



SUNNICA ENERGY FARM

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Sunnica Energy Farm

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Table of contents

Chapter	Pages
1 Ministry of Agriculture, Fisheries and Food: Agricultural Land Classification of England and Wales (1988)	3
2 The Met Office: Climatological Data for Agricultural Land Classification (1989)	4
3 Natural England Technical Information Note TIN049 – Agricultural Land Classification: protecting the best and most versatile agricultural land (2012)	5

1 Ministry of Agriculture, Fisheries and Food: Agricultural Land Classification of England and Wales (1988)



Ministry of Agriculture, Fisheries and Food

**Agricultural Land Classification
of
England and Wales**

*Revised guidelines and criteria for grading the quality of
agricultural land*

OCTOBER 1988

CONTENTS

	<u>PREFACE</u>
1	<u>INTRODUCTION</u>
2	<u>DESCRIPTION OF GRADES AND SUBGRADES</u>
3	<u>GUIDELINES FOR ASSESSING LIMITATIONS</u>
3.1	<u>Climatic limitations</u>
3.2	<u>Site limitations</u>
	<u>Gradient</u>
	<u>Microrelief</u>
	<u>Flooding</u>
3.3	<u>Soil limitations</u>
	<u>Texture and structure</u>
	<u>Depth</u>
	<u>Stoniness</u>
	<u>Chemical</u>
3.4	<u>Interactive limitations</u>
	<u>Soil wetness</u>
	<u>Droughtiness</u>
	<u>Erosion</u>
<u>APPENDIX 1</u>	Agroclimatic datasets
<u>APPENDIX 2</u>	Soil texture
<u>APPENDIX 3</u>	Field assessment of soil wetness class
<u>APPENDIX 4</u>	Calculation of crop-adjusted soil available water capacity (AP) for wheat and potatoes
	<u>REFERENCES</u>

TABLES

1	<u>Grade according to gradient</u>
2	<u>Grade according to flood risk in summer</u>
3	<u>Grade according to flood risk in winter</u>
4	<u>Grade according to soil depth</u>
5	<u>Grade according to stoniness</u>
6	<u>Grade according to soil wetness - mineral soils</u>
7	<u>Grade according to soil wetness - organic mineral and peaty soils</u>
8	<u>Grade according to droughtiness</u>
9	<u>Limitation factors and associated agroclimatic parameters</u>
10	<u>Particle size fractions (for soil texture)</u>
11	<u>Definition of Soil Wetness Classes</u>
12	<u>Estimation of Wetness Class of peat soils with no slowly permeable layer starting within 80 cm depth</u>
13	<u>Estimation of Wetness Class of mineral and organic mineral soils with no slowly permeable layer starting within 80 cm depth but with gleying present within 70 cm</u>
14	<u>Estimation of available water from texture class, horizon and structural conditions</u>
15	<u>Available water in stones and rocks</u>

TEXT FIGURES

- 1 Grade according to climate
- 2 Limiting percentages of sand, silt and clay fractions for mineral texture classes
- 3 Limiting percentages of organic matter, clay and sand for peaty and organic mineral texture classes
- 4 Diagrammatic representation of gley colours defined according to the Munsell soil colour system
- 5 Diagrammatic representation of the combinations of structure, texture and consistence which are characteristic of slowly permeable layers
- 6 Flow diagram for assessing soil wetness class (WC) from field capacity days (FCD), depth to gleying (in cm) and depth to a slowly permeable layer (SPL, in cm)
- 7 Estimation of Wetness Class from depth to slowly permeable layer and duration of field capacity (FCD) for soils with gleying present within 40 cm depth and a slowly permeable layer starting within 80 cm depth; and for peat soils with a slowly permeable layer
- 8 Estimation of Wetness Class from depth to slowly permeable layer and duration of field capacity (FCD) for soils with gleying present within 70 cm depth but not within 40 cm and a slowly permeable layer starting within 80 cm depth
- 9 Assessment of structural conditions in subsoil horizons with S or LS texture
- 10 Assessment of structural conditions in subsoil horizons with SL, SZL or ZL texture
- 11 Assessment of structural conditions in subsoil horizons with SCL, CL, ZCL, SC, C or ZC texture

PREFACE

This report provides revised guidelines and criteria for grading the quality of agricultural land using the Agricultural Land Classification (ALC) of England and Wales. The ALC was devised and introduced in the 1960s and Technical Report 11 (MAFF, 1966) outlined the national system, which forms the basis for advice given by the Ministry of Agriculture, Fisheries and Food (MAFF) and Welsh Office Agriculture Department (WOAD) on land use planning matters. Following a review of the system, criteria for the sub-division of Grade 3 were published in Technical Report 11/1 (MAFF, 1976). The classification is well established and understood in the planning system and provides an appropriate framework for determining the physical quality of the land at national, regional and local levels.

Experience gained has shown that some modifications to the ALC system can usefully be made to take advantage of new knowledge and data, to improve the objectivity and consistency of assessments and standardise terminology. The revised guidelines and criteria in this report have been developed and tested with the aim of updating the system without changing the original concepts. A further aim has been to calibrate the revised criteria with those used previously to maintain as far as possible the consistency of grading. The guidelines and methods used to define grades and subgrades are based on the best and most up to date information available but future revisions may be necessary to accommodate new information and technical innovation.

There is a continuing need to distinguish between the better land in Grade 3 and other land in this Grade but it is no longer considered necessary to maintain a threefold division. Two subgrades are now recognised: Subgrade 3a and Subgrade 3b, the latter being a combination of the previous Subgrades 3b and 3c.

Technical Report 11 included proposals for the development of an economic classification system linked to the physical classification. It also identified a number of significant disadvantages for a national system of economic classification, especially the problems associated with the acquisition of objective, up to date, accurate and consistent farm output data. No satisfactory means have been found of overcoming these problems and for this reason economic criteria for grading land have not been adopted. Similarly site specific crop yield data are not regarded as a reliable indication of land quality, because it is not possible to consistently make allowances for variables such as management skill, different levels of input and short-term weather factors.

The principal changes in this revision concern the criteria used to assess climatic limitations and the main limitations involving a climate-soil interaction, namely soil wetness and droughtiness. The revised methods have been developed and evaluated by the Agricultural Development and Advisory Service (ADAS) in close collaboration with the Soil Survey and Land Research Centre (SSLRC, incorporating the Soil Survey of England and Wales) and the Meteorological Office. A number of new and improved climatic datasets have been compiled on the same collaborative basis and these base data are held in LandIS, a computer information system funded by MAFF and developed by SSLRC. The datasets will also be published by the Meteorological Office (in press) and are described in [Appendix 1](#).

Agricultural Land Classification of England and Wales

The revised system incorporates some features of the 7-class Land Use Capability Classification formerly used by the Soil Survey of England and Wales (Bibby and Mackney, 1969) in which Classes 5, 6 and 7 broadly correspond to Grade 5 of the ALC system. In common with the Scottish Land Capability Classification for Agriculture (Bibby et al, 1982) some of the concepts now introduced originated from the ADAS Land Capability Working Party which met between 1974 and 1981. Although there are similarities with the Scottish system, the Agricultural Land Classification has been developed and calibrated specifically for use in England and Wales. This report describes the criteria and assessment methods which will be used by MAFF and WOAD to classify land. Wherever possible, definitions and methods common to both ADAS and SSLRC have been used.

Acknowledgements

The Ministry is indebted to the Meteorological Office and Soil Survey and Land Research Centre for their assistance, information and advice provided over a period of years. The climate-related components of the system were revised by a working group chaired by A J Hooper (ADAS) and the contributions of J H Minhinick and J F Keers (Meteorological Office), Dr R J A Jones and J M Hollis (SSLRC), D Hewgill, M R Watson and Dr I P Jones (ADAS) are gratefully acknowledged. Valuable assistance was also provided by F Broughton (ADAS). Evaluations and testing of the revised criteria were co-ordinated by M R Watson and carried out by regional staff of the Resource Planning Group, ADAS.

Ministry of Agriculture, Fisheries and Food
October 1988

SECTION 1

INTRODUCTION

The Agricultural Land Classification provides a framework for classifying land according to the extent to which its physical or chemical characteristics impose long-term limitations on agricultural use. The limitations can operate in one or more of four principal ways: they may affect the range of crops which can be grown, the level of yield, the consistency of yield and the cost of obtaining it. The classification system gives considerable weight to flexibility of cropping, whether actual or potential, but the ability of some land to produce consistently high yields of a somewhat narrower range of crops is also taken into account.

The principal physical factors influencing agricultural production are climate, site and soil. These factors together with interactions between them form the basis for classifying land into one of five grades; Grade 1 land being of excellent quality and Grade 5 land of very poor quality. Grade 3, which constitutes about half of the agricultural land in England and Wales, is now divided into two subgrades designated 3a and 3b. General descriptions of the grades and subgrades are given in [Section 2](#).

Guidelines for the assessment of the physical factors which determine the grade of land are given in [Section 3](#). The main climatic factors are temperature and rainfall although account is taken of exposure, aspect and frost risk. The site factors used in the classification system are gradient, microrelief and flood risk. Soil characteristics of particular importance are texture, structure, depth and stoniness. In some situations, chemical properties can also influence the long-term potential of land and are taken into account. These climatic, site and soil factors result in varying degrees of constraint on agricultural production. They can act either separately or in combination, the most important interactive limitations being soil wetness and droughtiness.

The grade or subgrade of land is determined by the most limiting factor present. When classifying land the overall climate and site limitations should be considered first as these can have an overriding influence on the grade. Land is graded and mapped without regard to present field boundaries, except where they coincide with permanent physical features.

A degree of variability in physical characteristics within a discrete area is to be expected. If the area includes a small proportion of land of different quality, the variability can be considered as a function of the mapping scale. Thus, small, discrete areas of a different ALC grade may be identified on large scale maps, whereas on smaller scale maps it may only be feasible to show the predominant grade. However, where soil and site conditions vary significantly and repeatedly over short distances and impose a practical constraint on cropping and land management a 'pattern' limitation is said to exist. This variability becomes a significant limitation if, for example, soils of the same grade but of contrasting texture occur as an extensive patchwork thus complicating soil management and cropping decisions or resulting in uneven crop growth, maturation or quality. Similarly, a form of pattern limitation may arise where soil depth is highly variable or microrelief restricts the use of machinery. Because many different combinations of characteristics can occur no specific guidelines are given for pattern limitations. The effect on grading is judged according

to the severity of the limitations imposed by the pattern on cropping and management, and is mapped where permitted by the scale of the survey.

The guidelines provide a consistent basis for land classification but, given the complex and variable nature of the factors assessed and the wide range of circumstances in which they can occur, it is not possible to prescribe for every possible situation. It may sometimes be necessary to take account of special or local circumstances when classifying land. For this reason, the physical criteria of eligibility in this report are regarded as guidelines rather than rules although departures from the guidance should be exceptional and based on expert knowledge. Physical conditions on restored land may take several years to stabilise; therefore, the land is not normally graded until the end of the statutory aftercare period, or otherwise not until 5 years after soil replacement.

To ensure a consistent approach when classifying land the following assumptions are made:

1. Land is graded according to the degree to which physical or chemical properties impose long-term limitations on agricultural use. It is assessed on its capability at a good¹ but not outstanding standard of management.
2. Where limitations can be reduced or removed by normal management operations or improvements, for example cultivations or the installation of an appropriate underdrainage system, the land is graded according to the severity of the remaining limitations. Where an adequate supply of irrigation water is available this may be taken into account when grading the land ([Section 3.4](#)). Chemical problems which cannot be rectified, such as high levels of toxic elements or extreme subsoil acidity, are also taken into account.
3. Where long-term limitations outside the control of the farmer or grower will be removed or reduced in the near future through the implementation of a major improvement scheme, such as new arterial drainage or sea defence improvements, the land is classified as if the improvements have already been carried out. Where no such scheme is proposed, or there is uncertainty about implementation, the limitations will be taken into account. Where limitations of uncertain but potentially long-term duration occur, such as subsoil compaction or gas-induced anaerobism, the grading will take account of the severity at the time of survey.
4. The grading does not necessarily reflect the current economic value of land, land use, range of crops, suitability for specific crops or level of yield. For reasons given in the preface, the grade cut-offs are not specified on the basis of crop yields as these can be misleading, although in some cases crop growth may give an indication of the relative severity of a limitation.
5. The size, structure and location of farms, the standard of fixed equipment and the accessibility of land do not affect grading, although they may influence land use decisions.

¹ Previously described as 'satisfactory'; no change in the assumed standard of management is intended.

SECTION 2

DESCRIPTION OF THE GRADES AND SUBGRADES

The ALC grades and subgrades are described below in terms of the types of limitation which can occur, typical cropping range and the expected level and consistency of yield. In practice, the grades are defined by reference to physical characteristics and the grading guidance and cut-offs for limitation factors in Section 3 enable land to be ranked in accordance with these general descriptions. The most productive and flexible land falls into Grades 1 and 2 and Subgrade 3a and collectively comprises about one-third of the agricultural land in England and Wales. About half the land is of moderate quality in Subgrade 3b or poor quality in Grade 4. Although less significant on a national scale such land can be locally valuable to agriculture and the rural economy where poorer farmland predominates. The remainder is very poor quality land in Grade 5, which mostly occurs in the uplands.

Descriptions are also given of other land categories which may be used on ALC maps.

Grade 1 - excellent quality agricultural land

Land with no or very minor limitations to agricultural use. A very wide range of agricultural and horticultural crops can be grown and commonly includes top fruit, soft fruit, salad crops and winter harvested vegetables. Yields are high and less variable than on land of lower quality.

Grade 2 - very good quality agricultural land

Land with minor limitations which affect crop yield, cultivations or harvesting. A wide range of agricultural and horticultural crops can usually be grown but on some land in the grade there may be reduced flexibility due to difficulties with the production of the more demanding crops such as winter harvested vegetables and arable root crops. The level of yield is generally high but may be lower or more variable than Grade 1.

Grade 3 - good to moderate quality agricultural land

Land with moderate limitations which affect the choice of crops, timing and type of cultivation, harvesting or the level of yield. Where more demanding crops are grown yields are generally lower or more variable than on land in Grades 1 and 2.

Subgrade 3a - good quality agricultural land

Land capable of consistently producing moderate to high yields of a narrow range of arable crops, especially cereals, or moderate yields of a wide range of crops including cereals, grass, oilseed rape, potatoes, sugar beet and the less demanding horticultural crops.

Subgrade 3b - moderate quality agricultural land

Land capable of producing moderate yields of a narrow range of crops, principally cereals and grass or lower yields of a wider range of crops or high yields of grass which can be grazed or harvested over most of the year.

Grade 4 - poor quality agricultural land

Land with severe limitations which significantly restrict the range of crops and/or level of yields. It is mainly suited to grass with occasional arable crops (e.g. cereals and forage crops) the yields of which are variable. In moist climates, yields of grass may be moderate to high but there may be difficulties in utilisation. The grade also includes very droughty arable land.

Grade 5 - very poor quality agricultural land

Land with very severe limitations which restrict use to permanent pasture or rough grazing, except for occasional pioneer forage crops.

Descriptions of other land categories used on ALC maps

Urban

Built-up or 'hard' uses with relatively little potential for a return to agriculture including: housing, industry, commerce, education, transport, religious buildings, cemeteries. Also, hard-surfaced sports facilities, permanent caravan sites and vacant land; all types of derelict land, including mineral workings which are only likely to be reclaimed using derelict land grants.

Non-agricultural

'Soft' uses where most of the land could be returned relatively easily to agriculture, including: golf courses, private parkland, public open spaces, sports fields, allotments and soft-surfaced areas on airports/ airfields. Also active mineral workings and refuse tips where restoration conditions to 'soft' after-uses may apply.

Woodland

Includes commercial and non-commercial woodland. A distinction may be made as necessary between farm and non-farm woodland.

Agricultural buildings

Includes the normal range of agricultural buildings as well as other relatively permanent structures such as glasshouses. Temporary structures (e.g. polythene tunnels erected for lambing) may be ignored.

Open water

Includes lakes, ponds and rivers as map scale permits.

Land not surveyed

Agricultural land which has not been surveyed,

Where the land use includes more than one of the above land cover types, e.g. buildings in large grounds, and where map scale permits, the cover types may be shown separately. Otherwise, the most extensive cover type will usually be shown.

SECTION 3

GUIDELINES FOR ASSESSING LIMITATIONS

This section explains why and how the main limiting factors used in the ALC system influence the grade of land.

3.1 Climatic Limitations

Climate has a major, and in places overriding, influence on land quality by affecting both the range of potential agricultural uses and the cost and level of production. Its most fundamental influence is on the potential for plant growth, by determining the energy available for photosynthesis and water supply to plant roots. The effect on plant growth occurs partly through interactions with soil and site properties which determine soil wetness and droughtiness. There are also more direct effects on crops or stock such as exposure to damaging wind, persistent wetness or high humidity and frost which can cause physical damage, disease or stress. It is therefore necessary to include in the ALC an assessment of the overall climatic limitation in addition to the interactive limitations which are assessed separately ([Section 3.4](#)).

The climatic criteria are considered first when classifying land. Climate can be overriding in the sense that severe limitations will restrict land to low grades irrespective of favourable soil or site conditions. The general principle followed is to assign increasing degrees of limitation to agricultural use as rainfall increases and average temperature decreases. Thus, in climatic terms, the poorest areas are both the wettest and coldest and conversely the climate is regarded as more favourable as temperature increases and rainfall moderates.

The main parameters used in the assessment of the climatic limitation are average annual rainfall (AAR), as a measure of overall wetness; and accumulated temperature, as a measure of the relative warmth of a locality. Accumulated temperature is the excess of daily air temperatures above a selected threshold temperature, summed over a specified period. When calculated over an appropriate part of the growing season it can be used as an indication of heat energy input and soil drying potential and has been shown to correlate with crop growth and yield. Work on grass (Peacock, 1975) and cereals (Biscoe and Gallagher, 1978) showed that leaf extension occurs, albeit slowly, down to temperatures as low as 0° Celsius, which is adopted as the threshold temperature for the ALC system. For the climatic assessment, accumulated temperature is calculated, using an established algorithm (Meteorological Office, 1969), for the period January to June (AT0); this being the critical growth period for most crops.

The above parameters provide the basis for the evaluation of overall climate. Local climatic factors including aspect, exposure and frost risk are also considered when grading land but are not easily quantified and require careful judgement for individual sites.

Assessment of the overall climate limitation

The permitted combinations of AAR and AT0 for each ALC grade and subgrade are defined graphically in [Figure 1](#). The AAR and AT0 datasets used for this assessment are described in [Appendix 1](#).

Local climatic factors

At the local scale differences in the aspect, gradient and elevation of the land can significantly modify the overall climate, particularly in relation to temperature, exposure and frost risk.

Aspect can have a marked influence on the amount of solar radiation that a site receives. In general, mean daily temperatures and hence accumulated temperatures in spring and early summer are higher on slopes with sheltered southerly aspects than on those facing in northerly directions. Radiation intensity also varies with slope angle such that differences due to aspect are more marked on steeper slopes. In valleys, the relationships are often more complex due to the effect of shading, which can moderate the benefits of a southerly aspect and increase the penalties on north facing slopes.

The influence of a favourable aspect on mean temperatures may be reduced or removed by exposure. In certain situations exposure may constitute a significant climatic factor in its own right. Persistent strong or cold winds can be damaging to crops or cause stress to livestock, especially in wet weather. Upland areas, and land which stands above the surrounding countryside, are often exposed. Many coastal districts are exposed to strong, salt-laden winds and their effects can extend for several miles inland. Windspeed is strongly influenced by topography. In general, wind velocities increase with altitude and decrease with distance from the west coast, while the funnelling of winds along valleys, particularly in the uplands, may result in consistently higher windspeeds.

The incidence of damaging frost is also closely related to topography and can be localised. Spring frosts can cause serious damage to fruit crops and may check the growth of arable crops. A slope of 2° is sufficient to initiate the movement of cold air downslope, and valley bottoms and basin sites are particularly susceptible to frost. The assessment of frost risk is most significant in relation to the better quality land where the more sensitive horticultural crops are likely to be grown. Soil type also influences frost risk, with sandy and dry peat soils being more prone to late spring frosts than other soils.

The interactions between topography and climate are often complex and it is not possible to give detailed guidance for their assessment. Where the overall climate is liable to be modified significantly by local factors, the effect on grading should be assessed on the basis of expert agrometeorological advice.

3.2 Site Limitations

The assessment of site factors is primarily concerned with the way in which topography influences the use of agricultural machinery and hence the cropping potential of the land. Flood risk is also regarded as a site limitation as it is usually associated with well-defined topographic features.

Gradient

Gradient has a significant effect on mechanised farm operations since most conventional agricultural machinery performs best on level ground. The safe and

efficient use of machinery on sloping land depends very much on the type and design of the machine and on the nature of the slope being farmed. For example, slopes with adequate turning space at the top and bottom may be negotiated safely whereas similar slopes without turning space may not. The bearing strength of the topsoil is also critical in the safe operation of machinery on slopes. Where surfaces have a low bearing strength the safe angle for working is reduced.

Table 1 gives the gradient limits for each grade and subgrade of land. They are based primarily on the type of machinery which can be safely and efficiently operated. The grade cut-offs are modelled principally on the use of two-wheel drive machines. The ability to work on steeply sloping land has increased to some extent with the wider use of four-wheel drive machines. However, where cultivation is involved there is often an attendant risk of soil erosion particularly if the soil is weakly structured. For this reason, and on safety grounds, the previous limits of 11° and 18° are retained. Grade 1, 2 and 3a land is suitable for most kinds of agricultural machinery including precision seeding and harvesting equipment.

Table 1 Grade according to gradient

Grade/ Subgrade	Gradient limits (degrees)
1	} 7
2	
3a	
3b	11
4	18
5	>18

Microrelief

Complex changes of slope angle and direction over short distances, or the presence of boulders or rock outcrops, even on level ground or gentle slopes, can severely limit the use of agricultural machinery. The degree of limitation depends upon the distribution and severity of such features. For example, relatively few abrupt changes of slope angle on a site with a gentle overall slope may preclude the use of precision sowing or planting equipment. On steep slopes, rock outcrops, or frequent changes of slope direction, may prevent the safe use of a tractor with mounted equipment. Level sites may be impossible to cultivate satisfactorily because of frequent rock outcrops. Differential settlement can create a microrelief limitation on restored land, which may only become apparent some years after soil replacement, and may also give rise to a pattern limitation if it causes patchy wetness over a significant area.

The effect of microrelief is considered in conjunction with overall gradient, though detailed guidance is not feasible. The degree of limitation should be assessed in relation to the hindrance to mechanical operations.

Flooding

The incidence of flooding is strongly influenced by topography but the extent, duration, frequency and timing can be difficult to establish precisely. The risk of flooding may be significant in affecting the choice of crops to be grown, because at certain times of the year it can have a detrimental effect on yield, and may give rise to soil management problems. The overall effect of flooding depends on a range of circumstances. The after-effects of inundation depend in part on soil type and will generally be more serious on impermeable soils, which remain saturated for longer periods than permeable soils. Flood-plain morphology influences water velocities and therefore affects the amount of soil erosion, siltation and physical damage to crops. The time of year at which flooding occurs is particularly significant. Floods which occur in summer are generally more damaging than winter floods because the crop root systems are active and more likely to be affected by waterlogging. Crops vary in their tolerance to flooding and this is reflected in the stricter limits on high quality land where flexibility of cropping is required.

The guidelines in Tables [2](#) and [3](#) take account of frequency, duration and timing of flooding and apply to soils of good or moderate permeability. Further downgrading may be justified where flooding affects soils of low permeability. The year is divided into two parts, with a long 'summer' period which includes the spring sowing and late autumn harvesting seasons. When grading land, the flood limitation is assessed separately for the summer and winter seasons and, applying the 'most limiting factor' principle, either assessment can determine the grade. Information on flooding at a local scale is often fragmentary and the assessment may have to be based on local knowledge, together with any information or advice which can be obtained from Water Authorities. Most weight should be given to the predicted long-term risk, or the return periods used in the design of flood protection schemes, rather than to the average incidence of flooding in recent years, which may have been influenced by atypical climatic conditions.

Agricultural Land Classification of England and Wales

Table 2 Grade according to flood risk in summer

Grade/ Subgrade	Flood limits	
	<i>frequency</i>	<i>duration</i>
1	very rare	short
2	rare	short
3a	very rare	medium or long
	or rare	medium
	or occasional	short
3b	rare	long
	or occasional	medium
4	occasional	long
	or frequent	short or medium
5	frequent	long

Table 3 Grade according to flood risk in winter

Grade/ Subgrade	Flood limits	
	<i>frequency</i>	<i>duration</i>
1	rare	short
2	rare	medium
	or occasional	short
	or rare	long
3a	occasional	medium
	or frequent	short
	or occasional	long
3b	occasional	long
	or frequent	medium
4	frequent	long

The terms used in Tables 2 and 3 are defined as follows:

Season summer - mid March to mid November
 winter - mid November to mid March

Duration short - not more than 2 days (48 hours)
 medium - more than 2 but not more than 4 days
 long - more than 4 days

Frequency very rare - not more than once in 15 years
 rare - once in 10 to once in 14 years
 occasional - once in 3 to once in 9 years
 frequent - more than once in 3 years

3.3 Soil Limitations

The main soil properties which affect the cropping potential and management requirements of land are texture, structure, depth, stoniness and chemical fertility. These may act as limitations separately, in combination or through interactions with climate or site factors. The interactive limitations of soil wetness, droughtiness and erosion risk are discussed separately in [Section 3.4](#). The relationships are often complex and the criteria used in this land classification are designed to provide a practical method for grading land on the basis of field assessments.

In this document the term 'topsoil' refers to true topsoil material which developed originally at the top of a soil profile and is characteristically darker in colour and has a higher organic matter content than subsoil material. The term 'top 25 cm' is used to refer to the uppermost 25 cm of the soil profile which defines, for ALC purposes, the depth zone within which the soil is most frequently cultivated.

It is generally assumed in the soil related assessments that natural topsoil is in *situ*. If the land has been disturbed and there is little or no topsoil, this may be an additional limitation which needs to be taken into account when grading the land.

Soil texture and structure

Soil texture and structure have a major influence on water retention, water movement and aeration in soils and therefore on workability, trafficability, poaching risk and suitability as a medium for plant growth. Texture class is determined by the relative proportions of sand, silt and clay particles and the amount of organic matter in a soil horizon and may be assessed in the field by hand texturing or measured in a laboratory by particle-size analysis. The soil texture system used for ALC purposes is described in [Appendix 2](#).

In most soils the primary particles are aggregated into structural units called peds. Soil structure is influenced considerably by soil texture and is described by reference to the size, shape and degree of development of the peds and the pores and fissures within and between them (Hodgson, 1976). A well structured soil is characterised by clearly identifiable, stable peds with a high proportion of pores and fissures which allow easy movement of air, water and roots through the soil. Such soils are often found under permanent pasture where the soil has not been disturbed by cultivation and prolonged root action has assisted structural development.

Clay soils tend to be coarse structured and the peds swell on wetting, thus closing fissures and reducing permeability. The risk of damage to soil structure by cultivation generally increases with increasing clay content. Clay soils tend to form large, hard surface clods when dry and are plastic when wet. They can therefore only be cultivated satisfactorily under a relatively narrow range of soil moisture conditions. Calcareous clay soils are generally better structured than non-calcareous clays and are consequently better drained and easier to cultivate.

Soils with a high proportion of silt or fine sand are inherently weakly structured and are prone to surface capping and slaking, especially if the topsoils have a low organic matter content. Sandy soils are more easily worked but are weakly structured and readily form compacted layers if cultivated or traversed when wet. They may also be susceptible to erosion and drought.

Soil texture and structure are therefore significant parameters in the assessments of droughtiness and wetness. Texture is a key variable for estimating the available water capacity of a soil profile, as explained in [Section 3.4](#) and [Appendix 4](#). The coarser sandy soils are very susceptible to drought stress in dry periods. Irrespective of the moisture balances which result from the droughtiness assessment, soils with sand topsoils are not eligible for Grades 1, 2 or 3a and those with loamy sand topsoils are not eligible for Grade 1.

Soil wetness is assessed in the field by identifying the depth to any slowly permeable soil horizon, which is defined in terms of soil texture, structure and gleying and relating this to the texture of the top 25 cm ([Section 3.4](#) and [Appendix 3](#)). For certain combinations of wetness class, texture and field capacity days (FCD, see [page 31](#)), a distinction is made between some naturally calcareous (i.e. those in which the calcium carbonate is derived from the soil parent material and not artificial liming) and other soils, as the former are usually better structured and therefore more workable. The distinction applies where a soil:

- i) has at least 1% calcium carbonate in the top 25 cm and a similar or greater calcium carbonate content below 25 cm, *and*
- ii) has between 18 and 50% clay content in the top 25 cm, *and*
- iii) occurs in an area with not more than 150 FCD.

Similarly, under favourable climatic and soil water regimes, some medium and heavy textured soils are more workable if there is a high organic matter content within the top 25 cm and this is reflected in the higher grades for such soils given in [Table 7](#).

Soil structure can be damaged by agricultural use. Most structural problems which occur in the upper soil profile are caused by mechanical operations or grazing carried out when the soil is too wet. Where such damage can be corrected by normal soil management methods it is regarded as a short-term limitation and does not affect grading. However, more persistent problems can occur, particularly on disturbed soils. On land which has been restored, soil structure is often weakened and can be significantly damaged by soil movement and storage. The return of a restored soil to a stable and more natural structural condition is normally a gradual process which needs to be encouraged over a period of years by maintaining an appropriate cropping and soil management regime. Some soils can be rendered very unstable by such disturbance and therefore respond very slowly to remedial measures, even in the topsoil. In such circumstances, it cannot be assumed (as applies to undisturbed soils, see [page 37](#)) that any slowly permeable layer within 35 cm can be removed satisfactorily. Thus where very unstable structure gives rise to wetness problems which are likely to persist, it should be taken into account when grading the land (see [page 22](#)). Similarly, unstable structure is a factor to be considered when grading saline soils which have slaked as a consequence of deflocculation (see [page 19](#)). Where significant compaction occurs below 35 cm, for example on disturbed or restored land, it may be difficult or impossible to ameliorate practically or

economically. Such compaction is therefore a long-term limitation which is taken into account through reduced permeability and available water capacity in the wetness and droughtiness assessments (see [pages 37](#) and [26](#) respectively).

A soil limitation can sometimes occur on sites restored to agriculture where different soils, or topsoil and subsoil, have been mixed. If the physical characteristics of the materials are very different, such as large clay inclusions within a sandy matrix, and are likely to cause significant management problems for many years, the limitation will be assessed and the land graded accordingly.

Soil depth

Soil depth is an important factor in determining the available water capacity of a soil and is considered in that context in [Section 3.4](#). Shallowness affects cropping in other ways, notably by influencing the range and type of cultivations which can be carried out but also by restricting nutrient uptake, root growth and, in the case of fruit trees, root anchorage. It is therefore necessary to specify minimum soil depth requirements for the grades and subgrades.

Limiting depths are given in Table 4 for soil overlying consolidated or fragmented rock which cannot be penetrated satisfactorily by cultivation implements.

Table 4 Grade according to soil depth

Grade/ Subgrade	Depth limits (cm)
1	60
2	45
3a	30
3b	20
4	15
5	<15

Stoniness

The main effects of stones are to act as an impediment to cultivation, harvesting and crop growth and to cause a reduction in the available water capacity of a soil. This section is concerned with the 'mechanical' limitations and refers to stoniness in the top 25 cm of the soil. The effect on available water capacity is considered in [Section 3.4](#) and [Appendix 4](#).

A high stone content can increase production costs by causing extra wear and tear to implements and tyres. Crop quality may also be reduced in stony soil by causing, for example, the distortion of root crops or bruising of potatoes during harvesting. Stones can impair crop establishment by causing reduced plant populations in precision-drilled crops, and they reduce the nutrient capacity of the soil.

The degree of limitation imposed by stones depends on their quantity, size, shape and hardness. Stoniness can vary markedly over short distances and is time-consuming to measure. The size limits specified in [Table 5](#) are for volumes of stones which will not pass through sieves with 2 cm or 6 cm square mesh. Grade limits have been specified for stones retained on a 6 cm sieve because they usually have a more detrimental effect than smaller stones. The limits apply to hard stones; where the stones are of soft lithology, such as soft chalk, weakly cemented sandstones or siltstones, the limits are relaxed by one grade or subgrade. Both stone percentage columns in Table 5 are expressed in terms of the percentage of total volume of the top 25 cm of the soil; either can be most limiting and determine the grade. Thus, if 30% of the top 25 cm comprises hard stones larger than 2 cm, the land cannot be graded higher than 3b. However, if that same soil layer contains 25% stones larger than 6 cm the land cannot be graded higher than Grade 4. Small numbers of large boulders or stones which can be removed easily should be ignored. Stones smaller than 2 cm, which have no or only minor effects on cultivation, should also be ignored.

Table 5 Grade according to stoniness

Grade/ Subgrade	Limiting percentages (volume) of hard stones in the top 25cm of soil	
	<i>stones larger than 2 cm¹</i>	<i>Stones larger than 6 cm¹</i>
1	5	5
2	10	5
3a	15	10
3b	35	20
4	50	35
5	>50	>35

¹ Stones retained on a 2 cm or 6 cm square mesh sieve, as appropriate.

Chemical Limitations

The chemical status of a soil does not affect ALC grading where nutrient levels can be maintained or corrected by normal applications of fertiliser or lime. Chemical factors will only affect grading where they have, or are likely to have, a detrimental long- term effect on the physical condition of the soil, the crop yield, the range of crops that may be safely grown, stocking rates or grazing management.

Physical limitations induced by soil chemical properties are most likely to be encountered with saline or certain organic mineral or peat soils. Sodium-rich clay and silty clay soils developed in marine alluvium are potentially unstable if the land is drained. Progressive leaching of salt from the soil profile causes deflocculation of the clay particles and may lead to structural collapse (slaking) and drain failure through siltation. Measures to avoid or ameliorate these conditions may be unsuccessful.

Agricultural Land Classification of England and Wales

Where such land is currently undrained and expert advice indicates that it is not prudent to drain it, the land should be graded in the undrained condition.

When peat or marine alluvium rich in iron sulphide is drained, iron compounds may be released and deposited in the form of iron ochre, which can block pipe drainage systems. The problem can sometimes be ameliorated, but in severe cases may justify downgrading. Where expert advice indicates that new drainage work is likely to be uneconomic, the land should be graded in the undrained condition. The chemical reactions which produce ochre can cause extreme subsoil acidity which is difficult to rectify. This limitation should be taken into account and assessed according to the effect on the flexibility and productivity of the land.

Where landfill containing organic material has been used in the restoration of land to agriculture, gases such as methane can be generated when the waste decomposes. Where methods for sealing the landfill surface and venting gas emissions are not used or are not fully effective, such gas can create anaerobic conditions in the overlying soil affecting plant roots and therefore reducing crop yield. The effect on plant growth varies according to the degree of oxygen depletion and concentration of phytotoxic gases which may also be present in the soil atmosphere. In severe situations crop growth may be absent or stunted. The production and release of landfill gases can vary according to site conditions and may be very localised. Severe gas-induced anaerobism is often indicated by a foul-smelling greenish or bluish mottled subsoil. Gases may also be present at lower concentration in the soil above such visually anaerobic soil horizons. The duration of gas emission and the long-term effect on productivity of the land are unpredictable and grading will take account of the degree of limitation at the time of survey. The data available on the effect of such anaerobism on crops are very limited and the following guidance is therefore provisional. Where such anaerobism is visible within one metre of the soil surface the land will not be graded higher than Subgrade 3b. Where the anaerobism is within 50 cm of the surface the land will be Grade 4 or, if within 30 cm, Grade 5.

Toxic elements can occur at levels which adversely affect plant growth (phytotoxicity) or are potentially harmful to animals or man (zootoxicity). The most commonly occurring toxic elements are zinc, copper, lead and cadmium although others including mercury, arsenic, nickel, chromium and fluorine are also found. High concentrations of these elements are most likely to be associated with spoil heaps from metalliferous mining, industrial waste and sewage disposal. The level of toxicity depends on the type, form and concentration of elements present and on complex chemical interactions which may be influenced by soil pH, texture and organic matter content. It is therefore not practicable to indicate precise concentrations as limits for grades or subgrades.

The effect of soil toxicity on grading is assessed in relation to the effects on plant growth and any limitations placed on the management or use of the land, such as restrictions on cultivation (which may bring contaminated material to the surface), stocking levels or grazing periods, or on the use made of produce obtained from it. Land will not be graded higher than Subgrade 3b if it is considered to be unsuitable for growing crops for direct human consumption. Land which is limited to grass production and on which there are significant restrictions on grassland management will be no better than Grade 4. Where only extensive grazing is possible the land will

be Grade 5 and, where it is unfit for all forms of agricultural production, can be regarded as non-agricultural.

3.4 Interactive Limitations

The physical limitations which result from interactions between climate, site and soil are soil wetness, droughtiness and erosion. Soil wetness expresses the extent to which excess water imposes restrictions on crop growth and cultivations while droughtiness indicates the degree to which a shortage of soil water influences the range of crops which may be grown and level of yield which may be achieved. The limitations are not mutually exclusive in that some soils can be wet in winter but droughty in summer. For ALC purposes wetness and droughtiness are assessed separately by relating soil profile characteristics to appropriate climatic parameters.

Soil Wetness

A soil wetness limitation exists where the soil water regime adversely affects plant growth or imposes restrictions on cultivations or grazing by livestock. The importance of this limitation is reflected by the widespread use of and dependence on field drainage in both arable and grassland areas in England and Wales. Excessive soil wetness adversely affects seed germination and survival, partly by a reduction in soil temperature and partly because of anaerobism. It also inhibits the development of a good root system and can, in extreme cases, lead to plant death. Soil wetness also influences the sensitivity of the soil to structural damage and is therefore a major factor in determining the number of days when the soil is in a suitable condition for cultivation, trafficking by machinery or grazing by livestock.

The severity of the limitation is influenced by the amount and frequency of rain in relation to evapotranspiration, the duration of waterlogging and the texture of the uppermost layers of the soil. A wetness limitation can exist in both permeable and impermeable soils. Permeable soils are most significantly affected by wetness where there is a ground water table that cannot be removed by normal field drainage improvements. In less permeable soils the degree of waterlogging depends in part on the depth at which the soil becomes slowly permeable. Topsoil texture influences the wetness limitation because of its effect on soil water retention and the mechanical properties of the soil. Soils with a high clay content tend to retain more water than sandy soils and are therefore slower to return to a workable condition after wetting. Such soils also have a higher mechanical strength when dry, which further reduces the period during which they can be effectively cultivated.

For ALC purposes the soil wetness assessment takes account of:

- i) the climatic regime
- ii) the soil water regime
- iii) the texture of the top 25 cm of the soil

Climatic regime

The influence of climate on soil wetness is assessed by reference to median field capacity days (FCD). FCD ranges are specified within which similar soils are expected to have similar degrees of wetness limitation. The spatial distribution of

FCD has been mapped at a scale of 1:1 million by the SSLRC (Jones and Thomasson, 1985) and there is also a gridpoint dataset ([Appendix 1](#)).

Soil water regime

This assessment is based on soil wetness classes (Hodgson, in preparation) which are defined in terms of the average duration of waterlogging at specified depths in the soil profile. The procedure for inferring soil wetness class from observed soil profile characteristics is described in [Appendix 3](#).

Soil texture

Mineral soil texture classes are divided into four groups according to ease of cultivation and susceptibility to damage by grazing animals. Where appropriate, a distinction is also made between mineral textures, their organic variants (organic mineral textures) and peaty textures. The system of soil texture classification used is given in [Appendix 2](#).

Wetness assessment

For most soils, the overall wetness limitation is assessed in two stages, namely:

- i) determine the soil wetness class, according to [Appendix 3](#)
- ii) relate soil wetness class to soil texture and median field capacity days, using [Table 6](#) where the top 25 cm is a mineral texture or [Table 7](#) where the top 25 cm is an organic mineral or peaty texture.

On restored soils structural instability in the top 35 cm (see [page 17](#)) may have a significant effect on permeability and therefore soil wetness. Where this condition is unlikely to be ameliorated in the short-term by normal improvement techniques, assess the wetness limitation using the procedure described above and then downgrade by one grade or subgrade. This limitation may be ignored where the dominant texture is sand, loamy sand or sandy loam.

Table 6 Grade according to soil wetness - mineral soils

Wetness Class	Texture ¹ of the top 25 cm	Field Capacity Days				
		<126	126-150	151-175	176-225	>225
I	S ² LS ³ SL SZL	1	1	1	1	2
	ZL MZCL MCL SCL	1	1	1	2	3a
	HZCL HCL	2	2	2	3a	3b
	SC ZC C	3a(2)	3a(2)	3a	3b	3b
II	S ² LS ³ SL SZL	1	1	1	2	3a
	ZL MZCL MCL SCL	2	2	2	3a	3b
	HZCL HCL	3a(2)	3a(2)	3a	3a	3b
	SC ZC C	3a(2)	3b(3a)	3b	3b	3b
III	S ² LS SL SZL	2	2	2	3a	3b
	ZL MZCL MCL SCL	3a(2)	3a(2)	3a	3a	3b
	HZCL HCL	3b(3a)	3b(3a)	3b	3b	4
	SC ZC C	3b(3a)	3b(3a)	3b	4	4
IV	S ² LS SL SZL	3a	3a	3a	3b	3b
	ZL MZCL MCL SCL	3b	3b	3b	3b	3b
	HZCL HCL	3b	3b	3b	4	4
	SC ZC C	3b	3b	3b	4	5
V	S LS SL SZL	4	4	4	4	4
	ZL MZCL MCL SCL	4	4	4	4	4
	HZCL HCL	4	4	4	4	4
	SC ZC C	4	4	4	5	5

Soils in Wetness Class VI - Grade 5

¹For naturally calcareous soils with more than 1% CaCO₃ and between 18% and 50% clay in the top 25 cm, the grade, where different from that of other soils, is shown *in brackets* (see [page 16](#)).

² Sand is not eligible for Grades 1, 2 or 3a (see [page 16](#)).

³ Loamy sand is not eligible for Grade 1 (see [page 16](#)).

Agricultural Land Classification of England and Wales

Table 7 Grade according to soil wetness - organic mineral and peaty¹ soils

Wetness Class	Texture of the top 25 cm	Field Capacity Days			
		<126	126 -175	175 - 225	>225
I	PTY	1	1	1	*
	S LS SL SZL	1	1	1	*
	ZL MZCL MCL SCL	1	1	2	*
	HZCL HCL	1	2	3a	*
	SC ZC C	1	2	3b	*
II	PTY	1	1	1	*
	S LS SL SZL	1	1	2	*
	ZL MZCL MCL SCL	1	1	3a	*
	HZCL HCL	2	2	3a	*
	SC ZC C	2	3a	3b	*
III	PTY	2	2	2	*
	S LS SL SZL	2	2	3a	*
	ZL MZCL MCL SCL	2	2	3a	*
	HZCL HCL	3a	3a	3b	*
	SC ZC C	3a	3a	4	*
IV	PTY	3a	3a	3a	*
	S LS SL SZL	3a	3a	3b	*
	ZL MZCL MCL SCL	3b	3b	3b	*
	HZCL HCL	3b	3b	4	*
	SC ZC C	4	4	4	*
V	PTY	4	4	4	5
	S LS SL SZL	4	4	4	4
	ZL MZCL MCL SCL	4	4	4	4
	HZCL HCL	4	4	4	5
	SC ZC C	5	5	5	5
Soils in Wetness Class VI - Grade 5					

¹ For the definitions of 'organic mineral' and 'peaty' see [Appendix 2](#).

* Combinations which do not occur or occur very rarely.

Droughtiness

To achieve full yield potential a crop requires an adequate supply of soil moisture throughout the growing season. Soil moisture requirements vary considerably between crops and according to growth stage. The potential demand for moisture generally rises as leaf cover, and hence transpiration, increases. In addition, deep

rooting crops are able to exploit the moisture reserves of a larger volume of soil than shallow rooting crops. Thus the extent to which yield is depressed when moisture is in short supply is influenced by the crop type, amount and duration of the shortfall, and the growth stage at which it occurs.

Droughtiness is most likely to be a significant limitation to crop growth in areas with relatively low rainfall or high evapotranspiration, or where the soil holds only small reserves of moisture available to plant roots. The severity of the limitation in an area depends on the relationship between the soil properties and climatic factors and the moisture requirements of the crops grown. These relationships are complex and the degree of moisture stress varies from year to year according to the weather.

In the ALC system the method used to assess droughtiness is based on work by Thomasson (1979). It provides an indication of the average drought risk based on two reference crops, winter wheat and maincrop potatoes. These crops have been selected because they are widely grown and, in terms of their susceptibility to drought, are representative of a broad range of crops. The method used to assess droughtiness takes account of crop rooting and foliar characteristics to obtain an estimate of the average soil moisture balance (MB) for the reference crops at a given location. MB is calculated on the basis of two parameters namely:

- i) crop-adjusted available water capacity of the soil profile (AP)
- ii) moisture deficit (MD).

Crop-adjusted available water capacity (AP)

AP is a measure of the quantity of water held in the soil profile which can be taken up by a specified crop. The water storage capacity of soil is strongly influenced by texture, structure, organic matter content and stone content. The method used to calculate crop-adjusted AP values for wheat and potatoes is described in detail in [Appendix 4. Table 14](#) gives available water values for different combinations of texture and structure. A distinction is made according to textures in the topsoil and subsoil, to take account of the higher organic matter content of topsoils. These values are used to calculate the amount of available water, adjusted for stone content, in each soil horizon within the rooting depth of the crop concerned. The horizon values are added together to give a total crop-adjusted AP (in mm). Typically, wheat will root to about 120 cm and horizon values are summed to this depth. However, allowance is made for the fact that the root system of winter wheat is less well developed, and therefore less efficient at water extraction, in the subsoil below 50 cm. Thus below that depth only easily available (as opposed to total available) water is taken into account. For potatoes the values for total available water are used for all horizons down to the full rooting depth of 70 cm.

Although crop-adjusted AP provides a measure of the amount of available water retained in a soil, it does not allow for the fact that the rate at which moisture is conducted to roots from the surrounding soil not occupied by roots varies between soil types, especially in relation to texture and structure. Hydraulic conductivity is generally adequate, in terms of moisture supply, in medium and fine textured soils over a wide range of soil moisture content. However, in the case of the coarser sands and loamy sands conductivity is adequate when the soil is at or near to field capacity but decreases very rapidly as the soil dries because there are few medium or fine pores through which moisture can be transmitted (Salter and Williams 1965; Craull 1985). This factor, in combination with low AP, makes such soils extremely

susceptible to drought stress because wilting point is reached more rapidly and frequently in dry periods. Allowance is made for this limitation in the droughtiness assessment by reducing by 20% the AP of subsoil horizons with coarse sand, medium sand, loamy coarse sand or loamy medium sand textures.

Where significant subsoil compaction occurs, root penetration is generally restricted and moisture reserves in the soil below a severely compacted, very poorly structured horizon will make a negligible contribution to plant growth. In such cases the calculation of AP should be limited to the soil horizons above the compacted layer.

Moisture deficit (MD)

The moisture deficit term used in the ALC droughtiness assessment is a crop-related meteorological variable which represents the balance between rainfall and potential evapotranspiration calculated over a critical portion of the growing season. The concept of potential evapotranspiration (PE) was introduced by Penman (1948) who defined it as the water transpired by a short green crop, such as grass, which completely covers the ground surface and has an ample supply of water around its roots. PE is used in combination with rainfall (R) to calculate the potential soil moisture deficit, PSMD (Smith, 1967) as follows:

$$\text{PSMD} = \sum (\text{R}-\text{PE})$$

where (R-PE) is calculated daily and summed for a defined period.

In lowland situations a deficit will typically develop in April or May and will reach a maximum in July, August or September; thereafter it will decrease as temperatures, and hence evapotranspiration, decline in the autumn. PSMD can be calculated for daily or monthly periods and the maximum value in any year used to indicate the shortfall in moisture supply for that year. For land classification purposes the PSMD needs to be averaged over a period of years and selecting the median value of PSMD avoids the bias of extreme years. Potential deficits under grass are greater than for arable crops which do not attain full ground cover early in the growing season. For example, winter wheat does not usually develop full leaf cover until the end of April. Maincrop potatoes have negligible leaf cover until mid-May and full cover is not usually achieved until the end of June. Jones and Thomasson (1985) describe a method for deriving MD values (in mm) for wheat and potatoes from end-of-month and mid-month accumulated values of PSMD (under grass) as follows:

$$\text{MD (Winter Wheat)} = \text{mid-July PSMD} - 1/3 \text{ April PSMD}$$

$$\text{MD (Potatoes)} = \text{August PSMD} - 1/3 \text{ June PSMD} - 1/3 \text{ mid-May PSMD}$$

Crop-adjusted values of MD based on these formulae are used for droughtiness assessment in the ALC system and are obtained by means of regression techniques from accumulated summer temperature (ATS) and summer rainfall (ASR) data ([Appendix 1](#)).

Moisture balance (MB)

Droughtiness limits for grades and subgrades are defined in terms of moisture balances (MB, in mm) for wheat and potatoes which are calculated using the following formulae:

MB (Wheat) = **AP** (Wheat) - **MD** (Wheat)
MB (Potatoes) = **AP** (Potatoes) - **MD** (Potatoes)

The MB limits for each grade and sub grade are shown in Table 8. To be eligible for Grades 1 to 3b the MBs must be equal to, or exceed, the stated minimum values for *both* wheat and potatoes. If the MB for *either* crop is less (i.e. more negative) than that shown for Subgrade 3b, the soil is Grade 4 on droughtiness. It should be noted that, as explained on [page 16](#), soils with sand topsoils are not eligible for Grades 1,2 or 3a and those with loamy sand topsoils are not eligible for Grade 1.

Table 8 Grade according to droughtiness

Grade/ Subgrade	Moisture Balance limits (mm)		
	<i>wheat</i>		<i>potatoes</i>
1	+30	<i>and</i>	+10
2	+5	<i>and</i>	-10
3a	-20	<i>and</i>	-30
3b	-50	<i>and</i>	-55
4	<-50	<i>or</i>	<-55

Irrigation

Irrigation can significantly enhance the potential of agricultural land, especially in drier areas, and should therefore be taken into account in ALC grading where it is current or recent practice. In determining the effect of irrigation on ALC grade, the following factors should be taken into account:

- i) adequacy of irrigation water supply
- ii) the range of crops to which water is usually applied
- iii) climate and soil factors.

When considering the effects of irrigation on ALC grading, it should normally be assumed that potatoes, responsive field vegetable and fruit crops and, in drier areas, sugarbeet would receive irrigation water but that cereals, oilseed rape and grass would not. Furthermore, irrigation will generally be of less benefit, and therefore have less influence on ALC grade in wetter areas and on heavier land which may not be well suited to growing irrigation-responsive crops. Even on more flexible land in drier areas, because irrigation is likely to benefit only part of the full range of crops which could be grown, it will usually upgrade land by no more than one grade or subgrade.

Soil erosion

Soil erosion is mainly caused by wind or water action, although the wastage of peat can also be regarded as a form of erosion. The incidence of erosion is determined by interactions between weather, soil type and condition, topography and the amount

and type of vegetative cover. It is also strongly influenced by land management practices. In agricultural terms, the problem is most significant in the arable lowlands.

Water-induced erosion is more widespread than wind erosion. It occurs most frequently on sloping land with bare soil or sparse crop cover where the soil is weakly structured and has a fine sandy or coarse silty texture. The risk is greatest during periods of heavy rainfall when the soil has become saturated and surface soil structure broken down by the impact of raindrops. The resulting run-off can quickly form rills and gullies which destroy crops in localised areas or bury them under deposited sediment downslope. The use of farm machinery may be hindered subsequently where gullies are wide and deep.

Significant wind erosion (or 'blowing') is restricted to a relatively narrow range of susceptible soil types. The risk is greatest in spring or early summer on flat or gently sloping land where light textured, bare or sparsely vegetated soil is exposed to strong wind and the surface is dry. The soils most at risk are sands and loamy sands with a high fine sand content, organic sand, sandy and loamy peats and peats. The presence of stones reduces erosion risk to some extent. Blowing can result in the loss of topsoil, seeds, seedlings and fertiliser and cause damage by abrasion to remaining plants. Yields of re-sown crops are often reduced through late establishment and development.

Soil wastage is a form of erosion confined to peaty soils and is the result of shrinkage and biochemical degradation. Loss of soil by this process can result in a gradual change in cropping potential as the depth of peat over the substratum is reduced.

The effects of soil erosion on land quality may be expressed in two ways. Firstly, erosion may have directly affected physical characteristics by, for example, reducing soil depth or creating steep sided gullies which inhibit the use of machinery. Such problems are taken into account by using the standard assessments of soil depth, droughtiness, gradient and microrelief. The second, rare circumstance is when soils especially prone to erosion may be downgraded because the risk of erosion constrains management to a degree which significantly reduces the range of crops which can be grown or markedly raises production costs. In nearly all cases where such a significant management problem occurs, erosion will tend to be a secondary factor accompanying other, more critical limitations such as slope or droughtiness.

APPENDIX 1

AGROCLIMATIC DATASETS

Introduction

Climatic data are used in the assessment of the climate, droughtiness and wetness limitations. To provide consistency in those assessments a standard data source is required for the calibration and operation of the system. Traditionally, maps or meteorological station data have been used to estimate climatic parameters at a site. However, the manual interpretation of maps or extrapolation of values from recording stations to sites under investigation involves subjective judgements, and even where data are available from a nearby meteorological station it cannot be assumed that the station value is representative of the surrounding area. A number of gridpoint datasets with a spacing of 5 km have therefore been developed covering the whole of England and Wales and standard methods have been devised for estimating the value of each parameter at any location. The grid is coincident with the 5 km intervals of the Ordnance Survey National Grid, having its origin south-west of the Scilly Isles.

The use of gridpoint data has significant advantages for computerised storage and manipulation of information. The datasets are held in LandIS, a computer-based land information system developed by the SSLRC and funded by MAFF. The system can be used to obtain both gridpoint and interpolated values for specified grid references. The complete dataset will also be published by the Meteorological Office (in press) and the procedure for obtaining interpolated values will be explained in that publication.

Climate Datasets

The five agroclimatic parameters used in the ALC system and the associated limitation factors are listed in [Table 9](#). The FCD dataset was compiled by the SSLRC on the basis of Meteorological Office data. The other datasets were compiled by the Meteorological Office and processed by the SSLRC prior to their incorporation in LandIS. Datasets of altitude and of average annual rainfall change with altitude (ie lapse rate of AAR) are also held on LandIS for use in the interpolation from gridpoint values to site values.

Table 9 Limitation factors and associated agroclimatic parameters

Limitation Factor	Parameter	Observation period
Climate	Average Annual Rainfall (AAR)	1941 - 1970
	Median Accumulated Temperature above 0°C, January to June (AT0)	1961 - 1980
Soil Wetness	Median Duration of Field Capacity Days (FCD)	1941 - 1970
Soil Droughtiness	Average Summer Rainfall, April to September (ASR)	1941 - 1970
	Median Accumulated Temperature above 0°C, April to September (ATS)	1961 - 1980

The data sources were as follows:

Average annual rainfall (AAR)

Gridpoint AAR values (mm) were interpolated from unpublished rainfall maps at a scale of 1:250,000, on which the published 1:625,000 map for 1941-70 was originally based (Meteorological Office, 1977).

Average summer rainfall (ASR)

Gridpoint ASR values (mm) were manually interpolated from an unpublished 1:625,000 scale map of average summer rainfall for 1941-70.

Median accumulated temperature above 0°C, January to June (AT0)

The AT0 dataset is based on temperature data from the 94 stations in the Complete Agromet Database (Field, 1983), which have complete records over the period 1961-1980. Accumulated temperatures for the period January to June each year were computed for each station from daily measurements of maximum and minimum temperature and the median value of AT0 in the period 1961-80 was determined. The median values were then extrapolated to gridpoints by means of a regression equation which relates accumulated temperature, altitude, latitude (National Grid northing) and longitude (National Grid easting). The following equation was used:

$$AT0 \text{ (day degrees Celsius)} = 1708 - 1.14A - 0.023E - 0.044N$$

where

A is altitude above mean sea level (metres)

E is National Grid easting to 100 m (four significant figures)

N is National Grid northing to 100 m (four significant figures)

This equation explains approximately 90% of the variation in AT0 for the 94 agrometeorological recording stations.

Agricultural Land Classification of England and Wales

Median accumulated temperature above 0°C, April to September (ATS)

The ATS dataset (1961-80) was created directly from the AT0 dataset using the following linear regression:

$$\text{ATS (day degrees Celsius)} = 611 + 1.11\text{AT0} + 0.042\text{E}$$

where

AT0 is the grid point AT0 value

E is the National Grid easting to 100 m (four significant figures)

This regression explains more than 90% of the variation in ATS for the 94 stations.

Median duration of field capacity (FCD)

FCD is a meteorological parameter which estimates the duration of the period when the soil moisture deficit is zero. Soils usually return to field capacity (zero deficit) during the autumn or early winter and the field capacity period, measured in days, ends in the spring when evapotranspiration exceeds rainfall and a moisture deficit begins to accumulate. Smith and Trafford (1976) described a method for estimating the average period of meteorological field capacity from rainfall and evapotranspiration for the period 1941-70 and listed median dates for the return to and end of field capacity for 52 MAFF agroclimatological areas. These dates were regressed on AAR by the SSLRC to generate a 10 km grid dataset which has subsequently been resolved to 5 km using the gridpoint values of AAR described above (Jones and Thomasson, 1985; Ragg et al, 1988).

MOISTURE DEFICIT (MD) DATA

The gridpoint values (in mm) of crop-adjusted moisture deficit required for droughtiness assessments (Section 3.4, [page 26](#)) are obtained by regression from ATS and ASR using the following equations:

$$\text{MD (Winter Wheat)} = 325.4 - 162.3 \log_{10} \text{ASR} + 0.08022 \text{ATS}$$

$$\text{MD (Potatoes)} = 326.4 - 196.5 \log_{10} \text{ASR} + 0.1127 \text{ATS}$$

The above equations are based on an analysis of station data in the Complete Agromet Database and explain approximately 90% of the variation in crop-adjusted MD at those stations. When these equations result in negative values (ie a moisture surplus) they are assumed to be zero for the purpose of droughtiness calculations.

INTERPOLATION FROM GRIDPOINTS TO INTERMEDIATE SITES

For sites not located precisely at a 5 km gridpoint standard routines are available in LandIS to calculate the value of any climatic parameter by interpolation from adjacent gridpoint values. The routines make adjustments for height differences between the site and up to four adjacent gridpoints, using the appropriate lapse rate or altitude correction factor, and then interpolate by calculating a distance weighted mean. Where a site falls exactly on an easting or northing which passes through two gridpoints the interpolation uses only those two gridpoint values. Interpolated values do not take account of microclimatic factors.

APPENDIX 2

SOIL TEXTURE

TEXTURE CLASSIFICATION – MINERALS SOILS

The mineral texture classes used for ALC purposes are defined in Figure 2 according to the relative proportions of sand, silt and clay fractions.

[Figure 2](#) Limiting percentages of sand, silt and clay fractions for mineral texture classes

The particle size fractions used are given in Table 10.

Table 10 Particle size fractions

		(mm)
Clay		<0.002
Silt		0.002 – 0.06
Sand	(fine	0.06 – 0.2
	(medium	0.2 – 0.6
	(coarse	0.6 – 2.0

For the ALC wetness assessment (Tables [6](#) and [7](#)) the clay loam and silty clay loam texture classes are divided into 'medium' and 'heavy' subclasses, the 'medium' subclasses having less than 27% clay content.

TEXTURE CLASSIFICATION -ORGANIC MINERAL AND PEAT SOILS

Class limits for organic mineral and peaty textures are defined in [Figure 3](#).

For references to peat soils and textures, the following terminology is used in this document:

Peat is a soil texture class ([Figure 3](#));

Peaty refers to a soil texture group comprising peat, loamy peat, sandy peat, peaty loam and peaty sand textures;

Peat soil is a soil which meets both of the following criteria:

- i) more than 40 cm of peaty textured material within the upper 80 cm of the soil profile, *and*
- ii) organic mineral or peaty textures present within 30 cm depth.

Figure 3 Limiting percentages of organic matter, clay and sand for peaty and organic mineral texture classes

NOTATION

The texture classes are denoted by the following abbreviations:

Sand	S
Loamy sand	LS
Sandy loam	SL
Sandy silt loam	SZL
Silt loam	ZL
Sandy clay loam	SCL
Clay loam	CL
Silty clay loam	ZCL
Clay	C
Silty Clay	ZC
Sandy Clay	SC
Peat	P
Sandy peat	SP
Loamy peat	LP
Peaty loam	PL
Peaty sand	PS
Marine light silts	MZ

For the *sand, loamy sand, sandy loam and sandy silt loam* classes the predominant size of sand fraction (see [Table 10](#)) may be indicated by the use of prefixes, thus:

F	fine	(more than $\frac{2}{3}$ of sand less than 0.2 mm)
C	coarse	(more than $\frac{1}{3}$ of sand greater than 0.6 mm)
M	medium	(less than $\frac{2}{3}$ fine sand and less than $\frac{1}{3}$ coarse sand).

The subdivisions of *clay loam and silty clay loam* classes according to clay content are indicated as follows:

M	medium	(less than 27% clay)
H	heavy	(27 - 35% clay)

The prefix 'Calc' is used to identify naturally calcareous soils containing more than 1% calcium carbonate.

For organic mineral soils, the texture of the mineral fraction is prefixed by the term 'organic' or the abbreviation 'Org' e.g. organic (or org) clay loam.

Peaty textures, as a group, are denoted by the abbreviation 'PTY'.

APPENDIX 3

FIELD ASSESSMENT OF SOIL WETNESS CLASS**SOIL WETNESS CLASSIFICATION**

Soil wetness is classified according to the depth and duration of waterlogging in the soil profile. Six revised soil wetness classes (Hodgson, in preparation) are identified and are defined in Table 11.

Table 11 Definition of Soil Wetness Classes

Wetness Class	Duration of Waterlogging ¹
I	The soil profile is not wet within 70 cm depth for more than 30 days in most years ² .
II	The soil profile is wet within 70 cm depth for 31-90 days in most years <i>or</i> , if there is no slowly permeable layer within 80 cm depth, it is wet within 70 cm for more than 90 days, but not wet within 40 cm depth for more than 30 days in most years.
III	The soil profile is wet within 70 cm depth for 91-180 days in most years <i>or</i> , if there is no slowly permeable layer within 80 cm depth, it is wet within 70 cm for more than 180 days, but only wet within 40 cm depth for between 31 and 90 days in most years.
IV	The soil profile is wet within 70 cm depth for more than 180 days but not within 40 cm depth for more than 210 days in most years <i>or</i> , if there is no slowly permeable layer within 80 cm depth, it is wet within 40 cm depth for 91-210 days in most years.
V	The soil profile is wet within 40 cm depth for 211- 335 days in most years.
VI	The soil profile is wet within 40 cm depth for more than 335 days in most years.

¹ The number of days specified is not necessarily a continuous period.

² 'In most years' is defined as more than 10 out of 20 years.

Soils can be allocated to a wetness class on the basis of quantitative data recorded over a period of many years or by the interpretation of soil profile characteristics, site and climatic factors. Adequate quantitative data will rarely be available for ALC surveys and therefore the interpretative method of field assessment is used to identify soil wetness class in the field. The method adopted here is common to ADAS and the SSLRC.

CLIMATE AND SOIL CHARACTERISTICS USED TO ASSESS SOIL WETNESS CLASS

Soil wetness class is normally assessed in the field by reference to:

- i) the duration of field capacity
- ii) the presence of a gleyed horizon
- iii) the depth to a slowly permeable layer.

In disturbed soils, the assessment is made without reference to gley morphology because any gleying present may not be a true reflection of the prevailing soil water regime. The procedure also provides for situations where reddish soils with slowly permeable layers do not exhibit gleying.

Duration of field capacity

This provides a measure of the effect of climate on the soil water regime and is expressed in terms of field capacity days (FCD). Details of data sources for FCD are given in [Appendix 1](#).

Identification of a gleyed horizon

A gleyed horizon has one of the following features:

- either** greyish or pale colours dominant in the matrix or on ped faces and at least 2% ochreous (rusty) mottles;
- or** if it underlies an organic mineral or peaty topsoil and there are less than 2% ochreous mottles, grey colours are dominant in the matrix;
- or** if reddish colours are dominant in the matrix, it has at least 2% greyish, brownish or ochreous mottles or ferri-manganiferous concentrations, and dominantly pale coloured ped faces;

the above colours being defined as follows:

greyish is a Munsell soil colour of any hue with chroma 2 or less and value more than 3;

pale is a Munsell soil colour of any hue with *either* chroma 3 and value more than 4 *or* chroma 4 and value more than 5;

brownish is Munsell soil colour of hues 7.5YR to 10YR with *either* chroma 3 and value 4 *or* chroma 4 and value 4 or 5;

ochreous is Munsell soil colour of hue 10YR or redder with chroma more than 4 and value less than 7;

reddish is Munsell soil colour of hue 5YR or redder.

The above gley colours (greyish, pale, brownish and ochreous) are shown diagrammatically in Munsell Soil Colour Chart notation in [Figure 4](#).

Identification of a slowly permeable layer

This is defined as being a layer at least 15 cm in thickness with the upper boundary within 80 cm of the surface and having the following characteristics:

- either** C, SC, ZC, MCL, HCL, MZCL, HZCL or SCL texture *and* massive, platy, medium or coarse or very coarse prismatic, weakly developed fine prismatic, coarse or very coarse angular blocky, weakly developed fine or medium angular blocky, or weakly developed coarse or very coarse subangular blocky structure¹;
- or** ZL, SZL, or any type of SL with massive structure¹ *and* at least firm consistence¹;
- and** less than 0.5% biopores greater than 0.5 mm diameter;
- and** evidence of wetness in, or immediately above the layer, such as ochreous mottles, ferri-manganiferous concentrations or gleying.

The combinations of texture, structure and consistence¹ defined in the 'either' and 'or' options above are shown diagrammatically in [Figure 5](#).

¹See Hodgson, 1976, pages 30 to 50, for detailed descriptions and definitions related to soil structure and consistence.

[Figure 4](#) **Diagrammatic representation of gley colours defined according to the Munsell soil colour system**

[Figure 5](#) **Diagrammatic representation of the combinations of structure, texture and consistence which are characteristic of slowly permeable layers**

It should be noted that:

- i) soils developed in marine alluvium can have very porous subsoils due to the presence of vertical channels and such soils often do not have slowly permeable horizons
- ii) if the soil comprises artificially replaced or disturbed material or has a Munsell hue of 5YR or redder, only the textural, structural and porosity characteristics given above need be present (see (v) and (vi), [page 37](#))
- iii) severely compacted horizons, as sometimes found in restored soils, may be virtually impermeable (see (v), [page 37](#)).

PROCEDURE FOR ASSESSING WETNESS CLASS

Introduction

This method assumes that soils have an appropriate underdrainage system and that there are satisfactory outfalls (see assumption (2), [page 8](#)). It is not suitable for soils which are affected by high groundwater tables which cannot be drained effectively. Such soils can only be assigned objectively to a wetness class on the basis of long-term dipwell measurements. In the absence of such data the assessment of wetness class requires specialist knowledge and needs to take account of profile morphology, climate, site characteristics, prevailing water levels and time of year.

On sites with less than 225 FCD it is assumed that, with the exception of certain soils with very unstable structure (see [pages 17](#) and [22](#)), any slowly permeable layer near the surface can be removed by cultivation. The assumed potential depth of loosening decreases from 35 cm, for sites with not more than 150 FCD, to 0 cm at 225 FCD (see [Figures 7](#) and [8](#)).

Method

The method and sequence for assessing the wetness class of soils which can be drained is described below and shown diagrammatically in [Figure 6](#).

- i) Examine the soil profile to a depth of 1 metre to identify the presence of any peaty or organic mineral topsoil, the depth to gleying and depth to a slowly permeable layer. Establish whether or not the soil has been significantly disturbed or restored. Note whether the soil is reddish and has a slowly permeable layer starting within 80 cm but is not gleyed within 70 cm depth.
- ii) If the soil is undisturbed, has no slowly permeable layer starting within 80 cm depth and no gleyed subsoil is present within 70 cm depth, the soil is **Wetness Class I**.
- iii) If the site has at least 225 FCD *and* there is a peat soil, or the topsoil is peaty or organic mineral texture with a gleyed subsoil or rock immediately below, the soil is **Wetness Class V or VI**. Soils in Wetness Class VI are more or less perpetually waterlogged and will have standing surface water for long periods. Such soils are most likely to occur in areas with more than 300 FCD or in basin sites.
- iv) If the site has less than 225 FCD and there is an undisturbed peat soil, the assessment is made as follows:
 - if there is a slowly permeable layer which starts within 80 cm depth, refer to [Figure 7](#);
 - if there is no slowly permeable layer starting within 80 cm depth, refer to [Table 12](#).
- v) If the soil has been significantly disturbed or restored, the assessment of wetness class is made without reference to gleying as follows:
 - if there is a slowly permeable layer starting within 60 cm depth, refer to [Figure 7](#);
 - if there is a slowly permeable layer starting between 60 and 80 cm depth, refer to [Figure 8](#);

Agricultural Land Classification of England and Wales

-if there is no slowly permeable layer starting within 80 cm depth, assess the likelihood and degree of waterlogging from any available evidence and, if there is uncertainty make clear the tentative nature of the assessment when assigning a grade.

It should be noted that severely compacted layers may be virtually impermeable (rather than slowly permeable) and that consequently, in such cases, Figures [7](#) and [8](#) may give an underestimate of the duration of waterlogging.

- vi) If the soil is reddish (5YR or redder) and not gleyed within 70 cm depth, the assessment is made as follows:
 - if there is no slowly permeable layer within 80 cm depth, the soil is **Wetness Class I**;
 - if there is a slowly permeable layer that starts within 60 cm depth and extends to at least 100 cm, refer to [Figure 7](#);
 - in all other cases, refer to [Figure 8](#).

- vii) If there is a mineral or organic mineral soil which has no slowly permeable layer starting within 80 cm and has a subsoil which is gleyed within 70 cm depth, refer to [Table 13](#).

- viii) If there is a mineral or organic mineral soil which has a slowly permeable layer starting within 80 cm, the assessment is made as follows:
 - if gleying is present within 40 cm depth, refer to [Figure 7](#);
 - if gleying is present within 70 cm depth but not within 40 cm, refer to [Figure 8](#).

Table 12 Estimation of Wetness Class of peat soils with no slowly permeable layer starting within 80 cm depth

FCD range	Peat soils with coarse textured subsoil ¹	Other peat soils
≤ 100	I	I
101 - 150	I	II
151 - 200	I	II - IV
201 - 225	II	II - IV

¹Peat soils in which the mineral subsoil horizons are predominantly coarse textured (ie contain less than 18% clay) within, and are coarse textured at and immediately below, 80 cm.

Table 13 Estimation of Wetness Class of mineral or organic mineral soils with no slowly permeable layer starting within 80 cm depth but with gleying present within 70 cm

FCD range	Gleyed within 70 cm but not within 40 cm		Gleyed within 40 cm	
	<i>Coarse textured subsoil¹</i>	<i>Other soils</i>	<i>Coarse textured subsoil¹ or in marine alluvium with a peaty or organic mineral topsoil</i>	<i>Other soils</i>
≤ 100	I	I	I	I
101 - 200	I	I	I	II
201 - 250	I	II	II	III
> 250	II	II	III	III

¹ Mineral soils in which the subsoil is predominantly coarse textured (i.e. contains less than 18% clay) within 80 cm depth and is coarse textured at and immediately below 80 cm depth.

APPENDIX 4

THE CALCULATION OF CROP-ADJUSTED SOIL AVAILABLE WATER CAPACITY (AP) FOR WHEAT AND POTATOES

THE CONCEPT AND ESTIMATION OF 'AVAILABLE WATER'

The total amount of soil water available to plants (TA_v) is considered to be the volumetric soil water content between 0.05 and 15 bar suction or, in the case of sands and loamy sands, 0.10 and 15 bar suction. These suctions approximate to the conditions of *field capacity*, when all excess water has drained away under the influence of gravity, and *wilting point*, when the plants can extract no more moisture from the soil. The TA_v of any soil layer can be measured in the laboratory from representative undisturbed cores (Avery and Bascomb, 1982), but as this method is both expensive and time-consuming, values of TA_v for combinations of texture and structure, which can be assessed in the field, are given in [Table 14](#). The values are based on a dataset¹ of about 3,600 TA_v measurements from different layers in over 1,000 soil profiles throughout England and Wales.

A previous analysis of these data (Hall et al, 1977) showed that the main factors affecting TA_v are texture, structure and organic matter content and the TA_v values for each texture are therefore stratified according to whether they are for topsoils or subsoils and according to whether the subsoil layers have good, moderate or poor structural development. To help in this assessment definitions of good, moderate and poor subsoil structural conditions are given in [Figures 9, 10 & 11](#). In topsoils, structural conditions depend very much on previous management and, under arable cultivation, can have an annual cycle encompassing all three states. Because of this, and bearing in mind that ALC assessments assume a good management standard only one TA_v value, that for moderate structural conditions, is given for topsoils. The values for poor structural conditions in [Table 14](#) are based on measurements from undisturbed soils. These values may overestimate the available water in artificially compacted horizons which occur in some restored soils.

THE CALCULATION OF CROP-ADJUSTED AVAILABLE WATER CAPACITY (AP)

The amount of soil water that is available to a growing crop depends on both soil properties and crop rooting patterns. The rooting models used to assess AP for ALC purposes are based on those of Thomasson (1979). These suggest that, under favourable conditions, cereals will root to about 120 cm, whereas potato roots rarely extend below 70 cm. However, the root systems of cereals are less well developed below 50 cm and their ability to extract water below this depth is thus diminished. Below 50 cm therefore, the model for calculating cereal available water capacity uses only the volume of 'easily available water' (EA_v) held in the soil between 0.05 and 2.0 bar suction. EA_v values for texture and structure combinations are given in brackets in [Table 14](#).

¹This dataset was collected by staff of the Soil Survey and Land Research Centre and is stored in LandIS, a computerised Land Information System based at their Headquarters at Silsoe Campus, Silsoe, Beds MK45 4DT.

Agricultural Land Classification of England and Wales

For wheat, the soil available water capacity in millimetres is calculated by multiplying either the TA_v or the EA_v (whichever is applicable) of each soil layer by its thickness, adding the products for all layers to a depth of 120 cm and dividing the result by 10. This can be expressed as follows:

$$AP \text{ wheat (mm)} = \frac{TA_{vt} \times LT_t + \sum (TA_{vs} \times LT_{50}) + \sum (EA_{vs} \times LT_{50-120})}{10}$$

where

TA_{vt} is Total available water (TA_v) for the topsoil texture

TA_{vs} is Total available water (TA_v) for each subsoil layer

EA_{vs} is Easily available water (EA_v) for each subsoil layer

LT_t is thickness (cm) of topsoil layer

LT_{50} is thickness (cm) of each subsoil layer to 50 cm depth

LT_{50-120} is thickness (cm) of each subsoil layer between 50 and 120 cm depth

Σ means 'sum of'.

For potatoes no adjustments using EA_v are necessary. The soil available water capacity is calculated simply by multiplying the TA_v of each layer by its thickness, adding the products to a depth of 70 cm and dividing by 10. Thus:

$$AP \text{ potatoes (mm)} = \frac{TA_{vt} \times LT_t + \sum (TA_{vs} \times LT_{70})}{10}$$

where

LT_{70} is thickness (cm) of each subsoil layer to 70 cm depth

ADJUSTMENTS TO SOIL AVAILABLE WATER CAPACITY TO TAKE INTO ACCOUNT THE PRESENCE OF STONES, ROCK OR A VERY POORLY STRUCTURED HORIZON

The values for TA_v and EA_v given in [Table 14](#) are for the fine earth fraction of soils (material less than 2 mm in diameter) and adjustments are therefore necessary to take into account the presence of stones in soil layers. Such adjustments are only made for layers with less than 70% stones by volume and further modification of AP is necessary where gravelly layers (defined as containing at least 70% rounded stones by volume) or massive, fissured or shattered rock material (defined as having at least 70% angular stones by volume) occur within the model rooting depths.

Where massive, non-rootable rock of any kind restricts rooting, then soil available water is calculated only for those layers above the rock. Usually, however, massive rock is overlain by a transitional layer of fissured or shattered rock material that can be exploited by roots to a limited extent. The amount of available water in such layers depends on their lithology and values for different types are given in [Table 15](#)¹. Where layers of gravel, fissured or shattered rock occur within 120 cm depth, the appropriate TA_v or EA_v values from [Table 15](#) are used in the calculation of soil available water capacity.

Agricultural Land Classification of England and Wales

The values for rocks given in [Table 15](#) are also used when adjusting TA_v or EA_v values for stony soil layers with less than 70% stones by volume. Adjustments are made as follows:

$$\text{Stone-adjusted } TA_v \text{ or } EA_v = \frac{A_{vf} \times \%f + (A_{vr} \times \% \text{ Stones})}{100}$$

where

f is fine earth component, i.e. (100-% volume of stone)

A_{vf} is TA_v or EA_v (as appropriate) of fine earth component

A_{vr} is TA_v or EA_v (as appropriate) of stone component

Where the soil has a severely compacted layer with very poor structure which generally restricts root penetration, soil available water is calculated only for layers above the compacted layer.

¹ There is little information on the amount of available water in different rocks and the values used in [Table 15](#) are mostly estimates based on a few, as yet unpublished measurements. They should be regarded as tentative values and should only be used where actual site measurements are unavailable.

EXAMPLES

The following examples illustrate how crop-adjusted APs are calculated.

Example 1. A stoneless clayey soil with slowly permeable subsoil

Soil data

Layer	Depth (cm)	Texture	Structural Condition	Stones
Topsoil	30	clay loam	-	0
Subsoil 1	30 - 60	clay	moderate	0
Subsoil 2	60 - 120	clay	poor	0

Variables		%
From Table 14	Topsoil TA_v	18
	Subsoil 1 TA_v	16
	Subsoil 1 EA_v	8
	Subsoil 2 TA_v	13
	Subsoil 2 EA_v	7

Calculation: AP Wheat

	cm	
Topsoil	0 - 30	30 x 18 = 540
Subsoil 1	30 - 50	20 x 16 = 320
Subsoil 1	50 - 60	10 x 8 = 80
Subsoil 2	60 - 120	60 x 7 = 420

$$\text{AP wheat} = \frac{540 + 320 + 80 + 420}{10} = 136 \text{ mm}$$

Calculation: AP potatoes

	cm	
Topsoil	0 - 30	30 x 18 = 540
Subsoil 1	30 - 60	30 x 16 = 480
Subsoil 2	60 - 70	10 x 13 = 130

$$\text{AP potatoes} = \frac{540 + 480 + 130}{10} = 115 \text{ mm}$$

Agricultural Land Classification of England and Wales

Example 2. A deep loamy soil in till with few to common hard quartzite stones (Bunter pebbles) and a slowly permeable subsoil at depth

Soil data

Layer	Depth (cm)	Texture	Structural Condition	Stones
Topsoil	0 - 35	medium sandy loam	-	6%
Subsoil 1	35 - 60	medium sandy loam	moderate	8%
Subsoil 2	60 - 120	clay loam	poor	3%

Variables

		%
From Table 14	Topsoil TA_v	17
	Subsoil 1 TA_v	15
	Subsoil 1 EA_v	11
	Subsoil 2 TA_v	12
	Subsoil 2 EA_v	7
From Table 15	TA_v stones	1
	EA_v stones	0.5

Calculation: AP Wheat

	cm	
Topsoil	0 - 35	$\frac{(17 \times 94) + (1 \times 6)}{100} \times 35 = 561.4$
Subsoil 1	30 - 50	$\frac{(15 \times 92) + (1 \times 8)}{100} \times 15 = 208.2$
Subsoil 1	50 - 60	$\frac{(11 \times 92) + (0.5 \times 8)}{100} \times 10 = 101.6$
Subsoil 2	60 - 120	$\frac{(7 \times 97) + (0.5 \times 3)}{100} \times 60 = 408.3$

$$\text{AP wheat} = \frac{561.4 + 208.2 + 101.6 + 408.3}{10} = 128 \text{ mm}$$

Agricultural Land Classification of England and Wales

Calculation: AP potatoes

Topsoil	cm 0 - 35	$\frac{(17 \times 94) + (1 \times 6)}{100} \times 35 = 561.4$
Subsoil 1	35 - 60	$\frac{(15 \times 92) + (1 \times 8)}{100} \times 25 = 347$
Subsoil 2	60 - 70	$\frac{(12 \times 97) + (1 \times 3)}{100} \times 10 = 116.7$

$$\text{AP potatoes} = \frac{561.4 + 347 + 116.7}{10} = 102 \text{ mm}$$

Table 14 Estimation of available water (%) from texture class, horizon and structural conditions

Texture Class	Topsoil TA _v	Subsoil TA _v (EA _v in brackets)		
		<i>good</i> ¹	<i>moderate</i> ¹	<i>poor</i> ¹
Clay	17	21 (15)	16 (8)	13 (7)
Silty clay	17	21 (15)	15 (8)	12 (7)
Sandy clay	17	19 (14)	15 (10)	13 (8)
Sandy clay loam	17	19 (14)	15 (10)	13 (8)
Clay loam	18	21 (14)	16 (10)	12 (7)
Silty clay loam	19	21 (12)	17 (10)	12 (6)
Silt loam	23	23 (17)	22 (14)	15 (9)
Fine sandy silt loam	22	22 (16)	21 (15)	15 (9)
Medium sandy silt loam	19	19 (13)	17 (11)	15 (9)
Coarse sandy silt loam	19	23 (17)	19 (11)	15 (7)
Fine sandy loam	18	22 (17)	18 (13)	17 (11)
Medium sandy loam	17	17 (13)	15 (11)	11 (8)
Coarse sandy loam	17	22 (15)	16 (11)	11 (8)
Loamy fine sand	18	15 (13)	15 (13)	* -
Loamy medium sand	13	12 (9)	9 (6)	* -
Loamy coarse sand	11	11 (7)	8 (6)	* -
Fine sand	* -	14 (12)	14 (12)	* -
Medium sand	12	7 (5)	7 (5)	* -
Coarse sand	* -	5 (4)	5 (4)	* -
Marine light silts ²		33 (30)	28 (22)	* -
All Horizons				
Organic sands	23 (16)			
Organic loams	28 (20)			
Organic clays	23 (16)			
Peaty sands	39 (36)			
Peaty loams	27 (18)			
Sandy peats	45 (30)			
Loamy peats	35 (26)			
Humified peats	33 (24)			
Fibrous and semi-fibrous peats	44 (35)			

Agricultural Land Classification of England and Wales

¹ Criteria for good, moderate and poor structural conditions are given in Figures [9](#), [10](#) & [11](#).

² Use these figures only for subsoils in marine alluvium where textures are fine sandy silt loam, fine sandy loam or loamy fine sand *and* most of the sand is finer than 0.1 mm.

* Rare occurrences for which there are no data.

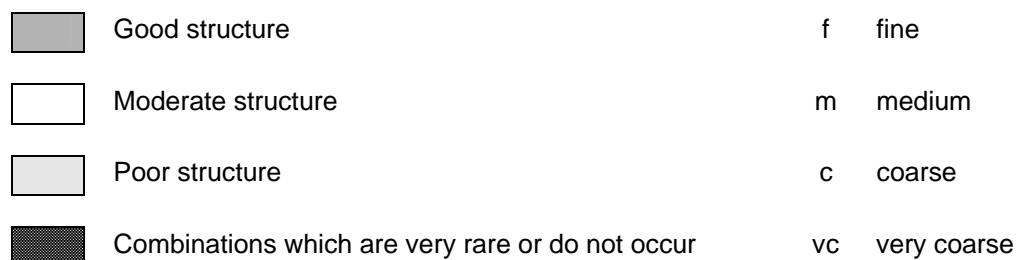
Table 15 Available water in stones and rocks (%)

Rock, gravel or stone type	TA _v	EA _v
All hard rocks or stones (i.e. those which cannot be scratched with a finger nail)	1	0.5
Soft, medium or coarse grained sandstones	3	2
Soft 'weathered' igneous or metamorphic rocks or stones	4	2
Soft oolitic or dolomitic limestones	4	3
Soft fine grained sandstones	5	3
Soft, argillaceous or silty rocks or stones	8	5
Chalk or chalk stones	10	7
Gravel ¹ with non-porous (hard) stones	2	1
Gravel ¹ with porous stones (mainly soft stone types listed above)	5	3

¹Gravel with at least 70% rounded stones by volume

Figure 9. Assessment of structural conditions¹ in subsoil horizons with S or LS texture

		loose			very friable			friable			firm			very firm			extremely firm			extremely hard		
		weak	moderate	strong	weak	moderate	strong	weak	moderate	strong	weak	moderate	strong	weak	moderate	strong	weak	moderate	strong	weak	moderate	strong
single grain																						
massive																						
granular	f																					
	m																					
	c																					
	vc																					
subangular blocky	f																					
	m																					
	c																					
	vc																					
angular blocky	f																					
	m																					
	c																					
	vc																					
prismatic	f																					
	m																					
	c																					
	vc																					
platy	f																					
	m																					
	c																					
	vc																					



¹See Hodgson, 1976, pages 30 to 50, and Hodgson (in preparation) for detailed descriptions and definitions related to soil structure and consistence.

