.	1	4	330	356	451	220	49	31	22.90	43	38.2	34.5	31.2	55.5	48.6	113.8	99.7
182.	2	4	356	381	521	263	50	36	27.40	70	53.0	45.6	42.2	53.3	45.0	105.7	89.1
183.	3	4	305	330	387	218	56	43	23.60	75	60.6	50.4	44.5	59.7	52.6	105.9	93.2
184.	4	4	203	229	179	92	51	49	19.90	53	39.8	35.2	31.8	56.3	56.8	110.0	111.1
185.	5	4	203	254	202	98	48	23	33.70	52	46.4	43.9	41.1	56.6	52.0	117.6	108.0
186.	6	4	178	203	140	67	48	44	15.30	29	27.2	24.6	22.9	61.2	55.2	127.5	115.0
187.	7	4	203	254	202	101	50	49	20.90	66	49.6	41.9	37.9	53.6	51.0	107.3	101.9
188.	8	4	229	305	279	159	57	55	19.20	52	44.8	40.9	36.9	61.6	59.0	107.7	103.2
189.	9	4	305	356	421	178	42	45	19.90	58	46.6	37.7	33.3	50.2	44.4	118.6	104.8
190.	10	4	356	457	643	331	51	47	37.60	85	75.4	69.7	64.9	55.0	44.5	107.0	86.6
191.	14	4	127	152	75	15	20	65	15.62	34	29.8	27.2	25.9	16.4	16.4	80.2	80.2
192.	16	4	127	178	92	35	39	47	16.83	35	33.2	29.8	27.4	41.1	43.5	106.4	112.7
193.	22	4	152	178	105	42	40	41	17.20	55	35.4	29.0	26.1	46.1	37.7	115.0	94.1
194.	27	4	152	178	105	27	26	86	11.40	23	18.8	17.9	17.3	25.9	25.9	99.9	99.9
195.	29	4	127	178	92	34	37	43	17.80	52	39.0	33.0	29.5	29.3	18.3	79.9	50.1
196.	40	4	152	203	123	51	41	60	18.20	31	29.6	27.7	26.5	48.9	47.5	118.6	115.2
197.	44	4	152	178	105	56	53	46	17.20	32	29.0	27.2	25.7	43.9	57.8	82.9	109.0
198.	48	4	178	203	140	60	43	43	17.90	45	39.0	35.3	31.3	44.7	31.9	104.8	74.7
199.	62	4	203	254	202	92	45	43	21.30	44	42.6	40.0	37.1	47.0	40.3	103.8	89.1
200.	66	4	203	254	202	93	46	0	.00	0	.0	.0	.0	40.6	31.5	88.4	68.5
201.	67	4	178	229	161	58	36	0	.00	0	.0	.0	.0	38.9	39.9	107.5	110.5
202.	69	4	229	254	224	89	40	0	.00	0	.0	.0	.0	46.1	46.4	116.4	117.2
203.	71	4	152	203	123	56	45	0	.00	0	.0	.0	.0	53.0	50.5	116.4	110.9
204.	74	4	178	229	161	63	39	64	20.05	56	45.2	39.5	35.9	45.8	43.3	117.1	110.6
205.	79	4	178	229	161	94	59	40	26.30	68	58.8	48.4	42.9	59.2	52.9	101.1	90.4
206.	81	4	178	229	161	57	35	0	.00	0	.0	.0	.0	34.1	36.2	96.2	102.0
207.	87	4	305	356	421	114	27	0	.00	0	.0	.0	.0	30.2	25.1	111.6	92.9
208.	88	4	203	254	202	108	53	74	20.50	45	39.2	36.9	34.5	60.2	60.1	112.7	112.3
209.	90	4	203	254	202	84	41	59	19.90	42	40.8	38.4	35.4	47.2	32.7	113.9	79.0
210.	92	4	152	203	123	41	33	78	18.20	37	35.4	33.9	32.3	29.1	35.8	87.6	107.9
211.	95	4	127	152	75	30	40	66	14.60	34	28.6	26.6	25.1	42.5	40.5	105.0	100.1
212.	2	5	279	356	392	145	37	34	32.70	96	73.8	61.2	52.5	40.1	36.4	108.3	98.3
213.	3	5	254	305	302	143	48	47	24.80	82	60.2	52.6	46.7	53.6	48.5	112.8	102.0
215.	5	5	152	203	123	66	54	42	26.10	44	43.6	41.4	38.6	62.6	61.9	116.0	114.8
