Appendix G

Air Quality Dispersion Modeling Study

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Air Quality Dispersion Modeling Study

Kami Iron Ore Project Kami Concentrate Storage and Load-Out Facility, Québec

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EXECUTIVE SUMMARY

This document is the Air Quality Dispersion Modeling Study prepared in support of the Environmental Impact Statement (EIS) the Québec component of the Kami Iron Ore Project in Sept-Îles. The project, proposed by Alderon Iron Ore Corp. (Alderon), is to develop an iron ore mine in Western Labrador (the Kami Mine) and to build associated infrastructure consisting of the Kami Concentrate Storage and Load-out Facility (the Kami Terminal) at the Port of Sept-Îles in Sept-Îles, Québec in order to ship the concentrate overseas. The Kami Mine will produce up to 16 million metric tonnes of iron ore concentrate per year and will be located in Labrador, approximately 10 km south of the town of Wabush. Concentrate will be transported by existing rails to the Kami Mine, where no mining activities will take place.

This Air Quality Dispersion Modeling Study was initiated in order to assess potential changes in air quality due to emissions related to the Kami Terminal. The study was conducted following accepted methodologies to establish existing (baseline) conditions, estimate potential emissions and predict the maximum downwind ground-level concentrations of the pertinent air contaminants. The results of this Study are intended to provide the data needed to assess potential environmental effects as described in the EIS.

During construction, atmospheric emissions may result from site preparation activities (including clearing, excavation, blasting, material haulage, grading, removal of overburden and stockpiling), the construction of the load-out facilities and the construction of the railway loop). During operation, atmospheric emissions may be emitted from different types of sources, including the locomotives used to transport the concentrate to the site, bulk storage concentrate pile, concentrate (including car unloading and ship load-out) and on-site service and maintenance vehicles.

The results of the dispersion modeling show that although there may be potential exceedances of regulatory standards at locations near the Port Authority property line and only during adverse meteorological conditions, these higher values are limited to within about 1.5 km of the property line and are located either over water or over neighboring industrial land or over inhabited land zoned for industrial uses. Therefore, as the predicted exceedances are associated to worst-case meteorological conditions, and are limited in spatial extent and are short-term in duration, no substantive changes in air quality are expected.

Although fugitive dust emissions will occur due to material handling, the majority of the fugitive dust will remain in the lowest 1-2 meters above ground level and settle within a few hundred meters. As such, while some dusting of vegetation may occur under certain meteorological conditions, they will be localized in extent and short-term in duration. Emissions from the diesel locomotive used for transporting the concentrate in the baie de Sept-Îles area are not expected to cause substantive changes in air quality as such emissions will be intermittent (two round trips per day) and short-term in duration. Overall, the modeling results show the changes in air quality due to emissions related to the Kami Terminal, including background, are not expected to be substantive.

Table of Contents

1.0 INTRODUCTION 1

1.1 Overview of Kami Iron Ore Project 1
1.2 Overview of Project's Atmospheric Emissions 3
1.3 Study Team 3

2.0 RATIONALE AND OBJECTIVES 5

3.0 STUDY AREA 6

4.0 METHODS 8

4.1 Study Components 8
4.2 Emission Source Screening 9
4.2.1 Construction 9
4.2.2 Operations and Maintenance 9
4.2.3 Decommissioning and Reclamation 9
4.3 Dispersion Modeling 9
4.4 Regulatory Framework 10
4.4.1 Provincial Air Quality Regulation 10
4.4.2 Federal Air Quality Objectives and Standards 12
4.5 Baseline Conditions 13
4.5.1 Climate 13
4.5.2 Ambient Air Quality 17
4.5.3 Existing Air Pollution Sources 23
4.6 Emissions Inventory 24
4.6.1 Site Preparation and Construction 24
4.6.2 Operation 28
4.7 Dispersion Modeling 37
4.7.1 CALMET Meteorological Modeling 38
4.7.2 CALPUFF Dispersion Modeling Methodology 43

5.0 STUDY OUTPUTS 49

5.1 Site Preparation and Construction 49

5.2 Operation with Concentrate Pile....50
5.2.1 Particulate Matter Less than 2.5 Microns in Diameter ($PM_{2.5}$)....50
5.2.2 Particulate Matter Less than 10 Microns in Diameter (PM_{10})....50
5.2.3 Total Suspended Particulate....51
5.3 Scenario with a Worst Case Emissions from the Concentrate Pile....51
5.4 Rail Emissions....53
5.5 Conclusions....53
5.6 Summary....54

6.0 INFORMATION SOURCES....56

6.1 Literature Cited....56

LIST OF APPENDICES

APPENDIX A Calmet Input
APPENDIX B BPIP Input
APPENDIX C CALPUFF Input
APPENDIX D Maximum Ground Level Concentration Contours with Negligible Emissions for the Concentrate Piles
APPENDIX E Maximum Ground Level Concentration Contours with a Worst Case Emission Scenario for the Concentrate Piles
APPENDIX F Maximum Ground Level Concentration Results Table for the Rail Emissions at the Special Receptors
APPENDIX G Maximum Ground Level Concentration Results Table for the Construction Emissions at the Special Receptors

LIST OF FIGURES

Figure 1.1 General Project Location 2
Figure 3.1 Study Area for the Air Quality Dispersion Modeling Study 7
Figure 4.1 Wind Rose and Wind Class Frequency Distribution, Sept-Îles Airport, 2005-2011 14
Figure 4.2 Wind Rose and Wind Class Frequency Distribution, Pointe-Noire, 2005-2011 ... 14
Figure 4.3 Location of Existing Air Quality Monitoring Stations 18
Figure 4.4 Summary of Historical Monitoring Results in Sept-Îles, from 1975 to 1995 19
Figure 4.5 Localization of Monitoring Points from the 2009 Ministère du Dévéloppement durable, de l'Environnement, et des Parcs Monitoring Campaign 21
Figure 4.6 Location of Railways in the Baie des Sept-Îles Area 30
Figure 4.7 Location of Emission Sources Located Inside the Port Property 31
Figure 4.8 Dominant CALMET Land Use Categories Over the Modeling Domain 41
Figure 4.9 Wind Roses for the Two Surface Stations 42
Figure 4.10 Nested Cartesian Receptor Grid Around the Property Boundary 45
Figure 4.11 Location of Special Receptors 46
Figure 5.1 Wind Rose for Wind Speeds Above 22.4 km/h, Pointe-Noire, 2005-2010 52

LIST OF TABLES

Table 1.1 Study Team – Air Quality and Atmospheric Dispersion Modeling Study 3
Table 4.1 Québec Air Quality Regulations and Default Initial Levels for CACs 11
Table 4.2 National Ambient Air Quality Objectives for CACs 13
Table 4.3 Climate Normal, Sept-Îles Airport, 1971-2000 15
Table 4.4 Summary of Nearby Air Quality Stations Monitoring 17
Table 4.5 Summary of Historical Monitoring Results in Sept-Îles, from 1975 to 1995 19
Table 4.6 Summary of TPM, PM_{10} and $PM_{2.5}$ Measurements Results for Each Location(1) 20
Table 4.7 Summary of TPM, PM10 and PM2.5 Measurements Results for Each Day(1) 22
Table 4.8 Summary of 24-hour TMP Measurements Results for Each Location 22
Table 4.9 Main Potential Sources of Air Contamination (1) 23
Table 4.10 Annual Emissions Reported by Industrial Sources Located in Sept-Îles 24
Table 4.11 Summary of Construction Emissions Sources 25
Table 4.12 Estimated Maximum Hourly Emissions During the Construction Phase 25
Table 4.13 Kami Terminal's Estimated Total Emissions During Construction 26
Table 4.14 Main Parameters Used for Estimating Blasting Emissions 27
Table 4.15 Main Parameters Used for Estimating Crushing Emissions 28
Table 4.16 Summary of Kami Terminal Emissions Sources 28
Table 4.17 Kami Terminal's Estimated Annual Emissions During Operation 32
Table 4.18 Kami Terminal's Estimated Maximum Hourly Emissions Rate Per Source 33

Table 4.19 Emissions from Locomotives....34
Table 4.20 Summary of the Double Car Dumper Stack Parameters Conditions....35
Table 4.21 Summary of Emission Rates and Annual Emission Estimated from the Car Dumper Building (Total for the Two Stacks)....35
Table 4.22 Particle Size Multiplier Factor....36
Table 4.23 Summary of Emission Rates and Annual Emission Estimated from Concentrate Piling....36
Table 4.24 Threshold Friction Speed and Estimated Annual Emissions for Pointe-Noire for Various Materials....37
Table 4.25 Map Projections and Horizontal Grid Parameters....38
Table 4.26 Input Surface and Overwater Meteorological Stations....39
Table 4.27 Particle Size Class Definitions and Deposition Parameters....47
Table 5.1 Summary of Ground Level Concentrations at the Special Receptors During Site Preparation and Construction....49
Table 5.2 Maximum Ground Level Concentrations for Kami Terminal Emissions with Negligible Emissions Scenario from the Concentrate Piles....50
Table 5.3 Maximum Ground Level Concentrations for Kami Terminal Emissions with Worst-case Emissions from the Concentrate Piles....51
Table 5.4 Summary of Ground Level Concentrations for Rail Emissions at the Special Receptors....53

1.0 INTRODUCTION

Alderon Iron Ore Corp. (Alderon) is proposing to develop an iron ore mine in western Labrador, and build associated infrastructure at the Port of Sept-Îles, Québec (the Project). The mine Property is located approximately 6 km south from the Wabush Mines mining lease owned by Cliffs Natural Resources Inc. (Cliffs) and in the vicinity of the towns of Wabush, Labrador City, and Fermont. The Kami Iron Ore Mine (the Kami Mine) is located entirely within Labrador, and includes construction, operation, and decommissioning and rehabilitation of an open pit, waste rock disposal areas, processing infrastructure, a tailings management facility (TMF), ancillary infrastructure to support the mine and process plant, and a rail transportation component. The mine will produce up to 16 million metric tonnes of iron ore concentrate per year. Concentrate will be transported by existing rail to the Kami Concentrate Storage and Load-out Facility (the Kami Terminal) at the Port of Sept-Îles. The Kami Terminal will be located on land within the jurisdiction of the Port Authority of Sept-Îles. No project activities are proposed within the marine environment. The Project general location is indicated on Figure 1.1.

This baseline study report presents the methods and findings of the Air Quality Dispersion Modeling Study that was conducted by Stantec Experts-conseils ltée (Stantec) in the 2012 as part of the Environmental Assessment (EA) mandated for the Kami Terminal.

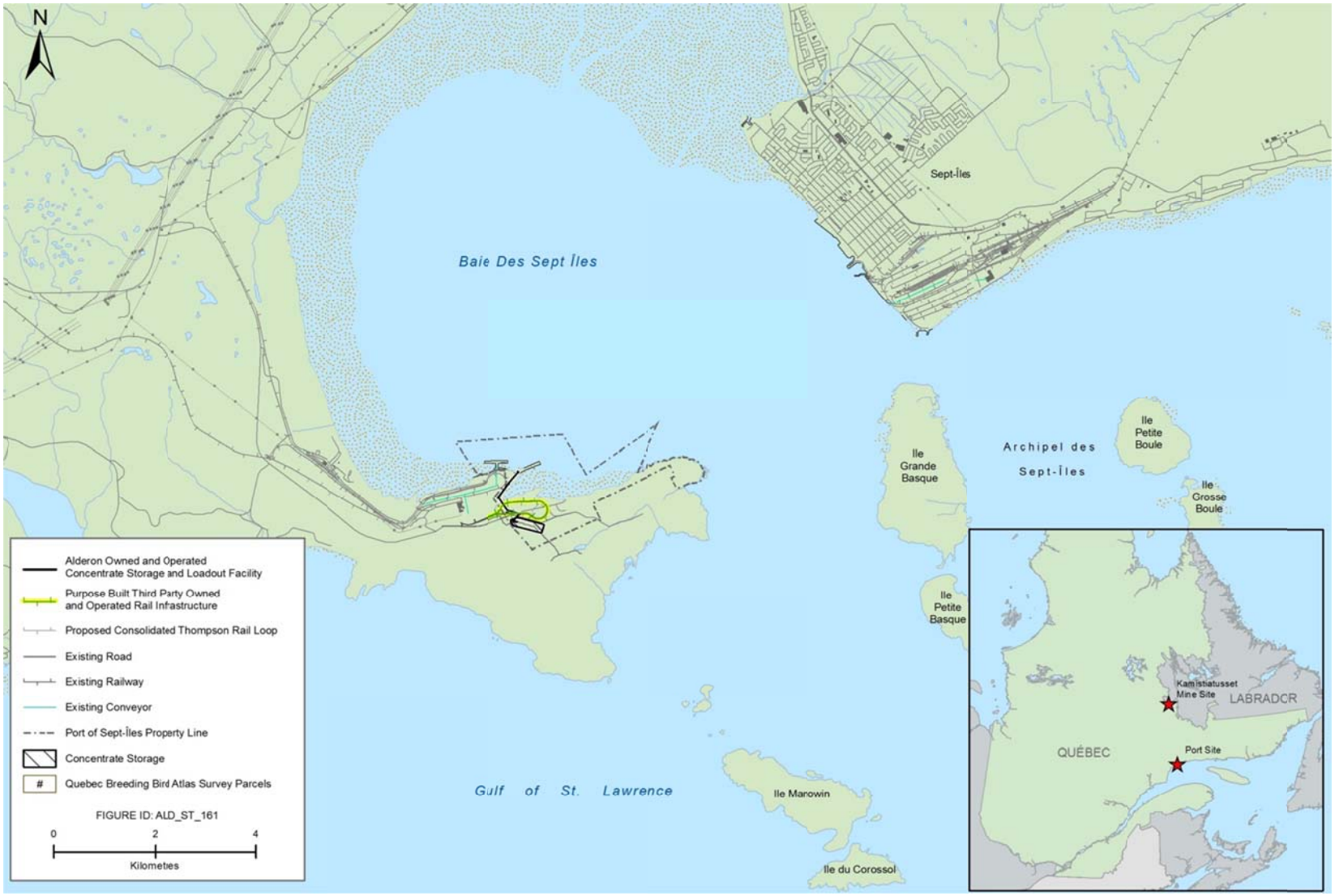
1.1 Overview of Kami Iron Ore Project

The Kami Terminal is located on lands belonging to the Port Authority of Sept-Îles. The Kami Terminal will provide required infrastructure to transport and store iron ore concentrate (up to 16 million tonnes per year) prior to shipping the product to market. The concentrate will first be transported from the proposed Kami Iron Ore Mine in western Labrador by the existing Québec North Shore and Labrador (QNS&L) and Chemin de Fer Arnaud (CFA) railways to the Port of Sept-Îles, where it will be stored for a short time prior to shipping. Concentrate will be stored in a live stockpile managed by a stacker-reclaimer unit. The volume of concentrate stored at any one time will depend on the rail delivery schedule from the mine and the vessel loading schedule.

The Kami Terminal includes construction, operation, and decommissioning and rehabilitation of the following primary components:

- A Concentrate Unloading, Stacking, Storage, and Reclaiming Facility and
- A Rail Loop.

Figure 1.1 General Project Location



1.2 Overview of Project's Atmospheric Emissions

The primary sources of potential air contaminant emissions during construction will be due to combustion emissions from on-site vehicles and potentially from temporary power sources, as well as from fugitive dust emissions.

During operation, atmospheric emissions may be emitted from different types of sources, including the locomotives used to transport the concentrate to the site, concentrate unloading, stacking, storage, and reclaiming activities, and on-site service and maintenance vehicles.

1.3 Study Team

The air quality and atmospheric dispersion modeling study was conducted by Stantec Experts-conseils ltée (Stantec). The Study Team included a study manager, a study lead, an air quality specialist, a dispersion modeling specialist and a senior reviewer. All team members have in-depth knowledge and experience in their fields of expertise and a broad general knowledge of the work conducted by other experts in related fields. Brief biographical statements, highlighting project roles and responsibilities and relevant education and employment experience, are provided below.

Table 1.1 Study Team – Air Quality and Atmospheric Dispersion Modeling Study

Role	Personnel
Study Manager	Raymond Goulet
Study Lead	Paul Tessier
Air quality specialist	Hugo Beaumont
Dispersion modeling specialist	Arash Bina
Senior Advisor / Reviewer	Paul Tessier & Gregory Crooks

Mr. Raymond Goulet, B.Sc. is the project manager for the Kami Terminal. He is an earth scientist with 30 years of experience in environmental studies conducted both in Canada (mostly northern Québec) and abroad. He has been responsible for the environmental assessment of many different international projects. Recent experiences in mining include baseline studies for Stornoway Diamond Corporation (Renard Diamond Mine project in northern Québec), managing the environmental and social impact studies for the Cross lake mine and access road project (Xstrata Nickel) and for the Deception Bay Wharf Refurbishment Project in Northern Québec (Falconbridge/Xstrata Nickel). Mr. Goulet also provided high-level advice to Falconbridge regarding permitting activities related to the increased production of the Raglan Nickel Mine.

Paul Tessier, M.A.Sc., Eng. – Mr. Paul Tessier is a fluently bilingual engineer with 25 years of working experience in the environmental field. During his career, he has worked as a consultant and occupied senior management and support positions in industry. He has worked in several areas of environmental management including governmental relations, environmental permitting, divestitures and acquisitions, environmental management systems (EMS), environmental compliance audits, Phase I/II ESA studies, and operation of effluent treatment

systems. Since 2007, Mr. Tessier has been providing active support to the three major Canadian iron producers, including Cliffs Natural Resources, in the area of air emission inventories, GHG estimations, as well as in relation to the development of the federal regulatory framework on air contaminants.

Hugo Beaumont Eng. – Mr. Beaumont is a chemical engineer with 15 years of experience in the environmental field specializing in the evaluation, control, and reduction of atmospheric industrial emissions for the public and private sector, in particular, for the chemical, petrochemical, pulp & paper, aluminum and iron & steel industries. He has acquired deep experience in the field of greenhouse gases (GHG), climate change, treatment of gaseous effluents, odours, fugitive emissions, emissions inventories and atmospheric dispersion modeling. He has managed numerous air quality and climate change projects both in Canada, as well as abroad, in more than a dozen countries in Europe and Asia.

Arash Bina, Ph.D. – Arash Bina is an Air Quality scientist and has been involved in various projects within the past four years at Stantec and before that as a research scientist in California. He has worked on projects ranging from Developing Emission Inventories of Air Pollutants, Performing Dispersion Modeling using regulatory models including CALPUFF and AERMOD, Technical Air Pollution Control Studies, Environmental Impact Assessments, Certificate of Approval (Air) applications to developing mathematical models to study fate of contaminants in biofilters. Arash has experience with various sectors including mining, pulp and paper, oil and gas, power generation, pipeline utility, transportation and provincial and federal government.

Gregory Crooks, M.Eng., P.Eng. - Gregory Crooks has over 20 years of experience in air quality issues. He has performed numerous projects involving air quality permitting, dispersion modeling for human health risk assessments, environmental assessments, odour modeling, noise monitoring, emission inventory development, and software development. Greg has managed and been the lead technical resource on projects with Environment Canada, the Canadian Council of Ministers of the Environment and Health Canada regarding air policy issues for several industrial sectors (including pulp and paper, iron and steel, lime manufacturing, etc.,). Gregory has conducted several training courses for industry on air quality management, dispersion modeling and ambient air monitoring. Examples of these training courses include a one-week course to about 30 representatives of six departments of the Government of Thailand; an 8-day dispersion modeling course to the Abu Dhabi Marine Operating Company in the United Arab Emirates; a two-day training course on advanced dispersion modeling for Ontario Power Generation; and several one-day dispersion modeling courses to various industrial clients, including General Motors of Canada Limited.

2.0 RATIONALE AND OBJECTIVES

Federal approvals will be required, which trigger the requirement for a federal environmental assessment under the *Canadian Environmental Assessment Act* (CEAA), at the comprehensive study level. The Project was registered in accordance with the CEAA in October 2011.

This Study is being submitted in support of the federal environmental assessment.

The objectives of this study are:

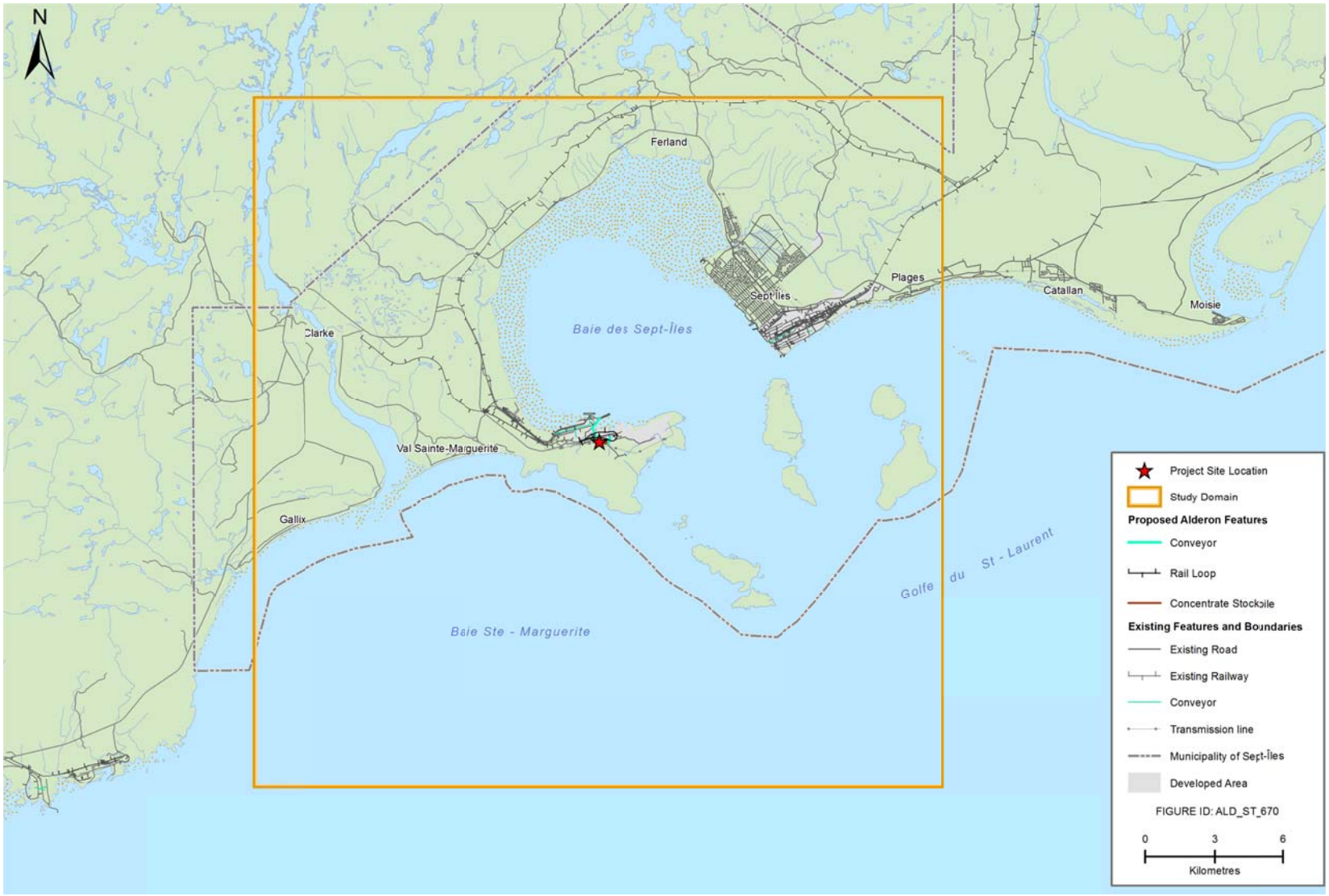
- Determine the initial air quality in the study area;
- Identify emissions sources from the project;
- Quantify emissions that will arise from the project; and,
- Assess the potential impact of the project emissions sources on air quality.

Provincial air quality standards and federal objectives will serve as reference in characterizing the level of impact on air quality.

3.0 STUDY AREA

To consider a variety of worst-case meteorological events in the dispersion modeling, a five-year simulation period spanning from year 2006 to 2010 was selected. The study area considered in the modeling assessment covers a 30 x 30 km area centered over the Kami Terminal area and is shown in Figure 3.1.

Figure 3.1 Study Area for the Air Quality Dispersion Modeling Study



4.0 METHODS

SSeveral Kami Terminal activities may cause air contaminants to be emitted to the atmosphere during construction and operation. This air quality study was conducted to assess the potential for a project-related change in air quality. The study was conducted following generally accepted methodologies to establish baseline conditions, estimate quantitatively atmospheric emissions from the project activities and predict the maximum concentrations of the pertinent air contaminants.

4.1 Study Components

The Study consists of three key components which are considered together to characterize existing conditions and assess the potential environmental effects of emissions from the Kami Terminal on the atmosphere:

- An ambient air quality assessment;
- An emissions inventory development; and,
- A dispersion modeling study.

Ambient Air Quality Assessment

Baseline ambient air quality in and around the Kami Terminal was characterized based on on-site ambient particulate matter monitoring previously conducted in Sept-Îles in 2009 by the Québec *ministère du Développement durable, de l'Environnement, et des Parcs* (MDDEP)[1]. A summary of the existing baseline conditions, based on this analysis, is provided in Section 4.5 of this study.

Emissions Inventory Development

Air contaminant emission rates from the Kami Terminal were estimated based on conceptual engineering design information, published methodologies and emission factors and also by using local meteorological data. Details regarding emissions related to the Kami Terminal, including assumptions and calculations techniques, are provided in Section 4.6 of this study.

Dispersion Modeling

The atmospheric dispersion of the substantive air contaminant emissions from the Kami Terminal was modeled to predict maximum ground-level concentrations (GLC). Details regarding the models used, model input data processing, as well as the model options selected are provided in Section 4.7. The results of the modeling are presented in Section 4.8.

1 MDDEP, Évaluation de la qualité de l'air à Sept-Îles, Analyse globale de la situation à partir de données historiques et d'une campagne de mesures effectuée en 2009, Juin 2010

Based on this analysis, the potential environmental effects due to air contaminant emissions from the Kami Terminal are considered and assessed with a high degree of confidence.

4.2 Emission Source Screening

As previously mentioned, emission estimates and dispersion models were used to quantitatively assess the potential change in air quality for substantive emissions related to the Kami Terminal which might result in adverse environmental effects. Emissions related to the Kami Terminal are expected to be negligible in the context of other emissions were not quantified, but are also identified and described qualitatively further.

4.2.1 Construction

The emissions occurring during construction are expected to be relatively small and of a short duration, compared to those occurring during operation. There are a few buildings/units to be installed, the rail loop and the concentrate conveying system. The most significant sources of emissions identified during the construction phase are the crushing of rock used for the subgrade of the rail loop, and the blasting required by the cut and fill operations associated to the site preparation. Vehicles and machinery may also cause releases of fugitive dust and/or combustion emissions

4.2.2 Operations and Maintenance

Following an initial source screening on sources related to the normal operation expected to occur on the Kami Terminal site, 4 sources were identified in the inventory and included in the modeling study, as further explained in Section 5. These sources are the following:

- Movement of rail cars from and to the site;
- Wind erosion from the concentrate pile; and,
- Transfer of concentrate from rail cars to the storage pile.

Emissions associated to the loading and operation of ships was not included in the modeling study, because they are not part of the project directly managed by Alderon. They also have an intermittent nature.

4.2.3 Decommissioning and Reclamation

The emissions occurring during decommissioning and reclamation activities are expected to be small and of short duration, compared to those occurring during operations. They were not included in the modeling study for that reason.

4.3 Dispersion Modeling

Air quality dispersion modeling was performed to predict maximum ground-level concentration (GLC) from substantive Kami Terminal emissions and quantitatively assess potential environmental effects. Based on the site-specific conditions in the Sept-Îles area, the bay and

the presence of the Gulf of St. Lawrence, the CALPUFF modeling system (TRC Companies, Inc. 2007) was selected to perform the dispersion and modeling for this assessment primarily because of its superior ability to characterize atmospheric dispersion in complex areas in the proximity of a large body of water. Because CALMET model contains both overwater and overland boundary layer algorithms, the effects of water bodies on plume transport, dispersion and deposition can be simulated with CALPUFF. The puff formulation of CALPUFF is designed to handle spatial changes in meteorological and dispersion conditions, including the abrupt changes which occur at the coastline of a major body of water (Scire et. al., 200b).

To consider a variety of worst-case meteorological events in the dispersion modeling, a five-year simulation period spanning from year 2006 to 2010 was selected. The study area considered in the modeling assessment covers a 30 x 30 km area centered over the Kami Terminal area and is shown in Figure 3.1.

Model results were used to quantitatively assess potential changes in air quality due to Kami Terminal emissions of NO_x, SO_2, CO, PM, PM_{10}, and $PM_{2.5}$. For each source modeled, emissions and other source characteristics were estimated based on preliminary design information and available literature. The model-predicted maximum GLC were added to estimated background concentrations and compared to the relevant air quality standards. The baseline ambient concentrations considered in the modeling were provided by the Provincial Government in the existing air quality regulation and are expected to conservatively estimate existing conditions in the region. Section 4.5 contains more details related to the existing ambient air quality in the region.

4.4 Regulatory Framework

Ambient air quality standards or objectives were developed by both provincial and federal environmental authorities, for several air contaminants. Ambient air quality objectives and standards are routinely used as a basis of comparison for air quality assessments and are generally chosen by regulators to be protective of human and environmental health. As such, published objectives and standards where available, were used in this study for comparison with measured or predicted values and in characterizing environmental effects.

Provincial standards are in place for all air contaminants considered in this study except for particulate matter with less than 10 microns (PM_{10}). National Ambient Air Quality Objectives (NAAQO) or Canada Wide Standards (CWS) are also available except for PM_{10}. A brief summary and description of the air quality standards in Québec, the NAAQO and CWS are presented in the following subsections.

4.4.1 Provincial Air Quality Regulation

The Québec government modernized its regulatory framework related to air quality in June 2011, through the adoption of the Québec *Clean Air Regulation* (QCAR) R.S.Q., c. Q-2, r. 4.1.The QCAR replaces the former *Regulation Respecting the Quality of the Atmosphere* R.R.Q., c. Q-2, r.38, although some new limits will become in place in 2013.

With respect to material handling, such as concentrate, the QCAR contains the following limits aimed at minimizing dust emissions:

- **Section 10**: The emission limit of 30 mg/Rm3 applies to any particle collection system designed to prevent fugitive particle emissions during the transfer, fall or handling of the materials referred to in section 12.
- **Section 12**: Particle emissions from the transfer, fall or handling of materials including aggregates, ashes, grains, fertilizers, sawdust, wood chips, mine tailings, ore, ore concentrate, ore slag, coal, coke or iron concentrate pellets must not be visible more than 2 meters from the emission point.
- **Section 14**: Particles recovered with a dry dust collector must be handled, transported, stored and disposed of so no particle emission is visible more than 2 meters from the emission point.

The Québec Clean Air regulation also contains ambient air standards for some pollutants, including Criteria Air Contaminants (CACs). A proponent needs to demonstrate that its project will not result in exceedances of these standards, before proceeding. Background levels must also be taken into account when a dispersion modeling study is performed and when no site-specific data is available to estimate the initial background levels.

Table 4.1 presents the Québec air quality regulation criteria and default initial levels for CACs.

Table 4.1 Québec Air Quality Regulations and Default Initial Levels for CACs

Criteria	Period	Pollutant concentration (µg/m^3)					
		SO_2	CO	NO_x	TPM	PM_{10}	$PM_{2.5}$
Québec Clean Air Regulation	4 min.	1 050 (1)	-	-	-	-	-
	1 hour	-	34 000	414	-	-	-
	8 hours	-	12 700	-	-	-	-
	24 hours	288	-	207	120	-	30
	1 year	52	-	103	-	-	-
Initial level (default baseline)	4 min.	150	-	-	-	-	-
	1 hour	-	2 650	150	-	-	-
	8 hours	-	1 750	-	-	-	-
	24 hours	50	-	100	90	-	20
	1 year	20	-	30	-	-	-

(1) This value can be exceeded up to 0.5% of time, on an annual basis, without exceeding 1310 ug/m3.

4.4.2 Federal Air Quality Objectives and Standards

The pertinent federal air quality standards for the assessment are the NAAQO and the CWS. The NAAQO were established by the federal government in the early 1970s to protect human health and the environment by setting objectives for the following common air pollutants: carbon monoxide (CO), nitrogen dioxide (NO_2), ozone (O_3), sulphur dioxide (SO_2) and total suspended particulates (TSP). The objectives are denoted as “Desirable”, “Acceptable” and “Tolerable”. The Federal Objectives are defined as follows:

- **The Maximum Desirable Level** is the long-term goal for air quality and provides a basis for anti-degradation policy for unpolluted parts of the country, and for the continuing development of control technology;
- **The Maximum Acceptable Level** is intended to provide adequate protection against effects on soil, water, vegetation, materials, animals, visibility, personal comfort and well-being; and,
- **The Maximum Tolerable Level** denotes time-based concentrations of air contaminants beyond which, due to a diminishing margin of safety, appropriate action is required to protect the health of the general population.

The CWS are based on intergovernmental agreements developed under the Canadian Council of Ministers of the Environment (CCME) Canada-wide Environmental Standards Sub-Agreement, which operates under the broader CCME Canada-wide Accord on Environmental Harmonization. The CWS flow from the federal, provincial and territorial Ministers desire to address key environmental protection and health risk issues that require concerted action across Canada. They represent cooperation toward a common goal, but involve no delegation of authority by any federal, provincial or territorial government. The standards may include qualitative or quantitative standards, guidelines or objectives for protecting the environment and human health. A number of these exist to protect air quality, including ambient air quality objectives for $PM_{2.5}$.

Overall, the NAAQO “Acceptable” Levels and the Québec ambient air quality standards are very similar. There is no NAAQO for $PM_{2.5}$, but CCME adopted in 2000 a CWS for that substance. The CWS for $PM_{2.5}$ is similar to the Québec ambient air quality standard. There is no NAAQO or CWS standard for PM_{10}. The National Ambient Air Quality Objectives and CCME Canada Wide Standards are presented in Table 4.2.

Table 4.2 National Ambient Air Quality Objectives for CACs

Criteria	Period	Pollutant concentration (µg/m^3)					
		SO_2	CO	NO_x	TPM	PM_{10}	$PM_{2.5}$
National Ambient Air Quality Objectives (acceptable level) (1)	1 hour	900	35	400	-	-	-
	8 hours	-	15	-	-	-	-
	24 hours	300	-	-	120	-	-
	1 year geometric	-	-	-	70	-	-
	1 year arithmetic	60	-	100	-	-	-
CCME Canada Wide Standard (2)	24 hours (3)	-	-	-	-	-	30

(1) Government of Canada (1999), National Ambient Air Quality Objectives, Maximum Acceptable Levels.

(2) CCME (2000), Canada Wide Standards for Particulate Matter and Ozone.

(3) Achievement to be based on the 98th percentile ambient measurement annually, averaged over 3 consecutive years.

4.5 Baseline Conditions

4.5.1 Climate

The Sept-Îles climate is subarctic, marked by long and cold winters and short and mild summers. The presence of the Gulf of St. Lawrence brings its maritime influence, with increased humidity, fog and colder weather, especially in summer when winds are coming from the south.

There are two meteorological stations located in Sept-Îles, one at the airport which also measure upper air (soundings) data twice a day, and one at the Pointe-Noire industrial area and closer to the Kami Terminal but which measure a limited number of parameters.

The climate normal for Sept-Îles are presented in Table 4.3 for the 1971-2000 period, as measured at the Sept-Îles Airport and compiled by the Canadian Meteorological center. The average annual temperature is 0.8°C. The warmest month of the year is July, with an average daily temperature of 15.3°C" The month of January is the coldest, with an average daily temperature of -15.3°C. The extreme maximum temperature recorded at the Sept-Îles Airport is 32.2°C and was recorded in June 1947 and the minimum is -43.3°C, recorded in January 1950.

The average annual precipitation is 757 millimeters and account for total amount of rain and snow (melted equivalent) precipitations. September is the month that contributes the most to the annual total, with an average rainfall of 113 mm. The month of February has the lowest precipitations, with an average of 67.2 mm. The maximum snowfall occurs in December with an average of 97 cm while the average maximum accumulation of snow occurs in February, with an average snow depth of 68 cm.

Figure 4.1 presents the wind rose and wind class frequency distribution for the Sept-Îles Airport and was prepared with hourly wind data as measured from 2005 to 2011. The average measured wind speed is 14.7 km/h and the most frequent wind direction is from the east while

the second most frequent wind direction is from the North. The maximum gust speed was measured in December 1960, with a speed of 161 km/h in January 1960.

Figure 4.2 presents the wind rose and wind frequency distribution for Pointe-Noire from 2005 to 2011 and was prepared with hourly wind data. The most frequent wind direction is from the west and the second most frequent wind direction is from the west-northwest. Table 4.3 gives climate normal for the Sept-Îles airport, based on 30 years of observation (1971-2000).