Agricultural Land Classification of England and Wales

Figure 10. Assessment of structural conditions¹ in subsoil horizons with SL, SZL or ZL texture

		loose			very friable			friable			firm			very firm			extremely firm			extremely hard		
		weak	moderate	strong	weak	moderate	strong	weak	moderate	strong	weak	moderate	strong	weak	moderate	strong	weak	moderate	strong	weak	moderate	strong
single grain																						
massive																						
granular	f																					
	m																					
	c																					
	vc																					
subangular blocky	f																					
	m																					
	c																					
	vc																					
angular blocky	f																					
	m																					
	c																					
	vc																					
prismatic	f																					
	m																					
	c																					
	vc																					
platy	f																					
	m																					
	c																					
	vc																					

	Good structure		f	fine
	Moderate structure		m	medium
	Poor structure		c	coarse
	Combinations which are very rare or do not occur		vc	very coarse

¹See Hodgson, 1976, pages 30 to 50, and Hodgson (in preparation) for detailed descriptions and definitions related to soil structure and consistence.

Agricultural Land Classification of England and Wales

Figure 11. Assessment of structural conditions¹ in subsoil horizons with SCL, CL, ZCL, SC, C or ZC texture

		loose			very friable			friable			firm			very firm			extremely firm			extremely hard		
		weak	moderate	strong	weak	moderate	strong	weak	moderate	strong	weak	moderate	strong	weak	moderate	strong	weak	moderate	strong	weak	moderate	strong
single grain																						
massive																						
granular	f																					
	m																					
	c																					
	vc																					
subangular blocky	f																					
	m																					
	c																					
	vc																					
angular blocky	f																					
	m																					
	c																					
	vc																					
prismatic	f																					
	m																					
	c																					
	vc																					
platy	f																					
	m																					
	c																					
	vc																					

- | | | | |
|---|--|--|----------------|
| | Good structure | | f fine |
| | Moderate structure | | m medium |
| | Poor structure | | c coarse |
| | Combinations which are very rare or do not occur | | vc very coarse |
| * | Poor structure if ped faces are gleyed | | |

¹See Hodgson, 1976, pages 30 to 50, and Hodgson (in preparation) for detailed descriptions and definitions related to soil structure and consistence.

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* Expected publication date, January 1989.

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Figure 1

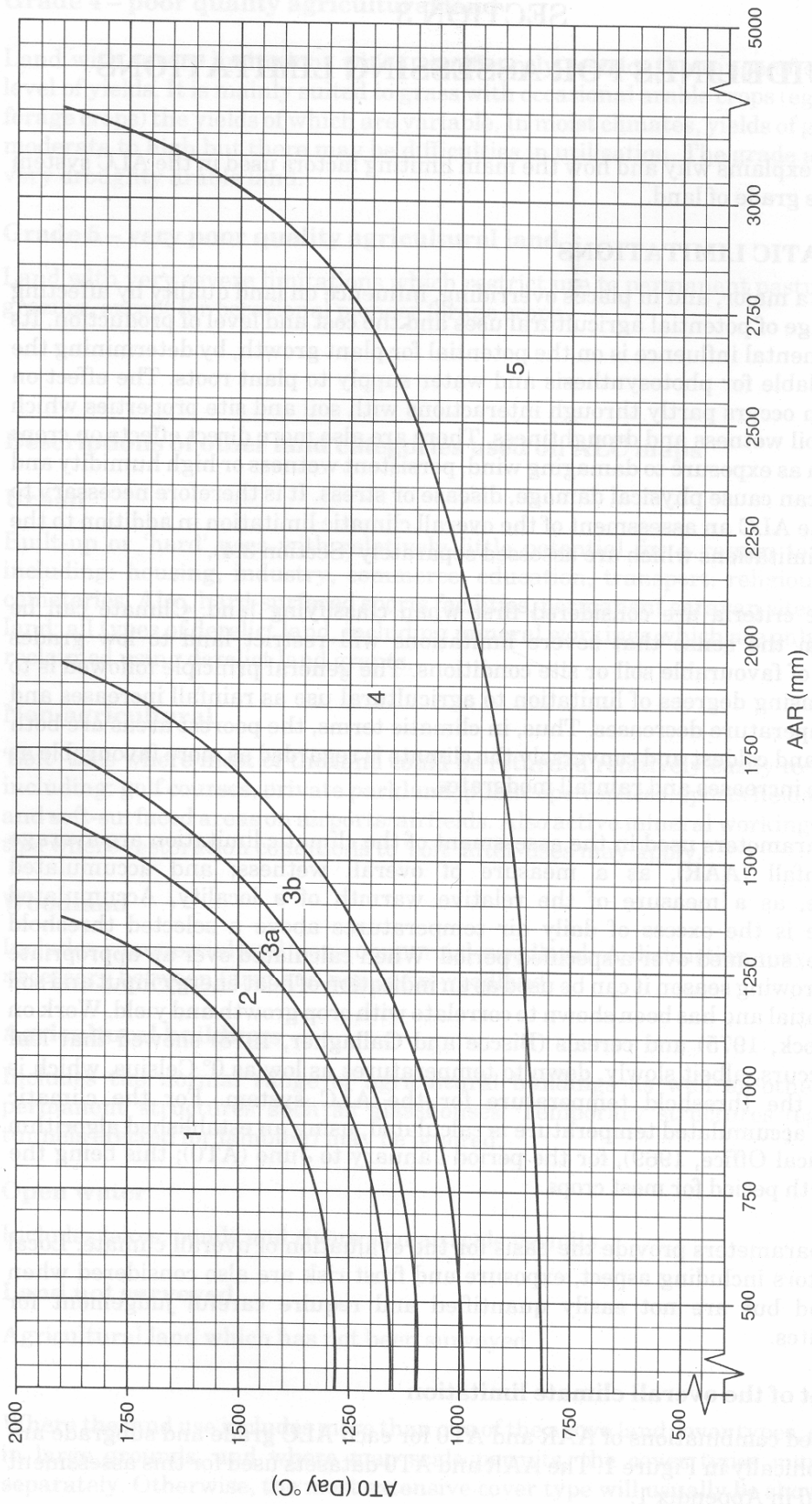


Figure 1. Grade according to climate

Figure 2

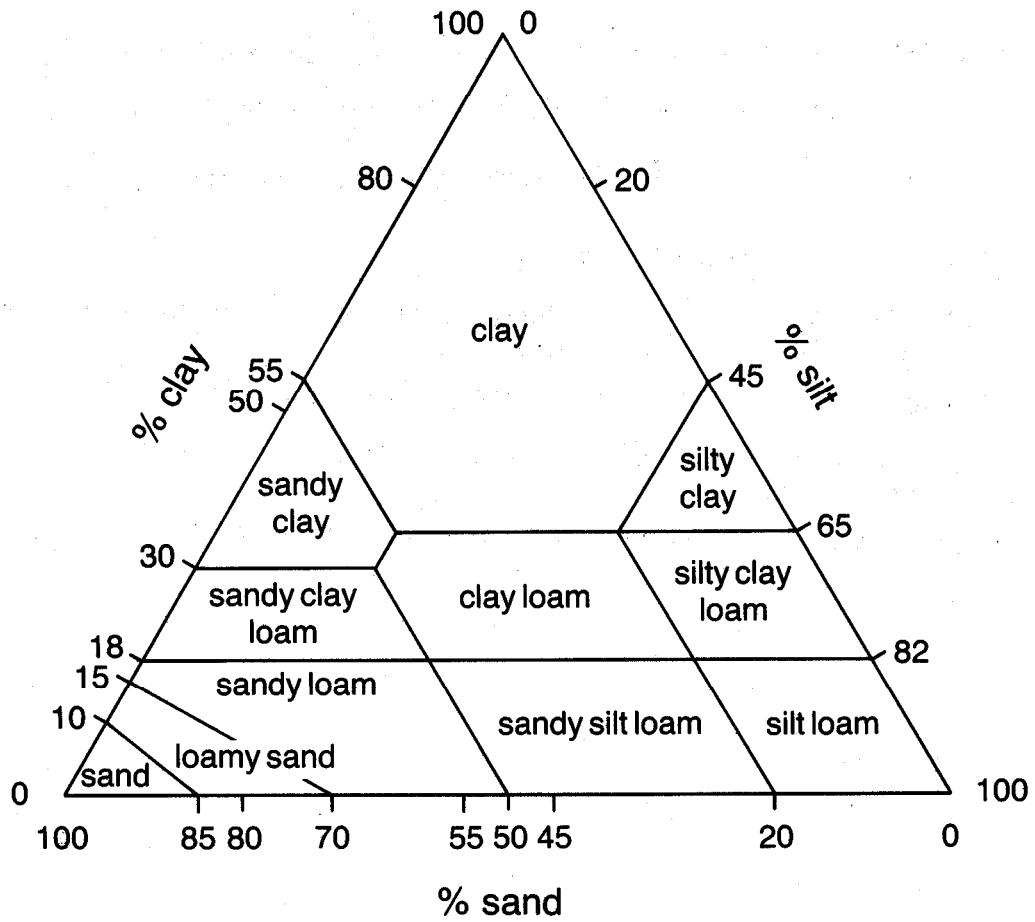


Figure 2. Limiting percentages of sand, silt and clay fractions for mineral texture classes

The particle size fractions used are given in Table 10.

Figure 3

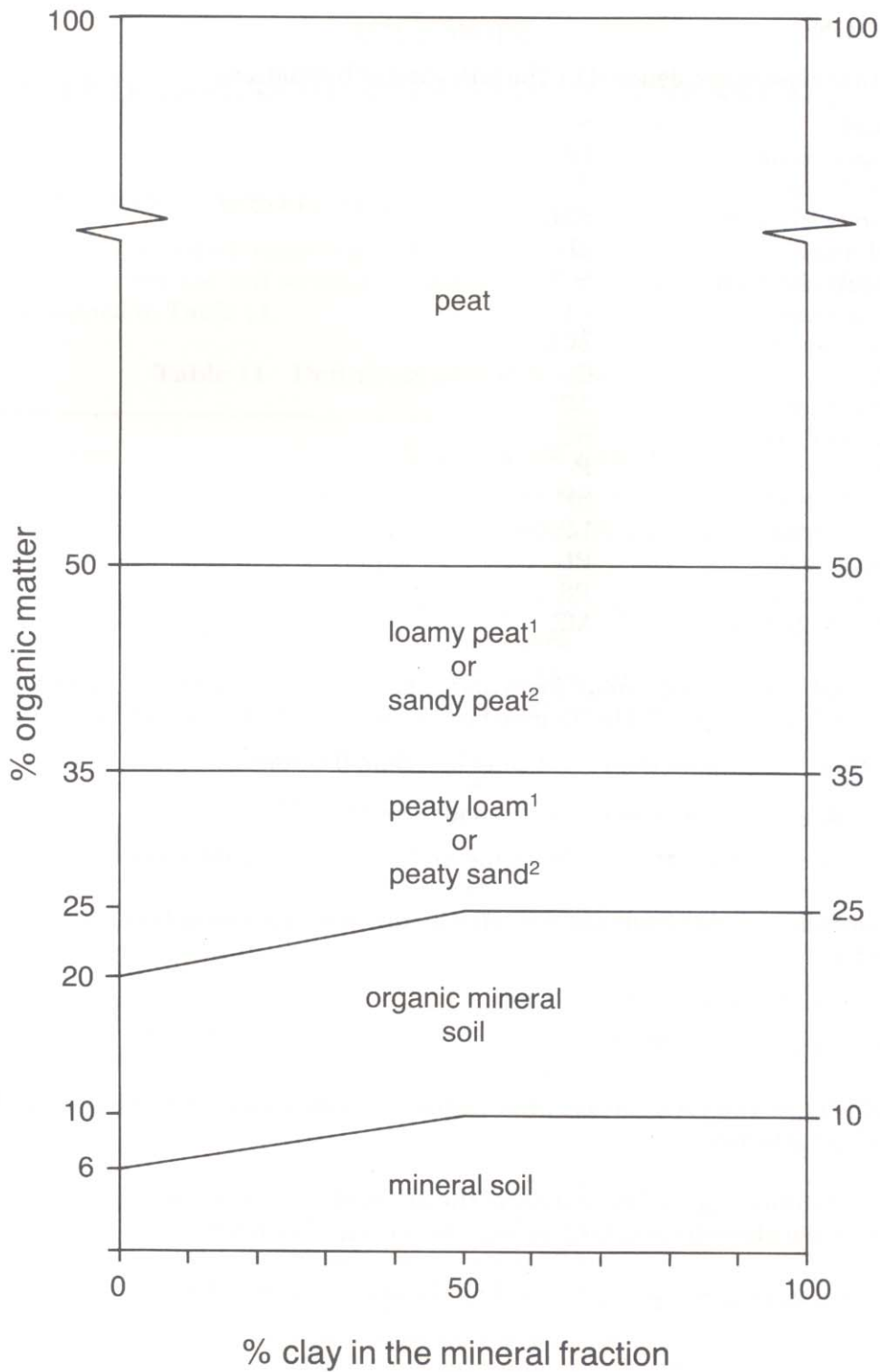


Figure 3. Limiting percentages of organic matter, clay and sand for peaty and organic mineral texture classes

¹ Less than 50% sand in the mineral fraction

² 50% sand or more in the mineral fraction

Figure 4

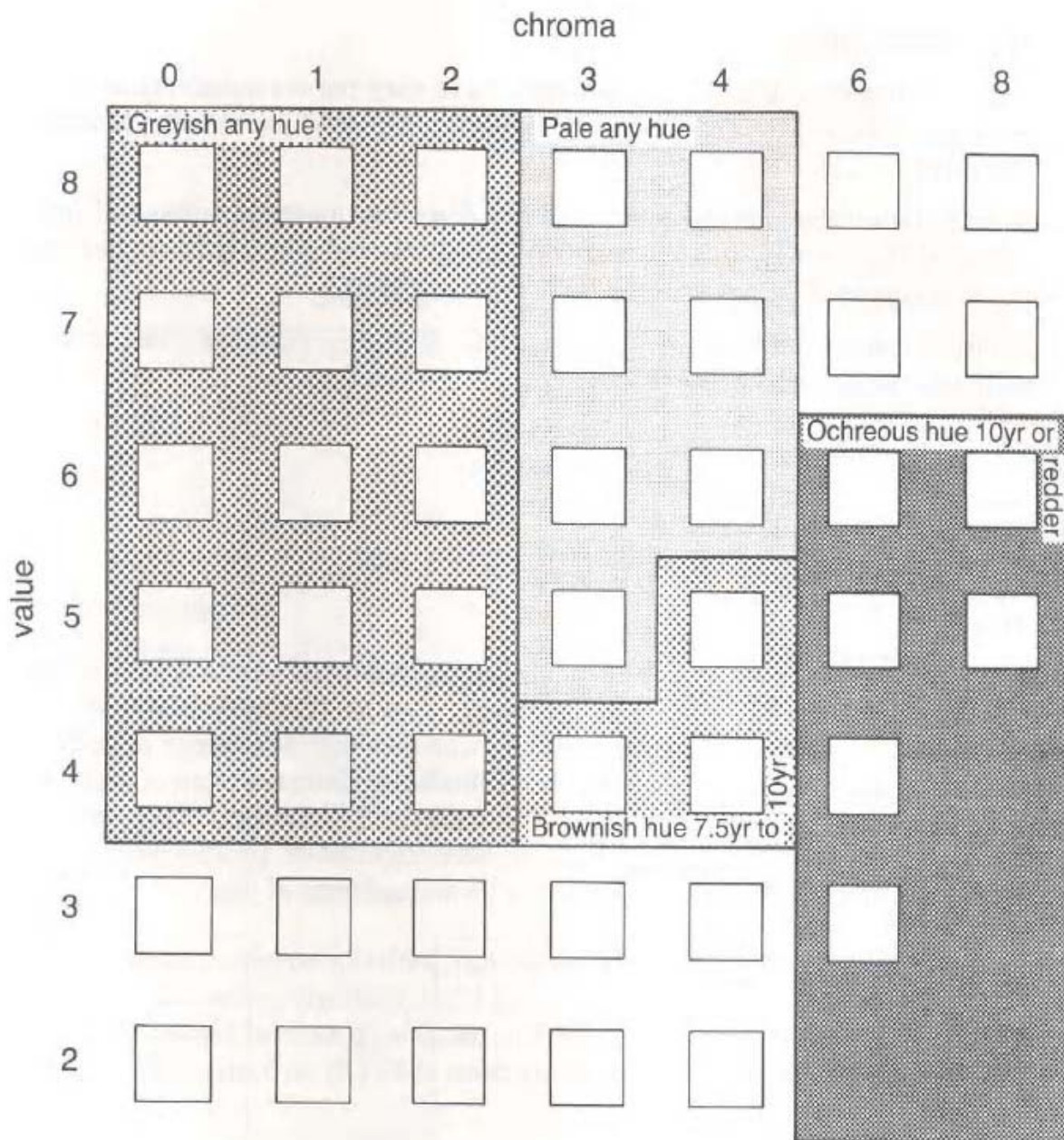


Figure 4. Diagrammatic representation of gley colours defined according to the Munsell¹ soil colour system

Figure 5

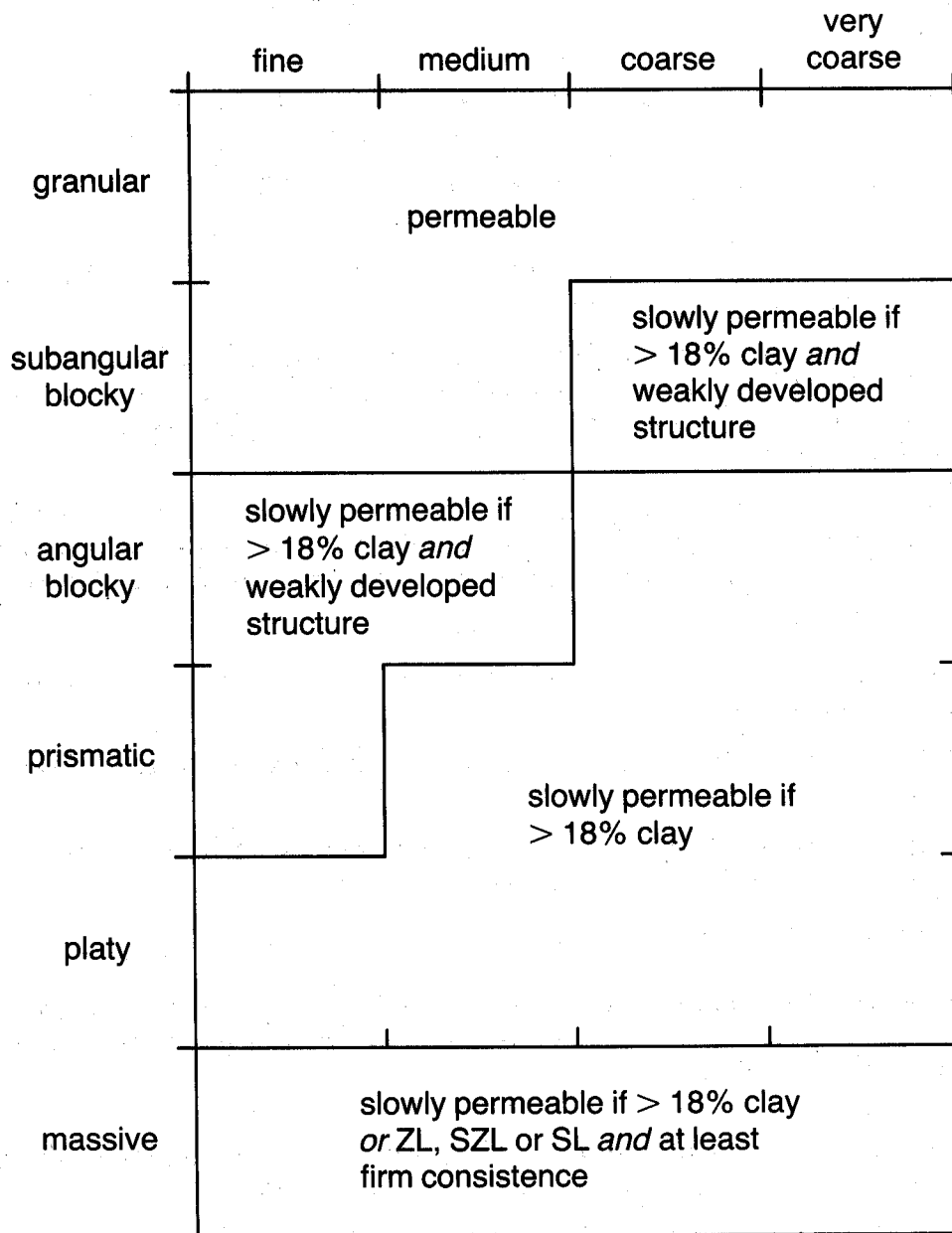


Figure 5. Diagrammatic representation of the combinations of structure, texture and consistence which are characteristic of slowly permeable layers

Figure 6

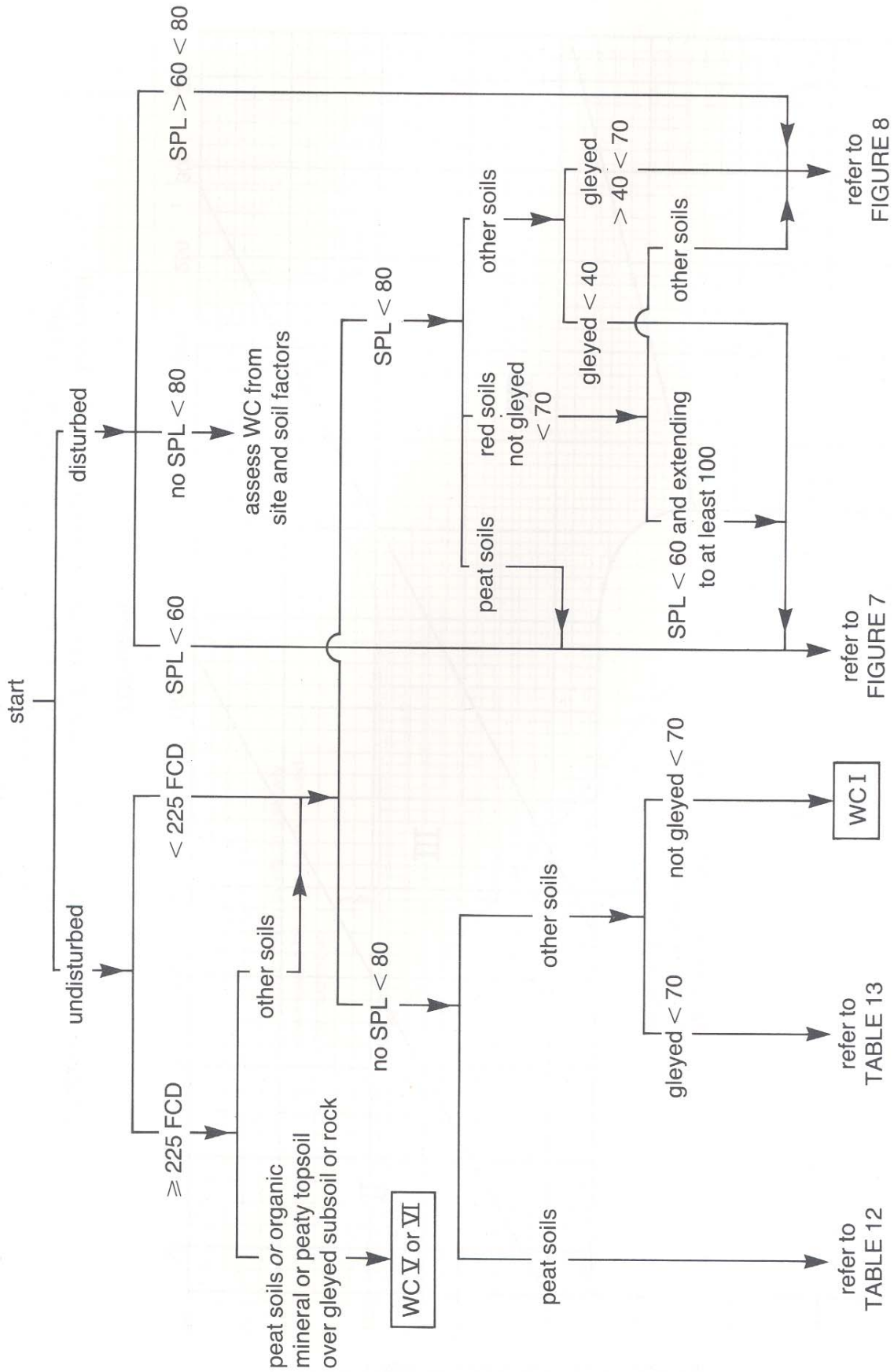


Figure 6. Flow diagram for assessing soil wetness class (WC) from field capacity days (FCD), depth to gleying (in cm) and depth to a slowly permeable layer (SPL, in cm)

Figure 7

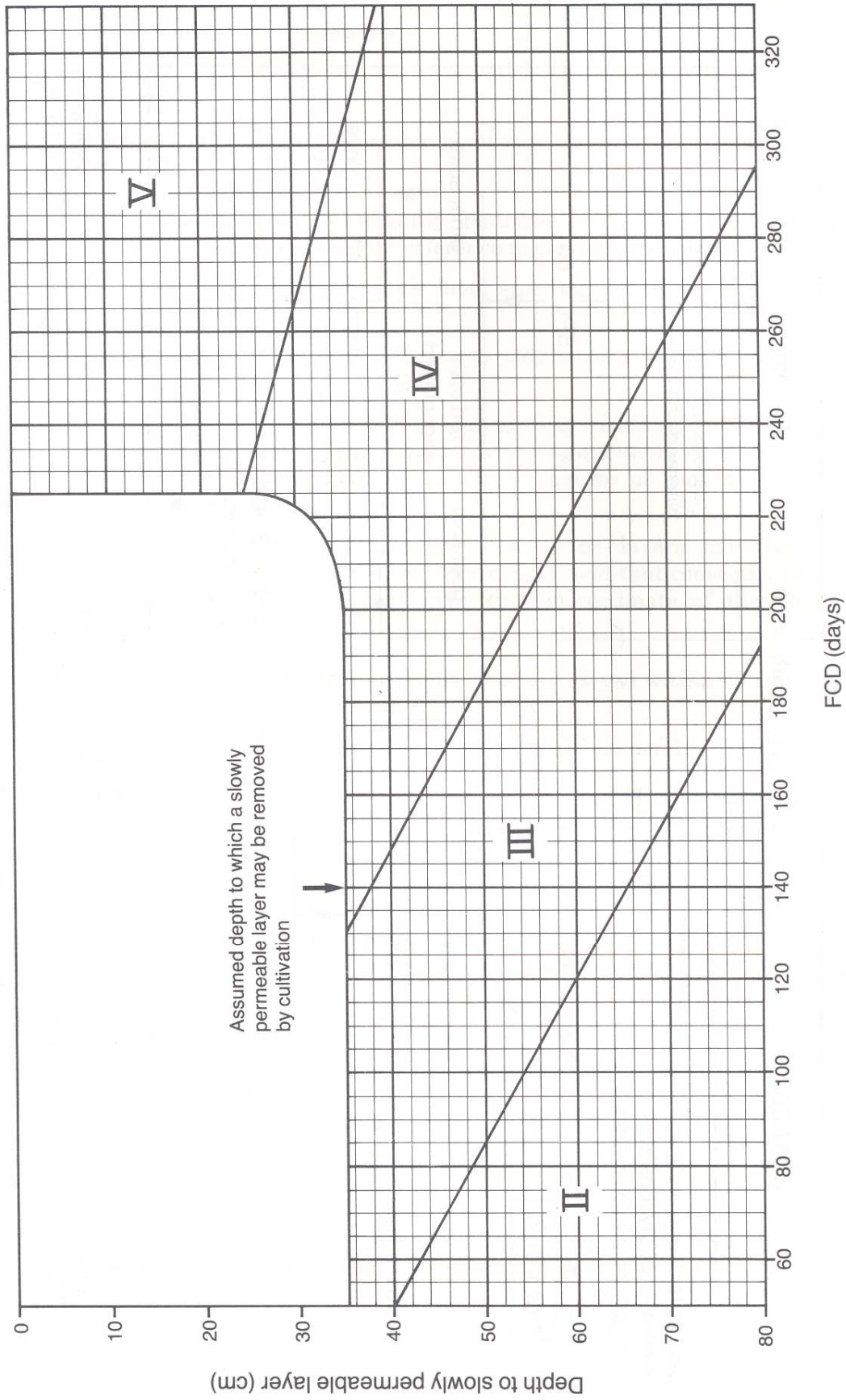


Figure 7. Estimation of Wetness Class from depth to slowly permeable layer and duration of field capacity (FCD) for soils with gleying present within 40 cm depth and a slowly permeable layer starting within 80 cm depth; and for peat soils with a slowly permeable layer

Figure 8

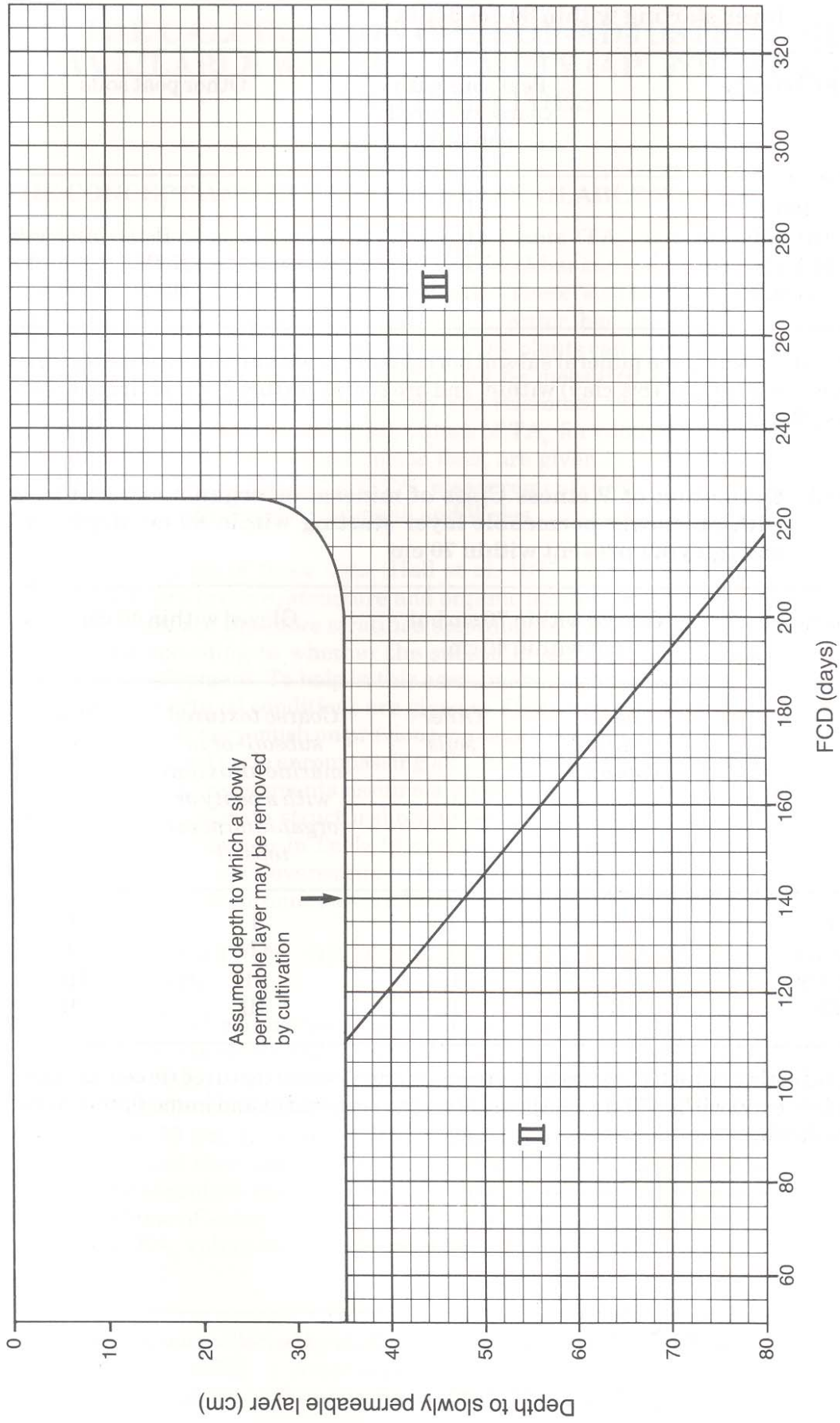


Figure 8. Estimation of Wetness Class from depth to slowly permeable layer and duration of field capacity (FCD) for soils with gleying present within 70 cm depth but not within 40 cm and a slowly permeable layer starting within 80 cm depth

2 The Met Office: Climatological Data for Agricultural Land Classification (1989)



The Met. Office



Soil Survey and
Land Research Centre
Incorporating the Soil
Survey of England and Wales



CLIMATOLOGICAL DATA FOR AGRICULTURAL LAND CLASSIFICATION

*Gridpoint datasets of climatic variables, at 5 km intervals,
for England and Wales*

JANUARY 1989

CONTENTS

	PAGE
PREFACE	iii
1 INTRODUCTION	1
2 LOCATION, ALTITUDE AND CLIMATIC DATASETS	2
2.1 LOCATION AND ALTITUDE DATA	2
2.11 National Grid	2
2.12 Altitude (ALT)	2
2.2 RAINFALL	2
2.21 Average annual rainfall (AAR)	2
2.22 Lapse rate for average annual rainfall (LR_AAR)	3
2.23 Average summer rainfall (ASR)	3
2.3 TEMPERATURE	4
2.31 Accumulated temperature, January to June (AT0)	4
2.32 Accumulated temperature, April to September (ATS)	4
2.4 MOISTURE DEFICIT (MD)	5
2.41 Moisture deficit for winter wheat (MDMWHT)	6
2.42 Moisture deficit for potatoes (MDMPOT)	6
2.5 DURATION OF FIELD CAPACITY (FCD)	6
3 INTERPOLATION BETWEEN GRIDPOINTS	7
3.1 GENERAL PRINCIPLES	7
3.2 INTERPOLATION PROCEDURE FOR AAR, AT0 AND FCD	7
3.21 Selection of reference gridpoints	7
3.22 Altitude adjustment	8
3.23 Calculation of site value of AAR, AT0 or FCD	9
3.3 INTERPOLATION PROCEDURE FOR MD	10
3.31 Derivation of equation for obtaining altitude adjustment factors for MD	11
3.32 Selection of reference gridpoints	12
3.33 Altitude adjustment	12
3.34 Calculation of site value of MD	13
REFERENCES	14
APPENDIX ALC DATASETS	15

TEXT FIGURES

		PAGE
1	The lettering and numbering of the 100 km squares of the National Grid	3
2	Diagrammatic representation of the procedure for selecting reference gridpoints	8

PREFACE

Climate has an important influence on the agricultural potential of land and is therefore one of the key physical factors taken into account in the Agricultural Land Classification of England and Wales (ALC). The ALC system is used by the Ministry of Agriculture, Fisheries and Food (MAFF) to advise planning authorities about the quality of agricultural land. A revision of the ALC system was published in October 1988 (MAFF, 1988) which includes modified methods for assessing the overall climatic limitation and the degree of soil wetness or droughtiness of a particular location. Climatic data are required for these assessments and a number of datasets have been compiled to provide a standard data source for the initial calibration and subsequent operation of the system.

The climatic data listed in this document as grid datasets with 5 km spacings are to be used in preference to any other published sources for ALC purposes. The origin and derivation of the data are described and interpolation procedures are given for obtaining the estimated value of each parameter at any location in England and Wales. The use of grid data in combination with a standard interpolation procedure avoids the discrepancies which can arise from the subjective interpretation of climate maps or of meteorological station data, which may not be fully representative of the surrounding area. The use of grid data also has significant advantages for computerized storage and manipulation of information.

The data listed are consistent with the agrometeorological reference books published by MAFF (Smith 1976, Smith and Trafford 1976), and in the case of rainfall and duration of field capacity (FCD) supersede those in existing published sources if detailed local estimates are required. In addition to use in the ALC system the data will also be of value for a wide range of other purposes being the best fine resolution datasets for the parameters listed, and because there is a standard interpolation method.

Acknowledgements

The gridpoint datasets were created over a period of years with the co-operation of the Meteorological Office, Soil Survey and Land Research Centre (SSLRC — formerly Soil Survey of England and Wales) and the Agricultural Development and Advisory Service (ADAS) of the MAFF. The contributions of J H Minhinick, J F Keers, Dr M Shawyer and M Field (Meteorological Office), Dr R J A Jones (SSLRC), A J Hooper and M R Watson (ADAS) are gratefully acknowledged. Evaluation and testing of these datasets involved staff of the Meteorological Office Advisory Services Branch and the regional staff of the Resource Planning Group of ADAS.

Meteorological Office
January 1989

SECTION 1

INTRODUCTION

This document describes and lists the location, altitude and climatic data which are to be used when grading land with the MAFF Agricultural Land Classification of England and Wales (MAFF, 1988). Data are provided for 5 km intersections of the National Grid. Hereafter these intersections are termed 'gridpoints'. The methods used to interpolate the data from gridpoints to intermediate locations are also described.

The Agricultural Land Classification (ALC) provides a framework for classifying land according to the extent to which its physical or chemical characteristics impose long-term limitations on agricultural use. The principal physical factors influencing agricultural production are climate, site and soil. These factors, together with interactions between them, form the basis for classifying land into one of five grades, the grade or subgrade of land being determined by the most limiting factor present.

The datasets are derived from data supplied by the Meteorological Office, Bracknell. They were compiled and validated in collaboration with the Soil Survey and Land Research Centre (SSLRC) and the MAFF Agricultural Development and Advisory Service (ADAS) and are held in LandIS, a computer-based land information system funded by MAFF and developed by SSLRC. The system can be used to obtain both gridpoint and interpolated values for specified grid references. Computer-interpolated values from LandIS are available from the Agrometeorological Unit or Resource Planning Group at MAFF Regional Offices¹ and from the SSLRC².

¹ Located at Bristol, Reading, Cambridge, Wolverhampton, Leeds and Trawscoed (Aberystwyth).

² Soil Survey and Land Research Centre, Silsoe Campus, Silsoe, Bedfordshire, MK45 4DT.

SECTION 2

LOCATION, ALTITUDE AND CLIMATIC DATASETS

The following sections describe the location, altitude, rainfall, temperature, moisture deficit and duration of field capacity datasets. In the preparation of these datasets, a 'Complete' Agromet Dataset (Field, 1983a) was created which comprises meteorological records for 94 observing stations in England and Wales. The algorithms used to compute temperatures and moisture deficits for gridpoints were derived from analyses of station data in this dataset. A dataset based on several thousand rain gauges was used to create the rainfall and duration of field capacity datasets.

2.1 LOCATION AND ALTITUDE DATA

2.11 National Grid

The data are referenced according to the National Grid of the Ordnance Survey which has a false origin at zero easting and zero northing to the south-west of the Isles of Scilly. Grid references are used to locate gridpoints and in Equation 9 to calculate the distance between gridpoints and intermediate points. For ease of location they are given in the familiar alphanumeric form. The two letters which precede the six digits of the grid reference identify a 100 km grid square. To calculate distances on a national basis these letters are converted to number codes by referring to Figure 1. The number code equivalent to the first letter is placed before the 3-figure eastings number and that equivalent to the second letter goes before the northings number. For example, NT 950 050 identifies a location to 100 m in the north-east of England. The number code for NT is 36. In full numeric form this reference is 3950 6050, in which EAST = 3950 and NORTH = 6050; see Equations 1, 2 and 9.

2.12 Altitude (ALT)

The altitude data (ALT) were obtained from a 0.5 km resolution dataset of representative altitudes held by the Meteorological Office, Bracknell. The values are given in metres (m) above Ordnance Datum (OD), the reference mean sea level. They are used, in Equation 1, to calculate a gridpoint value and in Equations 6, 7, 8, 14, 15, 17 and 19, to make adjustments to rainfall, temperature, duration of field capacity and moisture deficit which allow for any differences in altitude between the site and the surrounding gridpoints.

2.2 RAINFALL

The rainfall data are averages in millimetres (mm) based on records from several thousand rain gauges for the years 1941-70, which is the current international standard period.

2.21 Average annual rainfall (AAR)

Average annual rainfall values were plotted on to a 1:250,000 scale topographic base map and isohyets drawn manually. Gridpoint values were obtained by interpolation using this base map. The published 1:625,000 map of AAR (Met.O.886, 1977) was also derived from the 1:250,000 base map. AAR is used in the assessment of the overall climatic limitation, and was used to derive the altitude adjustments for moisture deficit.

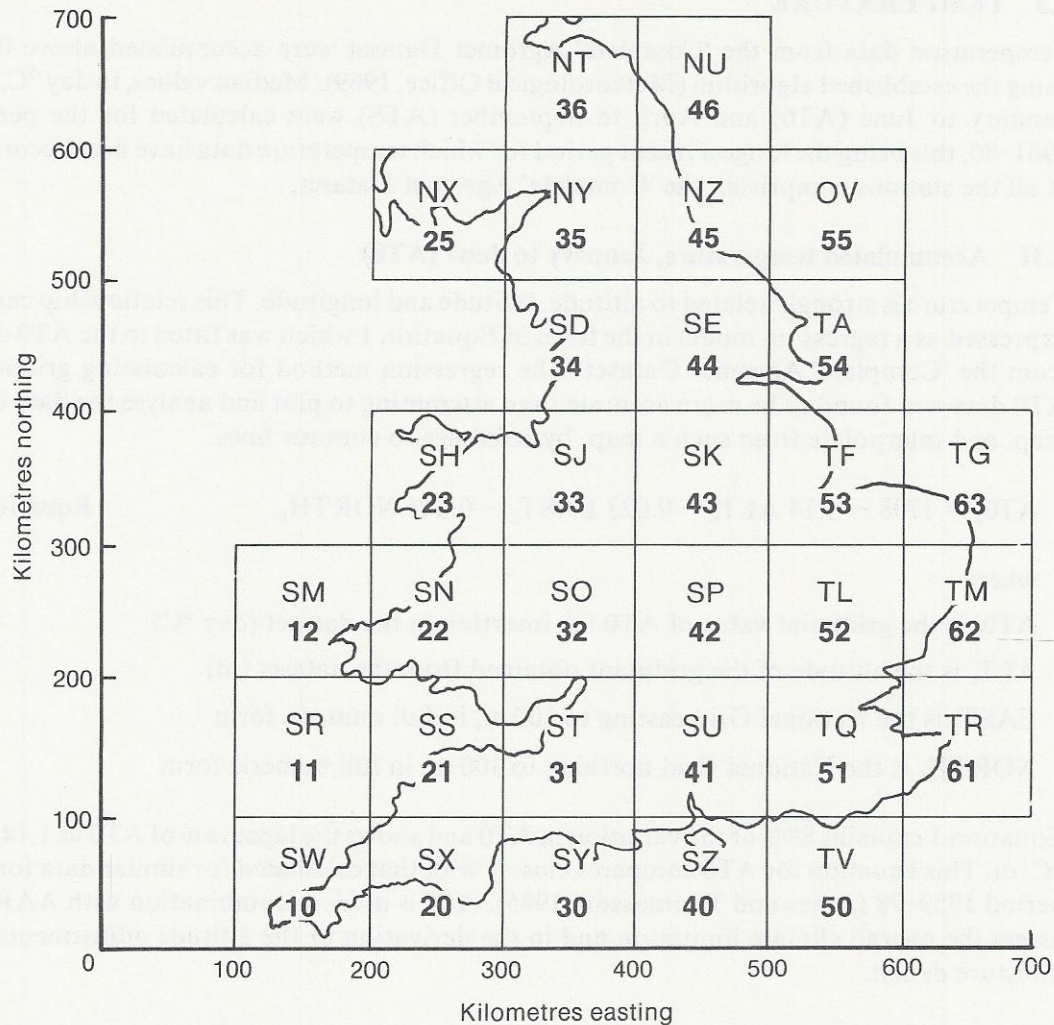


Figure 1. The lettering and numbering of the 100 km squares of the National Grid

2.22 Lapse rate for average annual rainfall (LR_AAR)

The rate at which rainfall changes with altitude (lapse rate) is used to enable gridpoint values of AAR to be interpolated for intermediate locations between gridpoints taking account of altitude changes. The lapse rate (LR_AAR) dataset was derived from the AAR and ALT datasets to give a lapse rate for each 5 km gridpoint. The AAR and ALT data for every 5 km gridpoint and for the surrounding 8 gridpoints were analysed to establish the relationship between annual rainfall and altitude. A simple linear regression produced a lapse rate for the 10 km square area centred on the 5 km gridpoint. The values are given in mm/m. LR_AAR is used to make altitude adjustments in Equations 6, 8, 14, 15, 17 and 19.

2.23 Average summer rainfall (ASR)

Average summer rainfall was calculated for the period April to September. Rain gauge values were plotted on to a 1:625,000 scale topographic map, isohyets drawn, and gridpoint values interpolated, following the procedure used for AAR. ASR is used in Equations 4 and 5 to calculate moisture deficits.

2.3 TEMPERATURE

Temperature data from the 'Complete' Agromet Dataset were accumulated above 0 °C using the established algorithm (Meteorological Office, 1969). Median values, in day °C, for January to June (AT0) and April to September (ATS) were calculated for the period 1961–80, this being the longest recent period for which temperature data have been recorded at all the stations comprising the 'Complete' Agromet Dataset.

2.31 Accumulated temperature, January to June (AT0)

Temperature is strongly related to altitude, latitude and longitude. This relationship can be expressed as a regression model in the form of Equation 1 which was fitted to the AT0 data from the 'Complete' Agromet Dataset. The regression method for calculating gridpoint AT0 data was found to be more accurate than attempting to plot and analyse the data on a map, and interpolate from such a map, by reference to contour lines.

$$AT0_g = 1708 - 1.14 ALT_g - 0.023 EAST_g - 0.044 NORTH_g \quad \text{Equation 1}$$

where

AT0_g is the gridpoint value of AT0 for insertion in the dataset (day °C)

ALT_g is the altitude of the gridpoint obtained from the dataset (m)

EAST_g is the National Grid easting to 100 m, in full numeric form

NORTH_g is the National Grid northing to 100 m, in full numeric form

Equation 1 explains 88% of the variation in AT0 and shows the lapse rate of AT0 as 1.14 day °C/m. This equation for AT0 compares closely with that calculated for similar data for the period 1959–78 (Jones and Thomasson, 1985). AT0 is used, in combination with AAR, to assess the overall climate limitation and in the derivation of the altitude adjustments for moisture deficit.

2.32 Accumulated temperature, April to September (ATS)

Gridpoint ATS values were obtained directly from AT0 and National Grid easting using Equation 2. This equation was derived from an analysis of station data from the 'Complete' Agromet Dataset and explains 95% of the variation in ATS.

$$ATS_g = 611 + 1.11 AT0_g + 0.042 EAST_g \quad \text{Equation 2}$$

where

ATS_g is the gridpoint value of ATS for insertion in the dataset (day °C)

AT0_g is the gridpoint value of AT0 obtained from the dataset (day °C)

EAST_g is the National Grid easting to 100 m in full numeric form

ATS is used, in combination with ASR, to calculate moisture deficits in Equations 4 and 5.

2.4 MOISTURE DEFICIT (MD)

Moisture deficit is a crop-related meteorological variable which represents the balance between rainfall and potential evapotranspiration calculated over a critical portion of the growing season. The concept of potential evapotranspiration (PE) was introduced by Penman (1948) who defined it as the water transpired by a short green crop, such as grass, which completely covers the ground surface and has an ample supply of water around its roots. PE is used in combination with rainfall (R) to calculate the potential soil moisture deficit, PSMD (Smith, 1967) as follows:

$$\text{PSMD} = \sum(\text{PE}-\text{R})$$

where (PE-R) is calculated daily and summed for a defined period and is identical to the negative sum of (R-PE) as in MAFF (1988). During the period, which may be a week, month or season, when running total of PSMD becomes positive it is set to zero.

In many situations where land is in agricultural use a deficit will typically develop in April or May and will reach a maximum in July, August or September; thereafter it will decrease as temperatures, and hence evapotranspiration, decline in the autumn. PSMD can be calculated for daily or monthly periods and the maximum value in any year used to indicate the shortfall in moisture supply for that year. For land classification purposes, the PSMD needs to be averaged over a period of years and selecting the median value of PSMD avoids the bias of extreme years. Potential deficits under grass are greater than under arable crops which do not attain full ground cover early in the growing season. For example, winter wheat does not usually develop full leaf cover until the end of April. Maincrop potatoes have negligible leaf cover until mid-May and full cover is not usually achieved until the end of June. Jones and Thomasson (1985) describe a method for deriving MD values (in mm) for wheat and potatoes from end-of-month and mid-month accumulated values of PSMD (under grass) as follows:

$$\text{MD (Winter Wheat)} = \text{mid-July PSMD} - \frac{1}{3} \text{April PSMD}$$

$$\text{MD (Potatoes)} = \text{August PSMD} - \frac{1}{3} \text{June PSMD} - \frac{1}{3} \text{mid-May PSMD}$$

Field (1983b, 1983c) described a number of problems encountered with the mapping of PSMD calculated using PE data from the Meteorological Office Rainfall and Evaporation Calculation System (MORECS, see Thompson *et al*, 1981). Suitable long-period meteorological data for some of the variables required by the model to compute PE, notably humidity and windspeed, are scarce. This is because the measurements of these parameters obtained at some observing stations, which may be sited on airfields, at the coast or in urban areas, are so influenced by local environmental factors that the general trends in spatial variation are masked. Furthermore, in some places the readings, being restricted to once a day, give no indication of diurnal variation.

To gain the benefit of using a MORECS-based estimate and also obtain a satisfactory measure of the spatial variation of moisture deficit, regression models were developed for estimating gridpoint values of crop-adjusted MD directly from summer temperature and summer rainfall data. These are the dominant weather factors affecting MD and have spatial distributions which are well recorded and understood and which can therefore be mapped with sufficient accuracy. Crop-adjusted MDs were obtained from MORECS-based

PSMD, for the stations in the 'Complete' Agromet Dataset, and the data were analysed to establish best-fit multiple linear regression equations for wheat and potatoes, using ATS and ASR as the variables. These equations are of the general form:

$$MD_g = A_0 + A_1 \log_{10}ASR_g + A_2 ATS_g \quad \text{Equation 3}$$

where

MD_g is the gridpoint value of MD for wheat or potatoes for insertion in the dataset (mm)

ASR_g is the gridpoint value of ASR obtained from the dataset (mm)

ATS_g is the gridpoint value of ATS obtained from the dataset (day °C)

A_0, A_1, A_2 are constants

The forms of Equation 3 specifically for winter wheat and potatoes are given in Equations 4 and 5, these equations explain 88% of the variation in crop-adjusted MD. Moisture deficit is used, in combination with crop-adjusted soil available water capacity (AP), to assess the droughtiness limitation.

2.41 Moisture deficit for winter wheat (MDMWHT)

Gridpoint values (in mm) were obtained from ASR and ATS using the following equation:

$$MDMWHT_g = 325.4 - 162.3 \log_{10}ASR_g + 0.08022 ATS_g \quad \text{Equation 4}$$

When this equation gave a negative value (i.e. a moisture surplus) it was adjusted to zero.

2.42 Moisture deficit for potatoes (MDMPOT)

Gridpoint values (in mm) were obtained from ASR and ATS using the following equation:

$$MDMPOT_g = 326.4 - 196.5 \log_{10}ASR_g + 0.1127 ATS_g \quad \text{Equation 5}$$

When this equation gave a negative value (i.e. a moisture surplus) it was adjusted to zero.

2.5 DURATION OF FIELD CAPACITY (FCD)

Duration of field capacity (FCD) is a meteorological parameter which estimates the period when the soil moisture deficit is zero. Soils usually return to field capacity (zero deficit) during the autumn or early winter and the field capacity period, measured in days, ends in the spring when evapotranspiration exceeds rainfall and a moisture deficit begins to accumulate. Smith and Trafford (1976) described a method for estimating the average period of meteorological field capacity from rainfall and evapotranspiration for the period 1941–70 and listed median dates for the return to and end of field capacity for 52 agroclimatological areas. Based on the strong correlation between FCD and AAR, these dates were regressed on AAR by the SSLRC to generate a 10 km grid dataset which has subsequently been resolved to 5 km using the gridpoint values of AAR described above (Jones and Thomasson, 1985; Ragg *et al*, 1988). Duration of field capacity is used, in combination with soil characteristics, to assess the wetness limitation.

SECTION 3

INTERPOLATION BETWEEN GRIDPOINTS

This section describes the procedures which are used to obtain AAR, AT0, FCD and MD values for sites located between gridpoints. These procedures take account of altitude differences and the distance between a site and the adjacent gridpoints. They can be applied manually or by computer and are the interpolation methods used in LandIS.

The term 'site' is used here to refer to a specified grid reference (in the form described in Section 2.11) for which climatic data are required. If the area to be assessed is small and uniform, a single (usually central) grid reference may suffice. If there is likely to be significant variation within an area, a number of grid references will need to be selected at representative locations.

The same interpolation procedure is used for AAR, AT0 and FCD. This includes the use of an altitude adjustment factor (or lapse rate) to allow for altitude differences between a site and the surrounding reference gridpoints. Lapse rates for AAR (LR_AAR) are obtained from the dataset (see Section 2.22). Because there is a high correlation between AAR and FCD, LR_AAR is also used for altitude adjustments of FCD. For AT0, the lapse rate used is 1.14 day °C/m (see Section 2.31). Altitude adjustments to MD are less straightforward and are calculated using an equation in which AAR and AT0 are the climatic variables (see Section 3.3).

3.1 GENERAL PRINCIPLES

Interpolated values are calculated in 3 stages, namely:

- (i) select the reference gridpoints which surround the site;
- (ii) apply an altitude adjustment factor (lapse rate) which adjusts each reference gridpoint value to correspond with the altitude of the site;
- (iii) obtain the site estimate by calculating the distance-weighted mean of altitude-adjusted values for the reference gridpoints.

3.2 INTERPOLATION PROCEDURE FOR AAR, AT0 AND FCD

The interpolation procedure for AAR, AT0 and FCD is described in Sections 3.21 to 3.23.

3.21 Selection of reference gridpoints

Select the reference gridpoints according to Figure 2 as follows:

- (i) If the site falls exactly on a gridpoint, use the values for that gridpoint.
- (ii) If the site falls within a square formed by four adjacent gridpoints (Site A), use those four gridpoints.
- (iii) If the site falls exactly on a grid reference northing between two gridpoints (Site B), use those two gridpoints.

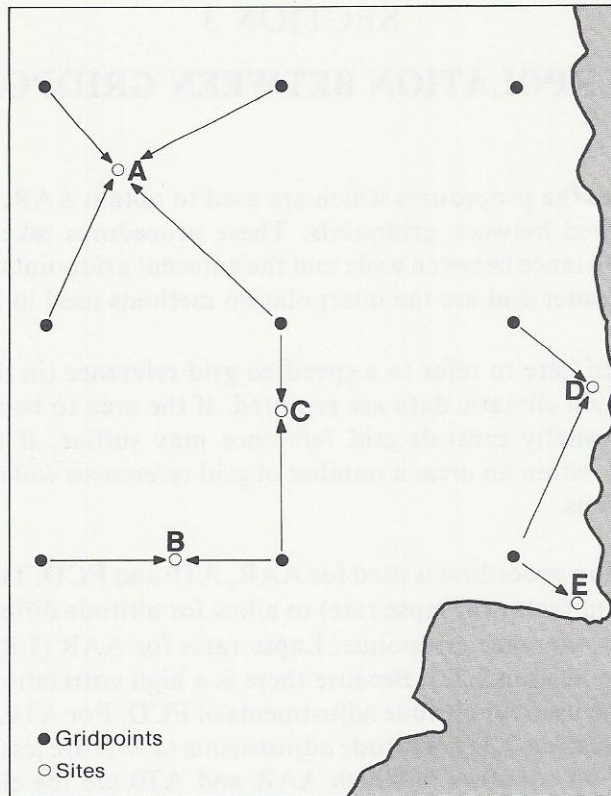


Figure 2. Diagrammatic representation of the procedure for selecting reference gridpoints

- (iv) If the site falls exactly on an easting between two gridpoints (Site C), use those two gridpoints.
- (v) If one or more of the gridpoints is missing (Sites D and E), use the gridpoint(s) available.

3.22 Altitude adjustment

Adjust each reference gridpoint value for the altitude difference between the site and the gridpoint.

The adjustment to AAR is made using Equation 6:

$$AAR_a = AAR_g + LR_AAR_g (ALT_s - ALT_g) \quad \text{Equation 6}$$

where

AAR_a is the altitude-adjusted gridpoint value of AAR (mm)

AAR_g is the gridpoint value of AAR obtained from the dataset (mm)

LR_AAR_g is the gridpoint value for the lapse rate of AAR obtained from the dataset (mm/m)

ALT_s is the altitude of the site (m)

ALT_g is the altitude of the gridpoint obtained from the dataset (m)

The adjustment to **AT0** is made using Equation 7:

$$AT0_a = AT0_g + 1.14 (ALT_g - ALT_s) \quad \text{Equation 7}$$

where

$AT0_a$ is the altitude-adjusted gridpoint value of AT0 (day °C)

$AT0_g$ is the gridpoint value of AT0 obtained from the dataset (day °C)

1.14 is the lapse rate of AT0 (day °C/m)

ALT_g is the altitude of the gridpoint obtained from the dataset (m)

ALT_s is the altitude of the site (m)

The adjustment to **FCD** is made using Equation 8:

$$FCD_a = FCD_g + 0.1446 [LR_AAR_g (ALT_s - ALT_g)] \quad \text{Equation 8}$$

where

FCD_a is the altitude-adjusted gridpoint value of FCD (day)

FCD_g is a gridpoint value of FCD obtained from dataset (day)

LR_AAR_g is the gridpoint value of the lapse rate of AAR obtained from the dataset (mm/m)

ALT_s is the altitude of the site (m)

ALT_g is the altitude of the gridpoint obtained from the dataset (m)

When Equation 8 gives $FCD_a > 365$, take FCD_a to be 365.

3.23 Calculation of site value of AAR, AT0 or FCD

Having calculated an altitude-adjusted value for each reference gridpoint, the interpolated site value can be obtained in four steps.

Calculate the distance between the site and each reference gridpoint, using Equation 9

$$D_{sg} = \sqrt{(EAST_g - EAST_s)^2 + (NORTH_g - NORTH_s)^2} \quad \text{Equation 9}$$

where

D_{sg} is the computed distance between site and gridpoint

$EAST_g$ is the National Grid easting for the gridpoint

$EAST_s$ is the National Grid easting for the site

$NORTH_g$ is the National Grid northing for the gridpoint

$NORTH_s$ is the National Grid northing for the site

and where the above National Grid references, to 100 m, are entered in full numeric form (see Section 2.11)

Calculate an inverse distance squared factor for each reference gridpoint, using Equation 10

$$W_g = \left[\frac{1}{D_{sg}} \right]^2 \quad \text{Equation 10}$$

where

W_g is the inverse distance squared factor for the gridpoint

D_{sg} is the computed distance (from Equation 9) between the site and gridpoint

Obtain a distance weighting factor for each reference gridpoint, using Equation 11

$$W_p = \frac{W_g}{W_t} \quad \text{Equation 11}$$

where

W_p is the distance weighting factor for the gridpoint

W_g is the inverse distance squared factor (from Equation 10) for the gridpoint

W_t is the sum of W_g values for all reference gridpoints for the site (up to 4)

Obtain the site estimate for AAR, AT0 or FCD by calculating a distance-weighted mean of reference gridpoint values, using Equation 12

$$V_s = V_{g1} W_{p1} + V_{g2} W_{p2} + V_{g3} W_{p3} + V_{g4} W_{p4} \quad \text{Equation 12}$$

where

V_s is the interpolated site value of AAR, AT0 or FCD

V_{g1}, V_{g2} etc are the altitude-adjusted gridpoint values of AAR, AT0 or FCD for reference gridpoints 1, 2, etc. calculated from Equations 6, 7 or 8

W_{p1}, W_{p2} , etc. are the distance weighting factors for gridpoints 1, 2, etc. calculated from Equation 11.

3.3 INTERPOLATION PROCEDURE FOR MD

The procedure differs from that used to interpolate AAR, AT0 and FCD because there is no simple lapse rate for MD. In order to make altitude adjustments to MD_g (i.e. gridpoint values of MD in the dataset) directly, a function is required which includes lapse rates for ATS and ASR. The lapse rate for ATS is the same as that for AT0, namely 1.14 day °C/m, but there is no established lapse rate for ASR, which is somewhat less height-dependent than AAR. This is because a higher proportion of summer rainfall occurs as a result of convection due to differential heating. The best and most convenient method available for calculating altitude adjustments to the MD values in the datasets uses AAR and AT0, in place of ASR and ATS respectively. The derivation of the method used to calculate these adjustments is explained, as background information, in Section 3.31. The actual steps in the interpolation procedure for MD are described in Sections 3.32 to 3.34.

3.31 Derivation of equation for obtaining altitude adjustment factors for MD

The amount (in mm) by which a gridpoint MD from the dataset has to be adjusted can be obtained by:

- (i) calculating the gridpoint MD value for the *gridpoint altitude*, using AAR and AT0 in place of ASR and ATS (see Equation 13);
- (ii) calculating, using the lapse rates of AAR and AT0, an AAR/AT0 derived MD value for that gridpoint, but at *site altitude* (see Equation 14);
- (iii) subtracting (ii) from (i) to give the amount (in mm) by which the reference gridpoint value from the dataset should be adjusted (see Equation 15).

The equation used to obtain, for wheat or potatoes, the AAR/AT0 derived MD values for a reference gridpoint (step (i) above) has the same general form as Equation 3:

$$MD_x = B_0 + B_1 AAR_g + B_2 AT0_g \quad \text{Equation 13}$$

where

MD_x is the AAR/AT0 derived MD at the gridpoint (mm)

AAR_g is the gridpoint value of AAR obtained from the dataset (mm)

$AT0_g$ is the gridpoint value of AT0 obtained from the dataset (day °C)

B_0 , B_1 and B_2 are constants

A similarly derived MD value for the same gridpoint, but at site altitude, is provided by Equation 14:

$$MD_{xa} = B_0 + B_1 [AAR_g + LR_AAR_g (ALT_s - ALT_g)] + B_2 [AT0_g + 1.14 (ALT_g - ALT_s)] \quad \text{Equation 14}$$

where

MD_{xa} is the altitude-adjusted AAR/AT0 derived MD (mm)

AAR_g is the gridpoint value of AAR obtained from the dataset (mm)

LR_AAR_g is the gridpoint value of the lapse rate of AAR obtained from the dataset (mm/m)

ALT_s is the altitude of the site (m)

ALT_g is the altitude of the gridpoint obtained from the dataset (m)

$AT0_g$ is the gridpoint value of AT0 obtained from the dataset (day °C)

1.14 is the lapse rate of AT0 (day °C/m)

B_0 , B_1 and B_2 are constants

The difference between Equations 13 and 14 ((iii) above) is the altitude adjustment (C) to be applied to a gridpoint value from the dataset. Thus:

$$C = MD_x - MD_{xa}$$

after substituting from Equations 13 and 14 the above relationship simplifies to:

$$C = B_1 [LR_AAR_g (ALT_s - ALT_g)] + B_2 [1.14 (ALT_g - ALT_s)] \quad \text{Equation 15}$$

where, for winter wheat

$$B_1 = -0.07$$

$$B_2 = +0.09$$

and, for potatoes

$$B_1 = -0.09$$

$$B_2 = +0.12$$

Equations 17 and 19 below are the specific forms of Equation 15 for wheat and potatoes respectively. The altitude adjustment factors obtained using these equations are applied to the MD values for reference gridpoints. The steps for obtaining interpolated MD values are described in the following sections.

3.32 Selection of reference gridpoints

Select the reference gridpoints as described in Section 3.21 and obtain the MD values for those points from the dataset .

3.33 Altitude adjustment

For MD Winter Wheat (MDMWHT) adjust each gridpoint value for the altitude difference between the site and the gridpoint, using Equations 16 and 17.

$$MDMWHT_a = MDMWHT_g + C_w \quad \text{Equation 16}$$

where

MDMWHT_a is the altitude-adjusted gridpoint value of MD Wheat (mm)

MDMWHT_g is the gridpoint value of MD Wheat obtained from dataset (mm)

C_w is the adjustment factor for the altitude difference between the gridpoint and site (mm)

and where

$$C_w = -0.07 [LR_AAR_g (ALT_s - ALT_g)] + 0.09 [1.14 (ALT_g - ALT_s)] \quad \text{Equation 17}$$

in which

LR_AAR_g is the gridpoint value of the lapse rate of AAR obtained from the dataset (mm/m)

ALT_s is the altitude of the site (mm)

ALT_g is the altitude of the gridpoint obtained from the dataset (m)

1.14 is the lapse rate of AT0 (day °C/m)

When Equation 16 gives MDMWHT_a < 0, take MDMWHT_a to be 0.

For MD Potatoes (MDMPOT) adjust each gridpoint value for the altitude difference between the site and the gridpoint, using Equations 18 and 19

$$\text{MDMPOT}_a = \text{MDMPOT}_g + C_p \quad \text{Equation 18}$$

where

MDMPOT_a is the altitude-adjusted gridpoint value of MD Potatoes (mm)

MDMPOT_g is the gridpoint value of MD Potatoes obtained from dataset (mm)

C_p is the adjustment factor for the altitude difference between gridpoint and site (mm)

and where

$$C_p = -0.09 [\text{LR_AAR}_g (\text{ALT}_s - \text{ALT}_g)] + 0.12 [1.14 (\text{ALT}_g - \text{ALT}_s)] \quad \text{Equation 19}$$

in which the notation is the same as used in Equation 17.

When Equation 18 gives $\text{MDMPOT}_a < 0$, take MDMPOT_a to be 0.

3.34 Calculation of site value of MD

Obtain a site value using the procedure described for AAR, AT0 and FCD (Section 3.23, Equations 9 to 12).

The distance weighting factors are the same for AAR, AT0, and FCD but in Equation 12 MDMWHT_1 , MDMWHT_2 , etc., or MDMPOT_1 , MDMPOT_2 , etc. are substituted for V_{g1} , V_{g2} , etc.

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APPENDIX

ALC DATASETS

List of abbreviations to identify the datasets

Abbreviation	Identification for Dataset	Units
SQ	Lettering for 100 km grid square	—
E	National Grid easting (four significant figures)	$m \times 10^2$
N	National Grid northing (four significant figures)	$m \times 10^2$
ALT	Height above mean sea level	m
AAR	Average annual rainfall (1941–70)	mm
LR_AAR	Lapse rate of average annual rainfall	mm/m
ASR	Average summer rainfall (April to September 1941–70)	mm
AT0	Accumulated temperature above 0°C — median value (January to June 1961–80)	day degree C
ATS	Accumulated temperature above 0°C — median value (April to September 1961–80)	day degree C
MDMWHT	Moisture deficit, winter wheat	mm
MDMPOT	Moisture deficit, potatoes	mm
FCD	Duration of field capacity median value (1941–70)	day

SQ	E	N	MAPREF	ALT	AAR	LR	ASR	ATO	ATS	MDW	MDP	FCD
NT	550	000	35506000	398	1546	0.7	650	908	1768	11	0	317
NT	600	000	36006000	282	1390	0.3	685	1040	1917	19	0	294
NT	600	050	36006050	290	1311	0.7	570	1028	1903	31	0	282
NT	650	000	36506000	341	1396	0.3	680	971	1842	13	0	296
NT	650	050	36506050	276	1303	0.6	590	1043	1922	30	0	281
NT	700	000	37006000	532	1290	0.8	670	752	1601	0	0	281
NT	700	050	37006050	368	1367	0.7	675	937	1806	11	0	294
NT	700	100	37006100	210	960	0.5	560	1115	2004	40	12	234
NT	750	000	37506000	330	1221	1.2	660	981	1857	17	0	272
NT	750	050	37506050	432	1196	0.9	670	863	1726	5	0	268
NT	750	100	37506100	324	1097	0.8	590	984	1861	25	0	258
NT	750	150	37506150	273	978	0.8	520	1040	1923	39	9	246
NT	750	350	37506350	46	704	0.5	360	1290	2200	87	72	182
NT	800	000	38006000	238	1050	1.0	570	1085	1975	37	7	249
NT	800	050	38006050	377	1108	0.6	640	924	1796	14	0	259
NT	800	100	38006100	446	1110	0.5	635	844	1707	7	0	261
NT	800	150	38006150	334	1071	0.5	580	969	1846	25	0	259
NT	800	200	38006200	276	1010	0.6	500	1033	1917	41	12	250
NT	800	250	38006250	185	919	0.8	415	1135	2030	63	41	234
NT	800	300	38006300	192	750	0.8	385	1124	2018	68	46	196
NT	800	350	38006350	107	718	0.5	365	1219	2124	80	62	186
NT	800	400	38006400	45	640	0.6	345	1288	2200	90	76	171
NT	850	000	38506000	297	974	0.7	540	1017	1902	35	4	241
NT	850	050	38506050	343	1061	0.4	600	962	1841	22	0	257
NT	850	100	38506100	419	1017	0.3	550	873	1742	20	0	250
NT	850	150	38506150	552	1077	0.3	630	719	1571	0	0	258
NT	850	200	38506200	267	1034	0.4	540	1042	1929	37	7	253
NT	850	250	38506250	295	997	0.5	475	1008	1892	43	14	249
NT	850	300	38506300	214	829	0.5	400	1098	1991	63	39	211
NT	850	350	38506350	95	702	0.4	365	1232	2140	81	64	182
NT	850	400	38506400	15	629	0.7	340	1321	2239	94	81	171
NT	850	450	38506450	54	692	1.0	340	1274	2187	90	75	181
NT	850	500	38506500	58	727	0.8	355	1267	2179	86	71	186
NT	900	000	39006000	329	1000	0.7	515	979	1861	35	3	246
NT	900	050	39006050	240	984	0.7	515	1078	1971	43	16	243
NT	900	100	39006100	434	980	0.3	475	855	1724	29	0	244
NT	900	150	39006150	518	1041	0.4	560	757	1615	9	0	254
NT	900	200	39006200	730	1170	0.5	630	513	1344	0	0	275
NT	900	250	39006250	404	1073	0.4	520	883	1755	25	0	259
NT	900	300	39006300	97	840	0.3	440	1230	2140	68	48	214
NT	900	350	39006350	139	690	0.3	370	1180	2085	76	57	182
NT	900	400	39006400	75	630	0.5	325	1251	2163	91	77	168
NT	900	450	39006450	43	633	0.6	325	1285	2201	94	81	167
NT	900	500	39006500	44	670	0.5	350	1282	2198	89	74	173
NT	900	550	39006550	48	739	0.4	360	1275	2190	86	71	187
NT	950	000	39506000	251	904	0.7	425	1067	1961	56	31	230
NT	950	050	39506050	157	875	0.7	425	1172	2078	66	44	224
NT	950	100	39506100	356	946	0.5	450	943	1824	41	11	238
NT	950	150	39506150	440	1002	0.6	515	845	1715	23	0	249

NT	950	200	39506200	501	1046	0.7	570	773	1635	9	0	256
NT	950	250	39506250	274	1002	0.5	520	1030	1920	39	9	249
NT	950	300	39506300	59	771	0.5	435	1272	2189	73	55	202
NT	950	350	39506350	42	643	0.6	360	1290	2209	88	73	173
NT	950	400	39506400	117	644	0.4	335	1202	2111	85	68	167
NT	950	450	39506450	80	653	0.4	325	1242	2156	91	76	162
NT	950	500	39506500	54	671	0.5	330	1269	2185	92	78	171
NT	950	550	39506550	86	717	0.6	340	1231	2143	86	70	185
NT	950	600	39506600	175	719	0.3	325	1127	2028	80	61	181
NU	000	000	40006000	128	920	0.3	395	1206	2118	74	55	230
NU	000	050	40006050	118	759	0.5	390	1215	2128	76	57	203
NU	000	100	40006100	183	800	0.7	420	1139	2043	64	41	210
NU	000	150	40006150	286	901	0.8	450	1019	1910	48	20	227
NU	000	200	40006200	225	900	0.9	460	1087	1986	53	27	227
NU	000	250	40006250	109	801	0.8	440	1217	2130	67	47	210
NU	000	300	40006300	40	690	0.9	400	1293	2214	81	65	186
NU	000	350	40006350	128	691	0.7	350	1190	2100	81	63	178
NU	000	400	40006400	105	670	0.3	340	1215	2128	85	69	168
NU	000	450	40006450	34	649	0.4	320	1293	2214	96	84	158
NU	000	500	40006500	76	650	0.5	315	1243	2159	93	79	160
NU	000	550	40006550	19	613	0.4	320	1306	2229	98	85	154
NU	050	000	40506000	174	884	0.5	400	1152	2060	68	47	223
NU	050	050	40506050	269	780	0.3	400	1042	1938	59	34	203
NU	050	100	40506100	109	781	0.5	390	1222	2138	76	58	205
NU	050	150	40506150	93	762	0.8	390	1238	2155	78	60	200
NU	050	200	40506200	95	722	0.9	380	1234	2151	79	62	194
NU	050	250	40506250	53	694	0.8	370	1279	2201	85	70	187
NU	050	300	40506300	52	691	0.7	365	1278	2200	86	71	181
NU	050	350	40506350	101	677	0.5	355	1220	2135	83	66	172
NU	050	400	40506400	86	653	0.3	330	1235	2152	89	74	161
NU	050	450	40506450	5	609	0.3	300	1325	2252	104	93	148
NU	050	500	40506500	0	575	0.1	300	1329	2256	104	94	141
NU	100	000	41006000	97	780	0.7	380	1239	2158	80	63	208
NU	100	050	41006050	259	799	0.4	460	1052	1951	50	23	209
NU	100	100	41006100	92	750	0.2	385	1240	2160	79	62	200
NU	100	150	41006150	101	698	0.4	375	1228	2146	80	62	189
NU	100	200	41006200	137	690	0.5	385	1185	2099	74	55	188
NU	100	250	41006250	210	730	0.3	400	1099	2003	64	41	193
NU	100	300	41006300	145	680	0.3	360	1171	2083	78	59	177
NU	100	350	41006350	80	636	0.3	335	1243	2163	89	74	159
NU	100	400	41006400	2	580	0.3	315	1330	2260	101	90	146
NU	100	450	41006450	0	576	0.1	300	1330	2260	105	94	141
NU	150	000	41506000	65	735	0.7	365	1274	2199	86	71	201
NU	150	050	41506050	137	774	0.6	380	1190	2106	76	57	208
NU	150	100	41506100	192	774	0.4	400	1125	2034	66	44	205
NU	150	150	41506150	76	676	0.3	375	1255	2178	82	66	186
NU	150	200	41506200	99	712	0.2	375	1227	2147	80	63	192
NU	150	250	41506250	128	732	0.2	370	1191	2107	78	59	195
NU	150	300	41506300	46	649	0.2	345	1283	2209	91	77	168
NU	150	350	41506350	9	617	0.2	315	1323	2254	101	90	150

NU	150	400	41506400	0	576	0.1	300	1331	2263	105	95	141
NU	200	000	42006000	40	690	0.9	345	1302	2233	93	79	185
NU	200	050	42006050	84	711	0.7	345	1249	2174	88	73	187
NU	200	100	42006100	84	720	0.6	365	1247	2172	84	68	188
NU	200	150	42006150	61	688	0.4	350	1271	2198	89	74	182
NU	200	200	42006200	91	700	0.3	360	1235	2158	84	67	183
NU	200	250	42006250	36	704	0.3	360	1295	2225	89	75	182
NU	200	300	42006300	19	640	0.2	330	1312	2244	97	84	162
NU	200	350	42006350	2	610	0.1	305	1330	2264	104	93	147
NU	250	000	42506000	27	656	1.1	325	1315	2249	98	86	171
NU	250	050	42506050	10	660	0.8	335	1332	2268	98	86	169
NU	250	100	42506100	2	674	0.6	335	1339	2276	98	87	173
NU	250	150	42506150	27	675	0.4	340	1309	2242	94	82	172
NU	250	200	42506200	27	675	0.2	340	1306	2239	94	81	173
NU	250	250	42506250	2	668	0.1	335	1333	2269	98	86	171
NU	250	300	42506300	0	636	0.1	325	1333	2269	100	89	157
NU	300	000	43006000	0	600	0.6	310	1345	2285	104	94	154
NU	300	050	43006050	0	643	0.4	320	1343	2282	102	91	166
NX	950	100	29505100	0	1008	0.8	475	1416	2307	76	60	236
NX	950	150	29505150	97	975	1.6	475	1303	2181	66	46	232
NX	950	200	29505200	0	915	1.5	460	1411	2301	78	62	223
NY	000	050	30005050	0	1150	1.3	480	1417	2310	76	60	255
NY	000	100	30005100	67	1100	2.1	525	1338	2222	62	42	247
NY	000	150	30005150	84	1189	3.2	550	1316	2198	57	36	260
NY	000	200	30005200	132	1200	3.2	550	1260	2136	52	29	264
NY	000	250	30005250	53	1086	2.1	470	1347	2232	71	53	248
NY	000	300	30005300	15	950	0.8	450	1389	2279	78	62	228
NY	000	350	30005350	0	888	0.3	435	1403	2294	81	66	219
NY	050	000	30505000	21	1099	1.8	510	1394	2286	69	52	245
NY	050	050	30505050	81	1256	2.3	550	1323	2208	58	37	269
NY	050	100	30505100	204	1544	2.6	670	1181	2050	31	2	309
NY	050	150	30505150	160	1618	3.1	740	1229	2103	28	0	323
NY	050	200	30505200	160	1589	3.2	700	1226	2100	32	4	320
NY	050	250	30505250	94	1333	3.0	535	1299	2181	58	36	286
NY	050	300	30505300	35	1016	2.1	500	1365	2254	68	50	238
NY	050	350	30505350	74	957	1.1	445	1318	2202	72	54	229
NY	050	400	30505400	0	914	0.5	450	1400	2293	79	63	223
NY	100	000	31005000	28	1340	2.6	560	1385	2279	62	43	264
NY	100	050	31005050	147	1635	2.2	680	1247	2125	36	9	293
NY	100	100	31005100	270	2000	2.7	1070	1104	1967	0	0	339
NY	100	150	31005150	179	2056	2.9	900	1206	2080	13	0	342
NY	100	200	31005200	278	2000	2.3	850	1091	1952	7	0	358
NY	100	250	31005250	139	1580	2.3	600	1247	2125	45	20	317
NY	100	300	31005300	90	1160	2.5	500	1301	2185	63	42	257
NY	100	350	31005350	97	1014	1.8	500	1291	2174	62	41	237
NY	100	400	31005400	59	970	1.0	475	1332	2220	69	51	231
NY	100	450	31005450	15	939	0.6	475	1380	2273	73	57	226
NY	100	500	31005500	8	920	0.3	500	1385	2279	70	53	224
NY	100	550	31005550	0	880	0.1	480	1392	2286	74	57	217
NY	150	000	31505000	36	1743	3.3	700	1374	2268	46	23	302

NY	150	050	31505050	69	2032	2.5	780	1334	2224	34	9	320
NY	150	100	31505100	524	2825	2.7	1400	814	1647	0	0	365
NY	150	150	31505150	408	2564	3.0	1200	944	1791	0	0	365
NY	150	200	31505200	122	1969	2.2	880	1267	2150	20	0	326
NY	150	250	31505250	94	1889	1.4	700	1297	2183	39	13	360
NY	150	300	31505300	111	1250	1.4	585	1276	2160	50	26	266
NY	150	350	31505350	160	1166	1.5	550	1218	2095	49	24	262
NY	150	400	31505400	65	1035	0.9	520	1324	2213	62	42	241
NY	150	450	31505450	29	970	0.9	500	1362	2255	68	50	231
NY	150	500	31505500	22	933	0.7	485	1368	2262	71	54	225
NY	150	550	31505550	4	924	0.3	500	1387	2283	70	53	224
NY	150	600	31505600	0	887	0.2	490	1389	2285	72	55	219
NY	150	650	31505650	2	898	0.8	490	1384	2280	72	55	221
NY	200	000	32005000	269	2250	2.2	990	1108	1975	0	0	328
NY	200	050	32005050	479	2798	1.9	1200	866	1707	0	0	352
NY	200	100	32005100	446	3200	2.0	1200	901	1746	0	0	365
NY	200	150	32005150	156	2906	2.0	1350	1230	2111	0	0	365
NY	200	200	32005200	535	2500	1.7	1200	796	1629	0	0	365
NY	200	250	32005250	492	2010	0.8	1040	842	1680	0	0	365
NY	200	300	32005300	263	1340	0.7	710	1101	1968	21	0	281
NY	200	350	32005350	151	1254	1.2	580	1227	2107	46	21	271
NY	200	400	32005400	118	1100	1.0	540	1262	2146	54	31	250
NY	200	450	32005450	53	978	0.9	495	1334	2226	67	48	233
NY	200	500	32005500	15	900	1.0	475	1375	2272	73	56	222
NY	200	550	32005550	8	923	0.5	480	1381	2278	73	56	225
NY	200	600	32005600	8	900	0.5	475	1379	2276	74	57	221
NY	200	650	32005650	6	923	1.0	490	1379	2276	71	54	224
NY	250	000	32505000	484	2670	0.9	1100	861	1703	0	0	347
NY	250	050	32505050	781	3265	1.6	1400	521	1326	0	0	320
NY	250	100	32505100	608	3938	1.4	1600	716	1542	0	0	365
NY	250	150	32505150	120	2747	0.6	1200	1270	2157	0	0	365
NY	250	200	32505200	147	1939	0.8	950	1237	2121	12	0	306
NY	250	250	32505250	76	1493	0.9	700	1315	2207	41	16	303
NY	250	300	32505300	391	1643	1.0	700	954	1806	9	0	329
NY	250	350	32505350	204	1314	1.2	630	1165	2041	35	6	278
NY	250	400	32505400	257	1225	0.9	560	1102	1971	37	9	268
NY	250	450	32505450	88	1057	0.7	490	1293	2183	64	44	245
NY	250	500	32505500	17	879	0.8	460	1372	2270	75	59	219
NY	250	550	32505550	8	896	0.5	450	1380	2279	78	62	221
NY	250	600	32505600	8	900	0.6	465	1378	2277	75	59	222
NY	250	650	32505650	8	853	0.9	475	1375	2274	73	57	213
NY	250	700	32505700	62	1013	0.8	515	1312	2204	62	42	239
NY	300	000	33005000	343	2600	1.6	1000	1021	1883	0	0	365
NY	300	050	33005050	381	2600	1.9	1140	975	1832	0	0	331
NY	300	100	33005100	446	3100	1.4	1360	899	1747	0	0	365
NY	300	150	33005150	406	2875	1.0	1220	942	1795	0	0	365
NY	300	200	33005200	232	2200	1.1	930	1139	2014	5	0	345
NY	300	250	33005250	153	1808	1.0	750	1226	2110	28	0	343
NY	300	300	33005300	392	2080	0.7	1000	952	1806	0	0	365
NY	300	350	33005350	410	1721	0.7	750	929	1781	2	0	340