216.	6	5	127	178	92	34	37	59	17.00	42	31.4	27.9	25.2	40.3	36.5	110.1	99.9
217.	7	5	152	203	123	61	50	77	21.70	70	54.4	48.6	43.5	62.8	60.1	125.9	120.5
218.	8	5	203	229	179	54	30	57	18.70	71	58.0	47.1	39.3	35.8	28.9	119.1	96.3
219.	9	5	254	305	302	115	38	44	25.10	56	46.2	41.3	38.0	46.2	43.2	121.1	113.0
220.	10	5	305	356	421	207	49	49	37.70	98	80.0	71.0	63.4	55.4	56.6	112.7	115.2
221.	37	5	127	152	75	50	67	68	18.30	44	38.8	34.0	30.9	42.9	40.9	64.4	61.4
222.	48	5	127	178	92	34	37	52	15.80	37	32.2	29.5	27.4	36.6	36.6	99.9	99.9
223.	49	5	152	203	123	46	38	49	23.20	48	45.2	42.2	40.2	30.5	30.5	81.3	81.3
224.	69	5	178	229	161	57	35	0	.00	0	.0	.0	.0	39.8	32.5	112.1	91.5
225.	88	5	152	203	123	40	32	93	19.50	40	37.0	34.8	33.3	36.1	34.7	111.4	107.1
226.	1	6	178	229	161	45	28	52	21.30	62	52.6	47.5	42.9	33.6	31.5	119.2	111.7
227.	2	6	203	279	228	60	27	50	28.50	98	76.2	62.9	53.7	27.4	23.9	103.2	90.2
228.	3	6	178	254	184	93	51	66	26.80	95	68.8	59.9	55.3	59.9	58.5	118.1	115.3
229.	10	6	178	305	239	97	41	56	34.90	96	82.4	75.5	70.1	38.2	34.4	94.2	84.8
230.	2	7	127	203	110	33	30	90	22.40	68	61.2	54.2	49.9	34.9	33.3	116.5	111.3

APPENDIX L

Data file TYL91S

2503.0	93	1	4	102	98	38	35	4877	22	11	5	0	1	477	18.878	.000	1.888	.944	16.764	0	.000	51	1.676	1	.838	.000	.000
2541.0	91	1	4	102	98	38	35	4877	13	9	6	0	1	385	18.878	.000	.944	1.510	16.764	0	.000	1	.838	4	1.341	.000	.000
2542.0	91	1	4	102	98	38	35	4877	4	4	6	0	2	484	18.878	.000	2.077	1.888	16.764	0	.000	7	1.844	5	1.676	.000	.000
2627.0	98	1	4	102	98	38	35	4877	18	14	4	0	1	437	18.878	.000	.944	.944	16.764	0	.000	1	.838	1	.838	.000	.000
2512.0	95	1	4	102	98	38	35	4267	4	4	4	0	2	528	16.518	.000	1.652	1.900	14.668	0	.000	5	1.467	8	1.687	.000	.000
2511.0	95	1	4	102	98	38	35	4877	15	4	6	0	2	433	18.878	.000	2.077	.944	16.764	0	.000	7	1.844	1	.838	.000	.000
2626.0	98	1	4	102	98	38	35	4877	9	4	6	0	2	505	18.878	.000	1.888	.944	16.764	0	.000	51	1.676	1	.838	.000	.000
2539.0	91	1	3	102	98	38	35	4267	6	3	2	0	3	532	16.518	.000	2.065	1.817	14.668	0	.000	11	1.834	7	1.614	.000	.000
2509.0	95	1	4	102	98	38	35	4877	19	4	2	0	2	467	18.878	.000	1.888	1.888	16.764	0	.000	5	1.676	5	1.676	.000	.000
2628.0	98	1	4	102	98	38	35	4877	1	3	7	0	1	487	18.878	.000	1.888	1.510	16.764	0	.000	51	1.676	4	1.341	.000	.000
2618.0	98	1	3	102	98	38	35	4267	4	2	3	0	3	542	16.518	.000	1.900	1.900	14.668	0	.000	8	1.687	8	1.687	.000	.000
2543.0	91	1	4	102	98	25	22	4572	0	0	0	0	0	707	11.799	1.711	.000	.000	10.001	23	1.450	0	.000	0	.000	.000	.000
2556.0	96	1	4	102	98	38	35	4877	20	1	1	0	1	400	18.878	.000	1.888	1.888	16.764	0	.000	51	1.676	5	1.676	.000	.000