Figure 4.1 Wind Rose and Wind Class Frequency Distribution, Sept-Îles Airport, 2005-2011

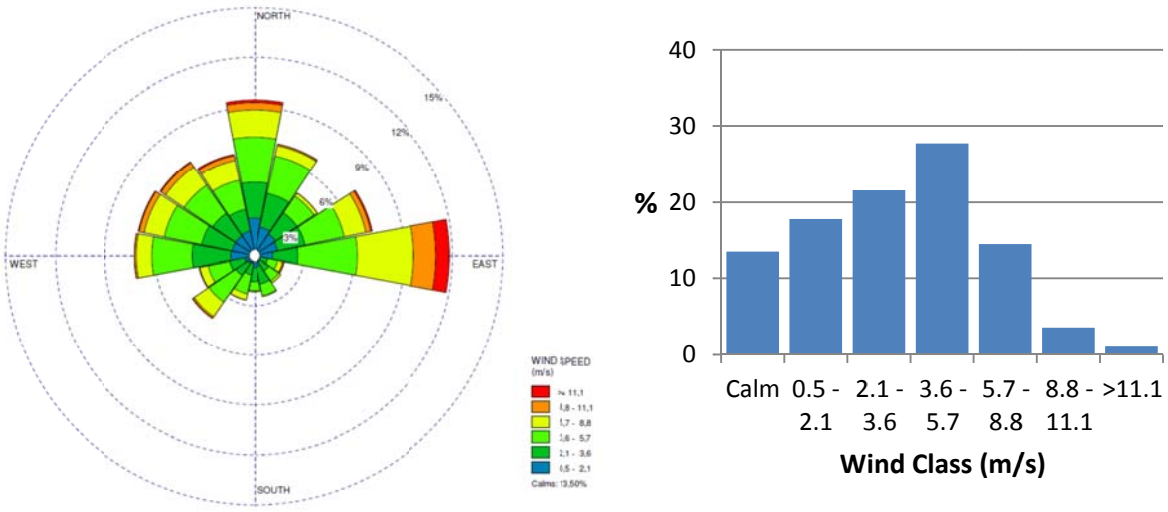


Figure 4.2 Wind Rose and Wind Class Frequency Distribution, Pointe-Noire, 2005-2011

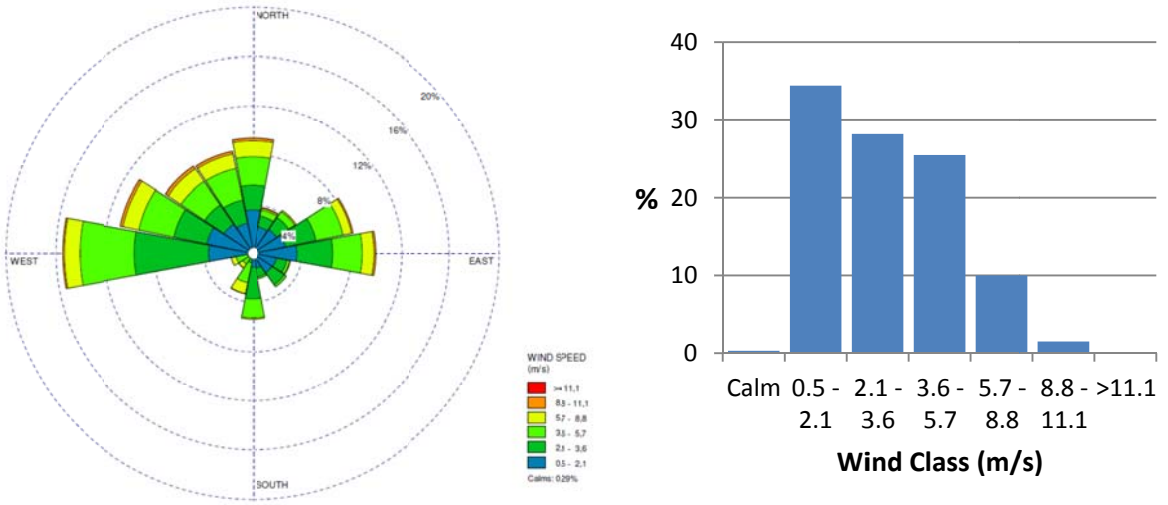


Table 4.3 Climate Normal, Sept-Îles Airport, 1971-2000

Parameter	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year
Temperature													
Daily Average (°C)	-15.3	-13.4	-7.1	0	5.9	11.7	15.3	14.2	9.3	3.4	-3.1	-11.3	0.8
Daily Maximum (°C)	-9.8	-7.8	-2.1	3.8	10.3	16.4	19.6	18.8	13.6	7.4	0.7	-6.5	5.4
Daily Minimum (°C)	-20.9	-19	-12.1	-3.8	1.5	7	10.9	9.6	4.8	-0.6	-7	-16.1	-3.8
Extreme Maximum (°C)	22.2	10.6	11.8	19.2	28.3	**32.2**	32.2	31.1	29.4	22.2	16.9	9.4	
Extreme Minimum (°C)	**-43.3**	-38.3	-31.7	-26.4	-11.7	-2.8	1.7	-0.6	-6.5	-12.8	-28.9	-36.5	
Precipitation													
Rainfall (mm)	9.3	10.9	26	61	83.1	99.3	99.8	91.1	113.2	97.5	48.3	18	757.4
Snowfall (cm)	87.3	59.7	64.7	37.5	9.1	0	0	0	0	7.9	49	96.9	412
Precipitation (mm)	87.4	67.2	88.8	102.8	94	99.3	99.8	91.1	113.2	106.5	97.7	108.1	1156
Average Snow Depth (cm)	56	68	66	40	5	0	0	0	0	0	5	32	23
Extreme Daily Snowfall (cm)	52	49.4	50.8	44.6	29.2	0.5	0	0	0.6	28.2	45.4	**55.8**	
Extreme Daily Precipitation (mm)	52	94	50.8	74.9	69.6	68.1	84.8	76.5	98.6	67	**114.6**	69.8	
Days with Rainfall													
>= 0.2 mm	1.6	1.3	3.6	7.9	13.3	14	15.9	14	14.4	13.8	7.1	2.3	109
>= 5 mm	0.59	0.59	1.4	3.1	5.1	6	6.2	5.6	6.9	5.7	3	0.79	44.9
>= 10 mm	0.28	0.38	0.93	2	2.8	3.1	3.1	2.9	3.9	3.4	1.6	0.50	24.9
>= 25 mm	0.07	0.10	0.28	0.71	0.46	0.86	0.75	0.67	0.93	0.73	0.33	0.14	6
Days with Snowfall													
>= 0.2 cm	15.9	11.8	12.2	7.7	1.7	0	0	0	0.07	2.9	9.8	15.7	77.7
>= 5 cm	5.6	3.8	4.3	2.5	0.57	0	0	0	0	0.42	3.3	6.2	26.7
>= 10 cm	2.9	1.5	2.1	1.1	0.29	0	0	0	0	0.12	1.6	3.3	13
>= 25 cm	0.24	0.31	0.28	0.14	0.04	0	0	0	0	0.04	0.22	0.57	1.8
Days with Precipitation													
>= 0.2 mm	16.2	12.4	13.5	12.8	13.9	14	15.9	14	14.3	15.2	14.1	16.4	172.8
>= 5 mm	5.5	3.7	5.3	5.5	5.9	6	6.2	5.6	6.9	6.3	6.1	6.1	68.8
>= 10 mm	2.7	1.8	3	3.6	3.3	3.1	3.1	2.9	3.9	3.8	3.5	3.3	37.9
>= 25 mm	0.31	0.59	0.66	1.1	0.57	0.86	0.75	0.67	0.93	0.77	0.67	0.86	8.8

Parameter	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year
Wind													
Speed (km/h)	16	15.4	17	16.7	14.9	13.9	12.4	12	13.2	14.1	15.2	15.8	14.7
Most Frequent Direction	N	N	N	E	E	E	E	E	E	E	N	N	E
Maximum Hourly Speed (km/h)	97	90	80	93	83	89	64	68	80	80	89	**101**	
Maximum Gust Speed (km/h)	**161**	161	121	124	121	129	103	113	154	122	130	159	
Visibility (hours with)													
< 1 km	23.9	13.2	21.3	26.3	20	23.5	26	24.5	22.1	16.9	18	27.7	263.1
1 to 9 km	110.3	84.4	97.9	103.6	77.6	70.7	79.2	69.4	76.2	69.7	86.6	115.9	1041.6
> 9 km	609.8	579.7	624.7	590.1	646.5	625.8	638.8	650.2	621.7	657.5	615.4	600.4	7460.7
Cloud Amount (hours with)													
0 to 2 tenths	245.1	248	222	173.2	168.3	142	127.4	168.8	172.1	181.9	176.6	241.4	2266.7
3 to 7 tenths	123.8	114.1	123.8	122.3	153.6	188.9	211.5	203.5	159.6	144.8	136.8	110.8	1793.5
8 to 10 tenths	375.1	315.3	398.2	424.5	422.1	389.2	405.1	371.7	388.3	417.3	406.6	391.8	4705.2

4.5.2 Ambient Air Quality

There is no public air quality monitoring station located in Sept-Îles or within a distance of 100 km from Sept-Îles and Figure 4.3 shows the location of existing stations which are part of the National Air Pollution Surveillance (NAPS) network and/or part or the Québec provincial monitoring Network.

The closest monitoring station is located in Murdochvile, at approximately 150 kilometers south of Sept-Îles on the other side of the Gulf of St. Lawrence. Along the north shore of the gulf, there is one station in Mingan (162 km east) and one near Forestville (239 km southwest) (see **Erreur ! Source du renvoi introuvable.**).

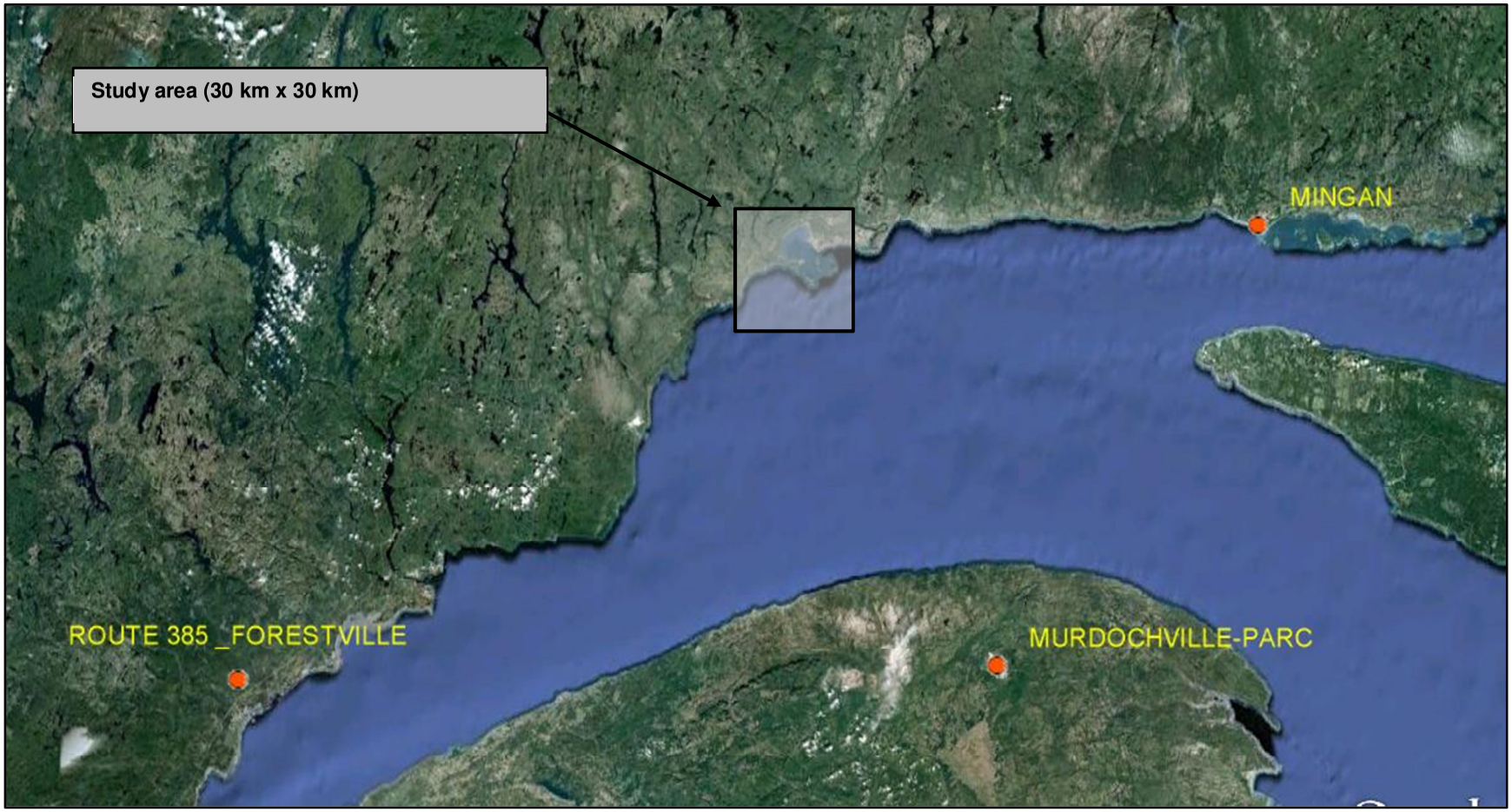
The parameters measured for theses 3 stations are total particulate smatter (TPM), particulate matter with a diameter less than or equal to 10 micrometers (PM_{10}) and ozone (O_3). **Erreur ! Source du renvoi introuvable.** gives a summary of each stations and measured parameters. Given the distance, the results for theses station were considered non representative for the Sept-Îles area and are not presented in this study.

Table 4.4 Summary of Nearby Air Quality Stations Monitoring

Station	Distance (km) & Direction	NAPS ID	Lat.	Long.	Measured Parameters		
					TPM	PM_{10}	O_3
MINGAN	162 E	55601	50°16'	-64°13'	-	-	X
MURDOCHVILLE-PARC	151 SSE	54601	48°57'	-65°30'	-	X	-
ROUTE 385 FORESTVILLE	239 SW	51901	48°51'	-69°06'	X	-	-

Source : Environment Canada, National Air Pollution Surveillance.

Figure 4.3 Location of Existing Air Quality Monitoring Stations



Imagery source: Google Earth

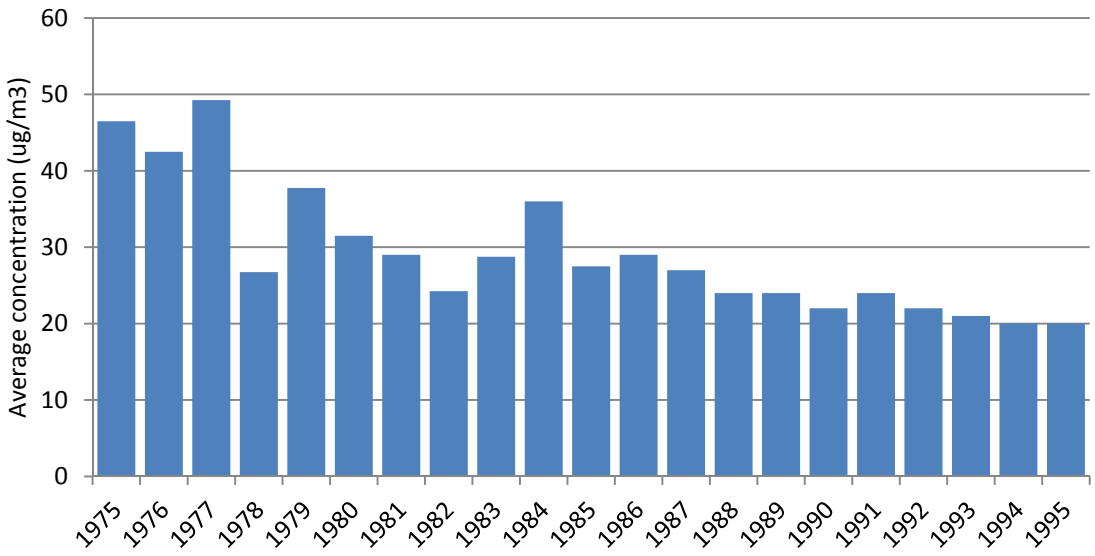
Between 1975 and 1995, there was up to 4 monitoring station located in Sept-Îles measuring TPM. Given that these results are over 17 years old and up to 37 years old, they must be taken as historical data and only for informative purpose and should not serve as a reference to establish current ambient levels. A summary of these results is presented in Table 4.5 and Figure 4.4.

Table 4.5 Summary of Historical Monitoring Results in Sept-Îles, from 1975 to 1995

Station ID	Station Name	Distance from the Kami Terminal Site (km)	Period	Number of Measurements (24h)	Average TPM Measured (ug/m3)
09052	Arnaud	8,5 km	1975-1983	881	27
09053	Dequen	9 km	1975-1995	1295	31
09056	Holliday	10 km	1975-1985	820	37
09057	Laure 2	10,5 km	1975-1983	695	36
AVERAGE					33

Source : Analyse de la qualité de l'air à Sept-Îles, MDDEP, June 2010

Figure 4.4 Summary of Historical Monitoring Results in Sept-Îles, from 1975 to 1995



Source : Évaluation de la qualité de l'air à Sept-Îles, MDDEP, June 2010.

The most relevant and recent air quality data available comes from a monitoring campaign performed in Sept-Îles in June 2009 and carried out by the Québec's *ministère du Développement Durable, de l'Environnement et des Parcs* (MDDEP). A report on this study was published in June 20102. The targeted pollutants were TPM, $PM_{2.5}$, SO_2, NO_x, NH_3, Fluoride, PAH, VOCs and metals but only TMP, PM_{10} and $PM_{2.5}$ results will be reviewed here as they are the main pollutants expected to be emitted by the Kami Terminal.

A series of 15 minutes measurements were taken in 8 different residential areas near the center of Sept-Îles from June 16 to June 19 2009. A series of 24 hours TPM measurements was also completed between June 16 and September 3 2009, in 3 different locations in Sept-Îles. Figure 4.5 presents the location of monitoring points from the 2009 MDDEP monitoring campaign.

The average 15 minutes results per site obtained from this 2009 monitoring campaign are presented in Table 4.6. The highest concentrations were measured at the Retty (Cartier-Dequen) location with an average concentration of 198 ug/m^3 for TMP and 13.6 for $PM_{2.5}$. The lowest results were measured at the 925 Arnaud location for TPM, with a concentration of 31 µg/m^3 and at the Parc Ferland for $PM_{2.5}$, with a concentration of 8 µg/m^3.

Table 4.6 Summary of TPM, PM_{10} and $PM_{2.5}$ Measurements Results for Each Location(1)

Location	Average Measured Concentration (15 Minutes) (µg/m^3)		
	TPM	PM_{10}	$PM_{2.5}$
Laure – Des Montagnais	60	18,6	9,6
Comeau – Régneault	97	26,6	9,4
MDDEP	59	22,6	11
925 Arnaud	31	18,6	10,2
Parc Ferland	34	16,5	8
Retty – McManus	116	33	12,6
Retty (Cartier-Dequen)	198	50	13,6

(1) Source : Évaluation de la qualité de l'air à Sept-Îles, MDDEP, June 2010.

2 MDDEP, Évaluation de la qualité de l'air à Sept-Îles, Analyse globale de la situation à partir de données historiques et d'une campagne de mesures effectuée en 2009, Juin 2010

Figure 4.5 Localization of Monitoring Points from the 2009 Ministère du Dévéloppement durable, de l'Environnement, et des Parcs Monitoring Campaign

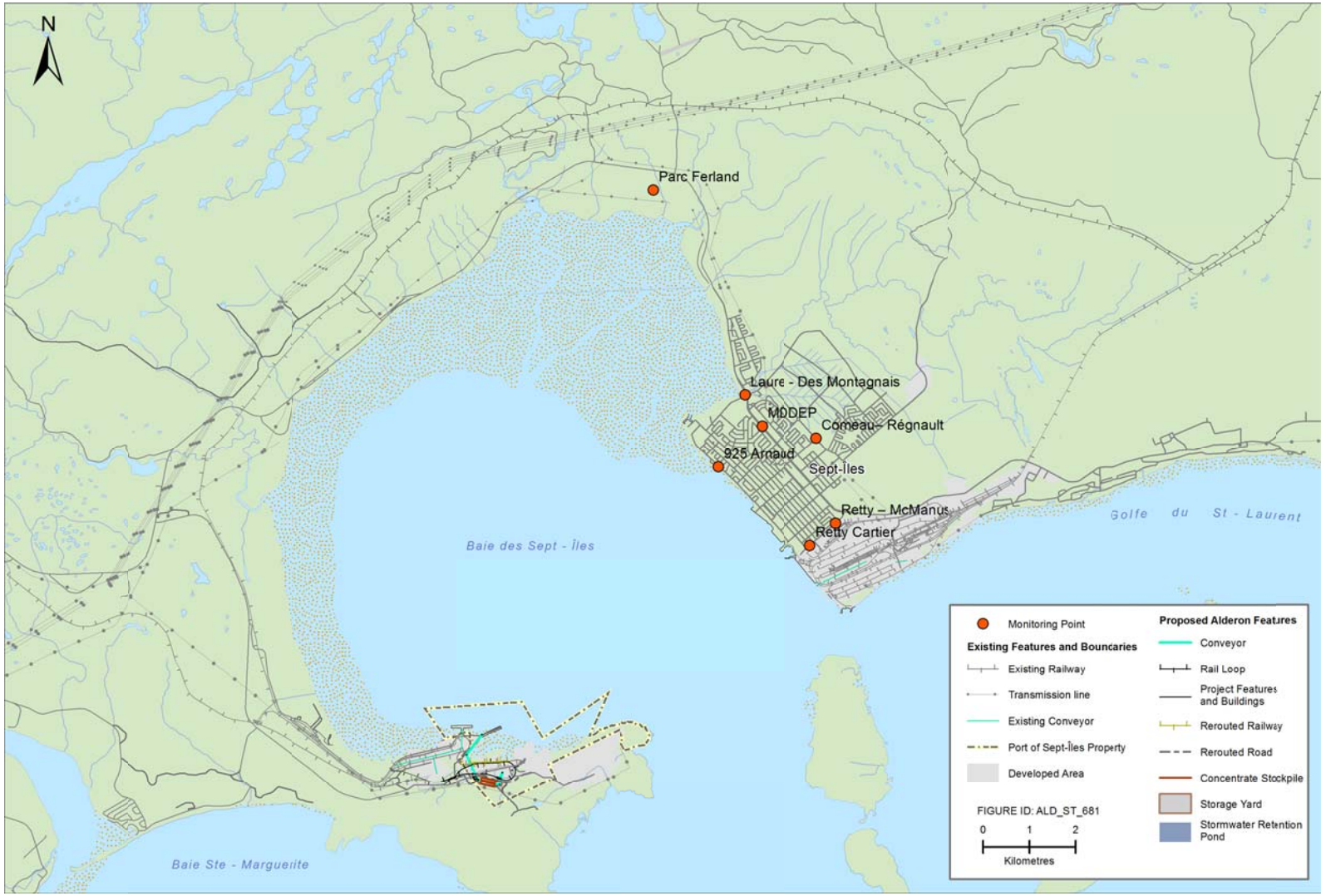


Table 4.7 presents a summary of the monitoring results obtained per day, during the four days that the monitoring campaign lasted. The lowest 15 minutes measured concentration was respectively 8, 6 and 6 µg/m^3 for TPM, PM_{10} and $PM_{2.5}$.

Table 4.7 Summary of TPM, PM10 and PM2.5 Measurements Results for Each Day(1)

Date	Measured concentration (15 minutes) (µg/m^3)								
	Average			Minimum			Maximum		
	TPM	PM_{10}	$PM_{2.5}$	TPM	PM_{10}	$PM_{2.5}$	TPM	PM_{10}	$PM_{2.5}$
June 16, 2009	37	14	8	8	6	6	86	25	9
June 17, 2009	51	21	10	10	9	7	97	33	13
June 18, 2009	156	39	14	23	16	8	500	140	30
June 19, 2009	46	22	11	17	13	6	130	56	19

(1) Source : Évaluation de la qualité de l'air à Sept-Îles, MDDEP, June 2010.

As mentioned, beside the 15 minutes measurements presented above, the MDDEP also made TPM measurements for 24 hours periods. These measurements were taken between June 16 and September 3, 2009 in three different locations in Sept-Îles. The total of 22 results obtained ranged from 11 to 130 µg/m^3, with an average measured concentration of 48 µg/m^3. Table 4.8 gives a summary of these results.

Table 4.8 Summary of 24-hour TMP Measurements Results for Each Location

Location	Average TMP measured concentration (24 hours) (µg/m^3)		
	Average	Minimum	Maximum
Retty	58	20	130
Arnaud	36	11	80
Franquelin	41	39	45

Source : *Évaluation de la qualité de l'air à Sept-Îles*, MDDEP, June 2010.

The two series of results obtained by the MDDEP (15-minute series for TPM, PM_{10} and $PM_{2.5}$ measurements and 24-hour series for TMP) show that the air quality in Sept-Îles is most of the time below the 1 hour criteria of 120 and 30 µg/m^3 for TPM and $PM_{2.5}$ respectively and that exceedances can occur occasionally.

Given the limited number of tests and their duration (15 minutes) these tests results do not provide a comprehensive picture of the situation of air quality in Sept-Îles but they can give a preview on the potential ranges of concentration likely to be encountered. Caution should be used when comparing the 15 minutes results with the 1-hour criteria since 15 minutes measurements are subject to higher variability than 1-hour measurements, given for example the variability in winds directions and wind speeds.

A private ambient air monitoring station is operated by Aluminerie Alouette at Plage-Sainte-Marguerite, located at 4 km from the site. Aluminerie Alouette published some results in its *2010 Sustainable Development Report*, in relation to SO_2 and gaseous fluorides ambient concentrations. With respect to SO_2, Aluminerie Alouette indicates in its sustainable development report that provincial standards for maximum daily and hourly concentrations are met. The highest hourly concentration obtained from 2000 to 2010 was approximately 19 µg/m^3.

As mentioned in the MDDEP study, overall the air quality in Sept-Îles can be compared, on an annual basis, to what can be found in other mid-sized cities or in suburban areas elsewhere in the province of Québec. However, it is also concluded in this study that for short periods of time (12 hours or less), TPM concentration can be high in areas south and sometime east of the city.

4.5.3 Existing Air Pollution Sources

The Sept-Îles ambient air quality is characterized by the presence of industrial activities including the Aluminerie Alouette aluminum smelter, the Cliffs iron pellet plant, the IOC-Rio Tinto shipping terminal and the Imperial Oil petroleum products tank farm. Another pellet plant, operated by ArcelorMittal, is located in Port-Cartier, but has less local influence due to its distance from Sept-Îles (30 km). Ambient air quality is also affected by typical urban pollution sources such as road traffic and wood heating.

Table 4.9 lists the main potential sources or air contamination. This table is an adaptation of a similar table presented by the MDDEP in their 2010 report on air quality in Sept-Îles following an air quality monitoring campaign performed in June 2009.

Table 4.9 Main Potential Sources of Air Contamination (1)

Existing potential source	Distance from Sept-Îles downtown (km)	Direction from Sept-Îles downtown	Potential contaminants
Road traffic	0	N/A	TMP, PM_{10}, $PM_{2.5}$, SO_2, NO_x, CO, VOCs.
Wood heating	0	N/A	TMP, PM_{10}, $PM_{2.5}$, NO_x, CO, VOCs, PAH
Imperial Oil	0.5	S	VOS and odors
IOC	0.5	S	TMP, PM_{10}, $PM_{2.5}$, SO_2, NO_x, CO, Metals
IOC former tailing impoundment area	3.6	E	TMP, PM_{10}, $PM_{2.5}$
Sandpit	7	NNE	TMP, PM_{10}, $PM_{2.5}$
Aluminerie Alouette	6.5	SSW	TMP, PM_{10}, $PM_{2.5}$, PAH, NH_3, Fluorides, SO_2, NO_x.
Cliffs (Wabush mines)	8	SW	TMP, PM_{10}, $PM_{2.5}$, SO_2, NO_x, CO, Metals.
ArcelorMittal	30	SW	TMP, PM_{10}, $PM_{2.5}$, SO_2, NO_x, CO Metals.

(1) Adapted from : Évaluation de la qualité de l'air à Sept-Îles, MDDEP, June 2010.

Publicly available data from the National Pollutant Release Inventory (NPRI) were used to quantify existing annual pollutants emissions in the area and are presented in Table 4.10.

Table 4.10 Annual Emissions Reported by Industrial Sources Located in Sept-Îles

Facility	Reported annual emissions (2010) (t/a)						
	VOCs	SO_2	CO	NO_2	TPM	PM_{10}	$PM_{2.5}$
Mines Wabush - Mines Wabush - Sept-Îles	8	2 188	2 483	1 714	770	404	137
Aluminerie Alouette Inc. - Usine de Sept-Îles	310	10 713	81 254	123	1 025	720	310
IOC - Sept-Îles	-	-	-	-	755	317	49
Imperial Oil - Sept-Îles Terminal	54	-	-	-	-	2,1	1,4
TOTAL	**372**	**12 901**	**83 737**	**1 837**	**2 550**	**1 443**	**497**

Source: NPRI 2010 (preliminary data)

It should be noted that this inventory does not include all industrial and/or commercial emissions sources that may be present in the region as well as the emissions associated with road traffic and wood burning.

4.6 Emissions Inventory

A summary of the Kami Terminal related processes and activities which are expected to have substantive emissions is provided in this section. Substantive emissions are defined as being emissions that may be emitted in quantities that may result in ambient concentrations of concern to the regulatory agencies or the public.

Three types of sources were identified that could be arising from the Kami Terminal:

- *Mobile:* Emissions coming from internal combustion engine from mobile equipment such as locomotives, trucks, road vehicles, etc.
- *Fixed:* Emissions from fixed sources can be summarized as emissions from a confined flow stream such as a stack or a vent and can be continuous or intermittent.
- *Fugitive (dust):* Fugitive dust emissions usually arise from the disturbance of granular materials exposed to air and displaced by winds, by industrial activities or by vehicles movements. Common source of fugitives dust includes unpaved roads, storage piles and open transfer point of bulk materials. Given its nature, this type of source is usually more difficult to measure and *estimated emissions are therefore, usually less accurate than for mobile and fixes sources.*

The following subsections describe the two different emissions scenarios considered in this emission inventory: construction and operation.

4.6.1 Site Preparation and Construction

The emissions occurring during site preparation and construction (construction) are expected to be small and/or of short duration, compared to those occurring during operation. Table 4.11 gives a summary of project emissions sources during operation and the type of pollutant emitted.

Table 4.11 Summary of Construction Emissions Sources

Source	Category	Pollutants Emitted					
		TPM	PM_{10}	$PM_{2.5}$	SO_2	NO_x	CO
On site vehicles (1)	Mobile	X	X	X	X	X	X
Road dust (1)	Fugitive	X	X	X			
Site preparation and blasting	Fugitive	X	X	X	X	X	X
Stone crushing	Fugitive	X	X	X			

(1) On site vehicles emissions and road dust emissions were considered negligible and were not included in this study.

On site vehicles emissions and road dust emissions listed in this table were considered negligible considering the expected traffic movements inside the Port of Sept-Îles property and the availability of dust control measures (dust suppressant or watering of roads, as well as limitation of speed). Therefore theses sources were not included in the emissions inventory and dispersion modeling study and are not further discussed.

Site Preparation (including clearing, excavation, blasting, material haulage, grading, removal of overburden and stockpiling) was identified as having the potential to exceed air quality standards. More specifically, two activities are identified as having the potential to emit more air contaminants:

- Blasting of 535 000 metric tons of rock, mainly to build the concentrate storage pad, by assuming that gelatine dynamite will be used;
- Crushing of 275 000 metric tons of rock, which will be used to construct the railway loop subgrade, by using a crusher with a capacity of 300 tons per hour.

These two main sources of emissions associated with site preparation are detailed below.

4.6.1.1 Kami Terminal Total and Maximum Hourly Emissions During the Construction Phase

Maximum hourly emissions were calculated for each source based on preliminary design data, expected level of activities and material properties.

Table 4.12 gives a summary of estimated project's maximum hourly emissions related to construction.

Table 4.12 Estimated Maximum Hourly Emissions During the Construction Phase

Source	Category	Pollutants Emitted (t)					
		TPM	PM_{10}	$PM_{2.5}$	SO_2	NO_x	CO
Blasting	Fugitive	78	40	2.3	-	58	116
Stone Crushing	Fugitive	0.81	0.36	0.18	-	-	-

Given the intermittent nature of activities occurring on the Kami Terminal facilities during construction, it was decided to estimate a maximum short term (hourly) emission rate for each source in order to better assess worst case conditions that may occur for this type of operation. Table 4.13 gives a summary of maximum hourly emission rates calculated for each source.

Table 4.13 Kami Terminal's Estimated Total Emissions During Construction

Source	Category	Pollutants Emitted (kg/h)					
		TPM	PM_{10}	$PM_{2.5}$	SO_2	NO_x	CO
Blasting	Fugitive	1.9	1.0	0.1	-	387	2.8
Stone Crushing	Fugitive	0.7	0.3	0.2	-	-	-
TOTAL		**2.6**	**1.3**	**0.3**	**-**	**58**	**116**

The following sub-sections provide more details about each sources included in the dispersion modeling study, the methodology and data used for estimating maximum short-term (1-hour) emission rates.

4.6.1.2 Blasting

The calculation methodology used for predicting emissions of particulate matter was based on emission factors published by the United States Environmental Protection Agency (US EPA) and developed for coal mining (AP-42 Chapter 11.9: Western Surface Coal Mining). For gaseous pollutants (SO_2, NO_x and CO), the methodology used was also emission factors from the EPA (US EPA Chapter 13.3: Explosive Detonation) with the assumption that the type of explosive used was dynamite gelatin.

Because detailed engineering is not done, it was not possible to get the detailed amount of explosives that will be used. This was estimated by considering the amount of rock to be removed and a typical consumption. Table 4.14 gives a summary of blasting conditions relevant to emissions estimation and dispersion modeling.

It was assumed that the blasting will take place only during the day, but only from 6 a.m. and 6 p.m.

Blasting will occur in different areas within the site, including roads and access roads, rail sidings, stacker-reclaimer, maintenance and switchyard area. Blasting that will occur for the preparation of the concentrate storage area (stacker-reclaimer) was selected as a worst case location in term of potential off-property effects.

Table 4.14 Main Parameters Used for Estimating Blasting Emissions

Parameter	Value Used	Comment
Average amount of explosive used per blast	~2.2 t / blast	Variable. Estimated average
Average surface of a blast	~ 5 000 m^2 / blast	Variable. Estimated average
Frequency of blast	1 blast / day	Maximum estimated frequency
Blast location	Variable	For modeling purpose, the middle of the future concentrate storage pile was selected
Time of blasts	Between 6 a.m. and 6 p.m.	
TPM emission factor	0.00022*(area in m^2)$^{1.5}$ t/blast	From AP-42 Table 11.9-2 (Coal mine)
PM_{10} / TPM ratio	0.52	From AP-42 Table 11.9-2 (Coal mine)
$PM_{2.5}$ / TPM ratio	0.03	From AP-42 Table 11.9-2 (Coal mine)
SO_2 emission factor	0 kg/t	From AP-42 Table 13.3-1 (Gelatin) (1)
NO_x emission factor	26 kg/t	From AP-42 Table 13.3-1 (Gelatin) (1)
CO emission factor	52 kg/t	From AP-42 Table 13.3-1 (Gelatin) (1)

(1) Emission factor rating is D (below average quality). The D rating is defined by EPA as developed from A-, B- and/or C-rated test data from a small number of facilities, and there may be reason to suspect that these facilities do not represent a random sample of the industry. There also may be evidence of variability within the source population.

As mentioned in the previous table, the frequency of blasts during site preparation is estimated to be less than once per day but for modeling purpose, a frequency of one blast per hour from 6 am to 6 pm was used in order to capture for worst case meteorological conditions that might occur during any given day. The result of this assumption must be taken into account when reviewing modeling results.

Also, it is important to keep in mind that the accuracy of the emission estimation is directly dependent on the quality of emission factors used. In the case of gaseous pollutants, the emission factor rating is D, which mean below average quality. For TPM, it can also be assumed that the estimates have the same level of quality, since the emission factors were initially developed for western surface coal mining.

4.6.1.3 Stone Crushing

Part of the stones generated by the removal of blasted materials will be crushed by a crusher, with an estimated total capacity of 200 to 300 tonnes per hour. Preliminary estimates indicate that a total of 275,000 tonnes of rock will be crushed, out of a total of 1,259,000 tonnes of blasted materials.

The calculation methodology used for stone crushing was based on emission factors published by the US EPA and developed for coal mining (AP-42 chapter 11.19: Crushed Stone Processing and Pulverized Mineral Processing). Table 6.5 summarizes the emission factors and the methodology for stone crushing estimates.

Table 4.15 Main Parameters Used for Estimating Crushing Emissions

Parameter	Value used	Comment
Total amount of stone to be crushed	275 000 tonnes	
Total on-site crushing capacity	300 tonnes / hour	Variable. Estimated average
TPM emission factor	0.0027 kg/t	From AP-42 Table 11.19.2-1 (1)
PM_{10} / TPM ratio	0.0012 kg/t	From AP-42 Table 11.19.2-1 (1)
$PM_{2.5}$ / TPM ratio	0.0006 kg/t	From AP-42 Table 11.19.2-1 (1)

(1) As mentioned by Environment Canada in their "Pit and Quarries Guidance" (NPRI toolbox), the revised AP-42 section does not include emission factors for primary and secondary crushing of stone. However, the emission factors for tertiary stone crushing can be used as an upper limit to primary and secondary crushing (Source: background document, p.14, U.S. EPA Fifth Edition, Volume I Chapter 11, section 11.19.2, Crushed Stone Processing and Pulverized Mineral Processing, table 11.19-2-1).

4.6.2 Operation

Table 4.16 gives a summary of project emissions sources during operation and the type of pollutant emitted.

Table 4.16 Summary of Kami Terminal Emissions Sources

Source	Category	Pollutants Emitted					
		TPM	PM_{10}	$PM_{2.5}$	SO_2	NO_x	CO
Railroad vehicles	Mobile	X	X	X	X	X	X
On site vehicles (1)	Mobile	X	X	X	X	X	X
Car dumper (stack 1 & 2)	Fixed	X	X	X			
Conveyor transfer points (1)	Fixed	X	X	X			
Road dust (1)	Fugitive	X	X	X			
Concentrate piling	Fugitive	X	X	X			
Concentrate pile (wind erosion)	Fugitive	X	X	X			
Ship loading (2)	Fugitive	X	X	X			

(1) On site vehicles emissions, miscellaneous conveyor transfer points and road dust emissions were considered negligible and were not included in this study.

(2) The ship loading activity was excluded from this inventory as this activity is controlled and managed by the Port Authority of Sept-Îles.

On site vehicles emissions and road dust emissions listed in this table were considered negligible given expected limited traffic movements inside the Port of Sept-Îles property and given the mean of transport used for transferring the concentrate and were not included in the emissions inventory and dispersion modeling study and are not further discussed.

The conveying system will be closed and each conveyor to conveyor transfer points will be equipped with dust collectors. The flow rate is expected to be in the range or 6 800 m^3/h to 10,200 m^3/h (4000 to 6000 SCFM). Given the relatively small flow rate and expected low

concentrations associated with the presence of dust collectors, the emissions associated with the dust collectors at conveyor to conveyor transfer point, were considered negligible.

Figure 4.6 shows the location of the two existing rail lines and the new rail segment to be constructed:

- Compagnie de chemin de Fer Arnaud. Existing rail segment;
- Québec North Shore and Labrador Railway. Existing rail segment; and,
- The Kami Terminal's rail loop. To be constructed.

For this project, approximately 3 km of railway infrastructure (rail loop) will be constructed but will not be owned or operated by Alderon. The CFA will operate the rail and approximately 2.7 km of this loop will be located on Port Authority lands and approximately 0.3 km will be on land owned by Cliffs.