NY	300	400	33005400	282	1350	0.6	600	1073	1941	30	0	288
NY	300	450	33005450	109	1160	0.5	495	1268	2157	61	40	262
NY	300	500	33005500	25	880	0.5	450	1361	2260	76	60	219
NY	300	550	33005550	50	868	0.3	445	1331	2227	74	57	216
NY	300	600	33005600	5	810	0.8	450	1380	2281	78	62	208
NY	300	650	33005650	2	855	1.3	465	1381	2283	76	60	214
NY	300	700	33005700	42	990	0.9	500	1333	2229	66	47	234
NY	300	750	33005750	105	1184	0.7	560	1259	2147	52	28	265
NY	350	000	33505000	126	2013	1.6	880	1267	2158	21	0	355
NY	350	050	33505050	257	2159	0.9	960	1116	1990	1	0	365
NY	350	100	33505100	528	2459	0.7	1100	804	1644	0	0	364
NY	350	150	33505150	665	2625	1.7	1170	646	1469	0	0	345
NY	350	200	33505200	591	2407	1.9	1030	728	1560	0	0	365
NY	350	250	33505250	242	1898	1.1	830	1124	1999	12	0	357
NY	350	300	33505300	376	1814	1.0	800	969	1827	1	0	350
NY	350	350	33505350	262	1507	1.2	715	1097	1969	20	0	306
NY	350	400	33505400	137	1253	0.9	575	1237	2125	48	24	273
NY	350	450	33505450	128	1114	0.8	490	1245	2134	60	38	257
NY	350	500	33505500	50	914	0.5	450	1332	2230	74	56	226
NY	350	550	33505550	48	836	0.2	440	1332	2230	75	58	212
NY	350	600	33505600	14	819	1.0	450	1368	2270	77	61	210
NY	350	650	33505650	7	861	1.7	450	1374	2277	77	62	216
NY	350	700	33505700	25	923	1.2	460	1351	2251	74	57	224
NY	350	750	33505750	78	1134	0.8	525	1289	2182	59	38	256
NY	350	800	33505800	150	1268	0.7	600	1205	2089	42	16	277
NY	400	000	34005000	67	1740	0.7	770	1333	2233	36	11	319
NY	400	050	34005050	425	2094	0.3	900	923	1778	0	0	356
NY	400	100	34005100	361	2550	0.3	1070	994	1857	0	0	365
NY	400	150	34005150	156	2289	1.1	980	1225	2114	10	0	345
NY	400	200	34005200	168	1950	2.1	800	1209	2096	22	0	330
NY	400	250	34005250	431	1682	2.6	830	907	1761	0	0	327
NY	400	300	34005300	332	1650	3.1	750	1018	1884	10	0	331
NY	400	350	34005350	303	1454	2.5	670	1049	1918	21	0	304
NY	400	400	34005400	143	1010	1.5	490	1229	2118	59	36	238
NY	400	450	34005450	126	917	0.9	450	1246	2137	66	46	225
NY	400	500	34005500	80	880	0.4	445	1296	2192	71	53	219
NY	400	550	34005550	17	820	0.3	440	1366	2270	78	63	209
NY	400	600	34005600	28	850	0.9	450	1351	2253	76	59	214
NY	400	650	34005650	15	875	1.3	455	1364	2268	76	60	217
NY	400	700	34005700	42	900	1.1	465	1331	2231	71	54	220
NY	400	750	34005750	27	1079	0.7	500	1346	2248	68	49	248
NY	400	800	34005800	111	1270	0.3	580	1248	2139	48	24	278
NY	450	000	34505000	240	1673	0.5	760	1135	2016	20	0	312
NY	450	050	34505050	375	2091	0.7	920	979	1843	0	0	356
NY	450	100	34505100	680	2841	1.2	1100	629	1454	0	0	365
NY	450	150	34505150	629	2444	1.3	1100	685	1516	0	0	365
NY	450	200	34505200	339	1626	1.2	700	1013	1880	14	0	305
NY	450	250	34505250	263	1272	2.5	540	1098	1975	40	12	274
NY	450	300	34505300	204	1133	3.8	550	1163	2047	45	19	256
NY	450	350	34505350	193	970	3.3	475	1173	2058	56	32	235

NY	450	400	34505400	170	849	1.9	440	1197	2085	64	42	214
NY	450	450	34505450	86	805	0.8	430	1291	2189	74	56	207
NY	450	500	34505500	78	873	0.2	435	1298	2197	73	56	218
NY	450	550	34505550	34	867	0.2	440	1345	2249	77	60	216
NY	450	600	34505600	21	876	0.6	450	1358	2263	76	60	218
NY	450	650	34505650	44	888	1.0	475	1330	2232	70	52	219
NY	450	700	34505700	65	928	0.9	480	1304	2203	67	48	225
NY	450	750	34505750	128	1046	0.7	525	1230	2121	54	31	243
NY	450	800	34505800	80	1178	0.6	580	1282	2179	52	29	263
NY	450	850	34505850	150	1319	0.4	640	1200	2088	37	10	284
NY	500	000	35005000	354	1910	0.5	790	1004	1872	5	0	358
NY	500	050	35005050	501	2170	1.3	1030	834	1684	0	0	365
NY	500	100	35005100	484	2400	2.1	1160	851	1703	0	0	365
NY	500	150	35005150	392	1953	2.1	900	954	1817	0	0	355
NY	500	200	35005200	267	1550	1.6	630	1094	1972	29	0	307
NY	500	250	35005250	242	1106	1.9	500	1120	2001	48	22	252
NY	500	300	35005300	152	920	2.7	440	1221	2113	66	45	225
NY	500	350	35005350	137	860	2.3	450	1236	2130	66	45	216
NY	500	400	35005400	137	890	1.6	475	1234	2128	62	40	221
NY	500	450	35005450	76	855	1.0	445	1301	2202	72	54	214
NY	500	500	35005500	68	820	0.5	440	1308	2210	74	56	208
NY	500	550	35005550	76	861	0.5	445	1296	2197	72	54	216
NY	500	600	35005600	38	890	0.5	450	1338	2243	75	58	220
NY	500	650	35005650	78	956	0.9	490	1290	2190	64	45	229
NY	500	700	35005700	105	1000	1.1	515	1257	2153	58	36	237
NY	500	750	35005750	116	1071	1.0	560	1242	2137	51	27	247
NY	500	800	35005800	199	1220	0.9	630	1145	2029	34	5	269
NY	500	850	35005850	238	1299	0.5	640	1099	1978	29	0	280
NY	500	900	35005900	115	1300	0.2	680	1237	2131	37	10	279
NY	550	000	35505000	164	1736	0.8	790	1219	2113	25	0	338
NY	550	050	35505050	347	2106	2.0	900	1008	1879	0	0	365
NY	550	100	35505100	391	1864	2.7	900	956	1821	0	0	354
NY	550	150	35505150	240	1524	2.4	750	1126	2010	20	0	306
NY	550	200	35505200	258	1330	2.2	700	1103	1984	23	0	284
NY	550	250	35505250	160	978	2.0	450	1213	2107	64	43	239
NY	550	300	35505300	116	866	1.9	395	1261	2160	77	60	218
NY	550	350	35505350	107	876	1.5	420	1269	2169	74	55	218
NY	550	400	35505400	78	850	1.2	400	1300	2203	80	63	213
NY	550	450	35505450	146	825	1.2	465	1220	2114	62	40	208
NY	550	500	35505500	181	898	1.1	475	1178	2068	57	33	220
NY	550	550	35505550	210	940	0.9	475	1143	2029	54	29	227
NY	550	600	35505600	126	881	0.7	465	1236	2132	64	43	217
NY	550	650	35505650	63	954	0.7	505	1306	2210	64	44	228
NY	550	700	35505700	128	1136	0.8	550	1229	2124	51	27	257
NY	550	750	35505750	126	1147	0.7	580	1230	2125	47	23	260
NY	550	800	35505800	223	1220	0.5	600	1117	2000	35	6	268
NY	550	850	35505850	381	1379	0.4	700	934	1797	8	0	291
NY	550	900	35505900	360	1391	0.3	750	956	1821	5	0	293
NY	550	950	35505950	158	1410	0.1	680	1184	2074	32	4	296
NY	600	000	36005000	421	1810	0.9	740	925	1789	3	0	353

NY	600	050	36005050	200	1479	2.0	750	1175	2066	25	0	298
NY	600	100	36005100	343	1520	3.2	765	1010	1883	8	0	309
NY	600	150	36005150	335	1484	2.7	700	1017	1891	15	0	306
NY	600	200	36005200	189	1200	1.8	500	1181	2073	54	30	266
NY	600	250	36005250	121	871	1.5	390	1256	2156	78	60	218
NY	600	300	36005300	124	800	1.4	365	1250	2150	82	65	207
NY	600	350	36005350	134	856	1.5	390	1237	2135	76	58	215
NY	600	400	36005400	152	900	1.5	440	1214	2110	66	45	217
NY	600	450	36005450	351	1068	1.4	550	985	1856	30	0	241
NY	600	500	36005500	551	1280	1.2	590	755	1600	4	0	277
NY	600	550	36005550	545	1199	0.8	570	760	1606	7	0	267
NY	600	600	36005600	221	1040	0.5	520	1127	2013	46	20	244
NY	600	650	36005650	97	948	0.5	490	1266	2167	63	42	230
NY	600	700	36005700	181	1170	0.4	570	1168	2059	43	17	265
NY	600	750	36005750	341	1268	0.4	640	983	1853	19	0	279
NY	600	800	36005800	490	1400	0.6	700	811	1662	0	0	298
NY	600	850	36005850	332	1391	0.5	750	989	1860	8	0	295
NY	600	900	36005900	324	1370	0.3	700	996	1868	13	0	290
NY	600	950	36005950	276	1386	0.1	720	1049	1927	16	0	293
NY	650	000	36505000	457	1824	0.3	720	883	1744	2	0	358
NY	650	050	36505050	217	1395	1.0	750	1154	2045	23	0	290
NY	650	100	36505100	339	1483	2.0	720	1013	1889	13	0	308
NY	650	150	36505150	240	1194	1.8	600	1124	2012	36	7	267
NY	650	200	36505200	177	991	1.5	435	1193	2089	65	43	235
NY	650	250	36505250	120	862	1.5	385	1256	2158	79	62	215
NY	650	300	36505300	187	872	1.4	400	1177	2071	69	48	216
NY	650	350	36505350	429	1252	1.5	485	899	1762	31	0	276
NY	650	400	36505400	594	1589	1.6	630	709	1551	0	0	324
NY	650	450	36505450	633	1677	1.2	710	662	1499	0	0	332
NY	650	500	36505500	370	1490	0.6	640	960	1830	17	0	308
NY	650	550	36505550	448	1309	0.4	550	869	1729	19	0	282
NY	650	600	36505600	181	1093	0.4	490	1171	2064	54	30	253
NY	650	650	36505650	200	979	0.5	485	1147	2037	53	28	239
NY	650	700	36505700	199	1058	0.5	550	1146	2036	44	17	249
NY	650	750	36505750	294	1140	0.6	630	1036	1914	25	0	259
NY	650	800	36505800	416	1311	0.9	680	894	1757	7	0	285
NY	650	850	36505850	240	1345	0.9	685	1093	1978	24	0	288
NY	650	900	36505900	196	1252	0.5	650	1141	2031	32	3	275
NY	650	950	36505950	265	1279	0.1	660	1060	1941	23	0	278
NY	700	000	37005000	430	1850	0.6	700	913	1780	6	0	361
NY	700	050	37005050	236	1389	0.8	660	1131	2022	30	0	292
NY	700	100	37005100	288	1390	0.9	625	1070	1954	28	0	294
NY	700	150	37005150	203	1036	1.2	475	1165	2060	56	33	242
NY	700	200	37005200	170	850	1.4	430	1200	2098	66	45	210
NY	700	250	37005250	227	1026	1.3	440	1133	2024	59	35	236
NY	700	300	37005300	464	1450	1.5	600	861	1722	13	0	299
NY	700	350	37005350	796	2016	1.3	850	480	1299	0	0	365
NY	700	400	37005400	522	1660	0.9	720	790	1643	0	0	331
NY	700	450	37005450	431	1359	0.7	600	892	1757	15	0	285
NY	700	500	37005500	276	1250	0.5	545	1066	1950	38	8	271

NY	700	550	37005550	318	1310	0.4	555	1016	1894	32	1	283
NY	700	600	37005600	208	1100	0.4	520	1139	2031	48	22	254
NY	700	650	37005650	177	921	0.4	480	1172	2067	56	32	229
NY	700	700	37005700	221	990	0.6	550	1120	2010	42	14	241
NY	700	750	37005750	278	1061	1.2	620	1053	1935	27	0	252
NY	700	800	37005800	284	1200	1.5	610	1044	1925	28	0	274
NY	700	850	37005850	292	1246	1.2	600	1032	1912	28	0	281
NY	700	900	37005900	305	1190	0.7	610	1015	1893	25	0	268
NY	700	950	37005950	419	1246	0.4	610	883	1747	13	0	274
NY	750	000	37505000	492	1483	0.5	690	841	1702	1	0	303
NY	750	050	37505050	339	1322	0.8	600	1013	1893	26	0	284
NY	750	100	37505100	177	1026	1.0	460	1195	2095	61	39	238
NY	750	150	37505150	160	905	1.0	445	1213	2115	65	44	220
NY	750	200	37505200	427	1300	1.0	500	906	1774	30	0	277
NY	750	250	37505250	649	1839	1.3	760	651	1491	0	0	356
NY	750	300	37505300	720	2121	1.7	1050	568	1399	0	0	365
NY	750	350	37505350	562	2055	1.2	870	745	1595	0	0	365
NY	750	400	37505400	411	1659	0.5	730	915	1784	4	0	328
NY	750	450	37505450	476	1342	0.5	600	839	1700	11	0	285
NY	750	500	37505500	480	1323	0.6	590	832	1692	11	0	284
NY	750	550	37505550	374	1268	0.6	500	951	1824	34	2	279
NY	750	600	37505600	314	1129	0.6	500	1017	1897	40	10	259
NY	750	650	37505650	187	881	0.5	460	1160	2056	58	35	225
NY	750	700	37505700	269	1009	0.8	580	1064	1950	33	3	247
NY	750	750	37505750	248	1050	1.5	600	1086	1974	33	3	257
NY	750	800	37505800	301	1104	1.6	575	1023	1904	30	0	264
NY	750	850	37505850	185	970	1.3	500	1153	2048	52	27	244
NY	750	900	37505900	253	1011	0.8	520	1074	1961	42	14	244
NY	750	950	37505950	253	1096	0.9	540	1071	1957	39	10	251
NY	800	000	38005000	627	1600	0.5	690	686	1532	0	0	321
NY	800	050	38005050	463	1468	0.6	620	870	1736	11	0	303
NY	800	100	38005100	259	1100	1.0	475	1101	1993	51	25	248
NY	800	150	38005150	207	1133	0.8	490	1158	2056	54	29	254
NY	800	200	38005200	568	1750	0.9	760	744	1596	0	0	346
NY	800	250	38005250	664	2046	1.8	900	632	1472	0	0	365
NY	800	300	38005300	490	1960	2.3	900	829	1691	0	0	365
NY	800	350	38005350	540	1865	2.6	860	769	1624	0	0	358
NY	800	400	38005400	650	1680	2.1	750	642	1483	0	0	334
NY	800	450	38005450	547	1408	0.7	650	757	1611	0	0	295
NY	800	500	38005500	444	1260	0.2	560	872	1739	19	0	279
NY	800	550	38005550	381	1131	0.4	470	942	1816	37	6	263
NY	800	600	38005600	156	900	0.8	400	1196	2098	71	52	226
NY	800	650	38005650	105	818	0.9	410	1252	2160	75	56	212
NY	800	700	38005700	282	950	1.1	500	1048	1934	43	14	234
NY	800	750	38005750	249	984	1.4	490	1084	1974	47	20	242
NY	800	800	38005800	177	940	1.2	450	1163	2062	60	37	236
NY	800	850	38005850	139	903	0.9	425	1205	2108	68	47	230
NY	800	900	38005900	217	900	0.7	470	1113	2006	53	27	227
NY	800	950	38005950	330	1031	1.1	540	982	1861	31	0	246
NY	850	000	38505000	402	1623	0.8	685	941	1817	11	0	322

NY	850	050	38505050	513	1714	0.9	650	812	1674	3	0	338
NY	850	100	38505100	381	1393	1.0	615	961	1839	20	0	290
NY	850	150	38505150	379	1342	1.2	640	961	1839	17	0	285
NY	850	200	38505200	463	1536	1.7	680	863	1731	5	0	313
NY	850	250	38505250	657	1729	2.2	830	639	1482	0	0	339
NY	850	300	38505300	372	1461	2.3	700	962	1841	11	0	299
NY	850	350	38505350	557	1511	2.6	820	749	1604	0	0	309
NY	850	400	38505400	404	1357	2.5	625	921	1795	16	0	286
NY	850	450	38505450	489	1374	1.5	615	822	1685	8	0	290
NY	850	500	38505500	360	1196	0.7	510	967	1846	34	2	270
NY	850	550	38505550	341	981	0.5	450	986	1867	45	15	246
NY	850	600	38505600	293	923	0.5	420	1039	1926	54	28	231
NY	850	650	38505650	82	780	0.9	375	1277	2190	83	67	203
NY	850	700	38505700	204	850	1.2	410	1136	2034	65	42	215
NY	850	750	38505750	206	876	1.1	400	1131	2028	66	44	221
NY	850	800	38505800	122	824	0.7	395	1225	2132	75	56	215
NY	850	850	38505850	255	895	0.4	400	1071	1962	60	36	226
NY	850	900	38505900	327	987	0.5	450	987	1868	45	16	242
NY	850	950	38505950	185	904	0.8	445	1147	2046	60	37	228
NY	900	000	39005000	468	1420	0.7	600	865	1735	14	0	293
NY	900	050	39005050	539	1772	1.1	675	781	1642	0	0	349
NY	900	100	39005100	448	1460	1.4	575	883	1755	18	0	305
NY	900	150	39005150	438	1403	1.9	550	892	1765	22	0	299
NY	900	200	39005200	360	1210	2.4	500	979	1861	37	6	266
NY	900	250	39005250	497	1424	2.0	600	821	1686	10	0	298
NY	900	300	39005300	404	1300	1.3	700	924	1800	8	0	280
NY	900	350	39005350	436	1341	1.2	700	886	1758	5	0	287
NY	900	400	39005400	400	1180	1.6	550	925	1802	25	0	263
NY	900	450	39005450	545	1268	1.8	575	757	1615	7	0	278
NY	900	500	39005500	423	1030	1.1	500	894	1767	29	0	245
NY	900	550	39005550	292	949	0.7	435	1041	1930	52	25	236
NY	900	600	39005600	265	800	0.6	405	1070	1963	60	35	207
NY	900	650	39005650	115	719	0.8	350	1238	2149	85	69	190
NY	900	700	39005700	107	750	0.8	370	1245	2157	82	65	196
NY	900	750	39005750	101	785	0.4	385	1250	2162	79	62	203
NY	900	800	39005800	257	820	0.3	400	1070	1963	61	36	212
NY	900	850	39005850	198	868	0.4	400	1135	2035	66	44	222
NY	900	900	39005900	152	860	0.5	395	1185	2090	72	52	221
NY	900	950	39005950	212	879	0.5	450	1115	2012	56	32	226
NY	950	000	39505000	547	1418	1.2	550	773	1635	12	0	297
NY	950	050	39505050	532	1464	1.4	575	788	1652	10	0	305
NY	950	100	39505100	372	1114	1.6	490	968	1851	37	6	253
NY	950	150	39505150	341	1089	2.1	470	1002	1889	43	14	253
NY	950	200	39505200	339	1103	2.2	460	1002	1889	45	16	255
NY	950	250	39505250	221	1065	1.4	500	1134	2036	51	26	249
NY	950	300	39505300	499	1253	0.8	600	815	1682	9	0	279
NY	950	350	39505350	562	1256	0.9	550	741	1599	9	0	280
NY	950	400	39505400	307	1068	1.2	475	1029	1919	45	17	250
NY	950	450	39505450	522	1080	1.3	500	782	1645	19	0	252
NY	950	500	39505500	299	892	0.9	445	1034	1925	50	23	222

NY	950	550	39505550	341	798	0.5	420	984	1869	50	22	208
NY	950	600	39505600	103	705	0.6	350	1253	2168	86	71	189
NY	950	650	39505650	44	670	0.5	340	1318	2240	94	81	177
NY	950	700	39505700	202	697	0.3	350	1136	2038	76	56	184
NY	950	750	39505750	145	709	0.2	370	1199	2108	78	59	187
NY	950	800	39505800	225	809	0.2	395	1105	2003	65	42	208
NY	950	850	39505850	278	905	0.3	450	1043	1935	50	23	229
NY	950	900	39505900	301	981	0.5	450	1014	1902	47	19	241
NY	950	950	39505950	224	913	0.5	425	1100	1998	59	35	233
NZ	000	000	40005000	337	1190	1.8	500	1012	1902	40	10	267
NZ	000	050	40005050	376	1260	1.6	525	965	1850	32	0	278
NZ	000	100	40005100	402	1150	1.2	475	933	1815	37	5	262
NZ	000	150	40005150	278	887	1.4	425	1072	1969	57	32	220
NZ	000	200	40005200	193	860	1.4	395	1167	2074	70	50	217
NZ	000	250	40005250	322	971	0.9	440	1018	1909	50	22	235
NZ	000	300	40005300	469	1160	1.0	500	848	1720	25	0	265
NZ	000	350	40005350	276	1013	1.0	450	1066	1962	52	26	241
NZ	000	400	40005400	313	910	0.9	430	1021	1912	51	24	226
NZ	000	450	40005450	458	967	0.8	470	854	1727	30	0	234
NZ	000	500	40005500	330	900	0.6	440	998	1887	48	20	225
NZ	000	550	40005550	293	817	0.4	400	1038	1931	58	33	212
NZ	000	600	40005600	107	700	0.4	355	1247	2163	85	69	187
NZ	000	650	40005650	86	644	0.3	345	1269	2188	89	74	170
NZ	000	700	40005700	173	700	0.1	360	1168	2075	77	58	183
NZ	000	750	40005750	170	709	0.4	380	1169	2077	73	54	188
NZ	000	800	40005800	211	820	0.5	405	1120	2022	64	42	209
NZ	000	850	40005850	196	871	0.5	430	1135	2039	62	39	221
NZ	000	900	40005900	231	910	0.6	465	1093	1992	52	27	230
NZ	000	950	40005950	300	983	0.5	475	1012	1902	44	15	243
NZ	050	000	40505000	404	1063	1.9	475	934	1818	37	5	253
NZ	050	050	40505050	357	1254	1.4	480	985	1874	41	11	286
NZ	050	100	40505100	248	957	0.9	425	1108	2011	60	37	235
NZ	050	150	40505150	183	817	1.0	385	1179	2090	73	54	209
NZ	050	200	40505200	225	806	1.1	385	1129	2034	69	48	208
NZ	050	250	40505250	343	942	1.0	440	993	1883	47	19	229
NZ	050	300	40505300	253	969	1.2	440	1093	1994	56	32	234
NZ	050	350	40505350	288	909	1.0	400	1051	1948	59	35	227
NZ	050	400	40505400	347	931	0.8	425	981	1870	49	21	229
NZ	050	450	40505450	374	907	0.6	425	948	1833	46	17	224
NZ	050	500	40505500	179	800	0.5	410	1169	2079	68	47	209
NZ	050	550	40505550	265	773	0.5	385	1068	1967	64	40	208
NZ	050	600	40505600	67	694	0.4	350	1292	2215	90	76	184
NZ	050	650	40505650	145	668	0.2	345	1201	2114	83	66	168
NZ	050	700	40505700	141	695	0.0	360	1203	2116	80	63	180
NZ	050	750	40505750	181	740	0.3	375	1155	2063	73	53	194
NZ	050	800	40505800	166	806	0.7	390	1170	2080	72	52	206
NZ	050	850	40505850	127	806	0.7	400	1212	2126	74	55	209
NZ	050	900	40505900	216	844	0.8	420	1109	2012	61	38	217
NZ	050	950	40505950	187	849	0.7	420	1140	2047	64	42	220
NZ	100	000	41005000	246	890	1.6	450	1113	2019	57	33	224

NZ	100	050	41005050	366	1046	1.3	445	974	1864	45	16	248
NZ	100	100	41005100	181	910	1.0	390	1183	2096	73	53	225
NZ	100	150	41005150	122	758	1.1	355	1248	2168	85	70	197
NZ	100	200	41005200	136	740	1.1	375	1230	2149	80	63	197
NZ	100	250	41005250	225	843	1.0	415	1126	2033	64	41	216
NZ	100	300	41005300	216	800	1.1	395	1134	2042	68	46	210
NZ	100	350	41005350	250	791	0.9	380	1093	1996	67	44	207
NZ	100	400	41005400	286	850	0.8	415	1050	1949	57	32	215
NZ	100	450	41005450	257	803	0.7	390	1081	1983	64	41	207
NZ	100	500	41005500	238	790	0.6	375	1100	2004	68	46	204
NZ	100	550	41005550	88	728	0.4	370	1269	2192	84	69	194
NZ	100	600	41005600	227	710	0.3	370	1108	2013	70	49	183
NZ	100	650	41005650	48	678	0.2	345	1310	2237	93	80	172
NZ	100	700	41005700	112	690	0.2	360	1235	2154	83	67	178
NZ	100	750	41005750	126	741	0.4	370	1217	2134	80	62	192
NZ	100	800	41005800	99	770	0.6	380	1245	2165	80	63	200
NZ	100	850	41005850	86	786	0.7	390	1258	2180	80	63	204
NZ	100	900	41005900	93	790	0.8	395	1248	2168	78	61	208
NZ	100	950	41005950	181	808	0.8	395	1145	2054	69	48	213
NZ	150	000	41505000	187	848	1.2	385	1179	2094	74	54	214
NZ	150	050	41505050	193	834	1.2	385	1170	2084	73	53	211
NZ	150	100	41505100	158	770	1.2	340	1208	2126	85	69	198
NZ	150	150	41505150	135	728	1.2	340	1232	2153	87	72	188
NZ	150	200	41505200	103	687	1.0	350	1266	2191	88	73	186
NZ	150	250	41505250	183	795	1.0	380	1173	2087	74	55	211
NZ	150	300	41505300	114	768	1.0	375	1249	2172	82	65	203
NZ	150	350	41505350	194	757	0.8	370	1156	2068	74	55	199
NZ	150	400	41505400	208	790	0.8	380	1138	2048	71	50	204
NZ	150	450	41505450	147	760	0.8	370	1205	2123	79	61	200
NZ	150	500	41505500	156	766	0.6	365	1193	2110	79	61	196
NZ	150	550	41505550	105	711	0.3	365	1248	2171	84	68	186
NZ	150	600	41505600	162	706	0.2	360	1181	2096	79	60	180
NZ	150	650	41505650	27	690	0.3	345	1333	2265	95	83	172
NZ	150	700	41505700	126	702	0.4	360	1218	2137	82	65	180
NZ	150	750	41505750	57	715	0.7	365	1294	2222	88	73	188
NZ	150	800	41505800	65	735	1.0	375	1283	2209	85	70	193
NZ	150	850	41505850	58	752	1.0	375	1289	2216	85	70	196
NZ	150	900	41505900	105	788	1.0	385	1233	2154	79	61	205
NZ	150	950	41505950	111	788	0.9	385	1224	2144	78	60	210
NZ	200	000	42005000	72	760	1.1	350	1309	2240	92	79	192
NZ	200	050	42005050	141	763	1.2	355	1228	2150	84	68	194
NZ	200	100	42005100	109	720	1.3	335	1263	2189	91	77	183
NZ	200	150	42005150	87	683	1.0	335	1285	2214	93	80	173
NZ	200	200	42005200	97	690	0.7	350	1272	2199	89	74	181
NZ	200	250	42005250	183	746	0.8	365	1172	2088	77	58	197
NZ	200	300	42005300	77	690	0.8	355	1290	2219	90	75	185
NZ	200	350	42005350	92	693	0.6	350	1271	2198	89	74	181
NZ	200	400	42005400	236	730	0.6	365	1105	2014	71	50	187
NZ	200	450	42005450	103	724	0.7	365	1254	2179	84	68	185
NZ	200	500	42005500	225	730	0.5	355	1113	2023	74	53	184

NZ	200	550	42005550	137	716	0.3	350	1211	2132	84	67	181
NZ	200	600	42005600	147	690	0.2	350	1197	2116	82	65	174
NZ	200	650	42005650	51	679	0.4	350	1304	2235	92	78	170
NZ	200	700	42005700	65	680	0.6	360	1286	2215	88	74	174
NZ	200	750	42005750	61	690	0.9	360	1289	2218	88	74	179
NZ	200	800	42005800	67	700	1.3	360	1280	2208	88	73	182
NZ	200	850	42005850	53	704	1.3	355	1293	2223	90	76	183
NZ	200	900	42005900	93	730	1.2	370	1246	2170	83	66	189
NZ	200	950	42005950	92	727	1.1	370	1245	2169	83	66	189
NZ	250	000	42505000	55	689	1.5	330	1327	2262	98	86	174
NZ	250	050	42505050	75	705	1.4	325	1302	2235	97	85	179
NZ	250	100	42505100	53	676	1.4	325	1325	2260	99	88	169
NZ	250	150	42505150	55	636	1.0	325	1321	2256	99	87	157
NZ	250	200	42505200	97	675	0.6	340	1271	2200	91	77	172
NZ	250	250	42505250	109	709	0.5	355	1255	2183	87	71	185
NZ	250	300	42505300	162	708	0.4	360	1192	2113	80	62	181
NZ	250	350	42505350	84	677	0.3	350	1279	2209	90	75	169
NZ	250	400	42505400	80	683	0.4	345	1281	2211	91	77	171
NZ	250	450	42505450	116	677	0.5	350	1238	2164	86	70	169
NZ	250	500	42505500	90	708	0.5	345	1265	2194	90	75	175
NZ	250	550	42505550	51	680	0.5	340	1308	2241	94	82	170
NZ	250	600	42505600	25	693	0.4	345	1335	2271	96	84	172
NZ	250	650	42505650	49	657	0.5	345	1306	2239	93	80	166
NZ	250	700	42505700	50	675	0.7	355	1302	2235	91	77	170
NZ	250	750	42505750	65	669	0.8	350	1283	2214	90	76	171
NZ	250	800	42505800	37	670	1.1	345	1313	2247	94	81	171
NZ	250	850	42505850	19	660	1.3	330	1331	2267	99	87	169
NZ	250	900	42505900	29	680	1.3	335	1317	2251	96	84	172
NZ	250	950	42505950	31	670	1.3	335	1313	2247	96	83	171
NZ	300	000	43005000	42	640	1.1	315	1341	2280	103	92	160
NZ	300	050	43005050	56	653	1.4	320	1323	2260	100	89	162
NZ	300	100	43005100	44	610	1.5	325	1334	2272	100	89	151
NZ	300	150	43005150	46	629	1.0	325	1330	2268	100	88	151
NZ	300	200	43005200	71	660	0.7	335	1299	2233	95	82	164
NZ	300	250	43005250	86	681	0.7	345	1280	2212	91	77	174
NZ	300	300	43005300	115	680	0.4	350	1245	2174	87	72	175
NZ	300	350	43005350	86	681	0.2	350	1275	2207	90	75	173
NZ	300	400	43005400	82	670	0.3	340	1278	2210	92	78	171
NZ	300	450	43005450	42	649	0.4	340	1321	2258	96	83	167
NZ	300	500	43005500	62	640	0.4	340	1296	2230	93	80	163
NZ	300	550	43005550	34	651	0.4	340	1326	2263	96	84	162
NZ	300	600	43005600	67	650	0.5	350	1286	2219	91	77	160
NZ	300	650	43005650	7	643	0.6	340	1352	2292	98	87	159
NZ	300	700	43005700	71	670	0.7	355	1277	2209	89	74	163
NZ	300	750	43005750	40	655	0.6	340	1310	2246	95	82	163
NZ	300	800	43005800	17	640	0.7	325	1334	2272	100	89	160
NZ	300	850	43005850	6	629	0.8	310	1345	2285	104	94	159
NZ	300	900	43005900	12	630	0.7	315	1336	2275	102	92	157
NZ	300	950	43005950	0	626	0.7	315	1347	2287	103	93	155
NZ	350	000	43505000	48	651	0.7	330	1333	2273	99	88	153

NZ	350	050	43505050	57	634	1.0	325	1321	2260	99	88	150
NZ	350	100	43505100	19	598	1.0	325	1362	2306	103	93	143
NZ	350	150	43505150	51	596	0.9	325	1323	2262	99	88	139
NZ	350	200	43505200	53	642	0.7	335	1319	2258	97	85	155
NZ	350	250	43505250	76	664	0.7	335	1290	2226	94	81	167
NZ	350	300	43505300	102	665	0.4	340	1258	2190	90	76	169
NZ	350	350	43505350	153	698	0.3	350	1198	2123	83	66	178
NZ	350	400	43505400	160	701	0.4	350	1188	2112	82	65	177
NZ	350	450	43505450	130	693	0.3	350	1220	2148	85	69	177
NZ	350	500	43505500	94	678	0.2	350	1259	2191	88	73	168
NZ	350	550	43505550	101	659	0.2	335	1248	2179	90	76	160
NZ	350	600	43505600	69	636	0.4	335	1283	2218	94	80	155
NZ	350	650	43505650	6	628	0.7	330	1352	2294	101	90	149
NZ	350	700	43505700	42	656	0.5	340	1309	2247	95	82	156
NZ	350	750	43505750	12	640	0.2	330	1341	2282	100	89	154
NZ	350	800	43505800	0	603	0.2	305	1353	2296	106	97	148
NZ	400	000	44005000	64	650	0.9	350	1314	2254	93	81	162
NZ	400	050	44005050	59	658	0.8	335	1317	2258	97	85	159
NZ	400	100	44005100	6	620	0.7	320	1375	2322	105	96	150
NZ	400	150	44005150	28	588	0.8	320	1348	2292	103	92	141
NZ	400	200	44005200	50	590	0.8	325	1321	2262	99	88	143
NZ	400	250	44005250	57	643	0.6	325	1311	2251	98	87	156
NZ	400	300	44005300	97	650	0.5	330	1263	2198	93	79	160
NZ	400	350	44005350	134	697	0.5	350	1218	2148	85	69	171
NZ	400	400	44005400	112	710	0.5	350	1241	2173	87	71	175
NZ	400	450	44005450	122	691	0.4	350	1228	2159	86	70	170
NZ	400	500	44005500	82	660	0.2	340	1271	2207	92	78	161
NZ	400	550	44005550	42	641	0.2	325	1315	2255	99	87	155
NZ	400	600	44005600	21	610	0.3	325	1336	2279	101	90	146
NZ	400	650	44005650	19	615	0.4	315	1336	2279	103	92	145
NZ	400	700	44005700	0	620	0.2	320	1356	2301	103	93	146
NZ	450	000	44505000	88	711	0.8	385	1285	2224	84	69	180
NZ	450	050	44505050	80	667	0.8	350	1292	2232	92	78	168
NZ	450	100	44505100	54	634	0.8	325	1319	2262	99	88	157
NZ	450	150	44505150	12	623	0.7	315	1365	2313	105	96	149
NZ	450	200	44505200	8	580	0.9	310	1368	2316	107	98	139
NZ	450	250	44505250	27	588	0.8	310	1344	2290	105	95	137
NZ	450	300	44505300	48	616	0.7	320	1318	2261	100	89	148
NZ	450	350	44505350	107	662	0.7	330	1248	2183	92	78	161
NZ	450	400	44505400	34	651	0.4	330	1329	2273	99	88	159
NZ	450	450	44505450	0	636	0.2	325	1366	2314	103	94	157
NZ	450	500	44505500	0	608	0.1	310	1363	2311	106	97	150
NZ	500	000	45005000	175	840	0.7	425	1185	2115	68	48	207
NZ	500	050	45005050	78	716	0.6	375	1293	2235	87	72	184
NZ	500	100	45005100	90	660	0.8	340	1277	2217	92	79	169
NZ	500	150	45005150	44	632	0.7	325	1328	2274	100	89	157
NZ	500	200	45005200	6	570	0.9	300	1369	2320	109	101	139
NZ	500	250	45005250	4	559	0.9	295	1369	2320	111	103	131
NZ	500	300	45005300	18	570	0.6	300	1351	2300	108	99	136
NZ	500	350	45005350	10	603	0.4	310	1358	2307	106	97	145

NZ	550	000	45505000	193	992	0.7	460	1163	2093	61	39	237
NZ	550	050	45505050	111	792	0.6	390	1254	2194	81	65	204
NZ	550	100	45505100	76	683	0.8	370	1292	2236	88	74	179
NZ	550	150	45505150	91	679	0.8	360	1273	2215	88	74	169
NZ	550	200	45505200	13	586	0.7	320	1360	2312	104	95	144
NZ	550	250	45505250	0	543	0.6	295	1372	2325	111	103	125
NZ	550	300	45505300	0	538	0.2	290	1370	2323	112	104	128
NZ	600	000	46005000	391	1020	0.6	475	936	1843	39	8	243
NZ	600	050	46005050	320	829	0.7	430	1015	1931	53	27	212
NZ	600	100	46005100	208	840	0.7	410	1140	2070	67	46	208
NZ	600	150	46005150	103	783	0.5	380	1258	2201	83	68	194
NZ	600	200	46005200	91	680	0.5	325	1269	2213	95	82	165
NZ	600	250	46005250	8	576	0.3	300	1362	2316	109	101	138
NZ	650	000	46505000	261	1028	0.3	465	1083	2008	54	29	245
NZ	650	050	46505050	242	997	0.4	445	1103	2031	58	35	242
NZ	650	100	46505100	225	870	0.4	425	1120	2050	63	41	219
NZ	650	150	46505150	155	833	0.4	390	1198	2136	76	58	211
NZ	650	200	46505200	62	644	0.3	330	1301	2250	97	85	165
NZ	650	250	46505250	0	574	0.2	295	1370	2327	111	103	141
NZ	700	000	47005000	343	1080	0.3	480	989	1906	43	14	254
NZ	700	050	47005050	280	984	0.3	450	1058	1983	54	29	238
NZ	700	100	47005100	204	900	0.4	420	1143	2077	66	45	224
NZ	700	150	47005150	130	748	0.4	380	1225	2168	81	64	197
NZ	700	200	47005200	74	630	0.1	325	1287	2237	97	85	165
NZ	750	000	47505000	312	1019	0.7	470	1023	1946	48	21	242
NZ	750	050	47505050	252	935	0.7	445	1089	2019	58	34	229
NZ	750	100	47505100	244	896	0.7	410	1096	2027	64	41	222
NZ	750	150	47505150	137	763	0.5	365	1216	2160	83	66	202
NZ	750	200	47505200	126	646	0.2	325	1226	2171	92	77	168
NZ	800	000	48005000	223	890	0.8	430	1123	2059	63	41	222
NZ	800	050	48005050	61	851	0.9	400	1306	2262	85	70	216
NZ	800	100	48005100	174	790	0.7	400	1175	2117	73	54	202
NZ	800	150	48005150	99	709	0.4	360	1258	2209	88	73	185
NZ	800	200	48005200	0	650	0.1	310	1369	2332	108	100	169
NZ	850	000	48505000	177	885	0.5	400	1174	2118	73	54	222
NZ	850	050	48505050	267	782	0.5	400	1070	2002	64	41	205
NZ	850	100	48505100	164	748	0.5	370	1185	2130	79	62	193
NZ	850	150	48505150	50	688	0.3	340	1313	2272	97	85	176
NZ	900	000	49005000	242	880	0.5	410	1099	2037	65	43	219
NZ	900	050	49005050	187	753	0.2	375	1160	2104	76	58	198
NZ	900	100	49005100	18	660	0.3	325	1350	2315	103	94	175
NZ	950	000	49505000	194	859	0.5	405	1153	2099	71	51	214
NZ	950	050	49505050	40	725	0.2	360	1326	2291	94	82	194
NZ	950	100	49505100	0	645	0.0	315	1370	2340	108	99	167
OV	000	000	50005000	88	760	0.2	370	1272	2233	88	73	194
SD	050	950	30504950	0	999	1.1	480	1420	2315	76	60	235
SD	100	800	31004800	0	980	0.1	520	1425	2323	71	55	224
SD	100	850	31004850	21	1049	0.6	540	1399	2294	66	48	239
SD	100	900	31004900	28	1140	1.7	540	1389	2283	65	47	251
SD	100	950	31004950	8	1121	2.7	535	1410	2306	68	50	245

SD	150	650	31504650	0	938	0.0	450	1431	2332	82	68	209
SD	150	700	31504700	0	958	0.6	475	1429	2329	78	63	214
SD	150	800	31504800	10	1118	0.5	580	1413	2312	62	44	241
SD	150	850	31504850	143	1598	0.6	710	1259	2141	34	7	320
SD	150	900	31504900	404	1881	1.7	800	959	1808	0	0	361
SD	150	950	31504950	338	1981	3.1	800	1032	1889	6	0	365
SD	200	600	32004600	0	900	0.0	440	1432	2335	84	70	204
SD	200	650	32004650	3	951	0.1	465	1426	2328	79	65	213
SD	200	700	32004700	19	980	0.9	480	1406	2306	75	59	221
SD	200	750	32004750	15	1050	1.8	525	1408	2308	69	52	236
SD	200	800	32004800	0	1120	1.6	580	1423	2325	63	45	246
SD	200	850	32004850	2	1314	0.8	700	1419	2320	50	29	274
SD	200	900	32004900	74	1710	0.7	785	1334	2226	34	8	326
SD	200	950	32004950	244	2087	1.9	970	1138	2009	2	0	365
SD	250	650	32504650	0	978	0.1	465	1428	2333	80	65	216
SD	250	700	32504700	22	1080	0.4	495	1401	2303	73	56	240
SD	250	750	32504750	76	1229	0.9	580	1337	2232	56	35	273
SD	250	800	32504800	233	1514	1.5	680	1156	2031	29	0	312
SD	250	850	32504850	126	1637	1.7	710	1276	2164	36	10	326
SD	250	900	32504900	34	1766	1.0	790	1379	2278	38	14	327
SD	250	950	32504950	412	2140	0.5	1020	946	1798	0	0	364
SD	300	000	33004000	4	750	1.2	390	1451	2360	94	83	179
SD	300	050	33004050	5	823	1.7	410	1448	2357	90	79	190
SD	300	100	33004100	8	840	1.5	410	1442	2350	90	78	193
SD	300	150	33004150	0	831	1.4	400	1449	2358	92	81	192
SD	300	300	33004300	0	840	0.5	425	1443	2351	87	75	192
SD	300	350	33004350	0	871	1.2	440	1441	2349	85	72	197
SD	300	400	33004400	0	890	1.1	450	1438	2346	83	69	202
SD	300	450	33004450	0	891	0.4	450	1436	2344	83	69	202
SD	300	700	33004700	0	1000	0.0	500	1425	2331	74	59	230
SD	300	750	33004750	30	1178	0.6	565	1389	2291	63	44	263
SD	300	800	33004800	63	1300	0.9	640	1349	2247	50	28	278
SD	300	850	33004850	49	1544	1.0	680	1363	2263	47	25	311
SD	300	900	33004900	206	1990	1.2	810	1181	2061	19	0	365
SD	300	950	33004950	59	1980	1.0	910	1347	2245	25	0	351
SD	350	000	33504000	15	779	2.4	410	1438	2348	90	78	183
SD	350	050	33504050	5	834	2.4	430	1447	2358	87	75	191
SD	350	100	33504100	6	869	1.8	425	1444	2355	88	75	198
SD	350	150	33504150	4	857	2.4	420	1444	2355	89	76	195
SD	350	200	33504200	3	847	1.6	415	1443	2353	89	77	194
SD	350	250	33504250	0	837	0.4	420	1444	2355	89	76	192
SD	350	300	33504300	4	892	1.6	445	1437	2347	84	71	200
SD	350	350	33504350	10	917	2.6	455	1428	2337	81	67	205
SD	350	400	33504400	6	920	2.3	460	1430	2339	81	67	206
SD	350	450	33504450	1	913	1.5	465	1434	2343	80	66	205
SD	350	500	33504500	0	903	0.7	460	1433	2342	81	67	203
SD	350	750	33504750	8	1062	0.6	540	1413	2320	68	51	245
SD	350	800	33504800	10	1224	0.9	600	1408	2315	60	41	266
SD	350	850	33504850	128	1491	1.1	650	1271	2163	42	17	303
SD	350	900	33504900	63	1762	2.4	700	1343	2242	43	20	341

SD	350	950	33504950	221	1921	2.6	800	1161	2040	18	0	361
SD	400	000	34004000	23	820	2.3	430	1427	2338	86	72	194
SD	400	050	34004050	34	882	2.0	450	1413	2322	81	67	204
SD	400	100	34004100	32	910	1.3	450	1413	2322	81	67	206
SD	400	150	34004150	4	885	2.1	440	1442	2354	85	72	201
SD	400	200	34004200	4	860	1.7	435	1440	2352	86	73	197
SD	400	250	34004250	0	851	1.0	435	1443	2356	86	73	194
SD	400	300	34004300	15	910	2.4	455	1423	2333	81	67	204
SD	400	350	34004350	30	953	2.3	465	1404	2312	78	63	211
SD	400	400	34004400	12	950	2.2	470	1422	2332	79	64	211
SD	400	450	34004450	8	926	2.9	475	1425	2336	78	64	207
SD	400	500	34004500	3	890	2.7	475	1428	2339	79	64	201
SD	400	550	34004550	0	978	1.8	470	1429	2340	79	65	217
SD	400	600	34004600	6	990	0.8	475	1420	2330	78	63	226
SD	400	650	34004650	0	952	0.0	475	1425	2336	78	64	228
SD	400	750	34004750	2	1061	1.1	535	1418	2328	69	53	244
SD	400	800	34004800	168	1250	1.1	580	1227	2116	47	22	272
SD	400	850	34004850	203	1414	2.0	660	1185	2069	34	6	295
SD	400	900	34004900	211	1500	3.0	720	1173	2056	27	0	305
SD	400	950	34004950	87	1547	2.1	750	1313	2211	36	11	307
SD	450	000	34504000	44	892	1.6	455	1402	2312	79	65	210
SD	450	050	34504050	67	939	1.4	475	1374	2281	74	57	218
SD	450	100	34504100	25	939	0.9	475	1420	2332	78	63	214
SD	450	150	34504150	5	913	1.5	465	1440	2354	81	68	205
SD	450	200	34504200	14	906	1.9	455	1428	2341	82	68	204
SD	450	250	34504250	4	907	2.0	455	1437	2351	83	69	203
SD	450	300	34504300	6	934	2.6	470	1432	2345	80	66	208
SD	450	350	34504350	22	983	2.3	480	1412	2323	77	61	216
SD	450	400	34504400	8	975	2.2	485	1426	2339	77	62	217
SD	450	450	34504450	8	946	2.9	490	1424	2337	76	61	211
SD	450	500	34504500	7	943	3.0	495	1422	2334	75	60	211
SD	450	550	34504550	4	935	2.8	495	1424	2337	76	60	208
SD	450	600	34504600	5	996	1.8	495	1420	2332	75	60	228
SD	450	650	34504650	8	995	1.0	500	1415	2327	74	58	235
SD	450	700	34504700	0	982	1.4	500	1422	2334	75	59	233
SD	450	750	34504750	3	1011	2.0	525	1416	2328	71	54	237
SD	450	800	34504800	4	1124	2.2	550	1413	2324	67	50	253
SD	450	850	34504850	139	1246	1.7	600	1257	2151	47	23	274
SD	450	900	34504900	30	1354	1.1	660	1379	2287	51	30	286
SD	450	950	34504950	158	1559	0.7	700	1231	2122	34	6	316
SD	500	000	35004000	60	930	0.6	475	1383	2293	75	59	217
SD	500	050	35004050	82	972	0.7	505	1356	2263	68	50	224
SD	500	100	35004100	19	980	0.7	490	1425	2340	76	61	226
SD	500	150	35004150	25	961	0.8	480	1416	2330	77	62	220
SD	500	200	35004200	12	930	1.5	475	1429	2344	79	65	215
SD	500	250	35004250	23	938	1.9	470	1414	2328	78	64	216
SD	500	300	35004300	13	980	2.0	480	1423	2338	78	63	223
SD	500	350	35004350	28	1018	2.3	500	1404	2316	73	57	230
SD	500	400	35004400	15	1000	2.1	500	1417	2331	74	59	226
SD	500	450	35004450	25	1014	1.9	520	1403	2315	70	54	228

SD	500	500	35004500	36	1040	2.0	535	1388	2299	67	49	233
SD	500	550	35004550	76	1106	2.0	550	1340	2245	61	41	243
SD	500	600	35004600	124	1150	1.9	570	1284	2183	53	31	254
SD	500	650	35004650	26	1093	1.9	550	1393	2304	65	48	250
SD	500	700	35004700	30	1070	1.8	540	1386	2296	66	48	247
SD	500	750	35004750	91	1091	1.7	530	1315	2218	61	41	251
SD	500	800	35004800	19	1100	1.7	540	1394	2305	67	49	251
SD	500	850	35004850	50	1205	0.9	575	1357	2264	59	39	266
SD	500	900	35004900	101	1400	0.2	660	1297	2198	44	20	293
SD	500	950	35004950	88	1481	0.4	740	1309	2211	37	12	303
SD	550	000	35504000	91	947	0.4	490	1346	2254	70	52	220
SD	550	050	35504050	63	971	0.8	505	1376	2287	70	53	227
SD	550	100	35504100	93	983	1.0	510	1340	2248	66	48	230
SD	550	150	35504150	71	997	1.1	490	1363	2273	71	54	235
SD	550	200	35504200	50	949	1.2	495	1384	2296	72	56	225
SD	550	250	35504250	34	968	1.2	480	1400	2314	76	60	226
SD	550	300	35504300	40	980	1.1	505	1391	2304	71	55	229
SD	550	350	35504350	46	1047	1.2	525	1382	2294	68	50	243
SD	550	400	35504400	80	1119	1.3	575	1341	2249	58	38	251
SD	550	450	35504450	162	1271	1.6	580	1246	2143	49	25	274
SD	550	500	35504500	284	1389	2.0	720	1104	1986	21	0	292
SD	550	550	35504550	172	1344	2.1	700	1230	2125	34	7	287
SD	550	600	35504600	368	1503	1.7	680	1004	1875	16	0	312
SD	550	650	35504650	61	1193	1.4	590	1352	2261	57	37	264
SD	550	700	35504700	115	1167	1.4	570	1288	2190	54	32	262
SD	550	750	35504750	137	1242	1.2	580	1261	2160	50	27	275
SD	550	800	35504800	202	1268	1.0	600	1185	2075	41	14	278
SD	550	850	35504850	108	1265	0.7	625	1290	2192	47	24	275
SD	550	900	35504900	116	1311	0.6	680	1278	2179	40	15	280
SD	550	950	35504950	227	1435	0.6	700	1150	2037	27	0	296
SD	600	000	36004000	42	930	0.9	460	1401	2317	79	64	218
SD	600	050	36004050	46	958	1.0	485	1394	2310	75	59	227
SD	600	100	36004100	124	1030	1.1	520	1303	2209	62	42	239
SD	600	150	36004150	115	1100	1.3	520	1311	2217	62	43	251
SD	600	200	36004200	135	1080	1.3	530	1286	2190	59	38	248
SD	600	250	36004250	114	1036	1.1	510	1308	2214	64	44	241
SD	600	300	36004300	55	980	0.9	500	1373	2286	71	54	231
SD	600	350	36004350	73	1041	0.7	555	1350	2261	61	42	241
SD	600	400	36004400	105	1170	0.6	600	1312	2219	53	31	259
SD	600	450	36004450	333	1539	0.9	720	1050	1928	16	0	316
SD	600	500	36004500	280	1930	1.3	900	1108	1992	6	0	365
SD	600	550	36004550	234	1668	1.5	820	1158	2048	17	0	332
SD	600	600	36004600	486	1900	1.2	850	869	1727	0	0	365
SD	600	650	36004650	215	1368	0.8	640	1175	2066	36	8	288
SD	600	700	36004700	105	1140	0.9	585	1299	2204	53	31	255
SD	600	750	36004750	38	1176	0.9	595	1373	2286	58	39	263
SD	600	800	36004800	101	1290	0.9	640	1299	2204	47	23	279
SD	600	850	36004850	204	1318	0.9	670	1179	2071	33	4	282
SD	600	900	36004900	205	1380	0.8	675	1176	2068	32	4	290
SD	600	950	36004950	217	1477	0.8	710	1160	2050	27	0	303

SD	650	000	36504000	25	936	0.9	450	1419	2339	82	69	221
SD	650	050	36504050	78	978	0.5	500	1357	2271	70	52	232
SD	650	100	36504100	122	1120	0.6	550	1304	2212	58	37	255
SD	650	150	36504150	359	1262	1.0	650	1032	1910	22	0	278
SD	650	200	36504200	286	1311	1.1	650	1113	2000	29	0	286
SD	650	250	36504250	122	1126	1.0	590	1298	2205	53	30	257
SD	650	300	36504300	130	1003	1.0	510	1286	2192	62	41	236
SD	650	350	36504350	25	1049	0.7	525	1404	2323	70	54	243
SD	650	400	36504400	261	1230	0.7	615	1133	2022	35	6	269
SD	650	450	36504450	105	1354	0.9	675	1308	2216	44	20	286
SD	650	500	36504500	191	1778	0.7	770	1208	2105	26	0	349
SD	650	550	36504550	313	1901	0.9	850	1067	1949	6	0	362
SD	650	600	36504600	349	1910	0.9	850	1024	1901	2	0	365
SD	650	650	36504650	133	1431	0.5	640	1268	2172	44	20	294
SD	650	700	36504700	109	1126	0.7	585	1293	2200	53	31	250
SD	650	750	36504750	123	1233	0.8	595	1275	2180	50	27	270
SD	650	800	36504800	358	1428	0.9	700	1005	1880	14	0	298
SD	650	850	36504850	364	1524	1.0	750	995	1869	9	0	310
SD	650	900	36504900	244	1444	0.8	700	1130	2019	26	0	297
SD	650	950	36504950	370	1522	0.5	700	984	1857	13	0	310
SD	700	000	37004000	27	920	0.7	455	1416	2338	82	68	218
SD	700	050	37004050	113	1031	0.5	500	1316	2227	66	47	239
SD	700	100	37004100	134	1210	0.4	570	1290	2198	54	33	269
SD	700	150	37004150	187	1449	0.6	700	1227	2128	34	7	307
SD	700	200	37004200	254	1440	0.8	690	1148	2041	28	0	305
SD	700	250	37004250	158	1228	0.8	610	1256	2161	47	23	271
SD	700	300	37004300	155	1060	0.8	540	1257	2162	55	33	245
SD	700	350	37004350	63	1023	0.9	535	1359	2275	65	47	240
SD	700	400	37004400	69	1200	0.8	580	1350	2265	59	39	266
SD	700	450	37004450	170	1373	0.8	600	1233	2135	46	21	293
SD	700	500	37004500	138	1490	1.1	660	1267	2173	42	17	307
SD	700	550	37004550	206	1639	1.4	720	1188	2085	29	0	327
SD	700	600	37004600	385	1800	1.5	800	981	1855	3	0	352
SD	700	650	37004650	368	1534	1.1	700	999	1875	14	0	312
SD	700	700	37004700	171	1190	0.7	590	1221	2122	46	21	259
SD	700	750	37004750	236	1276	0.7	675	1145	2037	30	0	272
SD	700	800	37004800	471	1700	1.1	900	875	1738	0	0	336
SD	700	850	37004850	466	1789	1.2	850	878	1741	0	0	348
SD	700	900	37004900	322	1530	0.9	740	1040	1921	14	0	308
SD	700	950	37004950	253	1420	0.7	720	1116	2005	22	0	291
SD	750	000	37504000	25	902	0.8	470	1417	2341	80	65	215
SD	750	050	37504050	94	1028	0.9	510	1336	2251	67	48	240
SD	750	100	37504100	128	1106	0.7	550	1295	2206	58	37	252
SD	750	150	37504150	200	1328	0.5	635	1211	2113	40	14	286
SD	750	200	37504200	360	1474	0.6	670	1026	1907	20	0	309
SD	750	250	37504250	292	1338	0.7	660	1102	1992	28	0	287
SD	750	300	37504300	145	1144	0.6	570	1267	2175	53	30	258
SD	750	350	37504350	86	1123	0.8	550	1332	2247	61	41	254
SD	750	400	37504400	104	1170	0.7	575	1309	2221	56	34	263
SD	750	450	37504450	92	1248	0.6	560	1321	2235	59	38	277

SD	750	500	37504500	192	1408	1.3	600	1205	2106	43	18	298
SD	750	550	37504550	238	1459	1.9	620	1150	2045	36	8	303
SD	750	600	37504600	295	1499	1.9	700	1083	1971	22	0	309
SD	750	650	37504650	164	1331	1.4	590	1230	2134	47	22	283
SD	750	700	37504700	214	1256	0.7	580	1171	2068	43	16	268
SD	750	750	37504750	596	1635	0.8	910	733	1582	0	0	326
SD	750	800	37504800	316	1975	1.1	970	1050	1934	0	0	365
SD	750	850	37504850	438	1758	1.0	790	909	1777	0	0	340
SD	750	900	37504900	294	1681	0.7	770	1071	1957	14	0	328
SD	750	950	37504950	451	1868	0.4	790	890	1756	0	0	357
SD	800	000	38004000	65	940	0.9	475	1370	2291	75	59	223
SD	800	050	38004050	105	1066	0.8	520	1323	2239	64	45	245
SD	800	100	38004100	79	1080	0.6	540	1350	2269	64	45	248
SD	800	150	38004150	146	1199	0.6	575	1271	2181	52	30	266
SD	800	200	38004200	208	1250	0.8	645	1198	2100	38	11	272
SD	800	250	38004250	349	1312	0.8	650	1036	1921	23	0	282
SD	800	300	38004300	229	1250	0.7	600	1170	2069	40	14	274
SD	800	350	38004350	120	1111	0.5	550	1292	2205	58	36	254
SD	800	400	38004400	379	1500	0.4	650	995	1875	19	0	316
SD	800	450	38004450	139	1216	0.5	570	1266	2176	53	30	272
SD	800	500	38004500	141	1190	0.9	550	1262	2171	55	33	265
SD	800	550	38004550	187	1211	1.3	570	1207	2110	47	23	267
SD	800	600	38004600	155	1210	1.2	600	1241	2148	47	23	265
SD	800	650	38004650	215	1249	0.9	550	1171	2070	47	21	269
SD	800	700	38004700	312	1310	0.7	575	1058	1945	34	3	275
SD	800	750	38004750	261	1504	0.6	720	1114	2007	23	0	302
SD	800	800	38004800	399	1800	0.7	880	954	1830	0	0	348
SD	800	850	38004850	434	1979	0.7	850	912	1783	0	0	365
SD	800	900	38004900	497	2000	0.6	880	838	1701	0	0	365
SD	800	950	38004950	457	1730	0.4	760	882	1750	0	0	335
SD	850	000	38504000	44	937	0.8	470	1393	2319	78	63	226
SD	850	050	38504050	72	1024	0.8	515	1359	2281	68	51	238
SD	850	100	38504100	122	1102	0.5	550	1300	2216	58	38	251
SD	850	150	38504150	227	1229	0.4	590	1178	2080	43	16	270
SD	850	200	38504200	411	1571	0.6	710	966	1845	11	0	322
SD	850	250	38504250	326	1369	0.6	680	1061	1950	22	0	289
SD	850	300	38504300	250	1222	0.5	600	1145	2044	38	11	269
SD	850	350	38504350	162	1098	0.5	540	1243	2152	55	32	253
SD	850	400	38504400	195	1235	0.4	590	1203	2108	45	19	275
SD	850	450	38504450	313	1311	0.4	610	1067	1957	30	0	286
SD	850	500	38504500	128	1135	0.4	535	1275	2188	58	37	259
SD	850	550	38504550	120	1161	0.4	535	1282	2196	59	38	262
SD	850	600	38504600	269	1265	0.3	575	1110	2005	38	10	275
SD	850	650	38504650	478	1452	0.5	650	870	1738	8	0	299
SD	850	700	38504700	423	1681	0.9	770	930	1805	2	0	331
SD	850	750	38504750	646	1753	0.7	825	674	1521	0	0	338
SD	850	800	38504800	364	1784	0.8	850	993	1875	0	0	344
SD	850	850	38504850	499	1778	1.2	900	837	1702	0	0	343
SD	850	900	38504900	261	1617	1.1	710	1106	2000	23	0	318
SD	850	950	38504950	509	1751	0.7	740	821	1684	0	0	338

SD	900	000	39004000	73	990	0.9	480	1359	2283	73	57	232
SD	900	050	39004050	116	1057	0.9	495	1308	2227	67	48	243
SD	900	100	39004100	183	1090	0.8	525	1229	2139	56	33	250
SD	900	150	39004150	164	1221	0.4	580	1249	2161	50	27	271
SD	900	200	39004200	357	1520	0.2	700	1026	1914	17	0	316
SD	900	250	39004250	406	1458	0.4	720	968	1849	10	0	304
SD	900	300	39004300	341	1340	0.6	600	1040	1929	29	0	288
SD	900	350	39004350	286	1273	0.6	580	1101	1997	37	8	278
SD	900	400	39004400	166	1150	0.5	530	1235	2146	55	33	259
SD	900	450	39004450	147	1098	0.4	550	1255	2168	55	32	252
SD	900	500	39004500	154	1080	0.3	495	1245	2157	61	40	249
SD	900	550	39004550	162	1110	0.3	525	1233	2143	56	33	253
SD	900	600	39004600	172	1140	0.2	550	1220	2129	51	28	254
SD	900	650	39004650	392	1298	0.5	670	967	1848	15	0	275
SD	900	700	39004700	347	1670	1.0	775	1016	1903	9	0	331
SD	900	750	39004750	398	1719	0.9	700	955	1835	11	0	336
SD	900	800	39004800	391	1690	1.1	780	961	1842	4	0	333
SD	900	850	39004850	280	1552	1.4	750	1086	1980	18	0	313
SD	900	900	39004900	244	1200	1.3	585	1124	2022	38	11	257
SD	900	950	39004950	583	1552	0.8	685	736	1592	0	0	313
SD	950	000	39504000	149	1012	1.1	520	1271	2188	60	39	234
SD	950	050	39504050	193	1126	1.0	550	1219	2130	52	28	255
SD	950	100	39504100	242	1226	0.9	575	1161	2066	43	17	273
SD	950	150	39504150	242	1215	0.7	585	1158	2062	42	15	272
SD	950	200	39504200	232	1410	0.5	640	1168	2073	36	9	298
SD	950	250	39504250	193	1324	0.6	625	1210	2120	42	16	282
SD	950	300	39504300	366	1427	0.8	625	1011	1899	24	0	300
SD	950	350	39504350	417	1399	0.7	620	950	1831	19	0	296
SD	950	400	39504400	341	1231	0.5	575	1035	1926	32	1	271
SD	950	450	39504450	309	1107	0.2	560	1069	1963	37	8	252
SD	950	500	39504500	143	1019	0.3	500	1256	2171	62	41	239
SD	950	550	39504550	156	1036	0.4	505	1239	2152	59	38	240
SD	950	600	39504600	221	1107	0.5	540	1163	2068	48	23	249
SD	950	650	39504650	360	1395	0.8	645	1002	1889	21	0	290
SD	950	700	39504700	273	1479	0.8	650	1099	1997	29	0	302
SD	950	750	39504750	246	1590	0.6	680	1128	2029	28	0	318
SD	950	800	39504800	451	1729	0.9	765	892	1767	0	0	343
SD	950	850	39504850	534	1516	1.4	700	795	1659	0	0	312
SD	950	900	39504900	225	1101	1.5	525	1145	2048	48	23	246
SD	950	950	39504950	524	1397	1.1	600	802	1667	8	0	294
SE	000	000	40004000	341	1180	1.3	570	1051	1946	34	4	260
SE	000	050	40004050	198	1232	1.2	600	1212	2124	45	20	269
SE	000	100	40004100	275	1340	1.0	640	1122	2024	32	3	288
SE	000	150	40004150	348	1438	0.9	650	1036	1929	24	0	304
SE	000	200	40004200	390	1300	0.9	620	986	1873	22	0	282
SE	000	250	40004250	204	1171	0.9	600	1196	2107	44	18	260
SE	000	300	40004300	345	1300	0.8	595	1033	1926	30	0	282
SE	000	350	40004350	370	1306	1.0	590	1003	1892	27	0	282
SE	000	400	40004400	297	1300	0.9	600	1084	1982	34	4	283
SE	000	450	40004450	122	1028	0.7	490	1281	2201	65	46	239

SE	000	500	40004500	181	970	0.4	450	1211	2123	65	44	233
SE	000	550	40004550	269	1073	0.3	510	1109	2010	47	21	250
SE	000	600	40004600	427	1310	0.6	550	927	1808	26	0	285
SE	000	650	40004650	242	1187	0.6	580	1135	2039	40	13	263
SE	000	700	40004700	478	1480	0.4	650	864	1738	8	0	306
SE	000	750	40004750	644	1641	0.5	700	673	1526	0	0	328
SE	000	800	40004800	551	1510	0.7	635	776	1640	2	0	311
SE	000	850	40004850	333	1199	1.5	520	1023	1915	38	9	265
SE	000	900	40004900	264	990	1.7	490	1099	1999	49	23	235
SE	000	950	40004950	543	1326	1.6	545	779	1644	13	0	288
SE	050	000	40504000	486	1370	1.3	650	885	1763	10	0	288
SE	050	050	40504050	464	1599	1.0	720	907	1788	5	0	322
SE	050	100	40504100	259	1399	1.0	650	1139	2045	33	4	294
SE	050	150	40504150	349	1337	1.0	615	1034	1929	28	0	287
SE	050	200	40504200	236	1153	1.4	560	1161	2070	45	20	259
SE	050	250	40504250	248	1068	1.2	490	1145	2052	53	29	246
SE	050	300	40504300	364	1178	1.1	565	1010	1902	31	0	263
SE	050	350	40504350	320	1182	1.1	570	1058	1955	35	5	264
SE	050	400	40504400	172	1006	1.2	500	1225	2141	59	37	237
SE	050	450	40504450	97	922	1.0	445	1308	2233	75	58	223
SE	050	500	40504500	273	886	0.6	435	1105	2008	58	34	221
SE	050	550	40504550	254	1056	0.5	485	1125	2030	52	27	251
SE	050	600	40504600	145	1073	0.3	535	1247	2165	56	34	251
SE	050	650	40504650	309	1106	0.4	575	1058	1955	34	4	254
SE	050	700	40504700	520	1581	0.9	680	815	1686	1	0	325
SE	050	750	40504750	474	1538	1.3	650	865	1741	9	0	313
SE	050	800	40504800	360	1441	1.2	590	993	1883	27	0	302
SE	050	850	40504850	374	1145	1.4	550	975	1863	30	0	259
SE	050	900	40504900	124	888	1.5	440	1258	2177	71	52	222
SE	050	950	40504950	442	1063	1.7	495	893	1772	30	0	251
SE	100	000	41004000	306	1380	1.1	680	1089	1992	25	0	291
SE	100	050	41004050	400	1576	0.8	700	979	1870	14	0	322
SE	100	100	41004100	195	1300	1.0	600	1211	2127	45	20	280
SE	100	150	41004150	130	1136	1.6	525	1283	2207	61	41	256
SE	100	200	41004200	154	1040	1.9	500	1253	2174	62	41	241
SE	100	250	41004250	181	941	1.4	460	1220	2137	65	44	226
SE	100	300	41004300	334	1100	1.2	500	1044	1942	43	15	249
SE	100	350	41004350	276	956	1.2	475	1107	2012	52	27	227
SE	100	400	41004400	85	880	1.0	415	1323	2252	81	66	216
SE	100	450	41004450	362	903	0.6	420	1005	1899	52	25	219
SE	100	500	41004500	185	880	0.4	425	1205	2121	69	49	219
SE	100	550	41004550	293	1060	0.5	500	1079	1981	46	19	251
SE	100	600	41004600	423	1150	0.6	530	929	1814	29	0	265
SE	100	650	41004650	368	1253	1.1	580	989	1881	28	0	280
SE	100	700	41004700	375	1300	1.7	575	979	1870	28	0	286
SE	100	750	41004750	218	1116	2.1	500	1156	2066	53	29	255
SE	100	800	41004800	366	1270	1.7	550	985	1877	31	0	280
SE	100	850	41004850	292	1045	1.2	475	1067	1968	49	22	245
SE	100	900	41004900	153	820	1.2	385	1223	2141	78	60	211
SE	100	950	41004950	313	934	1.5	450	1039	1936	50	23	229

SE	150	000	41504000	440	1463	1.3	665	935	1823	13	0	303
SE	150	050	41504050	332	1349	0.9	600	1056	1957	31	1	289
SE	150	100	41504100	133	1024	1.0	500	1280	2206	64	45	238
SE	150	150	41504150	137	888	1.5	420	1274	2199	76	59	218
SE	150	200	41504200	147	888	1.7	400	1260	2184	78	61	216
SE	150	250	41504250	99	879	1.5	390	1312	2242	85	70	214
SE	150	300	41504300	240	948	1.5	420	1150	2062	65	43	224
SE	150	350	41504350	143	880	1.4	425	1258	2182	74	56	214
SE	150	400	41504400	195	858	0.7	400	1196	2113	73	53	211
SE	150	450	41504450	210	868	0.4	400	1177	2092	71	51	212
SE	150	500	41504500	185	918	0.4	430	1203	2121	68	48	224
SE	150	550	41504550	242	1091	0.7	495	1136	2046	52	27	256
SE	150	600	41504600	258	1053	1.2	500	1116	2024	50	24	250
SE	150	650	41504650	185	1062	1.4	475	1197	2114	61	39	251
SE	150	700	41504700	351	1083	1.7	480	1005	1901	43	14	257
SE	150	750	41504750	360	1096	1.8	475	993	1888	42	13	261
SE	150	800	41504800	245	1006	1.5	450	1122	2031	58	34	241
SE	150	850	41504850	195	929	1.1	400	1177	2092	71	51	228
SE	150	900	41504900	143	780	1.0	365	1234	2155	82	66	204
SE	150	950	41504950	270	849	1.1	400	1087	1992	63	40	214
SE	200	000	42004000	299	1230	1.8	560	1094	2002	40	12	269
SE	200	050	42004050	349	1141	1.5	520	1035	1936	40	11	255
SE	200	100	42004100	189	850	1.2	420	1215	2136	71	52	210
SE	200	150	42004150	191	771	0.9	375	1211	2132	79	61	196
SE	200	200	42004200	49	770	1.1	370	1371	2309	94	82	193
SE	200	250	42004250	96	799	1.3	375	1315	2247	88	74	195
SE	200	300	42004300	206	840	1.5	390	1187	2105	74	54	204
SE	200	350	42004350	185	799	1.3	390	1209	2129	76	57	199
SE	200	400	42004400	113	780	0.5	375	1289	2218	86	71	198
SE	200	450	42004450	84	784	0.3	375	1320	2253	88	75	201
SE	200	500	42004500	136	900	0.6	400	1258	2184	78	61	222
SE	200	550	42004550	183	939	1.0	445	1202	2122	66	45	231
SE	200	600	42004600	100	910	1.3	445	1295	2225	74	57	227
SE	200	650	42004650	194	967	1.3	455	1185	2103	63	41	235
SE	200	700	42004700	248	990	1.4	455	1122	2033	57	33	238
SE	200	750	42004750	229	956	1.4	450	1141	2054	60	37	230
SE	200	800	42004800	124	820	1.3	400	1259	2185	78	61	207
SE	200	850	42004850	113	808	1.2	345	1269	2196	90	75	202
SE	200	900	42004900	76	740	1.2	350	1309	2240	92	79	190
SE	200	950	42004950	155	775	1.1	345	1217	2138	85	69	194
SE	250	000	42504000	233	952	1.8	490	1168	2086	56	33	225
SE	250	050	42504050	240	895	1.8	400	1158	2075	70	49	216
SE	250	100	42504100	147	792	1.5	375	1262	2190	83	67	199
SE	250	150	42504150	142	719	1.0	355	1266	2195	88	73	186
SE	250	200	42504200	38	703	0.9	350	1382	2324	99	88	177
SE	250	250	42504250	80	715	1.1	355	1332	2268	93	81	174
SE	250	300	42504300	105	733	1.2	365	1301	2234	89	75	181
SE	250	350	42504350	94	735	1.0	350	1311	2245	93	80	188
SE	250	400	42504400	164	749	0.4	375	1229	2154	80	63	194
SE	250	450	42504450	56	774	0.3	380	1350	2288	90	77	201

SE	250	500	42504500	204	905	0.8	405	1179	2098	71	50	222
SE	250	550	42504550	155	895	1.2	420	1233	2158	73	54	222
SE	250	600	42504600	96	858	1.4	410	1298	2230	80	64	216
SE	250	650	42504650	155	923	1.5	410	1229	2154	74	56	226
SE	250	700	42504700	103	818	1.4	410	1286	2217	79	63	206
SE	250	750	42504750	112	803	1.4	390	1273	2203	82	66	199
SE	250	800	42504800	125	745	1.4	345	1256	2184	89	74	187
SE	250	850	42504850	76	719	1.4	330	1310	2244	97	84	180
SE	250	900	42504900	46	696	1.4	335	1342	2279	98	87	174
SE	250	950	42504950	57	703	1.5	330	1327	2262	98	86	173
SE	300	000	43004000	193	820	1.6	400	1213	2138	75	56	194
SE	300	050	43004050	181	749	1.5	365	1224	2150	82	65	180
SE	300	100	43004100	95	700	1.3	345	1320	2257	95	82	171
SE	300	150	43004150	74	674	1.0	345	1342	2281	96	85	164
SE	300	200	43004200	74	670	0.9	340	1340	2279	97	86	160
SE	300	250	43004250	128	670	0.9	340	1276	2208	92	78	158
SE	300	300	43004300	50	670	0.8	340	1363	2305	99	89	165
SE	300	350	43004350	51	705	0.5	345	1359	2300	98	87	178
SE	300	400	43004400	141	740	0.3	375	1255	2185	83	67	188
SE	300	450	43004450	46	769	0.5	375	1361	2302	92	80	196
SE	300	500	43004500	97	820	1.0	390	1300	2235	84	69	204
SE	300	550	43004550	118	790	1.4	390	1274	2206	82	66	198
SE	300	600	43004600	73	760	1.6	370	1323	2260	90	76	191
SE	300	650	43004650	84	759	1.8	350	1309	2245	93	80	187
SE	300	700	43004700	46	690	1.8	330	1350	2290	100	90	173
SE	300	750	43004750	48	686	1.8	325	1345	2285	101	90	168
SE	300	800	43004800	44	670	1.9	320	1348	2288	102	92	164
SE	300	850	43004850	34	644	1.8	310	1357	2298	105	96	156
SE	300	900	43004900	29	640	1.3	310	1360	2301	106	96	156
SE	300	950	43004950	30	651	1.0	320	1357	2298	103	93	158
SE	350	000	43504000	148	732	1.3	365	1263	2196	86	70	169
SE	350	050	43504050	154	676	1.2	335	1254	2186	91	77	155
SE	350	100	43504100	80	664	1.1	335	1336	2277	98	87	151
SE	350	150	43504150	77	652	0.8	340	1337	2278	97	86	145
SE	350	200	43504200	19	634	0.6	330	1401	2349	105	96	143
SE	350	250	43504250	65	649	0.5	325	1347	2289	101	91	145
SE	350	300	43504300	28	638	0.3	325	1387	2333	105	96	153
SE	350	350	43504350	67	709	0.4	350	1340	2281	95	84	172
SE	350	400	43504400	117	732	0.5	370	1281	2216	86	71	182
SE	350	450	43504450	93	735	0.8	370	1306	2243	89	75	188
SE	350	500	43504500	59	755	1.3	370	1342	2283	92	79	189
SE	350	550	43504550	65	727	1.6	350	1333	2273	95	83	181
SE	350	600	43504600	48	687	1.7	340	1351	2293	98	87	169
SE	350	650	43504650	23	660	1.8	335	1377	2322	102	92	158
SE	350	700	43504700	28	643	1.8	320	1369	2313	104	95	154
SE	350	750	43504750	45	641	1.7	305	1347	2289	106	96	150
SE	350	800	43504800	28	633	1.7	315	1365	2309	105	96	147
SE	350	850	43504850	27	620	1.5	305	1364	2308	107	98	140
SE	350	900	43504900	43	635	0.9	320	1343	2284	102	92	147
SE	350	950	43504950	38	632	0.5	325	1347	2289	101	91	149

SE	400	000	44004000	99	700	1.2	335	1318	2259	97	85	153
SE	400	050	44004050	57	636	1.1	320	1363	2309	104	94	141
SE	400	100	44004100	57	650	1.0	325	1361	2307	103	93	142
SE	400	150	44004150	80	652	0.7	335	1333	2275	98	87	143
SE	400	200	44004200	46	620	0.4	325	1369	2315	103	94	136
SE	400	250	44004250	13	624	0.3	320	1405	2355	108	100	137
SE	400	300	44004300	52	650	0.3	325	1358	2303	102	92	147
SE	400	350	44004350	59	687	0.7	340	1348	2292	98	87	160
SE	400	400	44004400	97	690	0.8	355	1302	2241	91	78	167
SE	400	450	44004450	65	690	0.9	350	1337	2280	95	83	172
SE	400	500	44004500	32	690	1.4	350	1372	2319	99	88	169
SE	400	550	44004550	28	680	1.7	340	1374	2321	101	91	164
SE	400	600	44004600	65	670	1.4	330	1330	2272	99	88	158
SE	400	650	44004650	42	646	1.0	325	1354	2299	102	92	150
SE	400	700	44004700	25	630	1.0	315	1371	2318	106	97	146
SE	400	750	44004750	25	624	1.1	310	1369	2315	107	98	144
SE	400	800	44004800	27	630	1.0	315	1365	2311	105	96	149
SE	400	850	44004850	38	634	0.8	325	1350	2294	102	91	152
SE	400	900	44004900	61	660	0.8	335	1321	2262	97	85	160
SE	400	950	44004950	98	655	0.8	345	1277	2213	91	77	163
SE	450	000	44504000	55	611	0.7	305	1367	2315	108	99	128
SE	450	050	44504050	36	637	0.8	325	1386	2336	105	96	132
SE	450	100	44504100	53	646	0.9	330	1365	2313	102	92	137
SE	450	150	44504150	47	641	0.8	330	1369	2317	103	93	139
SE	450	200	44504200	44	599	0.5	320	1370	2319	105	95	130
SE	450	250	44504250	65	595	0.3	320	1344	2290	103	92	125
SE	450	300	44504300	48	646	0.6	325	1362	2310	103	93	139
SE	450	350	44504350	53	661	0.8	335	1354	2301	100	90	147
SE	450	400	44504400	63	660	0.9	340	1340	2285	98	86	153
SE	450	450	44504450	21	661	1.0	335	1386	2336	103	93	159
SE	450	500	44504500	30	676	1.3	335	1373	2322	102	92	159
SE	450	550	44504550	27	648	1.3	335	1374	2323	102	92	151
SE	450	600	44504600	30	644	1.0	325	1369	2317	104	94	147
SE	450	650	44504650	11	634	0.6	320	1388	2339	106	98	142
SE	450	700	44504700	17	635	0.6	320	1379	2329	106	97	143
SE	450	750	44504750	27	634	0.9	320	1366	2314	104	95	142
SE	450	800	44504800	32	653	0.8	330	1358	2305	102	91	156
SE	450	850	44504850	63	679	0.7	350	1320	2263	94	82	170
SE	450	900	44504900	103	703	0.8	380	1272	2210	84	69	179
SE	450	950	44504950	147	741	0.9	400	1220	2152	76	58	189
SE	500	000	45004000	12	590	0.3	310	1415	2371	111	104	125
SE	500	050	45004050	86	616	0.5	315	1328	2274	102	92	129
SE	500	100	45004100	40	620	0.7	325	1378	2330	105	95	129
SE	500	150	45004150	71	605	0.8	325	1341	2289	101	91	127
SE	500	200	45004200	27	590	0.5	320	1389	2342	107	98	124
SE	500	250	45004250	10	599	0.4	325	1406	2361	107	99	126
SE	500	300	45004300	13	630	0.7	330	1400	2354	105	97	135
SE	500	350	45004350	12	641	1.0	325	1399	2353	106	98	142
SE	500	400	45004400	12	630	1.2	325	1397	2351	106	98	143
SE	500	450	45004450	13	646	1.6	325	1394	2347	106	97	150

SE	500	500	45004500	41	650	1.7	325	1360	2310	103	93	149
SE	500	550	45004550	15	634	1.5	325	1387	2340	105	97	147
SE	500	600	45004600	11	630	1.0	325	1389	2342	106	97	144
SE	500	650	45004650	14	629	0.6	325	1384	2336	105	96	142
SE	500	700	45004700	24	640	0.6	325	1370	2321	104	94	149
SE	500	750	45004750	41	646	0.6	335	1349	2297	100	89	154
SE	500	800	45004800	103	720	0.4	350	1276	2216	90	76	176
SE	500	850	45004850	166	784	0.6	400	1202	2134	74	56	194
SE	500	900	45004900	351	870	0.8	425	989	1898	51	24	211
SE	500	950	45004950	231	917	0.9	425	1123	2047	63	41	222
SE	550	000	45504000	25	596	0.4	320	1399	2355	108	100	125
SE	550	050	45504050	21	594	0.5	310	1401	2357	110	102	125
SE	550	100	45504100	7	600	0.7	315	1415	2373	110	103	124
SE	550	150	45504150	8	583	0.6	315	1411	2368	110	102	118
SE	550	200	45504200	8	590	0.4	310	1409	2366	111	103	122
SE	550	250	45504250	12	608	0.4	320	1402	2358	108	100	127
SE	550	300	45504300	10	626	0.6	325	1403	2359	107	99	132
SE	550	350	45504350	8	605	1.9	320	1403	2359	108	100	132
SE	550	400	45504400	5	611	2.6	315	1404	2361	109	102	136
SE	550	450	45504450	8	627	2.2	310	1398	2354	110	102	141
SE	550	500	45504500	15	631	2.4	315	1388	2343	108	100	142
SE	550	550	45504550	14	637	1.9	325	1387	2342	106	97	143
SE	550	600	45504600	15	619	0.9	325	1384	2338	105	96	140
SE	550	650	45504650	19	636	0.4	330	1377	2331	104	94	143
SE	550	700	45504700	50	645	0.3	335	1339	2288	99	88	154
SE	550	750	45504750	137	704	0.2	355	1238	2176	86	71	173
SE	550	800	45504800	187	778	0.3	375	1179	2111	77	59	192
SE	550	850	45504850	152	836	0.5	400	1216	2152	76	58	212
SE	550	900	45504900	168	880	0.6	410	1196	2130	72	53	220
SE	550	950	45504950	339	928	0.7	450	999	1911	48	20	230
SE	600	000	46004000	7	590	0.8	315	1418	2378	111	103	121
SE	600	050	46004050	12	579	0.8	305	1410	2369	112	105	120
SE	600	100	46004100	5	580	0.9	300	1416	2376	114	107	120
SE	600	150	46004150	6	579	0.9	310	1413	2373	111	104	117
SE	600	200	46004200	7	590	0.9	300	1409	2368	113	107	122
SE	600	250	46004250	6	612	1.4	315	1408	2367	110	102	128
SE	600	300	46004300	8	600	0.9	325	1404	2363	107	99	126
SE	600	350	46004350	4	584	1.7	320	1406	2365	109	101	124
SE	600	400	46004400	10	580	2.9	310	1397	2355	110	102	125
SE	600	450	46004450	8	590	2.1	300	1397	2355	112	105	129
SE	600	500	46004500	12	600	1.8	310	1390	2347	109	101	135
SE	600	550	46004550	12	626	1.3	325	1388	2345	106	97	141
SE	600	600	46004600	16	630	0.6	330	1381	2337	104	95	144
SE	600	650	46004650	22	634	0.3	330	1372	2327	103	94	146
SE	600	700	46004700	51	650	0.2	345	1337	2288	97	86	156
SE	600	750	46004750	144	721	0.3	355	1229	2168	85	70	175
SE	600	800	46004800	155	780	0.5	375	1214	2152	80	63	191
SE	600	850	46004850	112	790	0.5	395	1261	2204	81	65	200
SE	600	900	46004900	263	890	0.4	410	1087	2011	63	40	221
SE	600	950	46004950	320	966	0.4	450	1019	1935	50	23	236

SE	650	000	46504000	8	586	1.3	310	1416	2378	112	105	116
SE	650	050	46504050	8	571	1.0	300	1414	2376	114	107	117
SE	650	100	46504100	4	574	0.6	295	1416	2378	115	109	117
SE	650	150	46504150	4	586	0.6	300	1414	2376	114	107	119
SE	650	200	46504200	5	579	2.0	300	1410	2371	114	107	121
SE	650	250	46504250	5	603	3.1	310	1408	2369	111	104	126
SE	650	300	46504300	4	584	1.4	315	1407	2368	110	102	121
SE	650	350	46504350	8	576	0.6	315	1400	2360	109	101	117
SE	650	400	46504400	8	574	1.4	310	1398	2358	110	103	119
SE	650	450	46504450	8	583	1.4	300	1396	2356	112	105	122
SE	650	500	46504500	10	593	0.8	295	1391	2350	113	106	130
SE	650	550	46504550	15	614	0.8	295	1384	2343	113	105	139
SE	650	600	46504600	17	629	0.7	310	1379	2337	109	100	145
SE	650	650	46504650	38	648	0.4	325	1353	2308	103	93	151
SE	650	700	46504700	40	665	0.3	350	1348	2303	97	86	159
SE	650	750	46504750	78	695	0.5	350	1303	2253	93	80	170
SE	650	800	46504800	36	700	0.6	355	1349	2304	96	85	177
SE	650	850	46504850	88	749	0.5	375	1287	2235	87	72	190
SE	650	900	46504900	122	851	0.4	395	1246	2189	80	63	211
SE	650	950	46504950	349	940	0.3	400	985	1900	56	29	231
SE	700	000	47004000	3	570	1.0	305	1420	2385	114	107	114
SE	700	050	47004050	4	569	0.6	305	1417	2381	113	107	116
SE	700	100	47004100	4	580	0.1	290	1415	2379	117	111	120
SE	700	150	47004150	4	596	0.0	290	1413	2377	116	110	123
SE	700	200	47004200	4	590	1.3	300	1410	2374	114	107	124
SE	700	250	47004250	4	579	1.9	310	1408	2371	111	104	123
SE	700	300	47004300	4	580	0.6	315	1406	2369	110	102	123
SE	700	350	47004350	4	591	0.1	315	1404	2367	110	102	125
SE	700	400	47004400	6	590	1.3	315	1399	2361	109	102	128
SE	700	450	47004450	7	605	2.0	310	1396	2358	110	103	135
SE	700	500	47004500	9	620	1.4	310	1391	2352	110	102	140
SE	700	550	47004550	13	624	1.1	315	1385	2346	108	100	145
SE	700	600	47004600	44	640	0.9	320	1347	2304	104	94	151
SE	700	650	47004650	30	660	0.6	335	1361	2319	102	92	159
SE	700	700	47004700	90	680	0.3	370	1290	2240	88	74	165
SE	700	750	47004750	31	680	0.2	340	1355	2312	100	90	167
SE	700	800	47004800	28	680	0.4	345	1357	2315	99	89	172
SE	700	850	47004850	38	721	0.5	360	1343	2299	95	83	184
SE	700	900	47004900	109	840	0.4	395	1260	2207	81	65	208
SE	700	950	47004950	337	983	0.3	445	998	1916	49	22	238
SE	750	000	47504000	14	574	0.5	305	1407	2372	112	106	115
SE	750	050	47504050	4	577	0.6	305	1416	2382	113	107	117
SE	750	100	47504100	4	585	0.3	300	1414	2380	114	108	122
SE	750	150	47504150	4	610	0.0	260	1411	2377	124	120	128
SE	750	200	47504200	4	610	0.0	295	1409	2374	115	109	128
SE	750	250	47504250	4	601	0.0	310	1407	2372	111	104	126
SE	750	300	47504300	4	579	0.0	315	1405	2370	110	103	125
SE	750	350	47504350	4	615	1.2	325	1403	2368	108	100	134
SE	750	400	47504400	8	636	2.5	325	1396	2360	107	99	143
SE	750	450	47504450	8	631	2.2	330	1394	2358	106	97	148