2557.0	96	1	4	102	98	38	35	4877	36	4	4	0	1	392	18.878	.000	1.888	.944	16.764	0	.000	51	1.676	1	.838	.000	.000
2625.0	98	1	1	102	98	25	22	3658	0	0	0	0	0	726	9.439	1.369	.000	.000	8.001	23	1.160	0	.000	0	.000	.000	.000
2617.0	98	1	3	76	73	25	22	3353	0	0	0	0	0	782	6.489	.941	.000	.000	5.442	23	.789	0	.000	0	.000	.000	.000
2466.0	97	1	4	102	98	38	35	4877	18	12	2	9	1	445	18.878	.000	1.888	1.510	16.764	0	.000	51	1.676	4	1.341	.000	.000
2464.0	97	1	3	127	124	25	22	4572	0	0	0	0	0	613	14.748	2.139	.000	.000	12.582	23	1.824	0	.000	0	.000	.000	.000
2505.0	93	1	4	102	98	38	35	4877	13	5	5	0	1	481	18.878	.000	1.888	.944	16.764	0	.000	51	1.676	1	.838	.000	.000
2536.0	91	1	1	76	73	25	22	3962	0	0	0	0	0	735	7.669	.614	.000	.000	6.431	25	.514	0	.000	0	.000	.000	.000
2553.0	96	1	3	102	98	25	22	2438	0	0	0	0	0	628	6.293	.912	.000	.000	5.334	22	.773	0	.000	0	.000	.000	.000
2538.0	91	1	2	76	73	25	22	3353	0	0	0	0	0	726	6.489	.941	.000	.000	5.442	23	.789	0	.000	0	.000	.000	.000
2467.0	97	1	4	102	98	38	35	4877	13	2	4	0	1	465	18.878	.000	1.888	.944	16.764	0	.000	51	1.676	1	.838	.000	.000
2582.0	100	1	3	127	124	25	22	4877	0	0	0	0	0	643	15.732	2.281	.000	.000	13.421	23	1.946	0	.000	0	.000	.000	.000
2465.0	97	1	4	102	98	38	35	4877	12	2	4	0	2	497	18.878	.000	1.888	1.888	16.764	0	.000	5	1.676	5	1.676	.000	.000
2579.0	100	1	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
2468.0	97	1	4	76	73	25	22	3962	0	0	0	0	0	717	7.669	1.112	.000	.000	6.431	24	.932	0	.000	0	.000	.000	.000
2583.0	99	1	1	152	149	25	22	3048	0	0	0	0	0	594	11.799	1.711	.000	.000	10.109	23	1.466	0	.000	0	.000	.000	.000
2586.0	99	1	4	102	98	38	35	4572	22	5	3	0	1	434	17.698	.000	1.770	.885	15.716	0	.000	51	1.572	1	.786	.000	.000
2584.0	99	1	4	102	98	38	35	4877	3	3	1	0	2	509	18.878	.000	2.360	2.077	16.764	0	.000	11	2.095	7	1.844	.000	.000
2589.0	99	1	2	76	73	25	22	3353	0	0	0	0	0	701	6.489	.941	.000	.000	5.442	23	.789	0	.000	0	.000	.000	.000
2597.0	99	1	3	76	73	25	22	4572	0	0	0	0	0	721	8.849	1.283	.000	.000	7.420	22	1.076	0	.000	0	.000	.000	.000
2554.0	96	1	3	102	98	38	35	4572	2	3	3	0	3	447	17.698	.000	2.035	1.947	15.716	0	.000	8	1.807	7	1.729	.000	.000
2555.0	96	1	4	102	98	38	35	4877	0	4	4	0	2	472	18.878	.000	2.077	2.171	16.764	0	.000	7	1.844	8	1.928	.000	.000
2581.0	100	1	3	152	149	38	35	4877	7	11	0	11	1	515	28.317	.000	1.416	2.832	25.416	0	.000	1	1.271	5	2.542	.000	.000
2548.0	96	1	1	76	73	25	22	3048	0	0	0	0	0	646	5.899	.855	.000	.000	4.947	23	.717	0	.000	0	.000	.000	.000
2558.0	96	1	4	76	73	25	22	3962	0	0	0	0	0	543	7.669	1.112	.000	.000	6.431	23	.932	0	.000	0	.000	.000	.000