Figure 4.6 Location of Railways in the Baie des Sept-Îles Area

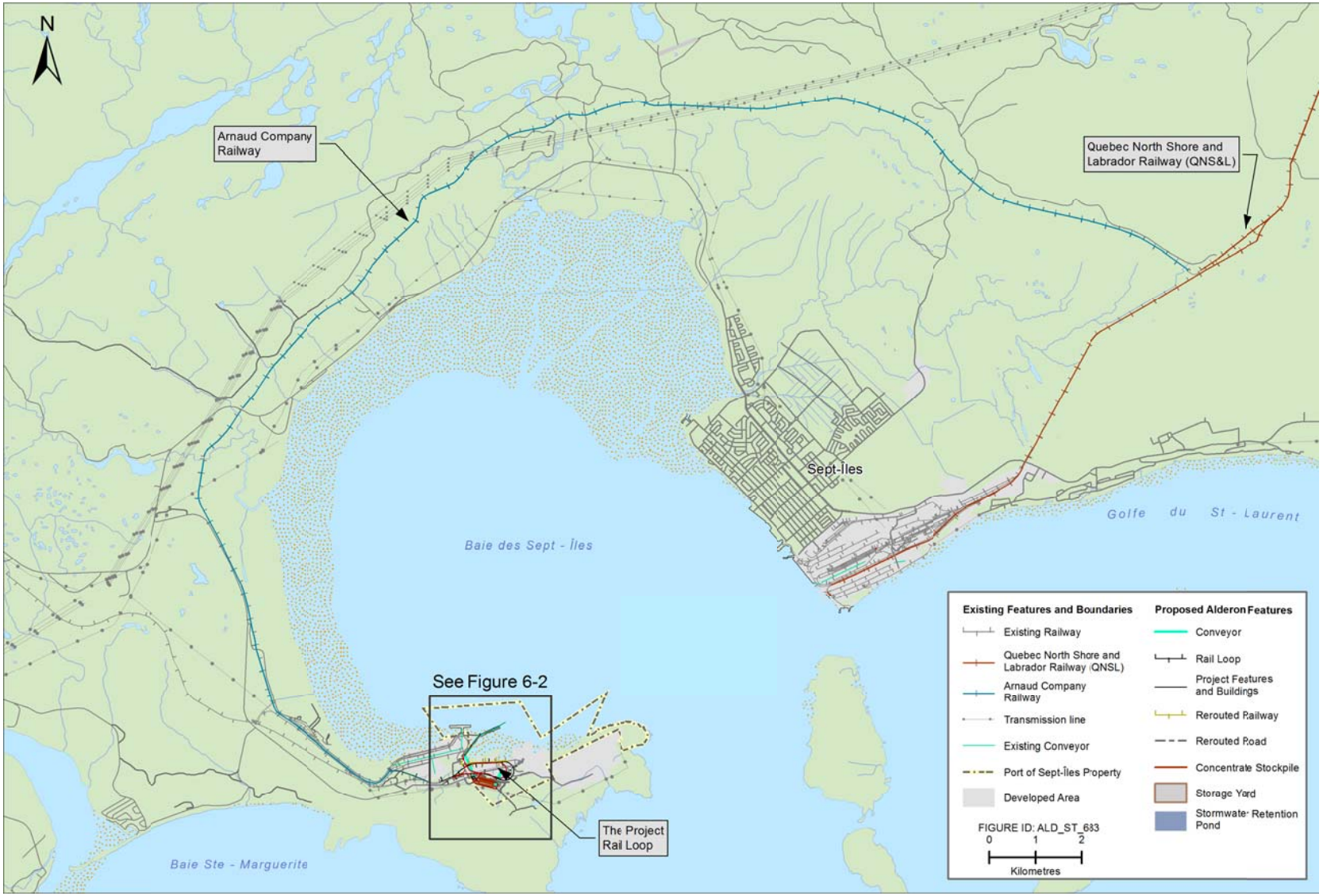
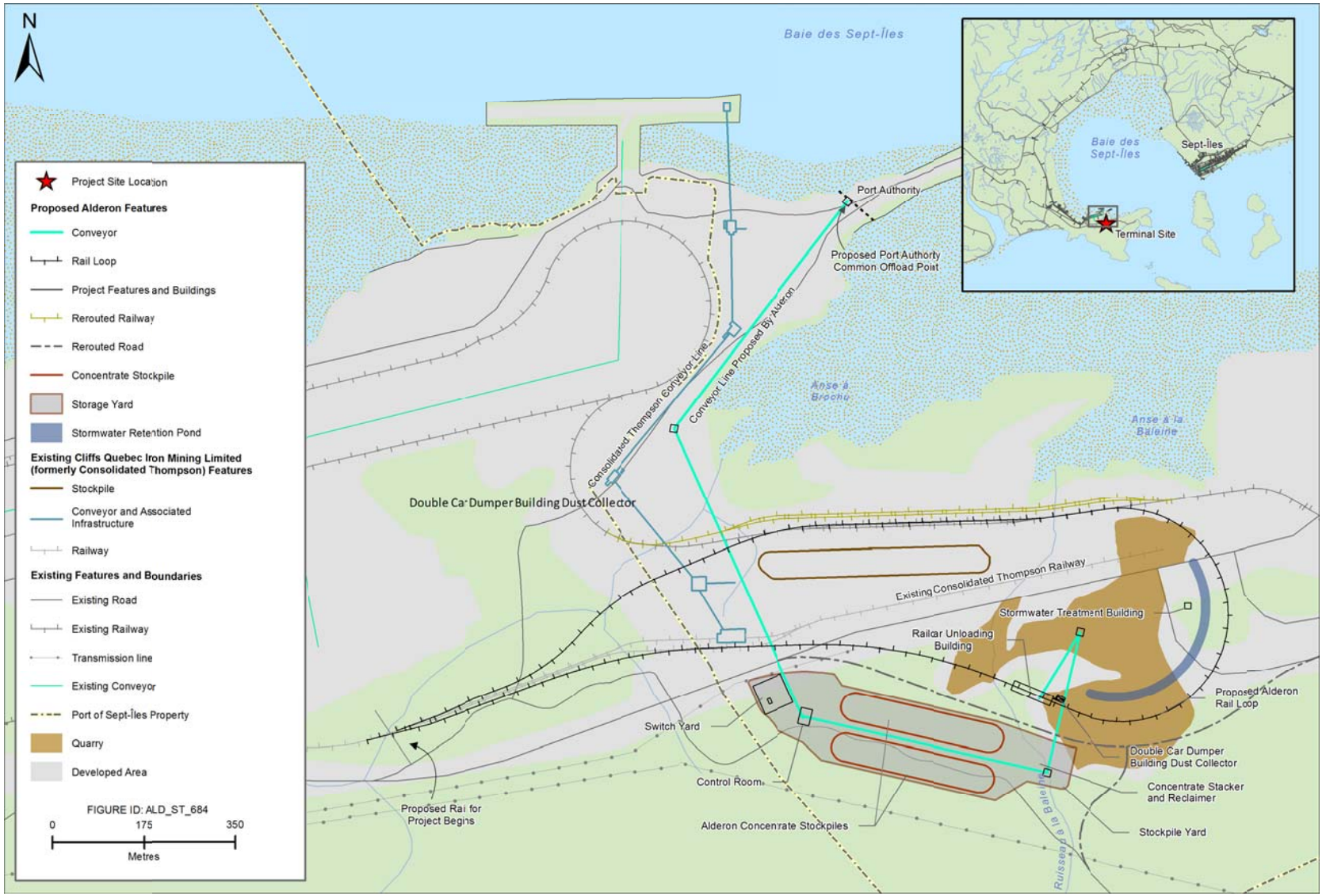


Figure 4.7 Location of Emission Sources Located Inside the Port Property



4.6.2.1 Kami Terminal Annual and Maximum Hourly Emissions

Annual emissions were calculated for each source based on preliminary design data, expected level of activities, material properties and meteorological data.

The basic and general Kami Terminal information that will have an impact on the level of emissions expected to arise are as follows:

- 16 million tonnes of concentrate will be carried from the mine to Sept-Îles by railroad;
- It is expected that two trains containing 240 cars will arrive on the project site each day;
- The concentrate unloaded from the trains will be stored on two storage piles, carried by a conveying system and put on the pile by a stacker; and,
- The stored concentrate will then be transferred on a conveyor by a reclaimer and sent to a ship.

Table 4.17 gives a summary of estimated project's annual emissions.

Table 4.17 Kami Terminal's Estimated Annual Emissions During Operation

Source	Category	Pollutants Emitted (t/a)					
		TPM	PM_{10}	$PM_{2.5}$	SO_2	NO_x	CO
Railroad (1)	Mobile	< 0.1	< 0.1	< 0.1	2,8	0.4	< 0.1
Car dumper	Fixed	6.7	4.8	3.5	-	-	-
Stacker	Fugitive	11.8	5.6	1.8	-	-	-
Concentrate piling	Fugitive	0.1	< 0.1	< 0.1	-	-	-
Concentrate storage (2)	Fugitive	0.1 to 7.8	0.05 to 3.9	0.07 to 0.6	-	-	-
TOTAL		**22.1 to 29.9**	**12.1 to 16**	**5.8 to 6.4**	**2.8**	**0.4**	**<0.1**

(1) Estimated only for the Arnaud railroad segment (approx. 40km).
(2) For fugitive emissions from the storage pile, a range of potential emissions were considered, as described below. The reason for the range of emissions is associated to the uncertainty surrounding its precise behavior, and susceptibility for wind erosion.

The results obtained in the preceding table can be compared with the NPRI data from other industrial sites, as summarized in Table 4.10 of section 4.5.3. TPM annual emissions of the project are estimated at 22.1 tonnes per year as compared to a total of 2 550 tonnes per year reported in the 2010 NPRI by the two most significant nearby industrial sources (Aluminerie Alouette and Cliffs), which account for less than 1% of existing nearby emissions sources.

Given the intermittent nature of activities occurring on the Kami Terminal facilities, it was decided to estimate a maximum short term (hourly) emission rate for each source in order to better assess worst case conditions that may occur for this type of operation, when a train is present on the site (unloading). Table 4.18 gives a summary of maximum hourly emission rates calculated for each source.

Table 4.18 Kami Terminal's Estimated Maximum Hourly Emissions Rate Per Source

Source	Category	Pollutants Emitted (kg/h)					
		TPM	PM_{10}	$PM_{2.5}$	SO_2	NO_x	CO
Railroad (1)	Mobile	0.1	0.1	0.1	3.9	0.5	0.01
Car dumper	Fixed	4.6	3.3	2.4	-	-	-
Stacker	Fugitive	7.6	3.6	1.1	-	-	-
Concentrate piling	Fugitive	0	0	0	-	-	-
Concentrate storage	Fugitive	0 to 14.4	0 to 7.2	0 to 0.5	-	-	-

(1) Units in kg/h/km. Estimated only for the Arnaud railroad segment (approx. 40km).

The following sub-sections provide more details about each sources included in the dispersion modeling study, the methodology and data used for estimating annual and maximum short term (1 hour) emission rates and maximum daily and annual emission rates.

4.6.2.1.1 Railroad

Combustion emissions are expected to arise from the diesel locomotive used for transporting the concentrate from the mine and concentrator located in Labrador to the Sept-Îles area and then up to the Kami Terminal facilities in the Pointe-Noire industrial sector. The primary products from combustion include nitrogen oxides (NO_x), sulphur dioxide (SO_2), carbon monoxide (CO), and particulate matter (TPM).

A fuel consumption rate of 2.5 liters per kilometer per 1000 tonnes of concentrate carried was estimated based on specific data obtained from the iron ore industry. This fuel consumption rate is considered conservative given that the concentrate is carried from a relatively elevated point and down to the Kami Terminal location, which is close to sea level. The average slope is greater than 1.3% when calculated for Chemin de Fer Arnaud segment as seen in Figure 4.6, which is the segment located close to the Sept-Îles area and inside the study area.

The emission factors published by The Railway Association of Canada (RAC) in their report entitled *Locomotive Emissions Monitoring Program 2009* were used and are presented in the third column of Table 4.19. These emission factors are expressed in gram per liter of fuel consumed and are available for TPM, NO_x, CO and SO_2. As a conservative approach, PM_{10} and $PM_{2.5}$ emissions were estimated to be 100% of TPM.

Table 4.19 Emissions from Locomotives

Pollutant	Fuel consumption[1] (l/t/1000km)	Emission factor [2] (g/l)	Maximum hourly emission rate (g/h/km)	Annual emissions (t/a/km)
TPM	3.5	1.31	100	0,05
PM_{10}		100 % of TPM	100	0.05
$PM_{2.5}$		100 % of TPM	100	0.05
NO_x		50.41	3 867	2.02
CO		7.07	542	0.28
SO_2		0.18	14	0.01

(1) Source: Estimated conservatively by considering specific data from other similar industries.
(2) Source: Locomotive Emissions Monitoring Program 2009, Table 9, Railway Association of Canada.

Even if emission from this source are intermittent and expected to arise only 4 times per day (two round trips per day), for modeling purposes, one train passage per hour, 24 hours per day and 365 day per year was assumed, along the baie des Sept-Îles.

Modeling of emissions from transport activities by railroad was carried out separately, to account for the fact that this emission source is not located solely within the property limits of the Port Authority but also along the baie des Sept-Îles and closer to private residences. Specific receptors, mainly private residences located near the railroad track, were identified and included in the dispersion modeling calculations (see Figure 4.11). Among the different residences identified, the nearest is located at approximately 375 meters from the railway.

4.6.2.2 Car Dumper

A double car dumper building will be built to unload simultaneously two cars. It is expected that the unloading of two cars will take approximately one minute and unloading of a convoy of 240 cars will take about 2 hours. The dumping will take place inside the building and generated dust will be drawn into the dust collection system and the purified air flow will be released via two stacks. Limited fugitive emissions will occur as the two dust collection systems will create a negative pressure inside the building. The maximum total particulate matter emissions concentration is estimated to be very low, and for the purpose of this study, was assumed to be 15 mg/m3, i.e. at half the Québec limit).

Table 4.20 gives a summary of stack parameters.

Table 4.20 Summary of the Double Car Dumper Stack Parameters Conditions

Parameters	Values (1)
Number of stacks	2
Design flow rate per stack	152 911 m3/h (90 000 ascfm)
Total particulate matter concentration	15 mg/m3
Gas temperature	Ambient
Stack height	18 m
Stack diameter	1.78 x 1.78 m (square)
Air flow velocity	13,4 m/s

(1) Preliminary design values.

Table 4.21 gives a summary of the different emissions rates used for the car dumper for short term (hourly) dispersion modeling and also for daily and annual periods.

Table 4.21 Summary of Emission Rates and Annual Emission Estimated from the Car Dumper Building (Total for the Two Stacks)

Purpose	Period (1)	Units	TPM	PM_{10}	$PM_{2.5}$
Worst case scenario used for dispersion modeling	Maximum hourly emission rate	g/s	1.27	0.90	0.66
	Maximum daily and annual emission rate	g/s	0.21	0.15	0.11
Emission inventory	Total annual emissions	t/a	6.7	4.8	3.5

(1) The difference between the hourly rates and the daily rate is due to the intermittent nature of this source.

4.6.2.3 Transfer of Concentrate to the Storage Pile

A stacker-reclaimer system will be installed to manage the concentrate storage pile. Dust emissions may arise as a small part or material being piled will be swept away by the winds during material loading onto the pile.

The emissions calculation method is based on the methodology described in chapter 13.2.4 of United-State Environmental Protection Agency (USEPA) AP-42 and entitled *Aggregate Handling and Storage Piles*. This method establishes, for each wind speed, an emission rate per amount of material transferred. Based on the wind class distribution frequencies from local (Pointe-Noire) hourly wind data from 2005 to 2011, an average annual emission rate was calculated and applied to the total amount of concentrate transferred on the pile. The moisture content is also a variable that comes into play in the calculation of emissions from this source as dryer material will tend to generate more dust; the average humidity was assumed to be 4.5%.

Emissions from concentrate piling will be intermittent and will happen only two times per day, two hours each time. This frequency is directly related with unloading activities occurring at the car dumper.

The particle size distribution used for calculating TPM, PM_{10} and $PM_{2.5}$ are given in

Table 4.22 as presented in the USEPA methodology mentioned above. The particle size multiplier of 0.74 was applied for total particulates matters as it was assumed that particle size greater 30 µm will settle over very short distances (assuming that TPM = PM_{30}).

Table 4.22 Particle Size Multiplier Factor

Particle size range	< 30 µm	< 10 µm	< 2.5 µm
Particle size multiplier	0.74	0.35	0.053

Table 4.23 gives a summary of the different emissions rates used for short term (hourly) dispersion modeling and also for daily and annual periods.

Table 4.23 Summary of Emission Rates and Annual Emission Estimated from Concentrate Piling

Purpose	Period (1)	Units	TPM	PM_{10}	$PM_{2.5}$
Worst case scenario used for dispersion modeling	Maximum hourly emission rate	g/s	2.12	1.00	0.31
	Maximum daily and annual emission rate	g/s	0.37	0.18	0.06
Emission inventory	Total annual emissions	t/a	11.8	5.6	1.8

(1) The difference between the hourly rates and the daily rate is due to the intermittent nature of this source.

4.6.2.4 Wind Erosion from the Concentrate Pile

The volume of concentrate stored at any one time will depend on the rail delivery schedule from the mine and the vessel loading schedule. Two piles measuring approximately 55 meters wide by 440 meters long at full capacity will be located along both sides of the stacker-reclaimer travelling range. The maximum height of this pile will be approximately 18 to 20 meters.

Fines particles from material stock pile may be released into the air by high winds and the calculation method used is based on the methodology described in Chapter 13.2.5 of US EPA AP-42 and entitled *Industrial Wind Erosion*. This method establishes particulate matter emissions by taking into account the number of wind speed events greater than the friction threshold speed and the total area of the two piles. The threshold friction speed is directly bound to the type of material exposed to winds.

As it can be seen in the Table 4.24 below, the model, combined with site specific meteorological data, show significant decrease in annual TPM emission when increasing the threshold friction velocity from 0.33 m/s (disturbed desert) to 0.54 m/s (fine coal dust on concrete pad).

In the first scenario, emissions can be considered negligible, given the small emissions and the very low frequency of emission events.

In the additional scenario, emissions from the piles are estimated at 7.8 tonne per year and therefore it was decided to include a second dispersion modeling scenario which will include

increased emissions from the storage piles, assuming that the threshold velocity for the concentrate is similar to sand.

Table 4.24 Threshold Friction Speed and Estimated Annual Emissions for Pointe-Noire for Various Materials

Scenario	Material	Threshold friction velocity (m/s)	Frequency of wind erosion events (%) (1)	Annual TPM emissions based on Pointe-Noire met data (t/y) (1)
First scenario modeled (base case)	Ground coal (surrounding coal pile)	0.55	0.4	0.10
Additional scenario to account for a worst case	Disturbed desert (2)	0.33	9.4	7.8

(1) By taking into account that there are no emissions when there is rain (>0.254mm/day) or when the ground is covered by snow.

(2) Threshold friction velocity from Emission inventory Guidance document published by the Mojave Desert Air Quality Management District Antelope Valley Air Pollution Control District

4.7 Dispersion Modeling

The United States Environmental Protection Agency (US EPA) CALPUFF modeling system was used to predict maximum ground-level concentrations due to emissions related to the Kami Terminal. The core of this system consists of a meteorological model CALMET, and a transport and dispersion model CALPUFF.

The CALMET meteorological model is used to provide the meteorological data necessary to initialize the CALPUFF dispersion model. This model is initialized with terrain and land use data describing the region of interest, as well as meteorological input from potentially numerous sources. Various user-defined parameters control both how the input meteorological data is interpolated to the grid, as well as which internal algorithms are applied to these input fields. Output from the CALMET model includes hourly temperature and wind fields on a user-specified three-dimensional domain as well as additional two-dimensional variables used by the CALPUFF dispersion model.

CALPUFF is a non-steady-state Gaussian puff dispersion model capable of simulating the effects of time and space-varying meteorological conditions on pollutant transport, transformation, and removal. This model requires time-variant two- and three-dimensional meteorological data output from a model such as CALMET, as well as information regarding the relative location and nature of the sources to be modeled for the application. Output from the CALPUFF model includes ground-level concentrations of the species considered.

The following sections describe in detail the methodology used to conduct the dispersion modeling, including a summary of input data sources and data selected.

4.7.1 CALMET Meteorological Modeling

4.7.1.1 Meteorological Modeling Domain

The CALMET meteorological domain adopted for this project is summarized below in Table 4.25. A map of the approximate area covered by the modeling domain is presented in **Erreur ! Source du renvoi introuvable.**.

Table 4.25 Map Projections and Horizontal Grid Parameters

Parameter	Value
Map Projection	UTM
UTM Zone	19N
Datum	WGS-84
Number of Grid Cells (nx,ny)	80, 80
SW Corner (x,y) km	659.202, 5539.244
Grid Spacing	0.5 km

To adequately resolve the terrain and land use features of the region, a 0.5 km grid was chosen for the CALMET modeling.

Ten vertical levels were used to model the atmosphere up to a maximum cell face height of 3400 m above ground level. Cell mid-points were chosen at heights of 20, 40, 80, 160, 300, 600, 1000, 1500, 2200, 3000 m above ground to allow for higher resolution in the layers nearest to the earth's surface than in the levels aloft.

4.7.1.2 Study Period

For this application, the CALMET meteorological model was run from January 1, 2006 to December 30, 2010. Five years of meteorological data were considered to depict a wide range of meteorological conditions and associated dispersive conditions.

4.7.1.3 Geophysical Input Data

To initialize the CALMET model, terrain elevation and land use data depicting the geophysical conditions in the selected modeling domain are required. Terrain elevation data is used in CALMET in various model algorithms to characterize meteorological phenomena such as up- and down-slope flows and the terrain-steering of winds. In addition to the terrain elevation data, the CALMET model utilizes surface parameters such as surface roughness length, albedo, Bowen ratio, leaf area index, soil heat flux, and anthropogenic heat flux to estimate meteorological parameters such as surface heat flux and mechanical turbulence. In the model's geophysical pre-processor MAKEGEO, values for each of these surface parameters are specified based on input land use categories.

4.7.1.4 Terrain Data

For the CALMET model grid considered in this study, terrain elevations were initialized with data from the Shuttle Radar Topography Mission (SRTM). This data, a preliminary product from a joint project between the US National Aeronautics and Space Administration (NASA) and the US National Geospatial-Intelligence Agency (NGA), is available at 3 arc-second (approximately 90 m) resolution for the continent of North America (USGS 2007). The SRTM data was processed by the CALPUFF pre-processor TERREL over the domain of interest to approximate terrain elevations at 0.5 km resolution over the modeling domain.

After processing, the prepared terrain data was compared with local topography maps and satellite imagery to assure quality. The agreement between these data sets was found to be reasonable.

4.7.1.5 Land Use Data

Natural Resources Canada's Earth Observation for Sustainable Development of Forests (EOSD) dataset (NRC 2008), with a resolution of approximately 50 m, was used to estimate the dominant land use categories in the CALMET modeling. This high resolution dataset contains detailed information on forest crown closure and is an appropriate input for conducting dispersion modeling in rural/pristine environments. The land use data was rasterized (gridded) at 500 m resolution, exported to a text format, then mapped to the CALMET land use categories and converted into a fraction land use format accepted by the model. The final CALMET land use categories used as input to the model are shown at 500 m resolution in Figure 4.8.

4.7.1.6 Meteorological Input Data

The CALMET model requires the input of surface and upper air meteorological fields. For this application, CALMET was initialized with surface station information from two surface weather stations, one upper-air station and one overwater station over the five year period (2006-2010).

Hourly observed surface meteorological data were obtained from Environment Canada (EC) and used to initialize CALMET. As shown in Table 7.2, two EC weather stations (Sept-Îles Airport and Pointe-Noire) were used to initialize CALMET. Sept-Îles airport has a dataset of all required parameters for CALMET processing and Pointe-Noire meteorological station has data for wind speed, wind direction and temperature.

Table 4.26 Input Surface and Overwater Meteorological Stations

Station Name	Type	CALMET Pathway	Easting (km)	Northing (km)	Elevation (masl)
Sept-Îles Airport	EC	Surface	694.979	5566.310	55
Pointe-Noire	EC	Surface	683.277	5559.819	24
Mount Louis - C45138	EC	Buoy	737.331	5491.55	0

Wind direction and wind speed play an important role in determining the overall transport of airborne pollutants. The hourly surface winds (from 2006 to 2010) from the two weather stations used as input in the CALMET modeling are summarized in the wind rose plots shown in Figure 4.9 below. Wind roses are an efficient and convenient means of presenting wind data. The length of the radial barbs gives the total percent frequency of winds from the indicated direction, while portions of the barbs of different widths indicate the frequency of associated wind speed categories. Note that periods with calm winds cannot be included in these diagrams as such periods often do not have valid measurement for wind direction.

As can be seen in Figure 4.9, wind patterns in the study region can vary considerably due to differences in factors such as synoptic meteorology (large-scale weather trends), terrain, and local surface characteristics. The Pointe-Noire meteorological station, which is the surface station nearest to Kami Terminal activities, shows a higher proportion of winds from the west and north and east. For the Sept-Îles airport meteorological station, the dominant winds are from the easterly and northerly to westerly directions. Overall both stations show fairly similar patterns with the exception of Pointe-Noire showing a higher percentage of winds blowing from westerly direction.

Figure 4.8 Dominant CALMET Land Use Categories Over the Modeling Domain

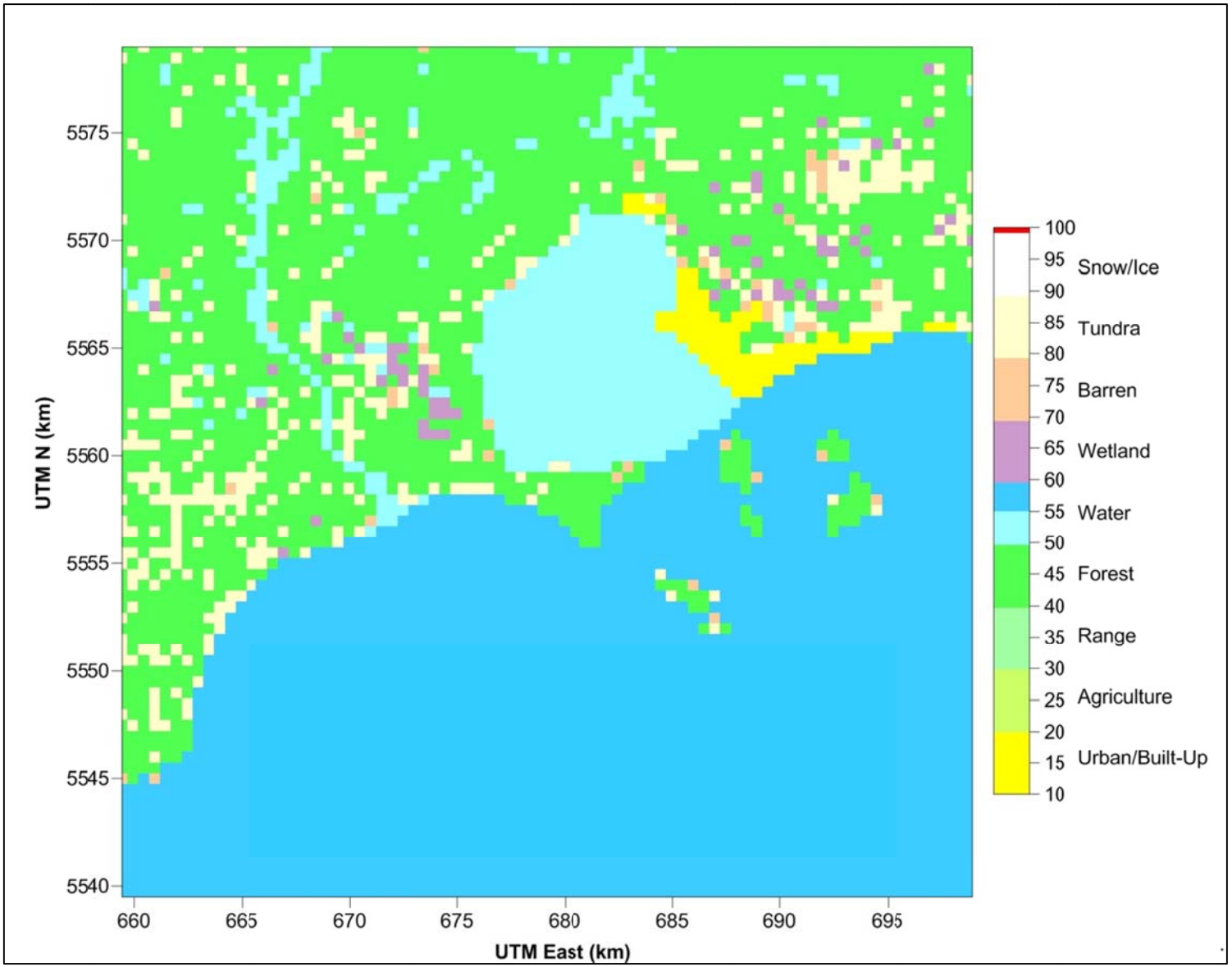
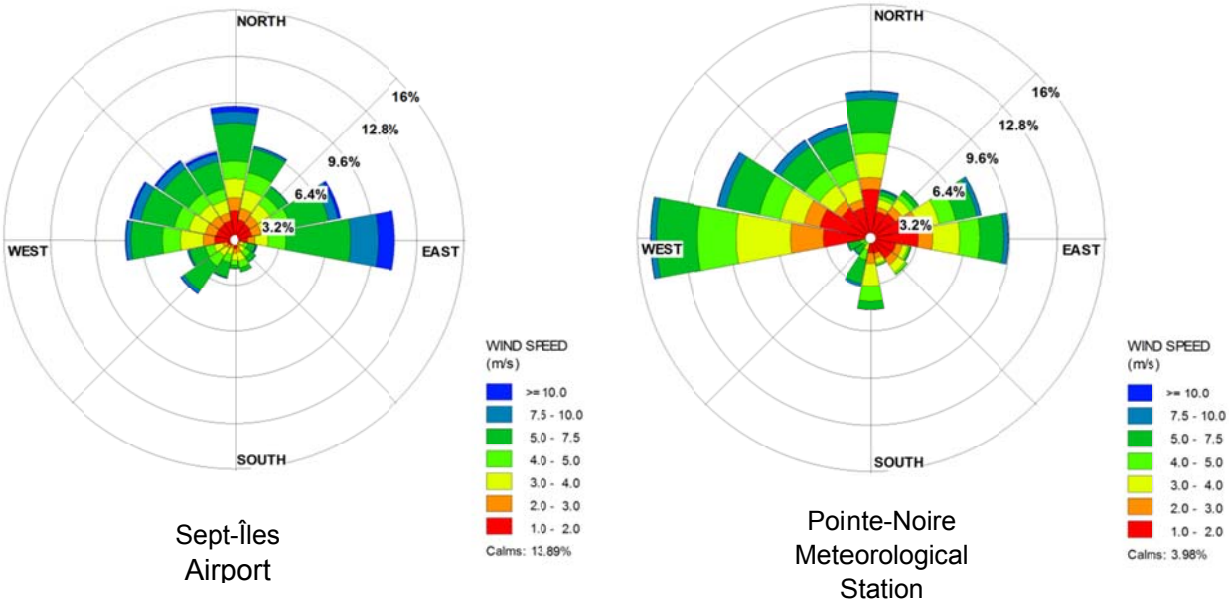


Figure 4.9 Wind Roses for the Two Surface Stations



Sept-Îles Airport

Pointe-Noire Meteorological Station

Twice-daily upper air sounding data from Sept-Îles airport, located approximately 15 km east of the Kami Terminal was used to initialize the upper air fields in CALMET. The model uses the upper level temperature and wind data to parameterize boundary layer parameters and determine upper level air flow. This data was downloaded from the NOAA ROAB Database and was prepared for use in CALMET with the model's READ62 pre-processor.

To allow for better parameterization of the marine boundary layer in CALMET, overwater station input was also considered as input into the model. This supplementary information was included to better allow CALMET to parameterize the marine boundary layer. Since overwater data at the closest station (Mount-Louis stations) is not available during winter, available satellite-based overwater sea temperature data from the NASA-GHRSST Master Metadata Repository (MMR) was used to estimate daily sea temperatures in the strait north of the site location (NASA, 2009). Daily satellite sea temperature data (NASA-GHRSST MMR) was extracted from an offshore location in the strait and used in conjunction with air temperature data from Sept-Îles station to parameterize the air-sea temperature difference in CALMET. The location of this buoy station is provided Table 7.2.

The extrapolation of surface winds within CALMET allows for input surface station winds to also have influence in determining the flow patterns in the levels aloft. Along with choices concerning the method of computation for this extrapolation, the CALMET user is provided with an option to control, for each vertical level, the relative weighting of the extrapolated surface and upper-air values in the final interpolation. This model option is called the 'BIAS' parameter.

For this application, the model-default method of extrapolation was applied. This BIAS configuration would allow the model to be heavily weighted toward the surface data in the lowest levels of the atmosphere, but for upper air input wind data to be more heavily weighted in the levels further aloft. A CALMET input file with all parameterization options used for the modeling is provided in APPENDIX A.

4.7.1.7 Model Options

The most recent version of the CALMET model (Version 6.334, Level 110421) was used to predict the meteorological parameters required by the CALPUFF model. Model options were selected based on guidance published by the U.S. Environmental Protection Agency (US EPA 1998). For model options with no U.S. EPA-recommended values, CALMET model default parameters were selected.

A CALMET input file, showing the values selected for this application, is provided in Appendix A.

4.7.2 CALPUFF Dispersion Modeling Methodology

As previously mentioned, the CALPUFF dispersion model was used to evaluate the potential changes in air quality due to the Kami Terminal for all substantive emission sources.

The primary species considered in the dispersion modeling were nitrogen oxides (NO_X), sulphur dioxide (SO_2), carbon monoxide (CO), particulate matter less than 2.5 microns in diameter ($PM_{2.5}$), particulate matter less than 10 microns in diameter (PM_{10}) and total suspended particulate matter (TSP). For all modelled species, maximum ground-level concentrations (GLC) were calculated.

4.7.2.1 Computational Domain

The CALPUFF computational domain is the area in which the transport and dispersion of puffs are considered for the calculation of ground level concentrations. For this application, dispersion modeling was conducted using CALPUFF over a computational domain equal to the CALMET meteorological grid as defined in Section 4.6 of this report. A graphical representation of the modeling domain relative to the site is shown in Figure 3.1.

4.7.2.2 Meteorological Data

Meteorological data such as mixing heights, stability and winds determine the transport and dispersion of pollutants within the CALPUFF model. To account for puff behaviour (plume dispersion) under a variety of meteorological conditions, five years of meteorological data (2006 through 2010) was considered in this application. Hourly three-dimensional meteorological data were prepared using the CALMET model and used to drive the dispersion in CALPUFF.

4.7.2.3 Emission Rates and Stack Parameters

As previously mentioned, the CALPUFF model was used to predict maximum GLCs due to all substantive emission sources related to the Kami Terminal. A summary of emissions related to

the Kami Terminal, including the source characteristics and emission rates used as input to CALPUFF is provided in Section 4.6 of this report.

4.7.2.4 Building Downwash

For stacks located in the wake region of buildings, enhanced plume dispersion due to turbulent wake and reduced plume rise caused by a combination of descending streamlines in the lee of the building and increased entrainment in the wake may occur. Building wake effects are generally expected to affect a stack if:

1) The stack is located a distance less than 5 times the greater of the building height or width from the building; and,

2) The height of the stack is less than 1.5 times the building height

The U.S. EPA Building Profile Input Program (BPIP) Model (US EPA 1995) was used to estimate downwash effects based on the stack/building information.

CALPUFF uses the output from the BPIP model to account for the potential influence of building downwash in determining plume dispersion during certain meteorological conditions. The BPIP input file for this application is provided in Appendix B.

4.7.2.5 Receptor Grid

A series of nested Cartesian receptor grids surrounding the Kami Terminal area were selected. The spacing of the receptors was selected based on commonly acceptable methodologies (such as those of NL DEC 2006) to capture the location of maximum ground level concentrations. Terrain heights were calculated at each receptor point based on the previously-mentioned SRTM data (USGS 2007) to predict maximum concentrations at various points within the study domain. The primary purpose of these receptor grids are to predict maximum off-site GLCs and depict the variance in predicted concentrations in the study area (contour plots). As shown in Figure 7.3, the density of the receptor grid decreases with distance from the sources as fewer receptor points are required to capture the local maxima.

As the ground level concentrations are only required to be calculated at off property locations, receptors inside the property lines were removed.

As previously mentioned, emissions from the rail were modelled at special receptor locations close to the rail line. Figure 4.11 shows the location of these receptors in the modeling domain as well as the rail location.

Figure 4.10 Nested Cartesian Receptor Grid Around the Property Boundary

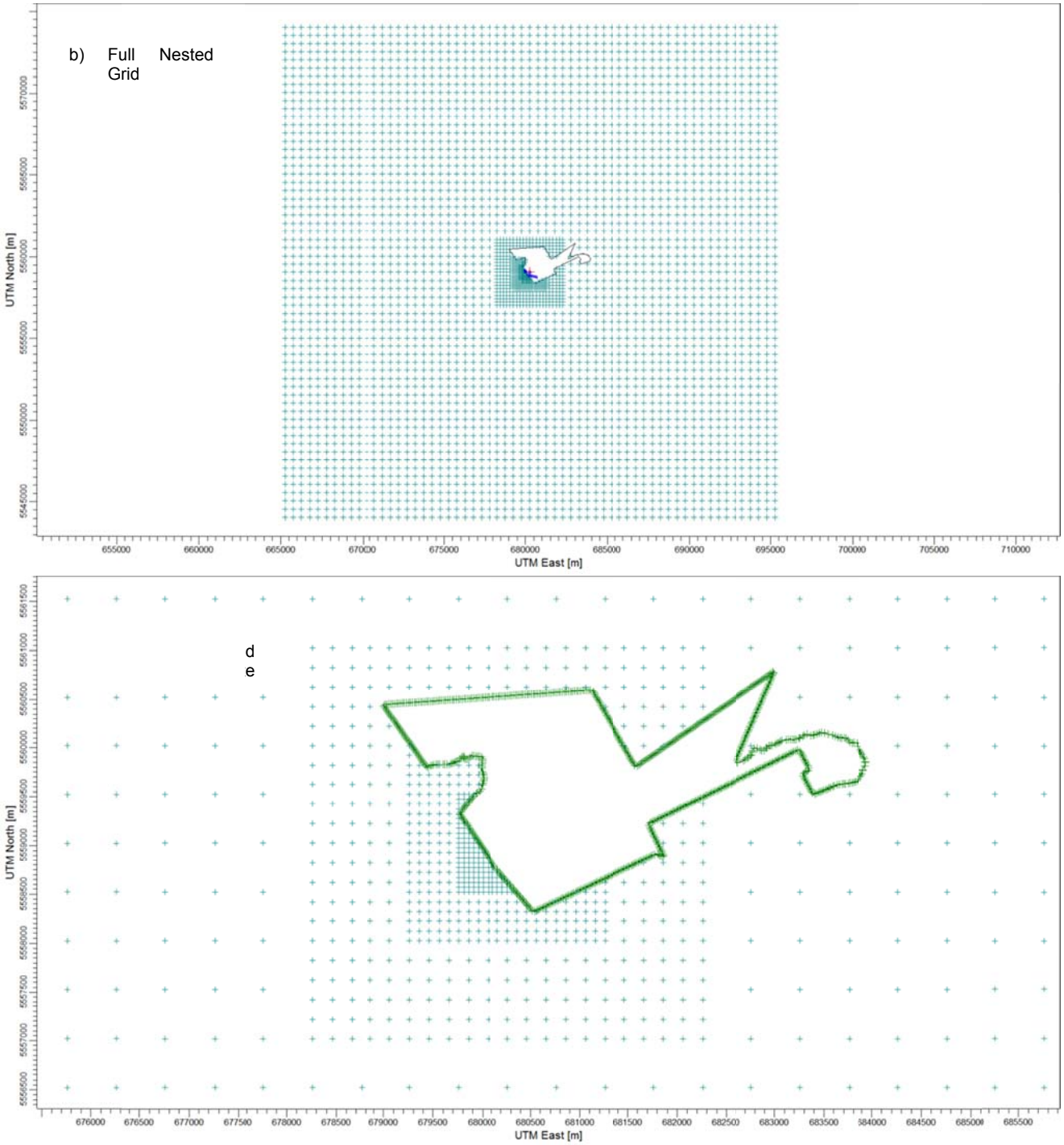
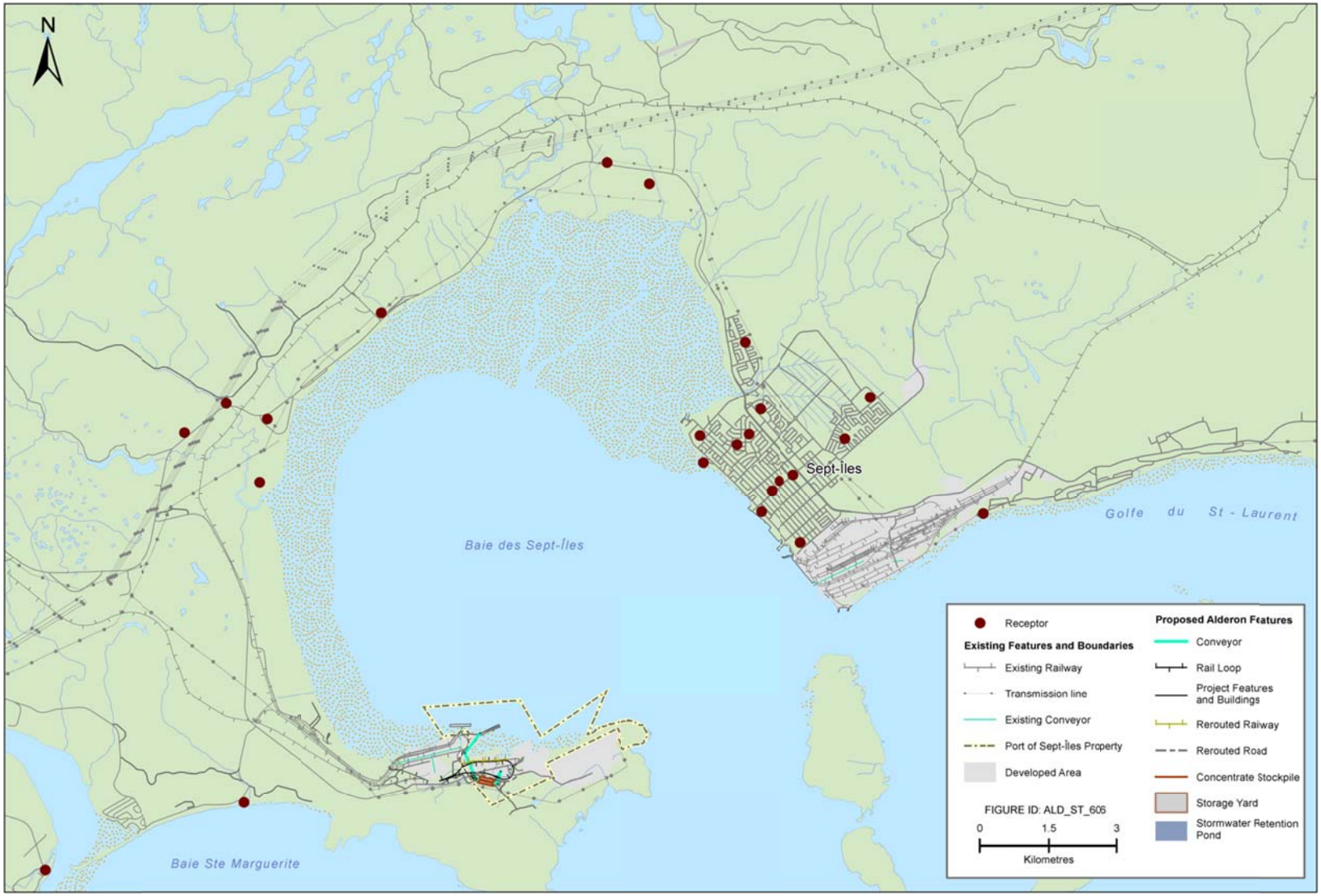


Figure 4.11 Location of Special Receptors



4.7.2.6 Model Options

Fundamental parameters controlling plume dispersion in a Gaussian model such as CALPUFF are the dispersion coefficients. These values, which must be specified for both the horizontal as well as the vertical directions in the model, can be computed using several different methods in CALPUFF.