SE	750	500	47504500	13	639	1.5	330	1386	2349	105	96	149
SE	750	550	47504550	25	652	1.1	340	1370	2331	102	92	151
SE	750	600	47504600	38	646	0.9	340	1353	2312	100	90	157
SE	750	650	47504650	74	699	0.7	360	1310	2265	92	79	171
SE	750	700	47504700	65	679	0.4	350	1318	2273	95	83	166
SE	750	750	47504750	23	674	0.2	330	1363	2323	103	93	165
SE	750	800	47504800	25	681	0.4	330	1359	2319	103	93	171
SE	750	850	47504850	56	697	0.5	345	1321	2277	96	84	177
SE	750	900	47504900	71	834	0.4	380	1302	2256	88	74	206
SE	750	950	47504950	244	946	0.5	430	1103	2035	61	38	231
SE	800	000	48004000	7	590	0.8	310	1413	2381	112	105	121
SE	800	050	48004050	6	590	0.8	310	1412	2380	112	105	122
SE	800	100	48004100	4	590	0.6	305	1412	2380	113	106	124
SE	800	150	48004150	4	610	0.2	290	1410	2378	117	111	130
SE	800	200	48004200	4	630	0.2	270	1408	2375	121	116	132
SE	800	250	48004250	4	610	0.4	305	1406	2373	113	106	128
SE	800	300	48004300	4	590	0.9	310	1404	2371	111	104	129
SE	800	350	48004350	4	608	2.2	315	1401	2368	110	102	136
SE	800	400	48004400	8	660	2.2	330	1395	2361	106	98	152
SE	800	450	48004450	12	670	0.9	335	1388	2353	104	95	161
SE	800	500	48004500	40	680	0.6	350	1354	2316	98	88	165
SE	800	550	48004550	78	731	0.6	365	1308	2264	91	78	176
SE	800	600	48004600	133	760	0.6	375	1243	2192	83	68	184
SE	800	650	48004650	92	764	0.5	370	1288	2242	88	74	189
SE	800	700	48004700	38	690	0.4	340	1347	2308	100	89	172
SE	800	750	48004750	23	674	0.5	320	1362	2324	105	96	164
SE	800	800	48004800	23	670	0.5	325	1360	2322	104	95	170
SE	800	850	48004850	50	704	0.5	345	1327	2286	97	85	182
SE	800	900	48004900	156	840	0.5	385	1204	2149	78	61	209
SE	800	950	48004950	231	893	0.7	420	1116	2051	64	42	222
SE	850	000	48504000	16	594	1.2	315	1402	2371	110	103	125
SE	850	050	48504050	4	594	0.9	320	1413	2383	110	103	125
SE	850	100	48504100	4	611	0.5	320	1411	2381	110	102	130
SE	850	150	48504150	4	621	0.2	310	1409	2379	112	105	136
SE	850	200	48504200	4	619	0.2	295	1407	2376	115	109	132
SE	850	250	48504250	4	601	0.6	260	1405	2374	124	119	126
SE	850	300	48504300	4	604	1.4	305	1402	2371	112	105	133
SE	850	350	48504350	4	613	1.5	320	1400	2369	109	101	139
SE	850	400	48504400	10	664	0.9	340	1391	2359	104	95	156
SE	850	450	48504450	32	688	0.4	350	1364	2329	99	89	169
SE	850	500	48504500	112	714	0.3	370	1271	2226	87	73	179
SE	850	550	48504550	147	784	0.3	395	1228	2178	79	62	196
SE	850	600	48504600	194	815	0.4	400	1173	2117	73	54	204
SE	850	650	48504650	153	785	0.3	385	1217	2166	80	62	203
SE	850	700	48504700	74	719	0.3	355	1305	2263	93	80	180
SE	850	750	48504750	25	579	0.5	320	1359	2323	105	96	146
SE	850	800	48504800	23	681	0.5	325	1359	2323	104	95	173
SE	850	850	48504850	133	750	0.4	365	1231	2181	84	69	194
SE	850	900	48504900	122	839	0.4	400	1242	2193	79	62	211
SE	850	950	48504950	191	912	0.5	425	1161	2103	68	47	225

SE	900	000	49004000	15	620	0.9	325	1402	2373	108	100	131
SE	900	050	49004050	28	598	0.6	325	1385	2354	107	98	129
SE	900	100	49004100	34	610	0.2	330	1376	2344	105	96	131
SE	900	150	49004150	27	621	0.0	330	1382	2351	105	96	133
SE	900	200	49004200	25	620	0.3	310	1382	2351	110	102	133
SE	900	250	49004250	4	602	0.6	280	1404	2375	119	113	132
SE	900	300	49004300	6	640	0.7	310	1399	2370	111	104	143
SE	900	350	49004350	29	659	0.7	335	1371	2339	103	94	152
SE	900	400	49004400	72	690	0.6	350	1319	2281	95	84	166
SE	900	450	49004450	84	736	0.5	360	1304	2264	92	79	178
SE	900	500	49004500	120	770	0.5	370	1260	2215	86	71	190
SE	900	550	49004550	151	809	0.4	375	1223	2174	82	66	200
SE	900	600	49004600	141	780	0.3	380	1232	2184	82	66	199
SE	900	650	49004650	189	803	0.5	380	1175	2121	77	59	205
SE	900	700	49004700	154	770	0.5	365	1213	2163	83	67	194
SE	900	750	49004750	107	708	0.3	335	1264	2220	94	80	177
SE	900	800	49004800	23	600	0.3	330	1358	2324	103	93	163
SE	900	850	49004850	164	776	0.3	380	1195	2143	79	61	195
SE	900	900	49004900	227	850	0.5	405	1121	2061	68	46	210
SE	900	950	49004950	216	904	0.6	410	1131	2072	68	47	222
SE	950	000	49504000	50	631	0.4	335	1361	2330	102	93	137
SE	950	050	49504050	50	627	0.2	335	1359	2327	102	92	136
SE	950	100	49504100	53	614	0.1	325	1353	2321	104	94	132
SE	950	150	49504150	12	612	0.1	315	1398	2371	110	103	128
SE	950	200	49504200	7	586	0.3	305	1401	2374	113	106	129
SE	950	250	49504250	3	639	0.4	310	1404	2377	112	105	143
SE	950	300	49504300	130	688	0.3	315	1257	2214	98	85	157
SE	950	350	49504350	155	718	0.5	355	1226	2180	86	71	168
SE	950	400	49504400	95	741	0.6	355	1292	2253	92	79	177
SE	950	450	49504450	41	724	0.8	360	1351	2319	97	85	181
SE	950	500	49504500	45	714	0.9	365	1345	2312	95	83	181
SE	950	550	49504550	62	764	0.8	360	1323	2287	94	82	193
SE	950	600	49504600	61	775	0.6	365	1322	2286	93	81	198
SE	950	650	49504650	158	802	0.6	370	1209	2161	82	65	205
SE	950	700	49504700	84	748	0.5	365	1291	2252	90	77	195
SE	950	750	49504750	145	739	0.2	350	1220	2173	87	71	192
SE	950	800	49504800	23	669	0.4	325	1357	2325	104	95	178
SE	950	850	49504850	105	751	0.5	365	1261	2219	88	73	189
SE	950	900	49504900	53	783	0.6	380	1318	2282	90	77	198
SE	950	950	49504950	130	867	0.7	400	1228	2182	78	61	217
SH	150	250	21503250	60	1014	0.2	415	1447	2307	86	72	209
SH	150	300	21503300	0	1013	0.2	400	1513	2381	94	83	209
SH	200	250	22003250	0	1030	0.3	450	1514	2384	86	74	212
SH	200	300	22003300	84	1110	0.5	455	1416	2275	77	60	227
SH	200	350	22003350	0	1063	0.2	400	1510	2380	94	83	220
SH	200	800	22003800	0	850	0.0	375	1490	2357	97	86	180
SH	200	850	22003850	0	850	0.0	375	1488	2355	97	86	180
SH	250	250	22503250	0	1037	0.1	450	1513	2385	86	74	213
SH	250	300	22503300	29	1088	0.4	475	1478	2346	79	65	224
SH	250	350	22503350	111	1163	0.4	490	1382	2240	68	50	238

SH	250	400	22503400	11	1092	0.2	440	1494	2364	86	73	228
SH	250	750	22503750	0	844	0.2	390	1491	2361	94	83	179
SH	250	800	22503800	18	864	0.4	390	1468	2335	92	80	182
SH	250	850	22503850	0	865	0.3	390	1487	2356	94	83	182
SH	300	250	23003250	90	1029	0.0	455	1409	2272	76	60	213
SH	300	300	23003300	74	1100	0.2	475	1425	2289	75	58	226
SH	300	350	23003350	95	1162	0.7	500	1399	2260	69	51	238
SH	300	400	23003400	48	1190	1.0	525	1451	2318	70	53	247
SH	300	750	23003750	3	870	1.1	400	1486	2357	92	81	185
SH	300	800	23003800	9	890	1.1	400	1477	2347	91	80	188
SH	300	850	23003850	21	888	0.9	400	1462	2330	90	78	187
SH	300	900	23003900	59	920	0.6	390	1416	2279	88	74	193
SH	300	950	23003950	0	883	0.2	380	1481	2352	95	85	188
SH	350	300	23503300	0	969	0.2	445	1509	2385	87	75	207
SH	350	350	23503350	7	1039	0.6	465	1498	2372	83	70	220
SH	350	400	23503400	96	1285	1.2	575	1395	2258	59	39	264
SH	350	450	23503450	67	1334	0.8	500	1426	2293	71	54	277
SH	350	650	23503650	0	875	0.3	390	1493	2367	95	84	184
SH	350	700	23503700	21	883	1.2	400	1467	2338	91	79	186
SH	350	750	23503750	27	904	1.8	425	1458	2328	86	72	189
SH	350	800	23503800	44	945	1.6	425	1436	2304	84	70	196
SH	350	850	23503850	38	939	1.4	425	1441	2309	84	70	195
SH	350	900	23503900	52	939	0.8	405	1423	2289	86	72	198
SH	350	950	23503950	6	883	0.2	395	1473	2345	92	80	190
SH	400	350	24003350	0	1048	0.4	445	1505	2382	87	74	224
SH	400	400	24003400	71	1290	0.9	540	1422	2290	66	48	268
SH	400	450	24003450	190	1623	0.7	680	1284	2137	37	11	326
SH	400	500	24003500	0	1190	0.2	480	1499	2376	81	67	257
SH	400	650	24003650	19	915	1.7	405	1470	2344	90	78	194
SH	400	700	24003700	37	950	1.0	420	1448	2319	86	72	200
SH	400	750	24003750	67	992	1.2	450	1411	2278	78	62	207
SH	400	800	24003800	65	1000	1.4	450	1411	2278	78	62	207
SH	400	850	24003850	77	1002	1.4	450	1395	2260	76	60	206
SH	400	900	24003900	63	970	0.9	435	1409	2276	80	64	203
SH	400	950	24003950	38	899	0.3	410	1435	2305	86	73	193
SH	450	350	24503350	0	997	1.1	455	1504	2383	85	73	217
SH	450	400	24503400	63	1263	1.6	540	1430	2301	67	49	266
SH	450	450	24503450	172	1641	1.4	650	1304	2161	42	17	334
SH	450	500	24503500	136	1459	1.6	640	1342	2204	47	23	296
SH	450	550	24503550	18	1197	2.4	535	1475	2351	71	55	253
SH	450	600	24503600	0	958	3.8	450	1493	2371	85	72	206
SH	450	650	24503650	12	895	3.1	425	1477	2353	88	75	193
SH	450	700	24503700	17	975	1.7	440	1469	2344	84	71	207
SH	450	750	24503750	48	1007	0.9	475	1432	2303	76	60	211
SH	450	800	24503800	65	1068	0.5	475	1410	2279	74	57	218
SH	450	850	24503850	50	1067	0.5	480	1425	2296	74	58	218
SH	450	900	24503900	77	1011	0.6	460	1392	2259	74	58	211
SH	450	950	24503950	0	942	0.3	425	1478	2354	88	75	202
SH	500	350	25003350	0	1059	1.1	470	1503	2384	83	70	225
SH	500	400	25003400	99	1370	1.7	550	1388	2257	62	42	279

SH	500	450	25003450	182	1830	2.1	800	1291	2149	27	0	351
SH	500	500	25003500	348	2200	3.2	880	1100	1937	3	0	365
SH	500	550	25003550	276	1539	3.4	700	1179	2025	26	0	248
SH	500	600	25003600	88	1340	3.3	550	1392	2261	62	43	240
SH	500	650	25003650	38	1001	3.3	460	1446	2321	79	65	215
SH	500	700	25003700	34	1000	2.8	450	1449	2324	81	67	215
SH	500	750	25003750	69	1051	1.2	500	1407	2278	70	53	220
SH	500	800	25003800	65	1090	0.1	505	1409	2280	70	52	225
SH	500	850	25003850	65	1110	0.0	510	1407	2278	69	51	227
SH	500	900	25003900	0	1040	0.0	470	1479	2358	81	67	217
SH	550	000	25503000	0	1034	0.4	500	1517	2402	80	67	219
SH	550	050	25503050	0	1245	0.8	500	1515	2400	80	67	253
SH	550	250	25503250	4	1032	0.8	490	1502	2385	80	67	217
SH	550	300	25503300	0	951	1.0	475	1504	2388	83	70	205
SH	550	350	25503350	0	1073	1.3	495	1502	2385	79	66	223
SH	550	400	25503400	10	1347	1.1	600	1488	2370	65	48	270
SH	550	450	25503450	334	2245	1.7	980	1117	1958	0	0	365
SH	550	500	25503500	418	2569	3.4	1100	1019	1849	0	0	365
SH	550	550	25503550	309	2588	4.0	1000	1141	1985	0	0	339
SH	550	600	25503600	391	1904	3.4	860	1045	1878	0	0	297
SH	550	650	25503650	144	1283	2.9	570	1324	2188	54	31	270
SH	550	700	25503700	65	1081	2.7	515	1412	2285	69	51	230
SH	550	750	25503750	82	1117	1.6	520	1391	2262	66	48	232
SH	550	800	25503800	39	1106	0.5	550	1437	2313	66	49	229
SH	600	000	26003000	86	1310	1.1	600	1418	2294	59	39	266
SH	600	050	26003050	19	1344	1.7	620	1492	2376	63	45	277
SH	600	100	26003100	164	1400	1.6	550	1325	2191	56	35	288
SH	600	150	26003150	0	1116	1.4	510	1509	2395	78	64	242
SH	600	200	26003200	100	1260	1.6	565	1393	2266	61	41	260
SH	600	250	26003250	152	1324	1.9	560	1332	2199	56	34	267
SH	600	300	26003300	174	1500	2.1	540	1304	2168	56	34	298
SH	600	350	26003350	5	1283	2.0	560	1495	2380	70	55	268
SH	600	400	26003400	23	1290	1.7	585	1472	2354	65	48	258
SH	600	450	26003450	32	1759	1.5	800	1460	2341	42	20	314
SH	600	500	26003500	326	2600	1.6	1000	1122	1966	0	0	365
SH	600	550	26003550	661	3934	2.7	1400	738	1539	0	0	365
SH	600	600	26003600	326	2400	2.7	1000	1118	1961	0	0	329
SH	600	650	26003650	301	1640	2.0	790	1144	1990	15	0	285
SH	600	700	26003700	50	1150	2.1	550	1428	2305	66	48	228
SH	600	750	26003750	2	1041	1.8	490	1481	2364	78	64	224
SH	600	800	26003800	67	1100	0.9	515	1404	2279	68	50	231
SH	650	000	26503000	288	1742	1.3	780	1187	2040	20	0	336
SH	650	050	26503050	70	1494	1.7	730	1433	2313	46	24	311
SH	650	100	26503100	202	1880	1.7	830	1280	2143	24	0	365
SH	650	150	26503150	90	1441	1.5	590	1406	2283	59	39	303
SH	650	200	26503200	215	1681	1.2	830	1261	2122	22	0	331
SH	650	250	26503250	537	2099	1.2	800	892	1712	0	0	365
SH	650	300	26503300	415	2008	1.5	800	1029	1864	4	0	365
SH	650	350	26503350	427	1975	1.8	820	1013	1847	1	0	365
SH	650	400	26503400	6	1562	2.0	660	1490	2376	58	40	299

SH	650	450	26503450	453	2714	1.4	1100	979	1809	0	0	365
SH	650	500	26503500	332	3041	1.1	1350	1114	1959	0	0	365
SH	650	550	26503550	303	3540	1.7	1500	1145	1993	0	0	364
SH	650	600	26503600	352	3466	2.2	1350	1087	1929	0	0	365
SH	650	650	26503650	432	2475	1.7	1100	994	1826	0	0	365
SH	650	700	26503700	517	1653	1.0	700	895	1716	1	0	294
SH	650	750	26503750	0	986	1.3	440	1482	2367	86	74	223
SH	650	800	26503800	0	997	0.9	460	1480	2365	83	70	215
SH	700	000	27003000	7	1780	0.9	740	1506	2396	52	33	340
SH	700	050	27003050	335	2109	0.9	990	1130	1979	0	0	365
SH	700	100	27003100	353	2000	1.1	1000	1107	1953	0	0	365
SH	700	150	27003150	217	2096	1.0	900	1260	2123	16	0	365
SH	700	200	27003200	219	1640	0.6	760	1255	2117	28	0	314
SH	700	250	27003250	263	2314	0.5	1020	1203	2060	2	0	365
SH	700	300	27003300	246	2100	0.8	970	1220	2079	7	0	365
SH	700	350	27003350	198	1708	1.2	790	1273	2137	27	0	335
SH	700	400	27003400	227	1800	1.3	800	1237	2097	22	0	324
SH	700	450	27003450	187	2410	1.6	1100	1281	2146	4	0	365
SH	700	500	27003500	311	3200	2.6	1200	1137	1986	0	0	365
SH	700	550	27003550	673	3106	2.8	1200	722	1526	0	0	365
SH	700	600	27003600	280	2900	2.6	1200	1168	2021	0	0	365
SH	700	650	27003650	758	3158	2.2	1230	621	1414	0	0	365
SH	700	700	27003700	503	2370	1.1	1000	909	1733	0	0	365
SH	700	750	27003750	362	1154	0.7	465	1068	1910	46	18	244
SH	750	000	27503000	101	1469	0.7	650	1397	2277	52	30	287
SH	750	050	27503050	76	1966	0.6	900	1424	2307	31	6	365
SH	750	100	27503100	368	2334	0.6	890	1089	1935	2	0	365
SH	750	150	27503150	389	2176	0.7	970	1062	1905	0	0	365
SH	750	200	27503200	173	1816	0.6	750	1307	2177	33	7	330
SH	750	250	27503250	202	1900	0.5	960	1271	2137	13	0	357
SH	750	300	27503300	350	2009	0.6	940	1100	1948	0	0	365
SH	750	350	27503350	383	2002	0.7	830	1061	1904	4	0	365
SH	750	400	27503400	461	2256	1.0	1040	969	1802	0	0	365
SH	750	450	27503450	541	2451	1.6	1120	876	1699	0	0	365
SH	750	500	27503500	507	2611	2.6	1050	913	1740	0	0	365
SH	750	550	27503550	279	2146	3.6	900	1170	2025	8	0	333
SH	750	600	27503600	299	2341	3.3	920	1145	1997	5	0	365
SH	750	650	27503650	337	1868	2.7	830	1100	1948	8	0	353
SH	750	700	27503700	219	1571	2.1	650	1232	2094	37	10	306
SH	750	750	27503750	246	1143	1.3	510	1199	2057	51	26	240
SH	750	800	27503800	0	843	0.4	350	1477	2366	102	93	190
SH	750	850	27503850	0	741	0.0	340	1475	2364	104	95	172
SH	800	000	28003000	138	1630	0.5	650	1354	2232	48	25	316
SH	800	050	28003050	163	1654	0.7	800	1323	2197	30	4	325
SH	800	100	28003100	370	2050	0.6	890	1085	1933	2	0	365
SH	800	150	28003150	548	2252	0.6	1050	880	1705	0	0	365
SH	800	200	28003200	222	1970	0.6	950	1250	2116	12	0	361
SH	800	250	28003250	461	2203	0.6	1020	975	1811	0	0	365
SH	800	300	28003300	468	2300	0.8	1010	965	1800	0	0	365
SH	800	350	28003350	535	2079	1.0	1020	886	1712	0	0	365

SH	800	400	28003400	400	2150	1.0	1015	1038	1881	0	0	365
SH	800	450	28003450	396	2311	0.8	1025	1040	1883	0	0	365
SH	800	500	28003500	264	1830	1.0	700	1188	2047	28	0	318
SH	800	550	28003550	111	1575	1.8	595	1361	2239	55	34	280
SH	800	600	28003600	99	1500	1.8	585	1372	2252	57	36	282
SH	800	650	28003650	99	1130	1.4	470	1370	2249	72	55	239
SH	800	700	28003700	88	1030	1.2	450	1380	2260	76	60	227
SH	800	750	28003750	34	860	1.0	380	1440	2327	93	82	201
SH	800	800	28003800	22	780	0.4	340	1451	2339	102	93	183
SH	800	850	28003850	0	698	0.0	325	1474	2365	107	99	165
SH	850	000	28503000	263	1708	0.2	720	1210	2074	28	0	334
SH	850	050	28503050	206	1598	0.4	705	1273	2144	35	8	328
SH	850	100	28503100	72	1688	0.5	760	1424	2311	43	21	332
SH	850	150	28503150	251	1888	0.4	790	1218	2083	22	0	356
SH	850	200	28503200	452	2339	0.4	980	986	1825	0	0	365
SH	850	250	28503250	429	2056	0.5	960	1010	1852	0	0	365
SH	850	300	28503300	321	1778	1.1	800	1131	1986	14	0	353
SH	850	350	28503350	339	1916	1.6	870	1108	1961	6	0	365
SH	850	400	28503400	305	1882	1.5	840	1145	2002	11	0	365
SH	850	450	28503450	543	2074	0.8	880	871	1698	0	0	365
SH	850	500	28503500	234	1503	0.1	650	1221	2086	36	9	297
SH	850	550	28503550	352	1334	0.0	605	1085	1935	29	0	277
SH	850	600	28503600	403	1248	0.0	585	1024	1867	26	0	261
SH	850	650	28503650	256	1187	0.2	550	1190	2052	45	19	253
SH	850	700	28503700	248	1097	0.4	525	1197	2059	49	24	241
SH	850	750	28503750	289	959	0.4	460	1148	2005	54	29	221
SH	850	800	28503800	4	751	0.2	340	1470	2362	104	95	180
SH	900	000	29003000	316	1550	0.3	660	1149	2008	29	0	313
SH	900	050	29003050	154	1686	0.1	750	1331	2210	36	11	341
SH	900	100	29003100	447	1900	0.5	800	995	1837	2	0	365
SH	900	150	29003150	402	1849	0.6	790	1044	1892	7	0	365
SH	900	200	29003200	316	2000	0.4	800	1140	1998	15	0	365
SH	900	250	29003250	446	2106	0.3	830	990	1832	0	0	365
SH	900	300	29003300	333	1750	0.5	640	1116	1972	28	0	345
SH	900	350	29003350	303	1547	1.0	630	1148	2007	32	3	322
SH	900	400	29003400	250	1580	1.5	650	1207	2073	35	7	321
SH	900	450	29003450	411	1788	1.7	780	1021	1866	6	0	346
SH	900	500	29003500	261	1490	1.0	680	1190	2054	30	1	300
SH	900	550	29003550	416	1434	0.2	625	1011	1855	20	0	294
SH	900	600	29003600	415	1310	0.1	600	1010	1854	23	0	272
SH	900	650	29003650	250	1085	0.4	500	1196	2060	53	28	235
SH	900	700	29003700	137	950	0.7	470	1322	2200	68	49	213
SH	900	750	29003750	67	875	0.7	380	1400	2287	90	77	202
SH	900	800	29003800	0	710	0.3	335	1474	2369	106	97	168
SH	950	000	29503000	273	1419	0.7	630	1197	2064	37	9	293
SH	950	050	29503050	303	1702	0.8	730	1160	2023	23	0	344
SH	950	100	29503100	424	1835	1.3	770	1020	1867	7	0	365
SH	950	150	29503150	400	1896	1.3	800	1045	1895	6	0	365
SH	950	200	29503200	482	2229	1.2	900	950	1789	0	0	365
SH	950	250	29503250	457	1998	1.0	835	976	1818	0	0	365

SH	950	300	29503300	410	1913	0.6	690	1027	1875	15	0	365
SH	950	350	29503350	231	1411	0.6	600	1229	2099	43	17	294
SH	950	400	29503400	389	1496	1.4	600	1047	1897	27	0	305
SH	950	450	29503450	311	1530	2.2	580	1134	1994	37	8	308
SH	950	500	29503500	339	1391	1.8	610	1099	1955	30	0	288
SH	950	550	29503550	406	1335	0.9	570	1021	1868	28	0	282
SH	950	600	29503600	409	1306	0.7	590	1015	1862	25	0	271
SH	950	650	29503650	259	1118	0.7	440	1184	2049	61	38	237
SH	950	700	29503700	194	932	0.6	400	1256	2129	74	55	208
SH	950	750	29503750	128	821	0.5	365	1329	2210	87	72	189
SH	950	800	29503800	0	674	0.3	325	1473	2370	108	100	158
SJ	000	000	30003000	369	1400	1.3	650	1086	1942	25	0	284
SJ	000	050	30003050	370	1501	2.2	680	1083	1939	21	0	307
SJ	000	100	30003100	245	1500	2.8	650	1223	2095	37	10	311
SJ	000	150	30003150	295	1737	2.4	740	1164	2029	22	0	352
SJ	000	200	30003200	348	1760	1.8	800	1101	1959	11	0	349
SJ	000	250	30003250	463	1839	1.4	800	968	1811	0	0	356
SJ	000	300	30003300	531	1760	0.7	800	888	1723	0	0	346
SJ	000	350	30003350	419	1440	0.6	590	1014	1863	25	0	300
SJ	000	400	30003400	324	1300	1.3	500	1120	1980	46	19	274
SJ	000	450	30003450	294	1138	1.7	500	1152	2016	49	23	244
SJ	000	500	30003500	324	1100	1.6	495	1115	1975	47	19	238
SJ	000	550	30003550	465	1330	1.3	525	953	1795	28	0	276
SJ	000	600	30003600	294	1200	1.1	510	1145	2008	47	21	253
SJ	000	650	30003650	230	989	0.9	475	1216	2087	58	36	219
SJ	000	700	30003700	162	880	0.7	400	1291	2170	77	60	200
SJ	000	750	30003750	40	731	0.5	335	1428	2322	102	92	174
SJ	000	800	30003800	1	650	0.3	310	1470	2369	111	104	158
SJ	050	000	30503000	291	1168	1.8	530	1174	2042	47	21	242
SJ	050	050	30503050	316	1182	2.4	580	1143	2008	38	10	252
SJ	050	100	30503100	238	1223	2.7	550	1230	2104	49	25	261
SJ	050	150	30503150	204	1389	2.5	570	1266	2144	50	26	286
SJ	050	200	30503200	355	1546	1.9	635	1092	1951	27	0	313
SJ	050	250	30503250	326	1494	1.2	600	1123	1986	34	4	307
SJ	050	300	30503300	537	1650	0.6	750	880	1716	0	0	333
SJ	050	350	30503350	414	1535	0.4	600	1018	1869	24	0	317
SJ	050	400	30503400	156	1104	0.5	460	1310	2193	69	50	242
SJ	050	450	30503450	240	977	1.1	455	1212	2084	61	39	215
SJ	050	500	30503500	285	1056	1.3	460	1159	2026	56	31	227
SJ	050	550	30503550	353	1094	1.2	460	1079	1937	49	21	233
SJ	050	600	30503600	256	1029	0.9	435	1187	2057	62	40	225
SJ	050	650	30503650	85	797	0.8	360	1380	2271	93	80	189
SJ	050	700	30503700	78	723	0.7	330	1386	2278	99	88	176
SJ	050	750	30503750	25	701	0.6	340	1444	2342	102	93	169
SJ	050	800	30503800	27	708	0.4	340	1440	2338	102	92	170
SJ	050	850	30503850	0	657	0.1	325	1468	2369	108	100	163
SJ	100	000	31003000	200	980	1.7	445	1277	2159	69	49	214
SJ	100	050	31003050	253	1036	1.9	500	1214	2089	55	31	229
SJ	100	100	31003100	129	1070	2.1	470	1353	2243	72	54	235
SJ	100	150	31003150	259	1162	2.3	530	1203	2077	50	25	251

SJ	100	200	31003200	327	1490	2.2	550	1123	1988	40	12	302
SJ	100	250	31003250	155	1374	1.5	550	1317	2203	57	36	283
SJ	100	300	31003300	461	1540	0.8	600	966	1813	20	0	312
SJ	100	350	31003350	503	1641	0.7	770	916	1758	0	0	329
SJ	100	400	31003400	507	1460	0.4	600	909	1750	15	0	297
SJ	100	450	31003450	257	1022	0.4	470	1192	2064	57	34	224
SJ	100	500	31003500	200	1000	0.6	425	1255	2134	70	50	221
SJ	100	550	31003550	221	889	0.6	420	1228	2104	68	48	206
SJ	100	600	31003600	90	880	0.6	365	1376	2269	92	79	205
SJ	100	650	31003650	36	774	0.6	340	1435	2334	102	92	189
SJ	100	700	31003700	49	780	0.6	370	1418	2315	94	83	189
SJ	100	750	31003750	200	807	0.6	400	1244	2122	73	54	191
SJ	100	800	31003800	200	800	0.4	395	1241	2119	74	55	186
SJ	100	850	31003850	1	669	0.1	345	1466	2368	103	95	164
SJ	150	000	31503000	225	885	1.3	405	1247	2127	73	54	203
SJ	150	050	31503050	297	979	1.3	455	1163	2034	57	33	220
SJ	150	100	31503100	193	930	1.7	440	1279	2163	70	51	213
SJ	150	150	31503150	202	1011	2.4	450	1266	2149	67	47	228
SJ	150	200	31503200	164	1029	2.4	475	1308	2195	67	48	227
SJ	150	250	31503250	146	1112	1.5	475	1326	2215	69	50	236
SJ	150	300	31503300	370	1261	1.0	550	1068	1929	35	5	263
SJ	150	350	31503350	456	1369	1.2	590	968	1818	22	0	283
SJ	150	400	31503400	436	1421	1.0	600	989	1841	22	0	290
SJ	150	450	31503450	395	1058	0.4	475	1033	1890	43	13	231
SJ	150	500	31503500	330	976	0.3	440	1105	1970	54	29	220
SJ	150	550	31503550	166	827	0.4	385	1290	2175	80	63	201
SJ	150	600	31503600	158	839	0.4	390	1297	2183	80	63	201
SJ	150	650	31503650	431	866	0.3	425	983	1834	46	17	207
SJ	150	700	31503700	192	851	0.4	400	1254	2135	74	56	202
SJ	150	750	31503750	195	845	0.3	410	1248	2129	72	53	200
SJ	150	800	31503800	93	792	0.1	365	1362	2255	90	77	187
SJ	150	850	31503850	0	702	0.1	350	1466	2371	103	94	169
SJ	200	000	32003000	81	790	0.5	380	1410	2311	92	80	187
SJ	200	050	32003050	156	891	0.5	415	1322	2213	78	61	204
SJ	200	100	32003100	206	880	0.9	440	1263	2147	69	49	203
SJ	200	150	32003150	99	881	1.8	395	1383	2281	87	73	203
SJ	200	200	32003200	130	950	1.8	410	1345	2238	81	65	214
SJ	200	250	32003250	168	954	1.1	420	1300	2188	75	58	215
SJ	200	300	32003300	354	1060	1.1	490	1085	1950	45	18	234
SJ	200	350	32003350	307	1187	1.4	535	1137	2007	44	16	255
SJ	200	400	32003400	322	1190	1.2	540	1118	1986	41	13	256
SJ	200	450	32003450	139	1032	0.7	470	1324	2215	69	51	229
SJ	200	500	32003500	358	1110	0.5	475	1072	1935	46	19	242
SJ	200	550	32003550	297	983	0.4	460	1139	2010	54	30	224
SJ	200	600	32003600	295	900	0.3	450	1140	2011	56	32	210
SJ	200	650	32003650	219	883	0.3	425	1224	2104	68	47	208
SJ	200	700	32003700	270	900	0.3	425	1164	2037	62	39	207
SJ	200	750	32003750	121	842	0.2	385	1331	2223	84	69	196
SJ	200	800	32003800	0	750	0.3	350	1467	2374	103	94	180
SJ	200	850	32003850	0	734	0.2	330	1465	2372	107	99	175

SJ	200	900	32003900	0	740	0.0	345	1463	2369	104	95	177
SJ	250	000	32503000	89	784	0.1	370	1400	2302	93	81	183
SJ	250	050	32503050	223	850	0.1	390	1245	2129	76	57	194
SJ	250	100	32503100	71	861	0.2	395	1416	2319	90	78	196
SJ	250	150	32503150	82	807	0.8	380	1401	2303	91	79	187
SJ	250	200	32503200	73	789	1.2	380	1409	2311	92	80	190
SJ	250	250	32503250	210	893	0.9	395	1251	2136	75	57	211
SJ	250	300	32503300	239	988	1.0	460	1215	2096	61	39	224
SJ	250	350	32503350	320	1032	1.2	475	1121	1992	51	25	231
SJ	250	400	32503400	348	1024	1.1	500	1087	1954	44	16	229
SJ	250	450	32503450	355	1005	0.8	485	1077	1943	45	18	227
SJ	250	500	32503500	430	1096	0.6	485	989	1845	38	7	241
SJ	250	550	32503550	307	1002	0.5	450	1127	1998	55	30	226
SJ	250	600	32503600	157	862	0.4	395	1296	2186	79	63	204
SJ	250	650	32503650	139	833	0.4	400	1314	2206	80	64	198
SJ	250	700	32503700	80	786	0.5	385	1379	2278	89	75	187
SJ	250	750	32503750	0	750	0.5	340	1468	2377	105	97	178
SJ	250	800	32503800	0	733	0.4	380	1466	2375	97	87	175
SJ	250	850	32503850	71	749	0.3	370	1383	2283	92	79	178
SJ	250	900	32503900	8	765	0.1	375	1452	2359	97	86	181
SJ	300	000	33003000	196	790	0.2	370	1276	2166	82	66	184
SJ	300	050	33003050	173	816	0.2	400	1300	2193	79	62	188
SJ	300	100	33003100	231	830	0.2	395	1232	2117	74	55	190
SJ	300	150	33003150	132	791	0.3	370	1343	2240	88	74	183
SJ	300	200	33003200	61	730	0.8	350	1422	2328	99	89	175
SJ	300	250	33003250	82	778	1.1	370	1395	2298	93	81	185
SJ	300	300	33003300	126	870	1.2	400	1343	2240	83	68	202
SJ	300	350	33003350	113	898	1.3	395	1356	2255	85	70	208
SJ	300	400	33003400	120	880	1.2	390	1346	2244	85	70	204
SJ	300	450	33003450	142	874	1.0	390	1318	2213	82	67	202
SJ	300	500	33003500	137	880	0.9	400	1322	2217	81	65	202
SJ	300	550	33003550	112	903	0.8	400	1348	2246	83	68	204
SJ	300	600	33003600	95	790	0.7	375	1365	2265	89	76	183
SJ	300	650	33003650	103	788	0.7	385	1354	2253	87	72	181
SJ	300	700	33003700	3	740	0.6	350	1466	2377	103	94	172
SJ	300	750	33003750	13	733	0.5	355	1452	2361	101	91	171
SJ	300	800	33003800	50	760	0.3	375	1408	2312	93	81	177
SJ	300	850	33003850	42	786	0.3	390	1415	2320	91	79	184
SJ	300	900	33003900	13	790	0.6	395	1445	2354	93	81	184
SJ	300	950	33003950	0	753	0.9	385	1458	2368	96	85	179
SJ	350	000	33503000	289	880	0.3	390	1169	2049	69	48	197
SJ	350	050	33503050	101	789	0.3	375	1381	2285	91	78	185
SJ	350	100	33503100	134	779	0.4	380	1342	2241	86	72	181
SJ	350	150	33503150	71	771	0.4	355	1411	2318	97	87	176
SJ	350	200	33503200	63	710	0.5	340	1418	2326	101	91	167
SJ	350	250	33503250	84	746	0.9	350	1392	2297	97	85	173
SJ	350	300	33503300	82	805	1.8	360	1392	2297	95	83	186
SJ	350	350	33503350	120	817	1.8	370	1347	2247	89	75	193
SJ	350	400	33503400	69	788	1.1	365	1402	2308	95	83	185
SJ	350	450	33503450	50	771	1.1	360	1422	2330	97	87	181

SJ	350	500	33503500	65	754	1.1	340	1403	2309	100	89	175
SJ	350	550	33503550	61	751	1.0	340	1405	2311	100	89	173
SJ	350	600	33503600	12	738	0.9	345	1459	2371	104	95	167
SJ	350	650	33503650	4	724	0.9	345	1466	2379	104	96	159
SJ	350	700	33503700	6	705	0.6	330	1461	2373	107	99	159
SJ	350	750	33503750	38	736	0.6	350	1422	2330	99	89	167
SJ	350	800	33503800	28	784	0.7	385	1432	2341	94	82	179
SJ	350	850	33503850	1	810	0.5	400	1460	2372	93	82	188
SJ	350	900	33503900	21	829	1.2	415	1435	2345	89	76	191
SJ	350	950	33503950	34	826	2.1	410	1418	2326	88	75	190
SJ	400	000	34003000	305	880	0.2	430	1150	2030	61	38	199
SJ	400	050	34003050	151	754	0.2	370	1323	2222	87	72	177
SJ	400	100	34003100	97	740	0.4	350	1383	2289	96	84	168
SJ	400	150	34003150	69	687	0.6	345	1412	2321	100	89	154
SJ	400	200	34003200	101	690	0.4	335	1374	2279	98	87	156
SJ	400	250	34003250	80	726	0.3	340	1395	2302	99	88	163
SJ	400	300	34003300	88	740	1.5	345	1384	2290	97	86	170
SJ	400	350	34003350	93	740	1.5	360	1376	2281	93	81	173
SJ	400	400	34003400	44	740	0.5	345	1430	2341	101	92	172
SJ	400	450	34003450	29	734	0.6	340	1445	2358	104	95	169
SJ	400	500	34003500	21	740	0.6	340	1452	2366	104	96	170
SJ	400	550	34003550	8	741	0.7	350	1464	2379	103	95	168
SJ	400	600	34003600	13	730	0.8	355	1456	2370	102	92	164
SJ	400	650	34003650	20	683	0.7	350	1446	2359	102	92	152
SJ	400	700	34003700	22	670	0.5	335	1442	2354	104	96	151
SJ	400	750	34003750	28	711	0.6	355	1433	2344	100	89	161
SJ	400	800	34003800	0	730	0.6	385	1462	2377	96	86	170
SJ	400	850	34003850	22	793	0.6	415	1435	2347	89	76	187
SJ	400	900	34003900	53	890	1.5	430	1398	2306	83	69	204
SJ	400	950	34003950	23	872	2.2	435	1430	2341	85	72	202
SJ	450	000	34503000	223	863	0.3	410	1242	2135	73	54	198
SJ	450	050	34503050	129	724	0.4	375	1347	2251	88	74	169
SJ	450	100	34503100	84	709	0.6	340	1396	2305	99	89	158
SJ	450	150	34503150	71	681	0.7	315	1409	2320	106	97	144
SJ	450	200	34503200	88	691	0.5	330	1387	2295	101	90	149
SJ	450	250	34503250	104	686	0.7	340	1367	2273	97	85	151
SJ	450	300	34503300	107	714	0.9	345	1361	2267	95	83	159
SJ	450	350	34503350	89	736	0.4	355	1380	2288	95	83	165
SJ	450	400	34503400	71	746	0.0	350	1398	2308	98	87	167
SJ	450	450	34503450	51	731	0.0	340	1419	2331	102	92	164
SJ	450	500	34503500	32	739	0.1	365	1438	2352	98	88	166
SJ	450	550	34503550	17	741	0.2	375	1453	2369	98	88	166
SJ	450	600	34503600	19	715	0.4	380	1448	2363	96	86	158
SJ	450	650	34503650	30	678	0.5	350	1434	2348	101	91	148
SJ	450	700	34503700	12	663	0.6	340	1452	2368	105	96	148
SJ	450	750	34503750	14	693	0.5	345	1447	2362	103	94	155
SJ	450	800	34503800	0	745	0.3	380	1461	2378	97	87	172
SJ	450	850	34503850	21	814	0.6	415	1435	2349	89	77	192
SJ	450	900	34503900	27	880	0.8	440	1426	2339	84	71	205
SJ	450	950	34503950	65	952	1.2	460	1381	2289	77	61	220

SJ	500	000	35003000	134	800	0.5	375	1343	2249	88	74	183
SJ	500	050	35003050	101	683	0.5	345	1378	2288	97	86	154
SJ	500	100	35003100	82	700	0.8	335	1397	2309	101	90	150
SJ	500	150	35003150	61	668	0.7	320	1419	2333	106	97	139
SJ	500	200	35003200	103	680	0.6	335	1369	2278	98	87	145
SJ	500	250	35003250	89	695	0.9	350	1383	2293	96	85	152
SJ	500	300	35003300	97	710	0.6	350	1372	2281	95	84	159
SJ	500	350	35003350	93	731	0.1	370	1374	2283	92	79	164
SJ	500	400	35003400	89	740	0.1	360	1376	2285	94	82	167
SJ	500	450	35003450	88	734	0.1	355	1375	2284	95	83	168
SJ	500	500	35003500	105	750	0.2	375	1354	2261	89	75	171
SJ	500	550	35003550	126	759	0.2	385	1327	2231	85	70	174
SJ	500	600	35003600	38	700	0.6	370	1426	2341	96	86	162
SJ	500	650	35003650	38	683	1.0	385	1423	2338	93	82	157
SJ	500	700	35003700	29	700	0.9	370	1431	2346	97	86	162
SJ	500	750	35003750	71	741	0.7	370	1381	2291	92	80	171
SJ	500	800	35003800	5	760	0.6	385	1454	2372	96	86	178
SJ	500	850	35003850	6	804	0.6	415	1451	2369	91	79	190
SJ	500	900	35003900	61	870	0.6	440	1386	2296	81	66	203
SJ	500	950	35003950	51	889	0.6	450	1395	2306	80	65	208
SJ	550	000	35503000	149	776	0.4	380	1324	2230	86	71	175
SJ	550	050	35503050	59	679	0.4	350	1425	2342	100	90	143
SJ	550	100	35503100	48	668	0.7	330	1435	2353	105	97	140
SJ	550	150	35503150	107	643	0.8	325	1366	2276	100	89	132
SJ	550	200	35503200	69	677	0.6	340	1407	2322	101	91	144
SJ	550	250	35503250	75	699	0.4	365	1398	2312	95	83	153
SJ	550	300	35503300	73	721	0.4	365	1398	2312	95	83	160
SJ	550	350	35503350	88	735	0.3	370	1378	2290	92	80	165
SJ	550	400	35503400	103	750	0.1	375	1359	2269	90	76	171
SJ	550	450	35503450	97	733	0.2	380	1364	2274	89	76	170
SJ	550	500	35503500	89	745	0.3	385	1371	2282	89	76	173
SJ	550	550	35503550	103	795	0.3	410	1353	2262	83	68	184
SJ	550	600	35503600	48	731	0.4	375	1413	2329	94	83	171
SJ	550	650	35503650	103	760	0.6	400	1348	2256	84	69	175
SJ	550	700	35503700	105	803	0.5	410	1344	2252	82	67	186
SJ	550	750	35503750	52	783	0.4	395	1402	2316	90	77	187
SJ	550	800	35503800	49	769	0.3	385	1403	2317	92	79	184
SJ	550	850	35503850	2	787	0.4	400	1454	2374	94	83	188
SJ	550	900	35503900	19	833	0.5	425	1433	2351	87	75	197
SJ	550	950	35503950	26	875	0.4	445	1423	2340	83	70	205
SJ	600	000	36003000	139	740	0.4	375	1335	2244	88	74	173
SJ	600	050	36003050	49	699	0.5	375	1435	2355	97	86	159
SJ	600	100	36003100	101	680	0.6	375	1373	2286	91	78	149
SJ	600	150	36003150	57	638	0.8	325	1421	2340	105	97	134
SJ	600	200	36003200	58	640	0.7	330	1418	2336	104	95	137
SJ	600	250	36003250	82	681	0.5	360	1389	2304	95	84	147
SJ	600	300	36003300	117	710	0.5	380	1346	2256	88	74	158
SJ	600	350	36003350	90	735	0.4	375	1375	2288	91	78	167
SJ	600	400	36003400	99	760	0.2	380	1363	2275	89	76	173
SJ	600	450	36003450	70	733	0.2	380	1393	2308	92	80	170

SJ	600	500	36003500	73	740	0.3	375	1388	2303	92	80	171
SJ	600	550	36003550	63	756	0.3	380	1397	2313	92	80	174
SJ	600	600	36003600	50	750	0.2	385	1410	2327	92	81	176
SJ	600	650	36003650	52	828	0.1	420	1405	2322	86	73	189
SJ	600	700	36003700	74	850	0.1	435	1378	2292	81	66	195
SJ	600	750	36003750	34	803	0.2	390	1421	2340	93	81	189
SJ	600	800	36003800	57	790	0.2	380	1393	2308	92	80	187
SJ	600	850	36003850	30	798	0.0	400	1421	2340	91	79	189
SJ	600	900	36003900	6	840	0.3	420	1447	2368	90	78	198
SJ	600	950	36003950	28	879	0.7	435	1419	2337	85	71	208
SJ	650	000	36503000	208	776	0.4	385	1255	2157	79	61	183
SJ	650	050	36503050	92	790	0.4	405	1385	2302	87	73	186
SJ	650	100	36503100	189	723	0.3	400	1272	2176	78	60	162
SJ	650	150	36503150	59	661	0.5	345	1418	2338	101	91	141
SJ	650	200	36503200	61	634	1.0	330	1414	2334	104	95	138
SJ	650	250	36503250	70	679	1.2	345	1401	2319	100	89	143
SJ	650	300	36503300	74	689	1.0	365	1394	2312	95	83	155
SJ	650	350	36503350	74	729	0.9	375	1392	2309	93	81	170
SJ	650	400	36503400	65	747	0.7	390	1400	2318	91	78	173
SJ	650	450	36503450	53	737	0.4	375	1412	2332	95	83	171
SJ	650	500	36503500	42	723	0.4	365	1422	2343	97	87	167
SJ	650	550	36503550	35	733	0.3	370	1428	2349	97	86	166
SJ	650	600	36503600	44	751	0.5	380	1415	2335	94	83	175
SJ	650	650	36503650	53	819	0.6	385	1403	2322	92	80	193
SJ	650	700	36503700	40	815	0.6	390	1415	2335	92	80	190
SJ	650	750	36503750	21	785	0.5	395	1435	2357	93	82	183
SJ	650	800	36503800	65	790	0.2	380	1383	2299	91	79	186
SJ	650	850	36503850	55	815	0.0	400	1392	2309	88	75	193
SJ	650	900	36503900	11	856	1.2	415	1440	2363	90	78	202
SJ	650	950	36503950	30	897	1.8	435	1416	2336	85	71	212
SJ	700	000	37003000	107	700	0.5	375	1369	2286	91	78	169
SJ	700	050	37003050	109	789	0.4	405	1364	2280	85	71	185
SJ	700	100	37003100	154	720	0.4	400	1311	2222	81	66	165
SJ	700	150	37003150	65	680	0.5	345	1410	2332	101	91	151
SJ	700	200	37003200	63	640	1.0	340	1410	2332	102	92	147
SJ	700	250	37003250	94	728	1.3	350	1373	2290	96	85	164
SJ	700	300	37003300	109	770	1.3	370	1353	2268	91	77	176
SJ	700	350	37003350	97	803	1.2	395	1365	2282	87	73	187
SJ	700	400	37003400	143	790	0.8	400	1310	2221	81	65	183
SJ	700	450	37003450	73	799	0.5	385	1388	2307	91	78	183
SJ	700	500	37003500	51	740	0.5	375	1411	2333	95	84	172
SJ	700	550	37003550	48	746	0.4	375	1412	2334	95	84	171
SJ	700	600	37003600	46	740	0.4	380	1412	2334	94	83	173
SJ	700	650	37003650	31	766	0.6	385	1427	2350	94	83	180
SJ	700	700	37003700	34	780	0.5	400	1421	2344	91	79	184
SJ	700	750	37003750	31	779	0.3	390	1422	2345	93	82	185
SJ	700	800	37003800	49	790	0.0	390	1400	2320	91	79	187
SJ	700	850	37003850	62	814	0.0	400	1383	2302	88	75	193
SJ	700	900	37003900	17	850	0.9	415	1432	2356	89	77	200
SJ	700	950	37003950	23	879	1.3	435	1423	2346	85	72	208

SJ	750	000	37503000	74	724	0.3	340	1405	2328	101	91	170
SJ	750	050	37503050	80	733	0.3	365	1396	2318	95	84	176
SJ	750	100	37503100	128	727	0.5	385	1339	2255	87	72	169
SJ	750	150	37503150	130	696	0.6	360	1335	2250	91	78	160
SJ	750	200	37503200	71	677	0.8	350	1400	2323	99	88	161
SJ	750	250	37503250	80	762	0.7	370	1387	2308	94	82	181
SJ	750	300	37503300	126	813	0.6	400	1333	2248	83	68	191
SJ	750	350	37503350	198	833	0.7	405	1248	2154	75	57	198
SJ	750	400	37503400	120	796	0.5	410	1335	2250	82	67	188
SJ	750	450	37503450	91	785	0.3	400	1366	2285	86	73	185
SJ	750	500	37503500	84	759	0.4	385	1372	2291	90	77	178
SJ	750	550	37503550	74	757	0.5	385	1381	2301	90	78	174
SJ	750	600	37503600	57	760	0.5	390	1398	2320	91	79	176
SJ	750	650	37503650	53	746	0.4	385	1401	2324	92	80	173
SJ	750	700	37503700	53	769	0.4	385	1398	2320	92	80	181
SJ	750	750	37503750	48	793	0.4	405	1402	2325	89	76	189
SJ	750	800	37503800	57	816	0.3	405	1389	2310	88	74	193
SJ	750	850	37503850	27	835	0.1	410	1421	2346	90	77	196
SJ	750	900	37503900	20	861	0.0	420	1427	2352	88	76	201
SJ	750	950	37503950	15	880	0.4	440	1431	2357	85	73	206
SJ	800	000	38003000	76	680	0.0	340	1402	2327	101	91	159
SJ	800	050	38003050	82	684	0.0	350	1393	2317	98	88	163
SJ	800	100	38003100	95	700	0.2	365	1376	2298	94	82	164
SJ	800	150	38003150	93	684	0.3	355	1376	2298	96	84	161
SJ	800	200	38003200	89	680	0.5	350	1378	2300	97	86	164
SJ	800	250	38003250	136	745	0.9	365	1322	2238	89	75	178
SJ	800	300	38003300	93	810	0.8	390	1369	2290	89	75	192
SJ	800	350	38003350	116	817	0.5	400	1341	2259	84	70	196
SJ	800	400	38003400	114	790	0.3	420	1341	2259	81	66	191
SJ	800	450	38003450	170	796	0.5	425	1275	2186	74	56	190
SJ	800	500	38003500	132	790	0.6	400	1316	2231	82	67	188
SJ	800	550	38003550	99	779	0.7	395	1351	2270	86	72	188
SJ	800	600	38003600	86	780	0.7	400	1364	2285	86	73	188
SJ	800	650	38003650	76	769	0.9	395	1373	2295	88	75	186
SJ	800	700	38003700	74	780	0.9	390	1373	2295	89	76	189
SJ	800	750	38003750	74	799	0.8	415	1371	2292	84	70	194
SJ	800	800	38003800	61	830	0.5	415	1384	2307	86	72	198
SJ	800	850	38003850	61	846	0.1	415	1381	2304	85	72	199
SJ	800	900	38003900	27	850	0.0	425	1418	2345	87	74	203
SJ	800	950	38003950	23	884	0.4	445	1420	2347	84	71	213
SJ	850	000	38503000	134	700	0.2	350	1334	2253	93	80	157
SJ	850	050	38503050	139	719	0.2	365	1327	2246	90	76	163
SJ	850	100	38503100	120	712	0.1	370	1346	2267	90	77	166
SJ	850	150	38503150	103	685	0.0	350	1363	2286	96	84	164
SJ	850	200	38503200	99	711	0.4	350	1366	2289	96	84	170
SJ	850	250	38503250	99	755	1.0	360	1363	2286	94	82	181
SJ	850	300	38503300	107	769	0.9	370	1352	2273	91	78	186
SJ	850	350	38503350	145	777	0.5	380	1307	2223	85	70	189
SJ	850	400	38503400	154	799	0.4	395	1294	2209	81	65	194
SJ	850	450	38503450	143	809	0.5	420	1304	2220	78	61	195

SJ	850	500	38503500	149	840	0.7	430	1295	2210	75	58	202
SJ	850	550	38503550	189	828	0.8	440	1248	2158	69	50	204
SJ	850	600	38503600	118	828	0.9	430	1326	2245	78	62	204
SJ	850	650	38503650	91	802	1.0	410	1355	2277	84	70	199
SJ	850	700	38503700	99	819	1.1	410	1344	2265	83	68	201
SJ	850	750	38503750	105	828	0.8	425	1335	2255	80	64	204
SJ	850	800	38503800	76	850	0.5	425	1365	2288	82	68	204
SJ	850	850	38503850	78	816	0.3	425	1361	2283	82	67	197
SJ	850	900	38503900	32	814	0.2	430	1411	2339	86	73	202
SJ	850	950	38503950	36	868	0.5	445	1404	2331	83	69	215
SJ	900	000	39003000	114	720	0.3	360	1356	2280	93	81	165
SJ	900	050	39003050	101	711	0.3	370	1369	2294	93	80	166
SJ	900	100	39003100	97	690	0.3	365	1371	2297	94	82	162
SJ	900	150	39003150	89	682	0.3	350	1378	2304	97	86	164
SJ	900	200	39003200	122	730	0.2	370	1338	2260	90	76	174
SJ	900	250	39003250	75	746	0.4	375	1390	2318	94	82	179
SJ	900	300	39003300	137	740	0.4	375	1317	2237	87	73	182
SJ	900	350	39003350	118	774	0.3	380	1336	2258	88	74	191
SJ	900	400	39003400	141	820	0.5	400	1308	2227	82	66	200
SJ	900	450	39003450	172	816	0.6	415	1270	2185	76	58	201
SJ	900	500	39003500	133	890	0.6	445	1312	2231	75	57	215
SJ	900	550	39003550	200	899	0.9	485	1234	2145	62	40	219
SJ	900	600	39003600	217	920	1.2	470	1212	2120	62	40	222
SJ	900	650	39003650	126	889	1.3	445	1314	2233	75	58	215
SJ	900	700	39003700	162	880	1.2	460	1271	2186	69	50	214
SJ	900	750	39003750	147	875	1.0	445	1286	2202	72	54	213
SJ	900	800	39003800	91	870	0.8	440	1347	2270	78	63	212
SJ	900	850	39003850	81	829	0.6	440	1356	2280	79	64	206
SJ	900	900	39003900	63	800	0.5	440	1375	2301	81	66	201
SJ	900	950	39003950	80	867	0.8	465	1353	2277	75	59	211
SJ	950	000	39503000	137	721	0.2	375	1329	2252	88	74	170
SJ	950	050	39503050	153	720	0.4	370	1308	2229	87	73	169
SJ	950	100	39503100	109	714	0.6	365	1356	2282	93	80	168
SJ	950	150	39503150	109	712	0.5	370	1354	2280	91	79	168
SJ	950	200	39503200	109	734	0.3	375	1352	2278	90	77	175
SJ	950	250	39503250	116	749	0.3	385	1342	2267	88	74	180
SJ	950	300	39503300	114	770	0.3	385	1342	2267	88	74	189
SJ	950	350	39503350	170	804	0.3	410	1276	2193	77	60	199
SJ	950	400	39503400	179	828	0.5	440	1263	2179	71	53	206
SJ	950	450	39503450	219	887	0.7	450	1215	2126	65	45	218
SJ	950	500	39503500	242	907	0.8	450	1187	2094	63	41	223
SJ	950	550	39503550	216	896	1.0	475	1215	2126	62	40	224
SJ	950	600	39503600	217	988	1.2	500	1211	2121	58	35	235
SJ	950	650	39503650	213	1018	1.4	510	1214	2124	56	34	238
SJ	950	700	39503700	282	1003	1.4	510	1133	2035	49	24	236
SJ	950	750	39503750	254	966	1.2	490	1162	2067	55	31	229
SJ	950	800	39503800	242	924	0.9	475	1174	2080	58	35	225
SJ	950	850	39503850	151	880	0.9	450	1275	2192	71	52	221
SJ	950	900	39503900	89	865	1.1	450	1344	2269	77	61	212
SJ	950	950	39503950	107	892	1.2	475	1321	2243	71	53	211

SK	000	000	40003000	141	710	0.1	360	1323	2248	91	77	167
SK	000	050	40003050	139	729	0.3	365	1323	2248	90	76	170
SK	000	100	40003100	164	760	0.4	380	1292	2213	84	69	177
SK	000	150	40003150	181	771	0.3	405	1271	2190	78	61	179
SK	000	200	40003200	141	760	0.3	385	1314	2238	85	71	178
SK	000	250	40003250	86	769	0.3	375	1375	2305	93	80	181
SK	000	300	40003300	132	800	0.2	385	1320	2244	86	71	191
SK	000	350	40003350	175	812	0.4	420	1269	2188	75	58	200
SK	000	400	40003400	154	880	0.4	450	1291	2212	72	54	213
SK	000	450	40003450	183	863	0.5	470	1255	2172	66	46	213
SK	000	500	40003500	177	890	0.6	485	1260	2178	64	44	218
SK	000	550	40003550	195	956	0.7	500	1237	2152	60	39	231
SK	000	600	40003600	206	1100	0.9	530	1223	2137	55	32	253
SK	000	650	40003650	341	1225	1.1	545	1066	1962	39	10	272
SK	000	700	40003700	452	1350	1.1	600	938	1820	21	0	291
SK	000	750	40003750	434	1383	0.8	605	956	1840	22	0	295
SK	000	800	40003800	273	1000	0.8	540	1137	2041	46	20	237
SK	000	850	40003850	138	993	1.3	520	1289	2210	62	42	236
SK	000	900	40003900	254	930	1.5	480	1155	2061	56	32	223
SK	000	950	40003950	168	1021	1.5	515	1250	2167	59	38	234
SK	050	000	40503000	160	698	0.2	360	1300	2224	89	75	166
SK	050	050	40503050	150	725	0.3	360	1309	2234	90	76	170
SK	050	100	40503100	166	746	0.4	395	1289	2212	81	65	175
SK	050	150	40503150	124	762	0.4	385	1335	2263	87	73	181
SK	050	200	40503200	78	731	0.4	365	1385	2318	95	84	173
SK	050	250	40503250	101	738	0.3	370	1357	2287	92	79	172
SK	050	300	40503300	141	758	0.4	385	1309	2234	85	70	184
SK	050	350	40503350	140	787	0.4	415	1308	2233	80	64	196
SK	050	400	40503400	179	831	0.3	425	1261	2181	74	56	205
SK	050	450	40503450	137	880	0.2	450	1307	2232	74	57	214
SK	050	500	40503500	362	963	0.4	510	1048	1944	42	13	228
SK	050	550	40503550	286	1101	0.8	560	1132	2038	43	16	251
SK	050	600	40503600	376	1213	0.9	600	1028	1922	29	0	270
SK	050	650	40503650	352	1223	0.9	600	1053	1950	31	0	272
SK	050	700	40503700	368	1398	0.9	640	1032	1927	25	0	298
SK	050	750	40503750	402	1288	0.8	610	991	1881	24	0	279
SK	050	800	40503800	238	1096	0.9	540	1176	2086	49	25	251
SK	050	850	40503850	352	1195	1.3	575	1044	1940	33	3	267
SK	050	900	40503900	417	1306	1.5	660	968	1856	17	0	282
SK	050	950	40503950	231	1235	1.5	580	1178	2089	44	19	270
SK	100	000	41003000	149	720	0.5	360	1312	2240	90	77	165
SK	100	050	41003050	99	720	0.7	355	1366	2299	96	84	164
SK	100	100	41003100	101	720	0.8	365	1362	2295	94	82	165
SK	100	150	41003150	74	711	0.7	355	1391	2327	98	88	166
SK	100	200	41003200	73	690	0.5	350	1389	2325	99	89	163
SK	100	250	41003250	130	725	0.4	375	1322	2251	88	74	172
SK	100	300	41003300	118	760	0.5	375	1334	2264	89	76	183
SK	100	350	41003350	80	799	0.6	395	1375	2309	89	76	193
SK	100	400	41003400	105	850	0.3	410	1344	2275	84	69	205
SK	100	450	41003450	223	914	0.2	450	1207	2123	65	44	219

SK	100	500	41003500	288	990	0.7	485	1131	2039	53	28	233
SK	100	550	41003550	227	1029	1.0	495	1199	2114	58	35	240
SK	100	600	41003600	222	1090	0.6	530	1202	2117	53	30	250
SK	100	650	41003650	295	1302	1.0	580	1117	2023	39	11	284
SK	100	700	41003700	312	1300	1.6	610	1095	1999	34	4	283
SK	100	750	41003750	304	1190	1.3	550	1102	2006	42	14	265
SK	100	800	41003800	358	1170	0.9	545	1038	1935	37	7	262
SK	100	850	41003850	322	1347	1.0	630	1077	1979	30	0	290
SK	100	900	41003900	505	1580	1.1	730	866	1744	1	0	324
SK	100	950	41003950	530	1598	1.2	710	836	1711	0	0	325
SK	150	000	41503000	143	696	0.9	350	1317	2247	93	80	157
SK	150	050	41503050	101	683	0.9	345	1363	2298	98	87	152
SK	150	100	41503100	67	663	1.1	340	1400	2339	102	93	149
SK	150	150	41503150	61	678	0.9	340	1404	2344	103	93	151
SK	150	200	41503200	76	687	0.5	345	1385	2323	100	90	159
SK	150	250	41503250	118	723	0.7	360	1335	2267	92	80	172
SK	150	300	41503300	69	787	0.8	365	1388	2326	96	85	184
SK	150	350	41503350	102	765	0.6	375	1349	2283	91	78	184
SK	150	400	41503400	170	819	0.5	390	1269	2194	81	65	198
SK	150	450	41503450	124	886	0.5	425	1319	2249	79	63	215
SK	150	500	41503500	149	879	0.5	445	1288	2215	73	56	215
SK	150	550	41503550	232	993	0.5	475	1192	2108	60	38	234
SK	150	600	41503600	304	1083	0.5	525	1107	2014	45	19	249
SK	150	650	41503650	339	1153	1.3	550	1065	1967	38	10	259
SK	150	700	41503700	368	1191	1.8	540	1030	1929	37	7	265
SK	150	750	41503750	293	1104	1.4	510	1113	2021	48	22	251
SK	150	800	41503800	400	1191	1.1	550	989	1883	32	0	265
SK	150	850	41503850	411	1216	1.0	550	974	1866	30	0	267
SK	150	900	41503900	417	1373	0.9	650	965	1856	18	0	290
SK	150	950	41503950	472	1506	1.3	670	900	1784	10	0	308
SK	200	000	42003000	67	650	0.8	340	1403	2345	103	93	147
SK	200	050	42003050	63	639	0.6	335	1405	2347	104	95	144
SK	200	100	42003100	64	640	0.6	325	1402	2344	106	97	141
SK	200	150	42003150	51	639	0.5	330	1414	2357	106	97	140
SK	200	200	42003200	50	650	0.6	335	1413	2356	105	96	147
SK	200	250	42003250	95	693	0.8	350	1360	2297	97	85	158
SK	200	300	42003300	57	690	0.9	355	1401	2343	99	89	164
SK	200	350	42003350	92	756	0.8	365	1359	2296	94	82	180
SK	200	400	42003400	124	800	0.5	380	1320	2253	87	73	193
SK	200	450	42003450	175	863	0.4	415	1260	2186	76	58	209
SK	200	500	42003500	233	870	0.3	440	1192	2111	66	45	213
SK	200	550	42003550	219	917	0.4	460	1205	2125	64	43	220
SK	200	600	42003600	255	1020	0.7	480	1162	2077	57	34	238
SK	200	650	42003650	261	995	1.2	485	1153	2067	55	32	234
SK	200	700	42003700	147	970	1.2	460	1281	2209	70	52	230
SK	200	750	42003750	328	1058	0.9	475	1072	1977	50	23	244
SK	200	800	42003800	309	1100	0.7	475	1092	2000	51	26	250
SK	200	850	42003850	191	1065	0.7	485	1224	2146	62	41	245
SK	200	900	42003900	483	1300	1.1	565	889	1774	21	0	280
SK	200	950	42003950	496	1344	1.8	625	872	1755	12	0	286

SK	250	000	42503000	101	660	0.3	335	1363	2302	100	90	147
SK	250	050	42503050	67	643	0.2	320	1399	2342	107	98	141
SK	250	100	42503100	75	640	0.2	315	1388	2330	107	98	138
SK	250	150	42503150	88	628	0.3	325	1371	2311	103	93	132
SK	250	200	42503200	57	638	0.5	325	1404	2348	106	97	139
SK	250	250	42503250	46	648	0.4	335	1415	2360	105	96	142
SK	250	300	42503300	53	682	0.5	350	1404	2348	101	91	156
SK	250	350	42503350	74	727	0.7	360	1378	2319	97	85	172
SK	250	400	42503400	113	774	0.5	375	1332	2268	90	76	187
SK	250	450	42503450	157	844	0.4	410	1279	2209	79	62	204
SK	250	500	42503500	219	881	0.4	440	1206	2128	67	47	213
SK	250	550	42503550	347	928	0.6	455	1058	1964	52	25	222
SK	250	600	42503600	324	961	0.5	450	1082	1991	55	29	227
SK	250	650	42503650	189	923	0.4	440	1234	2159	70	50	220
SK	250	700	42503700	137	886	0.4	440	1291	2223	75	57	217
SK	250	750	42503750	156	951	0.2	440	1267	2196	73	54	227
SK	250	800	42503800	303	961	0.3	460	1097	2007	54	29	228
SK	250	850	42503850	407	1062	0.7	510	977	1874	36	6	244
SK	250	900	42503900	316	1127	1.3	500	1078	1986	47	20	255
SK	250	950	42503950	313	1118	1.9	495	1079	1987	47	21	254
SK	300	000	43003000	74	670	0.2	340	1393	2338	102	92	150
SK	300	050	43003050	77	666	0.4	335	1387	2331	103	93	147
SK	300	100	43003100	93	640	0.6	325	1366	2308	103	93	142
SK	300	150	43003150	95	639	0.6	330	1362	2303	101	91	141
SK	300	200	43003200	91	660	0.4	330	1364	2306	102	91	145
SK	300	250	43003250	88	661	0.2	335	1366	2308	101	90	148
SK	300	300	43003300	59	640	0.5	335	1396	2341	103	94	146
SK	300	350	43003350	89	661	0.9	345	1360	2301	98	87	152
SK	300	400	43003400	120	760	1.0	375	1323	2260	89	75	178
SK	300	450	43003450	113	832	0.7	385	1328	2266	88	74	198
SK	300	500	43003500	175	870	0.6	400	1255	2185	78	61	208
SK	300	550	43003550	268	891	0.7	420	1147	2065	65	44	215
SK	300	600	43003600	97	890	0.6	430	1340	2279	81	66	216
SK	300	650	43003650	311	891	0.3	425	1094	2006	60	36	216
SK	300	700	43003700	328	870	0.3	420	1072	1982	59	34	212
SK	300	750	43003750	286	879	0.5	420	1118	2033	63	40	213
SK	300	800	43003800	202	900	0.8	445	1211	2136	67	47	217
SK	300	850	43003850	208	949	1.1	440	1202	2126	67	47	224
SK	300	900	43003900	143	920	1.4	425	1274	2206	76	59	216
SK	300	950	43003950	115	904	1.7	440	1304	2239	76	59	210
SK	350	000	43503000	84	670	0.4	340	1380	2326	101	91	152
SK	350	050	43503050	95	656	0.5	340	1365	2309	100	89	150
SK	350	100	43503100	105	643	0.7	340	1352	2294	99	87	148
SK	350	150	43503150	132	677	0.7	335	1319	2258	97	85	153
SK	350	200	43503200	177	699	0.4	335	1265	2198	92	78	157
SK	350	250	43503250	112	658	0.2	330	1337	2278	99	88	150
SK	350	300	43503300	50	630	0.6	325	1406	2354	107	98	142
SK	350	350	43503350	67	661	1.0	335	1384	2330	102	93	142
SK	350	400	43503400	80	702	0.9	350	1367	2311	98	87	162
SK	350	450	43503450	73	774	0.8	350	1373	2318	98	88	184

SK	350	500	43503500	99	809	0.9	380	1341	2282	90	77	196
SK	350	550	43503550	215	827	1.0	390	1206	2132	76	58	206
SK	350	600	43503600	244	826	0.9	410	1171	2094	69	49	205
SK	350	650	43503650	272	841	0.7	405	1137	2056	67	46	208
SK	350	700	43503700	113	822	0.7	400	1316	2254	84	69	203
SK	350	750	43503750	117	811	0.8	385	1309	2247	86	72	200
SK	350	800	43503800	154	823	1.0	410	1265	2198	78	61	201
SK	350	850	43503850	73	801	1.2	375	1355	2298	92	80	198
SK	350	900	43503900	149	763	1.4	380	1266	2199	83	67	185
SK	350	950	43503950	94	745	1.6	380	1327	2267	89	75	176
SK	400	000	44003000	101	670	0.4	340	1359	2304	99	89	153
SK	400	050	44003050	111	675	0.5	350	1346	2290	96	85	156
SK	400	100	44003100	128	680	0.6	350	1324	2265	94	82	158
SK	400	150	44003150	152	698	0.5	360	1295	2233	90	76	162
SK	400	200	44003200	105	670	0.3	335	1346	2290	99	88	152
SK	400	250	44003250	57	639	0.3	320	1399	2349	107	99	144
SK	400	300	44003300	57	620	0.5	320	1396	2345	107	98	138
SK	400	350	44003350	48	632	0.6	325	1404	2354	107	98	139
SK	400	400	44003400	112	700	0.7	350	1329	2271	95	82	160
SK	400	450	44003450	122	769	1.1	375	1316	2257	89	75	181
SK	400	500	44003500	141	770	1.0	375	1292	2230	87	72	185
SK	400	550	44003550	111	738	0.7	370	1324	2265	90	77	183
SK	400	600	44003600	134	740	0.8	370	1295	2233	88	73	183
SK	400	650	44003650	105	763	0.7	370	1326	2268	91	77	186
SK	400	700	44003700	90	740	0.5	350	1341	2284	96	84	180
SK	400	750	44003750	66	749	0.7	355	1366	2312	97	86	180
SK	400	800	44003800	107	780	1.0	375	1317	2258	89	75	183
SK	400	850	44003850	124	744	1.1	370	1296	2234	88	74	174
SK	400	900	44003900	48	640	1.2	330	1380	2328	103	94	153
SK	400	950	44003950	100	681	1.2	330	1319	2260	98	86	153
SK	450	000	44503000	109	666	0.3	345	1349	2295	98	86	154
SK	450	050	44503050	126	694	0.3	350	1328	2272	95	83	161
SK	450	100	44503100	156	717	0.3	370	1291	2231	88	73	167
SK	450	150	44503150	168	712	0.3	380	1275	2213	84	69	170
SK	450	200	44503200	75	683	0.2	340	1379	2329	101	91	156
SK	450	250	44503250	73	648	0.4	330	1379	2329	103	94	140
SK	450	300	44503300	30	628	0.5	315	1426	2381	111	104	137
SK	450	350	44503350	61	655	0.6	325	1389	2340	105	97	141
SK	450	400	44503400	76	680	1.0	345	1369	2317	99	89	154
SK	450	450	44503450	83	742	1.1	355	1359	2306	96	85	175
SK	450	500	44503500	78	744	0.6	360	1363	2311	96	85	176
SK	450	550	44503550	107	736	0.2	365	1327	2271	92	79	175
SK	450	600	44503600	165	741	0.5	360	1259	2195	87	71	173
SK	450	650	44503650	113	733	0.5	350	1316	2259	94	81	169
SK	450	700	44503700	86	709	0.2	340	1345	2291	98	87	165
SK	450	750	44503750	71	734	0.3	345	1360	2308	99	88	169
SK	450	800	44503800	82	746	0.4	350	1345	2291	96	85	166
SK	450	850	44503850	70	643	0.4	325	1356	2303	102	92	144
SK	450	900	44503900	46	633	0.5	315	1381	2331	107	98	139
SK	450	950	44503950	29	626	0.6	305	1399	2351	111	103	130

SK	500	000	45003000	99	650	0.4	340	1359	2308	100	89	149
SK	500	050	45003050	92	691	0.3	310	1365	2315	107	98	157
SK	500	100	45003100	172	720	0.3	360	1272	2212	88	73	164
SK	500	150	45003150	168	719	0.2	380	1274	2214	84	69	166
SK	500	200	45003200	50	650	0.2	350	1407	2362	102	93	146
SK	500	250	45003250	34	631	0.4	325	1423	2380	109	101	135
SK	500	300	45003300	34	590	0.6	310	1420	2376	112	105	127
SK	500	350	45003350	44	631	0.8	320	1407	2362	108	100	131
SK	500	400	45003400	73	660	0.8	335	1371	2322	102	92	144
SK	500	450	45003450	105	684	0.6	340	1333	2280	97	86	156
SK	500	500	45003500	145	730	0.2	350	1285	2226	91	77	167
SK	500	550	45003550	149	753	0.2	360	1278	2219	89	74	175
SK	500	600	45003600	156	730	0.5	355	1268	2207	89	74	168
SK	500	650	45003650	150	709	0.5	350	1273	2213	90	76	160
SK	500	700	45003700	149	700	0.5	335	1272	2212	93	80	157
SK	500	750	45003750	122	701	0.5	335	1300	2243	96	83	155
SK	500	800	45003800	142	690	0.4	325	1275	2215	95	82	150
SK	500	850	45003850	98	629	0.3	305	1323	2269	104	94	137
SK	500	900	45003900	116	670	0.2	325	1300	2243	98	86	140
SK	500	950	45003950	90	658	0.2	325	1328	2274	100	89	135
SK	550	000	45503000	73	644	0.5	330	1388	2343	105	96	146
SK	550	050	45503050	95	659	0.6	335	1361	2313	101	91	150
SK	550	100	45503100	75	679	0.6	350	1381	2335	100	90	155
SK	550	150	45503150	58	697	0.4	345	1398	2354	102	93	159
SK	550	200	45503200	42	662	0.3	340	1414	2372	105	96	145
SK	550	250	45503250	65	607	0.3	320	1386	2341	107	98	127
SK	550	300	45503300	34	579	0.4	300	1419	2377	114	108	120
SK	550	350	45503350	43	597	0.6	310	1407	2364	111	103	121
SK	550	400	45503400	34	636	0.6	325	1415	2373	108	100	132
SK	550	450	45503450	66	679	0.6	345	1376	2329	100	90	145
SK	550	500	45503500	67	704	0.5	350	1373	2326	99	89	158
SK	550	550	45503550	151	734	0.6	355	1275	2217	89	75	169
SK	550	600	45503600	145	694	0.7	350	1279	2222	91	77	157
SK	550	650	45503650	75	682	0.7	340	1357	2308	100	89	150
SK	550	700	45503700	71	670	0.8	330	1359	2311	102	92	146
SK	550	750	45503750	61	662	0.9	330	1369	2322	103	93	142
SK	550	800	45503800	52	632	0.8	330	1377	2331	104	94	135
SK	550	850	45503850	84	644	0.6	330	1338	2287	100	89	133
SK	550	900	45503900	61	657	0.5	330	1362	2314	102	92	135
SK	550	950	45503950	84	646	0.4	325	1334	2283	101	90	133
SK	600	000	46003000	80	650	0.3	325	1379	2335	105	96	145
SK	600	050	46003050	65	639	0.4	320	1394	2352	107	99	146
SK	600	100	46003100	55	650	0.4	320	1403	2362	108	100	148
SK	600	150	46003150	48	639	0.3	320	1409	2368	109	101	148
SK	600	200	46003200	82	640	0.2	335	1368	2323	102	92	141
SK	600	250	46003250	82	615	0.1	325	1366	2320	104	94	128
SK	600	300	46003300	46	590	0.1	300	1404	2363	113	106	123
SK	600	350	46003350	38	595	0.4	300	1411	2370	113	107	121
SK	600	400	46003400	69	600	0.6	315	1374	2329	107	98	125
SK	600	450	46003450	109	667	0.8	335	1326	2276	98	87	141

SK	600	500	46003500	74	700	1.0	340	1364	2318	100	90	151
SK	600	550	46003550	103	713	0.9	345	1328	2278	96	84	160
SK	600	600	46003600	97	680	0.7	340	1333	2284	98	86	149
SK	600	650	46003650	57	666	0.7	335	1376	2332	103	93	140
SK	600	700	46003700	50	640	0.9	320	1382	2338	106	98	136
SK	600	750	46003750	69	652	1.1	325	1358	2312	103	93	134
SK	600	800	46003800	54	630	0.9	320	1373	2328	106	97	129
SK	600	850	46003850	21	620	0.9	320	1409	2368	109	101	124
SK	600	900	46003900	17	610	1.0	320	1411	2370	109	101	123
SK	600	950	46003950	12	606	1.0	315	1415	2375	110	103	122
SK	650	000	46503000	125	661	0.2	340	1326	2278	97	86	145
SK	650	050	46503050	97	656	0.1	335	1356	2311	101	91	144
SK	650	100	46503100	75	634	0.1	330	1379	2337	104	95	143
SK	650	150	46503150	55	626	0.1	315	1400	2360	109	101	145
SK	650	200	46503200	132	629	0.1	330	1310	2260	98	86	138
SK	650	250	46503250	107	622	0.2	320	1336	2289	102	92	130
SK	650	300	46503300	87	602	0.2	305	1356	2311	108	99	123
SK	650	350	46503350	48	569	0.4	290	1399	2359	115	108	116
SK	650	400	46503400	32	591	1.0	295	1415	2377	115	109	122
SK	650	450	46503450	51	617	1.2	310	1391	2350	110	102	129
SK	650	500	46503500	71	633	1.2	325	1366	2323	104	95	136
SK	650	550	46503550	55	684	1.2	335	1382	2340	103	94	150
SK	650	600	46503600	73	666	1.2	330	1359	2315	102	92	140
SK	650	650	46503650	55	645	1.0	325	1378	2336	105	96	129
SK	650	700	46503700	46	624	0.8	315	1386	2345	108	100	126
SK	650	750	46503750	40	614	1.0	305	1390	2349	111	103	123
SK	650	800	46503800	34	611	1.0	310	1395	2355	110	102	120
SK	650	850	46503850	28	585	0.8	315	1400	2360	109	101	113
SK	650	900	46503900	17	584	1.0	315	1410	2371	110	103	113
SK	650	950	46503950	17	585	1.2	300	1408	2369	113	107	113
SK	700	000	47003000	151	660	0.2	350	1296	2247	93	80	144
SK	700	050	47003050	156	667	0.2	345	1288	2238	93	80	147
SK	700	100	47003100	120	640	0.2	340	1327	2281	98	86	143
SK	700	150	47003150	111	635	0.2	325	1335	2290	101	91	142
SK	700	200	47003200	95	630	0.2	320	1351	2308	104	94	136
SK	700	250	47003250	73	605	0.2	320	1373	2332	106	97	127
SK	700	300	47003300	44	580	0.3	295	1404	2367	114	108	119
SK	700	350	47003350	38	553	0.4	285	1409	2372	117	111	111
SK	700	400	47003400	27	570	0.8	280	1419	2383	119	114	115
SK	700	450	47003450	48	585	1.1	290	1393	2355	115	108	118
SK	700	500	47003500	36	600	1.3	300	1405	2368	113	107	124
SK	700	550	47003550	27	649	1.3	320	1413	2377	109	102	134
SK	700	600	47003600	71	630	1.4	315	1360	2318	106	97	129
SK	700	650	47003650	80	625	1.2	320	1348	2305	104	94	125
SK	700	700	47003700	77	620	0.7	310	1349	2306	106	97	123
SK	700	750	47003750	25	583	0.6	300	1406	2369	113	107	116
SK	700	800	47003800	23	580	0.4	300	1406	2369	113	107	114
SK	700	850	47003850	12	575	0.2	305	1417	2381	113	107	111
SK	700	900	47003900	13	570	0.3	305	1413	2377	113	106	110
SK	700	950	47003950	5	570	0.7	300	1420	2385	115	108	110

SK	750	000	47503000	130	655	0.2	345	1318	2273	96	84	145
SK	750	050	47503050	187	674	0.3	380	1251	2199	83	67	149
SK	750	100	47503100	154	676	0.3	365	1287	2239	89	75	147
SK	750	150	47503150	122	653	0.2	345	1321	2277	96	84	140
SK	750	200	47503200	89	635	0.2	315	1356	2316	106	96	135
SK	750	250	47503250	122	632	0.3	330	1316	2271	99	87	131
SK	750	300	47503300	61	600	0.3	305	1384	2347	110	103	121
SK	750	350	47503350	30	566	0.3	285	1417	2383	118	113	110
SK	750	400	47503400	23	559	0.4	270	1423	2390	123	118	109
SK	750	450	47503450	23	566	0.7	280	1421	2388	120	115	110
SK	750	500	47503500	19	574	1.1	290	1423	2390	117	112	112
SK	750	550	47503550	25	587	1.1	295	1414	2380	115	109	113
SK	750	600	47503600	25	583	1.1	295	1412	2378	115	109	116
SK	750	650	47503650	50	595	1.0	295	1381	2343	113	105	120
SK	750	700	47503700	30	589	0.8	300	1402	2367	113	106	117
SK	750	750	47503750	32	581	0.4	290	1397	2361	115	109	112
SK	750	800	47503800	73	564	0.1	290	1348	2307	111	103	109
SK	750	850	47503850	28	563	0.0	295	1397	2361	114	107	109
SK	750	900	47503900	50	574	0.0	295	1370	2331	112	104	111
SK	750	950	47503950	1	574	0.3	300	1424	2391	115	109	111
SK	800	000	48003000	112	650	0.2	330	1338	2298	101	90	141
SK	800	050	48003050	150	676	0.3	350	1292	2247	93	80	149
SK	800	100	48003100	183	690	0.2	380	1252	2202	83	68	148
SK	800	150	48003150	110	654	0.2	350	1333	2292	96	85	142
SK	800	200	48003200	99	640	0.2	315	1344	2304	105	95	134
SK	800	250	48003250	158	653	0.3	335	1274	2227	94	81	129
SK	800	300	48003300	115	620	0.3	320	1321	2279	102	91	124
SK	800	350	48003350	46	584	0.3	300	1398	2364	113	106	117
SK	800	400	48003400	28	570	0.4	280	1416	2384	119	114	113
SK	800	450	48003450	19	570	0.5	280	1424	2393	120	115	110
SK	800	500	48003500	15	570	0.7	285	1426	2395	119	114	110
SK	800	550	48003550	10	559	0.7	285	1430	2400	120	115	108
SK	800	600	48003600	10	570	0.6	295	1428	2398	117	111	112
SK	800	650	48003650	8	576	0.7	290	1428	2398	118	113	113
SK	800	700	48003700	12	570	0.4	290	1421	2390	117	112	112
SK	800	750	48003750	10	564	0.2	290	1421	2390	117	112	109
SK	800	800	48003800	6	570	0.1	290	1423	2392	118	112	112
SK	800	850	48003850	7	580	0.0	300	1420	2389	115	109	115
SK	800	900	48003900	4	590	0.3	300	1421	2390	115	109	118
SK	800	950	48003950	4	590	0.7	300	1419	2388	115	109	119
SK	850	000	48503000	135	662	0.3	335	1310	2269	98	86	140
SK	850	050	48503050	134	662	0.4	345	1309	2268	95	83	145
SK	850	100	48503100	122	676	0.4	350	1321	2281	95	84	147
SK	850	150	48503150	107	655	0.4	345	1336	2298	98	87	144
SK	850	200	48503200	124	629	0.2	325	1314	2273	100	89	130
SK	850	250	48503250	124	652	0.2	335	1312	2271	98	86	123
SK	850	300	48503300	143	646	0.3	335	1288	2244	96	83	127
SK	850	350	48503350	78	601	0.2	315	1360	2324	106	97	127
SK	850	400	48503400	42	585	0.4	300	1399	2368	113	107	118
SK	850	450	48503450	27	585	0.6	300	1414	2384	115	108	113