2594.0	100	1	2	127	124	25	22	4267	0	0	0	0	0	629	13.765	1.996	.000	.000	11.743	23	1.703	0	.000	0	.000	.000	.000
2463.0	97	1	1	76	73	25	22	4267	0	0	0	0	0	760	8.259	1.198	.000	.000	6.926	22	1.004	0	.000	0	.000	.000	.000
2578.0	100	1	4	102	98	38	35	4877	19	7	1	0	2	475	18.878	.000	.944	.944	16.764	0	.000	1	.838	1	.838	.000	.000
2504.0	93	1	4	102	98	38	35	4572	6	3	4	0	2	521	17.698	.000	1.947	1.947	15.716	0	.000	7	1.729	7	1.729	.000	.000
2576.0	100	1	4	102	98	38	35	4267	4	2	1	0	2	504	16.518	.000	1.652	1.817	14.668	0	.000	5	1.467	7	1.614	.000	.000
2508.0	95	1	2	127	124	25	22	3658	0	0	0	0	0	647	11.799	1.711	.000	.000	10.066	23	1.460	0	.000	0	.000	.000	.000
2510.0	95	1	4	102	98	38	35	4877	22	5	10	0	1	424	18.878	.000	1.888	.944	16.764	0	.000	51	1.676	1	.838	.000	.000
2577.0	100	1	4	102	98	38	35	4877	10	8	12	11	2	577	18.878	.000	1.888	2.171	16.764	0	.000	5	1.676	8	1.928	.000	.000
2507.0	95	1	1	76	73	25	22	3962	0	0	0	0	0	733	7.669	1.112	.000	.000	6.431	23	.932	0	.000	0	.000	.000	.000
2580.0	100	1	4	76	73	25	22	4877	0	0	0	0	0	640	9.439	1.369	.000	.000	7.915	23	1.148	0	.000	0	.000	.000	.000
2514.0	93	1	3	102	98	25	22	2134	0	0	0	0	0	657	5.506	.798	.000	.000	4.667	23	.677	0	.000	0	.000	.000	.000
2588.0	99	1	4	102	98	25	22	4267	0	0	0	0	0	648	11.012	1.597	.000	.000	9.334	23	1.353	0	.000	0	.000	.000	.000
2502.0	93	1	3	102	98	38	35	4877	1	6	6	10	2	505	18.878	.000	2.171	2.077	16.764	0	.000	8	1.928	7	1.844	.000	.000
2575.0	100	1	1	76	73	25	22	2743	0	0	0	0	0	874	5.309	.770	.000	.000	4.452	23	.646	0	.000	0	.000	.000	.000
2596.0	99	1	3	152	149	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	28.317	25.416
2585.0	99	1	4	102	98	38	35	4572	21	4	6	0	1	478	17.698	.000	.885	.885	15.716	0	.000	1	.786	1	.786	.000	.000
2513.0	93	1	3	152	149	38	35	4877	7	5	1	10	1	495	28.317	.000	1.416	2.265	25.416	0	.000	1	1.271	4	2.033	.000	.000

2515.0	93	1	2	127	124	25	22	3962	0	0	0	0	0	700	12.782	1.853	.000	.000	10.905	23	1.581	0	.000	0	.000	.000	.000
2587.0	99	1	4	102	98	38	35	4572	6	2	4	0	2	483	17.698	.000	1.947	.885	15.716	0	.000	7	1.729	1	.786	.000	.000
2506.0	93	1	4	102	98	38	35	4572	2	3	6	10	2	529	17.698	.000	.885	1.770	15.716	0	.000	1	.786	5	1.572	.000	.000
2595.0	99	1	1	76	73	25	22	2743	0	0	0	0	0	703	5.309	.770	.000	.000	4.452	23	.646	0	.000	0	.000	.000	.000
2540.0	91	1	4	102	98	38	35	4877	3	3	4	0	2	478	18.878	.000	.944	.944	16.764	0	.000	1	.838	1	.838	.000	.000
2598.0	93	2	2	102	98	38	35	3658	6	1	2	0	2	488	14.158	.000	.708	1.557	12.573	0	.000	1	.629	7	1.383	.000	.000
2603.0	93	2	4	102	98	38	35	0	0	0	0	0	0	0	.000	.000	.000	.000	.000	0	.000	0	.000	0	.000	18.878	16.764