The consideration of deposition in dispersion models such as CALPUFF allows for contaminant mass to be depleted from the transporting plume. For emissions of particulate matter from low-lying fugitive sources, a substantive portion of the resultant plume will remain in lowest 1-2 meters above ground level and settle within a few hundred meters of the source (see for example, DRI 1999).

To account for plume depletion due to settling/deposition of particulate matter (TSP, PM_{10}, and $PM_{2.5}$), the emitted particles were divided into three size classes, as defined in Table 4.27 below. The deposition parameters were chosen based on guidance from the NL DOE.

Table 4.27 Particle Size Class Definitions and Deposition Parameters

Particle Size Class ID	Definition	Geometric Mass Mean Diameter (µ)	Geometric Standard Deviation (µ)	Number of Particle Intervals ((µ)
P1	P1 < 2.5 (µ)	1.25	1.24	5
P2	2.5 < P2 < 10 (µ)	5	1.24	5
P3	P3 > 10 (µ)	20	1.24	5

Emission rates were calculated for each particle size class in Table 4.27 based on the estimates for TSP, PM_{10}, and $PM_{2.5}$ provided in Section **Erreur ! Source du renvoi introuvable.**. Each size class was then modelled with dry deposition/plume depletion to predict maximum GLCs of particle sizes P1, P2, and P3. The maximum predicted TSP/PM_{10}/$PM_{2.5}$ ground-level concentrations could then calculated from the intermediate species by summing the relevant size fractions as follows:

- $PM_{2.5}$ = P1;
- PM_{10} = P1 + P2;
- TSP = P1 + P2 + P3.

The CALPUFF dispersion model (Version 6.4 - Level 101025) was used for all dispersion modeling conducted in this study. Model Options were selected based on the NL DEC's Guidance for Plume Dispersion Modeling (NL DEC 2006), Ontario Modeling Guideline, and guidance published by the U.S. Environmental Protection Agency (US EPA 1998). For model options with recommended values, CALPUFF model default parameters were selected.

A sample CALPUFF input file, showing the model options selected for this study, is provided in Appendix C. Note that the parameterization provided in this sample file represents a specific

emissions scenario. Therefore, case-specific model parameters (i.e., the number of sources modelled, numbers of receptors, species considered) would have different values for different model runs.

4.7.2.7 Modeled Groups and Scenarios

In order to evaluate the contribution of different set of sources on the ground level concentrations following source groups were considered:

- **Kami Terminal**: Included all the point sources, volume sources and area sources at the facility with the exception of rail emissions. The modeled sources as well as their emission rates are presented in Section 6 (Table 4.18).
- **Construction**: Included the blasting and the rock crushing (Table 6.3).
- **Rail**: Only included the emissions from the rail line inside and outside the facility.

Kami Terminal emission sources including the car dumper, concentrate handling and storage piles were modeled with the full receptor grid. As discussed in subsection 4.6.2.1.1, the frequency of rail sources may increase by a maximum of four (4) trips throughout the day. However, as the maximum hourly rail emissions are not expected to increase from previous emissions, the rail emissions were only modeled at special receptors located in the proximity of the rail line as well as sensitive receptor farther away from the line. Results of both these cases are presented in the next section.

5.0 STUDY OUTPUTS

The CALPUFF dispersion model was used to predict maximum ground-level concentrations due to substantive emission sources related to the Kami Terminal during site preparation and construction and during operation.

5.1 Site Preparation and Construction

A summary of the dispersion modeling results for the construction at the special receptors, as shown on Figure 7.4, is presented in Table 5.4. Modeling was conducted over all pertinent averaging periods for $PM_{2.5}$, PM_{10}, and TSP as well as, CO, SO_2 and NO_2.

A table presenting maximum ground level concentrations of all contaminants and averaging periods for site preparation and construction at all the special receptor is provided in Appendix G.

Table 5.1 Summary of Ground Level Concentrations at the Special Receptors During Site Preparation and Construction

Contaminant	Averaging Period	Maximum GLC (µg/m^3)	Background Concentration (µg/m3)	Cumulative Max GLC (µg/m3)	Applicable Criteria (µg/m3)	Percent (%) of Criteria
TSP	1 - Hour	71	-	-	-	-
	24 - Hour	8	90	98	120	82%
	Annual	0.5	-	-	-	-
PM_{10}	24 - Hour	6	-	-	-	-
$PM_{2.5}$	1 - Hour	3	-	-	-	-
	24 - Hour	0.4	20	20.4	30	68%
	Annual	0.03	-	-	-	-
SO_2	4 – Minute	0	150	150	1050	14%
	1 - Hour	0	-	-	-	-
	24 - Hour	0	50	50	288	17%
	Annual	0	20	20	52	38%
NO_2	1 - Hour	82	150	232	414	56%
	24 - Hour	9	100	109	207	53%
	Annual	0.6	30	31	103	30%
CO	1 - Hour	165	2 650	2 815	34000	8%
	8 - Hour	39	1 750	1 789	12700	14%

Cumulative ground level concentrations for all contaminants and averaging periods are predicted to be below the applicable criteria at the special receptors.

As described in section 4.6.1.2, results obtained for periods longer than 1 hour can be considered overestimated given the fact that the blasting activities will be intermittent and will occur less than once per day, while for dispersion modeling purposes, it was assumed that

blasting will occur every hour, from 6 am to 6 pm, in order to identify the worst case scenario of meteorological conditions for this activity.

5.2 Operation with Concentrate Pile

A summary of the dispersion modeling results for the Kami Terminal emissions during operation is presented for both scenarios in Table 5.2 and Table 5.3. Modeling was conducted over all pertinent averaging periods for $PM_{2.5}$, PM_{10}, and TSP, and the summary results presented in those tables are for the whole modeling grid, i.e. including industrial sectors or inhabited land on the Pointe-Noire peninsula.

Table 5.2 Maximum Ground Level Concentrations for Kami Terminal Emissions with Negligible Emissions Scenario from the Concentrate Piles

Contaminant	Averaging Period	Maximum GLC (µg/m^3)	Background Concentration (µg/m^3)	Cumulative Max GLC (µg/m^3)	Applicable Criteria (µg/m^3)	Percent (%) of Criteria
TSP	1 – hour	934	-	-	-	-
	24 – hours	46	90	136	120	114%
	Annual	7	-	-	-	-
PM_{10}	24 – hours	25	-	-	-	-
$PM_{2.5}$	1 – hour	235	-	-	-	-
	24 – hours	8	20	28	30	95%
	Annual	2	-	-	-	-

5.2.1 Particulate Matter Less than 2.5 Microns in Diameter ($PM_{2.5}$)

Maximum predicted ground-level $PM_{2.5}$ concentrations are presented for 1-hour, 24-hour, and annual averaging periods in Table 5.2. The maximum cumulative 24-hour average $PM_{2.5}$ ground-level concentrations were predicted to be below the regulatory standard (maximum predicted value of 28 µg/m^3 occurring in the proximity of the south side of property line). Contour plots of the maximum GLCs, for the 24-hour averaging period is presented in Figures D-1 to D-4 of Appendix D. Figure D-3 shows daily averaging period cumulative concentrations contours for $PM_{2.5}$.

5.2.2 Particulate Matter Less than 10 Microns in Diameter (PM_{10})

A summary of the maximum predicted ground-level PM_{10} concentrations is presented for the 24-hour averaging period in Table 5.2. The maximum predicted 24 hours average PM_{10} ground-level concentrations were predicted to be 25 µg/m^3 occurring on the southern side of property line. A Contour plot of the maximum GLCs, for the 24-hour averaging period is presented in Figures D-5 of Appendix D.

5.2.3 Total Suspended Particulate

Maximum predicted ground-level Total Suspended Particulate (TSP) concentrations for the 1-hour, and 24-hour, and annual averaging periods are presented in Table 5.2. The maximum TSP cumulative ground-level concentrations are predicted to be above the regulatory standards at 114% of the criteria for the daily averaging period.

Contour plot of the maximum GLCs, for the 24-hour and annual averaging periods are presented in Figures D-6 and D-8 of Appendix D. The highest predicted TSP concentration occurs in the vicinity of the southern boundary line, within a distance of approximately 100 meters from the property lines, next to the concentrate piles. Because this is an industrial sector, it does not represent a significant concern under MDDEP's guidelines.

5.3 Scenario with a Worst Case Emissions from the Concentrate Pile

The results presented in this section are the result of an additional dispersion modeling conducted to estimate worst-case emissions from the concentrate pile, given the uncertainty associated with this type of source and the absence of a threshold friction velocity specific to iron concentrate. More details about this scenario are given in section 4.6.2.4. Conservative assumptions were used here although the base case (with negligible emissions from concentrate pile) presented above remains a realistic case.

Table 5.3 Maximum Ground Level Concentrations for Kami Terminal Emissions with Worst-case Emissions from the Concentrate Piles

Contaminant	Averaging Period	Maximum GLC (µg/m^3)	Background Concentration (µg/m^3)	Cumulative Max GLC (µg/m^3)	Applicable Criteria (µg/m^3)	Percent (%) of Criteria
TSP	1 – hour	1 533	-	-	-	-
	24 – hours	267	90	357	120	298%
	Annual	39	-	-	-	-
PM_{10}	24 – hours	142	-	-	-	-
$PM_{2.5}$	1 – hour	236	-	-	-	-
	24 – hours	44	20	64	30	213%
	Annual	9	-	-	-	-

With respect to $PM_{2.5}$, contour plots of the maximum GLCs, for the 24 hours averaging period is presented in Figures E-1 to E-4 of Appendix E. Figure E-3 shows daily averaging period cumulative concentrations contours for $PM_{2.5}$. With respect to PM_{10}, a Contour plot of the maximum GLCs, for the 24 hours averaging period is presented in Figures E-5. With respect to TSP, contour plot of the maximum GLCs, for the 24-hour and annual averaging periods are presented in Figures E-6 and E-8.

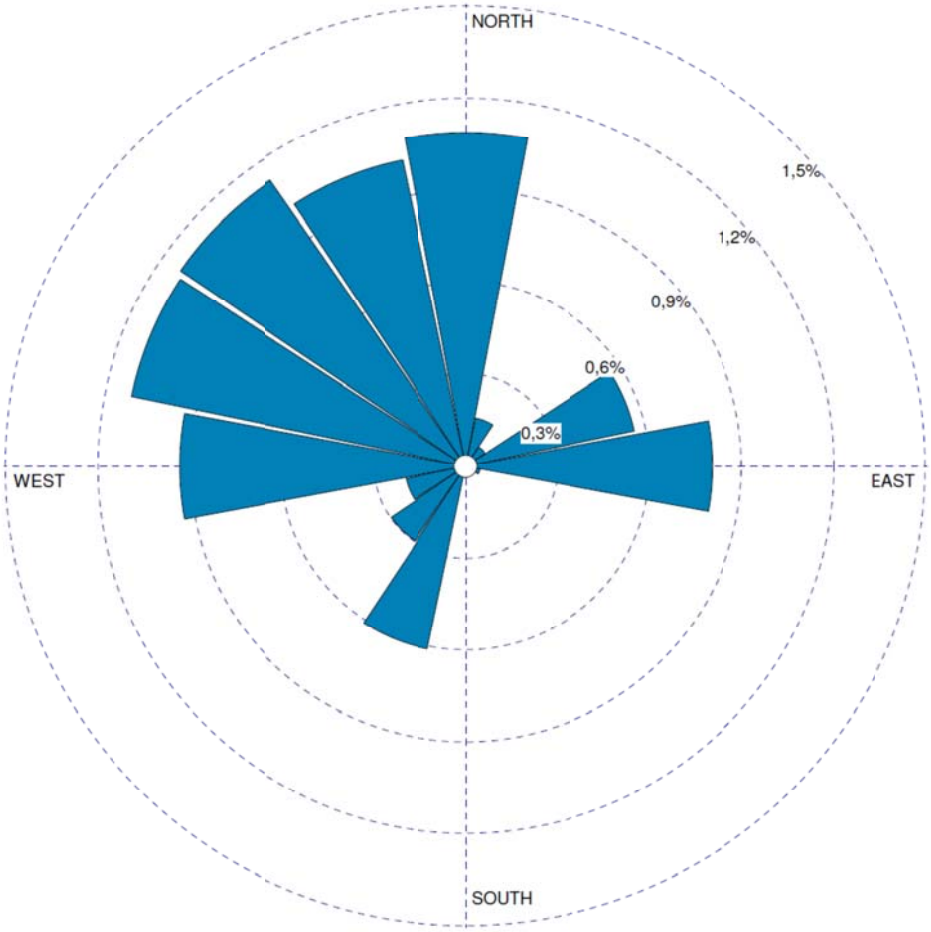
The highest predicted concentrations occur in the vicinity on the south-east side of the property.

It is important to remember that the dispersion modeling results presented in the above table were obtained by using a constant and worst case emission rate for each hour during 5 years while in reality, the frequency of pile disturbance are limited and occur only when all the following conditions are met:

- Wind speed above 22.4 km/h (occur 8,1% of time in Pointe-Noire);
- No rain during the day (occur 60 % of time in Pointe-Noire);
- No snow cover (occur 64 % of time in Pointe-Noire);

In addition to these conditions, wind direction also needs to be considered because modeled exceedances occurred over the south-west property limits and would be the result of wind blowing from north-east and north north-east. Theses combined direction and wind speeds occur less than 1% of time, as shown in the following figure, presenting a wind rose cumulating 5 years of wind data with speed over 22.4 km/h, for Pointe-Noire.

Figure 5.1 Wind Rose for Wind Speeds Above 22.4 km/h, Pointe-Noire, 2005-2010



5.4 Rail Emissions

A summary of the dispersion modeling results for the rail emissions at the special receptors is presented in Table 5.4. Modeling was conducted over all pertinent averaging periods for $PM_{2.5}$, PM_{10}, and TSP as well as, CO, SO_2 and NO_2. A table presenting maximum ground level concentrations of all contaminants and averaging periods for rail emissions at all the special receptor is provided in Appendix F.

Table 5.4 Summary of Ground Level Concentrations for Rail Emissions at the Special Receptors

Contaminant	Averaging Period	Maximum GLC (µg/m^3)	Background Concentration (µg/m3)	Cumulative Max GLC (µg/m3)	Applicable Criteria (µg/m3)	Percent (%) of Criteria
TSP	24 - Hour	1.5	90	92	120	76%
	Annual	0.3	-	-	-	-
PM_{10}	24 - Hour	1.5	-	-	-	-
$PM_{2.5}$	1 - Hour	6.1	-	-	-	-
	24 - Hour	1.5	20	22	30	72%
	Annual	0.3	-	-	-	-
SO_2	4 – Minute	1.6	150	151.6	1050	14%
	1 - Hour	0.9	-	-	-	-
	24 - Hour	0.2	50	50	288	17%
	Annual	0.0	20	20	52	39%
NO_2	1 - Hour	241.1	150	391	414	94%
	24 - Hour	58.8	100	159	207	77%
	Annual	9.8	30	40	103	39%
CO	1 - Hour	33.8	2650	2684	34000	8%
	8 - Hour	9.2	1750	1759	12700	14%

Cumulative ground level concentrations for all contaminants and averaging periods are predicted to be below the applicable criteria at the special receptors.

5.5 Conclusions

To assess the potential for a change in air quality due to emissions related to the Kami Terminal, a detailed Air Quality Dispersion Modelling Study was conducted. The study was conducted following generally accepted methodologies to establish existing (baseline) conditions, estimate emissions from potential Kami Terminal activities, and predict the maximum downwind concentrations of the pertinent air contaminants. The results of this study provide the necessary data to assess potential environmental effects due to air contaminant emissions from the Kami Terminal in the EIS this study supports.

Dispersion modeling scenarios specific to the site preparation and construction activities have shown no potential exceedances of the criteria air contaminants for the sensitive or special receptors. If emissions during the construction eventually lead to some concerns at close-by

receptors, or on neighbouring industrial properties, some mitigation measures may be considered, such as alternate blasting or rock crushing strategies.

The most substantive emissions related to the Kami Terminal during operation are due to concentrate handling and storage (fugitive dust emission). The emission sources can be categorized into three groups:

- Emissions from the diesel locomotive used for transporting the concentrate (mobile source);
- Emissions from the unloading operations at the car dumper (point source); and,
- Emissions due to pilling of concentrate on the storage pile and wind erosion from the pile itself (fugitive dust).

The Kami Terminal total estimated annual emissions represent less than 1 % of total annual emissions emitted by nearby industrial sources. The results of the dispersion modeling show that although there may be potential exceedances of regulatory standards at locations near the property line during adverse meteorological conditions for TPM and for 24 hours criteria only, with the background included. It is unlikely that prolonged human exposure to air contaminant concentrations at these levels will occur. Therefore, as the predicted exceedances represent worst-case meteorological conditions, are limited in spatial extent, seasonal, and are short-term in duration, no substantive changes in air quality are expected on the local or regional scales due to emissions from the Kami Terminal.

All potential exceedances modelled outside of the Port Authority property limits were located on or close to the south and south-west side of property limits, over land. With respect to the piles of concentrate, fugitive emissions resulting from wind erosion may lead to exceedances of the criteria, but the frequency of the meteorological conditions leading to these potential exceedances is low and the concern is restricted to neighbouring inhabitated properties zoned for industrial uses, mainly the high point of the Pointe-Noire area of the Marconi Peninsula.

Emissions from the diesel locomotive used for transporting the concentrate to Sept-Îles and along the bay are not expected to cause substantive changes in air quality as such emissions will be intermittent (2 round trips per day) and short-term in duration.

Therefore, on an overall basis, the modeling results show the local and regional changes in air quality due to emissions related to the Kami Terminal, including background, are not expected to be substantive.

5.6 Summary

During operation, atmospheric emissions may be emitted from different types of sources, including the locomotives used to transport the concentrate to the site, bulk storage concentrate pile, concentrate car unloading and on-site service and maintenance vehicles

The results of the dispersion modeling show that although there may be potential exceedances of regulatory standards at locations near the Port Authority property line and only during adverse meteorological conditions, these higher values are limited to within about 1.5 km of the property line and are located either over water or over neighboring industrial or inhabited land zoned for industrial uses. It is unlikely that prolonged human exposure to air contaminant concentrations at these levels will occur. Therefore, as the predicted exceedances represent worst-case meteorological conditions, and are limited in spatial extent and are short-term in duration, no substantive changes in air quality are expected.

Emissions from the diesel locomotive used for transporting the concentrate in the baie des Sept-Îles area are not expected to cause substantive changes in air quality as such emissions will be intermittent (two round trips per day) and short-term in duration.

Therefore, on an overall basis, the modeling results show the changes in air quality due to emissions related to the Kami Terminal, including background, are not expected to be substantive.

6.0 INFORMATION SOURCES

6.1 Literature Cited

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APPENDIX A

Calmet Input

```
CALMET.INP      2.2             Hour Start and End Times with Seconds
CALMET V6.218
---------------- Run title (3 lines) ------------------------------------
------

                    CALMET MODEL CONTROL FILE
                    -------------------------

--------------------------------------------------------------------------
------

INPUT GROUP: 0 -- Input and Output File Names


Subgroup (a)
------------
Default Name  Type          File Name
------------  ----          ---------
GEO.DAT       input    ! GEODAT=geo-win.dat       !
SURF.DAT      input    ! SRFDAT=SURF.DAT      !
CLOUD.DAT     input    * CLDDAT=              *
PRECIP.DAT    input    * PRCDAT=PRECIP.DAT    *
WT.DAT        input    * WTDAT=               *

CALMET.LST    output   ! METLST=CALMET.LST     !
CALMET.DAT    output   ! METDAT=CALMET.DAT    !
PACOUT.DAT    output   * PACDAT=              *

All file names will be converted to lower case if LCFILES = T
Otherwise, if LCFILES = F, file names will be converted to UPPER CASE
         T = lower case      ! LCFILES = T !
         F = UPPER CASE

NUMBER OF UPPER AIR & OVERWATER STATIONS:

    Number of upper air stations (NUSTA)  No default     ! NUSTA =  1  !
    Number of overwater met stations
                                  (NOWSTA) No default     ! NOWSTA =  1  !

NUMBER OF PROGNOSTIC and IGF-CALMET FILEs:

    Number of MM4/MM5/3D.DAT files
                                  (NM3D) No default       ! NM3D =  0  !

    Number of IGF-CALMET.DAT files
                                  (NIGF)   No default     ! NIGF =  0  !

                        !END!
--------------------------------------------------------------------------
-------
Subgroup (b)
---------------------------------
Upper air files (one per station)
---------------------------------
```

```
Default Name  Type       File Name
------------  ----       ---------
UP1.DAT       input     1  ! UPDAT=UP.DAT!    !END!
-------------------------------------------------------------------------------
-------
Subgroup (c)
---------------------------------------
Overwater station files (one per station)
---------------------------------------
Default Name  Type       File Name
------------  ----       ---------
SEA1.DAT       input     1  ! SEADAT=SEA.DAT!    !END!
-------------------------------------------------------------------------------
-------
Subgroup (d)
-----------------------------------------------
MM4/MM5/3D.DAT files (consecutive or overlapping)
-----------------------------------------------
Default Name  Type       File Name
------------  ----       ---------
MM51.DAT       input     1  * M3DDAT=MM4.DAT*    *END*
-------------------------------------------------------------------------------
-------
Subgroup (e)
-----------------------------------------------
IGF-CALMET.DAT files (consecutive or overlapping)
-----------------------------------------------
Default Name  Type       File Name
------------  ----       ---------
IGFn.DAT       input     1  * IGFDAT=CALMET0.DAT *    *END*
-------------------------------------------------------------------------------
-------
Subgroup (f)
----------------
Other file names
----------------

Default Name  Type       File Name
------------  ----       ---------
DIAG.DAT      input      * DIADAT=                  *
PROG.DAT      input      * PRGDAT=                  *

TEST.PRT      output     * TSTPRT=                  *
TEST.OUT      output     * TSTOUT=                  *
TEST.KIN      output     * TSTKIN=                  *
TEST.FRD      output     * TSTFRD=                  *
TEST.SLP      output     * TSTSLP=                  *
DCST.GRD      output     * DCSTGD=                  *

-------------------------------------------------------------------------------
-------
NOTES: (1) File/path names can be up to 70 characters in length
       (2) Subgroups (a) and (f) must have ONE 'END' (surrounded by
           delimiters) at the end of the group
```

```
       (3) Subgroups (b) through (e) are included ONLY if the
corresponding
           number of files (NUSTA, NOWSTA, NM3D, NIGF) is not 0, and each
must have
           an 'END' (surround by delimiters) at the end of EACH LINE

                          !END!


------------------------------------------------------------------------
------

INPUT GROUP: 1 -- General run control parameters
--------------

     Starting date:    Year   (IBYR)  --    No default   ! IBYR  =  2006
!
                       Month  (IBMO)  --    No default   ! IBMO  =  01  !
                       Day    (IBDY)  --    No default   ! IBDY  =  1 !
     Starting time:    Hour   (IBHR)  --    No default   ! IBHR  =  0  !
                       Second (IBSEC) --    No default   ! IBSEC =  0  !

     Ending date:      Year   (IEYR)  --    No default   ! IEYR  =  2006
!
                       Month  (IEMO)  --    No default   ! IEMO  =  04  !
                       Day    (IEDY)  --    No default   ! IEDY  =  1  !
     Ending time:      Hour   (IEHR)  --    No default   ! IEHR  =  0  !
                       Second (IESEC) --    No default   ! IESEC =  0  !

      UTC time zone         (ABTZ) -- No default       ! ABTZ= UTC-0500 !
         (character*8)
         PST = UTC-0800, MST = UTC-0700 , GMT = UTC-0000
         CST = UTC-0600, EST = UTC-0500

     Length of modeling time-step (seconds)
     Must divide evenly into 3600 (1 hour)
     (NSECDT)                        Default:3600     ! NSECDT =  3600  !
                                     Units: seconds

     Run type            (IRTYPE) -- Default: 1       ! IRTYPE=  1  !

        0 = Computes wind fields only
        1 = Computes wind fields and micrometeorological variables
            (u*, w*, L, zi, etc.)
        (IRTYPE must be 1 to run CALPUFF or CALGRID)

     Compute special data fields required
     by CALGRID (i.e., 3-D fields of W wind
     components and temperature)
     in additional to regular            Default: T    ! LCALGRD = T !
     fields ? (LCALGRD)
     (LCALGRD must be T to run CALGRID)

      Flag to stop run after
```

```
      SETUP phase (ITEST)             Default: 2       ! ITEST=  2   !
      (Used to allow checking
      of the model inputs, files, etc.)
      ITEST = 1 - STOPS program after SETUP phase
      ITEST = 2 - Continues with execution of
                  COMPUTATIONAL phase after SETUP


     Test options specified to see if
     they conform to regulatory
     values? (MREG)                  No Default       ! MREG =  0   !

        0 = NO checks are made
        1 = Technical options must conform to USEPA guidance
                  IMIXH    -1     Maul-Carson convective mixing height
                                  over land; OCD mixing height overwater
                  ICOARE   0      OCD deltaT method for overwater fluxes
                  THRESHL  0.0    Threshold buoyancy flux over land
needed
                                  to sustain convective mixing height
growth
                  ISURFT   > 0    in OBS mode (pick one representative
station)
                           -2     in NOOBS mode (itprog=2) (average all
                                  surface prognostic temperatures to get
                                  a single representative sf. temp)
                  IUPT     > 0    in OBS mode (pick one representative
station)
                           -2     in NOOBS mode (ITPROG>0) (average all
surface
                                  prognostic temperatures to get a single
                                  representative sf. temp)
                  IZICRLX  0      Do NOT use convective mixing height
relaxation
                                  to equilibrium value

!END!

---------------------------------------------------------------------------
------

INPUT GROUP: 2 -- Map Projection and Grid control parameters
--------------

     Projection for all (X,Y):
     -------------------------

     Map projection
     (PMAP)                    Default: UTM    ! PMAP = UTM  !

         UTM :  Universal Transverse Mercator
         TTM :  Tangential Transverse Mercator
         LCC :  Lambert Conformal Conic
          PS :  Polar Stereographic
```

```
          EM :  Equatorial Mercator
         LAZA :  Lambert Azimuthal Equal Area

     False Easting and Northing (km) at the projection origin
     (Used only if PMAP= TTM, LCC, or LAZA)
     (FEAST)                   Default=0.0     ! FEAST  = 0.000  !
     (FNORTH)                  Default=0.0     ! FNORTH = 0.000  !

     UTM zone (1 to 60)
     (Used only if PMAP=UTM)
     (IUTMZN)                  No Default      ! IUTMZN =  19   !

     Hemisphere for UTM projection?
     (Used only if PMAP=UTM)
     (UTMHEM)                  Default: N      ! UTMHEM = N  !
         N   :  Northern hemisphere projection
         S   :  Southern hemisphere projection

     Latitude and Longitude (decimal degrees) of projection origin
     (Used only if PMAP= TTM, LCC, PS, EM, or LAZA)
     (RLAT0)                   No Default      ! RLAT0 = 40N  !
     (RLON0)                   No Default      ! RLON0 = 90W  !

         TTM :  RLON0 identifies central (true N/S) meridian of
projection
                RLAT0 selected for convenience
         LCC :  RLON0 identifies central (true N/S) meridian of
projection
                RLAT0 selected for convenience
         PS  :  RLON0 identifies central (grid N/S) meridian of
projection
                RLAT0 selected for convenience
         EM  :  RLON0 identifies central meridian of projection
                RLAT0 is REPLACED by 0.0N (Equator)
         LAZA:  RLON0 identifies longitude of tangent-point of mapping
plane
                RLAT0 identifies latitude of tangent-point of mapping
plane

     Matching parallel(s) of latitude (decimal degrees) for projection
     (Used only if PMAP= LCC or PS)
     (XLAT1)                   No Default      ! XLAT1 = 30N  !
     (XLAT2)                   No Default      ! XLAT2 = 60N  !

         LCC :  Projection cone slices through Earth's surface at XLAT1
and XLAT2
         PS  :  Projection plane slices through Earth at XLAT1
                (XLAT2 is not used)

     ----------
     Note:  Latitudes and longitudes should be positive, and include a
            letter N,S,E, or W indicating north or south latitude, and
            east or west longitude.  For example,
            35.9  N Latitude  =  35.9N
```

118.7 E Longitude = 118.7E

Datum-region

The Datum-Region for the coordinates is identified by a character string. Many mapping products currently available use the model of the Earth known as the World Geodetic System 1984 (WGS-84). Other local models may be in use, and their selection in CALMET will make its output consistent with local mapping products. The list of Datum-Regions with official transformation parameters is provided by the National Imagery and Mapping Agency (NIMA).

NIMA Datum - Regions(Examples)

WGS-84	WGS-84 Reference Ellipsoid and Geoid, Global coverage (WGS84)
NAS-C	NORTH AMERICAN 1927 Clarke 1866 Spheroid, MEAN FOR CONUS (NAD27)
NAR-C	NORTH AMERICAN 1983 GRS 80 Spheroid, MEAN FOR CONUS (NAD83)
NWS-84	NWS 6370KM Radius, Sphere
ESR-S	ESRI REFERENCE 6371KM Radius, Sphere

Datum-region for output coordinates
(DATUM) Default: WGS-84 ! DATUM = WGS-84 !

Horizontal grid definition:

Rectangular grid defined for projection PMAP,
with X the Easting and Y the Northing coordinate

No. X grid cells (NX)	No default	! NX = 80 !
No. Y grid cells (NY)	No default	! NY = 80 !
Grid spacing (DGRIDKM)	No default Units: km	! DGRIDKM = 0.5 !

Reference grid coordinate of
SOUTHWEST corner of grid cell (1,1)