SK	850	500	48503500	14	584	0.6	290	1426	2398	118	113	112
SK	850	550	48503550	19	580	0.4	300	1418	2389	115	109	112
SK	850	600	48503600	16	574	0.3	305	1420	2391	114	108	111
SK	850	650	48503650	9	569	0.4	305	1425	2396	114	108	110
SK	850	700	48503700	7	563	0.6	300	1425	2396	116	110	109
SK	850	750	48503750	7	577	1.1	300	1423	2394	115	109	111
SK	850	800	48503800	10	584	1.3	300	1418	2389	115	109	116
SK	850	850	48503850	17	597	1.0	310	1407	2376	112	105	121
SK	850	900	48503900	23	610	1.1	310	1398	2366	111	103	126
SK	850	950	48503950	19	611	1.4	310	1401	2370	111	104	128
SK	900	000	49003000	105	640	0.5	325	1343	2308	103	93	134
SK	900	050	49003050	118	651	0.6	330	1326	2289	100	89	140
SK	900	100	49003100	124	640	0.6	340	1317	2279	97	86	138
SK	900	150	49003150	141	658	0.7	335	1296	2255	96	84	140
SK	900	200	49003200	126	630	0.5	335	1311	2272	98	86	132
SK	900	250	49003250	120	640	0.3	335	1315	2276	98	87	131
SK	900	300	49003300	128	650	0.3	330	1304	2264	98	87	134
SK	900	350	49003350	75	625	0.3	325	1362	2329	105	95	132
SK	900	400	49003400	73	600	0.4	335	1362	2329	102	93	124
SK	900	450	49003450	38	604	0.5	310	1400	2371	111	104	121
SK	900	500	49003500	19	620	0.4	300	1419	2392	115	109	123
SK	900	550	49003550	12	610	0.3	300	1425	2399	116	110	120
SK	900	600	49003600	12	600	0.3	305	1423	2396	114	108	117
SK	900	650	49003650	17	578	0.4	310	1415	2387	113	106	113
SK	900	700	49003700	21	590	0.8	310	1408	2380	112	105	117
SK	900	750	49003750	6	600	1.5	310	1423	2396	113	107	121
SK	900	800	49003800	8	610	1.6	310	1419	2392	113	106	125
SK	900	850	49003850	14	626	1.3	315	1410	2382	111	104	130
SK	900	900	49003900	23	630	1.3	320	1397	2367	109	101	133
SK	900	950	49003950	15	631	1.2	320	1404	2375	109	102	133
SK	950	000	49503000	50	631	0.7	320	1405	2378	110	102	131
SK	950	050	49503050	99	653	0.7	330	1347	2314	102	92	138
SK	950	100	49503100	74	625	0.7	330	1373	2343	105	96	133
SK	950	150	49503150	107	631	0.7	330	1333	2299	101	91	134
SK	950	200	49503200	97	626	0.6	330	1343	2310	102	92	135
SK	950	250	49503250	103	633	0.4	330	1334	2300	101	91	137
SK	950	300	49503300	109	645	0.3	330	1324	2289	100	89	139
SK	950	350	49503350	123	625	0.3	335	1306	2269	98	86	136
SK	950	400	49503400	105	632	0.3	325	1325	2290	101	91	134
SK	950	450	49503450	46	622	0.2	320	1390	2362	108	100	130
SK	950	500	49503500	48	616	0.1	310	1385	2356	110	102	126
SK	950	550	49503550	14	597	0.1	310	1422	2397	113	107	122
SK	950	600	49503600	9	599	0.3	310	1425	2401	114	107	119
SK	950	650	49503650	5	585	0.5	315	1428	2404	113	106	115
SK	950	700	49503700	8	605	0.5	315	1422	2397	112	106	122
SK	950	750	49503750	12	622	0.5	320	1415	2390	111	103	130
SK	950	800	49503800	27	631	0.5	320	1396	2368	109	101	134
SK	950	850	49503850	41	644	0.6	325	1378	2348	106	97	139
SK	950	900	49503900	55	652	0.6	335	1360	2329	102	93	140
SK	950	950	49503950	50	647	0.5	330	1363	2332	104	94	140

SM	700	250	17002250	65	997	0.0	450	1496	2343	83	69	208
SM	750	100	17502100	0	947	0.0	440	1575	2433	92	81	199
SM	750	250	17502250	44	1103	0.2	475	1518	2369	81	67	224
SM	750	300	17502300	0	1061	0.2	470	1566	2423	86	74	217
SM	800	050	18002050	48	954	0.3	440	1521	2375	87	75	200
SM	800	100	18002100	19	1080	0.8	450	1552	2409	88	77	219
SM	800	250	18002250	85	1128	0.5	500	1471	2319	73	57	230
SM	800	300	18002300	91	1120	0.7	495	1461	2308	73	57	227
SM	850	000	18502000	0	981	0.4	435	1577	2439	93	83	202
SM	850	050	18502050	0	975	0.9	445	1575	2437	91	81	201
SM	850	100	18502100	63	1101	1.1	480	1501	2355	79	65	223
SM	850	150	18502150	0	1096	1.1	500	1571	2433	83	70	224
SM	850	200	18502200	0	1079	0.8	500	1568	2429	82	70	222
SM	850	250	18502250	107	1141	0.8	520	1444	2292	68	51	233
SM	850	300	18502300	111	1203	0.8	500	1438	2285	71	54	242
SM	850	350	18502350	0	1027	0.3	465	1562	2423	87	75	213
SM	900	000	19002000	21	1100	0.9	445	1552	2414	89	78	222
SM	900	050	19002050	2	1004	1.1	445	1572	2436	91	81	207
SM	900	100	19002100	67	1100	0.5	485	1495	2350	78	63	224
SM	900	150	19002150	82	1139	0.4	520	1476	2329	71	55	232
SM	900	200	19002200	73	1190	0.5	540	1484	2338	69	53	242
SM	900	250	19002250	114	1193	0.9	555	1435	2284	63	45	244
SM	900	300	19002300	130	1240	1.2	535	1415	2261	64	45	250
SM	900	350	19002350	69	1150	0.7	480	1482	2336	78	63	233
SM	900	400	19002400	69	1060	0.2	450	1480	2334	82	68	217
SM	950	000	19502000	52	1111	0.7	460	1516	2376	84	71	225
SM	950	050	19502050	27	1070	0.5	460	1542	2405	86	74	219
SM	950	100	19502100	67	1113	0.7	500	1494	2351	76	61	226
SM	950	150	19502150	27	1147	0.8	510	1538	2400	78	65	234
SM	950	200	19502200	21	1184	0.7	540	1542	2405	75	61	242
SM	950	250	19502250	84	1243	1.2	560	1468	2322	66	48	254
SM	950	300	19502300	128	1275	1.7	550	1416	2265	62	43	255
SM	950	350	19502350	116	1215	1.4	500	1427	2277	70	53	246
SM	950	400	19502400	59	1036	0.5	470	1490	2347	80	66	216
SN	000	000	20002000	25	1110	1.2	470	1545	2410	85	73	226
SN	000	050	20002050	19	1101	1.3	480	1550	2416	84	72	226
SN	000	100	20002100	2	1080	1.6	485	1567	2434	85	73	223
SN	000	150	20002150	21	1158	1.2	500	1543	2408	81	67	237
SN	000	200	20002200	44	1280	1.0	545	1515	2377	72	57	256
SN	000	250	20002250	93	1357	1.1	570	1457	2312	64	45	268
SN	000	300	20002300	160	1400	1.3	610	1378	2225	52	30	274
SN	000	350	20002350	103	1403	1.2	600	1441	2295	59	39	273
SN	000	400	20002400	19	1080	0.4	585	1535	2399	69	53	223
SN	050	000	20502000	46	1114	1.5	485	1520	2384	81	67	226
SN	050	050	20502050	46	1121	2.3	510	1518	2382	77	63	229
SN	050	100	20502100	50	1267	2.2	525	1511	2374	74	59	253
SN	050	150	20502150	36	1261	1.5	525	1525	2390	76	61	252
SN	050	200	20502200	44	1303	1.0	565	1514	2378	70	54	257
SN	050	250	20502250	132	1452	0.5	600	1411	2263	56	36	279
SN	050	300	20502300	236	1589	0.7	665	1290	2129	38	12	302

SN	050	350	20502350	139	1495	0.7	640	1399	2250	50	29	286
SN	050	400	20502400	3	1096	0.5	585	1552	2420	70	55	226
SN	100	000	21002000	59	1130	0.6	485	1504	2369	80	66	230
SN	100	050	21002050	54	1168	1.1	520	1508	2373	75	60	237
SN	100	100	21002100	96	1330	1.4	550	1458	2318	67	49	263
SN	100	150	21002150	82	1294	1.4	550	1471	2332	68	51	256
SN	100	200	21002200	47	1270	0.9	550	1509	2374	71	55	253
SN	100	250	21002250	123	1389	0.3	600	1420	2275	57	37	270
SN	100	300	21002300	341	1610	0.5	705	1170	1998	23	0	304
SN	100	350	21002350	143	1383	0.7	600	1393	2245	55	34	269
SN	100	400	21002400	113	1190	1.1	500	1425	2281	70	53	242
SN	100	450	21002450	44	1124	0.7	465	1502	2366	82	69	232
SN	150	000	21502000	0	1096	0.0	475	1570	2444	87	76	225
SN	150	050	21502050	0	1122	0.3	490	1568	2442	85	73	231
SN	150	100	21502100	111	1410	0.8	575	1439	2299	62	43	274
SN	150	150	21502150	55	1338	0.8	595	1501	2367	65	48	260
SN	150	200	21502200	40	1281	0.6	535	1516	2384	74	59	253
SN	150	250	21502250	169	1421	0.5	640	1367	2219	48	25	276
SN	150	300	21502300	244	1610	0.7	720	1279	2121	32	4	304
SN	150	350	21502350	132	1463	1.0	550	1404	2260	62	43	280
SN	150	400	21502400	170	1273	0.8	550	1359	2210	58	37	254
SN	150	450	21502450	151	1184	0.4	480	1378	2231	69	51	243
SN	150	500	21502500	0	1001	0.0	415	1548	2420	95	85	214
SN	200	050	22002050	0	1031	0.3	490	1567	2443	85	73	217
SN	200	100	22002100	137	1310	0.8	575	1409	2267	59	40	258
SN	200	150	22002150	71	1363	0.9	610	1482	2348	62	44	264
SN	200	200	22002200	88	1360	0.6	585	1460	2324	63	45	265
SN	200	250	22002250	145	1423	0.5	650	1393	2250	49	27	275
SN	200	300	22002300	181	1520	0.9	700	1350	2202	40	16	291
SN	200	350	22002350	333	1494	1.1	640	1174	2007	31	1	286
SN	200	400	22002400	113	1210	0.7	535	1423	2283	66	48	245
SN	200	450	22002450	53	1076	0.5	460	1489	2356	82	69	225
SN	200	500	22002500	135	1100	0.1	435	1393	2250	78	62	230
SN	250	050	22502050	0	1005	0.5	490	1566	2444	85	73	212
SN	250	100	22502100	141	1338	1.2	545	1403	2263	63	44	262
SN	250	150	22502150	14	1320	1.1	610	1545	2420	67	52	257
SN	250	200	22502200	110	1352	0.7	580	1434	2297	61	42	263
SN	250	250	22502250	183	1470	0.6	685	1348	2202	42	17	283
SN	250	300	22502300	168	1533	0.9	700	1363	2218	42	17	293
SN	250	350	22502350	116	1412	1.1	610	1420	2282	56	36	273
SN	250	400	22502400	36	1186	1.4	495	1509	2380	79	65	240
SN	250	450	22502450	159	1094	1.1	515	1367	2223	64	44	228
SN	250	500	22502500	122	1094	0.5	475	1407	2267	73	56	229
SN	300	050	23002050	0	1026	0.9	480	1565	2445	86	75	214
SN	300	100	23002100	44	1140	1.3	500	1512	2386	79	65	230
SN	300	150	23002150	38	1174	0.8	550	1517	2391	72	57	234
SN	300	200	23002200	112	1400	0.7	590	1430	2295	60	41	271
SN	300	250	23002250	175	1523	0.4	675	1356	2213	44	20	292
SN	300	300	23002300	198	1590	0.8	705	1328	2182	38	13	302
SN	300	350	23002350	126	1454	1.1	610	1408	2270	55	35	280

SN	300	400	23002400	74	1150	1.2	500	1465	2334	75	59	234
SN	300	450	23002450	153	1130	1.2	560	1373	2232	58	38	230
SN	300	500	23002500	179	1200	0.8	600	1341	2196	51	28	243
SN	300	550	23002550	0	949	0.4	425	1543	2420	93	83	204
SN	350	050	23502050	0	1058	0.8	480	1564	2446	86	75	218
SN	350	100	23502100	38	1146	1.4	500	1518	2395	79	66	230
SN	350	150	23502150	86	1260	0.9	565	1461	2331	66	48	248
SN	350	200	23502200	65	1353	0.7	595	1483	2356	64	47	263
SN	350	250	23502250	205	1571	0.5	700	1321	2176	38	13	299
SN	350	300	23502300	181	1616	0.5	720	1346	2204	38	13	305
SN	350	350	23502350	245	1535	0.9	650	1271	2121	39	13	292
SN	350	400	23502400	46	1183	1.0	525	1496	2370	74	59	237
SN	350	450	23502450	194	1238	1.2	610	1325	2180	48	25	245
SN	350	500	23502500	166	1338	1.1	640	1355	2214	48	25	262
SN	350	550	23502550	121	1057	0.8	465	1404	2268	74	58	220
SN	400	000	24002000	4	1060	0.6	485	1560	2443	85	74	217
SN	400	050	24002050	4	1134	1.2	510	1558	2441	82	69	229
SN	400	100	24002100	94	1320	1.7	555	1453	2325	67	49	257
SN	400	150	24002150	7	1256	1.5	560	1550	2432	74	60	247
SN	400	200	24002200	21	1350	1.0	595	1532	2412	69	53	263
SN	400	250	24002250	164	1586	0.7	710	1367	2229	41	17	301
SN	400	300	24002300	163	1620	0.6	720	1366	2228	40	16	307
SN	400	350	24002350	238	1463	1.2	650	1278	2130	40	14	282
SN	400	400	24002400	71	1170	1.3	540	1466	2339	70	53	235
SN	400	450	24002450	145	1351	1.0	600	1380	2244	55	33	263
SN	400	500	24002500	250	1430	1.1	710	1258	2108	32	4	277
SN	400	550	24002550	204	1194	1.0	500	1308	2164	61	40	239
SN	400	600	24002600	4	980	0.4	425	1534	2415	93	82	207
SN	450	000	24502000	0	1086	1.3	495	1563	2449	85	73	222
SN	450	050	24502050	36	1182	1.8	525	1520	2401	77	62	235
SN	450	100	24502100	158	1356	1.7	610	1379	2245	53	32	262
SN	450	150	24502150	126	1338	1.4	635	1413	2282	54	33	260
SN	450	200	24502200	23	1281	0.9	600	1528	2410	68	52	253
SN	450	250	24502250	134	1582	0.5	710	1400	2268	45	22	301
SN	450	300	24502300	191	1638	0.5	705	1333	2194	39	14	310
SN	450	350	24502350	180	1398	0.9	580	1343	2205	54	32	272
SN	450	400	24502400	95	1168	1.1	550	1438	2310	66	48	235
SN	450	450	24502450	217	1297	0.9	595	1296	2152	48	24	254
SN	450	500	24502500	263	1530	0.8	700	1242	2093	32	3	290
SN	450	550	24502550	181	1318	0.7	560	1333	2194	55	34	257
SN	450	600	24502600	122	1022	0.4	440	1398	2266	78	62	213
SN	500	000	25002000	6	1100	0.9	525	1555	2442	80	67	225
SN	500	050	25002050	139	1521	1.3	615	1402	2272	55	34	289
SN	500	100	25002100	90	1290	1.5	660	1455	2331	55	35	253
SN	500	150	25002150	65	1403	1.0	670	1482	2361	56	37	272
SN	500	200	25002200	36	1380	0.6	625	1512	2394	64	47	269
SN	500	250	25002250	146	1551	0.5	690	1385	2253	45	22	297
SN	500	300	25002300	131	1700	0.2	715	1400	2270	44	21	320
SN	500	350	25002350	320	1658	0.4	680	1182	2028	28	0	313
SN	500	400	25002400	168	1200	1.0	580	1353	2218	55	33	241

SN	500	450	25002450	124	1246	1.1	605	1401	2271	56	36	247
SN	500	500	25002500	225	1450	1.0	640	1284	2141	42	16	278
SN	500	550	25002550	220	1279	1.0	600	1287	2145	47	22	250
SN	500	600	25002600	65	1120	1.0	475	1462	2339	79	64	229
SN	500	650	25002650	92	996	0.7	440	1429	2302	81	66	210
SN	550	000	25502000	44	1144	1.2	550	1511	2395	73	58	232
SN	550	050	25502050	122	1445	0.7	665	1420	2294	51	30	278
SN	550	100	25502100	232	1569	0.6	710	1292	2152	35	9	298
SN	550	150	25502150	149	1550	0.4	710	1385	2255	44	20	296
SN	550	200	25502200	33	1389	0.5	615	1515	2400	65	49	271
SN	550	250	25502250	117	1503	0.6	675	1417	2291	50	29	288
SN	550	300	25502300	297	1673	0.2	715	1209	2060	27	0	315
SN	550	350	25502350	281	1708	0.5	735	1225	2078	27	0	321
SN	550	400	25502400	358	1683	0.7	700	1135	1978	22	0	317
SN	550	450	25502450	206	1226	0.8	550	1307	2169	55	32	243
SN	550	500	25502500	238	1346	1.3	630	1268	2126	42	16	262
SN	550	550	25502550	126	1230	1.3	550	1393	2264	62	43	243
SN	550	600	25502600	290	1296	1.0	605	1204	2055	39	11	256
SN	550	650	25502650	206	1168	0.9	520	1298	2159	58	36	238
SN	550	700	25502700	48	1049	0.6	465	1476	2356	81	68	220
SN	550	750	25502750	0	1001	0.3	445	1528	2414	89	78	214
SN	600	000	26002000	27	1210	1.9	600	1529	2417	68	53	243
SN	600	050	26002050	42	1338	1.3	640	1510	2396	62	45	261
SN	600	100	26002100	103	1600	0.7	650	1438	2316	55	35	304
SN	600	150	26002150	130	1617	0.4	680	1405	2280	49	27	306
SN	600	200	26002200	67	1420	0.7	620	1475	2357	61	43	275
SN	600	250	26002250	92	1488	0.7	675	1444	2323	53	32	285
SN	600	300	26002300	253	1600	0.6	705	1258	2117	33	5	304
SN	600	350	26002350	175	1602	0.5	715	1345	2213	40	15	304
SN	600	400	26002400	213	1660	0.5	730	1300	2163	34	8	313
SN	600	450	26002450	314	1479	0.8	700	1182	2032	27	0	285
SN	600	500	26002500	189	1230	1.2	560	1323	2189	55	33	245
SN	600	550	26002550	194	1339	1.3	590	1315	2180	51	28	262
SN	600	600	26002600	161	1280	1.0	560	1350	2219	57	36	254
SN	600	650	26002650	327	1423	0.8	635	1159	2007	32	2	277
SN	600	700	26002700	170	1250	0.6	575	1335	2202	54	32	250
SN	600	750	26002750	91	1058	0.7	495	1423	2300	73	56	221
SN	600	800	26002800	42	990	1.0	485	1477	2360	79	65	209
SN	600	850	26002850	69	1032	1.0	480	1444	2323	77	61	215
SN	600	900	26002900	0	950	0.7	480	1520	2407	83	71	202
SN	600	950	26002950	0	1108	0.6	540	1518	2405	75	61	228
SN	650	000	26502000	68	1446	1.0	680	1481	2366	55	36	279
SN	650	050	26502050	175	1710	1.2	750	1357	2229	38	13	321
SN	650	100	26502100	284	1648	1.2	780	1231	2089	24	0	312
SN	650	150	26502150	202	1624	0.9	680	1322	2190	41	17	308
SN	650	200	26502200	215	1559	0.9	640	1305	2171	44	20	297
SN	650	250	26502250	40	1365	0.9	640	1502	2390	62	44	265
SN	650	300	26502300	84	1484	0.8	660	1450	2332	55	35	285
SN	650	350	26502350	143	1526	0.5	680	1380	2254	46	24	292
SN	650	400	26502400	152	1546	0.5	685	1368	2241	45	22	296

SN	650	450	26502450	181	1660	1.0	700	1333	2202	40	16	313
SN	650	500	26502500	313	1544	1.4	700	1180	2032	27	0	296
SN	650	550	26502550	174	1336	1.4	585	1336	2205	53	31	262
SN	650	600	26502600	204	1288	1.2	530	1300	2165	57	35	254
SN	650	650	26502650	238	1330	1.1	590	1259	2120	46	21	260
SN	650	700	26502700	227	1338	1.0	615	1269	2131	44	19	264
SN	650	750	26502750	95	1146	1.4	530	1418	2296	67	50	235
SN	650	800	26502800	23	1019	2.0	520	1497	2384	76	61	215
SN	650	850	26502850	109	1162	2.0	540	1397	2273	64	46	237
SN	650	900	26502900	93	1129	1.7	500	1413	2291	71	54	229
SN	650	950	26502950	1	1059	1.2	545	1516	2405	74	60	217
SN	700	000	27002000	46	1390	0.5	660	1505	2395	60	42	271
SN	700	050	27002050	219	1655	0.5	800	1306	2174	29	1	313
SN	700	100	27002100	174	1740	0.7	800	1355	2228	33	7	328
SN	700	150	27002150	231	1854	1.1	800	1288	2154	27	0	347
SN	700	200	27002200	257	1620	1.1	740	1256	2119	30	1	308
SN	700	250	27002250	120	1455	1.2	610	1410	2290	57	37	280
SN	700	300	27002300	44	1290	0.9	620	1494	2383	63	46	255
SN	700	350	27002350	155	1496	0.4	650	1366	2241	49	26	287
SN	700	400	27002400	240	1600	0.3	700	1267	2131	35	8	304
SN	700	450	27002450	325	1583	0.6	700	1167	2020	26	0	302
SN	700	500	27002500	372	1780	1.3	770	1112	1959	14	0	334
SN	700	550	27002550	351	1786	1.5	745	1133	1982	18	0	335
SN	700	600	27002600	213	1420	1.5	595	1288	2154	48	24	275
SN	700	650	27002650	164	1316	1.5	575	1342	2214	55	34	260
SN	700	700	27002700	280	1460	1.8	605	1208	2065	40	13	282
SN	700	750	27002750	231	1316	2.3	600	1261	2124	45	20	261
SN	700	800	27002800	233	1340	2.7	600	1257	2120	45	19	266
SN	700	850	27002850	282	1414	2.5	680	1199	2055	31	1	278
SN	700	900	27002900	221	1590	2.0	740	1266	2130	31	3	305
SN	700	950	27002950	278	1359	1.3	600	1199	2055	39	12	266
SN	750	000	27502000	126	1527	1.4	700	1413	2295	48	26	292
SN	750	050	27502050	195	1716	1.0	780	1332	2205	33	7	323
SN	750	100	27502100	164	1783	0.6	780	1365	2242	36	11	337
SN	750	150	27502150	293	2034	0.8	890	1216	2076	13	0	365
SN	750	200	27502200	463	2153	1.2	880	1020	1859	0	0	365
SN	750	250	27502250	200	1470	1.2	645	1318	2189	45	21	284
SN	750	300	27502300	149	1323	1.1	600	1373	2251	55	34	261
SN	750	350	27502350	159	1330	0.6	610	1360	2236	53	31	260
SN	750	400	27502400	118	1489	0.4	635	1404	2285	54	33	286
SN	750	450	27502450	318	1652	0.5	690	1174	2030	28	0	312
SN	750	500	27502500	337	1713	0.6	745	1150	2003	20	0	323
SN	750	550	27502550	427	1810	1.4	805	1046	1888	5	0	339
SN	750	600	27502600	457	1862	1.8	780	1009	1846	4	0	346
SN	750	650	27502650	233	1544	1.7	670	1262	2127	37	11	295
SN	750	700	27502700	296	1604	2.0	660	1188	2045	32	3	306
SN	750	750	27502750	336	1624	2.4	730	1141	1993	21	0	308
SN	750	800	27502800	256	1744	2.6	730	1230	2092	29	0	330
SN	750	850	27502850	322	2023	2.8	930	1152	2005	4	0	365
SN	750	900	27502900	412	1974	1.9	1000	1047	1889	0	0	365

SN	750	950	27502950	297	1758	0.8	840	1176	2032	14	0	329
SN	800	000	28002000	72	1450	2.5	700	1473	2364	53	34	283
SN	800	050	28002050	175	1705	1.8	785	1354	2232	35	9	322
SN	800	100	28002100	181	1780	0.9	780	1345	2222	34	9	336
SN	800	150	28002150	293	2154	0.6	880	1215	2077	14	0	365
SN	800	200	28002200	486	2460	1.1	1030	993	1831	0	0	365
SN	800	250	28002250	412	1851	1.1	820	1075	1922	7	0	344
SN	800	300	28002300	294	1400	0.7	655	1207	2068	34	6	272
SN	800	350	28002350	111	1344	0.7	615	1413	2297	57	37	263
SN	800	400	28002400	118	1390	0.5	650	1403	2286	52	31	271
SN	800	450	28002450	430	1693	0.3	730	1045	1889	12	0	319
SN	800	500	28002500	269	1680	0.5	770	1227	2091	25	0	318
SN	800	550	28002550	359	1846	1.1	800	1122	1974	13	0	346
SN	800	600	28002600	429	2000	1.8	825	1040	1883	3	0	365
SN	800	650	28002650	440	1734	1.8	780	1025	1866	6	0	326
SN	800	700	28002700	529	1940	1.5	800	922	1752	0	0	360
SN	800	750	28002750	445	1977	1.8	830	1015	1855	0	0	365
SN	800	800	28002800	377	2160	2.0	1000	1090	1939	0	0	365
SN	800	850	28002850	522	2349	2.4	1080	923	1753	0	0	365
SN	800	900	28002900	438	2200	1.6	1020	1016	1856	0	0	365
SN	800	950	28002950	229	1758	0.2	780	1253	2119	26	0	330
SN	850	000	28502000	352	2138	2.5	1050	1153	2011	0	0	365
SN	850	050	28502050	46	1782	1.6	785	1500	2396	48	28	334
SN	850	100	28502100	267	1794	0.9	750	1245	2113	28	0	338
SN	850	150	28502150	252	2019	0.6	860	1260	2129	20	0	365
SN	850	200	28502200	374	2288	1.1	950	1119	1973	0	0	365
SN	850	250	28502250	352	2017	1.4	900	1142	1998	6	0	365
SN	850	300	28502300	363	1496	1.1	665	1127	1982	26	0	288
SN	850	350	28502350	244	1481	0.8	680	1261	2130	37	10	285
SN	850	400	28502400	272	1483	0.6	670	1227	2093	35	7	286
SN	850	450	28502450	351	1633	0.6	730	1134	1989	20	0	309
SN	850	500	28502500	387	1939	0.9	780	1091	1942	12	0	361
SN	850	550	28502550	448	2030	1.2	835	1019	1862	1	0	365
SN	850	600	28502600	569	2096	1.8	850	879	1706	0	0	365
SN	850	650	28502650	400	1828	2.3	785	1070	1918	9	0	342
SN	850	700	28502700	482	1923	2.4	815	974	1812	0	0	358
SN	850	750	28502750	438	1881	2.4	765	1022	1865	7	0	354
SN	850	800	28502800	510	1965	2.4	880	938	1772	0	0	365
SN	850	850	28502850	438	2122	2.7	1000	1018	1861	0	0	365
SN	850	900	28502900	419	2081	2.0	1000	1037	1882	0	0	365
SN	850	950	28502950	465	1771	0.7	860	982	1821	0	0	332
SN	900	000	29002000	496	2600	1.5	1200	988	1829	0	0	365
SN	900	050	29002050	246	1934	0.9	850	1270	2143	22	0	359
SN	900	100	29002100	200	1740	0.8	800	1321	2199	31	4	323
SN	900	150	29002150	402	2147	0.8	960	1088	1940	0	0	365
SN	900	200	29002200	533	2340	1.2	970	937	1773	0	0	365
SN	900	250	29002250	288	1764	1.8	800	1214	2080	21	0	330
SN	900	300	29002300	246	1480	1.7	600	1259	2130	45	21	285
SN	900	350	29002350	310	1427	0.7	670	1184	2047	31	2	275
SN	900	400	29002400	404	1700	0.5	695	1075	1926	19	0	319

SN	900	450	29002450	229	1476	0.7	640	1272	2145	42	17	284
SN	900	500	29002500	225	1500	1.0	670	1275	2148	39	13	289
SN	900	550	29002550	419	1795	1.5	780	1051	1899	8	0	337
SN	900	600	29002600	482	2000	2.1	805	977	1817	0	0	365
SN	900	650	29002650	375	1671	2.8	735	1097	1950	17	0	317
SN	900	700	29002700	373	1770	3.5	750	1097	1950	15	0	332
SN	900	750	29002750	370	1703	3.4	730	1098	1952	17	0	322
SN	900	800	29002800	285	1590	3.2	680	1193	2057	31	2	307
SN	900	850	29002850	267	1708	3.6	665	1211	2077	34	6	329
SN	900	900	29002900	370	1590	3.4	670	1092	1945	23	0	311
SN	900	950	29002950	419	1621	1.7	670	1034	1881	18	0	316
SN	950	000	29502000	465	2404	2.0	1050	1022	1869	0	0	365
SN	950	050	29502050	232	1969	1.4	900	1285	2161	19	0	365
SN	950	100	29502100	288	1895	0.9	820	1219	2088	20	0	342
SN	950	150	29502150	413	2132	0.8	940	1075	1928	0	0	362
SN	950	200	29502200	469	2246	1.1	1010	1008	1854	0	0	365
SN	950	250	29502250	320	1652	1.5	800	1176	2040	18	0	312
SN	950	300	29502300	211	1281	1.3	535	1298	2176	57	36	254
SN	950	350	29502350	310	1408	0.7	600	1183	2048	39	11	272
SN	950	400	29502400	404	1551	0.4	670	1074	1927	21	0	296
SN	950	450	29502450	435	1558	0.4	700	1036	1885	15	0	296
SN	950	500	29502500	200	1281	1.1	550	1302	2180	56	34	254
SN	950	550	29502550	300	1413	1.9	580	1186	2051	41	15	274
SN	950	600	29502600	377	1760	2.4	750	1096	1951	15	0	329
SN	950	650	29502650	364	1454	2.8	600	1108	1965	32	2	280
SN	950	700	29502700	288	1424	2.7	590	1193	2059	41	14	276
SN	950	750	29502750	451	1379	2.1	600	1005	1850	23	0	268
SN	950	800	29502800	330	1429	1.7	570	1141	2001	39	10	282
SN	950	850	29502850	208	1257	2.2	500	1277	2152	60	39	263
SN	950	900	29502900	299	1239	2.6	490	1171	2035	52	27	258
SN	950	950	29502950	314	1353	1.8	570	1152	2014	40	12	277
SO	000	000	30002000	255	1950	2.6	850	1260	2136	21	0	354
SO	000	050	30002050	212	1606	1.5	700	1307	2188	39	14	307
SO	000	100	30002100	353	1690	0.5	800	1144	2007	15	0	315
SO	000	150	30002150	324	1966	0.8	900	1175	2041	10	0	353
SO	000	200	30002200	699	2400	1.1	900	745	1564	0	0	365
SO	000	250	30002250	246	1538	1.1	600	1259	2134	46	21	293
SO	000	300	30002300	158	1160	1.1	490	1357	2243	69	51	236
SO	000	350	30002350	288	1309	1.1	530	1207	2077	50	25	263
SO	000	400	30002400	349	1390	1.3	610	1135	1997	34	4	277
SO	000	450	30002450	431	1395	0.9	630	1040	1891	23	0	277
SO	000	500	30002500	254	1130	0.8	570	1239	2112	48	23	236
SO	000	550	30002550	149	1083	1.5	515	1357	2243	65	46	227
SO	000	600	30002600	228	1340	1.9	550	1264	2140	52	29	267
SO	000	650	30002650	227	1361	2.2	525	1263	2139	56	33	270
SO	000	700	30002700	295	1190	1.4	500	1184	2051	52	27	245
SO	000	750	30002750	314	1179	0.4	530	1160	2025	46	19	243
SO	000	800	30002800	324	1100	0.0	500	1146	2009	49	22	233
SO	000	850	30002850	187	1045	0.3	450	1300	2180	70	51	226
SO	000	900	30002900	162	990	0.8	435	1327	2210	74	57	215

SO	000	950	30002950	166	1173	1.0	500	1320	2202	64	44	242
SO	050	000	30502000	218	1574	1.5	690	1301	2183	40	15	300
SO	050	050	30502050	172	1528	0.5	690	1351	2239	44	21	293
SO	050	100	30502100	288	1585	0.4	730	1217	2090	28	0	305
SO	050	150	30502150	361	1943	1.4	840	1132	1996	11	0	364
SO	050	200	30502200	712	2141	1.6	830	729	1548	0	0	365
SO	050	250	30502250	208	1336	1.3	545	1302	2184	56	35	260
SO	050	300	30502300	172	1041	1.2	460	1340	2227	72	54	221
SO	050	350	30502350	323	1160	1.3	525	1166	2033	47	21	247
SO	050	400	30502400	383	1272	1.7	575	1095	1955	34	4	264
SO	050	450	30502450	333	1185	1.3	600	1150	2016	36	8	252
SO	050	500	30502500	211	980	0.6	480	1287	2168	64	44	218
SO	050	550	30502550	225	1039	0.5	450	1269	2148	67	47	225
SO	050	600	30502600	208	1051	0.7	450	1286	2167	69	49	226
SO	050	650	30502650	213	1110	0.8	475	1278	2158	64	44	236
SO	050	700	30502700	370	1146	0.4	480	1097	1957	47	20	242
SO	050	750	30502750	366	1169	0.0	525	1099	1959	41	13	248
SO	050	800	30502800	396	1201	0.1	545	1063	1919	35	5	251
SO	050	850	30502850	418	1123	0.2	500	1036	1889	39	9	237
SO	050	900	30502900	252	984	0.5	420	1223	2097	68	47	210
SO	050	950	30502950	189	986	1.0	470	1292	2173	66	46	202
SO	100	000	31002000	221	1480	0.3	700	1297	2181	39	13	285
SO	100	050	31002050	430	1598	0.2	730	1056	1913	14	0	304
SO	100	100	31002100	376	1570	1.1	760	1115	1979	17	0	301
SO	100	150	31002150	453	1804	1.7	750	1025	1879	10	0	339
SO	100	200	31002200	223	1600	1.4	680	1285	2168	40	14	307
SO	100	250	31002250	118	1115	1.5	495	1403	2299	72	56	230
SO	100	300	31002300	216	990	1.3	425	1289	2172	73	55	212
SO	100	350	31002350	235	1010	1.1	450	1265	2145	67	47	219
SO	100	400	31002400	312	1120	1.1	495	1175	2045	52	27	238
SO	100	450	31002450	292	1093	0.9	485	1196	2069	55	32	236
SO	100	500	31002500	303	1100	0.6	510	1181	2052	51	26	236
SO	100	550	31002550	263	1038	0.4	510	1224	2100	54	31	226
SO	100	600	31002600	335	1100	0.3	495	1140	2007	49	23	235
SO	100	650	31002650	246	966	0.3	450	1239	2116	65	44	212
SO	100	700	31002700	325	1090	0.1	490	1147	2014	50	25	234
SO	100	750	31002750	292	1179	0.0	525	1183	2054	49	23	250
SO	100	800	31002800	350	1200	0.3	540	1114	1978	41	12	252
SO	100	850	31002850	419	1118	0.3	500	1033	1888	39	9	237
SO	100	900	31002900	154	900	0.4	400	1333	2221	81	65	200
SO	100	950	31002950	171	884	1.1	415	1312	2198	77	60	194
SO	150	000	31502000	183	1463	0.2	690	1339	2230	44	20	282
SO	150	050	31502050	448	1525	0.3	700	1034	1891	15	0	292
SO	150	100	31502100	364	1556	1.2	700	1128	1995	24	0	298
SO	150	150	31502150	493	1748	1.3	730	979	1830	7	0	327
SO	150	200	31502200	113	1128	0.8	500	1410	2308	73	56	232
SO	150	250	31502250	299	970	1.0	490	1195	2070	55	31	209
SO	150	300	31502300	291	987	1.0	425	1202	2078	66	44	212
SO	150	350	31502350	117	886	0.9	395	1399	2296	88	75	196
SO	150	400	31502400	204	939	0.7	440	1297	2183	71	53	207

SO	150	450	31502450	316	1117	0.4	480	1167	2039	54	29	237
SO	150	500	31502500	421	1179	0.5	500	1045	1903	40	11	248
SO	150	550	31502550	492	1154	0.5	500	962	1811	33	0	245
SO	150	600	31502600	311	1112	0.4	550	1166	2038	44	18	238
SO	150	650	31502650	326	1103	0.4	505	1147	2016	48	22	234
SO	150	700	31502700	278	1098	0.4	500	1200	2075	54	30	235
SO	150	750	31502750	351	1191	0.4	560	1114	1980	38	10	251
SO	150	800	31502800	344	1163	0.4	535	1120	1987	42	14	245
SO	150	850	31502850	414	1145	0.4	510	1038	1895	38	8	241
SO	150	900	31502900	202	909	0.3	425	1277	2161	72	53	204
SO	150	950	31502950	200	884	0.8	400	1278	2162	77	59	199
SO	200	000	32002000	291	1490	0.4	665	1214	2093	35	8	286
SO	200	050	32002050	406	1483	0.6	690	1081	1945	21	0	286
SO	200	100	32002100	443	1520	0.8	720	1037	1896	14	0	295
SO	200	150	32002150	497	1403	0.8	620	973	1825	19	0	280
SO	200	200	32002200	103	1050	0.6	480	1420	2322	77	61	225
SO	200	250	32002250	454	1180	0.5	500	1018	1875	38	7	246
SO	200	300	32002300	512	1400	0.7	600	949	1799	19	0	281
SO	200	350	32002350	293	1197	0.6	450	1197	2074	61	39	248
SO	200	400	32002400	116	870	0.5	395	1396	2295	88	75	196
SO	200	450	32002450	267	1030	0.4	460	1222	2102	62	40	220
SO	200	500	32002500	361	1100	0.5	480	1113	1981	49	23	232
SO	200	550	32002550	484	1224	0.6	520	970	1822	31	0	254
SO	200	600	32002600	292	1090	0.5	490	1187	2063	54	30	232
SO	200	650	32002650	553	1228	0.5	555	887	1730	19	0	252
SO	200	700	32002700	386	1140	0.7	520	1075	1939	40	11	240
SO	200	750	32002750	406	1161	0.9	525	1050	1911	37	7	245
SO	200	800	32002800	290	1070	0.8	490	1180	2055	54	29	229
SO	200	850	32002850	370	1123	0.6	510	1087	1952	43	14	236
SO	200	900	32002900	215	940	0.3	450	1262	2146	67	47	207
SO	200	950	32002950	168	871	0.4	405	1313	2203	79	62	197
SO	250	000	32502000	303	1614	0.9	700	1200	2080	30	2	305
SO	250	050	32502050	377	1589	1.0	700	1113	1983	23	0	302
SO	250	100	32502100	440	1639	0.9	700	1039	1901	16	0	317
SO	250	150	32502150	75	1155	0.8	480	1453	2360	80	66	248
SO	250	200	32502200	149	1158	0.6	490	1366	2264	70	53	247
SO	250	250	32502250	574	1284	0.4	570	880	1724	16	0	266
SO	250	300	32502300	596	1421	0.7	605	852	1693	10	0	287
SO	250	350	32502350	608	1414	0.6	610	837	1677	8	0	287
SO	250	400	32502400	253	1146	0.4	475	1239	2123	61	40	240
SO	250	450	32502450	138	862	0.6	385	1368	2266	88	74	189
SO	250	500	32502500	280	989	0.8	450	1204	2084	62	40	212
SO	250	550	32502550	263	1074	0.9	500	1221	2103	56	33	227
SO	250	600	32502600	191	1046	0.9	465	1301	2192	68	49	224
SO	250	650	32502650	275	1028	0.9	505	1203	2083	54	30	221
SO	250	700	32502700	334	1101	1.1	500	1133	2005	48	22	233
SO	250	750	32502750	214	1068	1.3	490	1268	2155	62	41	229
SO	250	800	32502800	390	1065	1.2	470	1065	1930	47	19	227
SO	250	850	32502850	345	1001	0.8	485	1114	1984	49	22	214
SO	250	900	32502900	326	1008	0.4	440	1134	2006	57	33	217

SO	250	950	32502950	155	806	0.1	385	1327	2220	84	69	188
SO	300	000	33002000	103	1220	1.5	550	1426	2332	68	51	243
SO	300	050	33002050	225	1304	1.4	580	1285	2176	51	29	256
SO	300	100	33002100	116	1140	1.3	540	1407	2311	67	50	236
SO	300	150	33002150	76	1063	1.0	450	1451	2360	84	71	227
SO	300	200	33002200	305	1120	0.8	485	1187	2067	55	32	237
SO	300	250	33002250	368	1259	0.9	540	1113	1985	41	13	258
SO	300	300	33002300	313	1240	1.1	525	1174	2053	49	23	256
SO	300	350	33002350	334	1128	1.1	500	1148	2024	50	24	240
SO	300	400	33002400	297	1050	0.8	475	1188	2068	57	33	221
SO	300	450	33002450	187	880	0.8	400	1311	2205	80	64	191
SO	300	500	33002500	103	890	0.9	390	1404	2308	90	77	195
SO	300	550	33002550	206	958	1.1	450	1285	2176	69	50	208
SO	300	600	33002600	276	1070	1.2	450	1203	2085	62	40	227
SO	300	650	33002650	196	971	1.2	445	1292	2184	71	52	212
SO	300	700	33002700	375	1040	1.3	475	1086	1955	48	21	222
SO	300	750	33002750	360	983	1.4	460	1101	1972	51	25	214
SO	300	800	33002800	238	970	1.1	450	1237	2123	65	44	210
SO	300	850	33002850	240	894	0.9	455	1233	2118	64	43	197
SO	300	900	33002900	356	930	0.6	425	1098	1968	57	32	203
SO	300	950	33002950	330	781	0.3	335	1126	1999	76	56	181
SO	350	000	33502000	88	1044	1.0	475	1442	2352	80	66	213
SO	350	050	33502050	52	1123	1.6	450	1481	2396	87	75	225
SO	350	100	33502100	44	949	1.5	420	1488	2403	92	82	202
SO	350	150	33502150	145	1038	0.9	435	1371	2274	80	64	220
SO	350	200	33502200	175	1046	1.2	460	1334	2232	72	55	221
SO	350	250	33502250	212	1046	1.7	465	1290	2184	68	48	222
SO	350	300	33502300	183	953	1.8	450	1321	2218	73	55	207
SO	350	350	33502350	193	908	1.6	410	1307	2202	78	61	202
SO	350	400	33502400	231	933	1.3	420	1262	2153	72	54	201
SO	350	450	33502450	93	785	1.0	380	1417	2325	93	82	173
SO	350	500	33502500	75	762	0.9	375	1435	2345	96	85	173
SO	350	550	33502550	143	834	1.2	395	1356	2257	85	71	186
SO	350	600	33502600	137	891	1.3	400	1360	2261	84	70	198
SO	350	650	33502650	194	928	1.2	425	1293	2187	74	56	206
SO	350	700	33502700	252	968	1.2	445	1225	2111	65	44	211
SO	350	750	33502750	299	879	1.1	420	1169	2049	64	42	195
SO	350	800	33502800	231	880	1.0	400	1244	2133	74	55	195
SO	350	850	33502850	160	830	0.8	390	1323	2220	83	67	186
SO	350	900	33502900	183	794	0.5	395	1295	2189	80	63	181
SO	350	950	33502950	268	850	0.3	410	1195	2078	68	47	189
SO	400	000	34002000	93	980	0.2	440	1436	2348	85	72	204
SO	400	050	34002050	54	987	0.9	400	1478	2394	95	85	206
SO	400	100	34002100	67	1050	1.0	395	1461	2376	95	84	217
SO	400	150	34002150	57	927	0.6	395	1470	2386	95	85	200
SO	400	200	34002200	208	950	1.0	420	1296	2192	75	58	205
SO	400	250	34002250	138	909	1.4	390	1373	2278	88	74	199
SO	400	300	34002300	107	800	1.7	375	1406	2314	93	81	180
SO	400	350	34002350	134	841	1.8	380	1373	2278	89	76	185
SO	400	400	34002400	76	770	1.4	360	1437	2349	99	89	174

SO	400	450	34002450	162	753	0.7	355	1337	2238	91	78	171
SO	400	500	34002500	145	780	0.5	370	1354	2257	90	76	177
SO	400	550	34002550	124	780	0.9	370	1376	2281	92	79	179
SO	400	600	34002600	95	780	1.1	375	1407	2316	93	82	178
SO	400	650	34002650	175	878	0.9	400	1314	2212	81	64	194
SO	400	700	34002700	232	840	0.8	410	1246	2137	73	54	191
SO	400	750	34002750	141	793	0.6	390	1348	2250	85	71	185
SO	400	800	34002800	134	790	0.6	385	1354	2257	87	73	186
SO	400	850	34002850	269	798	0.5	375	1198	2084	75	55	187
SO	400	900	34002900	396	850	0.1	410	1051	1920	55	29	196
SO	400	950	34002950	341	899	0.2	400	1111	1987	62	39	205
SO	450	000	34502000	99	1025	0.1	470	1428	2341	80	65	211
SO	450	050	34502050	77	983	0.1	400	1450	2365	93	82	208
SO	450	100	34502100	44	901	0.2	375	1486	2405	101	92	194
SO	450	150	34502150	84	873	0.4	375	1438	2352	96	86	189
SO	450	200	34502200	66	901	0.8	385	1456	2372	96	86	195
SO	450	250	34502250	249	822	1.0	385	1246	2139	77	59	184
SO	450	300	34502300	115	763	0.8	335	1396	2305	100	90	171
SO	450	350	34502350	99	742	1.0	350	1412	2323	99	88	163
SO	450	400	34502400	58	719	0.9	345	1457	2373	104	95	164
SO	450	450	34502450	162	759	0.5	360	1336	2239	90	76	174
SO	450	500	34502500	120	765	0.3	360	1382	2290	94	82	175
SO	450	550	34502550	93	748	0.6	350	1410	2321	99	88	173
SO	450	600	34502600	92	754	0.7	360	1409	2320	97	86	172
SO	450	650	34502650	147	831	0.5	380	1344	2248	87	73	181
SO	450	700	34502700	198	804	0.4	385	1284	2181	81	64	183
SO	450	750	34502750	122	782	0.2	375	1368	2274	90	77	186
SO	450	800	34502800	132	797	0.1	375	1355	2260	89	75	190
SO	450	850	34502850	174	791	0.2	380	1305	2204	84	68	192
SO	450	900	34502900	212	859	0.2	420	1259	2153	72	54	204
SO	450	950	34502950	324	914	0.3	435	1129	2009	58	34	215
SO	500	000	35002000	128	980	0.3	500	1393	2304	72	56	207
SO	500	050	35002050	217	1018	0.2	480	1290	2190	66	46	215
SO	500	100	35002100	93	920	0.2	390	1429	2344	93	81	199
SO	500	150	35002150	48	790	0.4	370	1478	2399	101	92	178
SO	500	200	35002200	141	840	0.8	375	1370	2279	90	77	184
SO	500	250	35002250	71	771	0.9	375	1447	2364	97	87	171
SO	500	300	35002300	134	770	0.6	370	1373	2282	92	79	169
SO	500	350	35002350	90	708	0.3	350	1421	2335	100	90	156
SO	500	400	35002400	59	690	0.6	335	1454	2372	106	98	153
SO	500	450	35002450	73	720	0.7	345	1436	2352	102	93	159
SO	500	500	35002500	87	750	0.3	350	1418	2332	100	89	167
SO	500	550	35002550	118	734	0.3	345	1381	2291	97	86	167
SO	500	600	35002600	74	740	0.3	350	1429	2344	101	91	167
SO	500	650	35002650	84	776	0.3	365	1415	2329	96	85	172
SO	500	700	35002700	97	790	0.3	375	1398	2310	93	81	181
SO	500	750	35002750	99	786	0.2	375	1393	2304	92	80	185
SO	500	800	35002800	106	770	0.2	375	1383	2293	92	79	185
SO	500	850	35002850	124	796	0.3	380	1361	2269	89	75	190
SO	500	900	35002900	175	800	0.4	400	1300	2201	80	63	193

SO	500	950	35002950	217	873	0.5	420	1250	2146	72	53	205
SO	550	000	35502000	215	1003	0.4	470	1293	2195	68	49	212
SO	550	050	35502050	59	997	0.5	465	1469	2391	84	72	214
SO	550	100	35502100	137	950	0.4	405	1378	2290	86	72	206
SO	550	150	35502150	59	813	0.3	365	1464	2385	101	92	183
SO	550	200	35502200	55	767	0.5	355	1467	2388	103	94	171
SO	550	250	35502250	94	729	0.5	350	1420	2336	100	90	161
SO	550	300	35502300	57	708	0.4	355	1460	2381	103	94	156
SO	550	350	35502350	71	700	0.3	345	1442	2361	103	94	153
SO	550	400	35502400	51	678	0.4	320	1462	2383	110	103	147
SO	550	450	35502450	74	677	0.4	330	1434	2352	105	97	143
SO	550	500	35502500	67	684	0.1	340	1440	2359	104	95	151
SO	550	550	35502550	142	725	0.1	350	1352	2261	94	81	163
SO	550	600	35502600	139	733	0.1	365	1353	2262	91	78	165
SO	550	650	35502650	126	733	0.2	365	1366	2276	92	79	164
SO	550	700	35502700	84	738	0.2	375	1412	2327	94	83	170
SO	550	750	35502750	124	787	0.2	390	1364	2274	87	74	185
SO	550	800	35502800	151	816	0.3	420	1331	2238	79	63	192
SO	550	850	35502850	175	798	0.3	385	1301	2204	83	67	189
SO	550	900	35502900	134	788	0.3	385	1346	2254	87	72	189
SO	550	950	35502950	162	776	0.4	375	1312	2216	85	70	189
SO	600	000	36002000	17	980	0.6	420	1518	2447	96	87	209
SO	600	050	36002050	149	991	0.7	450	1365	2277	77	62	212
SO	600	100	36002100	154	980	0.6	455	1357	2268	76	60	209
SO	600	150	36002150	179	876	0.4	420	1326	2234	79	63	193
SO	600	200	36002200	135	750	0.3	365	1374	2287	93	81	169
SO	600	250	36002250	50	737	0.4	345	1469	2393	105	97	161
SO	600	300	36002300	45	690	0.2	335	1473	2397	108	100	154
SO	600	350	36002350	107	706	0.1	340	1400	2316	100	90	155
SO	600	400	36002400	147	700	0.2	340	1352	2263	96	84	152
SO	600	450	36002450	80	681	0.1	330	1426	2345	105	96	147
SO	600	500	36002500	107	730	0.1	345	1393	2308	99	88	161
SO	600	550	36002550	192	751	0.1	375	1294	2199	84	68	170
SO	600	600	36002600	210	760	0.1	385	1271	2173	80	63	173
SO	600	650	36002650	132	723	0.1	355	1358	2270	94	81	167
SO	600	700	36002700	88	720	0.1	375	1406	2323	94	82	172
SO	600	750	36002750	280	819	0.1	440	1185	2078	63	41	192
SO	600	800	36002800	289	850	0.2	430	1172	2063	63	41	198
SO	600	850	36002850	429	880	0.3	450	1011	1884	46	17	203
SO	600	900	36002900	223	820	0.3	400	1243	2142	75	56	193
SO	600	950	36002950	164	803	0.3	415	1308	2214	78	61	189
SO	650	000	36502000	0	829	0.6	395	1536	2469	102	94	184
SO	650	050	36502050	63	863	0.8	410	1462	2387	93	82	191
SO	650	100	36502100	185	884	0.8	420	1321	2231	79	62	195
SO	650	150	36502150	162	857	0.7	420	1345	2257	81	65	190
SO	650	200	36502200	221	830	0.4	405	1275	2180	77	60	181
SO	650	250	36502250	76	775	0.3	350	1438	2360	102	92	168
SO	650	300	36502300	91	704	0.2	350	1419	2339	100	90	156
SO	650	350	36502350	55	698	0.0	355	1458	2383	103	94	154
SO	650	400	36502400	82	718	0.1	350	1425	2346	101	91	156

SO	650	450	36502450	69	695	0.2	335	1437	2359	105	96	151
SO	650	500	36502500	159	708	0.2	340	1333	2244	95	82	159
SO	650	550	36502550	139	734	0.2	360	1353	2266	92	79	170
SO	650	600	36502600	135	761	0.2	370	1356	2269	91	77	175
SO	650	650	36502650	157	741	0.2	355	1328	2238	91	78	173
SO	650	700	36502700	67	720	0.2	370	1429	2350	97	87	175
SO	650	750	36502750	157	803	0.3	420	1324	2234	79	63	193
SO	650	800	36502800	179	831	0.4	425	1297	2204	76	58	196
SO	650	850	36502850	153	855	0.5	425	1324	2234	78	62	199
SO	650	900	36502900	208	819	0.6	410	1259	2162	75	57	192
SO	650	950	36502950	130	731	0.5	375	1346	2258	89	75	177
SO	700	000	37002000	17	780	0.4	395	1515	2448	100	92	175
SO	700	050	37002050	0	790	0.7	390	1533	2468	103	95	178
SO	700	100	37002100	4	800	0.7	390	1526	2460	102	94	178
SO	700	150	37002150	30	810	0.7	395	1494	2425	99	89	178
SO	700	200	37002200	147	820	0.7	405	1358	2274	85	70	177
SO	700	250	37002250	67	792	0.6	360	1447	2373	101	92	169
SO	700	300	37002300	42	730	0.4	345	1474	2403	106	99	160
SO	700	350	37002350	44	699	0.1	345	1469	2397	106	98	154
SO	700	400	37002400	64	690	0.1	340	1444	2369	105	96	155
SO	700	450	37002450	116	716	0.2	345	1383	2302	98	87	160
SO	700	500	37002500	157	720	0.3	350	1334	2247	93	80	162
SO	700	550	37002550	118	741	0.4	360	1376	2294	95	83	166
SO	700	600	37002600	90	750	0.4	355	1406	2327	98	88	169
SO	700	650	37002650	120	746	0.4	350	1369	2286	96	84	170
SO	700	700	37002700	135	720	0.5	360	1350	2265	92	79	171
SO	700	750	37002750	134	783	0.7	370	1349	2264	90	77	184
SO	700	800	37002800	151	800	0.8	405	1327	2239	82	66	185
SO	700	850	37002850	101	798	0.8	385	1382	2300	90	78	183
SO	700	900	37002900	128	750	0.8	380	1349	2264	88	75	175
SO	700	950	37002950	84	697	0.7	355	1397	2317	97	86	166
SO	750	000	37502000	48	823	0.4	400	1479	2410	96	87	181
SO	750	050	37502050	12	766	0.4	375	1518	2453	104	97	170
SO	750	100	37502100	7	748	0.5	375	1521	2457	105	98	165
SO	750	150	37502150	14	741	0.8	365	1511	2446	106	99	163
SO	750	200	37502200	26	756	1.5	365	1495	2428	104	97	164
SO	750	250	37502250	21	711	1.8	350	1499	2432	108	101	156
SO	750	300	37502300	36	706	1.1	345	1479	2410	107	99	155
SO	750	350	37502350	105	710	0.3	355	1398	2320	98	87	155
SO	750	400	37502400	170	713	0.2	355	1322	2236	91	77	162
SO	750	450	37502450	147	720	0.3	355	1346	2263	93	80	169
SO	750	500	37502500	177	717	0.4	360	1310	2223	89	75	161
SO	750	550	37502550	36	700	0.6	350	1468	2398	105	97	152
SO	750	600	37502600	88	693	0.7	345	1407	2330	100	90	154
SO	750	650	37502650	183	717	0.7	355	1296	2207	89	74	162
SO	750	700	37502700	109	727	0.7	360	1378	2298	95	83	166
SO	750	750	37502750	116	743	0.8	365	1368	2287	93	81	173
SO	750	800	37502800	55	721	0.8	370	1436	2362	98	88	167
SO	750	850	37502850	59	695	0.7	355	1429	2355	100	91	159
SO	750	900	37502900	67	684	0.5	350	1418	2342	100	90	158

SO	750	950	37502950	44	701	0.4	345	1442	2369	104	95	160
SO	800	000	38002000	202	900	0.4	420	1302	2216	77	61	193
SO	800	050	38002050	25	775	0.4	370	1502	2438	104	97	168
SO	800	100	38002100	23	740	0.4	360	1502	2438	106	99	161
SO	800	150	38002150	10	683	0.6	340	1514	2451	111	105	152
SO	800	200	38002200	35	670	1.2	340	1484	2418	109	101	147
SO	800	250	38002250	38	664	1.8	335	1478	2411	109	102	144
SO	800	300	38002300	28	670	1.3	335	1487	2421	110	103	146
SO	800	350	38002350	23	681	0.4	340	1491	2426	109	102	149
SO	800	400	38002400	38	680	0.4	345	1471	2403	106	99	151
SO	800	450	38002450	38	691	0.5	350	1469	2401	105	97	155
SO	800	500	38002500	44	680	0.5	350	1460	2391	104	96	150
SO	800	550	38002550	40	653	0.7	340	1463	2395	107	99	141
SO	800	600	38002600	46	670	0.9	335	1454	2385	107	99	145
SO	800	650	38002650	68	657	0.9	350	1426	2353	101	92	145
SO	800	700	38002700	43	700	0.9	355	1453	2383	103	94	156
SO	800	750	38002750	32	688	0.7	355	1463	2395	104	95	158
SO	800	800	38002800	129	720	0.4	360	1350	2269	93	80	163
SO	800	850	38002850	177	720	0.3	360	1293	2206	87	73	163
SO	800	900	38002900	95	720	0.1	340	1385	2308	100	89	161
SO	800	950	38002950	80	683	0.0	335	1399	2323	102	92	155
SO	850	000	38502000	95	899	0.7	440	1423	2352	85	72	192
SO	850	050	38502050	49	838	0.7	410	1473	2408	95	84	174
SO	850	100	38502100	158	776	0.6	385	1347	2268	88	74	165
SO	850	150	38502150	65	681	0.5	340	1451	2383	106	98	149
SO	850	200	38502200	15	638	0.5	320	1505	2443	115	109	140
SO	850	250	38502250	27	633	1.0	320	1489	2425	113	107	134
SO	850	300	38502300	13	650	0.9	320	1503	2441	115	109	139
SO	850	350	38502350	28	661	0.4	330	1484	2420	111	104	142
SO	850	400	38502400	14	661	0.3	335	1498	2435	111	105	141
SO	850	450	38502450	14	646	0.3	330	1495	2432	112	106	140
SO	850	500	38502500	17	633	0.3	330	1490	2427	111	105	136
SO	850	550	38502550	18	636	0.4	325	1487	2423	112	106	135
SO	850	600	38502600	30	633	0.5	325	1471	2406	111	104	135
SO	850	650	38502650	38	645	0.7	320	1459	2392	111	104	136
SO	850	700	38502700	57	646	0.8	325	1435	2366	108	99	142
SO	850	750	38502750	44	654	0.7	340	1448	2380	105	97	147
SO	850	800	38502800	76	691	0.4	360	1409	2337	98	87	156
SO	850	850	38502850	76	693	0.3	345	1407	2334	101	91	159
SO	850	900	38502900	107	694	0.3	335	1370	2293	100	89	156
SO	850	950	38502950	103	676	0.1	335	1372	2296	100	89	150
SO	900	000	39002000	164	920	0.7	430	1343	2266	80	64	199
SO	900	050	39002050	202	889	0.7	430	1298	2216	76	59	191
SO	900	100	39002100	224	880	0.7	425	1270	2185	74	56	187
SO	900	150	39002150	101	743	0.5	360	1408	2338	98	88	164
SO	900	200	39002200	34	640	0.6	325	1483	2421	112	106	144
SO	900	250	39002250	25	624	0.7	320	1491	2430	114	108	138
SO	900	300	39002300	15	630	0.6	320	1500	2440	115	109	138
SO	900	350	39002350	12	630	0.3	325	1501	2441	114	108	137
SO	900	400	39002400	30	630	0.2	320	1478	2415	113	106	136

SO	900	450	39002450	21	630	0.2	320	1486	2424	113	107	135
SO	900	500	39002500	48	630	0.1	315	1453	2388	111	105	134
SO	900	550	39002550	54	646	0.2	315	1444	2378	111	103	136
SO	900	600	39002600	59	640	0.5	315	1436	2369	110	102	135
SO	900	650	39002650	54	639	0.7	320	1440	2373	109	102	138
SO	900	700	39002700	60	660	0.7	330	1431	2363	106	98	148
SO	900	750	39002750	111	701	0.7	350	1371	2297	97	85	163
SO	900	800	39002800	91	730	0.7	370	1391	2319	95	83	169
SO	900	850	39002850	82	699	0.6	355	1399	2328	98	88	166
SO	900	900	39002900	101	680	0.4	345	1375	2301	98	87	161
SO	900	950	39002950	164	706	0.3	350	1301	2219	91	77	160
SO	950	000	39502000	152	909	0.7	420	1356	2282	83	68	200
SO	950	050	39502050	162	880	0.4	425	1342	2267	81	65	198
SO	950	100	39502100	219	916	0.7	460	1275	2192	69	50	200
SO	950	150	39502150	250	871	0.7	425	1237	2150	71	52	191
SO	950	200	39502200	91	723	0.6	345	1416	2349	102	92	161
SO	950	250	39502250	57	654	0.7	340	1453	2390	106	98	145
SO	950	300	39502300	44	668	0.6	335	1466	2404	108	101	146
SO	950	350	39502350	27	651	0.5	335	1483	2423	110	103	140
SO	950	400	39502400	213	679	0.3	330	1269	2185	92	78	142
SO	950	450	39502450	15	619	0.2	325	1492	2433	113	107	130
SO	950	500	39502500	30	601	0.3	315	1473	2412	113	107	127
SO	950	550	39502550	38	623	0.5	315	1461	2399	112	106	131
SO	950	600	39502600	42	639	0.7	315	1455	2392	112	105	137
SO	950	650	39502650	76	659	0.7	325	1414	2346	106	97	142
SO	950	700	39502700	101	682	0.6	355	1383	2312	97	86	157
SO	950	750	39502750	160	747	0.6	370	1314	2235	88	74	180
SO	950	800	39502800	234	805	0.7	400	1227	2139	75	56	189
SO	950	850	39502850	104	734	0.6	385	1373	2301	90	78	177
SO	950	900	39502900	214	709	0.4	380	1245	2159	80	63	170
SO	950	950	39502950	150	726	0.3	375	1316	2238	87	73	170
SP	000	000	40002000	117	830	1.0	390	1394	2326	91	79	188
SP	000	050	40002050	151	857	0.5	400	1353	2281	86	72	195
SP	000	100	40002100	231	850	0.6	430	1260	2178	73	54	193
SP	000	150	40002150	189	856	0.7	430	1306	2229	77	60	192
SP	000	200	40002200	147	750	0.7	385	1351	2279	89	75	172
SP	000	250	40002250	305	812	0.6	380	1169	2077	73	54	177
SP	000	300	40002300	127	750	0.5	350	1370	2300	97	86	165
SP	000	350	40002350	95	661	0.5	340	1404	2337	102	92	147
SP	000	400	40002400	65	650	0.4	335	1436	2373	106	98	141
SP	000	450	40002450	32	628	0.2	330	1472	2413	110	103	132
SP	000	500	40002500	48	640	0.4	325	1451	2390	109	102	135
SP	000	550	40002550	59	639	0.5	325	1436	2373	108	100	137
SP	000	600	40002600	57	650	0.5	330	1436	2373	107	99	143
SP	000	650	40002650	100	694	0.5	350	1385	2316	98	88	154
SP	000	700	40002700	149	760	0.5	375	1327	2252	88	74	173
SP	000	750	40002750	231	814	0.5	405	1231	2145	74	56	192
SP	000	800	40002800	193	790	0.5	420	1273	2192	75	58	190
SP	000	850	40002850	202	786	0.4	405	1260	2178	77	59	188
SP	000	900	40002900	149	760	0.2	385	1318	2242	86	71	180

SP	000	950	40002950	122	696	0.1	360	1347	2274	93	80	165
SP	050	000	40502000	114	768	1.1	380	1397	2332	94	82	178
SP	050	050	40502050	145	825	0.6	390	1359	2290	89	75	191
SP	050	100	40502100	197	835	0.4	410	1298	2222	80	63	192
SP	050	150	40502150	143	805	0.3	400	1357	2287	87	73	188
SP	050	200	40502200	213	776	0.4	400	1275	2196	79	63	180
SP	050	250	40502250	236	806	0.3	400	1247	2165	77	59	183
SP	050	300	40502300	105	775	0.3	375	1394	2328	94	83	174
SP	050	350	40502350	63	672	0.3	350	1439	2378	103	94	155
SP	050	400	40502400	49	647	0.4	340	1453	2394	107	99	144
SP	050	450	40502450	29	633	0.5	335	1474	2417	109	103	133
SP	050	500	40502500	60	646	0.4	345	1436	2375	104	95	138
SP	050	550	40502550	80	662	0.4	355	1411	2347	100	90	144
SP	050	600	40502600	130	690	0.5	355	1352	2282	95	82	153
SP	050	650	40502650	104	703	0.6	355	1379	2312	97	86	160
SP	050	700	40502700	101	708	0.5	370	1381	2314	94	83	169
SP	050	750	40502750	159	802	0.7	400	1312	2237	83	67	193
SP	050	800	40502800	148	792	0.8	395	1323	2250	84	70	191
SP	050	850	40502850	140	783	0.5	395	1330	2257	85	71	190
SP	050	900	40502900	128	762	0.5	375	1341	2270	90	76	181
SP	050	950	40502950	155	707	0.2	365	1308	2233	89	75	167
SP	100	000	41002000	95	750	0.9	365	1417	2356	99	88	170
SP	100	050	41002050	130	802	0.6	385	1375	2309	91	79	182
SP	100	100	41002100	150	820	0.3	395	1350	2282	87	73	185
SP	100	150	41002150	189	806	0.1	400	1303	2230	82	66	184
SP	100	200	41002200	215	780	0.2	405	1272	2195	78	61	179
SP	100	250	41002250	185	796	0.3	390	1304	2231	84	69	181
SP	100	300	41002300	282	800	0.4	400	1191	2105	72	52	179
SP	100	350	41002350	164	750	0.3	380	1323	2252	87	73	171
SP	100	400	41002400	66	700	0.2	350	1433	2374	103	94	155
SP	100	450	41002450	44	648	0.4	330	1456	2399	109	102	139
SP	100	500	41002500	46	630	0.4	330	1451	2394	109	101	136
SP	100	550	41002550	59	641	0.3	345	1434	2375	104	95	138
SP	100	600	41002600	62	640	0.4	345	1428	2368	103	95	144
SP	100	650	41002650	82	670	0.4	350	1403	2341	100	90	153
SP	100	700	41002700	160	700	0.5	370	1312	2240	88	74	164
SP	100	750	41002750	152	769	1.0	390	1319	2247	85	70	182
SP	100	800	41002800	132	760	1.2	385	1340	2271	88	74	181
SP	100	850	41002850	116	739	1.2	380	1356	2288	90	77	177
SP	100	900	41002900	95	730	1.1	370	1378	2313	94	82	172
SP	100	950	41002950	130	731	0.6	365	1336	2266	91	78	169
SP	150	000	41502000	86	720	1.0	350	1426	2368	102	93	161
SP	150	050	41502050	99	779	0.6	375	1409	2349	96	85	172
SP	150	100	41502100	129	794	0.4	390	1373	2309	90	77	177
SP	150	150	41502150	135	794	0.2	400	1364	2299	88	74	179
SP	150	200	41502200	196	775	0.3	400	1292	2219	81	65	176
SP	150	250	41502250	175	761	0.5	400	1314	2244	83	68	174
SP	150	300	41502300	191	808	0.5	410	1293	2221	80	63	183
SP	150	350	41502350	240	765	0.4	375	1235	2156	81	64	178
SP	150	400	41502400	164	713	0.2	350	1320	2251	93	80	161

SP	150	450	41502450	54	666	0.2	330	1443	2387	108	101	145
SP	150	500	41502500	60	615	0.4	320	1434	2377	109	102	134
SP	150	550	41502550	57	630	0.4	330	1435	2378	107	100	133
SP	150	600	41502600	67	651	0.4	340	1422	2364	104	95	142
SP	150	650	41502650	78	675	0.5	360	1407	2347	99	89	151
SP	150	700	41502700	126	701	0.7	375	1350	2284	91	78	161
SP	150	750	41502750	132	744	1.0	380	1341	2274	89	76	173
SP	150	800	41502800	130	724	1.1	375	1341	2274	90	77	170
SP	150	850	41502850	95	701	1.3	360	1379	2316	96	85	167
SP	150	900	41502900	97	696	1.2	360	1374	2310	96	84	163
SP	150	950	41502950	114	689	0.9	350	1353	2287	96	84	158
SP	200	000	42002000	76	690	0.9	340	1437	2382	106	97	152
SP	200	050	42002050	99	729	0.6	365	1408	2350	98	88	160
SP	200	100	42002100	152	790	0.5	375	1346	2281	91	78	174
SP	200	150	42002150	141	780	0.4	380	1356	2293	91	78	174
SP	200	200	42002200	237	770	0.4	390	1244	2168	79	62	173
SP	200	250	42002250	160	737	0.4	385	1330	2264	87	74	169
SP	200	300	42002300	135	760	0.5	375	1356	2293	92	79	173
SP	200	350	42002350	130	703	0.6	350	1360	2297	97	85	164
SP	200	400	42002400	155	680	0.6	350	1329	2263	94	82	152
SP	200	450	42002450	88	679	0.3	330	1403	2345	105	96	144
SP	200	500	42002500	70	600	0.4	305	1421	2365	112	105	130
SP	200	550	42002550	41	614	0.4	325	1452	2399	110	103	131
SP	200	600	42002600	107	650	0.4	340	1375	2314	100	90	142
SP	200	650	42002650	132	681	0.6	355	1344	2279	94	82	152
SP	200	700	42002700	120	690	0.8	360	1356	2293	94	83	158
SP	200	750	42002750	101	717	0.8	370	1375	2314	94	83	165
SP	200	800	42002800	102	710	0.6	360	1372	2310	96	84	166
SP	200	850	42002850	99	680	0.7	345	1373	2311	99	88	159
SP	200	900	42002900	82	650	0.8	350	1390	2330	99	89	152
SP	200	950	42002950	75	650	0.8	345	1396	2337	101	91	150
SP	250	000	42502000	72	674	0.6	340	1440	2388	106	98	145
SP	250	050	42502050	89	715	0.7	360	1418	2363	100	90	156
SP	250	100	42502100	111	760	0.5	365	1391	2334	97	86	165
SP	250	150	42502150	197	766	0.5	375	1291	2223	86	71	170
SP	250	200	42502200	133	766	0.3	375	1362	2301	92	80	170
SP	250	250	42502250	118	738	0.1	380	1377	2318	93	81	165
SP	250	300	42502300	141	713	0.3	390	1348	2286	88	75	162
SP	250	350	42502350	99	691	0.4	330	1394	2337	104	95	159
SP	250	400	42502400	97	646	0.6	320	1394	2337	106	98	144
SP	250	450	42502450	67	611	0.6	290	1426	2372	116	110	130
SP	250	500	42502500	121	626	0.5	305	1362	2301	107	98	133
SP	250	550	42502550	48	613	0.4	320	1443	2391	111	104	130
SP	250	600	42502600	61	636	0.4	325	1426	2372	108	100	139
SP	250	650	42502650	86	666	0.5	340	1395	2338	102	92	150
SP	250	700	42502700	99	697	0.7	350	1378	2319	99	88	157
SP	250	750	42502750	116	700	0.6	360	1357	2296	95	83	160
SP	250	800	42502800	137	717	0.4	355	1331	2267	93	81	163
SP	250	850	42502850	129	707	0.4	350	1338	2275	95	83	161
SP	250	900	42502900	111	685	0.5	350	1356	2295	97	85	156

SP	250	950	42502950	93	672	0.5	345	1374	2315	99	89	151
SP	300	000	43002000	69	670	0.9	330	1442	2392	109	101	143
SP	300	050	43002050	76	700	1.0	350	1432	2381	104	95	152
SP	300	100	43002100	116	730	0.5	360	1384	2328	97	86	161
SP	300	150	43002150	158	746	0.5	375	1334	2272	90	77	165
SP	300	200	43002200	120	740	0.3	370	1375	2318	95	83	166
SP	300	250	43002250	201	731	0.1	370	1281	2214	86	71	164
SP	300	300	43002300	156	710	0.1	375	1330	2268	90	76	161
SP	300	350	43002350	178	673	0.2	335	1303	2238	95	82	154
SP	300	400	43002400	152	680	0.5	325	1330	2268	100	88	153
SP	300	450	43002450	80	660	0.7	310	1410	2357	110	102	147
SP	300	500	43002500	90	640	0.6	315	1396	2341	108	99	139
SP	300	550	43002550	76	614	0.5	315	1410	2357	109	101	131
SP	300	600	43002600	73	610	0.5	325	1411	2358	107	99	132
SP	300	650	43002650	51	634	0.6	335	1434	2383	107	99	139
SP	300	700	43002700	64	670	0.7	345	1417	2364	103	94	148
SP	300	750	43002750	80	674	0.5	345	1397	2342	101	92	153
SP	300	800	43002800	111	690	0.4	350	1359	2300	97	86	156
SP	300	850	43002850	169	716	0.5	355	1291	2225	90	76	160
SP	300	900	43002900	160	720	0.5	350	1299	2233	92	78	160
SP	300	950	43002950	162	701	0.3	350	1294	2228	91	78	155
SP	350	000	43502000	67	661	1.4	320	1443	2395	111	104	141
SP	350	050	43502050	71	682	1.2	335	1437	2389	107	99	148
SP	350	100	43502100	86	710	0.6	350	1417	2367	102	93	156
SP	350	150	43502150	145	726	0.5	375	1348	2290	91	79	161
SP	350	200	43502200	93	736	0.3	370	1405	2353	97	87	163
SP	350	250	43502250	159	725	0.2	375	1327	2267	89	76	163
SP	350	300	43502300	201	739	0.2	375	1277	2211	85	70	163
SP	350	350	43502350	170	690	0.3	350	1311	2249	93	80	155
SP	350	400	43502400	202	706	0.4	340	1272	2206	92	78	160
SP	350	450	43502450	135	693	0.5	330	1346	2288	100	89	159
SP	350	500	43502500	88	636	0.6	320	1397	2344	107	98	141
SP	350	550	43502550	122	637	0.7	325	1356	2299	102	92	134
SP	350	600	43502600	83	630	0.6	325	1399	2347	106	97	133
SP	350	650	43502650	57	636	0.8	335	1426	2377	106	98	134
SP	350	700	43502700	80	647	0.9	345	1398	2345	102	92	141
SP	350	750	43502750	72	655	0.7	340	1405	2353	103	94	148
SP	350	800	43502800	91	680	0.5	340	1381	2327	101	91	151
SP	350	850	43502850	103	686	0.5	345	1365	2309	99	88	153
SP	350	900	43502900	104	689	0.5	350	1362	2306	97	86	153
SP	350	950	43502950	77	680	0.3	345	1390	2337	101	91	152
SP	400	000	44002000	78	640	0.9	315	1430	2383	111	104	136
SP	400	050	44002050	69	665	0.7	325	1438	2392	110	102	142
SP	400	100	44002100	78	690	0.6	345	1425	2378	104	96	149
SP	400	150	44002150	86	699	0.7	360	1414	2365	100	91	154
SP	400	200	44002200	124	720	0.5	360	1368	2314	96	85	158
SP	400	250	44002250	152	699	0.4	360	1334	2277	93	81	156
SP	400	300	44002300	128	700	0.3	355	1359	2304	96	85	156
SP	400	350	44002350	167	693	0.3	350	1313	2253	93	80	156
SP	400	400	44002400	122	720	0.3	340	1362	2308	100	89	161

SP	400	450	44002450	170	716	0.4	355	1305	2244	92	78	163
SP	400	500	44002500	139	700	0.4	340	1338	2281	98	86	155
SP	400	550	44002550	91	669	0.6	330	1391	2340	104	95	145
SP	400	600	44002600	84	650	0.6	335	1396	2345	104	95	140
SP	400	650	44002650	73	659	0.7	340	1407	2358	104	95	141
SP	400	700	44002700	72	680	0.9	345	1406	2356	103	93	150
SP	400	750	44002750	73	669	0.8	355	1402	2352	100	90	152
SP	400	800	44002800	74	670	0.4	350	1399	2349	101	91	153
SP	400	850	44002850	107	681	0.3	350	1359	2304	97	86	155
SP	400	900	44002900	93	670	0.3	360	1373	2320	97	86	152
SP	400	950	44002950	101	664	0.3	340	1362	2308	100	89	151
SP	450	000	44502000	89	624	0.2	315	1416	2370	110	103	131
SP	450	050	44502050	77	645	0.2	320	1427	2382	110	103	136
SP	450	100	44502100	63	644	0.6	325	1441	2397	110	103	140
SP	450	150	44502150	75	676	0.8	340	1425	2380	105	97	147
SP	450	200	44502200	97	696	0.6	350	1398	2350	101	91	152
SP	450	250	44502250	107	704	0.5	360	1384	2334	98	87	153
SP	450	300	44502300	99	689	0.3	345	1391	2342	101	92	153
SP	450	350	44502350	109	691	0.2	340	1378	2327	101	91	155
SP	450	400	44502400	118	694	0.2	330	1365	2313	102	92	157
SP	450	450	44502450	132	693	0.2	335	1347	2293	100	89	159
SP	450	500	44502500	126	706	0.4	340	1352	2299	99	88	159
SP	450	550	44502550	118	694	0.5	345	1359	2306	98	88	154
SP	450	600	44502600	109	664	0.5	345	1367	2315	99	89	147
SP	450	650	44502650	91	672	0.4	345	1385	2335	101	91	145
SP	450	700	44502700	82	696	0.7	350	1393	2344	101	91	154
SP	450	750	44502750	103	688	0.6	355	1367	2315	97	86	158
SP	450	800	44502800	93	675	0.2	355	1376	2325	98	87	157
SP	450	850	44502850	111	670	0.0	355	1354	2301	96	85	155
SP	450	900	44502900	118	659	0.1	365	1343	2289	93	81	151
SP	450	950	44502950	97	648	0.3	340	1365	2313	100	90	149
SP	500	000	45002000	80	630	0.3	320	1425	2382	110	103	132
SP	500	050	45002050	62	643	0.2	325	1443	2402	110	104	136
SP	500	100	45002100	67	700	0.4	325	1436	2394	110	103	146
SP	500	150	45002150	65	641	0.7	325	1436	2394	110	103	140
SP	500	200	45002200	97	650	0.6	335	1397	2351	104	95	143
SP	500	250	45002250	112	698	0.4	350	1378	2330	99	89	152
SP	500	300	45002300	88	690	0.2	350	1403	2357	102	92	151
SP	500	350	45002350	89	673	0.1	340	1399	2353	103	94	149
SP	500	400	45002400	111	690	0.1	340	1372	2323	101	91	157
SP	500	450	45002450	123	695	0.1	345	1356	2305	98	87	163
SP	500	500	45002500	143	700	0.2	350	1331	2277	95	83	162
SP	500	550	45002550	150	717	0.4	360	1321	2266	92	79	164
SP	500	600	45002600	139	700	0.3	350	1331	2277	95	83	157
SP	500	650	45002650	88	683	0.2	345	1387	2340	101	91	151
SP	500	700	45002700	82	700	0.3	355	1392	2345	100	90	156
SP	500	750	45002750	111	707	0.3	350	1357	2306	97	86	159
SP	500	800	45002800	97	680	0.1	355	1371	2322	98	87	157
SP	500	850	45002850	120	670	0.1	350	1342	2290	96	85	155
SP	500	900	45002900	95	660	0.2	365	1368	2318	95	84	152

SP	500	950	45002950	76	633	0.4	340	1388	2341	102	93	144
SP	550	000	45502000	89	621	0.3	330	1414	2372	107	99	129
SP	550	050	45502050	82	642	0.1	335	1419	2377	106	98	136
SP	550	100	45502100	110	674	0.1	335	1385	2339	103	94	140
SP	550	150	45502150	61	638	0.3	330	1439	2399	109	102	135
SP	550	200	45502200	69	644	0.4	335	1428	2387	107	99	140
SP	550	250	45502250	99	690	0.2	350	1391	2346	101	91	150
SP	550	300	45502300	120	686	0.2	350	1365	2317	98	88	149
SP	550	350	45502350	132	671	0.1	345	1349	2299	98	87	147
SP	550	400	45502400	127	685	0.0	340	1353	2304	99	89	156
SP	550	450	45502450	166	703	0.1	355	1306	2252	92	79	169
SP	550	500	45502500	130	712	0.3	360	1345	2295	95	83	169
SP	550	550	45502550	145	718	0.4	360	1326	2274	93	80	171
SP	550	600	45502600	139	706	0.3	355	1330	2278	94	82	163
SP	550	650	45502650	136	683	0.2	350	1332	2281	95	84	154
SP	550	700	45502700	149	684	0.0	355	1314	2261	93	80	154
SP	550	750	45502750	97	704	0.0	350	1372	2325	99	89	158
SP	550	800	45502800	128	685	0.1	350	1334	2283	96	84	158
SP	550	850	45502850	118	675	0.2	340	1343	2293	98	87	158
SP	550	900	45502900	126	665	0.2	360	1332	2281	93	81	151
SP	550	950	45502950	80	651	0.3	340	1382	2336	102	92	143
SP	600	000	46002000	59	600	0.7	315	1447	2410	113	107	127
SP	600	050	46002050	93	641	0.3	335	1406	2365	105	97	133
SP	600	100	46002100	69	660	0.0	340	1431	2393	107	99	139
SP	600	150	46002150	63	633	0.1	340	1436	2398	107	99	134
SP	600	200	46002200	69	650	0.3	340	1427	2388	106	98	139
SP	600	250	46002250	84	688	0.3	350	1407	2366	102	93	147
SP	600	300	46002300	105	670	0.3	350	1381	2337	100	90	144
SP	600	350	46002350	118	669	0.2	345	1364	2318	99	89	146
SP	600	400	46002400	132	680	0.1	335	1346	2298	100	89	155
SP	600	450	46002450	116	657	0.2	350	1362	2316	98	88	158
SP	600	500	46002500	145	690	0.5	355	1327	2277	94	82	162
SP	600	550	46002550	159	679	0.7	350	1309	2257	94	81	159
SP	600	600	46002600	120	690	0.7	340	1351	2304	99	89	156
SP	600	650	46002650	125	696	0.5	355	1343	2295	96	84	154
SP	600	700	46002700	128	680	0.1	365	1337	2288	93	81	152
SP	600	750	46002750	118	708	0.0	355	1346	2298	96	84	158
SP	600	800	46002800	111	690	0.1	345	1352	2305	98	87	156
SP	600	850	46002850	147	680	0.2	345	1309	2257	95	82	155
SP	600	900	46002900	126	670	0.2	355	1331	2282	95	82	150
SP	600	950	46002950	90	649	0.1	340	1370	2325	101	91	144
SP	650	000	46502000	67	624	1.1	320	1436	2400	111	105	130
SP	650	050	46502050	73	650	0.6	335	1427	2390	107	100	133
SP	650	100	46502100	69	644	0.1	350	1430	2394	105	96	134
SP	650	150	46502150	143	626	0.1	355	1343	2297	96	84	134
SP	650	200	46502200	68	634	0.3	340	1427	2390	106	98	134
SP	650	250	46502250	93	660	0.3	340	1396	2356	104	94	139
SP	650	300	46502300	99	670	0.1	345	1387	2346	102	92	144
SP	650	350	46502350	105	683	0.1	340	1378	2336	102	92	148
SP	650	400	46502400	136	701	0.1	340	1340	2294	99	87	156