2605.0	93	2	4	102	98	25	22	2743	0	0	0	0	0	612	7.079	.566	.000	.000	6.001	25	.480	0	.000	0	.000	.000	.000
2652.0	94	2	4	102	98	25	22	3962	0	0	0	0	0	664	10.226	1.483	.000	.000	8.668	23	1.257	0	.000	0	.000	.000	.000
2602.0	93	2	4	102	98	38	35	4877	12	5	3	0	1	491	18.878	.000	1.888	1.510	16.764	0	.000	51	1.676	4	1.341	.000	.000
2650.0	94	2	4	102	98	38	35	3962	7	3	5	0	1	470	15.338	.000	1.534	1.227	13.621	0	.000	51	1.362	4	1.090	.000	.000
2606.0	93	2	1	102	98	25	22	3658	0	0	0	0	0	679	9.439	1.369	.000	.000	8.001	23	1.160	0	.000	0	.000	.000	.000
2643.0	91	2	4	76	73	25	22	4572	0	0	0	0	0	623	8.849	.708	.000	.000	7.420	25	.594	0	.000	0	.000	.000	.000
2642.0	91	2	4	76	73	25	22	4877	0	0	0	0	0	570	9.439	.755	.000	.000	7.915	25	.633	0	.000	0	.000	.000	.000
2604.0	93	2	4	102	98	25	22	4877	0	0	0	0	0	415	12.585	1.007	.000	.000	10.668	25	.853	0	.000	0	.000	.000	.000
2651.0	94	2	4	102	98	38	35	3658	7	3	3	12	1	446	14.158	.000	1.416	1.416	12.573	0	.000	51	1.257	5	1.257	.000	.000
2644.0	91	2	4	127	124	25	22	3353	0	0	0	0	0	571	10.815	1.568	.000	.000	9.227	23	1.338	0	.000	0	.000	.000	.000
2605.1	93	2	4	102	98	38	35	4877	45	17	3	0	1	495	18.878	.000	.944	.944	16.764	0	.000	1	.838	1	.838	.000	.000
2641.0	91	2	4	76	73	25	22	4877	0	0	0	0	0	565	9.439	.755	.000	.000	7.915	25	.633	0	.000	0	.000	.000	.000
2640.0	91	2	4	76	73	25	22	4877	0	0	0	0	0	613	9.439	.755	.000	.000	7.915	25	.633	0	.000	0	.000	.000	.000
2544.0	100	3	4	102	98	38	35	4877	10	4	3	0	2	440	18.878	.000	2.171	2.077	16.764	0	.000	8	1.928	7	1.844	.000	.000
2635.0	92	3	4	102	98	38	35	4877	5	3	3	0	2	450	18.878	.000	1.888	1.888	16.764	0	.000	51	1.676	5	1.676	.000	.000
2537.0	100	3	2	76	73	25	22	4267	0	0	0	0	0	580	8.259	1.198	.000	.000	6.926	23	1.004	0	.000	0	.000	.000	.000
2655.0	98	3	4	102	98	25	22	4877	0	0	0	0	0	570	12.585	1.825	.000	.000	10.668	23	1.547	0	.000	0	.000	.000	.000
2636.1	92	3	4	102	98	38	35	4572	25	3	1	0	1	414	17.698	.000	1.770	.885	15.716	0	.000	51	1.572	1	.786	.000	.000
2653.0	98	3	4	102	98	38	35	4877	2	3	1	0	2	465	18.878	.000	1.888	2.171	16.764	0	.000	5	1.676	8	1.928	.000	.000
2637.0	92	3	4	102	98	38	35	4877	23	3	2	10	2	435	18.878	.000	1.888	1.888	16.764	0	.000	5	1.676	5	1.676	.000	.000
2497.0	95	3	3	76	73	25	22	4267	0	0	0	0	0	671	8.259	1.198	.000	.000	6.926	23	1.004	0	.000	0	.000	.000	.000
2478.0	96	3	4	102	98	38	35	4572	51	6	6	0	1	373	17.698	.000	.885	.885	15.716	0	.000	1	.786	1	.786	.000	.000
2638.0	92	3	4	76	73	25	22	4877	1	1	3	0	0	640	9.439	1.369	.000	.000	7.915	23	1.148	0	.000	0	.000	.000	.000