X coordinate (XORIGKM)	No default	! XORIGKM = 659.202 !
Y coordinate (YORIGKM)	No default Units: km	! YORIGKM = 5539.244 !

```
     Vertical grid definition:
     -------------------------

        No. of vertical layers (NZ)    No default     ! NZ =  10  !

        Cell face heights in arbitrary
        vertical grid (ZFACE(NZ+1))    No defaults
                                       Units: m
        ! ZFACE = 0.,20.,40.,80.,160.,300.,600.,1000.,1500.,2200.,3000. !

!END!


------------------------------------------------------------------------
------

INPUT GROUP: 3 -- Output Options
--------------


    DISK OUTPUT OPTION

       Save met. fields in an unformatted
       output file ?              (LSAVE)  Default: T     ! LSAVE = T !
       (F = Do not save, T = Save)

       Type of unformatted output file:
       (IFORMO)                            Default: 1    ! IFORMO =  1  !

            1 = CALPUFF/CALGRID type file (CALMET.DAT)
            2 = MESOPUFF-II type file     (PACOUT.DAT)


    LINE PRINTER OUTPUT OPTIONS:

       Print met. fields ?  (LPRINT)       Default: F     ! LPRINT = F !
       (F = Do not print, T = Print)
       (NOTE: parameters below control which
              met. variables are printed)

       Print interval
       (IPRINF) in hours                   Default: 1     ! IPRINF =  1
!
       (Meteorological fields are printed
        every  1  hours)


       Specify which layers of U, V wind component
       to print (IUVOUT(NZ)) -- NOTE: NZ values must be entered
       (0=Do not print, 1=Print)
       (used only if LPRINT=T)        Defaults: NZ*0
       ! IUVOUT =  0 ,  0 ,  0 ,  0 ,  0 ,  0 ,  0 ,  0 ,  0 ,  0  !
```

```
 ----------------------


 Specify which levels of the W wind component to print
 (NOTE: W defined at TOP cell face --  10  values)
 (IWOUT(NZ)) -- NOTE: NZ values must be entered
 (0=Do not print, 1=Print)
 (used only if LPRINT=T & LCALGRD=T)
 ----------------------------------
                                      Defaults: NZ*0
  ! IWOUT =  0 ,  0 ,  0 ,  0 ,  0 ,  0 ,  0 ,  0 ,  0 ,  0  !


 Specify which levels of the 3-D temperature field to print
 (ITOUT(NZ)) -- NOTE: NZ values must be entered
 (0=Do not print, 1=Print)
 (used only if LPRINT=T & LCALGRD=T)
 ----------------------------------
                                      Defaults: NZ*0
  ! ITOUT =  0 ,  0 ,  0 ,  0 ,  0 ,  0 ,  0 ,  0 ,  0 ,  0  !

 Specify which meteorological fields
 to print
 (used only if LPRINT=T)             Defaults: 0 (all variables)
 ----------------------


   Variable            Print ?
                    (0 = do not print,
                     1 = print)
   --------         ------------------

!  STABILITY  =           0           ! - PGT stability class
!  USTAR      =           0           ! - Friction velocity
!  MONIN      =           0           ! - Monin-Obukhov length
!  MIXHT      =           0           ! - Mixing height
!  WSTAR      =           0           ! - Convective velocity scale
!  PRECIP     =           0           ! - Precipitation rate
!  SENSHEAT   =           0           ! - Sensible heat flux
!  CONVZI     =           0           ! - Convective mixing ht.


 Testing and debug print options for micrometeorological module

    Print input meteorological data and
    internal variables (LDB)         Default: F       ! LDB = F !
    (F = Do not print, T = print)
    (NOTE: this option produces large amounts of output)

    First time step for which debug data
    are printed (NN1)                Default: 1       ! NN1 =  1  !

    Last time step for which debug data
    are printed (NN2)                Default: 1       ! NN2 =  1  !
```

```
          Print distance to land
          internal variables (LDBCST)      Default: F       ! LDBCST = F
!
          (F = Do not print, T = print)
          (Output in .GRD file DCST.GRD, defined in input group 0)

        Testing and debug print options for wind field module
        (all of the following print options control output to
         wind field module's output files: TEST.PRT, TEST.OUT,
         TEST.KIN, TEST.FRD, and TEST.SLP)

          Control variable for writing the test/debug
          wind fields to disk files (IOUTD)
          (0=Do not write, 1=write)        Default: 0       ! IOUTD =  0
!

          Number of levels, starting at the surface,
          to print (NZPRN2)                Default: 1       ! NZPRN2 =  0
!

          Print the INTERPOLATED wind components ?
          (IPR0) (0=no, 1=yes)             Default: 0       !  IPR0 =  0
!

          Print the TERRAIN ADJUSTED surface wind
          components ?
          (IPR1) (0=no, 1=yes)             Default: 0       !  IPR1 =  0
!

          Print the SMOOTHED wind components and
          the INITIAL DIVERGENCE fields ?
          (IPR2) (0=no, 1=yes)             Default: 0       !  IPR2 =  0
!

          Print the FINAL wind speed and direction
          fields ?
          (IPR3) (0=no, 1=yes)             Default: 0       !  IPR3 =  0
!

          Print the FINAL DIVERGENCE fields ?
          (IPR4) (0=no, 1=yes)             Default: 0       !  IPR4 =  0
!

          Print the winds after KINEMATIC effects
          are added ?
          (IPR5) (0=no, 1=yes)             Default: 0       !  IPR5 =  0
!

          Print the winds after the FROUDE NUMBER
          adjustment is made ?
          (IPR6) (0=no, 1=yes)             Default: 0       !  IPR6 =  0
!
```

```
          Print the winds after SLOPE FLOWS
          are added ?
          (IPR7) (0=no, 1=yes)             Default: 0       !  IPR7 =  0
!

          Print the FINAL wind field components ?
          (IPR8) (0=no, 1=yes)             Default: 0       !  IPR8 =  0
!

!END!


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------

INPUT GROUP: 4 -- Meteorological data options
--------------

    NO OBSERVATION MODE             (NOOBS)  Default: 0     ! NOOBS =  0
!
          0 = Use surface, overwater, and upper air stations
          1 = Use surface and overwater stations (no upper air
observations)
              Use MM4/MM5/3D for upper air data
          2 = No surface, overwater, or upper air observations
              Use MM4/MM5/3D for surface, overwater, and upper air data

    NUMBER OF SURFACE & PRECIP. METEOROLOGICAL STATIONS

       Number of surface stations   (NSSTA)  No default     ! NSSTA =  2
!

       Number of precipitation stations
       (NPSTA=-1: flag for use of MM5/3D precip data)
                                    (NPSTA)  No default     ! NPSTA =  0
!

    CLOUD DATA OPTIONS
       Output option - output a CLOUD.DAT file (yes or no)
       0=no, 1=yes
                                   (ICLDOUT) Default:999      ! ICLDOUT =
0  !

       Method to compute cloud fields:
                                   (MCLOUD)  Default: 999     ! MCLOUD =
1  !
       MCLOUD = 1 - Clouds data generated from surface observations
       MCLOUD = 2 - Gridded CLOUD.DAT read from CLOUD.DAT file (no output
                    is possible since already exist)
       MCLOUD = 3 - Gridded cloud cover from Prognostic Rel. Humidity
                    at 850mb (Teixera)
       MCLOUD = 4 - Gridded cloud cover from Prognostic Rel. Humidity
                    at all levels (MM5toGrads algorithm)
```

```
    FILE FORMATS

       Surface meteorological data file format
                                  (IFORMS)  Default: 2     ! IFORMS =  2
!
       (1 = unformatted (e.g., SMERGE output))
       (2 = formatted   (free-formatted user input))

       Precipitation data file format
                                  (IFORMP)  Default: 2     ! IFORMP =  2
!
       (1 = unformatted (e.g., PMERGE output))
       (2 = formatted   (free-formatted user input))

       Cloud data file format
                                  (IFORMC)  Default: 2     ! IFORMC =  2
!
       (1 = unformatted - CALMET unformatted output)
       (2 = formatted   - free-formatted CALMET output or user input)

!END!


------------------------------------------------------------------------
------

INPUT GROUP: 5 -- Wind Field Options and Parameters
--------------


    WIND FIELD MODEL OPTIONS
       Model selection variable (IWFCOD)     Default: 1      ! IWFCOD =
1  !
          0 = Objective analysis only
          1 = Diagnostic wind module

       Compute Froude number adjustment
       effects ? (IFRADJ)                    Default: 1      ! IFRADJ =
1  !
       (0 = NO, 1 = YES)

       Compute kinematic effects ? (IKINE)   Default: 0      ! IKINE  =
0  !
       (0 = NO, 1 = YES)

       Use O'Brien procedure for adjustment
       of the vertical velocity ? (IOBR)     Default: 0      ! IOBR =  0
!
       (0 = NO, 1 = YES)

       Compute slope flow effects ? (ISLOPE) Default: 1      ! ISLOPE  =
1  !
       (0 = NO, 1 = YES)
```

```
       Extrapolate surface wind observations
       to upper layers ? (IEXTRP)            Default: -4     ! IEXTRP = -
4  !
       (1 = no extrapolation is done,
        2 = power law extrapolation used,
        3 = user input multiplicative factors
            for layers 2 - NZ used (see FEXTRP array)
        4 = similarity theory used
        -1, -2, -3, -4 = same as above except layer 1 data
            at upper air stations are ignored

       Extrapolate surface winds even
       if calm? (ICALM)                      Default: 0      ! ICALM  =
0  !
       (0 = NO, 1 = YES)

       Layer-dependent biases modifying the weights of
       surface and upper air stations (BIAS(NZ))
         -1<=BIAS<=1
       Negative BIAS reduces the weight of upper air stations
         (e.g. BIAS=-0.1 reduces the weight of upper air stations
       by 10%; BIAS= -1, reduces their weight by 100 %)
       Positive BIAS reduces the weight of surface stations
         (e.g. BIAS= 0.2 reduces the weight of surface stations
       by 20%; BIAS=1 reduces their weight by 100%)
       Zero BIAS leaves weights unchanged (1/R**2 interpolation)
       Default: NZ*0
                               ! BIAS =  0 ,  0 ,  0 ,  0 ,  0 ,  0 ,  0
,  0 ,  0 ,  0  !

       Minimum distance from nearest upper air station
       to surface station for which extrapolation
       of surface winds at surface station will be allowed
       (RMIN2: Set to -1 for IEXTRP = 4 or other situations
        where all surface stations should be extrapolated)
                                             Default: 4.     ! RMIN2 = -
1.0 !

       Use gridded prognostic wind field model
       output fields as input to the diagnostic
       wind field model (IPROG)              Default: 0      ! IPROG =  0
!
       (0 = No, [IWFCOD = 0 or 1]
        1 = Yes, use CSUMM prog. winds as Step 1 field, [IWFCOD = 0]
        2 = Yes, use CSUMM prog. winds as initial guess field [IWFCOD =
1]
        3 = Yes, use winds from MM4.DAT file as Step 1 field [IWFCOD = 0]
        4 = Yes, use winds from MM4.DAT file as initial guess field
[IWFCOD = 1]
        5 = Yes, use winds from MM4.DAT file as observations [IWFCOD = 1]
        13 = Yes, use winds from MM5/3D.DAT file as Step 1 field [IWFCOD
= 0]
        14 = Yes, use winds from MM5/3D.DAT file as initial guess field
[IWFCOD = 1]
```

```
        15 = Yes, use winds from MM5/3D.DAT file as observations [IWFCOD
= 1]

       Timestep (seconds) of the prognostic
       model input data   (ISTEPPGS)        Default: 3600    ! ISTEPPGS =
3600   !

       Use coarse CALMET fields as initial guess fields (IGFMET)
       (overwrites IGF based on prognostic wind fields if any)
                                            Default: 0      ! IGFMET =
0  !

    RADIUS OF INFLUENCE PARAMETERS

       Use varying radius of influence      Default: F      ! LVARY =
T!
       (if no stations are found within RMAX1,RMAX2,
        or RMAX3, then the closest station will be used)

       Maximum radius of influence over land
       in the surface layer (RMAX1)         No default      ! RMAX1 =
15. !
                                            Units: km
       Maximum radius of influence over land
       aloft (RMAX2)                        No default      ! RMAX2 =
20. !
                                            Units: km
       Maximum radius of influence over water
       (RMAX3)                              No default      ! RMAX3 =
20. !
                                            Units: km


    OTHER WIND FIELD INPUT PARAMETERS

       Minimum radius of influence used in
       the wind field interpolation (RMIN)  Default: 0.1    ! RMIN = 0.1
!
                                            Units: km
       Radius of influence of terrain
       features (TERRAD)                    No default      ! TERRAD =
7. !

                                            Units: km
       Relative weighting of the first
       guess field and observations in the
       SURFACE layer (R1)                   No default      ! R1 = 1. !
       (R1 is the distance from an          Units: km
       observational station at which the
       observation and first guess field are
       equally weighted)

       Relative weighting of the first
       guess field and observations in the
```

```
       layers ALOFT (R2)                       No default      ! R2 = 1. !
       (R2 is applied in the upper layers      Units: km
       in the same manner as R1 is used in
       the surface layer).

       Relative weighting parameter of the
       prognostic wind field data (RPROG)      No default      ! RPROG = 0.
!
       (Used only if IPROG = 1)                Units: km
       ------------------------

       Maximum acceptable divergence in the
       divergence minimization procedure
       (DIVLIM)                                Default: 5.E-6  ! DIVLIM=
5.0E-06 !

       Maximum number of iterations in the
       divergence min. procedure (NITER)       Default: 50     ! NITER =
50  !

       Number of passes in the smoothing
       procedure (NSMTH(NZ))
       NOTE: NZ values must be entered
            Default: 2,(mxnz-1)*4 ! NSMTH =
 2 ,  4 ,  4 ,  4 ,  4 ,  4 ,  4 ,  4 ,  4 ,  4  !

       Maximum number of stations used in
       each layer for the interpolation of
       data to a grid point (NINTR2(NZ))
       NOTE: NZ values must be entered         Default: 99.    ! NINTR2 =
 5 ,  5 ,  5 ,  5 ,  5 ,  5 ,  5 ,  5 ,  5 ,  5  !

       Critical Froude number (CRITFN)         Default: 1.0    ! CRITFN =
1. !

       Empirical factor controlling the
       influence of kinematic effects
       (ALPHA)                                 Default: 0.1    ! ALPHA =
0.1 !

       Multiplicative scaling factor for
       extrapolation of surface observations
       to upper layers (FEXTR2(NZ))            Default: NZ*0.0
       ! FEXTR2 = 0., 0., 0., 0., 0., 0., 0., 0., 0., 0. !
       (Used only if IEXTRP = 3 or -3)


    BARRIER INFORMATION

       Number of barriers to interpolation
       of the wind fields (NBAR)               Default: 0      ! NBAR =  0
!

       Level (1 to NZ) up to which barriers
```

```
       apply (KBAR)                            Default: NZ     ! KBAR =  10
!

       THE FOLLOWING 4 VARIABLES ARE INCLUDED
       ONLY IF NBAR > 0
       NOTE: NBAR values must be entered     No defaults
             for each variable               Units: km

          X coordinate of BEGINNING
          of each barrier (XBBAR(NBAR))      ! XBBAR = 0. !
          Y coordinate of BEGINNING
          of each barrier (YBBAR(NBAR))      ! YBBAR = 0. !

          X coordinate of ENDING
          of each barrier (XEBAR(NBAR))      ! XEBAR = 0. !
          Y coordinate of ENDING
          of each barrier (YEBAR(NBAR))      ! YEBAR = 0. !


    DIAGNOSTIC MODULE DATA INPUT OPTIONS

       Surface temperature (IDIOPT1)         Default: 0      ! IDIOPT1 =
0  !
          0 = Compute internally from
              hourly surface observations or prognostic fields
          1 = Read preprocessed values from
              a data file (DIAG.DAT)

          Surface met. station to use for
          the surface temperature (ISURFT)    Default: -1    ! ISURFT =
-1  !
          (Must be a value from 1 to NSSTA
          or -1 to use 2-D spatially varying
             surface temperatures).
          or -2 to use a domain-average prognostic
          lapse rate (only with ITPROG=2)
          (Used only if IDIOPT1 = 0)
          --------------------------

          Temperature lapse rate used in the    Default: 0     ! IDIOPT2
=  0  !
          computation of terrain-induced
          circulations (IDIOPT2)
          0 = Compute internally from (at least) twice-daily
              upper air observations or prognostic fields
          1 = Read hourly preprocessed values
              from a data file (DIAG.DAT)

          Upper air station to use for
          the domain-scale lapse rate (IUPT) Default: -1   ! IUPT   =  -1
!
          (Must be a value from 1 to NUSTA
          or -1 to use 2-D spatially varying lapse rate)
          or -2 to use a domain-average prognostic
```

```
          lapse rate (only with ITPROG>0)
          (Used only if IDIOPT2 = 0)
          -------------------------

          Depth through which the domain-scale
          lapse rate is computed (ZUPT)      Default: 200.  ! ZUPT = 200.
!
          (Used only if IDIOPT2 = 0)         Units: meters
          -------------------------

       Initial Guess Field Winds
       (IDIOPT3)                             Default: 0     ! IDIOPT3 =
0  !
          0 = Compute internally from
              observations or prognostic wind fields
          1 = Read hourly preprocessed domain-average wind values
              from a data file (DIAG.DAT)

          Upper air station to use for
          the initial guess winds (IUPWND)    Default: -1    ! IUPWND = -
1  !
          (Must be a value from -1 to NUSTA, with
          -1 indicating 3-D initial guess fields,
          and IUPWND>1 domain-scaled (i.e. constant) IGF
          (Used only if IDIOPT3 = 0 and noobs=0)
          ---------------------------------------

          Bottom and top of layer through
          which the domain-scale winds
          are computed
          (ZUPWND(1), ZUPWND(2))        Defaults: 1., 1000. ! ZUPWND= 1.,
1000. !
          (Used only if IDIOPT3 = 0, NOOBS>0 and IUPWND>0)    Units:
meters
          -------------------------

       Observed surface wind components
       for wind field module (IDIOPT4)  Default: 0     ! IDIOPT4 =  0  !
          0 = Read WS, WD from a surface
              data file (SURF.DAT)
          1 = Read hourly preprocessed U, V from
              a data file (DIAG.DAT)

       Observed upper air wind components
       for wind field module (IDIOPT5)  Default: 0     ! IDIOPT5 =  0  !
          0 = Read WS, WD from an upper
              air data file (UP1.DAT, UP2.DAT, etc.)
          1 = Read hourly preprocessed U, V from
              a data file (DIAG.DAT)

       LAKE BREEZE INFORMATION

          Use Lake Breeze Module  (LLBREZE)
```

```
                                          Default: F      ! LLBREZE = F
!

          Number of lake breeze regions (NBOX)            ! NBOX =  0  !

        X Grid line 1 defining the region of interest
                                                          ! XG1 = 0. !
        X Grid line 2 defining the region of interest
                                                          ! XG2 = 0. !
        Y Grid line 1 defining the region of interest
                                                          ! YG1 = 0. !
        Y Grid line 2 defining the region of interest
                                                          ! YG2 = 0. !

         X Point defining the coastline (Straight line)
                   (XBCST)  (KM)   Default: none    ! XBCST = 0. !

         Y Point defining the coastline (Straight line)
                   (YBCST)  (KM)   Default: none    ! YBCST = 0. !

         X Point defining the coastline (Straight line)
                   (XECST)  (KM)   Default: none    ! XECST = 0. !

         Y Point defining the coastline (Straight line)
                   (YECST)  (KM)   Default: none    ! YECST = 0. !


       Number of stations in the region     Default: none ! NLB =  0 !
       (Surface stations + upper air stations)

       Station ID's  in the region   (METBXID(NLB))
       (Surface stations first, then upper air stations)
         ! METBXID =  0 !

!END!


------------------------------------------------------------------------
------

INPUT GROUP: 6 -- Mixing Height, Temperature and Precipitation Parameters
--------------

    EMPIRICAL MIXING HEIGHT CONSTANTS

       Neutral, mechanical equation
       (CONSTB)                           Default: 1.41   ! CONSTB =
1.41 !
       Convective mixing ht. equation
       (CONSTE)                           Default: 0.15   ! CONSTE =
0.15 !
       Stable mixing ht. equation
       (CONSTN)                           Default: 2400.  ! CONSTN =
2400.!
```

```
       Overwater mixing ht. equation
       (CONSTW)                              Default: 0.16   ! CONSTW =
0.16 !
       Absolute value of Coriolis
       parameter (FCORIOL)                   Default: 1.E-4  ! FCORIOL =
1.0E-04!
                                             Units: (1/s)

    SPATIAL AVERAGING OF MIXING HEIGHTS

       Conduct spatial averaging
       (IAVEZI)  (0=no, 1=yes)               Default: 1      ! IAVEZI =
1  !

       Max. search radius in averaging
       process (MNMDAV)                      Default: 1      ! MNMDAV =
10  !
                                             Units: Grid
                                                    cells
       Half-angle of upwind looking cone
       for averaging (HAFANG)                Default: 30.    ! HAFANG =
30. !
                                             Units: deg.
       Layer of winds used in upwind
       averaging (ILEVZI)                    Default: 1      ! ILEVZI =
1  !
       (must be between 1 and NZ)


    CONVECTIVE MIXING HEIGHT OPTIONS:
       Method to compute the convective
       mixing height(IMIHXH)                 Default: 1      ! IMIXH =  1
!
           1: Maul-Carson for land and water cells
          -1: Maul-Carson for land cells only -
              OCD mixing height overwater
           2: Batchvarova and Gryning for land and water cells
          -2: Batchvarova and Gryning for land cells only
              OCD mixing height overwater

       Threshold buoyancy flux required to
       sustain convective mixing height growth
       overland (THRESHL)                    Default: 0.0    ! THRESHL =
0.0 !
       (expressed as a heat flux             units: W/m3
        per meter of boundary layer)


       Threshold buoyancy flux required to
       sustain convective mixing height growth
       overwater (THRESHW)                   Default: 0.05   ! THRESHW =
0.05 !
       (expressed as a heat flux             units: W/m3
        per meter of boundary layer)
```

```
       Flag to allow relaxation of convective mixing height
       to equilibrium value when  0<QH<THRESHL (overland)
                              or  0<QH<THRESHW (overwater)
       (IZICRLX)                              Default: 1      ! IZICRLX =
1  !
          0 : do NOT use convective mixing height relaxation
              to equilibrium value (treatment identical to CALMET v5.8)
          1 : use convective mixing height relaxation
              to equilibrium value

       Relaxation time of convective mixing height to
       equilibrium value when  0<QH<THRESHL (overland)
                           or  0<QH<THRESHW (overwater)
       (Used only if IZICRLX = 1 and  TZICRLX must be >= 1.)
       (TZICRLX)                              Default: 800.   ! TZICRLX =
800.  !
                                              Units: seconds

       Option for overwater lapse rates used
       in convective mixing height growth
       (ITWPROG)                              Default: 0      ! ITWPROG =
0  !
       0 : use SEA.DAT lapse rates and deltaT (or assume neutral
           conditions if missing)
       1 : use prognostic lapse rates (only if IPROG>2)
           and SEA.DAT deltaT (or neutral if missing)
       2 : use prognostic lapse rates and prognostic delta T
           (only if iprog>12 and 3D.DAT version# 2.0 or higher)

       Land Use category ocean in 3D.DAT datasets
       (ILUOC3D)                              Default: 16     ! ILUOC3D =
16  !
       Note: if 3D.DAT from MM5 version 3.0, iluoc3d = 16
             if MM4.DAT,           typically iluoc3d = 7


    OTHER MIXING HEIGHT VARIABLES

       Minimum potential temperature lapse
       rate in the stable layer above the
       current convective mixing ht.          Default: 0.001  ! DPTMIN =
0.001 !
       (DPTMIN)                               Units: deg. K/m
       Depth of layer above current conv.
       mixing height through which lapse      Default: 200.   ! DZZI =
200. !
       rate is computed (DZZI)                Units: meters

       Minimum overland mixing height         Default:  50.   ! ZIMIN =
50. !
       (ZIMIN)                                Units: meters
```

```
       Maximum overland mixing height        Default: 3000.  ! ZIMAX =
2500. !
       (ZIMAX)                               Units: meters
       Minimum overwater mixing height       Default:   50.  ! ZIMINW =
50. !
       (ZIMINW) -- (Not used if observed     Units: meters
       overwater mixing hts. are used)
       Maximum overwater mixing height       Default: 3000.  ! ZIMAXW =
2500. !
       (ZIMAXW) -- (Not used if observed     Units: meters
       overwater mixing hts. are used)


    OVERWATER SURFACE FLUXES METHOD and PARAMETERS
          (ICOARE)                           Default: 10      ! ICOARE =
10   !
           0: original deltaT method (OCD)
          10: COARE with no wave parameterization (jwave=0, Charnock)
          11: COARE with wave option jwave=1 (Oost et al.)
              and default wave properties
         -11: COARE with wave option jwave=1 (Oost et al.)
              and observed wave properties (must be in SEA.DAT files)
          12: COARE with wave option 2 (Taylor and Yelland)
               and default wave properties
         -12: COARE with wave option 2 (Taylor and Yelland)
              and observed wave properties (must be in SEA.DAT files)


           Note:  When ICOARE=0, similarity wind profile stability PSI
functions
                  based on Van Ulden and Holtslag (1985) are substituted
for
                  later formulations used with the COARE module, and
temperatures
                  used for surface layer parameters are obtained from
either the
                  nearest surface station temperature or prognostic model
2D
                  temperatures (if ITPROG=2).



          Coastal/Shallow water length scale (DSHELF)
          (for modified z0 in shallow water)
          ( COARE fluxes only)
                                         Default : 0.        ! DSHELF =
0. !
                                         units: km

           COARE warm layer computation (IWARM)              ! IWARM =
0   !
           1: on - 0: off (must be off if SST measured with
           IR radiometer)                Default: 0
```

APPENDIX A

Calmet Input

```
CALMET.INP      2.2             Hour Start and End Times with Seconds
CALMET V6.218
---------------- Run title (3 lines) ------------------------------------
------

                    CALMET MODEL CONTROL FILE
                    -------------------------

--------------------------------------------------------------------------
------

INPUT GROUP: 0 -- Input and Output File Names


Subgroup (a)
------------
Default Name  Type          File Name
------------  ----          ---------
GEO.DAT       input    ! GEODAT=geo-win.dat       !
SURF.DAT      input    ! SRFDAT=SURF.DAT      !
CLOUD.DAT     input    * CLDDAT=              *
PRECIP.DAT    input    * PRCDAT=PRECIP.DAT    *
WT.DAT        input    * WTDAT=               *

CALMET.LST    output   ! METLST=CALMET.LST     !
CALMET.DAT    output   ! METDAT=CALMET.DAT    !
PACOUT.DAT    output   * PACDAT=              *

All file names will be converted to lower case if LCFILES = T
Otherwise, if LCFILES = F, file names will be converted to UPPER CASE
         T = lower case      ! LCFILES = T !
         F = UPPER CASE

NUMBER OF UPPER AIR & OVERWATER STATIONS:

    Number of upper air stations (NUSTA)  No default     ! NUSTA =  1  !
    Number of overwater met stations
                                  (NOWSTA) No default     ! NOWSTA =  1  !

NUMBER OF PROGNOSTIC and IGF-CALMET FILEs:

    Number of MM4/MM5/3D.DAT files
                                  (NM3D) No default       ! NM3D =  0  !

    Number of IGF-CALMET.DAT files
                                  (NIGF)   No default     ! NIGF =  0  !

                        !END!
--------------------------------------------------------------------------
-------
Subgroup (b)
---------------------------------
Upper air files (one per station)
---------------------------------
```

```
Default Name  Type       File Name
------------  ----       ---------
UP1.DAT       input     1  ! UPDAT=UP.DAT!    !END!
-------------------------------------------------------------------------------
-------
Subgroup (c)
---------------------------------------
Overwater station files (one per station)
---------------------------------------
Default Name  Type       File Name
------------  ----       ---------
SEA1.DAT       input     1  ! SEADAT=SEA.DAT!    !END!
-------------------------------------------------------------------------------
-------
Subgroup (d)
-----------------------------------------------
MM4/MM5/3D.DAT files (consecutive or overlapping)
-----------------------------------------------
Default Name  Type       File Name
------------  ----       ---------
MM51.DAT       input     1  * M3DDAT=MM4.DAT*    *END*
-------------------------------------------------------------------------------
-------
Subgroup (e)
-----------------------------------------------
IGF-CALMET.DAT files (consecutive or overlapping)
-----------------------------------------------
Default Name  Type       File Name
------------  ----       ---------
IGFn.DAT       input     1  * IGFDAT=CALMET0.DAT *    *END*
-------------------------------------------------------------------------------
-------
Subgroup (f)
----------------
Other file names
----------------

Default Name  Type       File Name
------------  ----       ---------
DIAG.DAT      input      * DIADAT=                  *
PROG.DAT      input      * PRGDAT=                  *

TEST.PRT      output     * TSTPRT=                  *
TEST.OUT      output     * TSTOUT=                  *
TEST.KIN      output     * TSTKIN=                  *
TEST.FRD      output     * TSTFRD=                  *
TEST.SLP      output     * TSTSLP=                  *
DCST.GRD      output     * DCSTGD=                  *

-------------------------------------------------------------------------------
-------
NOTES: (1) File/path names can be up to 70 characters in length
       (2) Subgroups (a) and (f) must have ONE 'END' (surrounded by
           delimiters) at the end of the group
```

```
       (3) Subgroups (b) through (e) are included ONLY if the
corresponding
           number of files (NUSTA, NOWSTA, NM3D, NIGF) is not 0, and each
must have
           an 'END' (surround by delimiters) at the end of EACH LINE

                          !END!


------------------------------------------------------------------------
------

INPUT GROUP: 1 -- General run control parameters
--------------

     Starting date:    Year   (IBYR)  --    No default   ! IBYR  =  2006
!
                       Month  (IBMO)  --    No default   ! IBMO  =  01  !
                       Day    (IBDY)  --    No default   ! IBDY  =  1 !
     Starting time:    Hour   (IBHR)  --    No default   ! IBHR  =  0  !
                       Second (IBSEC) --    No default   ! IBSEC =  0  !

     Ending date:      Year   (IEYR)  --    No default   ! IEYR  =  2006
!
                       Month  (IEMO)  --    No default   ! IEMO  =  04  !
                       Day    (IEDY)  --    No default   ! IEDY  =  1  !
     Ending time:      Hour   (IEHR)  --    No default   ! IEHR  =  0  !
                       Second (IESEC) --    No default   ! IESEC =  0  !

      UTC time zone         (ABTZ) -- No default       ! ABTZ= UTC-0500 !
         (character*8)
         PST = UTC-0800, MST = UTC-0700 , GMT = UTC-0000
         CST = UTC-0600, EST = UTC-0500

     Length of modeling time-step (seconds)
     Must divide evenly into 3600 (1 hour)
     (NSECDT)                        Default:3600     ! NSECDT =  3600  !
                                     Units: seconds

     Run type            (IRTYPE) -- Default: 1       ! IRTYPE=  1  !

        0 = Computes wind fields only
        1 = Computes wind fields and micrometeorological variables
            (u*, w*, L, zi, etc.)
        (IRTYPE must be 1 to run CALPUFF or CALGRID)

     Compute special data fields required
     by CALGRID (i.e., 3-D fields of W wind
     components and temperature)
     in additional to regular            Default: T    ! LCALGRD = T !
     fields ? (LCALGRD)
     (LCALGRD must be T to run CALGRID)

      Flag to stop run after
```

```
      SETUP phase (ITEST)             Default: 2       ! ITEST=  2   !
      (Used to allow checking
      of the model inputs, files, etc.)
      ITEST = 1 - STOPS program after SETUP phase
      ITEST = 2 - Continues with execution of
                  COMPUTATIONAL phase after SETUP


     Test options specified to see if
     they conform to regulatory
     values? (MREG)                  No Default       ! MREG =  0   !

        0 = NO checks are made
        1 = Technical options must conform to USEPA guidance
                  IMIXH    -1     Maul-Carson convective mixing height
                                  over land; OCD mixing height overwater
                  ICOARE   0      OCD deltaT method for overwater fluxes
                  THRESHL  0.0    Threshold buoyancy flux over land
needed
                                  to sustain convective mixing height
growth
                  ISURFT   > 0    in OBS mode (pick one representative
station)
                           -2     in NOOBS mode (itprog=2) (average all
                                  surface prognostic temperatures to get
                                  a single representative sf. temp)
                  IUPT     > 0    in OBS mode (pick one representative
station)
                           -2     in NOOBS mode (ITPROG>0) (average all
surface
                                  prognostic temperatures to get a single
                                  representative sf. temp)
                  IZICRLX  0      Do NOT use convective mixing height
relaxation
                                  to equilibrium value

!END!

---------------------------------------------------------------------------
------

INPUT GROUP: 2 -- Map Projection and Grid control parameters
--------------

     Projection for all (X,Y):
     -------------------------

     Map projection
     (PMAP)                    Default: UTM    ! PMAP = UTM  !

         UTM :  Universal Transverse Mercator
         TTM :  Tangential Transverse Mercator
         LCC :  Lambert Conformal Conic
          PS :  Polar Stereographic
```

```
          EM :  Equatorial Mercator
         LAZA :  Lambert Azimuthal Equal Area

     False Easting and Northing (km) at the projection origin
     (Used only if PMAP= TTM, LCC, or LAZA)
     (FEAST)                   Default=0.0     ! FEAST  = 0.000  !
     (FNORTH)                  Default=0.0     ! FNORTH = 0.000  !

     UTM zone (1 to 60)
     (Used only if PMAP=UTM)
     (IUTMZN)                  No Default      ! IUTMZN =  19   !

     Hemisphere for UTM projection?
     (Used only if PMAP=UTM)
     (UTMHEM)                  Default: N      ! UTMHEM = N  !
         N   :  Northern hemisphere projection
         S   :  Southern hemisphere projection

     Latitude and Longitude (decimal degrees) of projection origin
     (Used only if PMAP= TTM, LCC, PS, EM, or LAZA)
     (RLAT0)                   No Default      ! RLAT0 = 40N  !
     (RLON0)                   No Default      ! RLON0 = 90W  !

         TTM :  RLON0 identifies central (true N/S) meridian of
projection
                RLAT0 selected for convenience
         LCC :  RLON0 identifies central (true N/S) meridian of
projection
                RLAT0 selected for convenience
         PS  :  RLON0 identifies central (grid N/S) meridian of
projection
                RLAT0 selected for convenience
         EM  :  RLON0 identifies central meridian of projection
                RLAT0 is REPLACED by 0.0N (Equator)
         LAZA:  RLON0 identifies longitude of tangent-point of mapping
plane
                RLAT0 identifies latitude of tangent-point of mapping
plane

     Matching parallel(s) of latitude (decimal degrees) for projection
     (Used only if PMAP= LCC or PS)
     (XLAT1)                   No Default      ! XLAT1 = 30N  !
     (XLAT2)                   No Default      ! XLAT2 = 60N  !

         LCC :  Projection cone slices through Earth's surface at XLAT1
and XLAT2
         PS  :  Projection plane slices through Earth at XLAT1
                (XLAT2 is not used)

     ----------
     Note:  Latitudes and longitudes should be positive, and include a
            letter N,S,E, or W indicating north or south latitude, and
            east or west longitude.  For example,
            35.9  N Latitude  =  35.9N
```

118.7 E Longitude = 118.7E

Datum-region

The Datum-Region for the coordinates is identified by a character string. Many mapping products currently available use the model of the Earth known as the World Geodetic System 1984 (WGS-84). Other local models may be in use, and their selection in CALMET will make its output consistent with local mapping products. The list of Datum-Regions with official transformation parameters is provided by the National Imagery and Mapping Agency (NIMA).

NIMA Datum - Regions(Examples)

WGS-84	WGS-84 Reference Ellipsoid and Geoid, Global coverage (WGS84)
NAS-C	NORTH AMERICAN 1927 Clarke 1866 Spheroid, MEAN FOR CONUS (NAD27)
NAR-C	NORTH AMERICAN 1983 GRS 80 Spheroid, MEAN FOR CONUS (NAD83)
NWS-84	NWS 6370KM Radius, Sphere
ESR-S	ESRI REFERENCE 6371KM Radius, Sphere

Datum-region for output coordinates
(DATUM) Default: WGS-84 ! DATUM = WGS-84 !

Horizontal grid definition:

Rectangular grid defined for projection PMAP,
with X the Easting and Y the Northing coordinate

No. X grid cells (NX)	No default	! NX = 80 !
No. Y grid cells (NY)	No default	! NY = 80 !
Grid spacing (DGRIDKM)	No default Units: km	! DGRIDKM = 0.5 !

Reference grid coordinate of
SOUTHWEST corner of grid cell (1,1)