SP	650	450	46502450	139	682	0.1	345	1335	2288	97	86	159
SP	650	500	46502500	109	674	0.3	350	1367	2324	99	88	156
SP	650	550	46502550	109	653	0.6	340	1364	2320	101	90	150
SP	650	600	46502600	82	638	0.8	320	1393	2353	108	99	144
SP	650	650	46502650	111	673	0.7	340	1358	2314	100	90	146
SP	650	700	46502700	173	660	0.4	350	1285	2233	92	78	147
SP	650	750	46502750	189	688	0.2	360	1264	2209	88	73	155
SP	650	800	46502800	143	702	0.2	350	1315	2266	94	82	157
SP	650	850	46502850	130	686	0.2	340	1327	2279	97	86	155
SP	650	900	46502900	132	670	0.2	355	1323	2275	94	82	149
SP	650	950	46502950	112	644	0.2	340	1343	2297	99	88	142
SP	700	000	47002000	99	670	0.8	335	1399	2361	105	96	143
SP	700	050	47002050	69	644	0.7	340	1431	2397	107	99	134
SP	700	100	47002100	102	640	0.3	345	1391	2352	102	93	133
SP	700	150	47002150	83	623	0.2	340	1410	2374	105	97	130
SP	700	200	47002200	78	640	0.5	325	1414	2378	108	101	136
SP	700	250	47002250	93	644	0.4	335	1395	2357	105	96	136
SP	700	300	47002300	86	670	0.3	340	1400	2362	104	95	142
SP	700	350	47002350	109	685	0.2	340	1372	2331	102	92	146
SP	700	400	47002400	105	700	0.2	345	1374	2334	101	91	154
SP	700	450	47002450	129	707	0.2	345	1345	2301	98	87	159
SP	700	500	47002500	107	680	0.2	345	1368	2327	100	90	152
SP	700	550	47002550	122	655	0.4	340	1348	2305	99	89	143
SP	700	600	47002600	67	630	0.6	310	1409	2372	111	104	138
SP	700	650	47002650	109	641	0.7	330	1359	2317	103	93	136
SP	700	700	47002700	93	640	0.5	325	1375	2335	105	96	141
SP	700	750	47002750	120	671	0.4	350	1342	2298	97	85	149
SP	700	800	47002800	145	680	0.4	360	1311	2264	92	79	151
SP	700	850	47002850	101	675	0.3	340	1359	2317	100	90	149
SP	700	900	47002900	97	670	0.3	335	1362	2320	102	92	148
SP	700	950	47002950	115	659	0.2	335	1339	2295	100	89	144
SP	750	000	47502000	124	707	0.5	350	1369	2330	99	89	154
SP	750	050	47502050	69	631	0.8	330	1430	2398	109	102	134
SP	750	100	47502100	88	629	0.9	325	1406	2371	108	100	132
SP	750	150	47502150	121	631	0.5	325	1366	2327	104	95	130
SP	750	200	47502200	97	655	0.4	325	1391	2355	107	98	136
SP	750	250	47502250	93	682	0.4	335	1394	2358	105	96	142
SP	750	300	47502300	93	676	0.3	335	1391	2355	105	96	141
SP	750	350	47502350	95	675	0.3	340	1387	2350	103	94	141
SP	750	400	47502400	86	674	0.5	340	1395	2359	104	95	147
SP	750	450	47502450	90	681	0.6	335	1388	2351	104	95	154
SP	750	500	47502500	90	666	0.4	340	1386	2349	103	94	146
SP	750	550	47502550	88	637	0.4	325	1386	2349	106	98	135
SP	750	600	47502600	61	615	0.4	300	1415	2381	114	108	130
SP	750	650	47502650	111	625	0.4	320	1355	2315	105	95	128
SP	750	700	47502700	120	635	0.3	320	1343	2301	103	93	135
SP	750	750	47502750	102	662	0.4	340	1361	2321	101	91	145
SP	750	800	47502800	130	660	0.5	345	1327	2283	97	85	145
SP	750	850	47502850	95	664	0.3	340	1365	2326	101	91	145
SP	750	900	47502900	73	650	0.3	325	1388	2351	106	98	143

SP	750	950	47502950	106	654	0.2	325	1348	2307	103	93	143
SP	800	000	48002000	145	800	0.7	385	1344	2304	91	78	170
SP	800	050	48002050	102	664	0.7	330	1391	2357	106	97	146
SP	800	100	48002100	83	640	1.0	320	1410	2378	110	102	138
SP	800	150	48002150	76	638	0.7	315	1416	2384	111	104	134
SP	800	200	48002200	99	670	0.2	330	1388	2353	105	97	140
SP	800	250	48002250	116	671	0.2	335	1366	2329	102	93	143
SP	800	300	48002300	130	660	0.1	335	1348	2309	101	90	140
SP	800	350	48002350	99	660	0.2	335	1381	2346	104	95	138
SP	800	400	48002400	84	660	0.7	335	1396	2362	105	96	141
SP	800	450	48002450	91	661	0.9	330	1386	2351	105	96	143
SP	800	500	48002500	116	640	0.6	330	1355	2317	103	93	137
SP	800	550	48002550	84	626	0.5	320	1389	2354	108	99	131
SP	800	600	48002600	59	600	0.3	300	1416	2384	115	108	126
SP	800	650	48002650	89	604	0.2	310	1379	2343	109	101	125
SP	800	700	48002700	103	630	0.4	325	1361	2323	104	95	133
SP	800	750	48002750	135	646	0.6	335	1323	2281	99	87	139
SP	800	800	48002800	116	640	0.7	330	1342	2302	101	91	139
SP	800	850	48002850	139	646	0.4	330	1314	2271	99	87	138
SP	800	900	48002900	93	630	0.3	320	1364	2327	105	96	136
SP	800	950	48002950	93	623	0.2	325	1362	2324	104	95	134
SP	850	000	48502000	167	790	0.7	385	1318	2278	89	75	171
SP	850	050	48502050	219	779	0.8	360	1256	2209	88	73	172
SP	850	100	48502100	106	668	0.7	325	1383	2350	106	98	147
SP	850	150	48502150	84	643	0.7	320	1406	2375	109	102	136
SP	850	200	48502200	128	670	0.4	335	1354	2318	102	91	142
SP	850	250	48502250	128	673	0.1	335	1351	2314	101	91	147
SP	850	300	48502300	105	666	0.2	335	1375	2341	103	94	142
SP	850	350	48502350	88	641	0.2	330	1393	2361	106	98	136
SP	850	400	48502400	99	646	0.4	325	1378	2344	106	97	134
SP	850	450	48502450	67	632	0.6	315	1412	2382	111	104	130
SP	850	500	48502500	73	621	0.6	310	1403	2372	111	104	129
SP	850	550	48502550	107	625	0.5	315	1362	2327	107	98	129
SP	850	600	48502600	80	588	0.4	305	1391	2359	111	104	123
SP	850	650	48502650	84	591	0.4	305	1384	2351	111	103	123
SP	850	700	48502700	103	616	0.5	320	1360	2324	105	96	128
SP	850	750	48502750	109	624	0.7	320	1351	2314	104	95	133
SP	850	800	48502800	105	614	0.7	320	1353	2317	105	95	131
SP	850	850	48502850	116	631	0.5	320	1339	2301	103	93	134
SP	850	900	48502900	115	613	0.4	305	1338	2300	107	97	129
SP	850	950	48502950	73	613	0.3	310	1383	2350	110	102	126
SP	900	000	49002000	124	780	0.4	370	1366	2333	96	85	170
SP	900	050	49002050	194	817	0.6	390	1284	2242	85	70	179
SP	900	100	49002100	211	730	0.5	350	1262	2218	90	76	160
SP	900	150	49002150	89	678	0.5	340	1399	2370	105	96	146
SP	900	200	49002200	113	670	0.5	340	1369	2336	102	92	144
SP	900	250	49002250	120	671	0.2	340	1359	2325	101	91	142
SP	900	300	49002300	107	660	0.1	330	1372	2340	104	95	139
SP	900	350	49002350	77	629	0.1	325	1404	2375	108	100	132
SP	900	400	49002400	65	620	0.1	315	1415	2387	111	104	125

SP	900	450	49002450	83	605	0.1	305	1393	2363	112	105	119
SP	900	500	49002500	63	590	0.3	310	1413	2385	112	106	118
SP	900	550	49002550	84	617	0.5	325	1387	2356	107	98	125
SP	900	600	49002600	74	610	0.3	315	1396	2366	110	102	123
SP	900	650	49002650	47	589	0.3	295	1425	2399	117	111	120
SP	900	700	49002700	53	590	0.4	305	1416	2389	114	107	121
SP	900	750	49002750	72	595	0.4	310	1392	2362	111	103	123
SP	900	800	49002800	97	600	0.4	310	1361	2328	108	99	124
SP	900	850	49002850	91	626	0.4	315	1366	2333	107	98	128
SP	900	900	49002900	107	630	0.4	310	1346	2311	106	97	128
SP	900	950	49002950	80	596	0.5	305	1374	2342	110	102	123
SP	950	000	49502000	158	759	0.5	365	1326	2291	93	81	166
SP	950	050	49502050	155	799	0.7	390	1327	2292	89	76	179
SP	950	100	49502100	152	786	0.6	375	1328	2293	92	79	171
SP	950	150	49502150	158	705	0.3	350	1319	2283	96	84	154
SP	950	200	49502200	89	685	0.3	340	1396	2368	105	96	147
SP	950	250	49502250	103	658	0.4	330	1378	2348	105	96	138
SP	950	300	49502300	149	645	0.3	330	1323	2287	100	89	134
SP	950	350	49502350	95	624	0.2	325	1382	2353	106	98	129
SP	950	400	49502400	107	594	0.2	310	1366	2335	108	100	118
SP	950	450	49502450	93	604	0.2	300	1380	2351	112	105	113
SP	950	500	49502500	91	601	0.3	310	1380	2351	110	102	115
SP	950	550	49502550	54	589	0.4	320	1420	2395	111	104	117
SP	950	600	49502600	99	605	0.3	325	1367	2336	105	96	120
SP	950	650	49502650	73	594	0.2	300	1394	2366	113	106	118
SP	950	700	49502700	36	584	0.1	290	1434	2411	119	114	116
SP	950	750	49502750	67	598	0.1	300	1397	2370	113	107	119
SP	950	800	49502800	73	611	0.3	300	1388	2360	113	106	120
SP	950	850	49502850	57	619	0.4	305	1404	2377	113	106	122
SP	950	900	49502900	97	615	0.4	300	1356	2324	110	102	124
SP	950	950	49502950	78	613	0.6	300	1375	2345	111	104	126
SR	900	950	19001950	15	954	0.2	430	1561	2424	92	82	198
SR	950	950	19501950	36	1005	0.4	440	1536	2398	89	77	208
SS	000	950	20001950	0	1011	0.7	430	1576	2444	94	84	209
SS	050	950	20501950	0	1057	0.5	430	1575	2445	94	84	218
SS	100	950	21001950	0	1085	0.1	450	1574	2446	91	81	222
SS	200	000	22001000	50	970	0.6	400	1556	2431	98	89	195
SS	200	050	22001050	27	838	0.7	390	1580	2457	102	94	173
SS	200	100	22001100	17	920	0.8	395	1589	2467	102	94	190
SS	200	150	22001150	82	1000	0.8	395	1513	2383	95	85	205
SS	200	200	22001200	0	900	0.7	395	1604	2484	103	96	192
SS	250	000	22501000	52	989	1.8	400	1553	2429	98	89	198
SS	250	050	22501050	123	969	1.9	415	1470	2337	88	75	191
SS	250	100	22501100	143	1129	1.8	465	1445	2309	78	62	226
SS	250	150	22501150	187	1247	2.0	525	1392	2251	64	46	254
SS	250	200	22501200	182	1171	1.4	500	1396	2255	68	50	237
SS	250	250	22501250	77	1056	0.4	475	1513	2385	82	69	219
SS	250	300	22501300	0	957	0.0	395	1599	2480	103	96	204
SS	300	000	23001000	95	1020	2.0	425	1503	2376	89	78	208
SS	300	050	23001050	111	1173	1.8	510	1482	2353	75	60	234

SS	300	100	23001100	130	1270	1.7	540	1458	2326	69	52	251
SS	300	150	23001150	195	1333	1.7	625	1382	2242	51	30	262
SS	300	200	23001200	156	1340	1.0	620	1424	2288	56	36	264
SS	300	250	23001250	102	1210	0.2	535	1484	2355	72	56	245
SS	350	000	23501000	112	1115	1.7	485	1482	2355	78	64	229
SS	350	050	23501050	130	1229	1.7	530	1459	2329	70	54	251
SS	350	100	23501100	162	1253	1.8	570	1421	2287	62	43	250
SS	350	150	23501150	177	1288	1.6	590	1401	2265	57	37	252
SS	350	200	23501200	162	1314	0.9	600	1416	2281	57	38	260
SS	350	250	23501250	0	1231	0.5	490	1599	2485	88	78	251
SS	400	000	24001000	162	1210	1.5	525	1424	2292	68	50	245
SS	400	050	24001050	158	1206	1.7	535	1426	2295	67	49	245
SS	400	100	24001100	127	1190	2.2	535	1459	2331	70	53	242
SS	400	150	24001150	148	1245	2.2	550	1433	2302	65	47	249
SS	400	200	24001200	162	1300	1.3	575	1415	2282	61	41	257
SS	400	250	24001250	97	1131	0.6	450	1487	2362	84	71	230
SS	400	850	24001850	0	1056	0.0	460	1571	2456	90	80	217
SS	400	900	24001900	0	1090	0.0	450	1569	2453	92	81	222
SS	450	000	24501000	170	1256	1.3	545	1414	2283	64	46	251
SS	450	050	24501050	112	1153	1.3	510	1478	2354	75	60	235
SS	450	100	24501100	163	1176	2.2	500	1417	2287	71	54	240
SS	450	150	24501150	137	1203	1.8	550	1445	2318	67	49	246
SS	450	200	24501200	116	1098	0.8	515	1466	2341	73	57	224
SS	450	250	24501250	37	968	0.6	440	1554	2439	92	82	198
SS	450	300	24501300	15	891	0.7	395	1577	2464	102	94	184
SS	450	350	24501350	23	831	1.0	390	1566	2452	102	94	171
SS	450	400	24501400	81	915	0.9	395	1498	2377	95	84	187
SS	450	450	24501450	30	946	0.4	400	1553	2438	99	90	195
SS	450	850	24501850	29	1102	0.1	500	1537	2420	81	69	224
SS	450	900	24501900	42	1154	0.1	505	1520	2401	79	66	232
SS	450	950	24501950	4	1085	0.3	490	1561	2447	85	74	221
SS	500	000	25001000	123	1190	1.1	525	1466	2343	72	56	241
SS	500	050	25001050	121	1109	1.1	505	1466	2343	75	59	228
SS	500	100	25001100	120	1140	1.4	485	1465	2342	77	63	234
SS	500	150	25001150	142	1085	0.9	485	1438	2312	75	59	223
SS	500	200	25001200	80	1030	0.5	455	1506	2388	86	73	212
SS	500	250	25001250	114	981	0.6	430	1465	2342	86	73	201
SS	500	300	25001300	98	920	1.2	410	1481	2360	91	79	191
SS	500	350	25001350	15	933	1.5	400	1574	2463	101	93	194
SS	500	400	25001400	84	1080	1.2	470	1493	2373	82	69	217
SS	500	450	25001450	162	1170	0.7	525	1402	2272	66	48	232
SS	500	850	25001850	8	1105	0.4	510	1560	2448	82	70	226
SS	500	900	25001900	128	1230	0.6	535	1421	2293	67	49	246
SS	500	950	25001950	0	1126	0.7	510	1565	2453	83	71	229
SS	550	000	25501000	117	1197	0.6	475	1472	2352	80	66	239
SS	550	050	25501050	126	1023	0.4	470	1459	2338	79	65	213
SS	550	100	25501100	69	1001	0.3	445	1522	2408	89	77	208
SS	550	150	25501150	130	1004	0.2	440	1450	2328	83	69	206
SS	550	200	25501200	137	1041	0.3	455	1440	2317	80	65	212
SS	550	250	25501250	80	1019	0.5	450	1503	2386	86	74	206

SS	550	300	25501300	36	927	1.4	420	1551	2440	95	86	194
SS	550	350	25501350	52	1012	1.5	440	1530	2416	90	79	211
SS	550	400	25501400	116	1275	1.3	500	1455	2333	75	59	250
SS	550	450	25501450	176	1210	1.0	560	1385	2255	60	41	239
SS	550	500	25501500	0	906	0.2	450	1583	2475	93	84	191
SS	550	850	25501850	0	1073	0.3	500	1568	2459	85	73	223
SS	550	900	25501900	59	1261	1.0	560	1498	2381	70	55	252
SS	550	950	25501950	72	1216	1.4	560	1481	2362	69	53	246
SS	600	000	26001000	105	1080	0.4	450	1484	2367	85	72	219
SS	600	050	26001050	105	1005	0.2	435	1482	2365	87	74	207
SS	600	100	26001100	150	1020	0.0	440	1429	2306	81	67	211
SS	600	150	26001150	148	1053	0.0	455	1429	2306	79	64	216
SS	600	200	26001200	154	1040	0.2	470	1420	2296	76	60	214
SS	600	250	26001250	25	1004	1.0	440	1565	2457	93	84	207
SS	600	300	26001300	88	990	1.8	455	1490	2374	84	72	206
SS	600	350	26001350	124	1253	1.7	475	1447	2326	78	63	247
SS	600	400	26001400	183	1380	1.7	565	1378	2250	59	39	268
SS	600	450	26001450	145	1427	1.6	600	1419	2295	59	39	276
SS	600	500	26001500	0	990	0.7	480	1582	2476	89	79	207
SS	600	850	26001850	0	1077	0.0	495	1567	2460	85	74	223
SS	600	900	26001900	99	1280	0.5	550	1452	2332	68	51	255
SS	600	950	26001950	45	1268	1.5	610	1511	2397	66	49	252
SS	650	000	26501000	141	991	1.2	400	1442	2323	89	77	203
SS	650	050	26501050	124	999	0.8	420	1459	2342	88	75	203
SS	650	100	26501100	152	1021	0.5	445	1425	2304	80	66	209
SS	650	150	26501150	109	1056	0.2	455	1472	2356	83	70	219
SS	650	200	26501200	116	1083	0.4	480	1462	2345	78	64	222
SS	650	250	26501250	128	1111	1.4	490	1446	2327	75	60	227
SS	650	300	26501300	118	1151	2.0	490	1455	2337	76	61	232
SS	650	350	26501350	212	1430	1.8	600	1346	2216	52	30	273
SS	650	400	26501400	210	1669	1.8	700	1346	2216	41	17	314
SS	650	450	26501450	209	1453	1.8	700	1345	2215	41	17	281
SS	650	500	26501500	19	990	0.8	500	1559	2453	84	73	208
SS	650	900	26501900	0	1064	0.6	500	1563	2457	84	73	220
SS	650	950	26501950	56	1282	1.1	615	1497	2384	64	47	251
SS	700	000	27001000	114	980	1.6	395	1472	2358	93	82	201
SS	700	050	27001050	135	989	0.9	420	1446	2329	86	73	202
SS	700	100	27001100	98	1010	0.5	435	1486	2374	88	75	208
SS	700	150	27001150	101	1057	0.4	455	1480	2367	84	71	219
SS	700	200	27001200	151	1070	0.8	485	1421	2302	74	58	221
SS	700	250	27001250	105	1146	1.6	505	1471	2357	76	61	234
SS	700	300	27001300	185	1300	1.5	540	1378	2254	63	44	257
SS	700	350	27001350	187	1561	1.2	610	1373	2248	54	32	296
SS	700	400	27001400	324	1710	1.5	730	1215	2073	27	0	321
SS	700	450	27001450	314	1665	1.2	700	1224	2083	31	2	314
SS	700	500	27001500	46	990	0.4	500	1527	2419	81	69	208
SS	700	900	27001900	0	1040	1.1	500	1562	2458	85	73	216
SS	700	950	27001950	18	1266	1.4	580	1539	2433	72	58	250
SS	750	000	27501000	112	934	1.1	380	1473	2362	96	86	193
SS	750	050	27501050	88	983	0.7	410	1498	2389	93	82	200

SS	750	100	27501100	116	1043	0.5	435	1464	2352	86	73	213
SS	750	150	27501150	172	1056	0.8	470	1398	2278	74	58	219
SS	750	200	27501200	134	1121	1.4	510	1439	2324	72	56	230
SS	750	250	27501250	152	1173	1.5	520	1416	2298	69	52	242
SS	750	300	27501300	173	1420	0.9	570	1390	2269	60	41	278
SS	750	350	27501350	328	1883	0.8	700	1211	2071	30	1	349
SS	750	400	27501400	360	1947	1.3	860	1173	2029	12	0	358
SS	750	450	27501450	307	1708	0.9	750	1231	2093	27	0	321
SS	750	500	27501500	275	1040	0.1	490	1265	2131	60	38	216
SS	750	850	27501850	0	991	0.4	500	1563	2461	85	73	210
SS	750	900	27501900	6	1158	1.4	550	1554	2451	77	64	235
SS	750	950	27501950	84	1337	1.9	610	1463	2350	62	44	262
SS	800	000	28001000	92	900	0.7	370	1495	2388	100	91	186
SS	800	050	28001050	133	960	0.7	400	1446	2334	90	78	197
SS	800	100	28001100	174	1020	0.8	450	1397	2279	78	62	209
SS	800	150	28001150	143	1034	1.0	450	1430	2316	81	66	214
SS	800	200	28001200	214	1240	1.1	520	1347	2224	63	43	248
SS	800	250	28001250	173	1227	0.9	535	1391	2273	65	46	246
SS	800	300	28001300	309	1540	0.9	620	1234	2098	40	14	295
SS	800	350	28001350	335	1761	1.1	700	1202	2063	29	0	330
SS	800	400	28001400	381	1790	1.6	750	1147	2002	19	0	334
SS	800	450	28001450	360	1643	1.2	760	1169	2026	20	0	311
SS	800	500	28001500	12	1090	0.3	540	1564	2465	80	67	223
SS	800	750	28001750	0	948	1.0	450	1566	2467	93	83	198
SS	800	800	28001800	19	1020	1.1	475	1543	2441	87	76	212
SS	800	850	28001850	16	1142	1.0	550	1544	2442	77	63	233
SS	800	900	28001900	91	1500	2.1	700	1456	2345	52	32	290
SS	800	950	28001950	259	1661	2.7	700	1262	2129	34	7	316
SS	850	000	28501000	44	895	0.9	370	1548	2449	105	98	186
SS	850	050	28501050	75	953	0.6	380	1511	2408	100	91	195
SS	850	100	28501100	166	1053	0.5	455	1405	2290	78	62	214
SS	850	150	28501150	215	1102	0.8	480	1347	2226	69	50	225
SS	850	200	28501200	252	1306	1.0	550	1302	2176	55	33	256
SS	850	250	28501250	227	1271	1.1	540	1328	2205	59	38	248
SS	850	300	28501300	250	1526	1.4	620	1300	2174	47	23	291
SS	850	350	28501350	265	1586	1.7	700	1281	2153	36	10	302
SS	850	400	28501400	377	1701	1.7	700	1151	2008	25	0	321
SS	850	450	28501450	422	1411	1.2	700	1097	1948	20	0	275
SS	850	500	28501500	0	894	0.5	480	1576	2480	89	79	194
SS	850	750	28501750	0	974	1.0	460	1565	2468	91	81	202
SS	850	800	28501800	91	1279	1.5	500	1459	2350	76	61	251
SS	850	850	28501850	126	1574	1.3	600	1417	2304	59	40	300
SS	850	900	28501900	152	1733	2.0	800	1385	2268	36	12	327
SS	850	950	28501950	272	2082	2.7	930	1246	2114	13	0	365
SS	900	000	29001000	34	890	0.9	365	1558	2462	107	100	183
SS	900	050	29001050	211	993	0.5	405	1354	2236	82	66	202
SS	900	100	29001100	158	1040	0.6	460	1413	2301	78	62	212
SS	900	150	29001150	191	1223	0.9	515	1373	2257	66	48	244
SS	900	200	29001200	151	1170	1.4	545	1416	2305	66	48	236
SS	900	250	29001250	197	1245	1.4	530	1362	2245	63	44	250

SS	900	300	29001300	303	1410	1.2	550	1238	2107	50	25	279
SS	900	350	29001350	206	1438	1.6	600	1347	2228	53	32	287
SS	900	400	29001400	326	1600	1.6	660	1208	2074	34	6	308
SS	900	450	29001450	99	1256	0.8	540	1464	2358	71	55	250
SS	900	500	29001500	0	800	0.2	395	1575	2481	103	96	179
SS	900	700	29001700	12	940	0.5	440	1553	2457	93	84	196
SS	900	750	29001750	72	1048	1.7	500	1482	2378	78	64	214
SS	900	800	29001800	25	1200	1.9	550	1533	2434	76	62	239
SS	900	850	29001850	76	1488	1.1	600	1473	2368	64	47	285
SS	900	900	29001900	236	2000	0.9	880	1288	2162	21	0	362
SS	900	950	29001950	477	2497	1.5	1100	1012	1856	0	0	365
SS	950	000	29501000	30	858	0.5	355	1562	2469	110	104	177
SS	950	050	29501050	94	912	0.6	375	1487	2385	99	89	187
SS	950	100	29501100	76	1000	0.9	450	1505	2405	88	76	205
SS	950	150	29501150	77	1063	0.9	450	1502	2402	87	76	219
SS	950	200	29501200	109	1180	0.8	495	1463	2359	77	63	239
SS	950	250	29501250	164	1124	0.6	495	1398	2287	72	55	234
SS	950	300	29501300	295	1283	0.6	570	1246	2118	48	24	264
SS	950	350	29501350	343	1449	1.1	640	1190	2056	35	7	297
SS	950	400	29501400	259	1217	1.2	535	1283	2159	56	34	251
SS	950	450	29501450	147	947	0.4	425	1409	2299	83	69	201
SS	950	650	29501650	0	912	0.3	425	1567	2474	97	89	191
SS	950	700	29501700	80	1036	1.2	465	1474	2371	83	69	212
SS	950	750	29501750	55	1147	3.1	550	1500	2400	73	58	230
SS	950	800	29501800	23	1246	2.7	560	1535	2439	75	61	247
SS	950	850	29501850	158	1571	0.8	700	1378	2264	45	22	299
SS	950	900	29501900	273	2012	1.1	900	1245	2117	16	0	357
SS	950	950	29501950	379	2363	2.0	1020	1122	1980	0	0	365
ST	000	000	30001000	99	870	0.6	360	1482	2382	102	93	181
ST	000	050	30001050	118	954	0.6	410	1458	2355	90	78	193
ST	000	100	30001100	97	960	0.6	425	1480	2380	90	78	197
ST	000	150	30001150	105	1041	0.5	440	1469	2368	86	74	211
ST	000	200	30001200	191	1100	0.5	500	1368	2255	68	50	224
ST	000	250	30001250	156	1139	0.5	500	1406	2298	72	55	234
ST	000	300	30001300	276	1290	0.8	580	1267	2143	49	25	261
ST	000	350	30001350	396	1287	1.0	610	1128	1989	33	3	263
ST	000	400	30001400	206	1160	0.8	550	1342	2227	59	39	238
ST	000	450	30001450	6	781	0.4	395	1568	2477	103	95	172
ST	000	650	30001650	0	945	0.9	440	1566	2475	95	86	196
ST	000	700	30001700	49	1030	1.3	490	1508	2411	82	69	211
ST	000	750	30001750	28	1223	1.4	550	1530	2435	76	62	243
ST	000	800	30001800	84	1370	1.5	580	1464	2362	66	50	267
ST	000	850	30001850	227	1562	1.2	720	1299	2179	36	11	298
ST	000	900	30001900	250	1720	1.8	790	1270	2147	27	0	318
ST	000	950	30001950	314	2004	2.7	900	1195	2063	11	0	357
ST	050	000	30501000	46	854	1.3	370	1541	2450	105	98	178
ST	050	050	30501050	67	921	0.7	395	1515	2421	98	89	188
ST	050	100	30501100	76	964	0.4	400	1503	2407	96	86	195
ST	050	150	30501150	88	972	0.5	420	1487	2390	91	80	196
ST	050	200	30501200	188	1043	1.0	460	1371	2261	75	58	212

ST	050	250	30501250	151	1115	1.2	500	1411	2305	72	56	228
ST	050	300	30501300	196	1166	1.3	520	1357	2245	65	46	236
ST	050	350	30501350	318	1230	1.0	550	1216	2089	48	23	245
ST	050	400	30501400	80	898	0.9	425	1485	2387	90	79	192
ST	050	450	30501450	0	752	0.6	375	1574	2486	107	101	166
ST	050	650	30501650	0	917	0.8	445	1565	2476	94	85	192
ST	050	700	30501700	36	1030	1.5	500	1522	2429	82	70	211
ST	050	750	30501750	120	1201	1.1	545	1424	2320	67	50	239
ST	050	800	30501800	50	1278	1.1	580	1501	2405	70	54	252
ST	050	850	30501850	90	1468	1.3	700	1454	2353	52	33	283
ST	050	900	30501900	293	1728	1.5	800	1220	2093	22	0	324
ST	050	950	30501950	196	1824	1.8	800	1328	2213	32	5	340
ST	100	000	31001000	108	940	1.3	390	1469	2372	95	85	192
ST	100	050	31001050	135	993	0.9	420	1436	2335	87	74	199
ST	100	100	31001100	172	990	0.7	400	1392	2286	86	73	199
ST	100	150	31001150	147	954	0.7	400	1418	2315	89	76	193
ST	100	200	31001200	90	940	1.1	420	1481	2385	91	80	195
ST	100	250	31001250	145	918	1.3	440	1416	2313	82	68	194
ST	100	300	31001300	124	940	1.3	450	1438	2337	82	68	198
ST	100	350	31001350	137	1053	1.0	450	1421	2319	81	66	216
ST	100	400	31001400	53	850	0.9	395	1514	2422	98	89	182
ST	100	450	31001450	0	768	0.5	370	1573	2487	108	102	169
ST	100	650	31001650	0	904	0.6	440	1564	2477	95	86	190
ST	100	700	31001700	47	1030	1.6	480	1508	2415	84	72	211
ST	100	750	31001750	109	1214	1.7	540	1435	2334	69	53	241
ST	100	800	31001800	48	1320	1.2	610	1503	2410	67	51	258
ST	100	850	31001850	120	1427	0.9	670	1418	2315	52	32	275
ST	100	900	31001900	297	1680	0.9	740	1214	2089	27	0	317
ST	100	950	31001950	162	1479	0.7	695	1366	2257	45	22	285
ST	150	000	31501000	93	1008	0.9	420	1485	2392	92	81	202
ST	150	050	31501050	242	1088	0.7	460	1313	2201	70	51	214
ST	150	100	31501100	200	1093	0.8	460	1359	2252	74	57	215
ST	150	150	31501150	181	1014	0.7	430	1378	2273	80	65	203
ST	150	200	31501200	77	893	0.7	405	1495	2403	95	85	186
ST	150	250	31501250	40	821	0.8	390	1535	2447	101	93	176
ST	150	300	31501300	100	853	0.7	395	1464	2368	94	83	182
ST	150	350	31501350	149	941	0.7	430	1406	2304	83	69	196
ST	150	400	31501400	211	989	0.6	440	1333	2223	75	57	203
ST	150	450	31501450	8	802	0.2	375	1562	2477	106	100	175
ST	150	650	31501650	0	898	0.3	430	1563	2478	97	88	189
ST	150	700	31501700	12	979	1.2	460	1547	2460	91	80	203
ST	150	750	31501750	92	1172	1.4	525	1453	2356	73	57	233
ST	150	800	31501800	31	1222	1.1	565	1521	2432	74	60	243
ST	150	850	31501850	238	1353	1.0	630	1283	2167	45	21	263
ST	150	900	31501900	76	1516	0.7	695	1465	2369	54	35	289
ST	150	950	31501950	151	1441	0.5	690	1377	2272	47	25	277
ST	200	000	32001000	181	1110	0.5	455	1384	2282	77	61	217
ST	200	050	32001050	198	1108	0.4	460	1362	2257	74	58	218
ST	200	100	32001100	249	1140	0.7	495	1302	2191	64	44	225
ST	200	150	32001150	229	1088	0.7	470	1323	2214	69	51	219

ST	200	200	32001200	78	890	0.4	390	1492	2402	98	88	187
ST	200	250	32001250	23	783	0.4	365	1553	2469	108	101	169
ST	200	300	32001300	67	800	0.4	385	1501	2412	99	90	172
ST	200	350	32001350	136	969	0.5	455	1420	2322	80	66	200
ST	200	400	32001400	72	880	0.5	430	1491	2400	91	79	184
ST	200	450	32001450	21	771	0.2	375	1546	2461	105	98	167
ST	200	700	32001700	0	940	0.5	450	1559	2476	93	84	194
ST	200	750	32001750	8	998	1.3	480	1548	2464	88	77	205
ST	200	800	32001800	44	1090	1.4	500	1505	2416	81	68	221
ST	200	850	32001850	145	1294	1.0	600	1388	2286	58	38	254
ST	200	900	32001900	221	1340	0.8	630	1299	2187	47	23	262
ST	200	950	32001950	295	1432	0.6	650	1212	2091	37	9	276
ST	250	000	32501000	59	1023	0.3	440	1522	2437	92	82	205
ST	250	050	32501050	98	1085	0.3	460	1475	2385	85	72	213
ST	250	100	32501100	171	1108	0.8	465	1390	2290	76	60	221
ST	250	150	32501150	278	1148	0.8	470	1266	2153	64	44	231
ST	250	200	32501200	92	926	0.5	390	1475	2385	96	86	192
ST	250	250	32501250	19	740	0.6	345	1556	2475	112	107	160
ST	250	300	32501300	137	843	0.7	400	1420	2324	90	77	179
ST	250	350	32501350	53	851	0.8	395	1513	2427	99	90	181
ST	250	400	32501400	39	777	1.0	375	1527	2442	104	96	168
ST	250	450	32501450	4	751	1.0	365	1565	2485	109	103	161
ST	250	800	32501800	4	976	1.4	450	1549	2467	93	83	202
ST	250	850	32501850	98	1184	1.3	495	1440	2346	76	61	236
ST	250	900	32501900	67	1279	0.9	585	1473	2383	67	51	251
ST	250	950	32501950	305	1541	0.9	690	1200	2080	32	3	293
ST	300	000	33001000	34	980	0.6	420	1549	2469	98	89	197
ST	300	050	33001050	118	1106	0.6	455	1451	2360	83	70	217
ST	300	100	33001100	170	1120	1.0	465	1390	2293	76	61	221
ST	300	150	33001150	103	1046	1.1	455	1464	2375	85	72	211
ST	300	200	33001200	51	860	1.2	390	1521	2438	100	92	180
ST	300	250	33001250	27	744	1.2	345	1546	2466	111	106	161
ST	300	300	33001300	21	740	1.0	365	1551	2471	108	101	160
ST	300	350	33001350	9	758	1.0	355	1562	2483	111	105	164
ST	300	400	33001400	3	730	0.9	345	1567	2489	113	108	159
ST	300	450	33001450	4	746	0.9	360	1564	2486	110	104	160
ST	300	500	33001500	5	740	1.6	365	1560	2481	109	103	162
ST	300	550	33001550	8	754	1.7	370	1555	2476	107	101	165
ST	300	600	33001600	0	790	0.8	375	1562	2483	107	100	171
ST	300	650	33001650	0	794	0.4	385	1559	2480	105	98	172
ST	300	800	33001800	0	930	0.6	420	1553	2473	98	90	197
ST	300	850	33001850	5	1024	1.4	465	1545	2465	90	80	209
ST	300	900	33001900	8	1140	1.6	520	1539	2458	82	70	228
ST	300	950	33001950	40	1174	1.5	540	1501	2416	76	62	233
ST	350	000	33501000	156	1024	0.6	450	1409	2316	81	66	204
ST	350	050	33501050	65	1007	0.8	440	1510	2428	91	81	202
ST	350	100	33501100	101	1009	0.9	435	1467	2380	88	76	201
ST	350	150	33501150	32	836	1.2	400	1544	2466	101	93	173
ST	350	200	33501200	23	749	1.8	375	1552	2474	106	99	161
ST	350	250	33501250	4	744	1.6	345	1571	2496	114	109	160

ST	350	300	33501300	5	696	0.9	335	1568	2492	115	111	152
ST	350	350	33501350	6	713	0.6	330	1565	2489	116	112	154
ST	350	400	33501400	28	746	0.5	340	1537	2458	112	106	159
ST	350	450	33501450	4	746	1.2	355	1562	2486	111	105	161
ST	350	500	33501500	5	771	1.7	375	1559	2482	107	100	168
ST	350	550	33501550	4	800	1.5	380	1558	2481	106	99	176
ST	350	600	33501600	6	833	1.3	400	1554	2477	102	94	181
ST	350	650	33501650	5	798	1.0	390	1552	2474	103	96	176
ST	350	850	33501850	4	966	0.6	445	1545	2467	93	84	200
ST	350	900	33501900	65	1031	1.1	475	1473	2387	82	69	211
ST	350	950	33501950	51	1033	1.0	480	1487	2402	83	70	210
ST	400	000	34001000	88	990	0.4	440	1485	2402	89	78	199
ST	400	050	34001050	107	1045	0.6	440	1461	2376	87	75	207
ST	400	100	34001100	193	1010	0.7	440	1361	2265	78	62	202
ST	400	150	34001150	57	801	0.9	375	1514	2434	103	95	170
ST	400	200	34001200	12	750	1.4	360	1563	2489	110	105	162
ST	400	250	34001250	25	707	1.2	350	1546	2470	111	105	153
ST	400	300	34001300	27	720	0.5	325	1542	2465	115	111	156
ST	400	350	34001350	7	735	0.2	335	1562	2488	115	111	159
ST	400	400	34001400	13	750	0.3	350	1553	2478	111	106	162
ST	400	450	34001450	3	759	1.6	360	1562	2488	110	104	163
ST	400	500	34001500	7	790	1.8	380	1556	2481	106	99	174
ST	400	550	34001550	15	894	1.0	400	1544	2468	101	93	195
ST	400	600	34001600	6	920	0.9	435	1552	2477	96	87	199
ST	400	650	34001650	5	802	1.0	400	1551	2475	102	94	180
ST	400	700	34001700	4	830	0.6	400	1550	2474	102	94	186
ST	400	850	34001850	4	930	0.1	430	1544	2468	96	87	195
ST	400	900	34001900	59	1000	0.2	460	1479	2395	85	73	205
ST	400	950	34001950	65	1069	0.2	480	1470	2386	82	68	216
ST	450	000	34501000	107	988	0.6	435	1462	2379	88	76	197
ST	450	050	34501050	113	1047	0.7	440	1453	2369	86	74	208
ST	450	100	34501100	71	877	1.0	415	1499	2420	95	85	182
ST	450	150	34501150	27	760	1.2	370	1547	2473	107	100	165
ST	450	200	34501200	15	728	1.1	345	1559	2486	113	108	158
ST	450	250	34501250	6	714	0.8	335	1567	2495	116	111	154
ST	450	300	34501300	29	753	0.6	335	1538	2463	113	108	161
ST	450	350	34501350	10	745	0.3	350	1558	2485	112	107	160
ST	450	400	34501400	2	769	0.4	365	1565	2493	110	104	165
ST	450	450	34501450	6	800	0.9	370	1558	2485	108	102	171
ST	450	500	34501500	6	849	0.8	400	1556	2483	102	95	186
ST	450	550	34501550	85	994	0.7	450	1463	2380	86	73	214
ST	450	600	34501600	46	888	0.7	470	1506	2428	86	75	197
ST	450	650	34501650	53	867	0.6	430	1495	2415	92	81	194
ST	450	700	34501700	8	833	0.5	430	1545	2471	96	87	189
ST	450	750	34501750	76	870	0.1	425	1465	2382	90	78	194
ST	450	850	34501850	2	886	1.0	420	1545	2471	98	89	186
ST	450	900	34501900	50	976	0.4	455	1488	2408	87	75	202
ST	450	950	34501950	172	1104	0.3	520	1347	2251	65	46	221
ST	500	000	35001000	112	1020	0.8	430	1456	2374	88	76	203
ST	500	050	35001050	217	1056	0.7	450	1334	2239	74	57	209

ST	500	100	35001100	48	890	1.1	400	1524	2450	100	91	185
ST	500	150	35001150	122	821	1.2	380	1438	2354	96	85	175
ST	500	200	35001200	40	740	0.7	345	1529	2455	110	104	160
ST	500	250	35001250	23	729	0.6	340	1546	2474	113	108	157
ST	500	300	35001300	59	740	0.8	350	1503	2426	107	100	160
ST	500	350	35001350	30	770	1.0	365	1534	2461	107	100	165
ST	500	400	35001400	18	800	0.9	380	1545	2473	105	98	173
ST	500	450	35001450	50	826	0.7	380	1507	2431	102	93	181
ST	500	500	35001500	137	930	0.5	435	1405	2318	83	69	200
ST	500	550	35001550	242	1090	0.5	515	1283	2182	60	39	226
ST	500	600	35001600	42	980	0.5	475	1509	2433	86	75	210
ST	500	650	35001650	187	897	0.4	460	1342	2248	74	57	199
ST	500	700	35001700	24	870	0.3	435	1525	2451	94	84	194
ST	500	750	35001750	25	879	0.1	430	1522	2447	94	85	195
ST	500	800	35001800	0	820	0.8	390	1548	2476	103	96	181
ST	500	850	35001850	0	829	1.3	400	1546	2474	102	94	179
ST	500	900	35001900	44	940	0.7	450	1494	2416	89	77	198
ST	500	950	35001950	86	1039	0.4	500	1443	2360	77	62	213
ST	550	000	35501000	170	1056	0.8	455	1388	2301	79	63	209
ST	550	050	35501050	156	1071	0.6	465	1402	2316	78	63	211
ST	550	100	35501100	72	904	0.7	430	1496	2421	92	82	187
ST	550	150	35501150	73	843	0.6	375	1492	2416	101	93	179
ST	550	200	35501200	22	746	0.5	350	1548	2478	111	106	163
ST	550	250	35501250	19	738	0.5	345	1549	2479	112	107	159
ST	550	300	35501300	40	763	0.7	355	1523	2451	108	102	164
ST	550	350	35501350	38	808	1.3	380	1523	2451	103	96	172
ST	550	400	35501400	8	811	1.1	380	1555	2486	106	100	179
ST	550	450	35501450	41	859	0.6	385	1516	2443	102	94	193
ST	550	500	35501500	255	1009	0.5	500	1269	2169	61	40	213
ST	550	550	35501550	205	1111	0.4	540	1324	2230	61	41	227
ST	550	600	35501600	91	952	0.6	440	1452	2372	87	74	206
ST	550	650	35501650	97	912	0.7	470	1443	2362	81	68	203
ST	550	700	35501700	31	866	0.3	440	1516	2443	92	82	193
ST	550	750	35501750	10	876	0.1	450	1538	2467	93	83	193
ST	550	800	35501800	9	816	0.1	395	1537	2466	102	94	181
ST	550	850	35501850	4	788	0.3	395	1540	2470	102	95	174
ST	550	900	35501900	4	885	0.6	400	1538	2467	101	93	191
ST	550	950	35501950	32	974	0.4	460	1504	2430	88	77	205
ST	600	000	36001000	159	1070	0.5	490	1400	2316	75	59	211
ST	600	050	36001050	127	1062	0.5	465	1434	2354	81	68	210
ST	600	100	36001100	55	930	0.8	430	1514	2443	94	84	192
ST	600	150	36001150	63	846	1.0	385	1503	2431	101	92	179
ST	600	200	36001200	70	740	0.9	350	1492	2418	106	99	162
ST	600	250	36001250	40	751	0.9	355	1524	2454	108	102	163
ST	600	300	36001300	34	740	1.0	350	1529	2459	110	104	161
ST	600	350	36001350	36	826	1.0	375	1525	2455	105	97	176
ST	600	400	36001400	67	890	0.7	390	1487	2413	98	89	190
ST	600	450	36001450	147	989	0.7	435	1394	2310	82	68	209
ST	600	500	36001500	219	1110	0.6	550	1309	2215	58	38	227
ST	600	550	36001550	122	1090	0.3	490	1418	2336	76	61	224

ST	600	600	36001600	91	980	0.6	450	1451	2373	85	72	209
ST	600	650	36001650	86	887	0.7	440	1454	2376	87	75	194
ST	600	700	36001700	44	850	0.4	430	1500	2427	93	82	188
ST	600	750	36001750	19	826	0.3	415	1526	2456	98	89	183
ST	600	800	36001800	59	790	0.1	390	1479	2404	98	88	176
ST	600	850	36001850	12	799	0.0	390	1530	2461	102	95	176
ST	600	900	36001900	23	830	0.3	390	1515	2444	101	93	182
ST	600	950	36001950	2	899	0.6	395	1537	2468	102	94	193
ST	650	000	36501000	196	1086	0.4	490	1356	2269	71	53	214
ST	650	050	36501050	231	1061	0.5	455	1314	2223	72	55	210
ST	650	100	36501100	86	945	0.8	400	1477	2404	96	86	194
ST	650	150	36501150	120	882	0.9	390	1436	2358	94	83	186
ST	650	200	36501200	101	831	0.7	380	1456	2380	98	88	177
ST	650	250	36501250	137	808	0.9	380	1413	2333	94	82	173
ST	650	300	36501300	105	854	1.2	370	1447	2370	99	89	181
ST	650	350	36501350	59	820	1.0	385	1497	2426	100	92	176
ST	650	400	36501400	120	963	0.5	420	1425	2346	88	75	200
ST	650	450	36501450	244	1071	0.7	500	1282	2187	63	43	217
ST	650	500	36501500	206	1116	0.6	525	1323	2233	63	44	227
ST	650	550	36501550	103	1006	0.8	465	1438	2360	82	68	211
ST	650	600	36501600	142	942	0.7	460	1392	2309	78	63	199
ST	650	650	36501650	29	787	0.2	400	1518	2449	100	91	174
ST	650	700	36501700	11	781	0.3	400	1537	2470	101	93	175
ST	650	750	36501750	96	800	0.3	400	1437	2359	92	81	176
ST	650	800	36501800	61	761	0.2	380	1475	2402	99	90	170
ST	650	850	36501850	69	792	0.2	385	1464	2389	97	88	175
ST	650	900	36501900	56	841	0.1	395	1476	2403	97	87	183
ST	650	950	36501950	31	820	0.4	390	1503	2433	100	91	182
ST	700	000	37001000	124	1080	0.5	485	1437	2361	79	65	213
ST	700	050	37001050	162	1043	0.6	455	1392	2312	79	65	207
ST	700	100	37001100	80	960	0.7	390	1483	2413	98	89	196
ST	700	150	37001150	109	913	0.5	380	1448	2374	97	87	190
ST	700	200	37001200	136	900	0.3	390	1415	2337	92	81	189
ST	700	250	37001250	75	884	0.6	380	1482	2411	100	91	185
ST	700	300	37001300	92	890	0.8	390	1461	2388	96	86	187
ST	700	350	37001350	92	884	0.8	400	1458	2385	94	84	188
ST	700	400	37001400	149	980	0.8	460	1391	2310	79	64	202
ST	700	450	37001450	184	1063	1.1	505	1349	2264	68	50	217
ST	700	500	37001500	137	1100	1.2	515	1401	2322	72	55	226
ST	700	550	37001550	92	963	1.3	450	1450	2376	85	73	207
ST	700	600	37001600	133	870	1.1	440	1401	2322	83	69	192
ST	700	650	37001650	34	779	0.5	425	1511	2444	95	85	175
ST	700	700	37001700	102	790	0.4	395	1432	2356	93	82	176
ST	700	750	37001750	103	778	0.5	390	1428	2351	93	82	174
ST	700	800	37001800	74	800	0.7	380	1459	2386	98	88	179
ST	700	850	37001850	65	775	0.5	385	1467	2395	98	88	175
ST	700	900	37001900	61	840	0.3	405	1470	2398	95	84	186
ST	700	950	37001950	29	804	0.2	400	1504	2436	99	90	180
ST	750	000	37501000	136	1051	0.5	450	1423	2348	83	70	209
ST	750	050	37501050	111	1052	0.6	455	1449	2377	85	72	208

ST	750	100	37501100	88	960	0.8	400	1473	2404	96	86	197
ST	750	150	37501150	55	868	0.7	345	1508	2442	109	103	185
ST	750	200	37501200	57	816	0.3	375	1504	2438	103	95	176
ST	750	250	37501250	67	863	0.2	370	1490	2422	103	95	183
ST	750	300	37501300	128	891	0.3	410	1418	2342	89	77	189
ST	750	350	37501350	234	943	0.5	450	1295	2206	72	54	199
ST	750	400	37501400	109	898	0.7	455	1436	2362	83	70	192
ST	750	450	37501450	118	925	1.2	440	1423	2348	85	72	195
ST	750	500	37501500	94	978	2.0	475	1448	2376	82	68	207
ST	750	550	37501550	126	970	2.2	470	1410	2334	79	64	212
ST	750	600	37501600	67	869	1.6	420	1475	2406	93	82	192
ST	750	650	37501650	25	803	0.8	410	1520	2456	98	90	180
ST	750	700	37501700	166	841	0.3	425	1358	2276	81	66	186
ST	750	750	37501750	196	856	0.6	420	1321	2235	79	63	189
ST	750	800	37501800	119	867	0.8	420	1407	2330	87	74	191
ST	750	850	37501850	105	816	0.8	410	1420	2345	89	77	183
ST	750	900	37501900	76	821	0.6	400	1451	2379	94	83	183
ST	750	950	37501950	198	810	0.5	410	1310	2223	80	64	180
ST	800	000	38001000	116	1010	0.6	430	1444	2373	88	76	205
ST	800	050	38001050	177	1030	0.6	450	1372	2294	79	64	209
ST	800	100	38001100	103	960	0.3	400	1455	2386	94	84	199
ST	800	150	38001150	56	813	0.4	340	1506	2442	110	104	175
ST	800	200	38001200	68	800	0.5	350	1490	2425	107	100	174
ST	800	250	38001250	78	846	0.3	365	1476	2409	103	94	180
ST	800	300	38001300	88	880	0.2	390	1463	2395	97	87	189
ST	800	350	38001350	187	988	0.4	445	1348	2267	77	61	207
ST	800	400	38001400	165	950	0.4	455	1371	2292	78	62	202
ST	800	450	38001450	101	858	0.5	395	1441	2370	94	83	189
ST	800	500	38001500	82	800	1.3	395	1461	2392	96	86	179
ST	800	550	38001550	63	789	2.0	410	1480	2413	95	85	179
ST	800	600	38001600	43	800	1.5	395	1501	2437	99	91	179
ST	800	650	38001650	164	801	0.6	395	1361	2281	87	73	179
ST	800	700	38001700	169	870	0.4	410	1353	2272	84	69	190
ST	800	750	38001750	152	919	0.7	430	1370	2291	82	67	198
ST	800	800	38001800	139	900	0.9	450	1383	2306	80	65	196
ST	800	850	38001850	141	924	0.8	450	1378	2300	79	64	200
ST	800	900	38001900	147	880	0.7	440	1369	2290	80	65	194
ST	800	950	38001950	193	884	0.6	435	1315	2230	76	59	195
ST	850	000	38501000	99	961	0.8	410	1462	2396	94	83	197
ST	850	050	38501050	122	959	0.8	420	1434	2364	89	77	201
ST	850	100	38501100	42	928	0.6	395	1523	2463	102	94	195
ST	850	150	38501150	59	819	0.6	360	1501	2439	106	99	176
ST	850	200	38501200	92	808	0.8	350	1462	2396	105	97	173
ST	850	250	38501250	93	871	0.9	380	1458	2391	99	89	184
ST	850	300	38501300	100	885	0.6	395	1448	2380	95	84	190
ST	850	350	38501350	176	998	0.6	450	1359	2281	78	62	210
ST	850	400	38501400	134	991	0.6	450	1405	2332	82	68	210
ST	850	450	38501450	134	868	0.3	400	1403	2330	90	78	193
ST	850	500	38501500	76	798	0.3	370	1467	2401	101	92	179
ST	850	550	38501550	48	742	0.7	370	1496	2433	104	96	166

ST	850	600	38501600	30	759	0.9	375	1515	2454	104	97	170
ST	850	650	38501650	65	807	0.8	380	1473	2408	100	91	178
ST	850	700	38501700	132	838	1.1	395	1394	2320	90	78	183
ST	850	750	38501750	77	854	1.4	395	1454	2387	95	85	188
ST	850	800	38501800	120	798	1.6	395	1403	2330	91	79	179
ST	850	850	38501850	113	857	1.4	430	1409	2337	85	72	189
ST	850	900	38501900	128	929	0.9	450	1390	2316	81	66	203
ST	850	950	38501950	168	922	0.7	475	1342	2262	72	55	204
ST	900	000	39001000	63	900	1.0	390	1502	2442	101	92	187
ST	900	050	39001050	30	893	0.7	380	1538	2482	106	99	188
ST	900	100	39001100	74	930	0.5	390	1485	2423	99	90	192
ST	900	150	39001150	141	924	0.5	380	1407	2337	94	83	191
ST	900	200	39001200	206	940	0.5	395	1330	2251	85	70	195
ST	900	250	39001250	168	915	0.7	390	1372	2298	89	76	193
ST	900	300	39001300	145	980	0.9	420	1396	2324	86	73	205
ST	900	350	39001350	170	1028	0.9	460	1365	2290	77	61	215
ST	900	400	39001400	156	930	1.0	440	1379	2305	81	67	201
ST	900	450	39001450	122	857	0.8	390	1415	2345	93	82	190
ST	900	500	39001500	200	840	0.3	375	1324	2244	88	74	184
ST	900	550	39001550	73	779	0.2	350	1467	2403	105	97	172
ST	900	600	39001600	44	730	0.5	355	1498	2438	107	100	165
ST	900	650	39001650	38	745	0.7	355	1502	2442	107	100	167
ST	900	700	39001700	67	760	1.0	375	1467	2403	100	91	171
ST	900	750	39001750	80	795	1.4	375	1450	2384	99	89	177
ST	900	800	39001800	97	740	1.8	375	1428	2360	97	87	169
ST	900	850	39001850	86	797	1.8	395	1439	2372	94	83	178
ST	900	900	39001900	101	820	1.1	415	1419	2350	89	77	183
ST	900	950	39001950	124	898	0.8	425	1391	2319	85	71	197
ST	950	000	39501000	25	874	0.9	370	1544	2491	108	102	181
ST	950	050	39501050	65	901	0.7	370	1497	2439	104	97	186
ST	950	100	39501100	94	931	0.2	385	1461	2399	98	89	191
ST	950	150	39501150	91	959	0.1	390	1463	2401	97	88	194
ST	950	200	39501200	173	1000	0.1	410	1367	2294	85	72	205
ST	950	250	39501250	172	950	0.4	400	1366	2293	87	74	200
ST	950	300	39501300	95	996	1.1	420	1451	2388	91	80	208
ST	950	350	39501350	178	986	1.4	445	1355	2281	79	63	208
ST	950	400	39501400	88	803	1.4	385	1455	2392	98	88	179
ST	950	450	39501450	170	826	1.0	370	1359	2285	92	79	183
ST	950	500	39501500	166	833	0.3	380	1362	2289	90	77	182
ST	950	550	39501550	63	773	0.1	360	1477	2416	104	96	172
ST	950	600	39501600	46	724	0.2	375	1494	2435	103	95	164
ST	950	650	39501650	94	741	0.4	365	1437	2372	100	90	166
ST	950	700	39501700	101	746	0.5	350	1427	2361	102	93	166
ST	950	750	39501750	46	752	0.6	365	1488	2429	104	97	167
ST	950	800	39501800	59	741	0.7	360	1470	2409	104	96	167
ST	950	850	39501850	69	756	0.9	375	1457	2394	100	90	169
ST	950	900	39501900	98	779	1.0	385	1422	2355	95	84	176
ST	950	950	39501950	114	846	0.9	395	1401	2332	91	79	188
SU	000	000	40001000	20	860	0.8	365	1549	2498	110	104	178
SU	000	050	40001050	42	879	0.9	370	1522	2468	107	100	181

SU	000	100	40001100	67	920	0.5	380	1491	2434	102	94	189
SU	000	150	40001150	71	951	0.3	390	1484	2426	99	91	197
SU	000	200	40001200	145	970	0.4	400	1398	2331	90	78	203
SU	000	250	40001250	128	935	0.8	405	1415	2350	91	79	201
SU	000	300	40001300	103	900	1.4	390	1441	2379	96	85	196
SU	000	350	40001350	170	923	1.9	400	1363	2292	87	73	198
SU	000	400	40001400	149	810	1.6	370	1384	2315	94	83	180
SU	000	450	40001450	112	790	0.9	360	1424	2360	100	90	176
SU	000	500	40001500	137	770	0.4	335	1394	2326	102	92	172
SU	000	550	40001550	71	744	0.3	340	1467	2407	108	100	167
SU	000	600	40001600	96	740	0.3	325	1436	2373	108	100	166
SU	000	650	40001650	181	776	0.3	345	1337	2263	95	83	172
SU	000	700	40001700	84	800	0.3	360	1445	2383	102	93	176
SU	000	750	40001750	90	737	0.3	350	1436	2373	103	94	165
SU	000	800	40001800	94	730	0.2	345	1429	2365	103	94	165
SU	000	850	40001850	86	739	0.1	360	1436	2373	101	92	165
SU	000	900	40001900	105	760	1.0	370	1413	2347	97	86	170
SU	000	950	40001950	93	778	1.5	385	1424	2360	95	84	177
SU	050	000	40501000	21	857	1.2	360	1547	2498	111	106	176
SU	050	050	40501050	51	870	0.9	370	1510	2457	106	99	179
SU	050	100	40501100	65	889	0.6	375	1492	2437	103	95	185
SU	050	150	40501150	99	920	0.5	385	1451	2392	98	88	193
SU	050	200	40501200	88	908	0.6	400	1462	2404	96	86	196
SU	050	250	40501250	120	923	1.1	400	1423	2361	92	81	204
SU	050	300	40501300	86	886	1.6	375	1459	2401	100	91	196
SU	050	350	40501350	120	851	1.6	385	1418	2355	95	84	187
SU	050	400	40501400	135	768	1.1	360	1399	2334	98	87	173
SU	050	450	40501450	105	742	0.7	345	1431	2370	104	95	166
SU	050	500	40501500	135	770	0.4	350	1395	2330	99	89	171
SU	050	550	40501550	187	789	0.4	355	1333	2261	93	80	174
SU	050	600	40501600	115	739	0.3	355	1413	2350	100	90	166
SU	050	650	40501650	164	771	0.4	375	1355	2285	91	78	172
SU	050	700	40501700	181	799	0.4	370	1334	2262	90	77	176
SU	050	750	40501750	142	768	0.4	365	1376	2308	95	83	171
SU	050	800	40501800	120	762	0.4	360	1399	2334	98	87	168
SU	050	850	40501850	105	723	0.2	350	1414	2351	101	91	161
SU	050	900	40501900	96	742	1.0	350	1422	2360	102	92	166
SU	050	950	40501950	84	723	1.7	360	1433	2372	101	91	166
SU	100	000	41001000	15	820	1.4	360	1552	2506	112	107	170
SU	100	050	41001050	19	851	0.7	365	1546	2499	110	105	176
SU	100	100	41001100	69	870	0.6	370	1486	2433	104	96	181
SU	100	150	41001150	55	891	0.5	380	1500	2448	103	95	186
SU	100	200	41001200	65	890	0.6	390	1487	2434	100	92	190
SU	100	250	41001250	114	915	1.0	400	1429	2369	93	82	198
SU	100	300	41001300	67	850	1.3	370	1480	2426	103	95	187
SU	100	350	41001350	131	816	1.1	370	1405	2343	97	86	180
SU	100	400	41001400	113	770	0.7	350	1423	2363	102	93	171
SU	100	450	41001450	111	742	0.4	340	1423	2363	104	95	165
SU	100	500	41001500	135	770	0.4	345	1394	2331	101	90	171
SU	100	550	41001550	179	777	0.4	360	1341	2272	93	80	172

SU	100	600	41001600	112	750	0.2	355	1415	2354	100	91	169
SU	100	650	41001650	246	802	0.3	375	1260	2182	83	67	177
SU	100	700	41001700	156	820	0.5	380	1361	2294	91	78	178
SU	100	750	41001750	169	818	0.4	380	1344	2275	89	76	177
SU	100	800	41001800	107	760	0.3	370	1412	2351	97	87	166
SU	100	850	41001850	107	686	0.2	345	1410	2348	102	92	155
SU	100	900	41001900	84	690	0.5	345	1434	2375	104	95	156
SU	100	950	41001950	80	681	1.0	345	1437	2378	104	96	155
SU	150	000	41501000	12	832	0.9	360	1555	2511	112	107	171
SU	150	050	41501050	15	846	0.7	365	1549	2505	110	105	176
SU	150	100	41501100	21	864	0.6	370	1540	2495	109	103	179
SU	150	150	41501150	30	870	0.4	370	1528	2481	108	101	179
SU	150	200	41501200	80	884	0.6	370	1468	2415	102	94	186
SU	150	250	41501250	101	863	0.8	375	1442	2386	99	90	186
SU	150	300	41501300	63	771	0.8	355	1483	2431	107	99	172
SU	150	350	41501350	93	760	0.6	340	1447	2391	106	98	169
SU	150	400	41501400	94	733	0.6	325	1444	2388	109	102	165
SU	150	450	41501450	86	737	0.6	335	1451	2396	108	100	165
SU	150	500	41501500	89	742	0.5	345	1445	2389	105	97	167
SU	150	550	41501550	139	753	0.4	355	1386	2324	98	87	169
SU	150	600	41501600	114	781	0.3	365	1412	2353	98	88	174
SU	150	650	41501650	219	800	0.4	375	1290	2217	85	70	177
SU	150	700	41501700	162	829	0.5	390	1353	2287	88	75	179
SU	150	750	41501750	198	836	0.4	400	1310	2239	83	67	177
SU	150	800	41501800	145	791	0.3	380	1368	2304	92	79	170
SU	150	850	41501850	99	684	0.4	345	1418	2359	103	94	155
SU	150	900	41501900	143	696	0.3	340	1366	2302	99	88	156
SU	150	950	41501950	76	679	0.7	340	1440	2384	106	98	153
SU	200	000	42001000	65	900	0.6	375	1493	2445	104	96	184
SU	200	050	42001050	78	868	0.6	370	1476	2426	103	95	180
SU	200	100	42001100	82	880	0.5	385	1469	2418	100	91	185
SU	200	150	42001150	88	884	0.3	395	1460	2408	97	88	188
SU	200	200	42001200	97	900	0.3	405	1448	2395	94	84	193
SU	200	250	42001250	88	829	0.4	380	1456	2404	100	90	182
SU	200	300	42001300	89	770	0.2	360	1453	2400	103	95	171
SU	200	350	42001350	103	761	0.1	340	1434	2379	105	97	167
SU	200	400	42001400	99	740	0.4	335	1437	2382	107	99	167
SU	200	450	42001450	103	744	0.6	345	1430	2375	104	95	167
SU	200	500	42001500	139	770	0.6	360	1387	2327	97	86	173
SU	200	550	42001550	179	803	0.7	370	1339	2274	91	78	178
SU	200	600	42001600	145	790	1.0	375	1376	2315	93	82	175
SU	200	650	42001650	185	791	0.9	375	1328	2261	89	75	175
SU	200	700	42001700	143	770	0.5	385	1373	2311	91	79	170
SU	200	750	42001750	162	751	0.4	390	1350	2286	88	75	165
SU	200	800	42001800	177	800	0.4	380	1330	2264	88	75	173
SU	200	850	42001850	91	678	0.4	345	1426	2370	104	95	153
SU	200	900	42001900	107	690	0.3	340	1406	2348	103	94	152
SU	200	950	42001950	76	679	0.5	340	1439	2385	106	98	147
SU	250	000	42501000	34	888	0.8	380	1527	2484	106	99	184
SU	250	050	42501050	30	876	0.5	380	1530	2488	106	100	182

SU	250	100	42501100	67	906	0.3	405	1485	2438	98	89	192
SU	250	150	42501150	109	911	0.3	405	1435	2382	93	82	199
SU	250	200	42501200	34	886	0.3	390	1518	2474	103	96	193
SU	250	250	42501250	105	821	0.3	380	1435	2382	98	88	183
SU	250	300	42501300	83	781	0.1	380	1458	2408	100	91	173
SU	250	350	42501350	141	820	0.1	370	1390	2332	96	85	175
SU	250	400	42501400	135	798	0.1	350	1395	2338	100	90	174
SU	250	450	42501450	146	803	0.2	355	1380	2321	98	87	177
SU	250	500	42501500	150	813	0.4	365	1373	2314	95	84	180
SU	250	550	42501550	154	855	0.9	390	1366	2306	90	77	189
SU	250	600	42501600	160	821	1.1	375	1357	2296	92	79	182
SU	250	650	42501650	162	790	0.8	370	1353	2291	92	80	175
SU	250	700	42501700	141	738	0.4	375	1375	2316	93	82	166
SU	250	750	42501750	166	792	0.3	380	1344	2281	90	77	175
SU	250	800	42501800	210	781	0.4	380	1291	2223	85	70	170
SU	250	850	42501850	103	705	0.3	350	1411	2356	101	92	157
SU	250	900	42501900	97	664	0.2	340	1416	2361	104	95	146
SU	250	950	42501950	99	684	0.3	335	1411	2356	105	96	142
SU	300	000	43001000	38	820	1.5	370	1522	2481	108	101	172
SU	300	050	43001050	25	870	1.4	375	1534	2494	108	102	180
SU	300	100	43001100	30	920	1.0	410	1526	2485	101	93	191
SU	300	150	43001150	25	896	1.0	390	1530	2490	105	98	189
SU	300	200	43001200	21	850	0.7	370	1532	2492	108	103	183
SU	300	250	43001250	55	815	0.3	370	1491	2447	105	98	179
SU	300	300	43001300	62	780	0.1	360	1481	2436	106	99	171
SU	300	350	43001350	67	801	0.1	365	1473	2427	104	96	171
SU	300	400	43001400	95	800	0.3	365	1439	2389	101	92	172
SU	300	450	43001450	73	800	0.3	365	1462	2414	103	95	174
SU	300	500	43001500	109	800	0.3	375	1419	2367	98	87	178
SU	300	550	43001550	223	894	0.7	410	1286	2219	79	63	195
SU	300	600	43001600	208	920	0.8	400	1301	2236	82	67	198
SU	300	650	43001650	147	756	0.6	360	1369	2311	96	85	171
SU	300	700	43001700	128	750	0.4	360	1388	2332	98	87	169
SU	300	750	43001750	172	762	0.3	370	1336	2275	91	78	169
SU	300	800	43001800	164	740	0.5	365	1343	2282	93	80	164
SU	300	850	43001850	219	739	0.4	355	1278	2210	89	74	162
SU	300	900	43001900	81	660	0.3	340	1433	2382	106	97	144
SU	300	950	43001950	110	688	0.4	330	1398	2343	105	96	142
SU	350	000	43501000	38	805	1.8	360	1520	2481	110	104	167
SU	350	050	43501050	17	853	2.6	370	1542	2505	110	104	176
SU	350	100	43501100	32	866	1.9	385	1523	2484	105	98	179
SU	350	150	43501150	8	829	1.0	375	1548	2512	109	104	173
SU	350	200	43501200	15	813	0.4	365	1538	2501	110	105	174
SU	350	250	43501250	34	794	0.1	355	1514	2474	110	104	173
SU	350	300	43501300	55	789	0.3	355	1488	2445	108	101	170
SU	350	350	43501350	49	787	0.5	350	1492	2450	109	103	168
SU	350	400	43501400	76	773	0.6	335	1460	2414	109	102	166
SU	350	450	43501450	71	771	0.5	375	1463	2418	102	93	166
SU	350	500	43501500	109	789	0.3	380	1417	2367	97	86	174
SU	350	550	43501550	132	861	0.5	390	1389	2335	92	80	192

SU	350	600	43501600	210	914	0.7	420	1298	2234	79	63	199
SU	350	650	43501650	126	837	0.6	375	1392	2339	95	84	185
SU	350	700	43501700	130	746	0.4	345	1385	2331	101	90	168
SU	350	750	43501750	177	743	0.2	360	1329	2269	93	80	166
SU	350	800	43501800	179	740	0.4	355	1324	2263	93	80	164
SU	350	850	43501850	202	739	0.4	350	1296	2232	92	78	163
SU	350	900	43501900	83	666	0.5	340	1430	2381	106	97	143
SU	350	950	43501950	76	648	0.8	325	1435	2387	109	102	132
SU	400	000	44001000	23	790	1.6	355	1536	2501	112	107	164
SU	400	050	44001050	37	818	2.0	365	1518	2481	109	103	169
SU	400	100	44001100	6	800	1.1	365	1551	2517	111	107	166
SU	400	150	44001150	24	810	0.2	365	1529	2493	110	104	167
SU	400	200	44001200	44	820	0.0	365	1504	2465	107	101	174
SU	400	250	44001250	53	826	0.1	375	1491	2451	104	97	179
SU	400	300	44001300	99	820	0.2	380	1437	2391	99	89	177
SU	400	350	44001350	87	799	0.4	370	1448	2403	101	93	172
SU	400	400	44001400	57	790	0.5	355	1480	2439	107	100	169
SU	400	450	44001450	96	751	0.4	335	1433	2386	107	99	163
SU	400	500	44001500	137	790	0.3	360	1384	2332	98	87	175
SU	400	550	44001550	149	827	0.5	385	1369	2315	91	79	184
SU	400	600	44001600	260	920	0.7	420	1240	2172	74	56	198
SU	400	650	44001650	120	797	0.7	375	1397	2346	96	85	177
SU	400	700	44001700	122	730	0.4	345	1393	2342	101	92	163
SU	400	750	44001750	141	724	0.1	345	1369	2315	99	89	158
SU	400	800	44001800	147	740	0.3	360	1360	2305	95	84	160
SU	400	850	44001850	183	734	0.4	350	1317	2258	94	81	157
SU	400	900	44001900	76	650	0.5	335	1436	2390	107	100	139
SU	400	950	44001950	61	611	0.8	315	1451	2406	113	107	128
SU	450	000	44501000	10	787	1.2	330	1550	2518	119	115	162
SU	450	050	44501050	9	803	0.7	345	1549	2517	115	111	164
SU	450	100	44501100	19	772	0.2	345	1535	2502	114	110	159
SU	450	150	44501150	27	793	0.4	365	1524	2490	109	104	163
SU	450	200	44501200	19	798	0.4	365	1531	2497	110	104	170
SU	450	250	44501250	63	838	0.2	375	1479	2440	103	96	182
SU	450	300	44501300	139	848	0.3	380	1390	2341	94	83	183
SU	450	350	44501350	107	831	0.4	380	1424	2379	98	88	179
SU	450	400	44501400	79	784	0.6	370	1454	2412	102	94	169
SU	450	450	44501450	82	791	0.6	360	1448	2405	103	95	169
SU	450	500	44501500	105	789	0.3	360	1420	2374	101	92	173
SU	450	550	44501550	164	836	0.6	390	1350	2296	89	76	185
SU	450	600	44501600	145	826	0.7	390	1370	2319	91	79	181
SU	450	650	44501650	112	758	0.9	360	1405	2357	100	90	169
SU	450	700	44501700	94	693	0.6	345	1423	2377	104	96	154
SU	450	750	44501750	124	703	0.2	345	1387	2337	101	91	151
SU	450	800	44501800	166	733	0.5	355	1337	2282	95	82	154
SU	450	850	44501850	198	718	0.5	350	1298	2239	92	79	151
SU	450	900	44501900	73	643	0.5	320	1439	2395	111	104	135
SU	450	950	44501950	57	589	0.4	290	1455	2413	119	114	123
SU	500	000	45001000	0	750	0.7	320	1560	2532	122	119	155
SU	500	050	45001050	9	781	0.5	325	1548	2518	120	117	158

SU	500	100	45001100	10	800	0.6	345	1545	2515	115	111	164
SU	500	150	45001150	21	827	0.8	375	1530	2498	108	102	170
SU	500	200	45001200	46	820	0.7	375	1499	2464	105	98	176
SU	500	250	45001250	53	871	0.6	375	1489	2453	104	97	189
SU	500	300	45001300	71	820	0.7	375	1466	2427	102	94	179
SU	500	350	45001350	80	821	0.6	375	1454	2414	101	93	177
SU	500	400	45001400	91	800	0.8	375	1439	2397	100	91	174
SU	500	450	45001450	109	823	0.8	380	1416	2372	97	87	176
SU	500	500	45001500	101	800	0.6	350	1423	2380	103	95	175
SU	500	550	45001550	185	839	0.6	395	1325	2271	86	72	182
SU	500	600	45001600	99	800	0.6	375	1421	2377	98	88	174
SU	500	650	45001650	114	756	0.9	350	1402	2356	101	92	163
SU	500	700	45001700	113	700	0.6	345	1401	2355	102	93	153
SU	500	750	45001750	130	701	0.2	340	1379	2331	102	92	149
SU	500	800	45001800	137	680	0.5	335	1369	2320	102	92	144
SU	500	850	45001850	112	664	0.6	325	1395	2348	106	97	139
SU	500	900	45001900	73	580	0.7	300	1437	2395	115	110	123
SU	500	950	45001950	50	594	0.6	305	1462	2423	117	111	125
SU	550	000	45501000	0	751	1.2	320	1559	2533	122	120	155
SU	550	050	45501050	12	783	0.7	335	1543	2515	117	114	157
SU	550	100	45501100	27	804	0.8	360	1524	2494	111	105	164
SU	550	150	45501150	51	849	0.8	370	1494	2460	106	99	176
SU	550	200	45501200	88	877	0.6	380	1450	2412	100	91	187
SU	550	250	45501250	112	913	0.8	395	1420	2378	95	84	199
SU	550	300	45501300	80	901	0.8	390	1455	2417	99	90	194
SU	550	350	45501350	115	835	0.6	380	1413	2371	97	87	180
SU	550	400	45501400	97	840	0.8	385	1431	2391	98	88	181
SU	550	450	45501450	156	855	1.0	390	1362	2314	90	78	185
SU	550	500	45501500	101	833	0.9	380	1422	2381	98	88	181
SU	550	550	45501550	162	829	0.7	385	1350	2301	90	78	178
SU	550	600	45501600	91	781	0.7	375	1429	2388	99	90	167
SU	550	650	45501650	80	718	0.8	345	1439	2399	106	98	153
SU	550	700	45501700	86	701	0.5	335	1430	2389	107	99	149
SU	550	750	45501750	109	694	0.1	335	1402	2358	105	96	147
SU	550	800	45501800	176	702	0.2	320	1323	2271	101	90	146
SU	550	850	45501850	95	652	0.4	305	1413	2371	112	105	135
SU	550	900	45501900	65	556	1.1	315	1445	2406	113	107	119
SU	550	950	45501950	46	603	1.0	320	1465	2428	114	108	123
SU	600	000	46001000	4	740	2.1	330	1553	2528	119	116	152
SU	600	050	46001050	2	791	0.7	350	1554	2529	115	112	160
SU	600	100	46001100	29	830	0.8	365	1521	2493	110	104	172
SU	600	150	46001150	40	865	0.8	380	1506	2476	105	99	185
SU	600	200	46001200	102	900	0.8	380	1433	2395	99	89	195
SU	600	250	46001250	115	901	0.9	420	1416	2376	90	79	199
SU	600	300	46001300	116	880	0.8	395	1413	2373	94	84	193
SU	600	350	46001350	115	874	0.6	405	1412	2372	92	81	189
SU	600	400	46001400	103	880	0.7	400	1423	2384	94	84	191
SU	600	450	46001450	176	890	0.9	395	1338	2289	88	74	192
SU	600	500	46001500	112	810	0.8	385	1408	2367	96	85	177
SU	600	550	46001550	124	792	0.9	375	1392	2349	96	85	169

SU	600	600	46001600	88	740	1.1	370	1431	2393	101	91	158
SU	600	650	46001650	78	715	0.9	345	1440	2403	106	99	151
SU	600	700	46001700	79	690	0.4	330	1437	2399	109	102	146
SU	600	750	46001750	89	696	0.2	330	1424	2385	108	100	146
SU	600	800	46001800	43	690	0.4	335	1474	2440	111	105	146
SU	600	850	46001850	45	656	0.7	330	1469	2435	112	106	141
SU	600	900	46001900	52	600	1.3	305	1459	2424	117	111	129
SU	600	950	46001950	59	583	1.3	295	1449	2413	118	113	122
SU	650	000	46501000	4	704	1.3	320	1552	2529	122	119	144
SU	650	050	46501050	3	769	0.6	350	1551	2528	115	111	155
SU	650	100	46501100	38	803	0.7	365	1509	2481	109	103	171
SU	650	150	46501150	80	879	0.7	390	1459	2426	99	91	194
SU	650	200	46501200	179	1016	0.7	420	1344	2298	84	70	217
SU	650	250	46501250	137	923	0.7	425	1390	2349	87	75	205
SU	650	300	46501300	166	924	0.7	415	1354	2309	86	72	203
SU	650	350	46501350	168	918	0.6	435	1350	2305	82	68	200
SU	650	400	46501400	154	903	0.4	400	1364	2320	89	77	197
SU	650	450	46501450	171	909	0.5	400	1342	2296	87	74	198
SU	650	500	46501500	105	795	0.5	375	1415	2377	98	88	173
SU	650	550	46501550	76	740	0.9	345	1446	2411	107	99	158
SU	650	600	46501600	67	709	1.5	345	1454	2420	108	100	151
SU	650	650	46501650	91	714	1.3	350	1425	2388	104	96	150
SU	650	700	46501700	46	691	0.7	325	1474	2442	114	108	144
SU	650	750	46501750	87	682	0.3	325	1425	2388	109	102	142
SU	650	800	46501800	132	721	0.5	335	1371	2328	102	93	152
SU	650	850	46501850	126	717	0.9	345	1376	2334	101	91	156
SU	650	900	46501900	116	644	1.1	320	1385	2344	107	98	139
SU	650	950	46501950	89	639	1.1	315	1414	2376	111	103	133
SU	700	000	47001000	2	680	0.6	315	1553	2532	123	121	139
SU	700	050	47001050	0	744	0.9	340	1554	2533	118	114	154
SU	700	100	47001100	40	820	0.6	370	1506	2480	108	101	176
SU	700	150	47001150	103	908	0.5	400	1432	2398	95	85	199
SU	700	200	47001200	148	1030	0.4	455	1378	2338	82	68	220
SU	700	250	47001250	177	982	0.4	455	1343	2299	78	63	215
SU	700	300	47001300	183	990	0.5	450	1334	2289	78	63	214
SU	700	350	47001350	136	918	0.6	430	1385	2346	86	73	200
SU	700	400	47001400	136	880	0.6	400	1383	2344	91	79	192
SU	700	450	47001450	154	836	0.5	385	1360	2318	92	80	182
SU	700	500	47001500	110	780	0.6	365	1408	2371	100	90	168
SU	700	550	47001550	67	707	0.7	350	1455	2423	107	100	151
SU	700	600	47001600	64	690	0.8	335	1456	2425	110	104	146
SU	700	650	47001650	56	663	0.9	330	1463	2432	112	106	139
SU	700	700	47001700	41	670	0.8	320	1478	2449	115	110	140
SU	700	750	47001750	42	671	0.4	325	1475	2446	114	108	140
SU	700	800	47001800	95	740	0.3	340	1412	2376	105	97	154
SU	700	850	47001850	147	809	0.5	385	1351	2308	91	78	170
SU	700	900	47001900	206	800	0.8	400	1281	2230	82	66	167
SU	700	950	47001950	124	718	0.8	340	1373	2332	102	92	154
SU	750	000	47501000	0	688	0.8	310	1555	2537	125	123	141
SU	750	050	47501050	3	767	1.2	350	1549	2530	115	112	157

SU	750	100	47501100	42	871	0.7	380	1502	2478	105	99	184
SU	750	150	47501150	90	945	0.6	420	1445	2414	93	83	208
SU	750	200	47501200	107	996	0.5	450	1424	2391	87	75	217
SU	750	250	47501250	80	954	0.4	430	1452	2422	92	82	209
SU	750	300	47501300	113	941	0.6	425	1413	2379	90	78	206
SU	750	350	47501350	128	884	0.9	410	1393	2357	90	79	194
SU	750	400	47501400	114	824	1.0	380	1407	2372	97	87	181
SU	750	450	47501450	160	799	0.9	380	1352	2311	92	80	172
SU	750	500	47501500	97	752	0.7	350	1422	2389	104	96	160
SU	750	550	47501550	78	698	0.5	340	1441	2410	108	101	148
SU	750	600	47501600	55	691	0.2	375	1465	2437	103	95	143
SU	750	650	47501650	75	684	0.2	325	1440	2409	111	104	139
SU	750	700	47501700	48	660	0.4	315	1469	2441	116	111	138
SU	750	750	47501750	42	671	0.7	320	1474	2447	115	110	141
SU	750	800	47501800	88	697	0.6	335	1419	2386	107	99	148
SU	750	850	47501850	88	726	0.3	345	1417	2383	105	96	157
SU	750	900	47501900	185	769	0.4	385	1304	2258	87	73	167
SU	750	950	47501950	194	797	0.5	385	1292	2245	86	71	176
SU	800	000	48001000	6	740	0.8	310	1547	2530	124	122	150
SU	800	050	48001050	5	764	1.1	345	1546	2529	116	113	157
SU	800	100	48001100	101	900	0.7	375	1434	2404	100	92	190
SU	800	150	48001150	128	1016	0.7	435	1401	2368	87	75	218
SU	800	200	48001200	76	940	0.5	435	1458	2431	92	82	206
SU	800	250	48001250	111	916	0.3	405	1416	2384	93	83	200
SU	800	300	48001300	109	880	0.5	395	1416	2384	95	85	195
SU	800	350	48001350	82	830	0.8	390	1445	2417	99	90	185
SU	800	400	48001400	76	780	1.0	375	1449	2421	102	93	173
SU	800	450	48001450	97	758	0.8	365	1423	2392	101	92	163
SU	800	500	48001500	86	690	0.6	350	1433	2403	105	97	149
SU	800	550	48001550	75	679	0.4	335	1444	2415	109	102	145
SU	800	600	48001600	80	680	0.5	325	1436	2407	111	104	143
SU	800	650	48001650	67	648	0.5	325	1448	2420	112	106	135
SU	800	700	48001700	46	650	0.5	320	1470	2444	115	110	136
SU	800	750	48001750	40	680	0.7	320	1475	2450	115	110	141
SU	800	800	48001800	97	710	0.7	335	1408	2375	106	98	149
SU	800	850	48001850	55	708	0.5	340	1453	2425	109	102	151
SU	800	900	48001900	156	750	0.3	370	1336	2296	93	81	161
SU	800	950	48001950	135	809	0.5	400	1358	2320	89	77	174
SU	850	000	48501000	5	740	0.6	320	1547	2532	122	119	150
SU	850	050	48501050	10	770	0.9	330	1539	2523	119	116	157
SU	850	100	48501100	40	890	0.7	385	1502	2482	105	98	189
SU	850	150	48501150	105	1012	0.7	430	1426	2398	90	79	221
SU	850	200	48501200	40	920	0.6	415	1498	2477	99	91	202
SU	850	250	48501250	116	898	0.3	390	1409	2379	96	85	194
SU	850	300	48501300	134	910	0.2	385	1386	2353	95	84	197
SU	850	350	48501350	147	890	0.4	385	1369	2334	93	81	195
SU	850	400	48501400	79	813	0.5	375	1445	2419	102	93	176
SU	850	450	48501450	86	757	0.3	360	1434	2406	104	95	161
SU	850	500	48501500	120	712	0.4	350	1393	2361	102	93	152
SU	850	550	48501550	67	676	0.4	335	1452	2426	110	104	144