2452.0	91	3	4	102	98	38	35	4572	8	4	4	0	1	438	17.698	.000	1.770	1.770	15.716	0	.000	51	1.572	5	1.572	.000	.000
2551.0	97	3	4	102	98	38	35	4877	28	4	3	0	1	419	18.878	.000	1.888	1.888	16.764	0	.000	51	1.676	5	1.676	.000	.000
2636.0	92	3	4	102	98	38	35	4877	32	15	4	0	1	461	18.878	.000	1.888	1.510	16.764	0	.000	51	1.676	4	1.341	.000	.000
2479.0	96	3	4	102	98	25	22	3658	0	0	0	0	0	497	9.439	.755	.000	.000	8.001	25	.640	0	.000	0	.000	.000	.000
2546.0	100	3	4	102	98	38	35	4877	28	1	11	10	1	397	18.878	.000	1.888	1.888	16.764	0	.000	51	1.676	5	1.676	.000	.000
2498.0	95	3	4	102	98	38	35	4877	26	3	3	0	1	418	18.878	.000	1.888	1.888	16.764	0	.000	51	1.676	5	1.676	.000	.000
2624.0	92	3	1	102	98	25	22	3658	0	0	0	0	0	670	9.439	.000	.000	.000	8.001	0	.000	0	.000	10	.000	.000	.000
2477.0	96	3	4	102	98	38	35	4877	10	2	1	0	2	403	18.878	.000	1.888	2.077	16.764	0	.000	5	1.676	7	1.844	.000	.000
2639.0	92	3	3	102	98	38	35	4877	24	3	5	0	2	548	18.878	.000	.944	.944	16.764	0	.000	1	.838	1	.838	.000	.000
2500.0	95	3	4	102	98	25	22	4877	0	0	0	0	0	574	12.585	1.007	.000	.000	10.668	25	.853	0	.000	0	.000	.000	.000
2545.0	100	3	4	102	98	38	35	4877	38	3	2	0	1	384	18.878	.000	1.888	1.510	16.764	0	.000	51	1.676	4	1.341	.000	.000
2654.0	98	3	4	102	98	38	35	4877	30	3	2	0	1	403	18.878	.000	1.888	1.510	16.764	0	.000	51	1.676	4	1.341	.000	.000
2649.0	100	3	3	102	98	38	35	4877	3	4	5	0	3	454	18.878	.000	2.077	2.077	16.764	0	.000	7	1.844	7	1.844	.000	.000
2499.0	95	3	4	102	98	38	35	4877	23	2	9	0	1	424	18.878	.000	1.888	.944	16.764	0	.000	51	1.676	1	.838	.000	.000
2451.0	91	3	4	102	98	38	35	4877	13	2	3	0	1	424	18.878	.000	1.888	1.888	16.764	0	.000	51	1.676	5	1.676	.000	.000
2547.0	100	3	4	102	98	25	22	4267	0	0	0	0	0	552	11.012	1.597	.000	.000	9.334	23	1.353	0	.000	0	.000	.000	.000
2550.0	97	3	4	102	98	38	35	4877	22	2	1	0	1	428	18.878	.000	1.888	1.888	16.764	0	.000	51	1.676	5	1.676	.000	.000
2528.0	95	4	4	102	98	38	35	4572	22	2	5	10	1	426	17.698	.000	1.770	1.770	15.716	0	.000	51	1.572	5	1.572	.000	.000
2527.0	95	4	4	102	98	38	35	4267	18	2	4	0	1	426	16.518	.000	1.652	1.817	14.668	0	.000	51	1.467	7	1.614	.000	.000
2455.0	92	4	4	102	98	38	35	4877	42	2	2	0	1	406	18.878	.000	1.888	.944	16.764	0	.000	51	1.676	1	.838	.000	.000
2456.0	92	4	4	102	98	25	22	3353	0	0	0	0	0	542	8.652	1.255	.000	.000	7.334	23	1.063	0	.000	0	.000	.000	.000
2454.0	92	4	4	102	98	38	35	4877	30	3	1	0	1	444	18.878	.000	1.888	1.888	16.764	0	.000	51	1.676	5	1.676	.000	.000

APPENDIX M

Computer Program TDYLPP

```
1000.    READ A$,B$
1010.    FILE RESTORE #1 = A$
1020.    FILE SCRATCH WIDTH(144,144) #2=B$