X coordinate (XORIGKM)	No default	! XORIGKM = 659.202 !
Y coordinate (YORIGKM)	No default Units: km	! YORIGKM = 5539.244 !

```
     Vertical grid definition:
     -------------------------

        No. of vertical layers (NZ)    No default     ! NZ =  10  !

        Cell face heights in arbitrary
        vertical grid (ZFACE(NZ+1))    No defaults
                                       Units: m
        ! ZFACE = 0.,20.,40.,80.,160.,300.,600.,1000.,1500.,2200.,3000. !

!END!


------------------------------------------------------------------------
------

INPUT GROUP: 3 -- Output Options
--------------


    DISK OUTPUT OPTION

       Save met. fields in an unformatted
       output file ?              (LSAVE)  Default: T     ! LSAVE = T !
       (F = Do not save, T = Save)

       Type of unformatted output file:
       (IFORMO)                            Default: 1    ! IFORMO =  1  !

            1 = CALPUFF/CALGRID type file (CALMET.DAT)
            2 = MESOPUFF-II type file     (PACOUT.DAT)


    LINE PRINTER OUTPUT OPTIONS:

       Print met. fields ?  (LPRINT)       Default: F     ! LPRINT = F !
       (F = Do not print, T = Print)
       (NOTE: parameters below control which
              met. variables are printed)

       Print interval
       (IPRINF) in hours                   Default: 1     ! IPRINF =  1
!
       (Meteorological fields are printed
        every  1  hours)


       Specify which layers of U, V wind component
       to print (IUVOUT(NZ)) -- NOTE: NZ values must be entered
       (0=Do not print, 1=Print)
       (used only if LPRINT=T)        Defaults: NZ*0
       ! IUVOUT =  0 ,  0 ,  0 ,  0 ,  0 ,  0 ,  0 ,  0 ,  0 ,  0  !
```

```
 ----------------------


 Specify which levels of the W wind component to print
 (NOTE: W defined at TOP cell face --  10  values)
 (IWOUT(NZ)) -- NOTE: NZ values must be entered
 (0=Do not print, 1=Print)
 (used only if LPRINT=T & LCALGRD=T)
 ----------------------------------
                                      Defaults: NZ*0
  ! IWOUT =  0 ,  0 ,  0 ,  0 ,  0 ,  0 ,  0 ,  0 ,  0 ,  0  !


 Specify which levels of the 3-D temperature field to print
 (ITOUT(NZ)) -- NOTE: NZ values must be entered
 (0=Do not print, 1=Print)
 (used only if LPRINT=T & LCALGRD=T)
 ----------------------------------
                                      Defaults: NZ*0
  ! ITOUT =  0 ,  0 ,  0 ,  0 ,  0 ,  0 ,  0 ,  0 ,  0 ,  0  !

 Specify which meteorological fields
 to print
 (used only if LPRINT=T)             Defaults: 0 (all variables)
 ----------------------


   Variable            Print ?
                    (0 = do not print,
                     1 = print)
   --------         ------------------

!  STABILITY  =           0           ! - PGT stability class
!  USTAR      =           0           ! - Friction velocity
!  MONIN      =           0           ! - Monin-Obukhov length
!  MIXHT      =           0           ! - Mixing height
!  WSTAR      =           0           ! - Convective velocity scale
!  PRECIP     =           0           ! - Precipitation rate
!  SENSHEAT   =           0           ! - Sensible heat flux
!  CONVZI     =           0           ! - Convective mixing ht.


 Testing and debug print options for micrometeorological module

    Print input meteorological data and
    internal variables (LDB)         Default: F       ! LDB = F !
    (F = Do not print, T = print)
    (NOTE: this option produces large amounts of output)

    First time step for which debug data
    are printed (NN1)                Default: 1       ! NN1 =  1  !

    Last time step for which debug data
    are printed (NN2)                Default: 1       ! NN2 =  1  !
```

```
          Print distance to land
          internal variables (LDBCST)      Default: F       ! LDBCST = F
!
          (F = Do not print, T = print)
          (Output in .GRD file DCST.GRD, defined in input group 0)

        Testing and debug print options for wind field module
        (all of the following print options control output to
         wind field module's output files: TEST.PRT, TEST.OUT,
         TEST.KIN, TEST.FRD, and TEST.SLP)

          Control variable for writing the test/debug
          wind fields to disk files (IOUTD)
          (0=Do not write, 1=write)        Default: 0       ! IOUTD =  0
!

          Number of levels, starting at the surface,
          to print (NZPRN2)                Default: 1       ! NZPRN2 =  0
!

          Print the INTERPOLATED wind components ?
          (IPR0) (0=no, 1=yes)             Default: 0       !  IPR0 =  0
!

          Print the TERRAIN ADJUSTED surface wind
          components ?
          (IPR1) (0=no, 1=yes)             Default: 0       !  IPR1 =  0
!

          Print the SMOOTHED wind components and
          the INITIAL DIVERGENCE fields ?
          (IPR2) (0=no, 1=yes)             Default: 0       !  IPR2 =  0
!

          Print the FINAL wind speed and direction
          fields ?
          (IPR3) (0=no, 1=yes)             Default: 0       !  IPR3 =  0
!

          Print the FINAL DIVERGENCE fields ?
          (IPR4) (0=no, 1=yes)             Default: 0       !  IPR4 =  0
!

          Print the winds after KINEMATIC effects
          are added ?
          (IPR5) (0=no, 1=yes)             Default: 0       !  IPR5 =  0
!

          Print the winds after the FROUDE NUMBER
          adjustment is made ?
          (IPR6) (0=no, 1=yes)             Default: 0       !  IPR6 =  0
!
```

```
          Print the winds after SLOPE FLOWS
          are added ?
          (IPR7) (0=no, 1=yes)             Default: 0       !  IPR7 =  0
!

          Print the FINAL wind field components ?
          (IPR8) (0=no, 1=yes)             Default: 0       !  IPR8 =  0
!

!END!


------------------------------------------------------------------------
------

INPUT GROUP: 4 -- Meteorological data options
--------------

    NO OBSERVATION MODE             (NOOBS)  Default: 0     ! NOOBS =  0
!
          0 = Use surface, overwater, and upper air stations
          1 = Use surface and overwater stations (no upper air
observations)
              Use MM4/MM5/3D for upper air data
          2 = No surface, overwater, or upper air observations
              Use MM4/MM5/3D for surface, overwater, and upper air data

    NUMBER OF SURFACE & PRECIP. METEOROLOGICAL STATIONS

       Number of surface stations   (NSSTA)  No default     ! NSSTA =  2
!

       Number of precipitation stations
       (NPSTA=-1: flag for use of MM5/3D precip data)
                                    (NPSTA)  No default     ! NPSTA =  0
!

    CLOUD DATA OPTIONS
       Output option - output a CLOUD.DAT file (yes or no)
       0=no, 1=yes
                                   (ICLDOUT) Default:999      ! ICLDOUT =
0  !

       Method to compute cloud fields:
                                   (MCLOUD)  Default: 999     ! MCLOUD =
1  !
       MCLOUD = 1 - Clouds data generated from surface observations
       MCLOUD = 2 - Gridded CLOUD.DAT read from CLOUD.DAT file (no output
                    is possible since already exist)
       MCLOUD = 3 - Gridded cloud cover from Prognostic Rel. Humidity
                    at 850mb (Teixera)
       MCLOUD = 4 - Gridded cloud cover from Prognostic Rel. Humidity
                    at all levels (MM5toGrads algorithm)
```

```
    FILE FORMATS

       Surface meteorological data file format
                                  (IFORMS)  Default: 2     ! IFORMS =  2
!
       (1 = unformatted (e.g., SMERGE output))
       (2 = formatted   (free-formatted user input))

       Precipitation data file format
                                  (IFORMP)  Default: 2     ! IFORMP =  2
!
       (1 = unformatted (e.g., PMERGE output))
       (2 = formatted   (free-formatted user input))

       Cloud data file format
                                  (IFORMC)  Default: 2     ! IFORMC =  2
!
       (1 = unformatted - CALMET unformatted output)
       (2 = formatted   - free-formatted CALMET output or user input)

!END!


------------------------------------------------------------------------
------

INPUT GROUP: 5 -- Wind Field Options and Parameters
--------------


    WIND FIELD MODEL OPTIONS
       Model selection variable (IWFCOD)     Default: 1      ! IWFCOD =
1  !
          0 = Objective analysis only
          1 = Diagnostic wind module

       Compute Froude number adjustment
       effects ? (IFRADJ)                    Default: 1      ! IFRADJ =
1  !
       (0 = NO, 1 = YES)

       Compute kinematic effects ? (IKINE)   Default: 0      ! IKINE  =
0  !
       (0 = NO, 1 = YES)

       Use O'Brien procedure for adjustment
       of the vertical velocity ? (IOBR)     Default: 0      ! IOBR =  0
!
       (0 = NO, 1 = YES)

       Compute slope flow effects ? (ISLOPE) Default: 1      ! ISLOPE  =
1  !
       (0 = NO, 1 = YES)
```

```
       Extrapolate surface wind observations
       to upper layers ? (IEXTRP)            Default: -4     ! IEXTRP = -
4  !
       (1 = no extrapolation is done,
        2 = power law extrapolation used,
        3 = user input multiplicative factors
            for layers 2 - NZ used (see FEXTRP array)
        4 = similarity theory used
        -1, -2, -3, -4 = same as above except layer 1 data
            at upper air stations are ignored

       Extrapolate surface winds even
       if calm? (ICALM)                      Default: 0      ! ICALM  =
0  !
       (0 = NO, 1 = YES)

       Layer-dependent biases modifying the weights of
       surface and upper air stations (BIAS(NZ))
         -1<=BIAS<=1
       Negative BIAS reduces the weight of upper air stations
         (e.g. BIAS=-0.1 reduces the weight of upper air stations
       by 10%; BIAS= -1, reduces their weight by 100 %)
       Positive BIAS reduces the weight of surface stations
         (e.g. BIAS= 0.2 reduces the weight of surface stations
       by 20%; BIAS=1 reduces their weight by 100%)
       Zero BIAS leaves weights unchanged (1/R**2 interpolation)
       Default: NZ*0
                               ! BIAS =  0 ,  0 ,  0 ,  0 ,  0 ,  0 ,  0
,  0 ,  0 ,  0  !

       Minimum distance from nearest upper air station
       to surface station for which extrapolation
       of surface winds at surface station will be allowed
       (RMIN2: Set to -1 for IEXTRP = 4 or other situations
        where all surface stations should be extrapolated)
                                             Default: 4.     ! RMIN2 = -
1.0 !

       Use gridded prognostic wind field model
       output fields as input to the diagnostic
       wind field model (IPROG)              Default: 0      ! IPROG =  0
!
       (0 = No, [IWFCOD = 0 or 1]
        1 = Yes, use CSUMM prog. winds as Step 1 field, [IWFCOD = 0]
        2 = Yes, use CSUMM prog. winds as initial guess field [IWFCOD =
1]
        3 = Yes, use winds from MM4.DAT file as Step 1 field [IWFCOD = 0]
        4 = Yes, use winds from MM4.DAT file as initial guess field
[IWFCOD = 1]
        5 = Yes, use winds from MM4.DAT file as observations [IWFCOD = 1]
        13 = Yes, use winds from MM5/3D.DAT file as Step 1 field [IWFCOD
= 0]
        14 = Yes, use winds from MM5/3D.DAT file as initial guess field
[IWFCOD = 1]
```

```
        15 = Yes, use winds from MM5/3D.DAT file as observations [IWFCOD
= 1]

       Timestep (seconds) of the prognostic
       model input data   (ISTEPPGS)        Default: 3600    ! ISTEPPGS =
3600   !

       Use coarse CALMET fields as initial guess fields (IGFMET)
       (overwrites IGF based on prognostic wind fields if any)
                                            Default: 0      ! IGFMET =
0  !

    RADIUS OF INFLUENCE PARAMETERS

       Use varying radius of influence      Default: F      ! LVARY =
T!
       (if no stations are found within RMAX1,RMAX2,
        or RMAX3, then the closest station will be used)

       Maximum radius of influence over land
       in the surface layer (RMAX1)         No default      ! RMAX1 =
15. !
                                            Units: km
       Maximum radius of influence over land
       aloft (RMAX2)                        No default      ! RMAX2 =
20. !
                                            Units: km
       Maximum radius of influence over water
       (RMAX3)                              No default      ! RMAX3 =
20. !
                                            Units: km


    OTHER WIND FIELD INPUT PARAMETERS

       Minimum radius of influence used in
       the wind field interpolation (RMIN)  Default: 0.1    ! RMIN = 0.1
!
                                            Units: km
       Radius of influence of terrain
       features (TERRAD)                    No default      ! TERRAD =
7. !

                                            Units: km
       Relative weighting of the first
       guess field and observations in the
       SURFACE layer (R1)                   No default      ! R1 = 1. !
       (R1 is the distance from an          Units: km
       observational station at which the
       observation and first guess field are
       equally weighted)

       Relative weighting of the first
       guess field and observations in the
```

```
       layers ALOFT (R2)                       No default      ! R2 = 1. !
       (R2 is applied in the upper layers      Units: km
       in the same manner as R1 is used in
       the surface layer).

       Relative weighting parameter of the
       prognostic wind field data (RPROG)      No default      ! RPROG = 0.
!
       (Used only if IPROG = 1)                Units: km
       ------------------------

       Maximum acceptable divergence in the
       divergence minimization procedure
       (DIVLIM)                                Default: 5.E-6  ! DIVLIM=
5.0E-06 !

       Maximum number of iterations in the
       divergence min. procedure (NITER)       Default: 50     ! NITER =
50  !

       Number of passes in the smoothing
       procedure (NSMTH(NZ))
       NOTE: NZ values must be entered
            Default: 2,(mxnz-1)*4 ! NSMTH =
 2 ,  4 ,  4 ,  4 ,  4 ,  4 ,  4 ,  4 ,  4 ,  4  !

       Maximum number of stations used in
       each layer for the interpolation of
       data to a grid point (NINTR2(NZ))
       NOTE: NZ values must be entered         Default: 99.    ! NINTR2 =
 5 ,  5 ,  5 ,  5 ,  5 ,  5 ,  5 ,  5 ,  5 ,  5  !

       Critical Froude number (CRITFN)         Default: 1.0    ! CRITFN =
1. !

       Empirical factor controlling the
       influence of kinematic effects
       (ALPHA)                                 Default: 0.1    ! ALPHA =
0.1 !

       Multiplicative scaling factor for
       extrapolation of surface observations
       to upper layers (FEXTR2(NZ))            Default: NZ*0.0
       ! FEXTR2 = 0., 0., 0., 0., 0., 0., 0., 0., 0., 0. !
       (Used only if IEXTRP = 3 or -3)


    BARRIER INFORMATION

       Number of barriers to interpolation
       of the wind fields (NBAR)               Default: 0      ! NBAR =  0
!

       Level (1 to NZ) up to which barriers
```

```
       apply (KBAR)                            Default: NZ     ! KBAR =  10
!

       THE FOLLOWING 4 VARIABLES ARE INCLUDED
       ONLY IF NBAR > 0
       NOTE: NBAR values must be entered     No defaults
             for each variable               Units: km

          X coordinate of BEGINNING
          of each barrier (XBBAR(NBAR))      ! XBBAR = 0. !
          Y coordinate of BEGINNING
          of each barrier (YBBAR(NBAR))      ! YBBAR = 0. !

          X coordinate of ENDING
          of each barrier (XEBAR(NBAR))      ! XEBAR = 0. !
          Y coordinate of ENDING
          of each barrier (YEBAR(NBAR))      ! YEBAR = 0. !


    DIAGNOSTIC MODULE DATA INPUT OPTIONS

       Surface temperature (IDIOPT1)         Default: 0      ! IDIOPT1 =
0  !
          0 = Compute internally from
              hourly surface observations or prognostic fields
          1 = Read preprocessed values from
              a data file (DIAG.DAT)

          Surface met. station to use for
          the surface temperature (ISURFT)    Default: -1    ! ISURFT =
-1  !
          (Must be a value from 1 to NSSTA
          or -1 to use 2-D spatially varying
             surface temperatures).
          or -2 to use a domain-average prognostic
          lapse rate (only with ITPROG=2)
          (Used only if IDIOPT1 = 0)
          --------------------------

          Temperature lapse rate used in the    Default: 0     ! IDIOPT2
=  0  !
          computation of terrain-induced
          circulations (IDIOPT2)
          0 = Compute internally from (at least) twice-daily
              upper air observations or prognostic fields
          1 = Read hourly preprocessed values
              from a data file (DIAG.DAT)

          Upper air station to use for
          the domain-scale lapse rate (IUPT) Default: -1   ! IUPT   =  -1
!
          (Must be a value from 1 to NUSTA
          or -1 to use 2-D spatially varying lapse rate)
          or -2 to use a domain-average prognostic
```

```
          lapse rate (only with ITPROG>0)
          (Used only if IDIOPT2 = 0)
          -------------------------

          Depth through which the domain-scale
          lapse rate is computed (ZUPT)      Default: 200.  ! ZUPT = 200.
!
          (Used only if IDIOPT2 = 0)         Units: meters
          -------------------------

       Initial Guess Field Winds
       (IDIOPT3)                             Default: 0     ! IDIOPT3 =
0  !
          0 = Compute internally from
              observations or prognostic wind fields
          1 = Read hourly preprocessed domain-average wind values
              from a data file (DIAG.DAT)

          Upper air station to use for
          the initial guess winds (IUPWND)    Default: -1    ! IUPWND = -
1  !
          (Must be a value from -1 to NUSTA, with
          -1 indicating 3-D initial guess fields,
          and IUPWND>1 domain-scaled (i.e. constant) IGF
          (Used only if IDIOPT3 = 0 and noobs=0)
          ---------------------------------------

          Bottom and top of layer through
          which the domain-scale winds
          are computed
          (ZUPWND(1), ZUPWND(2))        Defaults: 1., 1000. ! ZUPWND= 1.,
1000. !
          (Used only if IDIOPT3 = 0, NOOBS>0 and IUPWND>0)    Units:
meters
          -------------------------

       Observed surface wind components
       for wind field module (IDIOPT4)  Default: 0     ! IDIOPT4 =  0  !
          0 = Read WS, WD from a surface
              data file (SURF.DAT)
          1 = Read hourly preprocessed U, V from
              a data file (DIAG.DAT)

       Observed upper air wind components
       for wind field module (IDIOPT5)  Default: 0     ! IDIOPT5 =  0  !
          0 = Read WS, WD from an upper
              air data file (UP1.DAT, UP2.DAT, etc.)
          1 = Read hourly preprocessed U, V from
              a data file (DIAG.DAT)

       LAKE BREEZE INFORMATION

          Use Lake Breeze Module  (LLBREZE)
```

```
                                          Default: F      ! LLBREZE = F
!

          Number of lake breeze regions (NBOX)            ! NBOX =  0  !

        X Grid line 1 defining the region of interest
                                                          ! XG1 = 0. !
        X Grid line 2 defining the region of interest
                                                          ! XG2 = 0. !
        Y Grid line 1 defining the region of interest
                                                          ! YG1 = 0. !
        Y Grid line 2 defining the region of interest
                                                          ! YG2 = 0. !

         X Point defining the coastline (Straight line)
                   (XBCST)  (KM)   Default: none    ! XBCST = 0. !

         Y Point defining the coastline (Straight line)
                   (YBCST)  (KM)   Default: none    ! YBCST = 0. !

         X Point defining the coastline (Straight line)
                   (XECST)  (KM)   Default: none    ! XECST = 0. !

         Y Point defining the coastline (Straight line)
                   (YECST)  (KM)   Default: none    ! YECST = 0. !


       Number of stations in the region     Default: none ! NLB =  0 !
       (Surface stations + upper air stations)

       Station ID's  in the region   (METBXID(NLB))
       (Surface stations first, then upper air stations)
         ! METBXID =  0 !

!END!


------------------------------------------------------------------------
------

INPUT GROUP: 6 -- Mixing Height, Temperature and Precipitation Parameters
--------------

    EMPIRICAL MIXING HEIGHT CONSTANTS

       Neutral, mechanical equation
       (CONSTB)                           Default: 1.41   ! CONSTB =
1.41 !
       Convective mixing ht. equation
       (CONSTE)                           Default: 0.15   ! CONSTE =
0.15 !
       Stable mixing ht. equation
       (CONSTN)                           Default: 2400.  ! CONSTN =
2400.!
```

```
       Overwater mixing ht. equation
       (CONSTW)                              Default: 0.16   ! CONSTW =
0.16 !
       Absolute value of Coriolis
       parameter (FCORIOL)                   Default: 1.E-4  ! FCORIOL =
1.0E-04!
                                             Units: (1/s)

    SPATIAL AVERAGING OF MIXING HEIGHTS

       Conduct spatial averaging
       (IAVEZI)  (0=no, 1=yes)               Default: 1      ! IAVEZI =
1  !

       Max. search radius in averaging
       process (MNMDAV)                      Default: 1      ! MNMDAV =
10  !
                                             Units: Grid
                                                    cells
       Half-angle of upwind looking cone
       for averaging (HAFANG)                Default: 30.    ! HAFANG =
30. !
                                             Units: deg.
       Layer of winds used in upwind
       averaging (ILEVZI)                    Default: 1      ! ILEVZI =
1  !
       (must be between 1 and NZ)


    CONVECTIVE MIXING HEIGHT OPTIONS:
       Method to compute the convective
       mixing height(IMIHXH)                 Default: 1      ! IMIXH =  1
!
           1: Maul-Carson for land and water cells
          -1: Maul-Carson for land cells only -
              OCD mixing height overwater
           2: Batchvarova and Gryning for land and water cells
          -2: Batchvarova and Gryning for land cells only
              OCD mixing height overwater

       Threshold buoyancy flux required to
       sustain convective mixing height growth
       overland (THRESHL)                    Default: 0.0    ! THRESHL =
0.0 !
       (expressed as a heat flux             units: W/m3
        per meter of boundary layer)


       Threshold buoyancy flux required to
       sustain convective mixing height growth
       overwater (THRESHW)                   Default: 0.05   ! THRESHW =
0.05 !
       (expressed as a heat flux             units: W/m3
        per meter of boundary layer)
```

```
       Flag to allow relaxation of convective mixing height
       to equilibrium value when  0<QH<THRESHL (overland)
                              or  0<QH<THRESHW (overwater)
       (IZICRLX)                              Default: 1      ! IZICRLX =
1  !
          0 : do NOT use convective mixing height relaxation
              to equilibrium value (treatment identical to CALMET v5.8)
          1 : use convective mixing height relaxation
              to equilibrium value

       Relaxation time of convective mixing height to
       equilibrium value when  0<QH<THRESHL (overland)
                           or  0<QH<THRESHW (overwater)
       (Used only if IZICRLX = 1 and  TZICRLX must be >= 1.)
       (TZICRLX)                              Default: 800.   ! TZICRLX =
800.  !
                                              Units: seconds

       Option for overwater lapse rates used
       in convective mixing height growth
       (ITWPROG)                              Default: 0      ! ITWPROG =
0  !
       0 : use SEA.DAT lapse rates and deltaT (or assume neutral
           conditions if missing)
       1 : use prognostic lapse rates (only if IPROG>2)
           and SEA.DAT deltaT (or neutral if missing)
       2 : use prognostic lapse rates and prognostic delta T
           (only if iprog>12 and 3D.DAT version# 2.0 or higher)

       Land Use category ocean in 3D.DAT datasets
       (ILUOC3D)                              Default: 16     ! ILUOC3D =
16  !
       Note: if 3D.DAT from MM5 version 3.0, iluoc3d = 16
             if MM4.DAT,           typically iluoc3d = 7


    OTHER MIXING HEIGHT VARIABLES

       Minimum potential temperature lapse
       rate in the stable layer above the
       current convective mixing ht.          Default: 0.001  ! DPTMIN =
0.001 !
       (DPTMIN)                               Units: deg. K/m
       Depth of layer above current conv.
       mixing height through which lapse      Default: 200.   ! DZZI =
200. !
       rate is computed (DZZI)                Units: meters

       Minimum overland mixing height         Default:  50.   ! ZIMIN =
50. !
       (ZIMIN)                                Units: meters
```

```
       Maximum overland mixing height        Default: 3000.  ! ZIMAX =
2500. !
       (ZIMAX)                               Units: meters
       Minimum overwater mixing height       Default:   50.  ! ZIMINW =
50. !
       (ZIMINW) -- (Not used if observed     Units: meters
       overwater mixing hts. are used)
       Maximum overwater mixing height       Default: 3000.  ! ZIMAXW =
2500. !
       (ZIMAXW) -- (Not used if observed     Units: meters
       overwater mixing hts. are used)


    OVERWATER SURFACE FLUXES METHOD and PARAMETERS
          (ICOARE)                           Default: 10      ! ICOARE =
10   !
           0: original deltaT method (OCD)
          10: COARE with no wave parameterization (jwave=0, Charnock)
          11: COARE with wave option jwave=1 (Oost et al.)
              and default wave properties
         -11: COARE with wave option jwave=1 (Oost et al.)
              and observed wave properties (must be in SEA.DAT files)
          12: COARE with wave option 2 (Taylor and Yelland)
               and default wave properties
         -12: COARE with wave option 2 (Taylor and Yelland)
              and observed wave properties (must be in SEA.DAT files)


           Note:  When ICOARE=0, similarity wind profile stability PSI
functions
                  based on Van Ulden and Holtslag (1985) are substituted
for
                  later formulations used with the COARE module, and
temperatures
                  used for surface layer parameters are obtained from
either the
                  nearest surface station temperature or prognostic model
2D
                  temperatures (if ITPROG=2).



          Coastal/Shallow water length scale (DSHELF)
          (for modified z0 in shallow water)
          ( COARE fluxes only)
                                         Default : 0.        ! DSHELF =
0. !
                                         units: km

           COARE warm layer computation (IWARM)              ! IWARM =
0   !
           1: on - 0: off (must be off if SST measured with
           IR radiometer)                Default: 0
```

```
           COARE cool skin layer computation (ICOOL)          ! ICOOL =
0   !
           1: on - 0: off (must be off if SST measured with
           IR radiometer)                 Default: 0

    RELATIVE HUMIDITY PARAMETERS

       3D relative humidity from observations or
       from prognostic data? (IRHPROG)       Default:0        ! IRHPROG =
0   !

          0 = Use RH from SURF.DAT file
              (only if NOOBS = 0,1)
          1 = Use prognostic RH
              (only if NOOBS = 0,1,2)

    TEMPERATURE PARAMETERS

       3D temperature from observations or
       from prognostic data? (ITPROG)        Default:0        ! ITPROG =
0   !

          0 = Use Surface and upper air stations
              (only if NOOBS = 0)
          1 = Use Surface stations (no upper air observations)
              Use MM5/3D for upper air data
              (only if NOOBS = 0,1)
          2 = No surface or upper air observations
              Use MM5/3D for surface and upper air data
              (only if NOOBS = 0,1,2)

       Interpolation type
       (1 = 1/R ; 2 = 1/R**2)                Default:1         ! IRAD =
1  !

       Radius of influence for temperature
       interpolation (TRADKM)                Default: 500.     ! TRADKM =
20. !
                                             Units: km

       Maximum Number of stations to include
       in temperature interpolation (NUMTS)  Default: 5        ! NUMTS =
5  !

       Conduct spatial averaging of temp-
       eratures (IAVET)  (0=no, 1=yes)       Default: 1        ! IAVET =
1  !
       (will use mixing ht MNMDAV,HAFANG
        so make sure they are correct)

       Default temperature gradient          Default: -.0098   ! TGDEFB =
-0.0098 !
       below the mixing height over          Units: K/m
       water (TGDEFB)
```

```
       Default temperature gradient          Default: -.0045   ! TGDEFA =
-0.0045 !
       above the mixing height over          Units: K/m
       water (TGDEFA)

       Beginning (JWAT1) and ending (JWAT2)
       land use categories for temperature                     ! JWAT1 =
55  !
       interpolation over water -- Make                        ! JWAT2 =
55  !
       bigger than largest land use to disable

   PRECIP INTERPOLATION PARAMETERS

       Method of interpolation (NFLAGP)      Default: 2        ! NFLAGP =
2  !
        (1=1/R,2=1/R**2,3=EXP/R**2)
       Radius of Influence  (SIGMAP)         Default: 100.0    ! SIGMAP =
50. !
        (0.0 => use half dist. btwn          Units: km
         nearest stns w & w/out
         precip when NFLAGP = 3)
       Minimum Precip. Rate Cutoff (CUTP)    Default: 0.01     ! CUTP =
0.01 !
        (values < CUTP = 0.0 mm/hr)          Units: mm/hr
!END!


------------------------------------------------------------------------
------

INPUT GROUP: 7 -- Surface meteorological station parameters
--------------

     SURFACE STATION VARIABLES
     (One record per station --  5  records in all)


            1     2
         Name   ID            X coord.   Y coord.   Time   Anem.
                               (km)       (km)      zone   Ht.(m)
       ------------------------------------------------------------
! SS1  ='sept'    000100       694.979    5566.310    5     10  !
! SS2  ='poin'    000101       683.277    5559.819    5     10  !
--------------------
      1
        Four character string for station name
        (MUST START IN COLUMN 9)

      2
        Six digit integer for station ID

!END!
```

```
------------------------------------------------------------------------
------

INPUT GROUP: 8 -- Upper air meteorological station parameters
--------------

     UPPER AIR STATION VARIABLES
     (One record per station --  3  records in all)

             1     2
         Name    ID      X coord.   Y coord.  Time zone
                            (km)       (km)
        ---------------------------------------------
! US1  ='sept'   15636    694.979   5566.310    5  !
-------------------
      1
        Four character string for station name
        (MUST START IN COLUMN 9)

      2
        Five digit integer for station ID

!END!


------------------------------------------------------------------------
------

INPUT GROUP: 9 -- Precipitation station parameters
--------------

     PRECIPITATION STATION VARIABLES
     (One record per station --  16  records in all)
     (NOT INCLUDED IF NPSTA = 0)

            1          2
         Name   Station    X coord.  Y coord.
                  Code       (km)      (km)
         ------------------------------------


-------------------
      1
        Four character string for station name
        (MUST START IN COLUMN 9)

      2
        Six digit station code composed of state
        code (first 2 digits) and station ID (last
        4 digits)

!END!
```

APPENDIX B

BPIP Input

```
'Kami'
'P'
'METERS'  1.00000000
'UTMY'  0.0000
7
'BLD_1'  1           14.80
    4           10.00
             680001.74      5559030.74
             680001.74      5559055.04
             680053.57      5559055.04
             680053.57      5559030.74
'BLD_2'  1           13.60
    4           20.00
             679948.48      5559131.24
             679949.83      5559157.07
             679978.99      5559155.55
             679977.63      5559129.71
'BLD_3'  1           23.90
    4            9.50
             680238.20      5559008.07
             680238.20      5559037.22
             680291.65      5559037.22
             680291.65      5559008.07
'BLD_4'  1           39.10
    4           20.00
             680141.33      5558862.52
             680145.66      5558889.87
             680174.85      5558885.25
             680170.52      5558857.90
'BLD_5'  1           14.30
    4           20.00
             680013.60      5559076.67
             680013.60      5559103.12
             680041.37      5559103.12
             680041.37      5559076.67
'BLD_6'  1           55.80
    4           20.00
             680288.24      5558844.74
             680300.25      5558892.92
             680728.27      5558786.20
             680716.25      5558738.03
'BLD_7'  1           55.80
    4           20.00
             680269.86      5558773.42
             680282.25      5558819.64
             680709.49      5558705.16
             680697.10      5558658.94
1
'STCK1'           23.10           10.00       679260      5558023
'STCK2'           23.10           10.00       681260      5560023
```