SU	850	600	48501600	59	688	0.5	325	1459	2434	113	107	144
SU	850	650	48501650	97	685	0.6	330	1413	2383	108	100	143
SU	850	700	48501700	71	676	0.4	325	1441	2414	111	105	141
SU	850	750	48501750	38	666	0.4	320	1476	2453	116	111	140
SU	850	800	48501800	47	684	0.6	335	1463	2439	111	105	144
SU	850	850	48501850	33	687	0.6	345	1477	2454	110	104	145
SU	850	900	48501900	130	731	0.4	375	1364	2329	94	83	156
SU	850	950	48501950	151	786	0.3	375	1338	2300	92	80	168
SU	900	000	49001000	4	740	0.5	325	1547	2534	121	118	150
SU	900	050	49001050	12	782	0.8	345	1535	2521	116	112	160
SU	900	100	49001100	95	880	0.7	370	1438	2413	102	94	185
SU	900	150	49001150	135	1003	0.6	440	1391	2361	86	73	213
SU	900	200	49001200	42	900	0.6	400	1494	2475	102	94	194
SU	900	250	49001250	166	886	0.6	385	1351	2316	92	79	189
SU	900	300	49001300	155	940	0.5	400	1361	2328	90	77	197
SU	900	350	49001350	216	921	0.5	410	1289	2248	82	66	194
SU	900	400	49001400	86	800	0.3	385	1435	2410	99	90	171
SU	900	450	49001450	76	756	0.4	360	1445	2421	105	97	159
SU	900	500	49001500	85	700	0.5	340	1432	2406	108	100	148
SU	900	550	49001550	91	693	0.5	325	1423	2396	110	103	144
SU	900	600	49001600	107	730	0.4	330	1403	2374	107	99	150
SU	900	650	49001650	75	733	0.4	335	1437	2412	109	102	152
SU	900	700	49001700	86	690	0.1	340	1422	2395	107	99	143
SU	900	750	49001750	44	658	0.2	320	1468	2446	115	110	138
SU	900	800	49001800	24	670	0.4	320	1489	2470	117	113	141
SU	900	850	49001850	25	674	0.4	335	1485	2465	113	108	141
SU	900	900	49001900	90	690	0.3	380	1409	2381	98	88	147
SU	900	950	49001950	166	758	0.2	375	1320	2282	91	78	162
SU	950	000	49501000	5	736	0.6	325	1544	2533	121	118	149
SU	950	050	49501050	8	773	0.7	340	1539	2527	117	114	158
SU	950	100	49501100	127	901	0.6	380	1401	2374	97	87	185
SU	950	150	49501150	141	996	0.5	455	1383	2354	83	69	208
SU	950	200	49501200	17	895	0.6	405	1522	2508	103	97	190
SU	950	250	49501250	44	856	0.9	370	1489	2472	107	100	179
SU	950	300	49501300	80	849	0.9	400	1446	2424	98	88	178
SU	950	350	49501350	65	832	0.9	385	1460	2440	102	93	175
SU	950	400	49501400	76	839	0.7	380	1446	2424	101	93	174
SU	950	450	49501450	67	759	0.5	360	1454	2433	106	98	157
SU	950	500	49501500	78	711	0.6	335	1439	2416	109	103	149
SU	950	550	49501550	40	680	0.7	320	1480	2462	116	112	142
SU	950	600	49501600	36	690	0.6	325	1483	2465	115	111	144
SU	950	650	49501650	84	686	0.6	340	1426	2402	107	100	145
SU	950	700	49501700	54	723	0.4	355	1458	2437	107	100	150
SU	950	750	49501750	34	681	0.3	330	1478	2459	114	109	142
SU	950	800	49501800	21	658	0.3	320	1491	2474	117	113	138
SU	950	850	49501850	63	693	0.2	345	1441	2418	107	100	144
SU	950	900	49501900	103	729	0.4	355	1393	2365	101	92	153
SU	950	950	49501950	151	749	0.5	340	1336	2302	99	88	159
SW	350	250	13500250	71	967	0.2	415	1585	2427	95	85	191
SW	350	300	13500300	0	1021	0.5	415	1664	2515	102	95	201

SW	350	350	13500350	0	965	0.2	395	1661	2511	105	99	194
SW	400	200	14000200	0	850	0.0	390	1667	2520	107	101	175
SW	400	250	14000250	95	1075	0.3	420	1556	2397	92	81	210
SW	400	300	14000300	164	1210	0.7	500	1475	2307	72	56	232
SW	400	350	14000350	127	1157	0.5	450	1515	2351	83	70	226
SW	450	250	14500250	107	1038	0.3	420	1541	2382	91	79	206
SW	450	300	14500300	69	1152	0.6	460	1583	2429	88	77	224
SW	450	350	14500350	188	1196	0.6	515	1445	2276	68	50	234
SW	450	400	14500400	0	1068	0.2	435	1657	2511	99	91	212
SW	500	250	15000250	0	893	0.7	395	1662	2519	106	100	181
SW	500	300	15000300	0	970	1.0	415	1660	2517	102	96	193
SW	500	350	15000350	122	1114	0.6	475	1519	2360	80	66	218
SW	500	400	15000400	110	1100	0.3	450	1530	2372	85	72	215
SW	550	300	15500300	82	947	1.6	395	1565	2413	98	88	188
SW	550	350	15500350	14	1019	1.0	400	1641	2498	103	97	199
SW	550	400	15500400	0	1013	0.6	430	1655	2513	100	92	199
SW	600	300	16000300	165	1070	1.6	435	1470	2310	82	68	209
SW	600	350	16000350	69	1065	1.4	435	1577	2429	92	82	209
SW	600	400	16000400	76	1060	1.0	425	1567	2418	93	82	207
SW	600	450	16000450	0	981	0.5	395	1651	2511	105	99	194
SW	650	200	16500200	0	914	0.9	380	1661	2524	109	104	182
SW	650	250	16500250	27	951	0.8	400	1628	2487	103	95	188
SW	650	300	16500300	74	1114	0.9	450	1572	2425	89	78	218
SW	650	350	16500350	156	1208	1.2	490	1477	2320	75	59	235
SW	650	400	16500400	107	1116	1.0	445	1530	2379	86	74	218
SW	650	450	16500450	60	997	0.6	410	1582	2436	97	88	197
SW	700	100	17000100	0	850	0.0	375	1664	2529	111	106	172
SW	700	150	17000150	81	994	0.5	375	1570	2425	102	94	195
SW	700	200	17000200	76	1070	1.2	395	1573	2428	99	90	208
SW	700	250	17000250	32	1030	1.1	395	1621	2482	103	96	203
SW	700	300	17000300	120	1170	0.6	450	1519	2368	85	72	228
SW	700	350	17000350	198	1391	0.8	510	1428	2267	68	50	264
SW	700	400	17000400	204	1240	0.9	505	1419	2257	68	50	238
SW	700	450	17000450	76	1086	0.6	450	1562	2416	89	77	212
SW	700	500	17000500	78	1000	0.3	410	1558	2412	95	85	197
SW	750	150	17500150	0	986	0.1	380	1661	2528	109	104	194
SW	750	200	17500200	81	1126	0.3	420	1566	2423	94	84	217
SW	750	250	17500250	36	1101	0.7	430	1616	2478	97	88	215
SW	750	300	17500300	82	1153	1.0	470	1561	2417	86	74	225
SW	750	350	17500350	164	1228	1.1	505	1465	2311	72	56	239
SW	750	400	17500400	65	1194	1.2	470	1576	2434	87	76	231
SW	750	450	17500450	86	1135	0.8	460	1550	2405	86	74	221
SW	750	500	17500500	94	1071	0.3	440	1538	2392	88	77	209
SW	750	550	17500550	0	982	0.2	400	1643	2508	104	98	193
SW	750	600	17500600	0	927	0.1	390	1641	2506	106	100	185
SW	800	200	18000200	47	1080	0.0	410	1604	2467	99	91	210
SW	800	250	18000250	23	1074	0.6	420	1629	2495	100	92	210
SW	800	300	18000300	23	1080	1.5	445	1627	2493	96	87	211
SW	800	350	18000350	48	1092	1.8	450	1596	2458	92	82	214
SW	800	400	18000400	73	1070	1.5	430	1566	2425	93	82	210

SW	800	450	18000450	76	1101	0.9	435	1560	2418	91	80	215
SW	800	500	18000500	91	1120	0.6	435	1541	2397	89	78	217
SW	800	550	18000550	91	1045	0.7	420	1538	2394	92	81	205
SW	800	600	18000600	36	970	0.5	395	1599	2461	101	94	193
SW	850	300	18500300	0	1001	0.9	395	1652	2522	106	100	197
SW	850	350	18500350	65	980	1.2	395	1576	2438	100	91	193
SW	850	400	18500400	59	1013	1.3	400	1580	2443	99	90	201
SW	850	450	18500450	27	1088	0.7	430	1615	2481	97	89	213
SW	850	500	18500500	88	1120	0.8	435	1543	2401	90	79	218
SW	850	550	18500550	82	1100	1.4	440	1548	2407	89	78	215
SW	850	600	18500600	55	996	1.4	425	1576	2438	94	85	198
SW	850	650	18500650	67	970	1.3	400	1560	2420	97	88	191
SW	850	700	18500700	65	936	0.9	395	1560	2420	98	89	185
SW	850	750	18500750	0	841	0.2	390	1632	2500	105	99	168
SW	900	350	19000350	0	951	0.1	390	1649	2521	107	101	190
SW	900	400	19000400	52	1080	0.6	420	1587	2452	96	87	211
SW	900	450	19000450	40	1100	1.0	445	1599	2466	93	84	215
SW	900	500	19000500	63	1120	1.1	450	1570	2434	90	79	220
SW	900	550	19000550	76	1149	1.5	465	1553	2415	86	74	226
SW	900	600	19000600	112	1100	1.8	470	1510	2367	82	68	217
SW	900	650	19000650	88	1092	1.7	450	1535	2395	87	75	214
SW	900	700	19000700	76	1050	1.1	460	1547	2408	86	75	205
SW	900	750	19000750	50	870	0.9	395	1574	2438	100	91	174
SW	950	400	19500400	21	1078	0.2	425	1621	2492	99	91	211
SW	950	450	19500450	75	1115	0.7	460	1558	2422	88	76	218
SW	950	500	19500500	57	1184	0.8	485	1576	2442	85	74	232
SW	950	550	19500550	151	1261	1.0	510	1467	2321	72	56	247
SW	950	600	19500600	124	1266	1.2	500	1495	2352	76	61	245
SW	950	650	19500650	134	1168	0.9	510	1482	2338	74	58	229
SW	950	700	19500700	108	1094	0.7	500	1509	2368	77	63	215
SW	950	750	19500750	49	948	1.1	400	1574	2440	99	90	188
SW	950	800	19500800	59	879	0.8	395	1560	2425	99	89	176
SX	000	400	20000400	97	1030	0.1	400	1534	2398	95	85	203
SX	000	450	20000450	78	1105	0.4	460	1553	2419	87	76	216
SX	000	500	20000500	30	1180	0.5	465	1606	2478	91	82	231
SX	000	550	20000550	210	1339	0.7	540	1398	2247	62	43	259
SX	000	600	20000600	153	1330	0.5	540	1461	2317	68	51	256
SX	000	650	20000650	94	1161	0.3	495	1526	2389	80	66	228
SX	000	700	20000700	65	1070	1.0	485	1557	2423	84	72	211
SX	000	750	20000750	5	984	1.7	410	1623	2497	102	94	196
SX	000	800	20000800	57	1000	1.2	435	1562	2429	92	82	197
SX	050	500	20500500	0	1063	0.6	410	1639	2516	103	97	213
SX	050	550	20500550	99	1296	0.8	510	1524	2389	78	64	253
SX	050	600	20500600	130	1339	0.9	525	1486	2347	72	56	257
SX	050	650	20500650	97	1230	1.1	505	1521	2385	78	64	239
SX	050	700	20500700	95	1168	1.9	475	1522	2387	82	69	227
SX	050	750	20500750	61	1077	2.4	475	1558	2426	86	74	212
SX	050	800	20500800	135	1123	2.0	515	1472	2331	72	56	219
SX	050	850	20500850	96	1029	1.2	465	1514	2378	83	70	204
SX	050	900	20500900	0	888	0.3	410	1621	2496	102	94	182

SX	100	500	21000500	42	980	0.6	390	1590	2464	103	95	197
SX	100	550	21000550	82	1108	1.1	470	1542	2411	85	73	220
SX	100	600	21000600	46	1190	1.0	500	1581	2454	84	73	233
SX	100	650	21000650	113	1256	1.4	520	1502	2366	74	59	244
SX	100	700	21000700	197	1300	1.9	550	1404	2258	62	42	252
SX	100	750	21000750	130	1318	2.3	565	1478	2340	66	49	254
SX	100	800	21000800	176	1370	2.5	580	1424	2280	60	40	263
SX	100	850	21000850	227	1381	1.9	605	1363	2212	51	29	264
SX	100	900	21000900	166	1190	1.0	485	1431	2288	73	57	232
SX	150	500	21500500	10	962	0.4	410	1625	2505	102	95	193
SX	150	550	21500550	23	1073	0.9	470	1608	2486	91	82	211
SX	150	600	21500600	38	1177	1.0	500	1589	2465	85	74	230
SX	150	650	21500650	72	1311	1.1	540	1548	2420	76	62	255
SX	150	700	21500700	206	1484	1.2	600	1393	2248	55	34	283
SX	150	750	21500750	235	1610	2.1	680	1357	2208	43	19	306
SX	150	800	21500800	285	1721	2.6	680	1298	2142	38	11	323
SX	150	850	21500850	290	1571	1.7	685	1290	2133	36	10	299
SX	150	900	21500900	206	1316	0.8	600	1384	2238	54	33	254
SX	150	950	21500950	141	1098	0.4	500	1456	2317	73	57	215
SX	200	500	22000500	15	1000	0.3	440	1618	2499	97	89	199
SX	200	550	22000550	114	1228	0.8	525	1503	2372	74	59	237
SX	200	600	22000600	137	1310	1.2	560	1475	2341	67	50	253
SX	200	650	22000650	145	1348	0.9	575	1463	2327	64	46	263
SX	200	700	22000700	250	1600	0.8	640	1341	2192	46	22	303
SX	200	750	22000750	236	1746	1.7	725	1355	2207	38	13	327
SX	200	800	22000800	301	1700	2.1	735	1279	2123	31	2	319
SX	200	850	22000850	214	1447	1.4	660	1376	2231	47	24	278
SX	200	900	22000900	223	1250	0.8	575	1363	2216	55	34	245
SX	200	950	22000950	113	1127	0.5	520	1487	2354	73	58	221
SX	250	500	22500500	0	964	0.3	400	1634	2519	105	99	195
SX	250	550	22500550	38	1164	0.6	500	1589	2469	85	74	228
SX	250	600	22500600	55	1294	0.9	560	1567	2445	76	62	251
SX	250	650	22500650	135	1361	0.8	595	1474	2342	63	45	267
SX	250	700	22500700	276	1722	1.2	700	1311	2161	37	11	323
SX	250	750	22500750	326	1710	1.8	750	1251	2094	27	0	322
SX	250	800	22500800	185	1423	1.9	670	1410	2271	49	27	274
SX	250	850	22500850	162	1311	1.9	570	1434	2297	62	44	255
SX	250	900	22500900	101	1182	1.9	540	1501	2372	72	57	232
SX	250	950	22500950	131	1208	1.6	510	1465	2332	73	57	235
SX	300	550	23000550	46	1058	0.3	460	1578	2459	90	80	210
SX	300	600	23000600	42	1200	1.1	530	1581	2463	81	69	236
SX	300	650	23000650	79	1348	1.5	585	1536	2413	70	55	262
SX	300	700	23000700	156	1540	1.9	650	1446	2313	54	34	293
SX	300	750	23000750	153	1433	2.5	615	1447	2314	58	39	276
SX	300	800	23000800	99	1270	2.5	580	1507	2380	68	52	251
SX	300	850	23000850	101	1214	2.4	550	1502	2375	71	56	240
SX	300	900	23000900	117	1170	2.0	495	1482	2353	77	62	232
SX	300	950	23000950	139	1151	1.9	510	1455	2323	72	56	229
SX	350	550	23500550	46	1105	0.8	480	1577	2460	88	77	216
SX	350	600	23500600	20	1206	1.0	500	1605	2491	87	77	236

SX	350	650	23500650	43	1303	1.2	550	1576	2459	78	65	253
SX	350	700	23500700	97	1389	1.3	570	1512	2388	70	54	267
SX	350	750	23500750	158	1303	1.5	550	1441	2309	66	48	253
SX	350	800	23500800	78	1139	1.8	495	1530	2408	81	68	229
SX	350	850	23500850	59	1122	1.8	495	1549	2429	83	71	226
SX	350	900	23500900	76	1111	1.2	485	1528	2406	83	70	225
SX	350	950	23500950	130	1115	1.4	490	1464	2335	76	61	226
SX	400	500	24000500	0	1040	0.6	435	1631	2522	99	92	204
SX	400	550	24000550	21	1104	1.7	470	1604	2492	92	82	216
SX	400	600	24000600	63	1190	1.5	505	1554	2437	82	70	232
SX	400	650	24000650	80	1259	0.6	535	1533	2413	76	62	247
SX	400	700	24000700	121	1350	0.4	565	1484	2359	68	51	262
SX	400	750	24000750	36	1326	0.6	500	1579	2464	85	74	258
SX	400	800	24000800	196	1200	1.1	520	1394	2259	66	47	239
SX	400	850	24000850	80	1069	1.5	490	1524	2403	82	69	220
SX	400	900	24000900	99	1130	1.3	485	1500	2377	80	67	231
SX	400	950	24000950	153	1187	1.4	525	1436	2306	69	52	240
SX	450	500	24500500	0	1020	0.5	420	1629	2522	102	95	201
SX	450	550	24500550	12	1007	1.7	450	1614	2505	96	87	201
SX	450	600	24500600	15	1109	1.8	450	1608	2499	95	87	221
SX	450	650	24500650	74	1289	1.0	515	1538	2421	79	66	252
SX	450	700	24500700	50	1274	0.8	545	1564	2450	78	65	249
SX	450	750	24500750	116	1325	1.3	560	1486	2363	69	53	258
SX	450	800	24500800	244	1303	1.9	595	1338	2199	51	29	257
SX	450	850	24500850	128	1173	2.3	495	1468	2343	76	61	239
SX	450	900	24500900	116	1170	2.3	490	1480	2357	78	63	239
SX	450	950	24500950	177	1270	1.9	540	1408	2277	65	46	254
SX	500	500	25000500	82	1000	0.9	395	1535	2420	98	89	199
SX	500	550	25000550	14	1026	1.6	435	1610	2503	98	90	206
SX	500	600	25000600	130	1220	1.4	490	1476	2354	78	63	239
SX	500	650	25000650	145	1288	1.4	560	1456	2332	66	49	253
SX	500	700	25000700	117	1300	1.4	560	1486	2365	69	53	255
SX	500	750	25000750	137	1291	1.6	550	1461	2338	68	51	254
SX	500	800	25000800	240	1450	2.2	640	1342	2206	47	24	281
SX	500	850	25000850	235	1369	2.5	575	1345	2209	55	33	270
SX	500	900	25000900	196	1300	2.4	550	1387	2256	62	42	257
SX	500	950	25000950	217	1329	1.9	600	1361	2227	53	31	263
SX	550	450	25500450	0	998	1.2	395	1629	2526	107	101	197
SX	550	500	25500500	29	1087	2.5	430	1594	2487	97	89	215
SX	550	550	25500550	59	1190	2.0	480	1558	2447	87	75	232
SX	550	600	25500600	121	1344	1.5	535	1485	2366	72	57	261
SX	550	650	25500650	251	1433	1.7	600	1334	2199	51	28	277
SX	550	700	25500700	295	1496	1.8	650	1282	2141	41	15	288
SX	550	750	25500750	290	1696	1.8	690	1286	2146	37	10	319
SX	550	800	25500800	356	1756	1.9	730	1208	2059	26	0	329
SX	550	850	25500850	482	1914	1.9	780	1062	1897	8	0	355
SX	550	900	25500900	374	1758	1.4	670	1183	2031	30	0	330
SX	550	950	25500950	216	1342	0.9	615	1361	2229	52	30	262
SX	600	450	26000450	0	943	2.2	405	1628	2527	105	99	189
SX	600	500	26000500	78	1140	3.2	460	1537	2426	88	77	224

SX	600	550	26000550	51	1298	1.4	490	1566	2458	86	75	252
SX	600	600	26000600	111	1490	0.9	590	1495	2380	67	50	286
SX	600	650	26000650	459	1827	1.5	800	1096	1937	10	0	342
SX	600	700	26000700	385	1950	2.0	760	1178	2028	21	0	361
SX	600	750	26000750	391	2011	1.8	815	1169	2018	15	0	365
SX	600	800	26000800	540	2140	1.9	845	997	1827	0	0	365
SX	600	850	26000850	559	2336	1.8	885	973	1800	0	0	365
SX	600	900	26000900	456	1890	1.1	830	1089	1929	6	0	348
SX	600	950	26000950	204	1339	0.5	575	1374	2245	58	37	261
SX	650	450	26500450	44	1021	1.3	425	1577	2473	97	89	203
SX	650	500	26500500	114	1170	1.8	470	1495	2382	83	70	231
SX	650	550	26500550	72	1318	0.7	525	1541	2433	79	66	258
SX	650	600	26500600	309	1719	0.6	670	1268	2130	38	11	325
SX	650	650	26500650	440	2190	1.3	850	1117	1962	7	0	365
SX	650	700	26500700	468	2102	1.8	860	1083	1924	3	0	365
SX	650	750	26500750	355	1665	1.8	740	1209	2064	25	0	316
SX	650	800	26500800	368	1842	2.2	740	1192	2045	24	0	344
SX	650	850	26500850	425	1842	2.2	800	1125	1971	12	0	343
SX	650	900	26500900	385	1569	1.7	750	1168	2019	21	0	298
SX	650	950	26500950	189	1263	1.3	500	1390	2265	69	51	248
SX	700	350	27000350	0	1026	0.2	410	1630	2534	105	99	201
SX	700	400	27000400	92	1030	0.6	435	1523	2415	91	80	204
SX	700	450	27000450	91	1115	0.9	445	1522	2414	89	78	220
SX	700	500	27000500	105	1290	1.0	480	1504	2394	82	69	251
SX	700	550	27000550	157	1371	1.2	560	1443	2326	66	49	266
SX	700	600	27000600	122	1610	1.4	680	1480	2367	56	37	305
SX	700	650	27000650	313	1831	1.7	770	1260	2123	27	0	342
SX	700	700	27000700	213	1680	1.7	720	1372	2247	42	18	318
SX	700	750	27000750	288	1421	1.7	650	1284	2150	41	16	276
SX	700	800	27000800	457	1600	2.0	700	1090	1934	19	0	303
SX	700	850	27000850	273	1509	2.0	660	1297	2164	41	16	289
SX	700	900	27000900	206	1170	2.1	490	1371	2246	69	51	234
SX	700	950	27000950	200	991	2.0	460	1376	2252	74	57	204
SX	750	350	27500350	0	1029	0.2	420	1629	2535	103	97	202
SX	750	400	27500400	34	1087	0.8	445	1588	2489	95	87	213
SX	750	450	27500450	34	1216	1.0	480	1586	2487	90	80	237
SX	750	500	27500500	93	1285	1.3	530	1517	2410	77	63	250
SX	750	550	27500550	137	1338	2.0	550	1464	2352	69	53	262
SX	750	600	27500600	93	1393	2.8	570	1512	2405	71	56	270
SX	750	650	27500650	57	1370	2.7	540	1551	2448	78	65	266
SX	750	700	27500700	128	1398	1.7	550	1468	2356	70	53	270
SX	750	750	27500750	413	1434	1.5	600	1141	1993	34	5	276
SX	750	800	27500800	293	1483	1.6	620	1275	2142	44	19	284
SX	750	850	27500850	215	1291	1.7	525	1362	2238	63	44	253
SX	750	900	27500900	166	1074	1.7	450	1416	2298	79	64	216
SX	750	950	27500950	194	990	1.4	395	1382	2261	85	71	201
SX	800	350	28000350	0	989	0.0	420	1628	2536	103	97	194
SX	800	400	28000400	92	1110	0.4	455	1521	2417	88	76	216
SX	800	450	28000450	32	1167	0.7	480	1587	2490	90	80	228
SX	800	500	28000500	69	1280	1.4	550	1543	2441	76	63	250

SX	800	550	28000550	80	1340	1.8	555	1528	2425	75	60	263
SX	800	600	28000600	56	1220	2.7	500	1553	2452	84	72	244
SX	800	650	28000650	30	1095	3.1	450	1581	2484	94	85	222
SX	800	700	28000700	99	1240	1.8	500	1500	2394	79	66	244
SX	800	750	28000750	91	1213	1.4	500	1507	2401	80	67	239
SX	800	800	28000800	74	1140	1.5	510	1524	2420	80	67	227
SX	800	850	28000850	272	1144	1.7	485	1296	2167	63	43	228
SX	800	900	28000900	142	990	1.4	440	1442	2329	83	69	202
SX	800	950	28000950	133	1013	0.8	405	1450	2338	90	78	204
SX	850	400	28500400	0	1016	0.2	425	1625	2534	102	96	201
SX	850	450	28500450	0	1036	0.7	440	1622	2531	99	92	204
SX	850	500	28500500	80	1183	1.6	495	1529	2428	83	71	234
SX	850	550	28500550	45	1175	1.9	470	1567	2470	90	80	239
SX	850	600	28500600	88	1068	2.2	475	1516	2413	85	72	220
SX	850	650	28500650	71	1078	2.3	440	1533	2432	91	81	218
SX	850	700	28500700	59	1018	1.3	430	1544	2445	94	84	207
SX	850	750	28500750	8	985	0.8	420	1600	2507	101	93	200
SX	850	800	28500800	84	1037	0.9	430	1511	2408	91	80	209
SX	850	850	28500850	78	1011	1.3	430	1516	2413	92	81	205
SX	850	900	28500900	98	990	1.3	415	1491	2386	92	81	201
SX	850	950	28500950	195	983	1.1	405	1378	2260	84	69	198
SX	900	500	29000500	80	1030	1.0	450	1528	2429	90	79	208
SX	900	550	29000550	75	1024	1.6	450	1531	2432	90	79	209
SX	900	600	29000600	10	950	1.9	430	1603	2512	100	92	197
SX	900	650	29000650	61	969	1.5	420	1543	2446	96	87	198
SX	900	700	29000700	102	1010	0.8	405	1494	2391	94	84	204
SX	900	750	29000750	132	949	0.3	405	1458	2351	91	79	195
SX	900	800	29000800	214	990	0.5	415	1362	2245	81	65	200
SX	900	850	29000850	95	962	0.9	395	1495	2392	96	86	195
SX	900	900	29000900	55	900	1.2	385	1539	2441	102	93	186
SX	900	950	29000950	54	884	1.2	375	1538	2440	103	96	182
SX	950	500	29500500	0	959	0.0	415	1618	2531	104	97	196
SX	950	550	29500550	0	972	0.4	420	1616	2529	103	96	196
SX	950	600	29500600	0	871	0.7	385	1614	2526	108	103	182
SX	950	650	29500650	0	865	0.6	375	1611	2523	110	105	179
SX	950	700	29500700	0	894	0.6	390	1609	2521	107	101	184
SX	950	750	29500750	57	896	0.7	400	1542	2447	99	91	185
SX	950	800	29500800	32	941	0.8	400	1568	2475	102	94	191
SX	950	850	29500850	31	866	0.8	370	1567	2474	107	101	179
SX	950	900	29500900	19	857	0.7	365	1579	2488	109	103	178
SX	950	950	29500950	84	832	0.6	360	1502	2402	103	95	173
SY	000	800	30000800	2	780	0.4	355	1601	2514	113	109	165
SY	000	850	30000850	50	780	0.5	350	1544	2451	109	103	165
SY	000	900	30000900	30	780	0.5	345	1565	2474	112	107	166
SY	000	950	30000950	23	780	0.6	345	1571	2481	113	107	166
SY	050	800	30500800	0	776	0.0	355	1602	2517	113	109	164
SY	050	850	30500850	70	836	0.3	355	1520	2426	106	99	174
SY	050	900	30500900	153	899	0.9	365	1424	2320	96	84	184
SY	050	950	30500950	86	846	1.5	350	1498	2402	105	97	176
SY	100	850	31000850	11	816	0.3	345	1587	2503	114	110	171

SY	100	900	31000900	76	950	1.0	390	1510	2417	99	90	192
SY	100	950	31000950	65	973	1.5	405	1521	2430	97	88	196
SY	150	850	31500850	0	724	0.2	350	1598	2517	114	110	156
SY	150	900	31500900	74	951	0.4	400	1511	2421	97	88	192
SY	150	950	31500950	210	1065	0.9	440	1354	2246	77	60	211
SY	200	900	32000900	111	930	0.2	400	1468	2375	94	83	189
SY	200	950	32000950	61	1048	0.5	420	1523	2436	95	85	208
SY	250	900	32500900	4	878	0.3	355	1589	2511	113	108	181
SY	250	950	32500950	57	974	0.4	390	1526	2441	101	92	196
SY	300	900	33000900	65	870	0.1	385	1518	2435	101	93	180
SY	300	950	33000950	137	1026	0.5	395	1434	2341	92	80	205
SY	350	900	33500900	0	797	0.2	375	1591	2518	110	104	168
SY	350	950	33500950	102	924	0.6	420	1473	2387	91	80	189
SY	400	900	34000900	0	780	0.6	355	1590	2519	114	109	166
SY	400	950	34000950	86	874	0.8	380	1490	2408	100	91	181
SY	450	900	34500900	0	785	0.6	350	1589	2520	115	110	166
SY	450	950	34500950	21	878	0.9	400	1563	2491	103	96	181
SY	500	900	35000900	17	790	0.8	350	1568	2498	113	108	168
SY	500	950	35000950	92	956	0.8	395	1481	2402	97	87	193
SY	550	850	35500850	10	834	0.3	360	1577	2511	112	107	173
SY	550	900	35500900	53	940	0.9	395	1526	2454	101	93	190
SY	550	950	35500950	215	1073	1.0	440	1339	2246	77	60	211
SY	600	800	36000800	0	780	0.0	345	1590	2527	116	113	164
SY	600	850	36000850	55	873	0.1	370	1525	2455	106	98	180
SY	600	900	36000900	120	1000	0.6	430	1449	2371	88	76	200
SY	600	950	36000950	158	1108	0.7	500	1403	2320	73	58	218
SY	650	750	36500750	0	751	0.6	325	1591	2530	121	118	155
SY	650	800	36500800	23	788	0.8	340	1562	2498	115	110	163
SY	650	850	36500850	70	907	0.4	375	1507	2437	103	95	185
SY	650	900	36500900	122	1034	0.5	435	1445	2368	87	75	205
SY	650	950	36500950	135	1059	0.3	460	1428	2349	82	68	209
SY	700	700	37000700	0	720	0.0	305	1592	2534	125	124	148
SY	700	750	37000750	0	758	0.8	330	1590	2531	120	117	154
SY	700	800	37000800	0	830	1.2	350	1588	2529	115	112	170
SY	700	850	37000850	126	944	0.8	390	1442	2367	95	84	192
SY	700	900	37000900	65	990	0.7	425	1509	2441	95	85	198
SY	700	950	37000950	105	1029	0.5	450	1461	2388	86	74	205
SY	750	800	37500800	0	854	0.6	360	1586	2529	113	109	173
SY	750	850	37500850	67	965	0.8	405	1508	2442	98	89	195
SY	750	900	37500900	42	974	0.8	405	1534	2471	100	93	197
SY	750	950	37500950	63	1004	0.7	425	1508	2442	95	85	201
SY	800	800	38000800	12	890	0.2	375	1572	2516	109	104	181
SY	800	850	38000850	46	952	0.4	405	1531	2470	100	92	193
SY	800	900	38000900	28	890	0.6	375	1549	2490	107	101	183
SY	800	950	38000950	84	933	0.7	410	1483	2417	95	85	190
SY	850	800	38500800	33	890	0.1	390	1546	2489	105	98	182
SY	850	850	38500850	50	935	0.2	385	1525	2465	104	96	190
SY	850	900	38500900	63	880	0.4	370	1508	2447	105	98	181
SY	850	950	38500950	54	877	0.7	375	1516	2455	105	97	181
SY	900	800	39000800	84	890	0.2	390	1487	2425	99	91	183

SY	900	850	39000850	17	931	0.3	380	1561	2508	108	102	188
SY	900	900	39000900	28	870	0.5	360	1547	2492	110	105	179
SY	900	950	39000950	51	891	0.8	375	1518	2460	105	98	182
SY	950	750	39500750	0	808	0.3	330	1584	2535	120	117	169
SY	950	800	39500800	86	918	0.5	375	1484	2424	102	94	188
SY	950	850	39500850	17	939	0.4	375	1560	2509	109	103	191
SY	950	900	39500900	4	829	0.5	350	1573	2523	115	111	173
SY	950	950	39500950	61	889	0.7	370	1506	2449	105	98	182
SZ	000	750	40000750	0	838	0.3	325	1583	2536	121	119	175
SZ	000	800	40000800	34	900	0.6	375	1542	2491	107	101	183
SZ	000	850	40000850	10	861	0.6	370	1567	2518	111	106	175
SZ	000	900	40000900	2	810	0.5	335	1574	2526	118	115	169
SZ	000	950	40000950	46	846	0.5	360	1522	2468	108	102	175
SZ	050	800	40500800	0	791	0.2	335	1579	2534	119	116	164
SZ	050	850	40500850	0	785	0.5	335	1577	2532	119	116	161
SZ	050	900	40500900	20	794	0.5	340	1552	2504	115	111	164
SZ	050	950	40500950	57	833	0.8	355	1508	2455	108	102	171
SZ	100	900	41000900	0	790	0.6	335	1574	2530	119	115	163
SZ	100	950	41000950	14	822	1.4	360	1556	2510	112	107	168
SZ	150	900	41500900	0	754	0.8	320	1573	2531	122	119	157
SZ	150	950	41500950	18	793	1.4	340	1550	2506	116	111	163
SZ	200	900	42000900	0	740	0.5	320	1572	2532	122	119	155
SZ	200	950	42000950	25	809	0.7	350	1541	2498	113	108	167
SZ	250	900	42500900	0	766	0.3	335	1570	2532	119	116	159
SZ	250	950	42500950	30	817	0.7	365	1534	2492	109	104	171
SZ	300	850	43000850	82	719	0.1	330	1478	2432	112	106	150
SZ	300	900	43000900	0	780	0.6	325	1569	2533	121	118	162
SZ	300	950	43000950	12	811	1.2	360	1553	2515	112	108	168
SZ	350	850	43500850	0	790	0.2	335	1570	2536	119	116	162
SZ	350	900	43500900	3	757	0.6	325	1565	2531	121	118	157
SZ	350	950	43500950	4	773	0.9	345	1561	2526	116	112	160
SZ	400	850	44000850	103	818	0.7	340	1452	2408	108	100	170
SZ	400	900	44000900	14	790	0.7	335	1551	2517	117	114	164
SZ	400	950	44000950	0	762	0.8	320	1565	2533	122	120	158
SZ	450	800	44500800	30	765	0.3	320	1536	2503	120	116	164
SZ	450	850	44500850	103	881	0.6	370	1451	2409	102	93	183
SZ	450	900	44500900	17	808	0.6	370	1546	2514	110	105	168
SZ	450	950	44500950	0	774	0.8	330	1564	2534	120	117	160
SZ	500	750	45000750	6	872	0.2	330	1564	2536	120	117	180
SZ	500	800	45000800	79	920	0.2	330	1479	2442	113	107	189
SZ	500	850	45000850	23	923	0.3	390	1541	2511	106	100	190
SZ	500	900	45000900	13	870	0.4	380	1550	2521	109	104	179
SZ	500	950	45000950	6	799	0.5	350	1556	2527	115	111	164
SZ	550	750	45500750	0	775	0.2	335	1570	2545	120	117	166
SZ	550	800	45500800	78	941	0.5	335	1479	2444	112	106	193
SZ	550	850	45500850	17	890	0.9	395	1546	2518	106	100	186
SZ	550	900	45500900	16	872	1.1	360	1545	2517	112	108	179
SZ	550	950	45500950	0	777	1.3	335	1561	2535	119	116	161
SZ	600	800	46000800	0	860	0.3	325	1567	2544	122	120	178
SZ	600	850	46000850	9	828	0.7	360	1554	2529	113	109	172

SZ	600	900	46000900	23	840	0.9	350	1536	2509	114	109	172
SZ	600	950	46000950	0	745	2.2	325	1560	2536	121	119	153
SZ	650	850	46500850	0	770	0.0	325	1563	2541	122	119	159
SZ	650	900	46500900	0	765	0.0	330	1561	2539	120	118	156
SZ	800	950	48000950	0	689	0.0	300	1556	2540	127	126	138
SZ	850	900	48500900	0	669	0.0	300	1557	2543	127	126	136
SZ	850	950	48500950	2	707	0.0	310	1552	2537	125	123	142
SZ	900	950	49000950	0	704	0.0	310	1553	2541	125	123	142
TA	000	000	50004000	5	630	0.2	325	1411	2387	109	102	135
TA	000	050	50004050	4	630	0.2	325	1410	2386	109	102	137
TA	000	100	50004100	6	630	0.2	310	1406	2382	112	105	135
TA	000	150	50004150	10	641	0.3	320	1399	2374	109	102	136
TA	000	200	50004200	73	630	0.3	305	1325	2292	106	97	137
TA	000	250	50004250	1	655	0.3	325	1405	2381	109	101	144
TA	000	300	50004300	63	680	0.4	340	1332	2300	99	88	151
TA	000	350	50004350	55	691	0.6	345	1339	2307	99	88	158
TA	000	400	50004400	44	680	0.7	340	1349	2318	100	90	160
TA	000	450	50004450	13	674	1.1	350	1382	2355	101	92	164
TA	000	500	50004500	13	680	1.5	350	1380	2353	101	92	166
TA	000	550	50004550	19	689	1.1	345	1371	2343	101	92	169
TA	000	600	50004600	69	720	0.6	350	1312	2277	95	83	180
TA	000	650	50004650	132	751	0.5	350	1238	2195	89	74	190
TA	000	700	50004700	116	770	0.4	360	1254	2213	88	73	194
TA	000	750	50004750	149	759	0.2	350	1214	2169	86	71	190
TA	000	800	50004800	28	680	0.4	325	1350	2320	104	94	172
TA	000	850	50004850	40	715	0.7	335	1334	2302	100	90	173
TA	000	900	50004900	61	750	0.8	350	1308	2273	95	83	184
TA	000	950	50004950	120	789	0.6	370	1238	2195	85	69	195
TA	050	000	50504000	17	635	0.5	315	1396	2373	110	103	136
TA	050	050	50504050	10	640	0.4	320	1402	2379	110	102	139
TA	050	100	50504100	29	641	0.4	325	1378	2353	106	98	139
TA	050	150	50504150	55	647	0.3	325	1346	2317	104	94	139
TA	050	200	50504200	25	636	0.4	305	1378	2353	111	103	138
TA	050	250	50504250	0	640	0.7	310	1405	2383	112	105	139
TA	050	300	50504300	4	643	1.0	335	1398	2375	106	98	141
TA	050	350	50504350	6	655	0.9	325	1393	2369	108	100	146
TA	050	400	50504400	4	649	1.0	325	1393	2369	108	100	149
TA	050	450	50504450	4	639	1.4	335	1391	2367	105	97	149
TA	050	500	50504500	4	648	1.7	340	1389	2365	104	95	151
TA	050	550	50504550	8	641	1.1	335	1382	2357	105	96	150
TA	050	600	50504600	34	683	0.5	335	1350	2322	102	92	166
TA	050	650	50504650	45	721	0.5	315	1336	2306	105	95	181
TA	050	700	50504700	108	761	0.5	350	1262	2224	91	77	187
TA	050	750	50504750	96	741	0.4	350	1273	2236	92	78	184
TA	050	800	50504800	34	692	0.4	315	1342	2313	105	96	167
TA	050	850	50504850	84	655	0.5	315	1282	2246	100	89	152
TA	050	900	50504900	0	641	0.6	315	1376	2350	108	100	158
TA	100	000	51004000	38	640	0.6	325	1371	2347	106	97	144
TA	100	050	51004050	57	663	0.5	330	1347	2320	103	93	150
TA	100	100	51004100	27	640	0.4	330	1379	2356	106	97	143

TA	100	150	51004150	34	630	0.4	320	1369	2345	107	98	136
TA	100	200	51004200	13	620	0.5	310	1391	2369	111	104	135
TA	100	250	51004250	3	624	1.0	295	1400	2379	115	109	136
TA	100	300	51004300	4	640	1.1	325	1397	2376	108	101	140
TA	100	350	51004350	6	640	0.6	320	1392	2370	109	101	141
TA	100	400	51004400	4	640	0.6	325	1392	2370	108	100	143
TA	100	450	51004450	5	644	0.7	335	1389	2367	105	97	147
TA	100	500	51004500	5	660	0.8	330	1387	2365	106	98	151
TA	100	550	51004550	12	659	0.8	330	1377	2354	105	97	153
TA	100	600	51004600	13	680	0.7	325	1373	2349	106	98	164
TA	100	650	51004650	61	716	0.4	310	1316	2286	104	94	176
TA	100	700	51004700	36	740	0.4	350	1343	2316	98	88	181
TA	100	750	51004750	82	733	0.4	350	1288	2255	93	81	182
TA	100	800	51004800	43	670	0.2	300	1330	2302	108	99	164
TA	100	850	51004850	0	621	0.0	305	1377	2354	111	104	148
TA	150	000	51504000	103	733	0.5	355	1296	2266	93	81	168
TA	150	050	51504050	78	707	0.3	340	1322	2295	99	88	166
TA	150	100	51504100	25	641	0.3	325	1380	2359	107	99	147
TA	150	150	51504150	13	618	0.6	315	1392	2372	110	103	135
TA	150	200	51504200	8	599	0.9	300	1395	2376	114	107	132
TA	150	250	51504250	0	603	0.8	290	1402	2384	117	111	133
TA	150	300	51504300	4	619	0.4	310	1396	2377	112	105	135
TA	150	350	51504350	7	631	0.0	325	1390	2370	108	100	137
TA	150	400	51504400	10	629	0.0	330	1384	2364	106	98	139
TA	150	450	51504450	17	634	0.2	325	1374	2352	106	98	142
TA	150	500	51504500	21	645	0.7	325	1367	2345	106	97	148
TA	150	550	51504550	16	652	1.6	325	1371	2349	106	98	151
TA	150	600	51504600	12	645	1.4	315	1373	2351	109	100	156
TA	150	650	51504650	12	699	0.4	310	1371	2349	109	102	171
TA	150	700	51504700	82	723	0.3	350	1289	2258	94	81	178
TA	150	750	51504750	96	713	0.2	340	1271	2238	94	81	179
TA	150	800	51504800	0	640	0.0	300	1378	2357	112	105	159
TA	200	000	52004000	57	690	0.4	350	1347	2325	99	89	159
TA	200	050	52004050	53	661	0.4	335	1350	2328	102	93	153
TA	200	100	52004100	13	620	0.7	320	1393	2376	109	102	140
TA	200	150	52004150	4	594	1.3	300	1401	2385	115	108	129
TA	200	200	52004200	0	590	1.5	290	1403	2387	117	112	128
TA	200	250	52004250	4	605	0.8	295	1397	2380	115	109	133
TA	200	300	52004300	10	620	0.3	310	1388	2370	111	104	135
TA	200	350	52004350	18	619	0.4	325	1376	2357	107	98	135
TA	200	400	52004400	11	630	0.5	325	1382	2363	107	99	138
TA	200	450	52004450	15	630	0.4	315	1375	2356	109	101	139
TA	200	500	52004500	15	630	0.7	315	1373	2353	109	101	143
TA	200	550	52004550	0	646	1.3	310	1388	2370	111	104	151
TA	200	600	52004600	0	650	0.9	310	1386	2368	111	104	157
TA	200	650	52004650	0	659	0.2	325	1384	2366	108	99	165
TA	200	700	52004700	50	710	0.1	340	1324	2299	99	88	174
TA	200	750	52004750	0	695	0.1	330	1379	2360	106	97	172
TA	250	000	52504000	51	692	0.5	360	1353	2333	98	87	156
TA	250	050	52504050	17	639	0.8	325	1389	2373	108	100	143

TA	250	100	52504100	4	599	1.2	305	1402	2388	114	107	132
TA	250	150	52504150	0	583	1.5	275	1404	2390	121	116	123
TA	250	200	52504200	4	594	1.3	290	1398	2383	117	111	129
TA	250	250	52504250	6	620	0.7	305	1393	2378	113	106	135
TA	250	300	52504300	8	620	0.6	315	1389	2373	110	103	135
TA	250	350	52504350	14	621	0.8	320	1380	2363	108	100	136
TA	250	400	52504400	15	619	0.7	315	1376	2359	109	101	135
TA	250	450	52504450	0	617	0.3	305	1391	2376	113	106	135
TA	250	700	52504700	42	680	0.0	300	1332	2310	109	100	168
TA	300	000	53004000	8	660	1.0	340	1401	2389	106	98	147
TA	300	050	53004050	12	631	1.0	315	1394	2381	111	104	139
TA	300	100	53004100	3	590	0.6	295	1402	2390	116	110	128
TA	300	200	53004200	4	610	0.5	300	1397	2384	115	108	132
TA	300	250	53004250	17	621	0.4	310	1380	2365	111	103	136
TA	300	300	53004300	10	620	0.4	315	1385	2371	110	103	135
TA	300	350	53004350	0	609	0.4	310	1395	2382	112	105	133
TA	350	000	53504000	3	613	1.5	320	1405	2395	111	104	134
TA	350	050	53504050	0	612	0.5	305	1407	2397	114	108	134
TA	350	200	53504200	6	610	0.4	305	1393	2382	113	107	130
TA	350	250	53504250	8	616	0.5	310	1389	2377	112	105	135
TA	350	300	53504300	0	609	0.1	305	1396	2385	114	107	133
TA	400	000	54004000	2	600	0.8	300	1405	2397	116	110	128
TA	400	150	54004150	0	588	0.0	295	1401	2393	117	111	124
TA	400	200	54004200	13	610	0.2	300	1384	2374	114	107	129
TA	400	250	54004250	0	606	0.2	300	1397	2388	115	109	132
TA	450	000	54504000	0	574	0.0	290	1406	2401	118	113	120
TF	000	000	50003000	86	610	0.7	325	1363	2334	105	96	123
TF	000	050	50003050	40	599	0.7	330	1413	2389	108	101	123
TF	000	100	50003100	59	610	0.7	320	1389	2363	108	100	125
TF	000	150	50003150	71	594	0.6	320	1373	2345	107	98	122
TF	000	200	50003200	63	600	0.6	320	1380	2353	108	99	125
TF	000	250	50003250	77	620	0.4	325	1362	2333	105	96	130
TF	000	300	50003300	71	640	0.3	320	1367	2338	106	98	136
TF	000	350	50003350	80	652	0.2	315	1354	2324	106	97	139
TF	000	400	50003400	84	630	0.2	320	1347	2316	105	95	133
TF	000	450	50003450	38	604	0.2	325	1398	2373	108	100	125
TF	000	500	50003500	65	590	0.2	315	1365	2336	107	99	120
TF	000	550	50003550	67	616	0.3	320	1360	2331	106	97	125
TF	000	600	50003600	65	620	0.3	320	1360	2331	106	97	123
TF	000	650	50003650	61	609	0.4	310	1363	2334	108	100	121
TF	000	700	50003700	34	620	0.4	300	1391	2365	113	106	125
TF	000	750	50003750	30	619	0.5	325	1394	2368	108	100	127
TF	000	800	50003800	28	630	0.7	330	1394	2368	107	98	131
TF	000	850	50003850	23	641	0.7	335	1397	2372	106	98	133
TF	000	900	50003900	19	640	0.5	335	1400	2375	106	98	134
TF	000	950	50003950	8	641	0.3	335	1410	2386	107	99	134
TF	050	000	50503000	50	589	0.4	295	1403	2380	115	109	113
TF	050	050	50503050	63	585	0.5	300	1386	2362	113	106	115
TF	050	100	50503100	40	584	0.5	305	1410	2388	114	107	114
TF	050	150	50503150	36	582	0.4	300	1412	2390	115	109	114

TF	050	200	50503200	34	589	0.4	310	1412	2390	113	106	118
TF	050	250	50503250	46	606	0.4	320	1396	2373	109	102	123
TF	050	300	50503300	76	630	0.4	325	1360	2333	105	96	131
TF	050	350	50503350	55	645	0.4	325	1382	2357	107	98	139
TF	050	400	50503400	25	626	0.4	325	1414	2393	110	103	130
TF	050	450	50503450	23	600	0.5	315	1414	2393	112	105	122
TF	050	500	50503500	32	576	0.6	300	1401	2378	114	108	119
TF	050	550	50503550	25	590	0.7	305	1407	2385	114	107	120
TF	050	600	50503600	34	611	0.6	310	1394	2370	111	104	123
TF	050	650	50503650	25	621	0.5	325	1403	2380	109	101	125
TF	050	700	50503700	6	605	0.6	300	1422	2402	116	110	123
TF	050	750	50503750	8	581	0.9	300	1418	2397	116	110	119
TF	050	800	50503800	9	593	0.9	315	1414	2393	112	105	121
TF	050	850	50503850	15	601	0.8	330	1405	2383	108	100	122
TF	050	900	50503900	15	629	0.6	325	1403	2380	109	101	129
TF	050	950	50503950	15	632	0.5	320	1401	2378	110	102	131
TF	100	000	51003000	30	580	0.3	290	1424	2406	119	114	109
TF	100	050	51003050	19	574	0.4	295	1435	2418	119	114	108
TF	100	100	51003100	12	580	0.4	295	1440	2424	119	114	109
TF	100	150	51003150	13	574	0.4	295	1437	2420	119	114	108
TF	100	200	51003200	8	590	0.3	300	1441	2425	118	113	114
TF	100	250	51003250	15	611	0.4	315	1430	2413	113	107	121
TF	100	300	51003300	29	620	0.6	320	1412	2393	111	104	125
TF	100	350	51003350	23	621	0.8	320	1417	2398	111	104	128
TF	100	400	51003400	12	610	1.1	310	1427	2409	114	108	122
TF	100	450	51003450	9	597	1.0	310	1428	2410	114	108	117
TF	100	500	51003500	8	550	1.0	300	1427	2409	117	111	109
TF	100	550	51003550	10	564	1.3	290	1423	2405	119	114	109
TF	100	600	51003600	15	590	1.2	300	1415	2396	116	110	115
TF	100	650	51003650	3	601	1.0	310	1426	2408	114	108	119
TF	100	700	51003700	4	590	0.9	300	1423	2405	116	111	120
TF	100	750	51003750	10	579	1.1	305	1414	2395	114	108	119
TF	100	800	51003800	23	590	1.0	310	1397	2376	112	105	123
TF	100	850	51003850	25	609	0.9	310	1393	2371	111	104	129
TF	100	900	51003900	21	640	0.8	320	1395	2374	109	102	138
TF	100	950	51003950	38	640	0.7	320	1373	2349	107	99	142
TF	150	000	51503000	25	575	0.4	305	1429	2413	116	110	106
TF	150	050	51503050	8	570	0.4	295	1446	2432	120	115	102
TF	150	100	51503100	6	570	0.3	290	1446	2432	121	117	102
TF	150	150	51503150	2	569	0.2	290	1448	2435	121	117	102
TF	150	200	51503200	0	580	0.2	300	1449	2436	119	114	109
TF	150	250	51503250	0	599	0.2	310	1446	2432	116	111	117
TF	150	300	51503300	0	594	0.3	305	1444	2430	117	112	116
TF	150	350	51503350	0	589	1.4	300	1442	2428	118	113	115
TF	150	400	51503400	3	591	2.4	295	1436	2421	119	114	113
TF	150	450	51503450	5	594	2.2	305	1432	2417	116	111	112
TF	150	500	51503500	3	539	2.0	290	1432	2417	120	115	100
TF	150	550	51503550	8	545	2.1	280	1424	2408	121	117	98
TF	150	600	51503600	4	568	1.8	285	1426	2410	120	116	107
TF	150	650	51503650	3	585	1.3	295	1425	2409	118	113	115

TF	150	700	51503700	9	584	1.2	300	1416	2399	116	110	118
TF	150	750	51503750	19	589	1.2	310	1403	2385	112	106	120
TF	150	800	51503800	34	619	1.2	320	1383	2362	108	100	108
TF	150	850	51503850	46	646	1.1	330	1368	2346	105	96	140
TF	150	900	51503900	50	666	0.9	355	1361	2338	99	89	150
TF	150	950	51503950	143	744	0.7	355	1253	2218	89	75	169
TF	200	000	52003000	11	570	0.7	300	1444	2432	118	114	101
TF	200	050	52003050	1	559	0.5	290	1453	2442	122	118	98
TF	200	100	52003100	1	560	0.1	295	1451	2440	120	116	99
TF	200	150	52003150	1	565	0.0	300	1448	2437	119	114	99
TF	200	200	52003200	1	570	0.0	300	1446	2434	119	114	105
TF	200	250	52003250	3	581	0.0	300	1442	2430	118	114	111
TF	200	300	52003300	1	580	0.0	295	1442	2430	119	115	110
TF	200	350	52003350	2	564	0.9	295	1439	2427	119	115	106
TF	200	400	52003400	0	560	1.6	290	1439	2427	120	116	106
TF	200	450	52003450	0	573	1.5	295	1436	2423	119	114	106
TF	200	500	52003500	1	540	1.4	285	1433	2420	121	117	103
TF	200	550	52003550	2	559	1.8	285	1430	2417	121	116	105
TF	200	600	52003600	5	590	1.8	300	1424	2410	117	111	115
TF	200	650	52003650	12	589	1.3	300	1414	2399	116	110	120
TF	200	700	52003700	17	600	1.2	305	1406	2390	114	108	127
TF	200	750	52003750	34	641	1.1	320	1384	2366	109	101	140
TF	200	800	52003800	55	670	1.0	335	1358	2337	103	94	148
TF	200	850	52003850	118	721	1.0	365	1284	2255	90	77	160
TF	200	900	52003900	126	760	0.9	380	1273	2242	87	72	170
TF	200	950	52003950	79	719	0.5	365	1324	2299	94	82	166
TF	250	000	52503000	1	559	0.5	290	1454	2445	122	118	95
TF	250	050	52503050	0	555	0.3	290	1453	2444	122	118	95
TF	250	100	52503100	0	556	0.0	300	1451	2442	119	115	95
TF	250	150	52503150	3	546	0.0	305	1445	2435	118	113	94
TF	250	200	52503200	1	555	0.0	300	1445	2435	119	114	100
TF	250	250	52503250	1	570	0.0	290	1443	2433	121	117	107
TF	250	300	52503300	1	574	0.0	290	1441	2431	121	117	105
TF	250	350	52503350	3	572	0.0	285	1436	2425	122	117	102
TF	250	400	52503400	1	558	0.0	280	1436	2425	123	119	100
TF	250	450	52503450	1	564	0.0	285	1434	2423	121	117	101
TF	250	500	52503500	4	560	0.0	285	1428	2417	121	116	106
TF	250	550	52503550	1	591	0.5	290	1430	2419	120	115	116
TF	250	600	52503600	10	610	0.9	305	1417	2404	115	109	123
TF	250	650	52503650	20	628	1.0	315	1404	2390	112	105	130
TF	250	700	52503700	49	640	1.0	320	1368	2350	107	99	140
TF	250	750	52503750	66	693	0.9	340	1347	2327	101	91	157
TF	250	800	52503800	80	704	0.9	360	1329	2307	96	84	162
TF	250	850	52503850	107	744	0.9	380	1296	2270	89	75	175
TF	250	900	52503900	109	762	0.7	395	1291	2265	86	71	174
TF	250	950	52503950	97	736	0.4	380	1303	2278	89	76	168
TF	300	000	53003000	5	560	0.0	285	1448	2441	123	119	96
TF	300	050	53003050	0	539	0.0	295	1452	2445	121	117	92
TF	300	100	53003100	2	540	0.0	300	1447	2440	119	115	92
TF	300	150	53003150	1	534	0.0	295	1446	2439	120	116	91

TF	300	200	53003200	2	540	0.0	290	1443	2435	121	117	97
TF	300	250	53003250	2	571	0.0	300	1441	2433	119	114	105
TF	300	300	53003300	2	590	0.8	300	1438	2430	118	114	108
TF	300	350	53003350	0	596	0.8	285	1439	2431	122	118	109
TF	300	400	53003400	1	590	0.6	290	1435	2426	120	116	110
TF	300	450	53003450	1	579	0.6	290	1433	2424	120	116	108
TF	300	500	53003500	1	580	0.0	290	1431	2422	120	115	111
TF	300	550	53003550	0	611	0.0	300	1430	2421	118	112	118
TF	300	600	53003600	2	630	0.2	315	1425	2415	114	108	127
TF	300	650	53003650	59	666	0.4	325	1358	2341	106	97	138
TF	300	700	53003700	101	680	0.6	335	1308	2285	99	88	148
TF	300	750	53003750	87	738	0.7	360	1322	2301	95	83	166
TF	300	800	53003800	130	750	0.7	380	1271	2244	87	72	170
TF	300	850	53003850	58	712	0.6	375	1350	2332	95	83	164
TF	300	900	53003900	82	730	0.6	380	1321	2300	91	79	163
TF	300	950	53003950	38	701	0.7	350	1369	2353	101	92	155
TF	350	000	53503000	0	556	0.0	285	1453	2449	123	120	95
TF	350	050	53503050	0	539	0.0	295	1451	2446	121	117	92
TF	350	100	53503100	0	544	0.0	300	1448	2443	119	115	93
TF	350	150	53503150	0	549	0.0	290	1446	2441	122	118	94
TF	350	200	53503200	0	560	0.0	295	1444	2439	120	116	99
TF	350	250	53503250	0	582	0.0	305	1442	2436	118	113	104
TF	350	300	53503300	4	607	1.4	300	1435	2429	118	113	110
TF	350	350	53503350	3	598	1.6	290	1434	2427	120	116	112
TF	350	400	53503400	3	596	0.8	300	1432	2425	118	113	114
TF	350	450	53503450	1	595	0.6	300	1432	2425	118	113	116
TF	350	500	53503500	4	569	0.0	305	1426	2419	116	111	111
TF	350	550	53503550	2	604	0.0	300	1426	2419	117	112	117
TF	350	600	53503600	8	632	0.1	310	1417	2409	114	108	127
TF	350	650	53503650	39	664	0.4	325	1380	2368	108	100	137
TF	350	700	53503700	61	691	0.5	345	1352	2336	101	91	151
TF	350	750	53503750	46	732	0.5	365	1367	2353	98	88	167
TF	350	800	53503800	67	719	0.6	370	1341	2324	95	84	163
TF	350	850	53503850	34	687	0.7	340	1377	2364	104	95	156
TF	350	900	53503900	17	669	1.0	325	1394	2383	109	101	148
TF	350	950	53503950	6	656	1.7	320	1404	2394	111	104	141
TF	400	000	54003000	1	540	0.0	290	1450	2447	122	118	92
TF	400	050	54003050	0	539	0.0	290	1449	2446	122	118	92
TF	400	100	54003100	1	560	0.0	290	1446	2443	122	118	97
TF	400	150	54003150	0	570	0.0	280	1445	2442	124	121	100
TF	400	200	54003200	3	580	0.0	295	1439	2435	120	116	104
TF	400	250	54003250	3	602	0.0	305	1437	2433	117	112	110
TF	400	300	54003300	2	590	0.6	300	1436	2432	118	114	108
TF	400	350	54003350	6	579	0.8	290	1429	2424	120	116	107
TF	400	400	54003400	0	580	0.2	295	1434	2430	119	115	109
TF	400	450	54003450	0	591	0.0	300	1432	2427	118	113	113
TF	400	500	54003500	0	580	0.0	300	1430	2425	118	113	112
TF	400	550	54003550	1	584	0.0	290	1426	2421	120	115	112
TF	400	600	54003600	0	600	0.3	300	1425	2420	117	112	120
TF	400	650	54003650	28	646	0.5	315	1391	2382	111	104	132

TF	400	700	54003700	33	680	0.5	340	1383	2373	105	96	146
TF	400	750	54003750	78	701	0.6	355	1330	2314	97	86	157
TF	400	800	54003800	15	700	0.8	345	1399	2391	105	97	154
TF	400	850	54003850	5	654	1.2	325	1409	2402	110	104	144
TF	400	900	54003900	4	630	1.2	335	1407	2400	108	101	136
TF	400	950	54003950	1	626	1.3	310	1409	2402	114	108	132
TF	450	000	54503000	0	541	0.0	295	1450	2449	121	117	93
TF	450	050	54503050	1	540	0.0	280	1447	2446	124	121	92
TF	450	100	54503100	0	550	0.0	280	1446	2445	124	121	96
TF	450	150	54503150	4	577	0.0	285	1439	2437	122	119	103
TF	450	200	54503200	4	606	0.0	295	1437	2435	120	116	110
TF	450	250	54503250	0	593	0.0	305	1439	2437	118	113	111
TF	450	300	54503300	4	575	0.0	295	1433	2431	120	115	106
TF	450	350	54503350	0	564	0.0	285	1435	2433	122	118	101
TF	450	450	54503450	0	576	0.0	290	1431	2428	121	116	109
TF	450	500	54503500	2	570	0.0	290	1426	2423	120	116	108
TF	450	550	54503550	0	576	0.0	285	1426	2423	121	117	109
TF	450	600	54503600	1	594	0.2	300	1423	2419	117	112	117
TF	450	650	54503650	8	639	0.4	320	1413	2408	112	106	128
TF	450	700	54503700	64	693	0.6	340	1347	2335	102	92	144
TF	450	750	54503750	11	682	0.7	335	1405	2399	108	101	150
TF	450	800	54503800	14	654	1.2	325	1399	2393	110	103	140
TF	450	850	54503850	1	634	1.4	325	1412	2407	111	104	131
TF	450	900	54503900	0	599	0.5	310	1411	2406	114	108	124
TF	450	950	54503950	6	593	0.0	300	1402	2396	116	110	121
TF	500	000	55003000	2	530	0.0	290	1447	2448	122	118	91
TF	500	050	55003050	1	529	0.0	275	1446	2447	126	123	91
TF	500	100	55003100	1	540	0.0	275	1444	2445	126	123	96
TF	500	150	55003150	0	586	0.0	290	1443	2444	122	118	105
TF	500	200	55003200	4	610	0.0	305	1436	2436	118	113	111
TF	500	250	55003250	5	574	0.0	300	1433	2433	119	114	108
TF	500	300	55003300	0	560	0.0	290	1436	2436	121	117	104
TF	500	500	55003500	0	560	0.0	280	1427	2426	123	119	106
TF	500	550	55003550	4	585	0.0	290	1421	2419	120	115	111
TF	500	600	55003600	1	610	0.0	305	1422	2420	116	111	120
TF	500	650	55003650	12	641	1.0	320	1407	2404	112	105	129
TF	500	700	55003700	1	650	1.7	325	1417	2415	111	105	135
TF	500	750	55003750	7	646	2.1	325	1408	2405	111	104	139
TF	500	800	55003800	1	630	2.1	315	1413	2410	113	107	134
TF	500	850	55003850	2	605	0.7	310	1410	2407	114	108	127
TF	500	900	55003900	0	580	0.0	300	1410	2407	116	111	121
TF	550	000	55503000	1	544	0.0	290	1447	2450	122	119	93
TF	550	050	55503050	0	541	0.0	290	1446	2449	122	119	93
TF	550	100	55503100	0	544	0.0	290	1444	2447	122	118	97
TF	550	150	55503150	1	577	1.4	295	1440	2443	121	116	103
TF	550	200	55503200	1	604	1.4	310	1438	2440	117	112	111
TF	550	250	55503250	3	584	0.0	300	1434	2436	119	114	109
TF	550	550	55503550	0	583	0.0	290	1424	2425	120	116	110
TF	550	600	55503600	2	606	0.0	305	1419	2419	116	111	119
TF	550	650	55503650	0	623	0.8	310	1420	2420	115	110	126

TF	550	700	55503700	1	635	1.3	315	1416	2416	114	108	129
TF	550	750	55503750	3	628	1.7	310	1412	2411	114	109	130
TF	550	800	55503800	0	615	1.2	305	1413	2413	116	110	128
TF	600	000	56003000	5	570	0.2	305	1441	2446	118	114	101
TF	600	050	56003050	3	570	0.5	300	1441	2446	120	115	102
TF	600	100	56003100	6	570	0.8	300	1436	2440	119	115	105
TF	600	150	56003150	1	589	2.8	305	1439	2443	118	114	110
TF	600	200	56003200	2	620	2.9	320	1436	2440	115	109	117
TF	600	250	56003250	4	599	1.4	310	1431	2435	116	111	116
TF	600	600	56003600	0	590	0.0	300	1421	2424	118	113	116
TF	600	650	56003650	0	605	0.0	300	1418	2420	117	112	122
TF	600	700	56003700	0	620	0.0	300	1416	2418	117	112	127
TF	650	000	56503000	7	584	0.2	315	1438	2444	116	111	108
TF	650	050	56503050	30	596	0.5	310	1409	2412	115	109	112
TF	650	100	56503100	13	595	1.3	310	1427	2432	116	111	113
TF	650	150	56503150	10	603	2.3	310	1428	2433	116	111	119
TF	650	200	56503200	7	634	2.5	320	1429	2434	114	108	123
TF	650	250	56503250	11	660	2.2	335	1422	2427	110	104	128
TF	650	300	56503300	5	662	1.3	325	1427	2432	113	107	131
TF	650	350	56503350	1	612	0.6	305	1429	2434	117	113	125
TF	650	400	56503400	0	574	0.4	295	1428	2433	120	115	117
TF	700	000	57003000	9	610	0.7	325	1434	2442	114	108	115
TF	700	050	57003050	12	615	0.6	315	1429	2437	115	110	118
TF	700	100	57003100	5	620	1.1	315	1435	2443	116	111	121
TF	700	150	57003150	11	623	1.5	315	1426	2433	115	110	124
TF	700	200	57003200	17	660	1.3	320	1417	2423	113	107	133
TF	700	250	57003250	13	691	1.1	340	1419	2425	109	102	141
TF	700	300	57003300	34	700	1.0	350	1393	2397	105	97	143
TF	700	350	57003350	46	664	1.1	330	1377	2379	107	100	138
TF	700	400	57003400	21	640	0.8	320	1403	2408	112	106	131
TF	700	450	57003450	0	599	0.3	315	1425	2432	115	110	122
TF	750	000	57503000	7	625	1.1	325	1436	2446	114	108	122
TF	750	050	57503050	13	636	1.1	320	1427	2436	114	109	124
TF	750	100	57503100	22	634	1.1	320	1414	2422	113	107	126
TF	750	150	57503150	15	645	1.0	320	1420	2429	114	108	130
TF	750	200	57503200	54	685	0.8	330	1373	2377	107	99	142
TF	750	250	57503250	56	690	0.7	345	1369	2372	104	95	148
TF	750	300	57503300	69	716	0.8	355	1352	2353	100	90	152
TF	750	350	57503350	57	700	1.0	350	1363	2365	102	93	150
TF	750	400	57503400	52	683	0.7	330	1367	2370	107	99	141
TF	750	450	57503450	4	596	0.3	310	1419	2428	116	110	123
TF	800	000	58003000	41	640	0.7	330	1396	2404	109	102	127
TF	800	050	58003050	38	649	0.9	325	1397	2405	111	104	131
TF	800	100	58003100	71	670	1.1	335	1357	2361	105	96	137
TF	800	150	58003150	29	679	1.1	340	1403	2412	108	101	141
TF	800	200	58003200	86	710	0.8	340	1336	2338	102	92	148
TF	800	250	58003250	71	715	0.6	350	1350	2353	101	92	153
TF	800	300	58003300	67	720	0.7	360	1353	2356	100	90	151
TF	800	350	58003350	61	695	0.9	350	1357	2361	102	93	146
TF	800	400	58003400	61	670	0.6	335	1355	2359	105	96	138

TF	800	450	58003450	1	593	0.2	310	1421	2432	116	111	122
TF	850	000	58503000	33	639	0.9	330	1404	2415	110	104	129
TF	850	050	58503050	46	679	0.8	340	1387	2396	107	99	141
TF	850	100	58503100	61	702	0.8	355	1367	2374	102	93	148
TF	850	150	58503150	65	699	0.9	360	1361	2367	100	91	150
TF	850	200	58503200	69	711	0.6	360	1354	2360	100	90	152
TF	850	250	58503250	73	711	0.4	370	1347	2352	97	87	152
TF	850	300	58503300	53	699	0.7	350	1368	2375	103	94	147
TF	850	350	58503350	57	681	0.9	350	1361	2367	102	93	142
TF	850	400	58503400	23	644	0.8	335	1397	2407	109	101	133
TF	850	450	58503450	4	594	0.5	320	1417	2430	114	108	122
TF	900	000	59003000	40	650	0.9	330	1395	2407	110	103	134
TF	900	050	59003050	73	692	0.7	345	1355	2363	103	94	146
TF	900	100	59003100	59	700	0.7	350	1368	2377	103	94	148
TF	900	150	59003150	69	729	0.7	355	1355	2363	101	92	152
TF	900	200	59003200	71	690	0.7	350	1350	2357	102	92	146
TF	900	250	59003250	66	706	0.5	355	1354	2362	101	91	148
TF	900	300	59003300	36	700	0.6	350	1386	2397	105	97	145
TF	900	350	59003350	55	670	0.8	330	1362	2371	107	99	137
TF	900	400	59003400	55	640	0.8	320	1360	2368	109	101	129
TF	900	450	59003450	1	595	0.4	300	1419	2434	119	114	117
TF	950	000	59503000	53	659	0.5	325	1379	2392	110	102	137
TF	950	050	59503050	67	715	0.9	345	1360	2371	104	95	153
TF	950	100	59503100	82	713	1.2	360	1341	2349	99	89	149
TF	950	150	59503150	54	699	1.2	340	1371	2383	106	98	144
TF	950	200	59503200	48	675	1.2	325	1375	2387	109	102	141
TF	950	250	59503250	74	688	0.8	340	1344	2353	103	94	143
TF	950	300	59503300	46	689	0.5	340	1373	2385	106	98	140
TF	950	350	59503350	51	678	0.6	325	1365	2376	108	101	136
TF	950	400	59503400	19	644	0.5	295	1400	2415	118	113	126
TF	950	450	59503450	0	594	0.2	285	1419	2436	122	119	111
TG	000	000	60003000	51	680	0.9	325	1380	2395	110	103	140
TG	000	050	60003050	48	698	1.6	335	1381	2396	108	100	143
TG	000	100	60003100	57	670	1.6	335	1368	2381	107	99	137
TG	000	150	60003150	61	659	1.6	315	1362	2375	110	103	133
TG	000	200	60003200	24	660	1.3	310	1402	2419	115	109	134
TG	000	250	60003250	29	675	0.5	310	1394	2410	114	108	138
TG	000	300	60003300	65	690	0.5	325	1351	2363	107	99	141
TG	000	350	60003350	81	698	0.5	340	1330	2339	102	93	143
TG	000	400	60003400	32	660	0.2	325	1384	2399	110	103	133
TG	050	000	60503000	53	698	1.3	325	1376	2392	110	102	142
TG	050	050	60503050	48	677	2.0	325	1380	2397	110	103	135
TG	050	100	60503100	57	639	1.8	300	1367	2382	114	108	127
TG	050	150	60503150	39	633	1.4	295	1386	2404	117	112	123
TG	050	200	60503200	44	639	1.1	295	1378	2395	117	111	127
TG	050	250	60503250	51	670	0.5	305	1368	2384	113	107	134
TG	050	300	60503300	59	708	0.5	345	1356	2370	104	95	144
TG	050	350	60503350	40	690	0.5	335	1376	2392	107	100	146
TG	050	400	60503400	14	659	0.4	325	1403	2422	112	106	137
TG	050	450	60503450	2	636	0.3	305	1415	2436	118	113	129

TG	100	000	61003000	42	660	1.5	320	1388	2408	112	106	133
TG	100	050	61003050	30	645	1.4	315	1399	2420	114	108	128
TG	100	100	61003100	50	630	1.2	290	1374	2392	118	112	125
TG	100	150	61003150	50	629	0.7	285	1372	2390	119	113	122
TG	100	200	61003200	27	640	0.6	300	1396	2417	117	112	127
TG	100	250	61003250	44	660	0.6	315	1374	2392	112	105	132
TG	100	300	61003300	46	680	0.4	340	1370	2388	106	98	140
TG	100	350	61003350	78	708	0.4	340	1331	2345	103	93	149
TG	100	400	61003400	61	680	0.5	320	1348	2363	108	100	142
TG	100	450	61003450	0	631	0.3	300	1416	2439	119	115	131
TG	150	000	61503000	46	631	1.8	310	1382	2403	114	108	125
TG	150	050	61503050	46	627	1.1	310	1380	2401	114	107	122
TG	150	100	61503100	36	631	0.6	290	1389	2411	119	114	123
TG	150	150	61503150	19	629	0.2	300	1406	2430	118	114	122
TG	150	200	61503200	38	640	0.2	310	1382	2403	114	108	126
TG	150	250	61503250	47	659	0.5	320	1370	2390	111	103	132
TG	150	300	61503300	28	686	0.4	335	1389	2411	109	102	141
TG	150	350	61503350	48	709	0.4	340	1364	2383	106	98	149
TG	150	400	61503400	76	691	0.3	335	1330	2346	104	95	144
TG	150	450	61503450	0	647	0.0	295	1415	2440	120	116	135
TG	200	000	62003000	46	590	1.2	300	1381	2404	116	111	115
TG	200	050	62003050	9	611	0.7	305	1421	2449	119	114	118
TG	200	100	62003100	9	620	0.3	300	1419	2446	120	115	120
TG	200	150	62003150	30	636	0.0	295	1392	2417	118	113	124
TG	200	200	62003200	19	640	0.1	300	1403	2429	118	113	126
TG	200	250	62003250	23	666	0.4	315	1396	2421	114	108	131
TG	200	300	62003300	27	680	0.3	335	1389	2413	109	102	136
TG	200	350	62003350	35	680	0.3	325	1378	2401	110	103	140
TG	200	400	62003400	75	680	0.2	350	1330	2348	101	91	141
TG	250	000	62503000	32	579	0.2	290	1396	2423	120	116	110
TG	250	050	62503050	34	605	0.2	295	1391	2418	119	114	114
TG	250	100	62503100	40	630	0.3	310	1382	2408	114	108	121
TG	250	150	62503150	15	646	0.1	305	1408	2436	118	113	125
TG	250	200	62503200	12	651	0.1	315	1410	2439	116	110	126
TG	250	250	62503250	17	650	0.2	320	1402	2430	114	108	126
TG	250	300	62503300	28	669	0.3	325	1387	2413	111	105	132
TG	250	350	62503350	41	672	0.4	315	1370	2394	112	105	134
TG	250	400	62503400	59	698	0.3	335	1347	2369	106	97	142
TG	300	000	63003000	25	580	0.0	295	1402	2432	120	115	112
TG	300	050	63003050	23	604	0.2	295	1402	2432	120	115	113
TG	300	100	63003100	21	640	0.3	310	1403	2433	116	111	122
TG	300	150	63003150	17	651	0.1	300	1405	2435	119	114	126
TG	300	200	63003200	12	650	0.2	300	1408	2438	119	114	128
TG	300	250	63003250	13	665	0.4	320	1405	2435	114	109	131
TG	300	300	63003300	19	680	0.6	325	1396	2425	112	106	133
TG	300	350	63003350	29	658	0.6	310	1382	2410	114	108	130
TG	350	000	63503000	19	580	0.3	295	1408	2441	120	116	112
TG	350	050	63503050	1	604	0.5	295	1426	2461	122	118	113
TG	350	100	63503100	21	626	0.8	300	1401	2433	119	114	119
TG	350	150	63503150	10	636	0.8	295	1412	2445	121	117	124

TG	350	200	63503200	5	649	0.8	310	1415	2448	117	113	128
TG	350	250	63503250	6	659	1.0	320	1412	2445	115	110	132
TG	350	300	63503300	6	649	0.6	325	1410	2443	114	108	129
TG	350	350	63503350	0	631	0.2	305	1414	2447	118	114	123
TG	400	000	64003000	11	580	0.4	290	1416	2452	122	119	112
TG	400	050	64003050	15	574	0.9	285	1409	2444	123	119	107
TG	400	100	64003100	9	590	1.1	290	1414	2449	122	119	113
TG	400	150	64003150	1	642	0.8	300	1421	2457	120	117	125
TG	400	200	64003200	4	660	0.7	310	1415	2450	118	113	129
TG	400	250	64003250	9	644	0.7	320	1407	2442	115	109	130
TG	400	300	64003300	5	640	0.2	320	1410	2445	115	110	128
TG	450	000	64503000	2	590	1.3	285	1425	2464	125	122	111
TG	450	050	64503050	2	567	1.2	280	1423	2461	126	123	105
TG	450	100	64503100	3	590	0.5	295	1420	2458	122	118	112
TG	450	150	64503150	3	641	1.3	305	1417	2455	119	115	125
TG	450	200	64503200	0	646	1.2	310	1419	2457	118	114	128
TG	450	250	64503250	2	630	0.0	315	1414	2451	117	112	128
TG	500	000	65003000	13	600	1.7	285	1411	2450	124	120	113
TG	500	050	65003050	8	573	0.8	280	1415	2455	125	122	106
TG	500	100	65003100	1	590	0.3	295	1421	2461	122	118	112
TG	500	150	65003150	15	616	1.3	300	1403	2441	119	115	118
TG	500	200	65003200	2	620	1.2	300	1415	2455	120	116	122
TG	550	000	65503000	0	600	0.6	285	1425	2468	125	122	112
TG	550	050	65503050	0	590	0.0	275	1423	2466	127	125	109
TG	550	100	65503100	0	575	0.0	285	1421	2463	125	122	108
TL	000	000	50002000	122	750	0.6	365	1366	2337	97	86	161
TL	000	050	50002050	139	717	0.8	370	1344	2313	94	82	160
TL	000	100	50002100	149	740	0.7	370	1331	2298	93	81	162
TL	000	150	50002150	137	714	0.4	370	1342	2311	94	82	156
TL	000	200	50002200	139	700	0.2	345	1338	2306	98	88	148
TL	000	250	50002250	103	665	0.3	305	1376	2348	111	103	136
TL	000	300	50002300	129	630	0.4	325	1345	2314	103	94	127
TL	000	350	50002350	99	604	0.4	320	1377	2349	107	99	119
TL	000	400	50002400	51	590	0.3	300	1429	2407	116	111	111
TL	000	450	50002450	53	584	0.3	295	1425	2403	117	112	105
TL	000	500	50002500	52	590	0.4	305	1424	2402	115	109	107
TL	000	550	50002550	38	595	0.3	315	1437	2416	114	108	110
TL	000	600	50002600	56	600	0.3	325	1415	2392	110	102	115
TL	000	650	50002650	86	618	0.1	325	1378	2351	106	98	122
TL	000	700	50002700	78	590	0.1	300	1385	2358	113	105	119
TL	000	750	50002750	73	595	0.1	295	1389	2363	114	107	120
TL	000	800	50002800	30	600	0.2	295	1435	2414	118	113	121
TL	000	850	50002850	59	594	0.3	295	1400	2375	115	109	118
TL	000	900	50002900	61	600	0.4	290	1396	2371	116	110	119
TL	000	950	50002950	76	594	0.5	305	1376	2348	111	103	118
TL	050	000	50502000	101	714	0.4	360	1389	2365	100	91	151
TL	050	050	50502050	130	701	0.6	360	1353	2325	97	86	150
TL	050	100	50502100	124	698	0.5	355	1358	2330	98	88	152
TL	050	150	50502150	145	721	0.4	360	1332	2302	95	84	159
TL	050	200	50502200	181	701	0.4	350	1289	2254	93	81	148

TL	050	250	50502250	126	667	0.2	305	1349	2320	108	100	134
TL	050	300	50502300	78	603	0.3	300	1402	2379	114	108	119
TL	050	350	50502350	63	586	0.4	305	1416	2395	114	108	110
TL	050	400	50502400	105	586	0.3	305	1366	2339	110	102	105
TL	050	450	50502450	30	574	0.2	295	1450	2433	120	115	97
TL	050	500	50502500	29	580	0.2	300	1449	2431	118	114	99
TL	050	550	50502550	61	581	0.3	310	1410	2388	113	106	99
TL	050	600	50502600	82	589	0.3	300	1384	2359	113	106	109
TL	050	650	50502650	59	617	0.1	305	1408	2386	114	107	122
TL	050	700	50502700	62	616	0.0	310	1402	2379	112	105	123
TL	050	750	50502750	44	616	0.1	310	1420	2399	113	107	126
TL	050	800	50502800	46	616	0.2	320	1416	2395	111	104	123
TL	050	850	50502850	30	590	0.2	310	1432	2413	115	109	117
TL	050	900	50502900	21	589	0.3	300	1440	2422	118	113	114
TL	050	950	50502950	40	584	0.4	295	1416	2395	117	111	109
TL	100	000	51002000	96	700	0.2	350	1393	2371	103	94	149
TL	100	050	51002050	116	701	0.4	345	1368	2344	102	92	148
TL	100	100	51002100	130	690	0.5	345	1350	2324	100	90	145
TL	100	150	51002150	122	701	0.5	340	1357	2331	102	92	148
TL	100	200	51002200	129	690	0.7	320	1347	2320	105	96	141
TL	100	250	51002250	154	656	0.5	315	1316	2286	103	93	132
TL	100	300	51002300	110	610	0.3	295	1364	2339	112	105	118
TL	100	350	51002350	55	584	0.5	295	1424	2406	118	112	107
TL	100	400	51002400	78	570	0.4	305	1396	2375	113	106	101
TL	100	450	51002450	40	570	0.2	300	1437	2420	117	112	97
TL	100	500	51002500	21	570	0.3	295	1457	2442	120	116	97
TL	100	550	51002550	48	591	0.5	300	1424	2406	116	111	101
TL	100	600	51002600	70	600	0.7	300	1396	2375	114	107	111
TL	100	650	51002650	32	616	0.6	300	1437	2420	117	112	121
TL	100	700	51002700	69	620	0.5	310	1393	2371	111	104	121
TL	100	750	51002750	34	614	0.4	315	1431	2414	114	108	122
TL	100	800	51002800	51	620	0.4	325	1409	2389	109	102	122
TL	100	850	51002850	63	605	0.2	330	1393	2371	107	99	120
TL	100	900	51002900	55	590	0.1	315	1400	2379	111	104	113
TL	100	950	51002950	38	579	0.2	300	1417	2398	116	110	108
TL	150	000	51502000	93	678	0.1	325	1395	2376	108	101	144
TL	150	050	51502050	78	683	0.3	330	1410	2392	109	101	142
TL	150	100	51502100	120	680	0.6	330	1360	2337	104	95	139
TL	150	150	51502150	88	686	0.6	330	1394	2375	107	99	137
TL	150	200	51502200	133	676	0.5	325	1341	2316	104	94	135
TL	150	250	51502250	147	642	0.4	330	1323	2296	101	90	130
TL	150	300	51502300	105	611	0.2	310	1368	2346	109	101	118
TL	150	350	51502350	62	577	0.5	305	1415	2398	115	108	103
TL	150	400	51502400	53	555	0.5	300	1423	2407	116	111	98
TL	150	450	51502450	34	555	0.3	300	1443	2429	118	113	95
TL	150	500	51502500	25	543	0.5	290	1451	2438	121	117	93
TL	150	550	51502550	25	559	0.6	285	1449	2436	122	119	95
TL	150	600	51502600	32	587	0.7	285	1438	2423	121	117	107
TL	150	650	51502650	32	593	0.9	295	1436	2421	119	114	116
TL	150	700	51502700	38	606	1.1	305	1427	2411	116	110	118