1030.    M1=M2=M3=M4=M5=M6=M7=0
1040.    V1=V2=V3=V4=V5=V6=V7=0
1050.    B1=B2=B3=B4=B5=B6=B7=0
1100.    Z9=0
1110.     Z9=Z9+1
1130.    IF END #1 GOTO 4000
1140.     IF A2<>B GOTO 1160
1150.    INPUT #1,C,A,B,C,C,C,C,T,C,C,C,C,C,C,C,C,C,C,C,D,E,F,G,H,I,J,K,L
1160.    IF Z9=1 GOTO 1190
1170.     IF A2<>B GOTO 4000
1180.    IF Z9>1 GOTO 1500
1190.    A1=A
1200.     A2=B
1500.    IF D<>0 GOTO 2000
1510.    IF T = 35 GOTO 1540
1520.    B5=B5+L
1530.    GOTO 1110
1540.    M4=M4+L
1550.    V4=V4+L
1560.    GOTO 1110
2000.     IF T=22 GOTO 2120
2001.     IF I = 11 GOTO 3000
2010.    IF I = 8 GOTO 3020
2020.    IF I = 7 GOTO 3040
2030.    IF I = 5 GOTO 3060
2040.    IF I = 4 GOTO 3080
2050.    IF I = 1 GOTO 3100
2060.    IF G = 11 GOTO 3120
2070.    IF G = 8 GOTO 3140
2080.    IF G = 7 GOTO 3160
2090.    IF G = 5 GOTO 3180
2100.    IF G = 51 GOTO 3200
2110.    IF G = 1 GOTO 3220
2120.    IF E = 21 GOTO 3240
2130.    IF E = 22 GOTO 3260
2140.    IF E = 23 GOTO 3280
2150.    IF E = 24 GOTO 3300
2160.    IF E = 25 GOTO 3320
2170.    GOTO 1110
3000.    M1=M1+D
3010.    GOTO 2060
3020.    M2=M2+D
3030.    GOTO 2060
3040.    M3=M3+D
3050.    GOTO 2060
3060.    M4=M4+D
3070.    GOTO 2060
3080.    M5=M5+D
3090.    GOTO 2060
3100.    M6=M6+D
3110.    GOTO 2060
3120.    V1=V1+D
3130.    GOTO 1110
3140.    V2=V2+D
3150.    GOTO 1110
3160.    V3=V3+D
3170.    GOTO 1110
3180.    V4=V4+D
3190.    GOTO 1110
3200.    V5=V5+D
3210.    GOTO 1110
3220.    V6=V6+D
3230.    GOTO 1110
3240.    B1=B1+D
3250.    GOTO 1110
3260.    B2=B2+D
3270.    GOTO 1110
3280.    B3=B3+D
3290.    GOTO 1110
3300.    B4=B4+D
3310.    GOTO 1110
3320.    B5=B5+D
3330.    GOTO 1110
4000.    M7=M1+M2+M3+M4+M5+M6+.00000000001
4010.    V7=V1+V2+V3+V4+V5+V6+.000000001
4020.    B7=B1+B2+B3+B4+B5+.000000000001
4500.     PRINT #2 USING 5000,A2
4510.    PRINT #2 USING 5010,M1,M2,M3,M4,M5,M6,M7
4520.    PRINT #2 USING 5020,M1*100/M7,M2*100/M7,M3*100/M7,M4*100/M7,M5*100/M7,M6*100/M7
4530.    PRINT #2
4540.    PRINT #2 USING 5010,V1,V2,V3,V4,V5,V6,V7
4550.    PRINT #2 USING 5020,V1*100/V7,V2*100/V7,V3*100/V7,V4*100/V7,V5*100/V7,V6*100/V7
4560.    PRINT #2
4570.    PRINT #2 USING 5010,B1,B2,B3,B4,B5,B7
4580.    PRINT #2 USING 5030,B1*100/B7,B2*100/B7,B3*100/B7,B4*100/B7,B5*100/B7
4590.    PRINT #2
4700.    IF END #1 GOTO 4800
4710.    GOTO 1030
4800.    FILES
4810.    STOP
5000.    : LOG HEIGHT CLASS= #
5010.    : ###.## ###.## ###.## ###.## ###.## ###.## ####.##
5020.    : ###.#% ###.#% ###.#% ###.#% ###.#% ###.#%
5030.    : ###.#% ###.#% ###.#% ###.#% ###.#%
```