APPENDIX C

CALPUFF Input

```
---------------- Run title (3 lines) ------------------------------------------

                    CALPUFF MODEL CONTROL FILE
                    --------------------------

------------------------------------------------------------------------------

INPUT GROUP: 0 -- Input and Output File Names

--------------
Default Name  Type          File Name
------------  ----          ---------
CALMET.DAT    input    * METDAT = calmet.dat *
    or
ISCMET.DAT    input    * ISCDAT =            *
    or
PLMMET.DAT    input    * PLMDAT =            *
    or
PROFILE.DAT   input    * PRFDAT =            *
SURFACE.DAT   input    * SFCDAT =            *
RESTARTB.DAT  input    * RSTARTB=            *
------------------------------------------------------------------------------
CALPUFF.LST   output   ! PUFLST = cpuff.lst   !
CONC.DAT      output   ! CONDAT = cpuff.con   !
DFLX.DAT      output   * DFDAT  =            *
WFLX.DAT      output   * WFDAT  =            *

VISB.DAT      output   * VISDAT =            *
TK2D.DAT      output   * T2DDAT =            *
RHO2D.DAT     output   * RHODAT =            *
RESTARTE.DAT  output   * RSTARTE=            *
------------------------------------------------------------------------------
Emission Files
--------------
PTEMARB.DAT   input    * PTDAT  =            *
VOLEMARB.DAT  input    * VOLDAT =            *
BAEMARB.DAT   input    * ARDAT  =            *
LNEMARB.DAT   input    * LNDAT  =            *
------------------------------------------------------------------------------
Other Files
-----------
OZONE.DAT     input    * OZDAT  =            *
VD.DAT        input    * VDDAT  =            *
CHEM.DAT      input    * CHEMDAT=            *
H2O2.DAT      input    * H2O2DAT=            *
HILL.DAT      input    * HILDAT=            *
HILLRCT.DAT   input    * RCTDAT=            *
COASTLN.DAT   input    ! CSTDAT= coast.dat   !
FLUXBDY.DAT   input    * BDYDAT=            *
BCON.DAT      input    * BCNDAT=            *
DEBUG.DAT     output   * DEBUG =            *
MASSFLX.DAT   output   * FLXDAT=            *
MASSBAL.DAT   output   * BALDAT=            *
FOG.DAT       output   * FOGDAT=            *
```

```
RISE.DAT      output   * RISDAT=             *
------------------------------------------------------------------------------
All file names will be converted to lower case if LCFILES = T
Otherwise, if LCFILES = F, file names will be converted to UPPER CASE
         T = lower case      ! LCFILES = T !
         F = UPPER CASE
NOTE: (1) file/path names can be up to 70 characters in length


Provision for multiple input files
----------------------------------

     Number of CALMET.DAT files for run (NMETDAT)
                                    Default: 1       ! NMETDAT =   3   !

     Number of PTEMARB.DAT files for run (NPTDAT)
                                    Default: 0       ! NPTDAT =  0  !

     Number of BAEMARB.DAT files for run (NARDAT)
                                    Default: 0       ! NARDAT =  0  !

     Number of VOLEMARB.DAT files for run (NVOLDAT)
                                    Default: 0       ! NVOLDAT =  0  !

!END!

-------------
Subgroup (0a)
-------------

  The following CALMET.DAT filenames are processed in sequence if NMETDAT>1

Default Name  Type          File Name
------------  ----          ---------
 none         input    ! METDAT= ../../../calmet/2006/jan_mar/calmet.dat    !   !END!
 none         input    ! METDAT= ../../../calmet/2006/apr_oct/calmet.dat    !   !END!
 none         input    ! METDAT= ../../../calmet/2006/nov_dec/calmet.dat    !   !END!


------------------------------------------------------------------------------

INPUT GROUP: 1 -- General run control parameters
--------------

    Option to run all periods found
    in the met. file     (METRUN)   Default: 0       ! METRUN =   0  !

         METRUN = 0 - Run period explicitly defined below
         METRUN = 1 - Run all periods in met. file

     Starting date:    Year   (IBYR)  --    No default   ! IBYR  =  2006  !
                       Month  (IBMO)  --    No default   ! IBMO  =  1  !
                       Day    (IBDY)  --    No default   ! IBDY  =  1  !
     Starting time:    Hour   (IBHR)  --    No default   ! IBHR  =  0  !
                       Minute (IBMIN) --    No default   ! IBMIN =  0  !
                       Second (IBSEC) --    No default   ! IBSEC =  0  !
```

```
Ending date:      Year   (IEYR)  --    No default   ! IEYR  =  2007  !
                  Month  (IEMO)  --    No default   ! IEMO  =  1  !
                  Day    (IEDY)  --    No default   ! IEDY  =  1  !
Ending time:      Hour   (IEHR)  --    No default   ! IEHR  =  0  !
                  Minute (IEMIN) --    No default   ! IEMIN =  0  !
                  Second (IESEC) --    No default   ! IESEC =  0  !

(These are only used if METRUN = 0)

Base time zone        (XBTZ) -- No default       ! XBTZ= 5.0  !
The zone is the number of hours that must be
ADDED to the time to obtain UTC (or GMT)
Examples: PST = 8., MST = 7.
          CST = 6., EST = 5.

Length of modeling time-step (seconds)
Equal to update period in the primary
meteorological data files, or an
integer fraction of it (1/2, 1/3 ...)
Must be no larger than 1 hour
(NSECDT)                          Default:3600     ! NSECDT =  3600  !
                                  Units: seconds

Number of chemical species (NSPEC)
                                  Default: 5       ! NSPEC =  3   !

Number of chemical species
to be emitted  (NSE)              Default: 3       ! NSE =  3   !

Flag to stop run after
SETUP phase (ITEST)               Default: 2       ! ITEST =  2   !
(Used to allow checking
of the model inputs, files, etc.)
      ITEST = 1 - STOPS program after SETUP phase
      ITEST = 2 - Continues with execution of program
                  after SETUP

Restart Configuration:

   Control flag (MRESTART)        Default: 0       ! MRESTART =  0   !

      0 = Do not read or write a restart file
      1 = Read a restart file at the beginning of
          the run
      2 = Write a restart file during run
      3 = Read a restart file at beginning of run
          and write a restart file during run

   Number of periods in Restart
   output cycle (NRESPD)          Default: 0       ! NRESPD =  0   !

      0 = File written only at last period
     >0 = File updated every NRESPD periods

Meteorological Data Format (METFM)
                                  Default: 1       ! METFM =  1   !
```

```
           METFM = 1 - CALMET binary file (CALMET.MET)
           METFM = 2 - ISC ASCII file (ISCMET.MET)
           METFM = 3 - AUSPLUME ASCII file (PLMMET.MET)
           METFM = 4 - CTDM plus tower file (PROFILE.DAT) and
                       surface parameters file (SURFACE.DAT)
           METFM = 5 - AERMET tower file (PROFILE.DAT) and
                       surface parameters file (SURFACE.DAT)

     Meteorological Profile Data Format (MPRFFM)
            (used only for METFM = 1, 2, 3)
                                  Default: 1       ! MPRFFM =  1   !

           MPRFFM = 1 - CTDM plus tower file (PROFILE.DAT)
           MPRFFM = 2 - AERMET tower file (PROFILE.DAT)

     PG sigma-y is adjusted by the factor (AVET/PGTIME)**0.2
     Averaging Time (minutes) (AVET)
                                  Default: 60.0    ! AVET = 60. !
     PG Averaging Time (minutes) (PGTIME)
                                  Default: 60.0    ! PGTIME = 60. !


!END!


------------------------------------------------------------------------------

INPUT GROUP: 2 -- Technical options
--------------


     Vertical distribution used in the
     near field (MGAUSS)                  Default: 1     ! MGAUSS =  1   !
        0 = uniform
        1 = Gaussian

     Terrain adjustment method
     (MCTADJ)                             Default: 3     ! MCTADJ =  3   !
        0 = no adjustment
        1 = ISC-type of terrain adjustment
        2 = simple, CALPUFF-type of terrain
            adjustment
        3 = partial plume path adjustment

     Subgrid-scale complex terrain
     flag (MCTSG)                         Default: 0     ! MCTSG =  0   !
        0 = not modeled
        1 = modeled

     Near-field puffs modeled as
     elongated slugs? (MSLUG)             Default: 0     ! MSLUG =  0   !
        0 = no
        1 = yes (slug model used)

     Transitional plume rise modeled?
     (MTRANS)                             Default: 1     ! MTRANS =  1   !
        0 = no  (i.e., final rise only)
```

```
      1 = yes (i.e., transitional rise computed)

   Stack tip downwash? (MTIP)           Default: 1     ! MTIP =  1  !
      0 = no  (i.e., no stack tip downwash)
      1 = yes (i.e., use stack tip downwash)

   Method used to compute plume rise for
   point sources not subject to building
   downwash? (MRISE)                    Default: 1     ! MRISE =  1  !
      1 = Briggs plume rise
      2 = Numerical plume rise

   Method used to simulate building
   downwash? (MBDW)                     Default: 1     ! MBDW =   2  !
      1 = ISC method
      2 = PRIME method

   Vertical wind shear modeled above
   stack top? (MSHEAR)                  Default: 0     ! MSHEAR =  0  !
      0 = no  (i.e., vertical wind shear not modeled)
      1 = yes (i.e., vertical wind shear modeled)

   Puff splitting allowed? (MSPLIT)     Default: 0     ! MSPLIT =  0  !
      0 = no (i.e., puffs not split)
      1 = yes (i.e., puffs are split)

   Chemical mechanism flag (MCHEM)      Default: 1     ! MCHEM =  0   !
      0 = chemical transformation not
          modeled
      1 = transformation rates computed
          internally (MESOPUFF II scheme)
      2 = user-specified transformation
          rates used
      3 = transformation rates computed
          internally (RIVAD/ARM3 scheme)
      4 = secondary organic aerosol formation
          computed (MESOPUFF II scheme for OH)

   Aqueous phase transformation flag (MAQCHEM)
   (Used only if MCHEM = 1, or 3)       Default: 0     ! MAQCHEM =  0   !
      0 = aqueous phase transformation
          not modeled
      1 = transformation rates adjusted
          for aqueous phase reactions

   Wet removal modeled ? (MWET)         Default: 1     ! MWET =  0   !
      0 = no
      1 = yes

   Dry deposition modeled ? (MDRY)      Default: 1     ! MDRY =  1   !
      0 = no
      1 = yes
      (dry deposition method specified
       for each species in Input Group 3)


   Gravitational settling (plume tilt)
```

```
modeled ? (MTILT)                    Default: 0     ! MTILT =  0   !
   0 = no
   1 = yes
   (puff center falls at the gravitational
    settling velocity for 1 particle species)

Restrictions:
    - MDRY  = 1
    - NSPEC = 1  (must be particle species as well)
    - sg    = 0  GEOMETRIC STANDARD DEVIATION in Group 8 is
                 set to zero for a single particle diameter

Method used to compute dispersion
coefficients (MDISP)                 Default: 3     ! MDISP =  2   !

   1 = dispersion coefficients computed from measured values
       of turbulence, sigma v, sigma w
   2 = dispersion coefficients from internally calculated
       sigma v, sigma w using micrometeorological variables
       (u*, w*, L, etc.)
   3 = PG dispersion coefficients for RURAL areas (computed using
       the ISCST multi-segment approximation) and MP coefficients in
       urban areas
   4 = same as 3 except PG coefficients computed using
       the MESOPUFF II eqns.
   5 = CTDM sigmas used for stable and neutral conditions.
       For unstable conditions, sigmas are computed as in
       MDISP = 3, described above.  MDISP = 5 assumes that
       measured values are read

Sigma-v/sigma-theta, sigma-w measurements used? (MTURBVW)
(Used only if MDISP = 1 or 5)        Default: 3     ! MTURBVW =  3  !
   1 = use sigma-v or sigma-theta measurements
       from PROFILE.DAT to compute sigma-y
       (valid for METFM = 1, 2, 3, 4, 5)
   2 = use sigma-w measurements
       from PROFILE.DAT to compute sigma-z
       (valid for METFM = 1, 2, 3, 4, 5)
   3 = use both sigma-(v/theta) and sigma-w
       from PROFILE.DAT to compute sigma-y and sigma-z
       (valid for METFM = 1, 2, 3, 4, 5)
   4 = use sigma-theta measurements
       from PLMMET.DAT to compute sigma-y
       (valid only if METFM = 3)

Back-up method used to compute dispersion
when measured turbulence data are
missing (MDISP2)                     Default: 3     ! MDISP2 =  3  !
(used only if MDISP = 1 or 5)
   2 = dispersion coefficients from internally calculated
       sigma v, sigma w using micrometeorological variables
       (u*, w*, L, etc.)
   3 = PG dispersion coefficients for RURAL areas (computed using
       the ISCST multi-segment approximation) and MP coefficients in
       urban areas
   4 = same as 3 except PG coefficients computed using
       the MESOPUFF II eqns.
```

```
[DIAGNOSTIC FEATURE]
Method used for Lagrangian timescale for Sigma-y
(used only if MDISP=1,2 or MDISP2=1,2)
(MTAULY)                              Default: 0     ! MTAULY =  0  !
   0 = Draxler default 617.284 (s)
   1 = Computed as Lag. Length / (.75 q) -- after SCIPUFF
  10 < Direct user input (s)             -- e.g., 306.9


[DIAGNOSTIC FEATURE]
Method used for Advective-Decay timescale for Turbulence
(used only if MDISP=2 or MDISP2=2)
(MTAUADV)                             Default: 0     ! MTAUADV =  0  !
   0 = No turbulence advection
   1 = Computed (OPTION NOT IMPLEMENTED)
  10 < Direct user input (s)   -- e.g., 800


Method used to compute turbulence sigma-v &
sigma-w using micrometeorological variables
(Used only if MDISP = 2 or MDISP2 = 2)
(MCTURB)                              Default: 1     ! MCTURB =  1  !
   1 = Standard CALPUFF subroutines
   2 = AERMOD subroutines

PG sigma-y,z adj. for roughness?      Default: 0     ! MROUGH =  0  !
(MROUGH)
   0 = no
   1 = yes

Partial plume penetration of          Default: 1     ! MPARTL =  1  !
elevated inversion modeled for
point sources?
(MPARTL)
   0 = no
   1 = yes

Partial plume penetration of          Default: 1     ! MPARTLBA =  1  !
elevated inversion modeled for
buoyant area sources?
(MPARTLBA)
   0 = no
   1 = yes

Strength of temperature inversion     Default: 0     ! MTINV =  0  !
provided in PROFILE.DAT extended records?
(MTINV)
   0 = no (computed from measured/default gradients)
   1 = yes

PDF used for dispersion under convective conditions?
                                      Default: 0     ! MPDF =  0  !
(MPDF)
   0 = no
   1 = yes
```

```
Sub-Grid TIBL module used for shore line?
                                        Default: 0     ! MSGTIBL = 0  !
(MSGTIBL)
   0 = no
   1 = yes

Boundary conditions (concentration) modeled?
                                        Default: 0     ! MBCON = 0  !
(MBCON)
   0 = no
   1 = yes, using formatted BCON.DAT file
   2 = yes, using unformatted CONC.DAT file

Note:  MBCON > 0 requires that the last species modeled
       be 'BCON'.  Mass is placed in species BCON when
       generating boundary condition puffs so that clean
       air entering the modeling domain can be simulated
       in the same way as polluted air.  Specify zero
       emission of species BCON for all regular sources.

Individual source contributions saved?
                                        Default: 0     ! MSOURCE = 0  !
(MSOURCE)
   0 = no
   1 = yes


Analyses of fogging and icing impacts due to emissions from
arrays of mechanically-forced cooling towers can be performed
using CALPUFF in conjunction with a cooling tower emissions
processor (CTEMISS) and its associated postprocessors.  Hourly
emissions of water vapor and temperature from each cooling tower
cell are computed for the current cell configuration and ambient
conditions by CTEMISS. CALPUFF models the dispersion of these
emissions and provides cloud information in a specialized format
for further analysis. Output to FOG.DAT is provided in either
'plume mode' or 'receptor mode' format.

Configure for FOG Model output?
                                        Default: 0     ! MFOG =  0   !
(MFOG)
   0 = no
   1 = yes  - report results in PLUME Mode format
   2 = yes  - report results in RECEPTOR Mode format


Test options specified to see if
they conform to regulatory
values? (MREG)                          Default: 1     ! MREG =  0   !

   0 = NO checks are made
   1 = Technical options must conform to USEPA
       Long Range Transport (LRT) guidance
                 METFM    1 or 2
                 AVET     60. (min)
                 PGTIME   60. (min)
                 MGAUSS   1
```

```
                        MCTADJ   3
                        MTRANS   1
                        MTIP     1
                        MRISE    1
                        MCHEM    1 or 3 (if modeling SOx, NOx)
                        MWET     1
                        MDRY     1
                        MDISP    2 or 3
                        MPDF     0 if MDISP=3
                                 1 if MDISP=2
                        MROUGH   0
                        MPARTL   1
                        MPARTLBA 0
                        SYTDEP   550. (m)
                        MHFTSZ   0
                        SVMIN    0.5 (m/s)


!END!


------------------------------------------------------------------------------

INPUT GROUP: 3a, 3b -- Species list
-------------------

------------
Subgroup (3a)
------------

  The following species are modeled:

! CSPEC =          PM1 !         !END!
! CSPEC =          PM2 !         !END!
! CSPEC =          PM3 !         !END!

                                                      Dry                OUTPUT GROUP
    SPECIES          MODELED          EMITTED       DEPOSITED             NUMBER
     NAME         (0=NO, 1=YES)    (0=NO, 1=YES)    (0=NO,              (0=NONE,
   (Limit: 12                                        1=COMPUTED-GAS      1=1st CGRUP,
    Characters                                       2=COMPUTED-PARTICLE 2=2nd CGRUP,
    in length)                                       3=USER-SPECIFIED)   3= etc.)

!          PM1  =         1,               1,           2,               0   !
!          PM2  =         1,               1,           2,               0   !
!          PM3  =         1,               1,           2,               0   !

!END!

  Note:  The last species in (3a) must be 'BCON' when using the
         boundary condition option (MBCON > 0).  Species BCON should
         typically be modeled as inert (no chem transformation or
         removal).


-------------
Subgroup (3b)
```

```
-------------
  The following names are used for Species-Groups in which results
  for certain species are combined (added) prior to output.  The
  CGRUP name will be used as the species name in output files.
  Use this feature to model specific particle-size distributions
  by treating each size-range as a separate species.
  Order must be consistent with 3(a) above.



------------------------------------------------------------------------------


INPUT GROUP: 4 -- Map Projection and Grid control parameters
--------------

     Projection for all (X,Y):
     -------------------------

     Map projection
     (PMAP)                     Default: UTM    ! PMAP = UTM  !

         UTM :  Universal Transverse Mercator
         TTM :  Tangential Transverse Mercator
         LCC :  Lambert Conformal Conic
          PS :  Polar Stereographic
          EM :  Equatorial Mercator
        LAZA :  Lambert Azimuthal Equal Area

     False Easting and Northing (km) at the projection origin
     (Used only if PMAP= TTM, LCC, or LAZA)
     (FEAST)                    Default=0.0     ! FEAST  = 0.000  !
     (FNORTH)                   Default=0.0     ! FNORTH = 0.000  !

     UTM zone (1 to 60)
     (Used only if PMAP=UTM)
     (IUTMZN)                   No Default      ! IUTMZN =  19   !

     Hemisphere for UTM projection?
     (Used only if PMAP=UTM)
     (UTMHEM)                   Default: N      ! UTMHEM = N  !
         N   :  Northern hemisphere projection
         S   :  Southern hemisphere projection

     Latitude and Longitude (decimal degrees) of projection origin
     (Used only if PMAP= TTM, LCC, PS, EM, or LAZA)
     (RLAT0)                    No Default      ! RLAT0 = 0N  !
     (RLON0)                    No Default      ! RLON0 = 0E  !

         TTM :  RLON0 identifies central (true N/S) meridian of projection
                RLAT0 selected for convenience
         LCC :  RLON0 identifies central (true N/S) meridian of projection
                RLAT0 selected for convenience
         PS  :  RLON0 identifies central (grid N/S) meridian of projection
                RLAT0 selected for convenience
         EM  :  RLON0 identifies central meridian of projection
                RLAT0 is REPLACED by 0.0N (Equator)
```

```
         LAZA:  RLON0 identifies longitude of tangent-point of mapping plane
                RLAT0 identifies latitude of tangent-point of mapping plane

     Matching parallel(s) of latitude (decimal degrees) for projection
     (Used only if PMAP= LCC or PS)
     (XLAT1)                    No Default      ! XLAT1 = 0N  !
     (XLAT2)                    No Default      ! XLAT2 = 0N  !

         LCC :  Projection cone slices through Earth's surface at XLAT1 and XLAT2
         PS  :  Projection plane slices through Earth at XLAT1
                (XLAT2 is not used)

     ----------
     Note:  Latitudes and longitudes should be positive, and include a
            letter N,S,E, or W indicating north or south latitude, and
            east or west longitude.  For example,
            35.9  N Latitude  =  35.9N
            118.7 E Longitude = 118.7E


     Datum-region
     ------------

     The Datum-Region for the coordinates is identified by a character
     string.  Many mapping products currently available use the model of the
     Earth known as the World Geodetic System 1984 (WGS-84).  Other local
     models may be in use, and their selection in CALMET will make its output
     consistent with local mapping products.  The list of Datum-Regions with
     official transformation parameters is provided by the National Imagery and
     Mapping Agency (NIMA).

     NIMA Datum - Regions(Examples)
     ------------------------------------------------------------------------------
     WGS-84    WGS-84 Reference Ellipsoid and Geoid, Global coverage (WGS84)
     NAS-C     NORTH AMERICAN 1927 Clarke 1866 Spheroid, MEAN FOR CONUS (NAD27)
     NAR-C     NORTH AMERICAN 1983 GRS 80 Spheroid, MEAN FOR CONUS (NAD83)
     NWS-84    NWS 6370KM Radius, Sphere
     ESR-S     ESRI REFERENCE 6371KM Radius, Sphere

     Datum-region for output coordinates
     (DATUM)                    Default: WGS-84    ! DATUM = WGS-84  !


METEOROLOGICAL Grid:

     Rectangular grid defined for projection PMAP,
     with X the Easting and Y the Northing coordinate

           No. X grid cells (NX)      No default     ! NX =  80   !
           No. Y grid cells (NY)      No default     ! NY =  80   !
        No. vertical layers (NZ)      No default     ! NZ =  10   !

          Grid spacing (DGRIDKM)      No default     ! DGRIDKM = .5 !
                                      Units: km

                Cell face heights
                    (ZFACE(nz+1))     No defaults
```

```
                                    Units: m
        ! ZFACE = 0.,20.,40.,80.,160.,300.,600.,1000.,1500.,2200.,3000. !

            Reference Coordinates
           of SOUTHWEST corner of
                 grid cell(1, 1):

            X coordinate (XORIGKM)     No default     ! XORIGKM = 659.202 !
            Y coordinate (YORIGKM)     No default     ! YORIGKM = 5539.244 !
                                     Units: km


COMPUTATIONAL Grid:

     The computational grid is identical to or a subset of the MET. grid.
     The lower left (LL) corner of the computational grid is at grid point
     (IBCOMP, JBCOMP) of the MET. grid.  The upper right (UR) corner of the
     computational grid is at grid point (IECOMP, JECOMP) of the MET. grid.
     The grid spacing of the computational grid is the same as the MET. grid.

        X index of LL corner (IBCOMP)      No default     ! IBCOMP =  5   !
                  (1 <= IBCOMP <= NX)

        Y index of LL corner (JBCOMP)      No default     ! JBCOMP =  5   !
                  (1 <= JBCOMP <= NY)


        X index of UR corner (IECOMP)      No default     ! IECOMP =  75   !
                  (1 <= IECOMP <= NX)

        Y index of UR corner (JECOMP)      No default     ! JECOMP =  75   !
                  (1 <= JECOMP <= NY)



SAMPLING Grid (GRIDDED RECEPTORS):

     The lower left (LL) corner of the sampling grid is at grid point
     (IBSAMP, JBSAMP) of the MET. grid.  The upper right (UR) corner of the
     sampling grid is at grid point (IESAMP, JESAMP) of the MET. grid.
     The sampling grid must be identical to or a subset of the computational
     grid.  It may be a nested grid inside the computational grid.
     The grid spacing of the sampling grid is DGRIDKM/MESHDN.

        Logical flag indicating if gridded
        receptors are used (LSAMP)         Default: T     ! LSAMP = F !
        (T=yes, F=no)

        X index of LL corner (IBSAMP)      No default     ! IBSAMP =  0   !
         (IBCOMP <= IBSAMP <= IECOMP)

        Y index of LL corner (JBSAMP)      No default     ! JBSAMP =  0   !
         (JBCOMP <= JBSAMP <= JECOMP)


        X index of UR corner (IESAMP)      No default     ! IESAMP =  0   !
         (IBCOMP <= IESAMP <= IECOMP)
```

```
        Y index of UR corner (JESAMP)      No default     ! JESAMP =  0   !
         (JBCOMP <= JESAMP <= JECOMP)


       Nesting factor of the sampling
        grid (MESHDN)                      Default: 1     ! MESHDN =  1  !
        (MESHDN is an integer >= 1)

!END!


------------------------------------------------------------------------------


INPUT GROUP: 5 -- Output Options
--------------
                                          *                          *
     FILE                        DEFAULT VALUE             VALUE THIS RUN
     ----                        -------------             --------------

   Concentrations (ICON)              1                   !  ICON =  1   !
   Dry Fluxes (IDRY)                  1                   !  IDRY =  1   !
   Wet Fluxes (IWET)                  1                   !  IWET =  0   !
   2D Temperature (IT2D)              0                   !  IT2D =  0   !
   2D Density (IRHO)                  0                   !  IRHO =  0   !
   Relative Humidity (IVIS)           1                   !  IVIS =  0   !
    (relative humidity file is
     required for visibility
     analysis)
   Use data compression option in output file?
   (LCOMPRS)                          Default: T         ! LCOMPRS = T !

   *
    0 = Do not create file, 1 = create file


    QA PLOT FILE OUTPUT OPTION:

       Create a standard series of output files (e.g.
       locations of sources, receptors, grids ...)
       suitable for plotting?
       (IQAPLOT)                      Default: 1         !  IQAPLOT =  1   !
         0 = no
         1 = yes

    DIAGNOSTIC MASS FLUX OUTPUT OPTIONS:

       Mass flux across specified boundaries
       for selected species reported?
       (IMFLX)                        Default: 0         ! IMFLX =  0  !
         0 = no
         1 = yes (FLUXBDY.DAT and MASSFLX.DAT filenames
                  are specified in Input Group 0)

       Mass balance for each species
       reported?
```

```
       (IMBAL)                         Default: 0         ! IMBAL =  0  !
         0 = no
         1 = yes (MASSBAL.DAT filename is
              specified in Input Group 0)


    NUMERICAL RISE OUTPUT OPTION:

       Create a file with plume properties for each rise
       increment, for each model timestep?
       This applies to sources modeled with numerical rise
       and is limited to ONE source in the run.
       (INRISE)                        Default: 0         ! INRISE =  0  !
         0 = no
         1 = yes (RISE.DAT filename is
                  specified in Input Group 0)


    LINE PRINTER OUTPUT OPTIONS:

       Print concentrations (ICPRT)    Default: 0         ! ICPRT =  0   !
       Print dry fluxes (IDPRT)        Default: 0         ! IDPRT =  0   !
       Print wet fluxes (IWPRT)        Default: 0         ! IWPRT =  0   !
       (0 = Do not print, 1 = Print)

       Concentration print interval
       (ICFRQ) in timesteps            Default: 1         ! ICFRQ =  1   !
       Dry flux print interval
       (IDFRQ) in timesteps            Default: 1         ! IDFRQ =  1   !
       Wet flux print interval
       (IWFRQ) in timesteps            Default: 1         ! IWFRQ =  1   !

       Units for Line Printer Output
       (IPRTU)                         Default: 1         ! IPRTU =  1   !
                      for              for
                  Concentration    Deposition
           1 =       g/m**3          g/m**2/s
           2 =      mg/m**3         mg/m**2/s
           3 =      ug/m**3         ug/m**2/s
           4 =      ng/m**3         ng/m**2/s
           5 =     Odour Units

       Messages tracking progress of run
       written to the screen ?
       (IMESG)                         Default: 2         ! IMESG =  2   !
         0 = no
         1 = yes (advection step, puff ID)
         2 = yes (YYYYJJJHH, # old puffs, # emitted puffs)


     SPECIES (or GROUP for combined species) LIST FOR OUTPUT OPTIONS

                 ---- CONCENTRATIONS ----   ------ DRY FLUXES ------   ------ WET FLUXES ------
-- MASS FLUX --
   SPECIES
   /GROUP        PRINTED?  SAVED ON DISK?   PRINTED?  SAVED ON DISK?   PRINTED?  SAVED ON DISK?
SAVED ON DISK?
```

```
   -------       -------------------------   -------------------------   -------------------------
---------------
!          PM1 =     0,           1,           0,           1,           0,           0,
0   !
!          PM2 =     0,           1,           0,           1,           0,           0,
0   !
!          PM3 =     0,           1,           0,           1,           0,           0,
0   !

  Note:  Species BCON (for MBCON > 0) does not need to be saved on disk.


     OPTIONS FOR PRINTING "DEBUG" QUANTITIES (much output)

       Logical for debug output
       (LDEBUG)                                  Default: F     ! LDEBUG = F !

       First puff to track
       (IPFDEB)                                  Default: 1     ! IPFDEB =  1  !

       Number of puffs to track
       (NPFDEB)                                  Default: 1     ! NPFDEB =  1  !

       Met. period to start output
       (NN1)                                     Default: 1     ! NN1 =  1   !

       Met. period to end output
       (NN2)                                     Default: 10    ! NN2 =  10  !

!END!


------------------------------------------------------------------------------


INPUT GROUP: 6a, 6b, & 6c -- Subgrid scale complex terrain inputs
-------------------------

---------------
Subgroup (6a)
---------------
       Number of terrain features (NHILL)       Default: 0     ! NHILL =  0   !

       Number of special complex terrain
       receptors  (NCTREC)                      Default: 0     ! NCTREC =  0   !

       Terrain and CTSG Receptor data for
       CTSG hills input in CTDM format ?
       (MHILL)                                  No Default     ! MHILL =  2   !
       1 = Hill and Receptor data created
           by CTDM processors & read from
           HILL.DAT and HILLRCT.DAT files
       2 = Hill data created by OPTHILL &
           input below in Subgroup (6b);
           Receptor data in Subgroup (6c)

       Factor to convert horizontal dimensions  Default: 1.0   ! XHILL2M = 1.0 !
```

```
       to meters (MHILL=1)

       Factor to convert vertical dimensions    Default: 1.0   ! ZHILL2M = 1.0 !
       to meters (MHILL=1)

       X-origin of CTDM system relative to      No Default     ! XCTDMKM = 0 !
       CALPUFF coordinate system, in Kilometers (MHILL=1)

       Y-origin of CTDM system relative to      No Default     ! YCTDMKM = 0 !
       CALPUFF coordinate system, in Kilometers (MHILL=1)

! END !

---------------
Subgroup (6b)
---------------

                      1 **
     HILL information


HILL            XC         YC       THETAH   ZGRID  RELIEF    EXPO 1    EXPO 2   SCALE 1    SCALE
2    AMAX1      AMAX2
 NO.           (km)       (km)       (deg.)    (m)      (m)       (m)        (m)        (m)
(m)        (m)        (m)
----           ----       ----       ------   -----  ------    ------    ------   -------
-------    -----      -----

---------------
Subgroup (6c)
---------------

    COMPLEX TERRAIN RECEPTOR INFORMATION

                      XRCT         YRCT         ZRCT          XHH
                      (km)         (km)          (m)
                     ------       -----       ------         ----



--------------------
1
     Description of Complex Terrain Variables:
          XC, YC  = Coordinates of center of hill
          THETAH  = Orientation of major axis of hill (clockwise from
                    North)
          ZGRID   = Height of the  0  of the grid above mean sea
                    level
          RELIEF  = Height of the crest of the hill above the grid elevation
          EXPO 1  = Hill-shape exponent for the major axis
          EXPO 2  = Hill-shape exponent for the major axis
          SCALE 1 = Horizontal length scale along the major axis
          SCALE 2 = Horizontal length scale along the minor axis
          AMAX    = Maximum allowed axis length for the major axis
          BMAX    = Maximum allowed axis length for the major axis

          XRCT, YRCT = Coordinates of the complex terrain receptors
          ZRCT    = Height of the ground (MSL) at the complex terrain
```

```
                    Receptor
          XHH     = Hill number associated with each complex terrain receptor
                    (NOTE: MUST BE ENTERED AS A REAL NUMBER)

   **
     NOTE: DATA for each hill and CTSG receptor are treated as a separate
           input subgroup and therefore must end with an input group terminator.

-------------------------------------------------------------------------------


INPUT GROUP: 7 -- Chemical parameters for dry deposition of gases
--------------

      SPECIES     DIFFUSIVITY      ALPHA STAR      REACTIVITY    MESOPHYLL RESISTANCE     HENRY'S
LAW COEFFICIENT
       NAME        (cm**2/s)                                          (s/cm)
(dimensionless)
      -------     -----------      ----------      ----------    --------------------
-----------------------


!END!


-------------------------------------------------------------------------------


INPUT GROUP: 8 -- Size parameters for dry deposition of particles
--------------

     For SINGLE SPECIES, the mean and standard deviation are used to
     compute a deposition velocity for NINT (see group 9) size-ranges,
     and these are then averaged to obtain a mean deposition velocity.

     For GROUPED SPECIES, the size distribution should be explicitly
     specified (by the 'species' in the group), and the standard deviation
     for each should be entered as 0.  The model will then use the
     deposition velocity for the stated mean diameter.

      SPECIES      GEOMETRIC MASS MEAN        GEOMETRIC STANDARD
       NAME             DIAMETER                 DEVIATION
                        (microns)                (microns)
      -------      -------------------        ------------------
!          PM1 =          20.0,              1.2418578   !
!          PM2 =           5.0,              1.2418578   !
!          PM3 =          1.25,              1.2418578   !
!END!


-------------------------------------------------------------------------------


INPUT GROUP: 9 -- Miscellaneous dry deposition parameters
--------------

     Reference cuticle resistance (s/cm)
```

```
     (RCUTR)                          Default: 30    !  RCUTR = 30.0 !
     Reference ground resistance  (s/cm)
     (RGR)                            Default: 10    !    RGR = 10.0 !
     Reference pollutant reactivity
     (REACTR)                         Default: 8     ! REACTR = 8.0 !

     Number of particle-size intervals used to
     evaluate effective particle deposition velocity
     (NINT)                           Default: 9     !   NINT =  5  !

     Vegetation state in unirrigated areas
     (IVEG)                           Default: 1     !   IVEG =  1   !
        IVEG=1 for active and unstressed vegetation
        IVEG=2 for active and stressed vegetation
        IVEG=3 for inactive vegetation

!END!


------------------------------------------------------------------------------


INPUT GROUP: 10 -- Wet Deposition Parameters
---------------


                     Scavenging Coefficient -- Units: (sec)**(-1)

       Pollutant      Liquid Precip.       Frozen Precip.
       ---------      --------------       --------------

!END!


------------------------------------------------------------------------------


INPUT GROUP: 11 -- Chemistry Parameters
---------------

     Ozone data input option (MOZ)     Default: 1            ! MOZ =  1   !
     (Used only if MCHEM = 1, 3, or 4)
        0 = use a monthly background ozone value
        1 = read hourly ozone concentrations from
            the OZONE.DAT data file

     Monthly ozone concentrations
     (Used only if MCHEM = 1, 3, or 4 and
      MOZ = 0 or MOZ = 1 and all hourly O3 data missing)
     (BCKO3) in ppb                   Default: 12*80.
     !  BCKO3 = 80.00, 80.00, 80.00, 80.00, 80.00, 80.00, 80.00, 80.00, 80.00, 80.00, 80.00, 80.00 !

     Monthly ammonia concentrations
     (Used only if MCHEM = 1, or 3)
     (BCKNH3) in ppb                  Default: 12*10.
     !  BCKNH3 = 10.00, 10.00, 10.00, 10.00, 10.00, 10.00, 10.00, 10.00, 10.00, 10.00, 10.00,
10.00 !
```

```
     Nighttime SO2 loss rate (RNITE1)
     in percent/hour                   Default: 0.2          ! RNITE1 = .2 !

     Nighttime NOx loss rate (RNITE2)
     in percent/hour                   Default: 2.0          ! RNITE2 = 2.0 !

     Nighttime HNO3 formation rate (RNITE3)
     in percent/hour                   Default: 2.0          ! RNITE3 = 2.0 !

     H2O2 data input option (MH2O2)    Default: 1            ! MH2O2 =  1   !
     (Used only if MAQCHEM = 1)
        0 = use a monthly background H2O2 value
        1 = read hourly H2O2 concentrations from
            the H2O2.DAT data file

     Monthly H2O2 concentrations
     (Used only if MQACHEM = 1 and
      MH2O2 = 0 or MH2O2 = 1 and all hourly H2O2 data missing)
     (BCKH2O2) in ppb                  Default: 12*1.
     !  BCKH2O2 = 1.00, 1.00, 1.00, 1.00, 1.00, 1.00, 1.00, 1.00, 1.00, 1.00, 1.00, 1.00 !


 --- Data for SECONDARY ORGANIC AEROSOL (SOA) Option
     (used only if MCHEM = 4)

     The SOA module uses monthly values of:
          Fine particulate concentration in ug/m^3 (BCKPMF)
          Organic fraction of fine particulate     (OFRAC)
          VOC / NOX ratio (after reaction)         (VCNX)
     to characterize the air mass when computing
     the formation of SOA from VOC emissions.
     Typical values for several distinct air mass types are:

        Month    1    2    3    4    5    6    7    8    9   10   11   12
                Jan  Feb  Mar  Apr  May  Jun  Jul  Aug  Sep  Oct  Nov  Dec

     Clean Continental
        BCKPMF   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.   1.
        OFRAC  .15  .15  .20  .20  .20  .20  .20  .20  .20  .20  .20  .15
        VCNX    50.  50.  50.  50.  50.  50.  50.  50.  50.  50.  50.  50.

     Clean Marine (surface)
        BCKPMF  .5   .5   .5   .5   .5   .5   .5   .5   .5   .5   .5   .5
        OFRAC  .25  .25  .30  .30  .30  .30  .30  .30  .30  .30  .30  .25
        VCNX    50.  50.  50.  50.  50.  50.  50.  50.  50.  50.  50.  50.

     Urban - low biogenic (controls present)
        BCKPMF  30.  30.  30.  30.  30.  30.  30.  30.  30.  30.  30.  30.
        OFRAC  .20  .20  .25  .25  .25  .25  .25  .25  .20  .20  .20  .20
        VCNX     4.   4.   4.   4.   4.   4.   4.   4.   4.   4.   4.   4.

     Urban - high biogenic (controls present)
        BCKPMF  60.  60.  60.  60.  60.  60.  60.  60.  60.  60.  60.  60.
        OFRAC  .25  .25  .30  .30  .30  .55  .55  .55  .35  .35  .35  .25
        VCNX    15.  15.  15.  15.  15.  15.  15.  15.  15.  15.  15.  15.
```

```
     Regional Plume
        BCKPMF  20.  20.  20.  20.  20.  20.  20.  20.  20.  20.  20.  20.
        OFRAC  .20  .20  .25  .35  .25  .40  .40  .40  .30  .30  .30  .20
        VCNX    15.  15.  15.  15.  15.  15.  15.  15.  15.  15.  15.  15.

     Urban - no controls present
        BCKPMF 100. 100. 100. 100. 100. 100. 100. 100. 100. 100. 100. 100.
        OFRAC  .30  .30  .35  .35  .35  .55  .55  .55  .35  .35  .35  .30
        VCNX     2.   2.   2.   2.   2.   2.   2.   2.   2.   2.   2.   2.

     Default: Clean Continental
     !  BCKPMF = 1.00, 1.00, 1.00, 1.00, 1.00, 1.00, 1.00, 1.00, 1.00, 1.00, 1.00, 1.00 !
     !  OFRAC  = 0.15, 0.15, 0.20, 0.20, 0.20, 0.20, 0.20, 0.20, 0.20, 0.20, 0.20, 0.15 !
     !  VCNX   = 50.00, 50.00, 50.00, 50.00, 50.00, 50.00, 50.00, 50.00, 50.00, 50.00, 50.00,
50.00 !


!END!


------------------------------------------------------------------------------


INPUT GROUP: 12 -- Misc. Dispersion and Computational Parameters
---------------

     Horizontal size of puff (m) beyond which
     time-dependent dispersion equations (Heffter)
     are used to determine sigma-y and
     sigma-z (SYTDEP)                          Default: 550.   ! SYTDEP = 5.5E02 !

     Switch for using Heffter equation for sigma z
     as above (0 = Not use Heffter; 1 = use Heffter
     (MHFTSZ)                                  Default: 0      ! MHFTSZ =  0   !

     Stability class used to determine plume
     growth rates for puffs above the boundary
     layer (JSUP)                              Default: 5      ! JSUP =  5   !

     Vertical dispersion constant for stable
     conditions (k1 in Eqn. 2.7-3)  (CONK1)    Default: 0.01   ! CONK1 = .01 !

     Vertical dispersion constant for neutral/
     unstable conditions (k2 in Eqn. 2.7-4)
     (CONK2)                                   Default: 0.1    ! CONK2 = .1 !

     Factor for determining Transition-point from
     Schulman-Scire to Huber-Snyder Building Downwash
     scheme (SS used for Hs < Hb + TBD * HL)
     (TBD)                                     Default: 0.5    ! TBD = .5 !
        TBD < 0   ==> always use Huber-Snyder
        TBD = 1.5 ==> always use Schulman-Scire
        TBD = 0.5 ==> ISC Transition-point

     Range of land use categories for which
     urban dispersion is assumed
     (IURB1, IURB2)                            Default: 10     ! IURB1 =  10  !
```

```
                                                    19     ! IURB2 =  19  !

Site characterization parameters for single-point Met data files ---------
(needed for METFM = 2,3,4,5)

   Land use category for modeling domain
   (ILANDUIN)                              Default: 20     ! ILANDUIN =  20  !

   Roughness length (m) for modeling domain
   (Z0IN)                                  Default: 0.25   ! Z0IN = .25 !

   Leaf area index for modeling domain
   (XLAIIN)                                Default: 3.0    ! XLAIIN = 3.0 !

   Elevation above sea level (m)
   (ELEVIN)                                Default: 0.0    ! ELEVIN = .0 !

   Latitude (degrees) for met location
   (XLATIN)                                Default: -999.  ! XLATIN = -999.0 !

   Longitude (degrees) for met location
   (XLONIN)                                Default: -999.  ! XLONIN = -999.0 !

Specialized information for interpreting single-point Met data files -----

   Anemometer height (m) (Used only if METFM = 2,3)
   (ANEMHT)                                Default: 10.    ! ANEMHT = 10.0 !

   Form of lateral turbulance data in PROFILE.DAT file
   (Used only if METFM = 4,5 or MTURBVW = 1 or 3)
   (ISIGMAV)                               Default: 1      ! ISIGMAV =  1  !
       0 = read sigma-theta
       1 = read sigma-v

   Choice of mixing heights (Used only if METFM = 4)
   (IMIXCTDM)                              Default: 0      ! IMIXCTDM =  0  !
       0 = read PREDICTED mixing heights
       1 = read OBSERVED mixing heights

Maximum length of a slug (met. grid units)
(XMXLEN)                                   Default: 1.0    ! XMXLEN = 1.0 !

Maximum travel distance of a puff/slug (in
grid units) during one sampling step
(XSAMLEN)                                  Default: 1.0    ! XSAMLEN = 1.0 !

Maximum Number of slugs/puffs release from
one source during one time step
(MXNEW)                                    Default: 99     ! MXNEW =  99   !

Maximum Number of sampling steps for
one puff/slug during one time step
(MXSAM)                                    Default: 99     ! MXSAM =  99   !

Number of iterations used when computing
the transport wind for a sampling step
that includes gradual rise (for CALMET
```

```
     and PROFILE winds)
     (NCOUNT)                                  Default: 2      ! NCOUNT =  2   !

     Minimum sigma y for a new puff/slug (m)
     (SYMIN)                                   Default: 1.0    ! SYMIN = 1.0  !

     Minimum sigma z for a new puff/slug (m)
     (SZMIN)                                   Default: 1.0    ! SZMIN = 1.0  !

     Maximum sigma z (m) allowed to avoid
     numerical problem in calculating virtual
     time or distance.  Cap should be large
     enough to have no influence on normal events.
     Enter a negative cap to disable.
     (SZCAP_M)                                 Default: 5.0e06 ! SZCAP_M = 5.0E06 !

     Default minimum turbulence velocities sigma-v and sigma-w
     for each stability class over land and over water (m/s)
     (SVMIN(12) and SWMIN(12))

                    ----------  LAND  ----------       ---------  WATER  ----------
        Stab Class :  A    B    C    D    E    F         A    B    C    D    E    F
                    ---  ---  ---  ---  ---  ---       ---  ---  ---  ---  ---  ---
     Default SVMIN : .50, .50, .50, .50, .50, .50,      .37, .37, .37, .37, .37, .37
     Default SWMIN : .20, .12, .08, .06, .03, .016,     .20, .12, .08, .06, .03, .016

           ! SVMIN = 0.500, 0.500, 0.500, 0.500, 0.500, 0.500, 0.370, 0.370, 0.370, 0.370, 0.370,
0.370!
           ! SWMIN = 0.200, 0.120, 0.080, 0.060, 0.030, 0.016, 0.200, 0.120, 0.080, 0.060, 0.030,
0.016!

     Divergence criterion for dw/dz across puff
     used to initiate adjustment for horizontal
     convergence (1/s)
     Partial adjustment starts at CDIV(1), and
     full adjustment is reached at CDIV(2)
     (CDIV(2))                                 Default: 0.0,0.0  ! CDIV = .0, .0 !

     Search radius (number of cells) for nearest
     land and water cells used in the subgrid
     TIBL module
     (NLUTIBL)                                 Default: 4      ! NLUTIBL =  4  !

     Minimum wind speed (m/s) allowed for
     non-calm conditions. Also used as minimum
     speed returned when using power-law
     extrapolation toward surface
     (WSCALM)                                  Default: 0.5    ! WSCALM = .5 !

     Maximum mixing height (m)
     (XMAXZI)                                  Default: 3000.  ! XMAXZI = 3000.0 !

     Minimum mixing height (m)
     (XMINZI)                                  Default: 50.    ! XMINZI = 50.0 !

     Default wind speed classes --
     5 upper bounds (m/s) are entered;
```

```
the 6th class has no upper limit
(WSCAT(5))                      Default   :
                                ISC RURAL : 1.54, 3.09, 5.14, 8.23, 10.8 (10.8+)

                           Wind Speed Class :  1     2     3     4     5
                                              ---   ---   ---   ---   ---
                                  ! WSCAT = 1.54, 3.09, 5.14, 8.23, 10.80 !

Default wind speed profile power-law
exponents for stabilities 1-6
(PLX0(6))                       Default   : ISC RURAL values
                                ISC RURAL : .07, .07, .10, .15, .35, .55
                                ISC URBAN : .15, .15, .20, .25, .30, .30

                            Stability Class :  A     B     C     D     E     F
                                              ---   ---   ---   ---   ---   ---
                                     ! PLX0 = 0.07, 0.07, 0.10, 0.15, 0.35, 0.55 !

Default potential temperature gradient
for stable classes E, F (degK/m)
(PTG0(2))                       Default: 0.020, 0.035
                                   ! PTG0 = 0.020,   0.035 !

Default plume path coefficients for
each stability class (used when option
for partial plume height terrain adjustment
is selected -- MCTADJ=3)
(PPC(6))                    Stability Class :  A     B     C     D     E     F
                               Default  PPC : .50,  .50,  .50,  .50,  .35,  .35
                                              ---   ---   ---   ---   ---   ---
                                     !  PPC = 0.50, 0.50, 0.50, 0.50, 0.35, 0.35 !

Slug-to-puff transition criterion factor
equal to sigma-y/length of slug
(SL2PF)                                Default: 10.        ! SL2PF = 10.0 !

Puff-splitting control variables ------------------------

  VERTICAL SPLIT
  --------------

  Number of puffs that result every time a puff
  is split - nsplit=2 means that 1 puff splits
  into 2
  (NSPLIT)                             Default:   3        ! NSPLIT =  3  !

  Time(s) of a day when split puffs are eligible to
  be split once again; this is typically set once
  per day, around sunset before nocturnal shear develops.
  24 values: 0 is midnight (00:00) and 23 is 11 PM (23:00)
  0=do not re-split    1=eligible for re-split
  (IRESPLIT(24))                       Default:  Hour 17 = 1
  !  IRESPLIT = 0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,1,0,0,0,0,0,0,0 !

  Split is allowed only if last hour's mixing
  height (m) exceeds a minimum value
  (ZISPLIT)                            Default: 100.       ! ZISPLIT = 100.0 !
```

```