TL	150	750	51502750	40	591	0.9	315	1423	2407	113	107	116
TL	150	800	51502800	28	600	0.5	315	1434	2419	114	108	118
TL	150	850	51502850	40	604	0.3	320	1418	2401	111	105	119
TL	150	900	51502900	35	590	0.2	320	1422	2406	112	105	113
TL	150	950	51502950	21	580	0.3	310	1436	2421	115	110	109
TL	200	000	52002000	111	700	0.1	350	1374	2355	101	92	148
TL	200	050	52002050	76	657	0.2	320	1411	2396	111	104	138
TL	200	100	52002100	80	670	0.4	325	1405	2389	109	102	136
TL	200	150	52002150	101	671	0.4	325	1378	2359	107	99	132
TL	200	200	52002200	105	650	0.2	320	1372	2352	107	99	129
TL	200	250	52002250	94	631	0.2	330	1382	2363	106	98	124
TL	200	300	52002300	59	600	0.3	325	1420	2406	111	104	116
TL	200	350	52002350	63	576	0.4	295	1413	2398	117	111	106
TL	200	400	52002400	56	540	0.5	290	1419	2404	119	113	96
TL	200	450	52002450	36	551	0.4	290	1439	2427	120	116	94
TL	200	500	52002500	59	550	0.3	285	1411	2396	119	114	94
TL	200	550	52002550	38	539	0.2	275	1433	2420	124	120	92
TL	200	600	52002600	25	540	0.3	280	1445	2433	123	120	97
TL	200	650	52002650	13	560	0.5	295	1457	2447	121	117	103
TL	200	700	52002700	15	580	0.8	310	1452	2441	117	112	106
TL	200	750	52002750	20	580	0.7	310	1444	2432	116	111	107
TL	200	800	52002800	27	580	0.4	305	1434	2421	116	111	107
TL	200	850	52002850	2	591	0.4	305	1461	2451	119	114	109
TL	200	900	52002900	2	590	0.7	310	1458	2448	117	113	107
TL	200	950	52002950	12	574	0.7	310	1445	2433	116	111	103
TL	250	000	52502000	122	685	0.4	350	1360	2341	100	90	144
TL	250	050	52502050	112	645	0.4	325	1369	2351	106	98	136
TL	250	100	52502100	61	656	0.4	320	1425	2413	112	106	132
TL	250	150	52502150	71	672	0.3	325	1412	2399	110	103	130
TL	250	200	52502200	95	661	0.2	320	1382	2366	109	101	127
TL	250	250	52502250	122	626	0.3	320	1349	2329	106	97	122
TL	250	300	52502300	130	599	0.4	320	1338	2317	105	95	115
TL	250	350	52502350	65	594	0.3	300	1410	2397	116	110	111
TL	250	400	52502400	42	571	0.4	290	1434	2423	120	116	102
TL	250	450	52502450	36	568	0.3	290	1438	2428	121	116	97
TL	250	500	52502500	76	566	0.2	300	1390	2374	114	107	97
TL	250	550	52502550	42	549	0.1	290	1427	2415	119	115	94
TL	250	600	52502600	55	539	0.1	290	1410	2397	118	113	92
TL	250	650	52502650	44	529	0.0	295	1420	2408	118	112	91
TL	250	700	52502700	15	541	0.3	305	1451	2442	118	113	92
TL	250	750	52502750	38	560	0.4	305	1423	2411	116	110	96
TL	250	800	52502800	32	570	0.2	295	1427	2415	118	113	97
TL	250	850	52502850	2	575	0.3	290	1459	2451	122	119	98
TL	250	900	52502900	0	574	0.5	295	1459	2451	121	117	97
TL	250	950	52502950	0	570	0.5	300	1457	2449	120	116	97
TL	300	000	53002000	64	670	0.8	330	1425	2415	110	104	135
TL	300	050	53002050	99	633	0.7	330	1383	2369	107	98	128
TL	300	100	53002100	52	630	0.7	325	1434	2425	112	106	126
TL	300	150	53002150	76	663	0.5	325	1405	2393	110	103	128
TL	300	200	53002200	69	650	0.2	320	1410	2399	111	105	128

TL	300	250	53002250	116	646	0.2	325	1355	2338	105	96	127
TL	300	300	53002300	111	620	0.4	330	1358	2341	104	95	122
TL	300	350	53002350	103	605	0.3	325	1365	2349	106	98	118
TL	300	400	53002400	69	590	0.2	300	1402	2390	115	109	110
TL	300	450	53002450	30	580	0.1	290	1444	2436	121	117	102
TL	300	500	53002500	76	570	0.0	305	1389	2375	113	106	99
TL	300	550	53002550	70	566	0.1	305	1394	2381	113	107	97
TL	300	600	53002600	61	550	0.1	300	1402	2390	115	109	93
TL	300	650	53002650	34	532	0.0	295	1431	2422	119	114	89
TL	300	700	53002700	6	570	0.2	300	1460	2454	120	116	95
TL	300	750	53002750	28	543	0.3	300	1433	2424	118	113	91
TL	300	800	53002800	25	560	0.2	290	1434	2425	120	116	93
TL	300	850	53002850	4	571	0.1	285	1456	2450	124	120	95
TL	300	900	53002900	1	570	0.0	285	1457	2451	124	120	96
TL	300	950	53002950	4	571	0.0	290	1452	2445	122	118	97
TL	350	000	53502000	25	618	0.4	315	1468	2465	118	113	118
TL	350	050	53502050	46	606	0.5	325	1442	2436	113	107	119
TL	350	100	53502100	86	610	0.5	325	1394	2383	109	101	119
TL	350	150	53502150	50	621	0.4	320	1433	2426	113	108	122
TL	350	200	53502200	108	635	0.2	315	1365	2351	109	100	126
TL	350	250	53502250	122	649	0.1	330	1347	2331	104	94	131
TL	350	300	53502300	118	624	0.1	335	1349	2333	103	93	127
TL	350	350	53502350	136	616	0.1	330	1326	2308	102	92	126
TL	350	400	53502400	101	601	0.1	325	1364	2350	106	98	114
TL	350	450	53502450	25	585	0.1	295	1448	2443	121	116	105
TL	350	500	53502500	30	581	0.0	300	1441	2435	119	114	101
TL	350	550	53502550	38	564	0.0	295	1429	2422	119	114	96
TL	350	600	53502600	69	561	0.0	305	1392	2381	113	107	93
TL	350	650	53502650	29	549	0.0	310	1435	2429	116	111	88
TL	350	700	53502700	6	533	0.4	310	1459	2455	118	114	86
TL	350	750	53502750	29	561	0.6	300	1431	2424	118	113	91
TL	350	800	53502800	3	556	0.4	295	1458	2454	121	118	90
TL	350	850	53502850	0	560	0.1	295	1459	2455	121	118	91
TL	350	900	53502900	0	566	0.0	295	1457	2453	121	118	95
TL	350	950	53502950	0	560	0.0	290	1455	2451	122	119	96
TL	400	000	54002000	32	600	0.1	310	1459	2457	118	114	116
TL	400	050	54002050	63	595	0.2	315	1422	2416	114	108	117
TL	400	100	54002100	36	590	0.2	310	1450	2447	117	113	114
TL	400	150	54002150	52	599	0.2	310	1430	2425	116	110	115
TL	400	200	54002200	87	620	0.1	315	1388	2378	111	103	121
TL	400	250	54002250	93	658	0.1	320	1379	2368	109	101	129
TL	400	300	54002300	105	650	0.0	330	1363	2351	105	96	128
TL	400	350	54002350	118	614	0.1	330	1346	2332	104	94	122
TL	400	400	54002400	65	600	0.1	320	1404	2396	111	104	114
TL	400	450	54002450	25	584	0.1	300	1447	2444	119	115	104
TL	400	500	54002500	19	580	0.0	290	1452	2450	122	119	102
TL	400	550	54002550	17	564	0.0	295	1452	2450	121	117	96
TL	400	600	54002600	38	560	0.0	305	1426	2421	116	111	93
TL	400	650	54002650	12	545	0.0	310	1453	2451	118	113	88
TL	400	700	54002700	9	530	0.3	310	1455	2453	118	113	88

TL	400	750	54002750	2	541	0.5	315	1460	2458	117	112	89
TL	400	800	54002800	1	540	0.4	305	1459	2457	119	115	89
TL	400	850	54002850	5	551	0.1	305	1453	2451	119	114	88
TL	400	900	54002900	4	550	0.0	300	1451	2448	120	116	92
TL	400	950	54002950	0	551	0.0	300	1454	2452	120	116	94
TL	450	000	54502000	76	634	0.1	305	1408	2403	115	109	119
TL	450	050	54502050	76	622	0.2	310	1406	2401	114	107	122
TL	450	100	54502100	69	594	0.4	300	1411	2406	116	111	115
TL	450	150	54502150	71	599	0.5	300	1407	2402	116	110	112
TL	450	200	54502200	82	620	0.3	310	1392	2385	112	106	119
TL	450	250	54502250	97	653	0.2	320	1373	2364	108	101	127
TL	450	300	54502300	122	634	0.2	325	1342	2330	105	95	123
TL	450	350	54502350	130	619	0.2	330	1331	2317	103	93	121
TL	450	400	54502400	116	600	0.1	325	1345	2333	105	96	113
TL	450	450	54502450	37	584	0.1	300	1432	2429	118	113	104
TL	450	500	54502500	25	580	0.1	290	1444	2443	122	118	102
TL	450	550	54502550	15	570	0.1	295	1453	2453	121	118	97
TL	450	600	54502600	13	565	0.1	300	1453	2453	120	116	94
TL	450	650	54502650	8	555	0.2	310	1457	2457	118	114	90
TL	450	700	54502700	1	546	0.6	300	1463	2464	121	117	91
TL	450	750	54502750	12	528	0.6	300	1448	2447	120	115	91
TL	450	800	54502800	21	529	0.3	315	1435	2433	115	110	89
TL	450	850	54502850	0	537	0.2	310	1457	2457	118	114	87
TL	450	900	54502900	0	539	0.0	310	1455	2455	118	114	90
TL	450	950	54502950	0	545	0.0	310	1453	2453	118	113	93
TL	500	000	55002000	76	600	0.2	300	1407	2404	116	111	115
TL	500	050	55002050	82	633	0.2	310	1398	2394	113	107	121
TL	500	100	55002100	82	610	0.5	320	1395	2390	111	103	118
TL	500	150	55002150	74	604	0.6	305	1402	2398	115	108	117
TL	500	200	55002200	67	620	0.4	310	1408	2405	114	108	119
TL	500	250	55002250	76	642	0.3	315	1396	2392	112	105	125
TL	500	300	55002300	105	630	0.2	315	1360	2352	109	101	123
TL	500	350	55002350	97	604	0.2	315	1367	2359	109	101	119
TL	500	400	55002400	105	600	0.2	310	1356	2347	109	101	114
TL	500	450	55002450	40	584	0.2	300	1428	2427	118	113	108
TL	500	500	55002500	27	580	0.3	300	1441	2442	119	115	103
TL	500	550	55002550	48	575	0.3	295	1414	2412	118	113	97
TL	500	600	55002600	8	570	0.4	300	1458	2460	121	117	96
TL	500	650	55002650	4	566	0.6	300	1460	2463	121	117	94
TL	500	700	55002700	2	550	0.9	295	1460	2463	122	119	93
TL	500	750	55002750	13	534	0.5	290	1445	2446	122	118	91
TL	500	800	55002800	6	540	0.2	300	1451	2453	120	116	92
TL	500	850	55002850	0	545	0.2	290	1456	2458	123	120	91
TL	500	900	55002900	3	550	0.0	310	1450	2452	118	113	93
TL	500	950	55002950	0	546	0.0	305	1452	2454	119	115	94
TL	550	000	55502000	42	609	0.3	305	1444	2447	118	114	116
TL	550	050	55502050	54	603	0.4	310	1428	2429	116	111	112
TL	550	100	55502100	82	639	0.6	325	1394	2391	110	102	120
TL	550	150	55502150	78	643	0.6	325	1397	2395	110	103	125
TL	550	200	55502200	80	632	0.6	315	1392	2389	112	105	123

TL	550	250	55502250	103	626	0.4	310	1364	2358	110	103	122
TL	550	300	55502300	105	627	0.2	310	1359	2353	110	102	122
TL	550	350	55502350	114	601	0.3	310	1347	2339	109	100	119
TL	550	400	55502400	93	593	0.4	305	1369	2364	112	105	113
TL	550	450	55502450	88	592	0.5	310	1372	2367	111	104	111
TL	550	500	55502500	69	589	0.4	310	1391	2388	113	106	105
TL	550	550	55502550	29	588	0.3	295	1435	2437	120	116	100
TL	550	600	55502600	13	580	0.4	300	1451	2455	120	116	99
TL	550	650	55502650	1	564	0.6	295	1462	2467	122	119	96
TL	550	700	55502700	2	554	0.7	290	1459	2464	123	120	94
TL	550	750	55502750	1	544	0.3	290	1458	2462	123	120	93
TL	550	800	55502800	3	544	0.0	300	1454	2458	121	117	93
TL	550	850	55502850	5	555	0.0	290	1449	2452	122	119	95
TL	550	900	55502900	1	566	0.0	310	1451	2455	118	114	97
TL	550	950	55502950	5	561	0.0	300	1445	2448	120	116	96
TL	600	000	56002000	78	630	0.5	310	1402	2402	114	108	118
TL	600	050	56002050	85	626	0.7	310	1392	2391	113	106	116
TL	600	100	56002100	65	600	0.7	315	1413	2415	114	108	114
TL	600	150	56002150	65	599	0.7	320	1410	2411	112	106	114
TL	600	200	56002200	82	610	0.8	310	1389	2388	113	106	116
TL	600	250	56002250	67	594	0.6	300	1404	2405	116	111	115
TL	600	300	56002300	95	590	0.3	300	1370	2367	113	106	115
TL	600	350	56002350	101	611	0.2	310	1360	2356	110	102	118
TL	600	400	56002400	97	620	0.4	320	1363	2359	108	100	119
TL	600	450	56002450	63	609	0.6	325	1399	2399	110	103	119
TL	600	500	56002500	93	610	0.5	325	1363	2359	107	99	114
TL	600	550	56002550	63	600	0.3	310	1395	2395	113	107	106
TL	600	600	56002600	46	590	0.2	295	1412	2414	118	113	104
TL	600	650	56002650	24	574	0.3	290	1435	2439	121	117	101
TL	600	700	56002700	3	570	0.7	290	1457	2463	123	120	99
TL	600	750	56002750	3	559	1.1	290	1455	2461	123	120	95
TL	600	800	56002800	0	560	0.6	300	1456	2462	121	117	97
TL	600	850	56002850	0	571	0.0	290	1454	2460	123	120	99
TL	600	900	56002900	1	570	0.0	310	1450	2456	118	114	100
TL	600	950	56002950	2	576	0.0	300	1447	2452	120	116	101
TL	650	000	56502000	71	593	0.6	300	1409	2412	117	111	111
TL	650	050	56502050	73	604	0.7	305	1404	2407	115	110	112
TL	650	100	56502100	51	584	0.7	300	1427	2432	118	114	109
TL	650	150	56502150	80	596	0.7	310	1392	2393	113	107	112
TL	650	200	56502200	54	594	0.6	300	1419	2423	118	113	111
TL	650	250	56502250	73	595	0.3	300	1396	2398	116	110	111
TL	650	300	56502300	95	596	0.2	305	1368	2367	112	105	111
TL	650	350	56502350	78	618	0.2	305	1386	2387	114	107	115
TL	650	400	56502400	89	638	0.5	310	1371	2370	111	104	124
TL	650	450	56502450	107	637	0.6	325	1348	2345	106	97	129
TL	650	500	56502500	112	628	0.6	330	1340	2336	104	95	122
TL	650	550	56502550	95	616	0.4	330	1357	2355	106	97	115
TL	650	600	56502600	65	595	0.3	310	1389	2390	113	106	109
TL	650	650	56502650	32	585	0.2	300	1425	2430	118	114	105
TL	650	700	56502700	15	575	0.3	300	1442	2449	120	116	101

TL	650	750	56502750	3	575	1.0	295	1453	2461	122	118	98
TL	650	800	56502800	0	575	0.8	295	1455	2463	122	119	101
TL	650	850	56502850	1	574	0.0	300	1451	2459	121	117	103
TL	650	900	56502900	0	585	0.5	310	1450	2458	118	114	104
TL	650	950	56502950	1	584	0.5	315	1447	2454	117	112	104
TL	700	000	57002000	80	600	0.4	300	1398	2402	116	110	110
TL	700	050	57002050	50	590	0.5	300	1430	2438	119	114	108
TL	700	100	57002100	47	580	0.5	285	1431	2439	123	119	107
TL	700	150	57002150	42	579	0.5	300	1434	2442	119	115	107
TL	700	200	57002200	67	590	0.4	295	1404	2409	118	113	110
TL	700	250	57002250	84	601	0.2	305	1382	2384	113	107	112
TL	700	300	57002300	78	590	0.2	300	1387	2390	115	109	110
TL	700	350	57002350	89	617	0.6	305	1372	2373	113	106	115
TL	700	400	57002400	91	610	0.8	305	1367	2368	112	105	115
TL	700	450	57002450	74	588	0.6	300	1385	2388	115	109	113
TL	700	500	57002500	97	600	0.6	300	1356	2356	112	105	116
TL	700	550	57002550	105	623	0.5	330	1345	2343	105	96	121
TL	700	600	57002600	86	600	0.3	320	1364	2364	108	101	114
TL	700	650	57002650	46	596	0.2	310	1408	2413	115	109	109
TL	700	700	57002700	17	580	0.2	310	1439	2448	117	113	105
TL	700	750	57002750	8	591	0.5	305	1447	2457	119	115	105
TL	700	800	57002800	3	590	0.5	300	1450	2460	121	117	107
TL	700	850	57002850	0	589	0.5	300	1451	2461	121	117	110
TL	700	900	57002900	8	600	1.4	315	1440	2449	116	111	112
TL	700	950	57002950	0	605	1.4	325	1447	2457	115	110	113
TL	750	000	57502000	38	590	0.3	300	1444	2455	120	116	107
TL	750	050	57502050	25	581	0.5	285	1457	2470	125	122	104
TL	750	100	57502100	28	565	0.5	275	1451	2463	127	125	101
TL	750	150	57502150	42	572	0.4	285	1433	2443	123	119	103
TL	750	200	57502200	67	590	0.4	300	1402	2409	117	111	108
TL	750	250	57502250	59	595	0.3	305	1409	2416	116	111	111
TL	750	300	57502300	74	595	0.4	300	1390	2395	115	110	112
TL	750	350	57502350	71	603	0.8	300	1391	2397	116	110	112
TL	750	400	57502400	61	601	0.8	290	1400	2407	119	114	110
TL	750	450	57502450	59	589	0.5	295	1400	2407	118	112	105
TL	750	500	57502500	118	606	0.4	305	1331	2330	109	101	115
TL	750	550	57502550	86	634	0.4	330	1365	2368	107	98	128
TL	750	600	57502600	114	609	0.3	320	1331	2330	106	97	119
TL	750	650	57502650	81	597	0.2	320	1367	2370	109	101	112
TL	750	700	57502700	28	579	0.2	310	1425	2434	116	111	109
TL	750	750	57502750	17	605	0.4	325	1435	2445	114	108	113
TL	750	800	57502800	15	611	0.5	325	1435	2445	114	108	116
TL	750	850	57502850	13	614	0.8	315	1435	2445	116	111	120
TL	750	900	57502900	21	625	1.3	325	1424	2433	113	107	121
TL	750	950	57502950	12	626	1.4	330	1432	2442	113	107	122
TL	800	000	58002000	48	580	0.4	300	1432	2444	119	115	104
TL	800	050	58002050	63	565	0.6	295	1412	2422	119	114	99
TL	800	100	58002100	25	550	0.6	270	1454	2469	129	127	98
TL	800	150	58002150	42	570	0.5	280	1432	2444	124	121	102
TL	800	200	58002200	51	590	0.3	285	1419	2430	122	118	107

TL	800	250	58002250	58	595	0.4	295	1409	2419	119	114	108
TL	800	300	58002300	72	600	0.6	300	1391	2399	116	110	110
TL	800	350	58002350	67	584	0.6	300	1395	2403	116	110	107
TL	800	400	58002400	53	580	0.5	290	1408	2417	120	115	104
TL	800	450	58002450	63	579	0.4	275	1395	2403	122	118	102
TL	800	500	58002500	77	600	0.2	305	1377	2383	113	107	113
TL	800	550	58002550	112	626	0.2	325	1335	2336	105	96	124
TL	800	600	58002600	90	640	0.2	325	1357	2361	107	99	122
TL	800	650	58002650	72	609	0.1	325	1376	2382	109	101	113
TL	800	700	58002700	27	590	0.2	315	1425	2436	115	110	109
TL	800	750	58002750	46	594	0.2	320	1401	2410	112	106	109
TL	800	800	58002800	40	620	0.2	325	1406	2415	111	105	115
TL	800	850	58002850	42	646	0.3	330	1401	2410	110	103	121
TL	800	900	58002900	17	650	0.4	330	1427	2439	112	106	124
TL	800	950	58002950	13	634	0.6	335	1430	2442	111	105	123
TL	850	000	58502000	40	570	0.4	300	1440	2455	120	116	100
TL	850	050	58502050	5	549	0.5	285	1477	2496	127	125	94
TL	850	100	58502100	21	545	0.4	270	1457	2474	129	127	96
TL	850	150	58502150	36	566	0.5	275	1438	2453	126	124	102
TL	850	200	58502200	40	580	0.6	275	1431	2445	126	123	104
TL	850	250	58502250	60	592	0.5	285	1406	2417	121	116	106
TL	850	300	58502300	34	584	0.5	300	1433	2447	120	115	104
TL	850	350	58502350	69	567	0.2	300	1391	2401	116	110	102
TL	850	400	58502400	67	568	0.1	290	1391	2401	118	113	99
TL	850	450	58502450	42	588	0.2	275	1418	2431	125	121	100
TL	850	500	58502500	75	594	0.2	300	1378	2386	115	109	110
TL	850	550	58502550	98	607	0.3	310	1349	2354	110	102	119
TL	850	600	58502600	67	641	0.3	320	1382	2391	111	104	121
TL	850	650	58502650	40	603	0.3	320	1411	2423	113	107	112
TL	850	700	58502700	29	589	0.3	315	1421	2434	115	110	108
TL	850	750	58502750	53	593	0.2	315	1392	2402	113	106	106
TL	850	800	58502800	34	594	0.1	320	1411	2423	113	107	109
TL	850	850	58502850	16	615	0.0	330	1430	2444	113	107	115
TL	850	900	58502900	40	624	0.0	335	1400	2411	109	102	120
TL	850	950	58502950	21	632	0.4	325	1420	2433	113	107	123
TL	900	000	59002000	13	560	0.4	300	1469	2489	123	120	97
TL	900	050	59002050	2	539	0.2	280	1480	2502	129	128	92
TL	900	100	59002100	15	540	0.2	275	1463	2483	129	127	94
TL	900	150	59002150	44	555	0.4	280	1427	2443	124	121	98
TL	900	200	59002200	30	570	0.7	280	1441	2458	125	123	100
TL	900	250	59002250	34	569	0.5	285	1434	2451	124	120	102
TL	900	300	59002300	61	580	0.2	295	1401	2414	118	113	104
TL	900	350	59002350	31	590	0.0	305	1433	2449	119	114	106
TL	900	400	59002400	54	600	0.1	285	1405	2418	121	117	107
TL	900	450	59002450	65	605	0.3	295	1390	2402	117	112	108
TL	900	500	59002500	80	610	0.3	310	1371	2381	112	105	113
TL	900	550	59002550	80	626	0.3	310	1369	2378	112	105	119
TL	900	600	59002600	78	630	0.2	315	1369	2378	111	103	118
TL	900	650	59002650	58	604	0.3	310	1389	2401	114	107	112
TL	900	700	59002700	61	600	0.3	310	1384	2395	113	107	110

TL	900	750	59002750	44	589	0.2	305	1401	2414	116	110	106
TL	900	800	59002800	19	590	0.1	320	1427	2443	115	109	110
TL	900	850	59002850	32	599	0.1	330	1410	2424	111	105	114
TL	900	900	59002900	38	620	0.2	330	1401	2414	110	104	121
TL	900	950	59002950	28	635	0.6	325	1410	2424	112	106	127
TL	950	000	59502000	17	544	0.4	285	1464	2486	126	124	93
TL	950	050	59502050	5	539	0.3	280	1475	2498	129	127	92
TL	950	100	59502100	19	545	0.3	275	1457	2478	128	126	93
TL	950	150	59502150	10	559	0.2	275	1465	2487	129	127	95
TL	950	200	59502200	27	565	0.4	270	1443	2463	128	126	98
TL	950	250	59502250	38	566	0.4	280	1429	2447	125	121	102
TL	950	300	59502300	42	585	0.2	280	1422	2439	124	120	105
TL	950	350	59502350	53	591	0.1	315	1407	2423	114	109	106
TL	950	400	59502400	46	594	0.3	295	1413	2429	119	115	108
TL	950	450	59502450	80	604	0.3	300	1372	2384	115	108	112
TL	950	500	59502500	55	599	0.3	295	1398	2413	118	113	112
TL	950	550	59502550	89	606	0.3	305	1357	2367	112	105	113
TL	950	600	59502600	73	626	0.3	310	1373	2385	112	106	116
TL	950	650	59502650	44	598	0.2	305	1404	2419	116	111	112
TL	950	700	59502700	55	589	0.2	300	1389	2403	116	110	108
TL	950	750	59502750	38	589	0.2	295	1407	2423	119	114	105
TL	950	800	59502800	34	601	0.3	320	1409	2425	113	107	113
TL	950	850	59502850	17	622	0.3	330	1426	2444	113	107	122
TL	950	900	59502900	31	625	0.3	325	1408	2424	112	106	124
TL	950	950	59502950	47	637	0.4	320	1388	2402	112	105	129
TM	000	000	60002000	2	540	0.3	270	1480	2506	132	131	90
TM	000	050	60002050	9	551	0.4	280	1469	2494	128	127	92
TM	000	100	60002100	0	550	0.4	270	1477	2502	132	131	93
TM	000	150	60002150	4	549	0.4	270	1471	2496	131	130	93
TM	000	200	60002200	7	560	0.3	270	1465	2489	130	129	96
TM	000	250	60002250	23	569	0.2	270	1445	2467	129	127	99
TM	000	300	60002300	46	590	0.2	275	1416	2435	125	121	103
TM	000	350	60002350	19	578	0.3	285	1445	2467	125	122	103
TM	000	400	60002400	69	600	0.3	300	1386	2401	116	110	107
TM	000	450	60002450	49	594	0.2	295	1406	2424	119	114	106
TM	000	500	60002500	59	600	0.3	295	1393	2409	118	113	109
TM	000	550	60002550	73	606	0.4	305	1374	2388	114	107	110
TM	000	600	60002600	53	600	0.5	305	1395	2411	116	110	111
TM	000	650	60002650	69	611	0.7	310	1375	2389	113	106	113
TM	000	700	60002700	53	600	0.5	305	1391	2407	115	110	111
TM	000	750	60002750	50	589	0.1	295	1392	2408	118	112	108
TM	000	800	60002800	22	600	0.3	320	1422	2441	115	109	113
TM	000	850	60002850	44	626	0.6	325	1394	2410	111	104	122
TM	000	900	60002900	40	630	0.6	320	1397	2414	112	106	126
TM	000	950	60002950	38	644	0.5	320	1397	2414	112	106	133
TM	050	000	60502000	0	525	0.1	265	1481	2509	133	133	87
TM	050	050	60502050	0	536	0.1	270	1478	2506	132	131	89
TM	050	100	60502100	0	536	0.3	265	1476	2503	133	132	88
TM	050	150	60502150	11	545	0.4	265	1462	2488	132	131	90
TM	050	200	60502200	4	555	0.2	265	1467	2493	132	131	94

TM 050 250 60502250	30	576	0.5	275	1435	2458	127	124	98
TM 050 300 60502300	38	597	0.6	280	1424	2446	124	121	104
TM 050 350 60502350	21	573	0.4	275	1441	2465	127	125	103
TM 050 400 60502400	45	584	0.3	290	1412	2432	121	117	102
TM 050 450 60502450	64	586	0.3	285	1388	2406	120	115	100
TM 050 500 60502500	61	568	0.3	285	1389	2407	120	115	100
TM 050 550 60502550	61	587	0.3	290	1387	2405	119	114	105
TM 050 600 60502600	40	589	0.3	300	1409	2429	118	113	108
TM 050 650 60502650	61	600	0.8	305	1383	2400	115	109	112
TM 050 700 60502700	59	606	0.6	305	1383	2400	115	109	113
TM 050 750 60502750	49	592	0.2	295	1392	2410	118	113	111
TM 050 800 60502800	25	599	0.3	315	1417	2438	116	110	115
TM 050 850 60502850	42	625	0.6	325	1395	2414	111	105	122
TM 050 900 60502900	40	641	0.9	320	1395	2414	112	106	130
TM 050 950 60502950	38	670	1.0	315	1396	2415	114	108	140
TM 100 150 61002150	8	547	0.2	265	1464	2492	132	131	92
TM 100 200 61002200	21	550	0.2	275	1447	2473	128	126	94
TM 100 250 61002250	32	566	0.8	275	1432	2457	127	124	98
TM 100 300 61002300	31	570	1.0	275	1431	2456	127	124	100
TM 100 350 61002350	34	564	0.6	275	1425	2449	126	123	99
TM 100 400 61002400	46	580	0.4	285	1409	2431	122	118	102
TM 100 450 61002450	46	574	0.3	280	1407	2429	123	119	101
TM 100 500 61002500	57	580	0.2	275	1393	2413	123	119	104
TM 100 550 61002550	34	596	0.1	300	1417	2440	119	115	109
TM 100 600 61002600	57	600	0.2	305	1388	2408	115	110	113
TM 100 650 61002650	51	595	0.5	300	1393	2413	117	112	113
TM 100 700 61002700	42	590	0.4	300	1401	2422	118	113	111
TM 100 750 61002750	47	589	0.3	295	1393	2413	118	113	108
TM 100 800 61002800	34	610	0.4	305	1406	2428	117	112	115
TM 100 850 61002850	48	631	0.4	315	1387	2407	113	107	123
TM 100 900 61002900	49	640	0.9	310	1384	2403	114	108	128
TM 100 950 61002950	59	701	1.6	310	1370	2388	113	106	141
TM 150 150 61502150	15	549	0.1	275	1455	2484	129	127	94
TM 150 200 61502200	23	544	0.4	275	1443	2471	128	126	94
TM 150 250 61502250	21	556	0.7	275	1443	2471	128	126	100
TM 150 300 61502300	25	554	0.8	270	1437	2464	128	126	97
TM 150 350 61502350	28	550	0.6	275	1431	2458	127	124	94
TM 150 400 61502400	40	569	0.3	280	1415	2440	124	121	100
TM 150 450 61502450	6	573	0.1	275	1452	2481	129	127	103
TM 150 500 61502500	44	584	0.2	280	1406	2430	123	119	107
TM 150 550 61502550	59	609	0.2	300	1387	2409	117	111	113
TM 150 600 61502600	61	621	0.2	310	1382	2403	114	108	119
TM 150 650 61502650	57	611	0.2	305	1385	2407	115	110	120
TM 150 700 61502700	44	584	0.3	295	1397	2420	119	114	110
TM 150 750 61502750	36	587	0.4	290	1404	2428	121	116	105
TM 150 800 61502800	40	594	0.4	295	1398	2421	119	114	112
TM 150 850 61502850	40	623	0.6	310	1395	2418	115	109	122
TM 150 900 61502900	50	631	1.6	305	1382	2403	115	109	125
TM 150 950 61502950	51	666	2.3	305	1378	2399	115	109	134
TM 200 150 62002150	0	556	0.1	275	1471	2504	130	129	95

TM	200	200	62002200	11	550	0.2	275	1456	2488	129	127	95
TM	200	250	62002250	5	539	0.5	275	1461	2493	129	128	95
TM	200	300	62002300	9	550	0.6	270	1454	2485	130	129	96
TM	200	350	62002350	16	554	0.5	275	1444	2474	128	126	94
TM	200	400	62002400	10	580	0.2	275	1448	2479	128	126	102
TM	200	450	62002450	36	595	0.1	275	1416	2443	125	122	106
TM	200	500	62002500	46	610	0.2	285	1403	2429	122	118	111
TM	200	550	62002550	51	614	0.5	300	1395	2420	117	112	112
TM	200	600	62002600	35	630	0.4	300	1411	2438	119	114	117
TM	200	650	62002650	46	632	0.3	305	1396	2421	116	111	123
TM	200	700	62002700	55	600	0.4	295	1384	2408	118	112	114
TM	200	750	62002750	42	595	0.5	290	1396	2421	120	115	109
TM	200	800	62002800	40	590	0.5	290	1396	2421	120	115	111
TM	200	850	62002850	32	623	0.9	305	1403	2429	117	112	119
TM	200	900	62002900	53	610	1.3	300	1377	2400	116	110	119
TM	200	950	62002950	27	589	1.5	300	1405	2431	118	114	115
TM	250	200	62502200	6	551	0.1	275	1460	2494	130	128	94
TM	250	250	62502250	2	536	0.2	270	1463	2497	131	130	92
TM	250	300	62502300	2	545	0.3	270	1461	2495	131	130	93
TM	250	350	62502350	3	543	0.3	270	1457	2491	131	129	93
TM	250	400	62502400	23	580	0.5	275	1432	2463	127	125	102
TM	250	450	62502450	23	602	0.5	280	1430	2461	126	123	107
TM	250	500	62502500	23	599	0.3	290	1428	2459	123	120	106
TM	250	550	62502550	46	592	0.5	300	1399	2426	118	113	106
TM	250	600	62502600	23	616	0.5	300	1423	2453	120	116	116
TM	250	650	62502650	54	644	0.5	295	1386	2412	118	113	125
TM	250	700	62502700	62	638	0.5	290	1375	2400	118	113	121
TM	250	750	62502750	46	606	0.4	300	1391	2418	117	112	113
TM	250	800	62502800	44	594	0.4	300	1391	2418	117	112	111
TM	250	850	62502850	39	605	0.5	300	1394	2421	118	112	113
TM	250	900	62502900	53	615	0.3	300	1376	2401	116	110	115
TM	250	950	62502950	42	587	0.2	295	1386	2412	118	113	110
TM	300	300	63002300	0	540	0.1	270	1462	2498	131	130	92
TM	300	350	63002350	17	526	0.2	270	1440	2474	129	127	90
TM	300	400	63002400	6	580	0.5	275	1450	2485	129	127	102
TM	300	450	63002450	12	596	0.6	275	1441	2475	128	126	106
TM	300	500	63002500	14	600	0.3	285	1437	2471	125	123	109
TM	300	550	63002550	32	589	0.4	290	1414	2445	122	118	108
TM	300	600	63002600	32	590	0.5	295	1412	2443	121	116	111
TM	300	650	63002650	53	622	0.5	290	1386	2414	119	115	119
TM	300	700	63002700	48	620	0.7	290	1389	2417	120	115	118
TM	300	750	63002750	53	626	0.5	300	1381	2409	117	111	119
TM	300	800	63002800	46	610	0.2	305	1387	2415	116	110	117
TM	300	850	63002850	30	593	0.1	300	1403	2433	119	114	114
TM	300	900	63002900	36	620	0.0	300	1394	2423	118	113	118
TM	300	950	63002950	34	617	0.0	300	1394	2423	118	113	118
TM	350	400	63502400	7	576	0.1	275	1448	2485	129	127	101
TM	350	450	63502450	12	591	0.2	280	1440	2476	127	125	106
TM	350	500	63502500	23	606	0.3	285	1426	2461	124	121	110
TM	350	550	63502550	23	598	0.3	290	1423	2457	123	119	112

TM	350	600	63502600	21	594	0.4	300	1423	2457	120	117	111
TM	350	650	63502650	23	618	0.6	300	1419	2453	120	116	115
TM	350	700	63502700	30	599	0.8	290	1409	2442	122	118	115
TM	350	750	63502750	27	622	0.7	305	1410	2443	118	114	122
TM	350	800	63502800	38	616	0.3	315	1395	2426	115	109	121
TM	350	850	63502850	34	603	0.0	305	1398	2429	117	112	119
TM	350	900	63502900	8	614	0.0	300	1425	2459	121	117	120
TM	350	950	63502950	36	617	0.1	300	1391	2422	118	113	121
TM	400	450	64002450	0	576	0.1	280	1453	2493	128	126	103
TM	400	500	64002500	4	590	0.5	285	1446	2485	126	124	107
TM	400	550	64002550	15	600	0.8	290	1431	2468	124	121	109
TM	400	600	64002600	15	610	0.8	300	1429	2466	121	118	111
TM	400	650	64002650	34	600	0.8	295	1405	2439	120	116	110
TM	400	700	64002700	23	590	0.9	285	1416	2452	124	120	110
TM	400	750	64002750	26	606	0.8	300	1410	2445	120	115	114
TM	400	800	64002800	38	600	0.4	305	1394	2427	117	112	115
TM	400	850	64002850	32	621	0.1	310	1399	2433	116	111	122
TM	400	900	64002900	8	630	0.0	300	1424	2460	121	117	123
TM	400	950	64002950	28	616	0.1	295	1399	2433	120	115	121
TM	450	500	64502500	4	586	0.3	275	1445	2486	129	127	105
TM	450	550	64502550	3	589	0.6	280	1444	2485	128	126	105
TM	450	600	64502600	10	595	0.9	290	1434	2474	124	121	106
TM	450	650	64502650	13	584	1.1	285	1428	2467	125	122	104
TM	450	700	64502700	15	596	1.2	280	1424	2463	126	123	107
TM	450	750	64502750	9	596	1.0	285	1428	2467	125	122	106
TM	450	800	64502800	6	595	0.8	295	1429	2468	123	119	111
TM	450	850	64502850	17	621	0.7	300	1415	2453	120	116	122
TM	450	900	64502900	10	642	0.5	300	1420	2458	121	117	125
TM	450	950	64502950	15	618	0.7	290	1413	2450	122	119	121
TM	500	550	65002550	0	544	0.0	275	1446	2489	129	128	98
TM	500	600	65002600	0	580	0.3	285	1444	2487	126	124	103
TM	500	650	65002650	0	558	0.6	280	1442	2485	128	126	100
TM	500	700	65002700	0	580	0.7	275	1440	2482	129	127	102
TM	500	750	65002750	3	563	0.6	270	1434	2476	129	128	100
TM	500	800	65002800	8	590	0.9	275	1426	2467	127	125	107
TM	500	850	65002850	13	605	1.0	285	1418	2458	124	121	113
TM	500	900	65002900	15	620	0.8	295	1414	2454	121	118	117
TM	500	950	65002950	2	621	1.5	290	1426	2467	124	121	118
TM	550	800	65502800	0	564	0.3	270	1434	2478	130	128	100
TM	550	850	65502850	0	587	0.4	275	1432	2476	128	126	105
TM	550	900	65502900	0	594	0.3	285	1430	2473	125	123	108
TM	550	950	65502950	16	598	0.8	285	1409	2450	124	120	112
TQ	000	000	50001000	2	720	0.8	315	1547	2538	124	122	147
TQ	000	050	50001050	5	759	1.1	335	1541	2532	119	116	157
TQ	000	100	50001100	118	900	0.7	375	1410	2386	99	90	184
TQ	000	150	50001150	22	940	0.6	440	1517	2505	97	89	197
TQ	000	200	50001200	40	890	0.9	395	1494	2479	103	96	187
TQ	000	250	50001250	23	813	1.2	360	1512	2499	111	106	171
TQ	000	300	50001300	58	780	0.9	350	1469	2452	109	103	166
TQ	000	350	50001350	33	784	0.8	350	1496	2482	112	106	164

TQ	000	400	50001400	107	810	0.6	375	1409	2385	99	89	170
TQ	000	450	50001450	70	761	0.4	350	1449	2429	107	100	161
TQ	000	500	50001500	48	700	0.6	345	1472	2455	110	104	149
TQ	000	550	50001550	36	669	0.8	325	1484	2468	116	111	141
TQ	000	600	50001600	30	650	1.0	320	1488	2473	117	113	137
TQ	000	650	50001650	50	680	1.1	335	1463	2445	112	106	141
TQ	000	700	50001700	32	710	1.0	350	1482	2466	110	104	145
TQ	000	750	50001750	17	667	0.8	320	1496	2482	118	114	138
TQ	000	800	50001800	27	680	0.5	320	1483	2467	117	112	141
TQ	000	850	50001850	59	707	0.4	345	1444	2424	108	101	146
TQ	000	900	50001900	75	700	0.5	355	1424	2402	104	96	147
TQ	000	950	50001950	116	731	0.5	355	1375	2347	100	90	155
TQ	050	000	50501000	0	721	0.6	310	1548	2541	125	123	149
TQ	050	050	50501050	6	752	1.0	330	1539	2531	120	117	155
TQ	050	100	50501100	46	849	0.6	375	1491	2478	106	100	177
TQ	050	150	50501150	19	902	0.4	400	1519	2509	104	98	190
TQ	050	200	50501200	48	849	0.5	380	1484	2470	105	98	180
TQ	050	250	50501250	14	795	0.8	355	1521	2511	113	108	167
TQ	050	300	50501300	34	775	0.6	335	1496	2484	115	110	162
TQ	050	350	50501350	59	783	0.3	345	1465	2449	110	104	163
TQ	050	400	50501400	59	788	0.4	365	1463	2447	106	99	167
TQ	050	450	50501450	113	794	0.6	380	1399	2376	97	87	170
TQ	050	500	50501500	139	761	0.7	370	1367	2340	96	85	161
TQ	050	550	50501550	36	699	0.7	335	1482	2468	114	108	147
TQ	050	600	50501600	19	660	0.9	320	1500	2488	118	115	138
TQ	050	650	50501650	17	655	1.3	320	1500	2488	118	115	135
TQ	050	700	50501700	13	666	1.5	320	1502	2490	119	115	135
TQ	050	750	50501750	20	642	1.2	315	1492	2479	119	115	131
TQ	050	800	50501800	27	676	0.7	320	1482	2468	117	112	139
TQ	050	850	50501850	32	685	0.6	340	1474	2459	112	106	143
TQ	050	900	50501900	61	689	0.5	345	1439	2420	108	100	145
TQ	050	950	50501950	57	698	0.4	350	1441	2423	107	100	148
TQ	100	000	51001000	0	710	0.3	310	1547	2542	125	123	151
TQ	100	050	51001050	25	771	0.4	330	1516	2508	118	114	161
TQ	100	100	51001100	117	910	0.4	390	1409	2389	97	86	186
TQ	100	150	51001150	46	882	0.3	390	1487	2476	103	96	185
TQ	100	200	51001200	47	820	0.1	370	1484	2472	107	100	174
TQ	100	250	51001250	28	789	0.3	365	1504	2495	110	104	166
TQ	100	300	51001300	59	770	0.4	345	1466	2452	110	104	162
TQ	100	350	51001350	71	779	0.2	360	1450	2435	106	99	163
TQ	100	400	51001400	84	810	0.2	385	1433	2416	100	91	172
TQ	100	450	51001450	158	844	0.3	395	1347	2320	90	78	180
TQ	100	500	51001500	177	800	0.3	410	1323	2294	85	72	169
TQ	100	550	51001550	63	718	0.3	350	1450	2435	108	101	150
TQ	100	600	51001600	19	670	0.5	320	1498	2488	118	115	140
TQ	100	650	51001650	25	618	0.9	310	1489	2478	120	116	128
TQ	100	700	51001700	12	600	1.1	320	1502	2492	119	115	123
TQ	100	750	51001750	19	619	1.0	325	1492	2481	117	112	123
TQ	100	800	51001800	31	650	0.8	325	1476	2464	115	111	131
TQ	100	850	51001850	37	675	0.5	335	1467	2454	112	107	138

TQ	100	900	51001900	71	700	0.3	350	1426	2408	106	98	146
TQ	100	950	51001950	57	700	0.3	355	1440	2424	106	98	149
TQ	150	000	51501000	0	684	0.1	305	1545	2542	126	125	150
TQ	150	050	51501050	12	795	0.4	335	1529	2524	118	115	167
TQ	150	100	51501100	120	912	0.6	390	1404	2386	96	86	186
TQ	150	150	51501150	27	864	0.6	390	1508	2501	106	99	180
TQ	150	200	51501200	17	782	0.4	355	1517	2511	113	108	168
TQ	150	250	51501250	38	811	0.2	360	1491	2482	110	104	170
TQ	150	300	51501300	38	791	0.4	360	1489	2480	109	104	165
TQ	150	350	51501350	65	778	0.4	345	1456	2443	109	103	162
TQ	150	400	51501400	77	826	0.2	375	1440	2426	102	94	175
TQ	150	450	51501450	189	861	0.2	400	1310	2281	86	72	185
TQ	150	500	51501500	109	802	0.2	390	1399	2380	96	85	171
TQ	150	550	51501550	77	720	0.3	360	1433	2418	104	97	152
TQ	150	600	51501600	59	675	0.6	335	1452	2439	111	105	141
TQ	150	650	51501650	15	610	0.7	290	1500	2492	126	123	125
TQ	150	700	51501700	8	600	0.6	305	1505	2498	123	120	120
TQ	150	750	51501750	13	603	0.7	320	1498	2490	119	115	115
TQ	150	800	51501800	15	631	0.7	325	1493	2485	117	113	124
TQ	150	850	51501850	42	661	0.5	335	1460	2448	112	106	133
TQ	150	900	51501900	57	684	0.2	350	1441	2427	107	100	141
TQ	150	950	51501950	116	696	0.1	350	1371	2349	101	91	150
TQ	200	050	52001050	4	758	0.6	325	1537	2535	121	119	161
TQ	200	100	52001100	32	880	0.8	385	1503	2498	106	100	181
TQ	200	150	52001150	7	806	0.7	370	1530	2528	111	107	171
TQ	200	200	52001200	17	800	0.5	350	1516	2512	114	110	170
TQ	200	250	52001250	50	812	0.2	360	1476	2468	108	102	171
TQ	200	300	52001300	71	790	0.5	365	1450	2439	105	98	167
TQ	200	350	52001350	97	804	0.6	360	1418	2403	103	95	168
TQ	200	400	52001400	80	830	0.5	385	1435	2422	100	91	174
TQ	200	450	52001450	67	811	0.4	375	1448	2437	103	95	173
TQ	200	500	52001500	57	770	0.3	375	1457	2447	104	96	165
TQ	200	550	52001550	176	793	0.5	370	1319	2293	93	80	166
TQ	200	600	52001600	67	680	0.5	335	1441	2429	110	104	143
TQ	200	650	52001650	21	634	0.6	305	1492	2486	122	118	130
TQ	200	700	52001700	34	600	0.5	305	1475	2467	120	116	119
TQ	200	750	52001750	15	606	0.4	315	1494	2488	120	116	115
TQ	200	800	52001800	21	600	0.5	320	1485	2478	118	113	118
TQ	200	850	52001850	32	640	0.4	325	1470	2461	115	110	129
TQ	200	900	52001900	52	680	0.2	335	1445	2433	111	104	141
TQ	200	950	52001950	105	696	0.1	350	1383	2365	102	93	149
TQ	250	050	52501050	10	736	0.3	325	1529	2529	121	118	156
TQ	250	100	52501100	145	897	0.7	380	1373	2356	96	85	183
TQ	250	150	52501150	33	846	0.7	370	1499	2495	109	103	178
TQ	250	200	52501200	12	773	0.4	360	1521	2520	113	108	166
TQ	250	250	52501250	99	817	0.2	370	1419	2407	102	93	173
TQ	250	300	52501300	105	820	0.3	385	1410	2397	98	88	174
TQ	250	350	52501350	80	847	0.4	385	1436	2425	100	92	177
TQ	250	400	52501400	59	799	0.5	370	1458	2450	105	98	170
TQ	250	450	52501450	67	784	0.3	355	1447	2438	107	100	166

TQ	250	500	52501500	82	776	0.2	350	1428	2417	106	99	165
TQ	250	550	52501550	145	806	0.4	385	1354	2334	93	81	170
TQ	250	600	52501600	145	704	0.5	340	1351	2331	102	92	149
TQ	250	650	52501650	34	653	0.5	320	1476	2470	117	113	134
TQ	250	700	52501700	17	600	0.4	310	1493	2489	121	117	120
TQ	250	750	52501750	12	599	0.3	305	1496	2492	122	119	112
TQ	250	800	52501800	27	606	0.3	315	1477	2471	118	114	118
TQ	250	850	52501850	56	648	0.3	330	1442	2432	112	106	131
TQ	250	900	52501900	74	699	0.4	340	1419	2407	108	100	143
TQ	250	950	52501950	82	696	0.4	350	1408	2394	105	96	150
TQ	300	050	53001050	40	748	0.1	325	1494	2492	118	114	161
TQ	300	100	53001100	99	880	0.5	375	1425	2415	101	93	182
TQ	300	150	53001150	56	943	0.6	400	1471	2466	101	93	194
TQ	300	200	53001200	27	780	0.3	370	1502	2501	109	104	169
TQ	300	250	53001250	84	821	0.3	375	1435	2426	102	94	174
TQ	300	300	53001300	122	850	0.3	390	1390	2377	96	85	179
TQ	300	350	53001350	98	831	0.3	400	1415	2404	96	86	177
TQ	300	400	53001400	65	790	0.4	370	1450	2443	105	97	168
TQ	300	450	53001450	57	769	0.3	345	1457	2451	110	104	162
TQ	300	500	53001500	122	770	0.0	350	1381	2367	102	93	164
TQ	300	550	53001550	176	794	0.4	380	1317	2295	91	78	167
TQ	300	600	53001600	89	740	0.6	360	1414	2403	103	95	156
TQ	300	650	53001650	44	664	0.5	325	1463	2458	115	110	139
TQ	300	700	53001700	30	600	0.5	310	1477	2473	119	116	123
TQ	300	750	53001750	23	600	0.4	300	1483	2480	122	119	115
TQ	300	800	53001800	7	600	0.4	305	1499	2497	123	120	116
TQ	300	850	53001850	44	636	0.6	325	1454	2448	114	109	124
TQ	300	900	53001900	57	650	0.9	330	1437	2429	111	105	128
TQ	300	950	53001950	55	683	0.8	335	1437	2429	110	104	135
TQ	350	050	53501050	99	849	0.6	375	1426	2419	102	93	178
TQ	350	100	53501100	95	914	0.6	390	1428	2421	99	90	191
TQ	350	150	53501150	61	937	0.6	400	1465	2462	101	93	196
TQ	350	200	53501200	52	780	0.5	370	1473	2471	107	100	170
TQ	350	250	53501250	34	820	0.4	380	1491	2491	107	100	174
TQ	350	300	53501300	76	876	0.4	385	1441	2435	101	93	184
TQ	350	350	53501350	160	858	0.5	410	1343	2326	88	75	182
TQ	350	400	53501400	71	789	0.5	375	1442	2436	103	95	168
TQ	350	450	53501450	65	759	0.2	350	1447	2442	108	102	160
TQ	350	500	53501500	156	770	0.1	350	1341	2324	99	88	163
TQ	350	550	53501550	181	799	0.4	385	1310	2290	89	76	168
TQ	350	600	53501600	164	754	0.5	365	1327	2309	95	83	159
TQ	350	650	53501650	89	692	0.5	330	1411	2402	109	102	146
TQ	350	700	53501700	48	646	0.5	315	1455	2451	117	112	131
TQ	350	750	53501750	38	606	0.4	310	1464	2461	118	114	119
TQ	350	800	53501800	2	596	0.5	300	1503	2504	124	122	115
TQ	350	850	53501850	14	607	0.7	305	1487	2486	122	118	113
TQ	350	900	53501900	12	602	0.7	305	1487	2486	122	118	113
TQ	350	950	53501950	15	617	0.5	305	1482	2481	121	118	115
TQ	400	000	54001000	0	690	0.6	310	1540	2547	125	124	149
TQ	400	050	54001050	90	847	1.0	360	1435	2431	106	98	176

TQ	400	100	54001100	50	880	0.7	385	1478	2478	105	98	183
TQ	400	150	54001150	46	847	0.8	380	1481	2482	106	99	179
TQ	400	200	54001200	36	780	0.8	365	1490	2492	109	104	167
TQ	400	250	54001250	36	802	0.4	370	1488	2489	108	102	171
TQ	400	300	54001300	97	880	0.5	385	1416	2410	99	90	184
TQ	400	350	54001350	76	879	0.6	400	1438	2434	98	89	185
TQ	400	400	54001400	88	810	0.4	375	1422	2416	101	93	172
TQ	400	450	54001450	44	779	0.2	360	1470	2470	109	102	163
TQ	400	500	54001500	69	770	0.1	350	1439	2435	108	101	164
TQ	400	550	54001550	183	808	0.3	405	1307	2289	86	72	171
TQ	400	600	54001600	179	790	0.5	370	1309	2291	92	80	164
TQ	400	650	54001650	78	719	0.4	345	1422	2416	107	100	149
TQ	400	700	54001700	64	670	0.5	330	1436	2432	112	106	135
TQ	400	750	54001750	19	608	0.4	320	1485	2486	118	114	119
TQ	400	800	54001800	2	580	0.2	295	1502	2505	125	123	111
TQ	400	850	54001850	10	601	0.4	300	1491	2493	123	121	111
TQ	400	900	54001900	40	610	0.3	300	1454	2452	120	116	113
TQ	400	950	54001950	50	622	0.1	305	1441	2437	118	113	115
TQ	450	000	54501000	21	703	0.3	320	1515	2522	121	118	149
TQ	450	050	54501050	86	813	0.5	350	1438	2436	108	101	170
TQ	450	100	54501100	81	839	0.5	375	1442	2441	103	96	176
TQ	450	150	54501150	12	810	0.7	370	1518	2525	111	106	172
TQ	450	200	54501200	28	768	0.6	365	1498	2503	110	105	166
TQ	450	250	54501250	48	831	0.3	370	1473	2475	107	101	176
TQ	450	300	54501300	105	896	0.5	390	1406	2401	97	88	187
TQ	450	350	54501350	71	883	0.7	395	1442	2441	100	91	186
TQ	450	400	54501400	76	811	0.6	385	1434	2432	101	92	172
TQ	450	450	54501450	46	779	0.4	355	1466	2467	109	103	164
TQ	450	500	54501500	78	776	0.1	350	1428	2425	107	100	165
TQ	450	550	54501550	113	808	0.3	370	1385	2377	99	90	172
TQ	450	600	54501600	177	802	0.4	390	1310	2294	89	76	166
TQ	450	650	54501650	91	725	0.4	345	1406	2401	106	98	150
TQ	450	700	54501700	87	658	0.7	335	1408	2403	108	101	132
TQ	450	750	54501750	57	620	0.6	320	1440	2438	114	109	121
TQ	450	800	54501800	2	560	0.4	295	1501	2506	126	124	106
TQ	450	850	54501850	6	574	0.3	300	1494	2498	124	121	103
TQ	450	900	54501900	27	594	0.1	300	1468	2469	121	118	109
TQ	450	950	54501950	36	603	0.1	300	1456	2456	120	116	112
TQ	500	000	55001000	46	760	0.4	325	1485	2490	117	113	162
TQ	500	050	55001050	101	858	0.2	355	1420	2418	105	98	179
TQ	500	100	55001100	10	820	0.2	365	1522	2531	113	108	173
TQ	500	150	55001150	29	782	0.4	355	1498	2505	112	108	167
TQ	500	200	55001200	44	800	0.5	365	1478	2483	109	103	172
TQ	500	250	55001250	42	839	0.5	375	1478	2483	107	100	179
TQ	500	300	55001300	170	900	0.5	405	1330	2318	88	75	189
TQ	500	350	55001350	70	839	0.5	380	1442	2443	103	95	179
TQ	500	400	55001400	55	790	0.7	365	1457	2459	107	100	167
TQ	500	450	55001450	54	769	0.5	345	1456	2458	111	105	160
TQ	500	500	55001500	78	770	0.2	350	1426	2425	107	100	161
TQ	500	550	55001550	105	792	0.2	355	1393	2388	103	94	166

TQ	500	600	55001600	180	780	0.5	365	1306	2292	93	81	161
TQ	500	650	55001650	130	724	0.6	340	1361	2353	103	94	149
TQ	500	700	55001700	66	600	0.7	315	1431	2430	115	109	121
TQ	500	750	55001750	44	564	0.7	305	1454	2456	119	115	107
TQ	500	800	55001800	4	540	0.7	295	1498	2505	125	123	100
TQ	500	850	55001850	8	554	0.4	300	1491	2497	124	121	101
TQ	500	900	55001900	22	590	0.2	300	1473	2477	122	119	110
TQ	500	950	55001950	57	601	0.2	300	1431	2430	118	114	114
TQ	550	000	55501000	103	848	0.6	360	1419	2419	105	97	179
TQ	550	050	55501050	23	845	0.3	355	1508	2518	113	109	178
TQ	550	100	55501100	21	816	0.3	345	1508	2518	116	111	171
TQ	550	150	55501150	42	786	0.4	345	1482	2489	113	108	166
TQ	550	200	55501200	97	874	0.5	375	1417	2417	102	93	183
TQ	550	250	55501250	88	872	0.5	390	1425	2426	99	91	187
TQ	550	300	55501300	128	901	0.4	390	1377	2373	95	85	190
TQ	550	350	55501350	90	859	0.4	380	1418	2418	101	92	182
TQ	550	400	55501400	97	801	0.4	375	1408	2407	101	92	167
TQ	550	450	55501450	32	766	0.4	350	1480	2487	112	107	158
TQ	550	500	55501500	65	758	0.3	340	1440	2443	111	104	157
TQ	550	550	55501550	151	798	0.2	380	1340	2332	94	82	165
TQ	550	600	55501600	204	731	0.3	360	1277	2262	92	79	152
TQ	550	650	55501650	80	677	0.5	340	1416	2416	108	101	141
TQ	550	700	55501700	40	617	0.5	300	1460	2465	121	117	121
TQ	550	750	55501750	21	557	0.6	300	1479	2486	123	120	100
TQ	550	800	55501800	9	556	0.5	290	1491	2499	126	124	100
TQ	550	850	55501850	15	587	0.3	305	1482	2489	122	119	105
TQ	550	900	55501900	29	601	0.2	305	1463	2468	120	116	112
TQ	550	950	55501950	58	614	0.3	310	1428	2429	116	111	120
TQ	600	000	56001000	33	790	0.4	360	1497	2508	112	107	167
TQ	600	050	56001050	9	829	0.4	355	1523	2537	115	111	174
TQ	600	100	56001100	10	800	0.4	340	1519	2532	118	114	168
TQ	600	150	56001150	30	789	0.3	350	1494	2505	113	109	166
TQ	600	200	56001200	89	880	0.4	385	1425	2428	101	92	184
TQ	600	250	56001250	53	891	0.4	395	1464	2471	102	95	188
TQ	600	300	56001300	95	880	0.4	390	1414	2416	99	90	186
TQ	600	350	56001350	95	869	0.8	390	1411	2412	98	89	182
TQ	600	400	56001400	124	790	0.6	375	1376	2374	98	88	165
TQ	600	450	56001450	32	723	0.5	345	1479	2488	113	108	150
TQ	600	500	56001500	63	700	0.5	330	1441	2446	113	107	146
TQ	600	550	56001550	93	764	0.3	365	1405	2406	103	94	156
TQ	600	600	56001600	186	750	0.3	375	1297	2286	91	78	153
TQ	600	650	56001650	135	692	0.3	340	1353	2348	103	94	142
TQ	600	700	56001700	52	600	0.3	310	1445	2450	118	113	118
TQ	600	750	56001750	12	552	0.6	295	1488	2498	125	123	101
TQ	600	800	56001800	14	560	0.6	290	1484	2493	126	123	102
TQ	600	850	56001850	27	597	0.2	300	1467	2475	122	119	106
TQ	600	900	56001900	53	600	0.1	305	1435	2439	118	113	111
TQ	600	950	56001950	84	621	0.3	310	1397	2397	113	107	118
TQ	650	000	56501000	0	753	0.1	340	1534	2551	119	116	159
TQ	650	050	56501050	4	767	0.4	340	1527	2543	119	116	161

TQ	650	100	56501100	17	773	0.5	325	1510	2524	120	117	162
TQ	650	150	56501150	38	795	0.3	345	1484	2496	114	109	167
TQ	650	200	56501200	82	885	0.6	380	1432	2438	102	94	183
TQ	650	250	56501250	65	916	0.6	375	1449	2457	105	98	192
TQ	650	300	56501300	115	850	0.6	380	1390	2391	99	89	178
TQ	650	350	56501350	91	820	1.0	380	1415	2419	101	92	171
TQ	650	400	56501400	120	778	1.0	370	1379	2379	99	90	160
TQ	650	450	56501450	23	700	0.7	315	1488	2500	120	117	144
TQ	650	500	56501500	28	675	0.6	315	1480	2491	120	116	140
TQ	650	550	56501550	132	693	0.4	340	1359	2357	104	95	143
TQ	650	600	56501600	71	710	0.5	335	1427	2432	111	104	144
TQ	650	650	56501650	126	694	0.4	345	1362	2360	103	94	141
TQ	650	700	56501700	69	620	0.3	310	1424	2429	116	111	121
TQ	650	750	56501750	2	566	0.6	290	1499	2512	127	126	104
TQ	650	800	56501800	23	549	0.6	285	1472	2482	126	124	100
TQ	650	850	56501850	14	574	0.3	300	1480	2491	123	120	103
TQ	650	900	56501900	39	595	0.2	305	1450	2458	119	115	109
TQ	650	950	56501950	52	605	0.3	325	1433	2439	113	108	113
TQ	700	050	57001050	0	706	0.2	325	1531	2550	122	120	151
TQ	700	100	57001100	19	780	0.4	315	1507	2523	122	120	163
TQ	700	150	57001150	50	818	0.5	335	1469	2481	115	110	171
TQ	700	200	57001200	78	890	0.8	385	1435	2443	102	94	183
TQ	700	250	57001250	25	833	0.8	370	1493	2508	110	104	176
TQ	700	300	57001300	95	820	0.6	370	1411	2417	102	94	172
TQ	700	350	57001350	100	787	0.7	360	1403	2408	104	95	165
TQ	700	400	57001400	63	720	0.8	350	1443	2452	109	103	150
TQ	700	450	57001450	15	679	0.7	300	1496	2511	125	123	140
TQ	700	500	57001500	16	650	0.5	305	1492	2507	123	121	135
TQ	700	550	57001550	95	671	0.3	330	1400	2404	109	102	138
TQ	700	600	57001600	7	670	0.3	320	1498	2513	120	117	138
TQ	700	650	57001650	29	683	0.5	320	1471	2483	118	114	139
TQ	700	700	57001700	75	640	0.5	310	1416	2422	115	110	125
TQ	700	750	57001750	5	567	0.6	290	1494	2509	127	125	106
TQ	700	800	57001800	0	550	0.5	280	1498	2513	130	129	101
TQ	700	850	57001850	21	570	0.3	295	1471	2483	124	121	102
TQ	700	900	57001900	21	590	0.3	300	1469	2481	122	119	108
TQ	700	950	57001950	59	606	0.3	305	1424	2431	117	112	113
TQ	750	050	57501050	0	713	0.1	310	1529	2550	126	124	149
TQ	750	100	57501100	15	780	0.3	325	1510	2529	121	118	162
TQ	750	150	57501150	48	827	0.5	355	1470	2484	111	105	172
TQ	750	200	57501200	48	860	1.0	380	1468	2482	106	99	177
TQ	750	250	57501250	38	799	1.0	355	1477	2492	111	106	168
TQ	750	300	57501300	57	808	0.8	350	1453	2465	110	104	168
TQ	750	350	57501350	84	792	0.7	360	1420	2429	105	98	166
TQ	750	400	57501400	69	721	0.7	330	1435	2445	113	107	151
TQ	750	450	57501450	28	661	0.5	295	1480	2495	125	122	136
TQ	750	500	57501500	69	687	0.4	310	1431	2441	117	112	139
TQ	750	550	57501550	22	683	0.4	315	1482	2498	120	117	139
TQ	750	600	57501600	50	656	0.3	325	1448	2460	115	110	135
TQ	750	650	57501650	103	683	0.4	325	1386	2391	110	102	139

TQ	750	700	57501700	18	637	0.6	300	1480	2495	124	121	125
TQ	750	750	57501750	10	574	0.7	285	1487	2503	128	126	109
TQ	750	800	57501800	0	539	0.4	275	1496	2513	131	130	99
TQ	750	850	57501850	3	566	0.3	290	1491	2508	127	125	102
TQ	750	900	57501900	13	580	0.2	300	1477	2492	123	120	106
TQ	750	950	57501950	17	593	0.2	300	1470	2484	123	120	111
TQ	800	100	58001100	55	780	0.2	325	1463	2479	117	112	163
TQ	800	150	58001150	28	816	0.3	355	1492	2511	113	108	171
TQ	800	200	58001200	27	830	0.9	360	1491	2510	112	107	171
TQ	800	250	58001250	27	768	1.3	345	1489	2507	115	110	162
TQ	800	300	58001300	15	740	0.9	330	1500	2520	119	116	157
TQ	800	350	58001350	61	771	1.0	345	1445	2459	111	105	159
TQ	800	400	58001400	40	700	1.0	320	1467	2483	118	114	145
TQ	800	450	58001450	19	639	0.6	295	1489	2507	126	124	133
TQ	800	500	58001500	109	690	0.4	325	1384	2391	110	102	143
TQ	800	550	58001550	38	711	0.5	325	1463	2479	117	112	146
TQ	800	600	58001600	173	710	0.5	340	1307	2305	99	89	144
TQ	800	650	58001650	101	649	0.3	330	1387	2394	109	101	132
TQ	800	700	58001700	0	600	0.9	295	1500	2520	127	125	118
TQ	800	750	58001750	28	570	1.4	280	1465	2481	127	125	106
TQ	800	800	58001800	0	540	0.7	270	1495	2514	132	132	98
TQ	800	850	58001850	2	555	0.1	285	1491	2510	128	127	98
TQ	800	900	58001900	71	570	0.2	300	1410	2420	117	112	102
TQ	800	950	58001950	10	581	0.3	295	1477	2494	125	122	106
TQ	850	100	58501100	15	767	0.1	320	1508	2531	122	119	160
TQ	850	150	58501150	44	808	0.3	350	1472	2491	112	107	169
TQ	850	200	58501200	10	801	1.0	345	1509	2532	117	113	166
TQ	850	250	58501250	23	740	1.4	345	1492	2513	115	111	155
TQ	850	300	58501300	21	693	1.0	325	1492	2513	119	116	147
TQ	850	350	58501350	41	741	1.0	320	1467	2485	118	114	153
TQ	850	400	58501400	45	685	1.3	305	1460	2477	121	117	141
TQ	850	450	58501450	26	629	0.8	305	1480	2500	123	120	130
TQ	850	500	58501500	116	710	0.4	330	1375	2383	108	100	148
TQ	850	550	58501550	116	757	0.5	355	1373	2381	103	94	158
TQ	850	600	58501600	116	732	0.5	365	1371	2379	100	91	148
TQ	850	650	58501650	32	641	0.4	335	1464	2482	115	110	130
TQ	850	700	58501700	0	564	1.1	275	1498	2519	132	131	110
TQ	850	750	58501750	3	537	1.3	275	1493	2514	131	130	99
TQ	850	800	58501800	0	529	0.6	270	1494	2515	133	132	95
TQ	850	850	58501850	0	545	0.3	280	1492	2513	130	129	93
TQ	850	900	58501900	23	555	0.5	285	1463	2481	126	124	98
TQ	850	950	58501950	6	571	0.5	290	1481	2501	126	124	103
TQ	900	150	59001150	3	791	0.8	340	1518	2544	119	116	163
TQ	900	200	59001200	25	760	2.1	340	1491	2514	116	112	158
TQ	900	250	59001250	5	743	2.0	350	1511	2536	116	112	154
TQ	900	300	59001300	5	680	1.0	335	1509	2534	119	116	142
TQ	900	350	59001350	19	709	0.9	315	1491	2514	122	119	145
TQ	900	400	59001400	30	670	1.2	300	1476	2497	124	121	139
TQ	900	450	59001450	36	633	0.7	305	1467	2487	122	119	133
TQ	900	500	59001500	89	730	0.4	325	1405	2418	112	105	152

TQ	900	550	59001550	164	793	0.5	370	1317	2321	95	83	164
TQ	900	600	59001600	74	720	0.4	350	1417	2432	108	101	145
TQ	900	650	59001650	12	596	0.5	310	1486	2508	122	119	118
TQ	900	700	59001700	2	550	0.6	275	1495	2518	131	131	105
TQ	900	750	59001750	0	534	0.3	270	1495	2518	133	132	96
TQ	900	850	59001850	4	535	0.6	270	1486	2508	132	131	90
TQ	900	900	59001900	3	540	0.9	275	1485	2507	131	130	92
TQ	900	950	59001950	21	556	0.7	285	1462	2482	126	124	97
TQ	950	150	59501150	0	696	0.6	320	1520	2548	123	121	144
TQ	950	200	59501200	1	720	1.8	320	1517	2545	123	121	148
TQ	950	250	59501250	3	683	1.9	315	1513	2540	124	122	141
TQ	950	300	59501300	12	675	0.9	320	1500	2526	121	119	138
TQ	950	350	59501350	23	678	0.5	305	1485	2509	123	121	138
TQ	950	400	59501400	43	689	0.6	295	1460	2482	124	121	142
TQ	950	450	59501450	57	735	0.4	310	1442	2462	119	114	152
TQ	950	500	59501500	124	771	0.5	330	1364	2375	107	99	159
TQ	950	550	59501550	120	809	0.5	375	1366	2377	98	88	168
TQ	950	600	59501600	53	689	0.5	365	1440	2459	107	100	140
TQ	950	650	59501650	10	592	0.9	305	1487	2511	124	121	114
TQ	950	700	59501700	5	550	0.6	280	1490	2515	130	129	100
TQ	950	750	59501750	0	530	0.0	275	1494	2519	132	131	92
TQ	950	850	59501850	1	529	0.3	275	1488	2513	131	130	85
TQ	950	900	59501900	2	529	0.8	280	1485	2509	129	128	89
TQ	950	950	59501950	2	534	0.7	275	1483	2507	131	130	91
TR	000	150	60001150	0	678	0.0	300	1519	2549	128	127	141
TR	000	200	60001200	2	680	0.3	300	1515	2545	128	126	140
TR	000	250	60001250	0	681	0.6	295	1515	2545	129	128	140
TR	000	300	60001300	1	670	0.6	295	1511	2540	128	127	138
TR	000	350	60001350	45	678	0.5	290	1459	2482	125	122	139
TR	000	400	60001400	37	720	0.5	300	1466	2490	123	120	149
TR	000	450	60001450	57	749	0.4	325	1441	2463	115	110	156
TR	000	500	60001500	166	790	0.5	350	1315	2323	99	88	163
TR	000	550	60001550	75	775	0.5	350	1416	2435	108	101	161
TR	000	600	60001600	29	670	0.6	320	1466	2490	119	115	136
TR	000	650	60001650	5	582	0.9	295	1492	2519	127	125	113
TR	000	700	60001700	14	550	0.5	285	1479	2505	128	126	103
TR	000	900	60001900	2	530	0.3	275	1484	2510	131	130	88
TR	000	950	60001950	1	529	0.3	270	1483	2509	132	131	88
TR	050	150	60501150	0	663	0.0	290	1518	2550	130	130	136
TR	050	200	60501200	0	664	0.0	295	1516	2548	129	128	136
TR	050	250	60501250	0	667	0.0	290	1514	2546	130	129	137
TR	050	300	60501300	0	669	0.3	290	1511	2542	130	129	138
TR	050	350	60501350	22	694	0.7	295	1484	2512	126	124	143
TR	050	400	60501400	61	766	0.7	330	1438	2461	114	109	159
TR	050	450	60501450	36	774	0.6	335	1464	2490	115	111	163
TR	050	500	60501500	113	789	0.6	340	1374	2390	106	98	164
TR	050	550	60501550	82	760	0.7	335	1407	2427	110	104	159
TR	050	600	60501600	19	671	0.7	300	1477	2505	124	122	136
TR	050	650	60501650	2	578	0.4	285	1494	2523	129	128	112
TR	050	700	60501700	0	549	0.0	275	1494	2523	132	131	104

TR	050	950	60501950	1	527	0.0	265	1482	2510	133	133	85
TR	100	150	61001150	0	656	0.0	280	1517	2551	133	133	135
TR	100	200	61001200	0	660	0.0	290	1515	2549	130	130	135
TR	100	250	61001250	0	659	0.0	285	1513	2547	131	131	136
TR	100	300	61001300	2	680	0.2	295	1508	2541	128	127	141
TR	100	350	61001350	76	729	0.3	310	1421	2445	117	112	151
TR	100	400	61001400	75	800	0.5	340	1420	2443	111	104	166
TR	100	450	61001450	158	811	0.5	360	1324	2337	98	87	171
TR	100	500	61001500	141	800	0.5	345	1341	2356	103	93	166
TR	100	550	61001550	23	719	0.8	335	1473	2502	116	112	150
TR	100	600	61001600	86	650	0.9	310	1399	2420	115	110	134
TR	100	650	61001650	43	588	0.3	290	1446	2472	124	121	117
TR	150	300	61501300	0	691	0.0	305	1509	2544	126	125	145
TR	150	350	61501350	29	769	0.2	325	1474	2505	119	115	160
TR	150	400	61501400	149	821	0.5	355	1335	2351	100	90	172
TR	150	450	61501450	145	818	0.4	380	1337	2353	95	85	174
TR	150	500	61501500	118	789	0.3	360	1366	2386	102	93	166
TR	150	550	61501550	65	718	0.6	335	1424	2450	112	106	149
TR	150	600	61501600	50	633	0.7	310	1439	2467	119	115	132
TR	150	650	61501650	21	586	0.2	290	1470	2501	126	124	120
TR	200	350	62001350	27	754	0.2	320	1475	2509	120	117	158
TR	200	400	62001400	175	820	0.4	355	1304	2319	98	87	172
TR	200	450	62001450	128	799	0.4	375	1355	2375	98	88	172
TR	200	500	62001500	84	790	0.4	340	1403	2429	109	103	166
TR	200	550	62001550	38	714	0.5	325	1454	2485	117	113	147
TR	200	600	62001600	18	650	0.4	310	1474	2508	122	119	133
TR	200	650	62001650	27	588	0.3	290	1462	2494	126	124	121
TR	200	700	62001700	0	570	0.1	270	1490	2525	133	133	117
TR	250	350	62501350	0	738	0.0	320	1505	2544	123	121	157
TR	250	400	62501400	145	810	0.1	355	1337	2358	101	91	171
TR	250	450	62501450	118	855	0.3	380	1366	2390	98	89	183
TR	250	500	62501500	86	789	0.5	350	1400	2428	107	100	166
TR	250	550	62501550	34	722	0.5	315	1457	2491	120	116	147
TR	250	600	62501600	18	666	0.4	300	1473	2509	125	122	136
TR	250	650	62501650	4	607	0.2	295	1487	2524	127	126	123
TR	250	700	62501700	0	575	0.1	270	1489	2526	133	133	118
TR	300	400	63001400	74	800	0.2	340	1417	2448	111	105	169
TR	300	450	63001450	128	839	0.5	375	1353	2377	98	88	177
TR	300	500	63001500	59	800	0.6	355	1430	2463	109	103	164
TR	300	550	63001550	23	685	0.8	310	1468	2505	122	119	141
TR	300	600	63001600	5	660	0.5	290	1487	2526	128	127	134
TR	300	650	63001650	16	614	0.1	300	1472	2510	125	123	123
TR	300	700	63001700	10	580	0.0	275	1477	2515	131	131	117
TR	350	450	63501450	82	824	0.7	350	1404	2436	108	101	172
TR	350	500	63501500	28	734	1.0	335	1464	2503	116	112	153
TR	350	550	63501550	4	675	1.4	300	1489	2530	126	125	138
TR	350	600	63501600	4	649	1.0	280	1487	2528	131	130	133
TR	350	650	63501650	33	617	0.1	290	1452	2489	125	123	125
TR	350	700	63501700	10	590	0.0	275	1476	2516	131	131	117
TR	400	450	64001450	0	727	0.3	325	1497	2541	122	119	157

TR	400	500	64001500	0	690	0.7	315	1495	2539	124	122	146
TR	400	550	64001550	0	670	0.9	295	1492	2536	128	127	138
TR	400	650	64001650	0	619	0.1	280	1488	2531	131	131	124
TR	400	700	64001700	13	600	0.0	280	1471	2513	130	129	119
TV	500	950	55000950	0	728	0.3	320	1540	2551	123	122	155
TV	550	950	55500950	0	802	0.4	335	1538	2551	120	118	172
TV	600	950	56000950	0	840	0.1	345	1537	2552	118	115	176

3 Natural England Technical Information Note TIN049 – Agricultural Land Classification: protecting the best and most versatile agricultural land (2012)

Agricultural Land Classification: protecting the best and most versatile agricultural land

Most of our land area is in agricultural use. How this important natural resource is used is vital to sustainable development. This includes taking the right decisions about protecting it from inappropriate development.

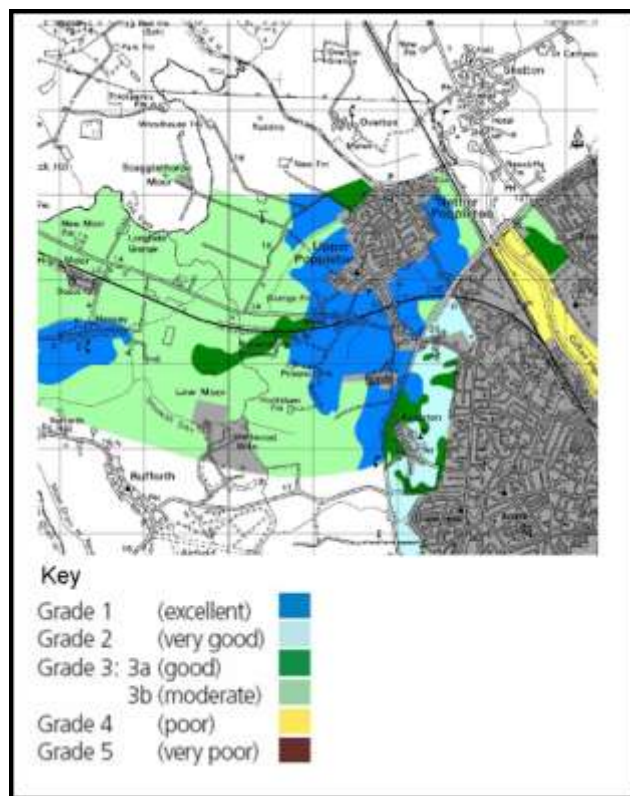
Policy to protect agricultural land

Government policy for England is set out in the National Planning Policy Framework (NPPF) published in March 2012 (paragraph 112). Decisions rest with the relevant planning authorities who should take into account the economic and other benefits of the best and most versatile agricultural land. Where significant development of agricultural land is demonstrated to be necessary, local planning authorities should seek to use areas of poorer quality land in preference to that of higher quality. The Government has also re-affirmed the importance of protecting our soils and the services they provide in the Natural Environment White Paper *The Natural Choice: securing the value of nature* (June 2011), including the protection of best and most versatile agricultural land (paragraph 2.35).

The ALC system: purpose & uses

Land quality varies from place to place. The Agricultural Land Classification (ALC) provides a method for assessing the quality of farmland to enable informed choices to be made about its future use within the planning system. It helps

underpin the principles of sustainable development.



Agricultural Land Classification - map and key

Agricultural Land Classification: protecting the best and most versatile agricultural land

The ALC system classifies land into five grades, with Grade 3 subdivided into Subgrades 3a and 3b. The best and most versatile land is defined as Grades 1, 2 and 3a by policy guidance (see Annex 2 of NPPF). This is the land which is most flexible, productive and efficient in response to inputs and which can best deliver future crops for food and non food uses such as biomass, fibres and pharmaceuticals. Current estimates are that Grades 1 and 2 together form about 21% of all farmland in England; Subgrade 3a also covers about 21%.

The ALC system is used by Natural England and others to give advice to planning authorities, developers and the public if development is proposed on agricultural land or other greenfield sites that could potentially grow crops. The Town and Country Planning (Development Management Procedure) (England) Order 2010 (as amended) refers to the best and most versatile land policy in requiring statutory consultations with Natural England. Natural England is also responsible for Minerals and Waste Consultations where reclamation to agriculture is proposed under Schedule 5 of the Town and Country Planning Act 1990 (as amended). The ALC grading system is also used by commercial consultants to advise clients on land uses and planning issues.

Criteria and guidelines

The Classification is based on the long term physical limitations of land for agricultural use. Factors affecting the grade are climate, site and soil characteristics, and the important interactions between them. Detailed guidance for classifying land can be found in: *Agricultural Land Classification of England and Wales: revised guidelines and criteria for grading the quality of agricultural land* (MAFF, 1988):

- **Climate:** temperature and rainfall, aspect, exposure and frost risk.
- **Site:** gradient, micro-relief and flood risk.
- **Soil:** texture, structure, depth and stoniness, chemical properties which cannot be corrected.

The combination of climate and soil factors determines soil wetness and droughtiness.

Wetness and droughtiness influence the choice of crops grown and the level and consistency of yields, as well as use of land for grazing livestock. The Classification is concerned with the inherent potential of land under a range of farming systems. The current agricultural use, or intensity of use, does not affect the ALC grade.

Versatility and yield

The physical limitations of land have four main effects on the way land is farmed. These are:

- the range of crops which can be grown;
- the level of yield;
- the consistency of yield; and
- the cost of obtaining the crop.

The ALC gives a high grading to land which allows more flexibility in the range of crops that can be grown (its 'versatility') and which requires lower inputs, but also takes into account ability to produce consistently high yields of a narrower range of crops.

Availability of ALC information

After the introduction of the ALC system in 1966 the whole of England and Wales was mapped from reconnaissance field surveys, to provide general strategic guidance on land quality for planners. This Provisional Series of maps was published on an Ordnance Survey base at a scale of One Inch to One Mile in the period 1967 to 1974. These maps are not sufficiently accurate for use in assessment of individual fields or development sites, and should not be used other than as general guidance. They show only five grades: their preparation preceded the subdivision of Grade 3 and the refinement of criteria, which occurred after 1976. They have not been updated and are out of print. A 1:250 000 scale map series based on the same information is available. These are more appropriate for the strategic use originally intended and can be downloaded from the Natural England [website](#). This data is also available on 'Magic', an interactive, geographical information website <http://magic.defra.gov.uk/>.

Since 1976, selected areas have been re-surveyed in greater detail and to revised

Agricultural Land Classification: protecting the best and most versatile agricultural land

guidelines and criteria. Information based on detailed ALC field surveys in accordance with current guidelines (MAFF, 1988) is the most definitive source. Data from the former Ministry of Agriculture, Fisheries and Food (MAFF) archive of more detailed ALC survey information (from 1988) is also available on <http://magic.defra.gov.uk/>. Revisions to the ALC guidelines and criteria have been limited and kept to the original principles, but some assessments made prior to the most recent revision in 1988 need to be checked against current criteria. More recently, strategic scale maps showing the likely occurrence of best and most versatile land have been prepared. Mapped information of all types is available from Natural England (see *Further information* below).

New field survey

Digital mapping and geographical information systems have been introduced to facilitate the provision of up-to-date information. ALC surveys are undertaken, according to the published Guidelines, by field surveyors using handheld augers to examine soils to a depth of 1.2 metres, at a frequency of one boring per hectare for a detailed assessment. This is usually supplemented by digging occasional small pits (usually by hand) to inspect the soil profile. Information obtained by these methods is combined with climatic and other data to produce an ALC map and report. ALC maps are normally produced on an Ordnance Survey base at varying scales from 1:10,000 for detailed work to 1:50 000 for reconnaissance survey

There is no comprehensive programme to survey all areas in detail. Private consultants may survey land where it is under consideration for development, especially around the edge of towns, to allow comparisons between areas and to inform environmental assessments. ALC field surveys are usually time consuming and should be initiated well in advance of planning decisions. Planning authorities should ensure that sufficient detailed site specific ALC survey data is available to inform decision making.

Consultations

Natural England is consulted by planning authorities on the preparation of all development

plans as part of its remit for the natural environment. For planning applications, specific consultations with Natural England are required under the Development Management Procedure Order in relation to best and most versatile agricultural land. These are for non agricultural development proposals that are not consistent with an adopted local plan and involve the loss of twenty hectares or more of the best and most versatile land. The land protection policy is relevant to all planning applications, including those on smaller areas, but it is for the planning authority to decide how significant the agricultural land issues are, and the need for field information. The planning authority may contact Natural England if it needs technical information or advice.

Consultations with Natural England are required on all applications for mineral working or waste disposal if the proposed afteruse is for agriculture or where the loss of best and most versatile agricultural land agricultural land will be 20 ha or more. Non-agricultural afteruse, for example for nature conservation or amenity, can be acceptable even on better quality land if soil resources are conserved and the long term potential of best and most versatile land is safeguarded by careful land restoration and aftercare.

Other factors

The ALC is a basis for assessing how development proposals affect agricultural land within the planning system, but it is not the sole consideration. Planning authorities are guided by the National Planning Policy Framework to protect and enhance soils more widely. This could include, for example, conserving soil resources during mineral working or construction, not granting permission for peat extraction from new or extended mineral sites, or preventing soil from being adversely affected by pollution. For information on the application of ALC in Wales, please see below.

Agricultural Land Classification: protecting the best and most versatile agricultural land

Further information

Details of the system of grading can be found in: *Agricultural Land Classification of England and Wales: revised guidelines and criteria for grading the quality of agricultural land* (MAFF, 1988).

Please note that planning authorities should send all planning related consultations and enquiries to Natural England by e-mail to consultations@naturalengland.org.uk. If it is not possible to consult us electronically then consultations should be sent to the following postal address:

Natural England
Consultation Service
Hornbeam House
Electra Way
Crewe Business Park
CREWE
Cheshire
CW1 6GJ

ALC information for Wales is held by Welsh Government. Detailed information and advice is available on request from Ian Rugg (ian.rugg@wales.gsi.gov.uk) or David Martyn (david.martyn@wales.gsi.gov.uk). If it is not possible to consult us electronically then consultations should be sent to the following postal address:

Welsh Government
Rhodfa Padarn
Llanbadarn Fawr
Aberystwyth
Ceredigion
SY23 3UR

Natural England publications are available to download from the Natural England website:

For further information contact the Natural England Enquiry Service on 0300 060 0863 or e-mail enquiries@naturalengland.org.uk.

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