  Split is allowed only if ratio of last hour's
  mixing ht to the maximum mixing ht experienced
  by the puff is less than a maximum value (this
  postpones a split until a nocturnal layer develops)
  (ROLDMAX)                         Default: 0.25       ! ROLDMAX = 0.25 !


  HORIZONTAL SPLIT
  ----------------

  Number of puffs that result every time a puff
  is split - nsplith=5 means that 1 puff splits
  into 5
  (NSPLITH)                         Default:   5        ! NSPLITH =  5  !

  Minimum sigma-y (Grid Cells Units) of puff
  before it may be split
  (SYSPLITH)                        Default:  1.0       ! SYSPLITH = 1.0 !

  Minimum puff elongation rate (SYSPLITH/hr) due to
  wind shear, before it may be split
  (SHSPLITH)                        Default:  2.        ! SHSPLITH = 2.0 !

  Minimum concentration (g/m^3) of each
  species in puff before it may be split
  Enter array of NSPEC values; if a single value is
  entered, it will be used for ALL species
  (CNSPLITH)                        Default:  1.0E-07   ! CNSPLITH = 1.0E-07 !

Integration control variables ------------------------

  Fractional convergence criterion for numerical SLUG
  sampling integration
  (EPSSLUG)                         Default:   1.0e-04  ! EPSSLUG = 1.0E-04 !

  Fractional convergence criterion for numerical AREA
  source integration
  (EPSAREA)                         Default:   1.0e-06  ! EPSAREA = 1.0E-06 !

  Trajectory step-length (m) used for numerical rise
  integration
  (DSRISE)                          Default:   1.0      ! DSRISE = 1.0 !

  Boundary Condition (BC) Puff control variables ------------------------

  Minimum height (m) to which BC puffs are mixed as they are emitted
  (MBCON=2 ONLY).  Actual height is reset to the current mixing height
  at the release point if greater than this minimum.
  (HTMINBC)                         Default:   500.     ! HTMINBC = 500.0 !

  Search radius (km) about a receptor for sampling nearest BC puff.
  BC puffs are typically emitted with a spacing of one grid cell
  length, so the search radius should be greater than DGRIDKM.
  (RSAMPBC)                         Default:   10.      ! RSAMPBC = 10.0 !

  Near-Surface depletion adjustment to concentration profile used when
```

```
       sampling BC puffs?
       (MDEPBC)                          Default:   1        ! MDEPBC =  1  !
          0 = Concentration is NOT adjusted for depletion
          1 = Adjust Concentration for depletion

!END!


-------------------------------------------------------------------------------


INPUT GROUPS: 13a, 13b, 13c, 13d -- Point source parameters
---------------------------------

---------------
Subgroup (13a)
---------------

     Number of point sources with
     parameters provided below      (NPT1)  No default  !  NPT1 =  2  !

     Units used for point source
     emissions below                (IPTU)  Default: 1  !  IPTU =   1  !
           1 =        g/s
           2 =       kg/hr
           3 =       lb/hr
           4 =     tons/yr
           5 =     Odour Unit * m**3/s  (vol. flux of odour compound)
           6 =     Odour Unit * m**3/min
           7 =     metric tons/yr

     Number of source-species
     combinations with variable
     emissions scaling factors
     provided below in (13d)        (NSPT1) Default: 0  !  NSPT1 =  0  !

     Number of point sources with
     variable emission parameters
     provided in external file      (NPT2)  No default  !  NPT2 =  0  !

     (If NPT2 > 0, these point
     source emissions are read from
     the file: PTEMARB.DAT)

!END!

---------------
Subgroup (13b)
---------------
                                    a
          POINT SOURCE: CONSTANT DATA
          ---------------------------
                                                                        b          c
  Source       X         Y       Stack    Base     Stack    Exit  Exit    Bldg.  Emission
   No.     Coordinate Coordinate Height Elevation Diameter  Vel.  Temp.   Dwash   Rates
              (km)       (km)       (m)       (m)        (m)   (m/s) (deg. K)
  ------   ---------- ---------- ------  ------   -------- ----- -------- ----- --------
```

```
   P1 ! SRCNAM = P1 !
   P1 ! X= 679.260,5558.023,18.0,23.1,2.01,13.40,274.0,1.0,0.18, 0.12, 0.33!
   P1 ! ZPLTFM  =       0 !
   P1 ! FMFAC  =      1.0 !   !END!

   P1 ! SRCNAM = P2 !
   P1 ! X= 681.260,5560.023,18.0,23.1,2.01,13.40,274.0,1.0,0.18, 0.12, 0.33!
   P1 ! ZPLTFM  =       0 !
   P1 ! FMFAC  =      1.0 !   !END!
--------

    a
     Data for each source are treated as a separate input subgroup
     and therefore must end with an input group terminator.

     SRCNAM  is a 12-character name for a source
             (No default)
     X       is an array holding the source data listed by the column headings
             (No default)
     SIGYZI  is an array holding the initial sigma-y and sigma-z (m)
             (Default: 0.,0.)
     FMFAC   is a vertical momentum flux factor (0. or 1.0) used to represent
             the effect of rain-caps or other physical configurations that
             reduce momentum rise associated with the actual exit velocity.
             (Default: 1.0  -- full momentum used)
     ZPLTFM  is the platform height (m) for sources influenced by an isolated
             structure that has a significant open area between the surface
             and the bulk of the structure, such as an offshore oil platform.
             The Base Elevation is that of the surface (ground or ocean),
             and the Stack Height is the release height above the Base (not
             above the platform).  Building heights entered in Subgroup 13c
             must be those of the buildings on the platform, measured from
             the platform deck.  ZPLTFM is used only with MBDW=1 (ISC
             downwash method) for sources with building downwash.
             (Default: 0.0)

    b
     0. = No building downwash modeled
     1. = Downwash modeled for buildings resting on the surface
     2. = Downwash modeled for buildings raised above the surface (ZPLTFM > 0.)
     NOTE: must be entered as a REAL number (i.e., with decimal point)

    c
     An emission rate must be entered for every pollutant modeled.
     Enter emission rate of zero for secondary pollutants that are
     modeled, but not emitted.  Units are specified by IPTU
     (e.g. 1 for g/s).

---------------
Subgroup (13c)
---------------

           BUILDING DIMENSION DATA FOR SOURCES SUBJECT TO DOWNWASH
           -------------------------------------------------------
Source                                                              a
 No.       Effective building height, width, length and X/Y offset (in meters)
```

```
           every 10 degrees.  LENGTH, XBADJ, and YBADJ are only needed for
           MBDW=2 (PRIME downwash option)
------     ------------------------------------------------------------------

 1    ! SRCNAM  =   P1 !
 1    ! HEIGHT  =  9.5,   9.5,   9.5,   9.5,   9.5,   9.5,
                   9.5,   9.5,   9.5,   9.5,   9.5,   9.5,
                   9.5,   9.5,   9.5,   9.5,   9.5,   9.5,
                   9.5,   9.5,   9.5,   9.5,   9.5,   9.5,
                   9.5,   9.5,   9.5,   9.5,   9.5,   9.5,
                   9.5,   9.5,   9.5,   9.5,   9.5,   9.5!
 1    ! WIDTH  =   57.7,   60.2,   60.86,   59.68,   56.69,   51.97,
                   45.67,   37.99,   29.15,   37.99,   45.67,   51.97,
                   56.69,   59.68,   60.86,   60.2,   57.7,   53.45,
                   57.7,   60.2,   60.86,   59.68,   56.69,   51.97,
                   45.67,   37.99,   29.15,   37.99,   45.67,   51.97,
                   56.69,   59.68,   60.86,   60.2,   57.7,   53.45!
 1    ! LENGTH =   37.99,   45.67,   51.97,   56.69,   59.68,   60.86,
                   60.2,   57.7,   53.45,   57.7,   60.2,   60.86,
                   59.68,   56.69,   51.97,   45.67,   37.99,   29.15,
                   37.99,   45.67,   51.97,   56.69,   59.68,   60.86,
                   60.2,   57.7,   53.45,   57.7,   60.2,   60.86,
                   59.68,   56.69,   51.97,   45.67,   37.99,   29.15!
 1    ! XBADJ  =   -19.25,   -22.29,   -24.66,   -26.27,   -27.08,   -27.08,
                   -26.24,   -24.62,   -22.24,   -24.25,   -25.52,   -26.02,
                   -25.73,   -24.65,   -22.83,   -20.31,   -17.18,   -13.52,
                   -18.73,   -23.38,   -27.31,   -30.42,   -32.6,   -33.79,
                   -33.95,   -33.08,   -31.21,   -33.45,   -34.67,   -34.84,
                   -33.96,   -32.03,   -29.14,   -25.36,   -20.81,   -15.63!
 1    ! YBADJ  =   -4.6,   -4.58,   -4.41,   -4.11,   -3.69,   -3.16,
                   -2.53,   -1.82,   -1.05,   -.26,   .54,   1.33,
                   2.07,   2.76,   3.36,   3.85,   4.23,   4.48,
                   4.6,   4.58,   4.41,   4.11,   3.69,   3.16,
                   2.53,   1.82,   1.05,   .26,   -.54,   -1.33,
                   -2.07,   -2.76,   -3.36,   -3.85,   -4.23,   -4.48!
!END!

 1    ! SRCNAM  =   P2 !
 1    ! HEIGHT  =  9.5,   9.5,   9.5,   9.5,   9.5,   9.5,
                   9.5,   9.5,   9.5,   9.5,   9.5,   9.5,
                   9.5,   9.5,   9.5,   9.5,   9.5,   9.5,
                   9.5,   9.5,   9.5,   9.5,   9.5,   9.5,
                   9.5,   9.5,   9.5,   9.5,   9.5,   9.5,
                   9.5,   9.5,   9.5,   9.5,   9.5,   9.5!
 1    ! WIDTH  =   57.7,   60.2,   60.86,   59.68,   56.69,   51.97,
                   45.67,   37.99,   29.15,   37.99,   45.67,   51.97,
                   56.69,   59.68,   60.86,   60.2,   57.7,   53.45,
                   57.7,   60.2,   60.86,   59.68,   56.69,   51.97,
                   45.67,   37.99,   29.15,   37.99,   45.67,   51.97,
                   56.69,   59.68,   60.86,   60.2,   57.7,   53.45!
 1    ! LENGTH =   37.99,   45.67,   51.97,   56.69,   59.68,   60.86,
                   60.2,   57.7,   53.45,   57.7,   60.2,   60.86,
                   59.68,   56.69,   51.97,   45.67,   37.99,   29.15,
                   37.99,   45.67,   51.97,   56.69,   59.68,   60.86,
                   60.2,   57.7,   53.45,   57.7,   60.2,   60.86,
                   59.68,   56.69,   51.97,   45.67,   37.99,   29.15!
 1    ! XBADJ  =   -19.25,   -22.29,   -24.66,   -26.27,   -27.08,   -27.08,
```

```
                  -26.24,   -24.62,   -22.24,   -24.25,   -25.52,   -26.02,
                  -25.73,   -24.65,   -22.83,   -20.31,   -17.18,   -13.52,
                  -18.73,   -23.38,   -27.31,   -30.42,   -32.6,   -33.79,
                  -33.95,   -33.08,   -31.21,   -33.45,   -34.67,   -34.84,
                  -33.96,   -32.03,   -29.14,   -25.36,   -20.81,   -15.63!
 1    ! YBADJ  =   -4.6,   -4.58,   -4.41,   -4.11,   -3.69,   -3.16,
                  -2.53,   -1.82,   -1.05,   -.26,   .54,   1.33,
                  2.07,   2.76,   3.36,   3.85,   4.23,   4.48,
                  4.6,   4.58,   4.41,   4.11,   3.69,   3.16,
                  2.53,   1.82,   1.05,   .26,   -.54,   -1.33,
                  -2.07,   -2.76,   -3.36,   -3.85,   -4.23,   -4.48!
!END!
--------

    a
     Building height, width, length, and X/Y offset from the source are treated
     as a separate input subgroup for each source and therefore must end with
     an input group terminator.  The X/Y offset is the position, relative to the
     stack, of the center of the upwind face of the projected building, with the
     x-axis pointing along the flow direction.

---------------
Subgroup (13d)
---------------
                                                 a
          POINT SOURCE: VARIABLE EMISSIONS DATA
          -------------------------------------

     Use this subgroup to describe temporal variations in the emission
     rates given in 13b.  Factors entered multiply the rates in 13b.
     Skip sources here that have constant emissions.  For more elaborate
     variation in source parameters, use PTEMARB.DAT and NPT2 > 0.

     IVARY determines the type of variation, and is source-specific:
     (IVARY)                                 Default: 0
           0 =       Constant
           1 =       Diurnal cycle (24 scaling factors: hours 1-24)
           2 =       Monthly cycle (12 scaling factors: months 1-12)
           3 =       Hour & Season (4 groups of 24 hourly scaling factors,
                                    where first group is DEC-JAN-FEB)
           4 =       Speed & Stab. (6 groups of 6 scaling factors, where
                                    first group is Stability Class A,
                                    and the speed classes have upper
                                    bounds (m/s) defined in Group 12
           5 =       Temperature   (12 scaling factors, where temperature
                                    classes have upper bounds (C) of:
                                    0, 5, 10, 15, 20, 25, 30, 35, 40,
                                    45, 50, 50+)



--------
    a
     Data for each species are treated as a separate input subgroup
     and therefore must end with an input group terminator.
```

```
--------------------------------------------------------------------------------


INPUT GROUPS: 14a, 14b, 14c, 14d -- Area source parameters
---------------------------------

---------------
Subgroup (14a)
---------------

     Number of polygon area sources with
     parameters specified below (NAR1)       No default  !  NAR1 =  2   !

     Units used for area source
     emissions below            (IARU)       Default: 1  !  IARU =   1  !
           1 =        g/m**2/s
           2 =       kg/m**2/hr
           3 =       lb/m**2/hr
           4 =     tons/m**2/yr
           5 =     Odour Unit * m/s  (vol. flux/m**2 of odour compound)
           6 =     Odour Unit * m/min
           7 =     metric tons/m**2/yr

     Number of source-species
     combinations with variable
     emissions scaling factors
     provided below in (14d)        (NSAR1) Default: 0  !  NSAR1 =  0  !

     Number of buoyant polygon area sources
     with variable location and emission
     parameters (NAR2)                      No default  !  NAR2 =  0   !
     (If NAR2 > 0, ALL parameter data for
     these sources are read from the file: BAEMARB.DAT)

!END!

---------------
Subgroup (14b)
---------------
                                    a
          AREA SOURCE: CONSTANT DATA
          --------------------------
                                                            b
Source           Effect.    Base      Initial    Emission
 No.             Height   Elevation   Sigma z     Rates
                   (m)       (m)        (m)
-------          ------    ------     --------   ---------

   1 ! SRCNAM = A1 !
   1 ! X= 20.000,55.8,2.0, 0, 0, 0!
   1 !END!

   2 ! SRCNAM = A2 !
   1 ! X= 20.000,55.8,2.0, 0, 0, 0!
   2 !END!

--------
```

```
    a
     Data for each source are treated as a separate input subgroup
     and therefore must end with an input group terminator.
    b
     An emission rate must be entered for every pollutant modeled.
     Enter emission rate of zero for secondary pollutants that are
     modeled, but not emitted.  Units are specified by IARU
     (e.g. 1 for g/m**2/s).

---------------
Subgroup (14c)
---------------

           COORDINATES (km) FOR EACH VERTEX(4) OF EACH POLYGON
           -----------------------------------------------------------
Source                                                              a
 No.       Ordered list of X followed by list of Y, grouped by source
------     -----------------------------------------------------------

   1 ! SRCNAM = A1 !
   1 ! XVERT= 680.300, 680.726, 680.713, 680.288 !
   1 ! YVERT= 5558.892, 5558.781, 5558.728, 5558.850 !
   1 !END!

   1 ! SRCNAM = A2 !
   1 ! XVERT= 680.282, 680.707, 680.694, 680.270 !
   1 ! YVERT= 5558.820, 5558.709, 5558.656, 5558.777 !
   1 !END!
--------
    a
     Data for each source are treated as a separate input subgroup
     and therefore must end with an input group terminator.


---------------
Subgroup (14d)
---------------
                                            a
          AREA SOURCE: VARIABLE EMISSIONS DATA
          ------------------------------------

     Use this subgroup to describe temporal variations in the emission
     rates given in 14b.  Factors entered multiply the rates in 14b.
     Skip sources here that have constant emissions.  For more elaborate
     variation in source parameters, use BAEMARB.DAT and NAR2 > 0.

     IVARY determines the type of variation, and is source-specific:
     (IVARY)                                Default: 0
           0 =       Constant
           1 =       Diurnal cycle (24 scaling factors: hours 1-24)
           2 =       Monthly cycle (12 scaling factors: months 1-12)
           3 =       Hour & Season (4 groups of 24 hourly scaling factors,
                                    where first group is DEC-JAN-FEB)
           4 =       Speed & Stab. (6 groups of 6 scaling factors, where
                                    first group is Stability Class A,
                                    and the speed classes have upper
                                    bounds (m/s) defined in Group 12
```

```
          5 =       Temperature   (12 scaling factors, where temperature
                                   classes have upper bounds (C) of:
                                   0, 5, 10, 15, 20, 25, 30, 35, 40,
                                   45, 50, 50+)



--------
    a
     Data for each species are treated as a separate input subgroup
     and therefore must end with an input group terminator.


-------------------------------------------------------------------------------

INPUT GROUPS: 15a, 15b, 15c -- Line source parameters
---------------------------

---------------
Subgroup (15a)
---------------

     Number of buoyant line sources
     with variable location and emission
     parameters (NLN2)                             No default  !  NLN2 =  0   !

     (If NLN2 > 0, ALL parameter data for
      these sources are read from the file: LNEMARB.DAT)

     Number of buoyant line sources (NLINES)       No default   ! NLINES =  0  !

     Units used for line source
     emissions below               (ILNU)          Default: 1  !  ILNU =   1  !
           1 =        g/s
           2 =       kg/hr
           3 =       lb/hr
           4 =     tons/yr
           5 =     Odour Unit * m**3/s  (vol. flux of odour compound)
           6 =     Odour Unit * m**3/min
           7 =     metric tons/yr

     Number of source-species
     combinations with variable
     emissions scaling factors
     provided below in (15c)       (NSLN1) Default: 0  !  NSLN1 =  0  !

     Maximum number of segments used to model
     each line (MXNSEG)                            Default: 7   ! MXNSEG =  7  !

     The following variables are required only if NLINES > 0.  They are
     used in the buoyant line source plume rise calculations.

        Number of distances at which               Default: 6   ! NLRISE =  6  !
        transitional rise is computed

        Average building length (XL)               No default   ! XL = .0 !
                                                   (in meters)
```

```
        Average building height (HBL)               No default   ! HBL = .0 !
                                                    (in meters)

        Average building width (WBL)                No default   ! WBL = .0 !
                                                    (in meters)

        Average line source width (WML)             No default   ! WML = .0 !
                                                    (in meters)

        Average separation between buildings (DXL)  No default   ! DXL = .0 !
                                                    (in meters)

        Average buoyancy parameter (FPRIMEL)        No default   ! FPRIMEL = .0 !
                                                    (in m**4/s**3)

!END!

---------------
Subgroup (15b)
---------------

          BUOYANT LINE SOURCE: CONSTANT DATA
          ----------------------------------
                                                                                  a
Source     Beg. X      Beg. Y      End. X     End. Y     Release    Base        Emission
 No.     Coordinate  Coordinate  Coordinate Coordinate  Height    Elevation      Rates
            (km)        (km)        (km)       (km)       (m)       (m)
------   ----------  ----------  ---------  ----------  -------   ---------    ---------

--------

    a
     Data for each source are treated as a separate input subgroup
     and therefore must end with an input group terminator.

    b
     An emission rate must be entered for every pollutant modeled.
     Enter emission rate of zero for secondary pollutants that are
     modeled, but not emitted.  Units are specified by ILNTU
     (e.g. 1 for g/s).

---------------
Subgroup (15c)
---------------
                                                    a
          BUOYANT LINE SOURCE: VARIABLE EMISSIONS DATA
          --------------------------------------------

     Use this subgroup to describe temporal variations in the emission
     rates given in 15b.  Factors entered multiply the rates in 15b.
     Skip sources here that have constant emissions.

     IVARY determines the type of variation, and is source-specific:
     (IVARY)                                Default: 0
           0 =       Constant
           1 =       Diurnal cycle (24 scaling factors: hours 1-24)
```

```
           2 =       Monthly cycle (12 scaling factors: months 1-12)
           3 =       Hour & Season (4 groups of 24 hourly scaling factors,
                                    where first group is DEC-JAN-FEB)
           4 =       Speed & Stab. (6 groups of 6 scaling factors, where
                                    first group is Stability Class A,
                                    and the speed classes have upper
                                    bounds (m/s) defined in Group 12
           5 =       Temperature   (12 scaling factors, where temperature
                                    classes have upper bounds (C) of:
                                    0, 5, 10, 15, 20, 25, 30, 35, 40,
                                    45, 50, 50+)



--------
    a
     Data for each species are treated as a separate input subgroup
     and therefore must end with an input group terminator.


------------------------------------------------------------------------------


INPUT GROUPS: 16a, 16b, 16c -- Volume source parameters
---------------------------

---------------
Subgroup (16a)
---------------

     Number of volume sources with
     parameters provided in 16b,c (NVL1)     No default  !  NVL1 =  2   !

     Units used for volume source
     emissions below in 16b       (IVLU)     Default: 1  !  IVLU =   1  !
           1 =        g/s
           2 =       kg/hr
           3 =       lb/hr
           4 =     tons/yr
           5 =     Odour Unit * m**3/s  (vol. flux of odour compound)
           6 =     Odour Unit * m**3/min
           7 =     metric tons/yr

     Number of source-species
     combinations with variable
     emissions scaling factors
     provided below in (16c)      (NSVL1)    Default: 0  !  NSVL1 =  0  !

     Number of volume sources with
     variable location and emission
     parameters                   (NVL2)     No default  !  NVL2 =   0   !

     (If NVL2 > 0, ALL parameter data for
      these sources are read from the VOLEMARB.DAT file(s) )

!END!
```

```
---------------
Subgroup (16b)
---------------
                                    a
          VOLUME SOURCE: CONSTANT DATA
          ----------------------------
                                                                          b
         X           Y        Effect.    Base     Initial    Initial    Emission
     Coordinate  Coordinate   Height   Elevation  Sigma y    Sigma z     Rates
        (km)        (km)        (m)       (m)        (m)       (m)
     ----------  ----------   ------    ------    --------   --------   --------

   1 ! SRCNAM = V1 !
   1 ! X= 680.503, 5558.776,10.0,55.8,13.4,1.9,1.12,
 0.69, 0.31!
   1 !END!

   1 ! SRCNAM = V2 !
   1 ! X= 680.829, 5560.180,5.0,0.0,37.5,2.3,0.0,
 0.0, 0.0!
   1 !END!
--------
    a
     Data for each source are treated as a separate input subgroup
     and therefore must end with an input group terminator.

    b
     An emission rate must be entered for every pollutant modeled.
     Enter emission rate of zero for secondary pollutants that are
     modeled, but not emitted.  Units are specified by IVLU
     (e.g. 1 for g/s).

---------------
Subgroup (16c)
---------------
                                           a
          VOLUME SOURCE: VARIABLE EMISSIONS DATA
          --------------------------------------

     Use this subgroup to describe temporal variations in the emission
     rates given in 16b.  Factors entered multiply the rates in 16b.
     Skip sources here that have constant emissions.  For more elaborate
     variation in source parameters, use VOLEMARB.DAT and NVL2 > 0.

     IVARY determines the type of variation, and is source-specific:
     (IVARY)                              Default: 0
           0 =       Constant
           1 =       Diurnal cycle (24 scaling factors: hours 1-24)
           2 =       Monthly cycle (12 scaling factors: months 1-12)
           3 =       Hour & Season (4 groups of 24 hourly scaling factors,
                                    where first group is DEC-JAN-FEB)
           4 =       Speed & Stab. (6 groups of 6 scaling factors, where
                                    first group is Stability Class A,
                                    and the speed classes have upper
                                    bounds (m/s) defined in Group 12
           5 =       Temperature   (12 scaling factors, where temperature
                                    classes have upper bounds (C) of:
```

```
                                    0, 5, 10, 15, 20, 25, 30, 35, 40,
                                    45, 50, 50+)



--------
    a
     Data for each species are treated as a separate input subgroup
     and therefore must end with an input group terminator.


------------------------------------------------------------------------------

INPUT GROUPS: 17a & 17b -- Non-gridded (discrete) receptor information
-----------------------

---------------
Subgroup (17a)
---------------

     Number of non-gridded receptors (NREC)  No default  !  NREC =  5075   !

!END!

---------------
Subgroup (17b)
---------------
                                          a
           NON-GRIDDED (DISCRETE) RECEPTOR DATA
           ------------------------------------

                   X            Y          Ground        Height   b
Receptor       Coordinate   Coordinate    Elevation   Above Ground
  No.             (km)         (km)          (m)           (m)
--------       ----------   ----------    ---------   ------------

     1 ! X =   679.76044,  5558.5235,      88.241,       0.000!   !END!
     2 ! X =   679.76044,  5558.5735,      76.789,       0.000!   !END!
     3 ! X =   679.76044,  5558.6235,      65.296,       0.000!   !END!
     4 ! X =   679.76044,  5558.6735,      52.551,       0.000!   !END!
     5 ! X =   679.76044,  5558.7235,      40.786,       0.000!   !END!
     6 ! X =   679.76044,  5558.7735,      32.028,       0.000!   !END!
     7 ! X =   679.76044,  5558.8235,      25.277,       0.000!   !END!
     8 ! X =   679.76044,  5558.8735,      21.531,       0.000!   !END!
     9 ! X =   679.76044,  5558.9235,      18.127,       0.000!   !END!
    10 ! X =   679.76044,  5558.9735,      14.987,       0.000!   !END!
    11 ! X =   679.76044,  5559.0235,      12.558,       0.000!   !END!
    12 ! X =   679.76044,  5559.0735,      10.436,       0.000!   !END!
    13 ! X =   679.76044,  5559.1235,      10.078,       0.000!   !END!
    14 ! X =   679.76044,  5559.1735,      10.051,       0.000!   !END!
    15 ! X =   679.76044,  5559.2235,       9.470,       0.000!   !END!
    16 ! X =   679.76044,  5559.2735,       9.294,       0.000!   !END!
    17 ! X =   679.76044,  5559.3235,      11.859,       0.000!   !END!
    18 ! X =   679.76044,  5559.3735,      13.976,       0.000!   !END!
    19 ! X =   679.76044,  5559.4235,      15.141,       0.000!   !END!
    20 ! X =   679.76044,  5559.4735,      15.665,       0.000!   !END!
    21 ! X =   679.76044,  5559.5235,      15.197,       0.000!   !END!
```

```
22 ! X =   679.81044,  5558.5235,      87.872,       0.000!   !END!
23 ! X =   679.81044,  5558.5735,      76.516,       0.000!   !END!
24 ! X =   679.81044,  5558.6235,      65.126,       0.000!   !END!
25 ! X =   679.81044,  5558.6735,      53.279,       0.000!   !END!
26 ! X =   679.81044,  5558.7235,      42.364,       0.000!   !END!
27 ! X =   679.81044,  5558.7735,      34.435,       0.000!   !END!
28 ! X =   679.81044,  5558.8235,      27.727,       0.000!   !END!
29 ! X =   679.81044,  5558.8735,      23.009,       0.000!   !END!
30 ! X =   679.81044,  5558.9235,      19.027,       0.000!   !END!
31 ! X =   679.81044,  5558.9735,      15.820,       0.000!   !END!
32 ! X =   679.81044,  5559.0235,      13.576,       0.000!   !END!
33 ! X =   679.81044,  5559.0735,      11.866,       0.000!   !END!
34 ! X =   679.81044,  5559.1235,      10.556,       0.000!   !END!
35 ! X =   679.81044,  5559.1735,       9.260,       0.000!   !END!
36 ! X =   679.81044,  5559.2235,       8.649,       0.000!   !END!
37 ! X =   679.81044,  5559.4235,      13.416,       0.000!   !END!
38 ! X =   679.81044,  5559.4735,      15.013,       0.000!   !END!
39 ! X =   679.81044,  5559.5235,      14.976,       0.000!   !END!
40 ! X =   679.86044,  5558.5235,      89.039,       0.000!   !END!
41 ! X =   679.86044,  5558.5735,      77.328,       0.000!   !END!
42 ! X =   679.86044,  5558.6235,      65.574,       0.000!   !END!
43 ! X =   679.86044,  5558.6735,      54.277,       0.000!   !END!
44 ! X =   679.86044,  5558.7235,      43.606,       0.000!   !END!
45 ! X =   679.86044,  5558.7735,      36.058,       0.000!   !END!
46 ! X =   679.86044,  5558.8235,      29.222,       0.000!   !END!
47 ! X =   679.86044,  5558.8735,      23.831,       0.000!   !END!
48 ! X =   679.86044,  5558.9235,      19.726,       0.000!   !END!
49 ! X =   679.86044,  5558.9735,      17.087,       0.000!   !END!
50 ! X =   679.86044,  5559.0235,      15.323,       0.000!   !END!
51 ! X =   679.86044,  5559.0735,      14.093,       0.000!   !END!
52 ! X =   679.86044,  5559.1235,      12.121,       0.000!   !END!
53 ! X =   679.86044,  5559.1735,       9.861,       0.000!   !END!
54 ! X =   679.86044,  5559.4735,      11.499,       0.000!   !END!
55 ! X =   679.86044,  5559.5235,      13.214,       0.000!   !END!
56 ! X =   679.91044,  5558.5235,      91.730,       0.000!   !END!
57 ! X =   679.91044,  5558.5735,      80.105,       0.000!   !END!
58 ! X =   679.91044,  5558.6235,      68.108,       0.000!   !END!
59 ! X =   679.91044,  5558.6735,      55.962,       0.000!   !END!
60 ! X =   679.91044,  5558.7235,      44.494,       0.000!   !END!
61 ! X =   679.91044,  5558.7735,      36.450,       0.000!   !END!
62 ! X =   679.91044,  5558.8235,      29.157,       0.000!   !END!
63 ! X =   679.91044,  5558.8735,      23.916,       0.000!   !END!
64 ! X =   679.91044,  5558.9235,      20.132,       0.000!   !END!
65 ! X =   679.91044,  5558.9735,      18.186,       0.000!   !END!
66 ! X =   679.91044,  5559.0235,      16.646,       0.000!   !END!
67 ! X =   679.91044,  5559.0735,      15.353,       0.000!   !END!
68 ! X =   679.91044,  5559.5235,      10.437,       0.000!   !END!
69 ! X =   679.96044,  5558.5235,      94.656,       0.000!   !END!
70 ! X =   679.96044,  5558.5735,      82.280,       0.000!   !END!
71 ! X =   679.96044,  5558.6235,      69.380,       0.000!   !END!
72 ! X =   679.96044,  5558.6735,      58.067,       0.000!   !END!
73 ! X =   679.96044,  5558.7235,      47.024,       0.000!   !END!
74 ! X =   679.96044,  5558.7735,      37.493,       0.000!   !END!
75 ! X =   679.96044,  5558.8235,      29.258,       0.000!   !END!
76 ! X =   679.96044,  5558.8735,      24.519,       0.000!   !END!
77 ! X =   679.96044,  5558.9235,      20.807,       0.000!   !END!
78 ! X =   679.96044,  5558.9735,      18.439,       0.000!   !END!
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  79 ! X =   679.96044,  5559.0235,      16.515,       0.000!   !END!
  80 ! X =   680.01044,  5558.5235,      95.475,       0.000!   !END!
  81 ! X =   680.01044,  5558.5735,      83.091,       0.000!   !END!
  82 ! X =   680.01044,  5558.6235,      70.628,       0.000!   !END!
  83 ! X =   680.01044,  5558.6735,      59.712,       0.000!   !END!
  84 ! X =   680.01044,  5558.7235,      49.103,       0.000!   !END!
  85 ! X =   680.01044,  5558.7735,      40.475,       0.000!   !END!
  86 ! X =   680.01044,  5558.8235,      32.778,       0.000!   !END!
  87 ! X =   680.01044,  5558.8735,      28.039,       0.000!   !END!
  88 ! X =   680.01044,  5558.9235,      23.105,       0.000!   !END!
  89 ! X =   680.06044,  5558.5235,      97.347,       0.000!   !END!
  90 ! X =   680.06044,  5558.5735,      85.195,       0.000!   !END!
  91 ! X =   680.06044,  5558.6235,      73.240,       0.000!   !END!
  92 ! X =   680.06044,  5558.6735,      62.424,       0.000!   !END!
  93 ! X =   680.06044,  5558.7235,      51.874,       0.000!   !END!
  94 ! X =   680.06044,  5558.7735,      44.179,       0.000!   !END!
  95 ! X =   680.06044,  5558.8235,      37.109,       0.000!   !END!
  96 ! X =   680.06044,  5558.8735,      32.399,       0.000!   !END!
  97 ! X =   680.11044,  5558.5235,     100.948,       0.000!   !END!
  98 ! X =   680.11044,  5558.5735,      89.530,       0.000!   !END!
  99 ! X =   680.11044,  5558.6235,      78.712,       0.000!   !END!
 100 ! X =   680.11044,  5558.6735,      67.599,       0.000!   !END!
 101 ! X =   680.11044,  5558.7235,      56.439,       0.000!   !END!
 102 ! X =   680.11044,  5558.7735,      49.062,       0.000!   !END!
 103 ! X =   680.16044,  5558.5235,     106.430,       0.000!   !END!
 104 ! X =   680.16044,  5558.5735,      96.078,       0.000!   !END!
 105 ! X =   680.16044,  5558.6235,      86.701,       0.000!   !END!
 106 ! X =   680.16044,  5558.6735,      74.422,       0.000!   !END!
 107 ! X =   680.16044,  5558.7235,      61.399,       0.000!   !END!
 108 ! X =   680.21044,  5558.5235,     113.031,       0.000!   !END!
 109 ! X =   680.21044,  5558.5735,     103.506,       0.000!   !END!
 110 ! X =   680.21044,  5558.6235,      95.177,       0.000!   !END!
 111 ! X =   680.21044,  5558.6735,      81.367,       0.000!   !END!
 112 ! X =   680.26044,  5558.5235,     118.639,       0.000!   !END!
 113 ! X =   680.26044,  5558.5735,     109.036,       0.000!   !END!
 114 ! X =   680.26044,  5558.6235,     100.986,       0.000!   !END!
 115 ! X =   680.31044,  5558.5235,     121.315,       0.000!   !END!
 116 ! X =   679.76044,  5559.6235,      17.258,       0.000!   !END!
 117 ! X =   679.76044,  5559.7235,      14.185,       0.000!   !END!
 118 ! X =   679.76044,  5559.8235,       9.388,       0.000!   !END!
 119 ! X =   679.86044,  5559.6235,      16.651,       0.000!   !END!
 120 ! X =   679.86044,  5559.7235,      16.131,       0.000!   !END!
 121 ! X =   679.86044,  5559.8235,      15.081,       0.000!   !END!
 122 ! X =   679.96044,  5559.6235,      12.900,       0.000!   !END!
 123 ! X =   679.96044,  5559.7235,      15.158,       0.000!   !END!
 124 ! X =   679.96044,  5559.8235,      14.286,       0.000!   !END!
 125 ! X =   680.86044,  5558.4235,     124.529,       0.000!   !END!
 126 ! X =   680.86044,  5558.3235,     136.934,       0.000!   !END!
 127 ! X =   680.86044,  5558.2235,     145.772,       0.000!   !END!
 128 ! X =   680.86044,  5558.1235,     146.764,       0.000!   !END!
 129 ! X =   680.86044,  5558.0235,     160.455,       0.000!   !END!
 130 ! X =   680.96044,  5558.5235,     118.173,       0.000!   !END!
 131 ! X =   680.96044,  5558.4235,     130.894,       0.000!   !END!
 132 ! X =   680.96044,  5558.3235,     136.754,       0.000!   !END!
 133 ! X =   680.96044,  5558.2235,     136.756,       0.000!   !END!
 134 ! X =   680.96044,  5558.1235,     150.238,       0.000!   !END!
 135 ! X =   680.96044,  5558.0235,     181.459,       0.000!   !END!
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136 ! X =   681.06044,  5558.5235,     124.807,       0.000!   !END!
137 ! X =   681.06044,  5558.4235,     135.191,       0.000!   !END!
138 ! X =   681.06044,  5558.3235,     137.077,       0.000!   !END!
139 ! X =   681.06044,  5558.2235,     135.797,       0.000!   !END!
140 ! X =   681.06044,  5558.1235,     167.592,       0.000!   !END!
141 ! X =   681.06044,  5558.0235,     196.004,       0.000!   !END!
142 ! X =   681.16044,  5558.5235,     125.483,       0.000!   !END!
143 ! X =   681.16044,  5558.4235,     134.350,       0.000!   !END!
144 ! X =   681.16044,  5558.3235,     135.580,       0.000!   !END!
145 ! X =   681.16044,  5558.2235,     139.288,       0.000!   !END!
146 ! X =   681.16044,  5558.1235,     170.954,       0.000!   !END!
147 ! X =   681.16044,  5558.0235,     190.178,       0.000!   !END!
148 ! X =   681.26044,  5558.6235,     124.853,       0.000!   !END!
149 ! X =   681.26044,  5558.5235,     132.529,       0.000!   !END!
150 ! X =   681.26044,  5558.4235,     133.246,       0.000!   !END!
151 ! X =   681.26044,  5558.3235,     125.836,       0.000!   !END!
152 ! X =   681.26044,  5558.2235,     139.233,       0.000!   !END!
153 ! X =   681.26044,  5558.1235,     160.249,       0.000!   !END!
154 ! X =   681.26044,  5558.0235,     176.529,       0.000!   !END!
155 ! X =   680.76044,  5558.4235,     119.635,       0.000!   !END!
156 ! X =   680.76044,  5558.3235,     133.634,       0.000!   !END!
157 ! X =   680.76044,  5558.2235,     147.415,       0.000!   !END!
158 ! X =   680.76044,  5558.1235,     151.936,       0.000!   !END!
159 ! X =   680.76044,  5558.0235,     158.240,       0.000!   !END!
160 ! X =   680.66044,  5558.3235,     127.842,       0.000!   !END!
161 ! X =   680.66044,  5558.2235,     137.954,       0.000!   !END!
162 ! X =   680.66044,  5558.1235,     147.879,       0.000!   !END!
163 ! X =   680.66044,  5558.0235,     157.265,       0.000!   !END!
164 ! X =   680.56044,  5558.3235,     128.616,       0.000!   !END!
165 ! X =   680.56044,  5558.2235,     136.640,       0.000!   !END!
166 ! X =   680.56044,  5558.1235,     146.323,       0.000!   !END!
167 ! X =   680.56044,  5558.0235,     157.557,       0.000!   !END!
168 ! X =   680.46044,  5558.3235,     135.203,       0.000!   !END!
169 ! X =   680.46044,  5558.2235,     140.080,       0.000!   !END!
170 ! X =   680.46044,  5558.1235,     147.170,       0.000!   !END!
171 ! X =   680.46044,  5558.0235,     156.977,       0.000!   !END!
172 ! X =   680.36044,  5558.4235,     133.784,       0.000!   !END!
173 ! X =   680.36044,  5558.3235,     140.551,       0.000!   !END!
174 ! X =   680.36044,  5558.2235,     144.625,       0.000!   !END!
175 ! X =   680.36044,  5558.1235,     149.502,       0.000!   !END!
176 ! X =   680.36044,  5558.0235,     153.527,       0.000!   !END!
177 ! X =   680.26044,  5558.4235,     138.135,       0.000!   !END!
178 ! X =   680.26044,  5558.3235,     142.593,       0.000!   !END!
179 ! X =   680.26044,  5558.2235,     146.198,       0.000!   !END!
180 ! X =   680.26044,  5558.1235,     152.729,       0.000!   !END!
181 ! X =   680.26044,  5558.0235,     156.452,       0.000!   !END!
182 ! X =   680.16044,  5558.4235,     130.435,       0.000!   !END!
183 ! X =   680.16044,  5558.3235,     147.450,       0.000!   !END!
184 ! X =   680.16044,  5558.2235,     154.054,       0.000!   !END!
185 ! X =   680.16044,  5558.1235,     160.028,       0.000!   !END!
186 ! X =   680.16044,  5558.0235,     164.493,       0.000!   !END!
187 ! X =   680.06044,  5558.4235,     122.846,       0.000!   !END!
188 ! X =   680.06044,  5558.3235,     146.666,       0.000!   !END!
189 ! X =   680.06044,  5558.2235,     160.731,       0.000!   !END!
190 ! X =   680.06044,  5558.1235,     167.212,       0.000!   !END!
191 ! X =   680.06044,  5558.0235,     176.370,       0.000!   !END!
192 ! X =   679.96044,  5558.4235,     114.195,       0.000!   !END!
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193 ! X =   679.96044,  5558.3235,     133.623,       0.000!   !END!
194 ! X =   679.96044,  5558.2235,     157.941,       0.000!   !END!
195 ! X =   679.96044,  5558.1235,     166.181,       0.000!   !END!
196 ! X =   679.96044,  5558.0235,     174.255,       0.000!   !END!
197 ! X =   679.86044,  5558.4235,     110.798,       0.000!   !END!
198 ! X =   679.86044,  5558.3235,     127.320,       0.000!   !END!
199 ! X =   679.86044,  5558.2235,     143.591,       0.000!   !END!
200 ! X =   679.86044,  5558.1235,     155.995,       0.000!   !END!
201 ! X =   679.86044,  5558.0235,     165.587,       0.000!   !END!
202 ! X =   679.76044,  5558.4235,     111.613,       0.000!   !END!
203 ! X =   679.76044,  5558.3235,     129.440,       0.000!   !END!
204 ! X =   679.76044,  5558.2235,     145.661,       0.000!   !END!
205 ! X =   679.76044,  5558.1235,     156.400,       0.000!   !END!
206 ! X =   679.76044,  5558.0235,     166.164,       0.000!   !END!
207 ! X =   679.66044,  5558.4235,     113.166,       0.000!   !END!
208 ! X =   679.66044,  5558.3235,     134.840,       0.000!   !END!
209 ! X =   679.66044,  5558.2235,     148.912,       0.000!   !END!
210 ! X =   679.66044,  5558.1235,     158.884,       0.000!   !END!
211 ! X =   679.66044,  5558.0235,     166.069,       0.000!   !END!
212 ! X =   679.56044,  5558.4235,     114.094,       0.000!   !END!
213 ! X =   679.56044,  5558.3235,     141.288,       0.000!   !END!
214 ! X =   679.56044,  5558.2235,     158.012,       0.000!   !END!
215 ! X =   679.56044,  5558.1235,     166.633,       0.000!   !END!
216 ! X =   679.56044,  5558.0235,     169.710,       0.000!   !END!
217 ! X =   679.46044,  5558.4235,     115.159,       0.000!   !END!
218 ! X =   679.46044,  5558.3235,     141.051,       0.000!   !END!
219 ! X =   679.46044,  5558.2235,     163.623,       0.000!   !END!
220 ! X =   679.46044,  5558.1235,     168.501,       0.000!   !END!
221 ! X =   679.46044,  5558.0235,     168.136,       0.000!   !END!
222 ! X =   679.36044,  5558.4235,     103.990,       0.000!   !END!
223 ! X =   679.36044,  5558.3235,     135.791,       0.000!   !END!
224 ! X =   679.36044,  5558.2235,     155.323,       0.000!   !END!
225 ! X =   679.36044,  5558.1235,     160.184,       0.000!   !END!
226 ! X =   679.36044,  5558.0235,     162.412,       0.000!   !END!
227 ! X =   679.26044,  5558.4235,      80.963,       0.000!   !END!
228 ! X =   679.26044,  5558.3235,     109.621,       0.000!   !END!
229 ! X =   679.26044,  5558.2235,     128.953,       0.000!   !END!
230 ! X =   679.26044,  5558.1235,     143.639,       0.000!   !END!
231 ! X =   679.26044,  5558.0235,     155.361,       0.000!   !END!
232 ! X =   679.66044,  5558.5235,      86.412,       0.000!   !END!
233 ! X =   679.66044,  5558.6235,      57.567,       0.000!   !END!
234 ! X =   679.66044,  5558.7235,      40.863,       0.000!   !END!
235 ! X =   679.66044,  5558.8235,      24.246,       0.000!   !END!
236 ! X =   679.66044,  5558.9235,      17.912,       0.000!   !END!
237 ! X =   679.66044,  5559.0235,      13.714,       0.000!   !END!
238 ! X =   679.66044,  5559.1235,      11.840,       0.000!   !END!
239 ! X =   679.66044,  5559.2235,      13.437,       0.000!   !END!
240 ! X =   679.66044,  5559.3235,      18.104,       0.000!   !END!
241 ! X =   679.66044,  5559.4235,      17.280,       0.000!   !END!
242 ! X =   679.66044,  5559.5235,      17.204,       0.000!   !END!
243 ! X =   679.66044,  5559.6235,      12.370,       0.000!   !END!
244 ! X =   679.66044,  5559.7235,       7.799,       0.000!   !END!
245 ! X =   679.66044,  5559.8235,       2.577,       0.000!   !END!
246 ! X =   679.56044,  5558.5235,      84.221,       0.000!   !END!
247 ! X =   679.56044,  5558.6235,      54.044,       0.000!   !END!
248 ! X =   679.56044,  5558.7235,      34.149,       0.000!   !END!
249 ! X =   679.56044,  5558.8235,      22.593,       0.000!   !END!
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250 ! X =   679.56044,  5558.9235,      20.428,       0.000!   !END!
251 ! X =   679.56044,  5559.0235,      16.901,       0.000!   !END!
252 ! X =   679.56044,  5559.1235,      15.891,       0.000!   !END!
253 ! X =   679.56044,  5559.2235,      17.852,       0.000!   !END!
254 ! X =   679.56044,  5559.3235,      20.869,       0.000!   !END!
255 ! X =   679.56044,  5559.4235,      18.401,       0.000!   !END!
256 ! X =   679.56044,  5559.5235,      15.208,       0.000!   !END!
257 ! X =   679.56044,  5559.6235,      10.542,       0.000!   !END!
258 ! X =   679.56044,  5559.7235,       8.159,       0.000!   !END!
259 ! X =   679.56044,  5559.8235,       0.918,       0.000!   !END!
260 ! X =   679.46044,  5558.5235,      78.944,       0.000!   !END!
261 ! X =   679.46044,  5558.6235,      48.993,       0.000!   !END!
262 ! X =   679.46044,  5558.7235,      31.151,       0.000!   !END!
263 ! X =   679.46044,  5558.8235,      23.528,       0.000!   !END!
264 ! X =   679.46044,  5558.9235,      21.285,       0.000!   !END!
265 ! X =   679.46044,  5559.0235,      22.275,       0.000!   !END!
266 ! X =   679.46044,  5559.1235,      27.988,       0.000!   !END!
267 ! X =   679.46044,  5559.2235,      29.563,       0.000!   !END!
268 ! X =   679.46044,  5559.3235,      23.951,       0.000!   !END!
269 ! X =   679.46044,  5559.4235,      18.101,       0.000!   !END!
270 ! X =   679.46044,  5559.5235,      15.156,       0.000!   !END!
271 ! X =   679.46044,  5559.6235,      11.194,       0.000!   !END!
272 ! X =   679.46044,  5559.7235,       8.999,       0.000!   !END!
273 ! X =   679.36044,  5558.5235,      66.332,       0.000!   !END!
274 ! X =   679.36044,  5558.6235,      43.695,       0.000!   !END!
275 ! X =   679.36044,  5558.7235,      28.324,       0.000!   !END!
276 ! X =   679.36044,  5558.8235,      25.005,       0.000!   !END!
277 ! X =   679.36044,  5558.9235,      32.932,       0.000!   !END!
278 ! X =   679.36044,  5559.0235,      45.173,       0.000!   !END!
279 ! X =   679.36044,  5559.1235,      45.368,       0.000!   !END!
280 ! X =   679.36044,  5559.2235,      36.701,       0.000!   !END!
281 ! X =   679.36044,  5559.3235,      27.158,       0.000!   !END!
282 ! X =   679.36044,  5559.4235,      18.369,       0.000!   !END!
283 ! X =   679.36044,  5559.5235,      16.093,       0.000!   !END!
284 ! X =   679.36044,  5559.6235,      10.596,       0.000!   !END!
285 ! X =   679.36044,  5559.7235,       5.889,       0.000!   !END!
286 ! X =   679.36044,  5559.8235,       0.000,       0.000!   !END!
287 ! X =   679.26044,  5558.5235,      56.723,       0.000!   !END!
288 ! X =   679.26044,  5558.6235,      45.787,       0.000!   !END!
289 ! X =   679.26044,  5558.7235,      29.797,       0.000!   !END!
290 ! X =   679.26044,  5558.8235,      34.669,       0.000!   !END!
291 ! X =   679.26044,  5558.9235,      50.109,       0.000!   !END!
292 ! X =   679.26044,  5559.0235,      57.006,       0.000!   !END!
293 ! X =   679.26044,  5559.1235,      47.851,       0.000!   !END!
294 ! X =   679.26044,  5559.2235,      35.524,       0.000!   !END!
295 ! X =   679.26044,  5559.3235,      22.701,       0.000!   !END!
296 ! X =   679.26044,  5559.4235,      18.054,       0.000!   !END!
297 ! X =   679.26044,  5559.5235,      13.800,       0.000!   !END!
298 ! X =   679.26044,  5559.6235,       6.871,       0.000!   !END!
299 ! X =   679.26044,  5559.7235,       0.000,       0.000!   !END!
300 ! X =   679.26044,  5559.8235,       0.000,       0.000!   !END!
301 ! X =   679.26044,  5559.9235,       0.000,       0.000!   !END!
302 ! X =   679.26044,  5560.0235,       0.000,       0.000!   !END!
303 ! X =   679.26044,  5560.6235,       0.000,       0.000!   !END!
304 ! X =   679.26044,  5560.8235,       0.000,       0.000!   !END!
305 ! X =   679.26044,  5561.0235,       0.000,       0.000!   !END!
306 ! X =   679.46044,  5560.6235,       0.000,       0.000!   !END!
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307 ! X =   679.46044,  5560.8235,       0.000,       0.000!   !END!
308 ! X =   679.46044,  5561.0235,       0.000,       0.000!   !END!
309 ! X =   679.66044,  5560.6235,       0.000,       0.000!   !END!
310 ! X =   679.66044,  5560.8235,       0.000,       0.000!   !END!
311 ! X =   679.66044,  5561.0235,       0.000,       0.000!   !END!
312 ! X =   679.86044,  5560.6235,       0.000,       0.000!   !END!
313 ! X =   679.86044,  5560.8235,       0.000,       0.000!   !END!
314 ! X =   679.86044,  5561.0235,       0.000,       0.000!   !END!
315 ! X =   680.06044,  5560.6235,       0.000,       0.000!   !END!
316 ! X =   680.06044,  5560.8235,       0.000,       0.000!   !END!
317 ! X =   680.06044,  5561.0235,       0.000,       0.000!   !END!
318 ! X =   680.26044,  5560.6235,       0.000,       0.000!   !END!
319 ! X =   680.26044,  5560.8235,       0.000,       0.000!   !END!
320 ! X =   680.26044,  5561.0235,       0.000,       0.000!   !END!
321 ! X =   680.46044,  5560.6235,       0.000,       0.000!   !END!
322 ! X =   680.46044,  5560.8235,       0.000,       0.000!   !END!
323 ! X =   680.46044,  5561.0235,       0.000,       0.000!   !END!
324 ! X =   680.66044,  5560.6235,       0.000,       0.000!   !END!
325 ! X =   680.66044,  5560.8235,       0.000,       0.000!   !END!
326 ! X =   680.66044,  5561.0235,       0.000,       0.000!   !END!
327 ! X =   680.86044,  5560.6235,       0.000,       0.000!   !END!
328 ! X =   680.86044,  5560.8235,       0.000,       0.000!   !END!
329 ! X =   680.86044,  5561.0235,       0.000,       0.000!   !END!
330 ! X =   681.06044,  5560.6235,       0.000,       0.000!   !END!
331 ! X =   681.06044,  5560.8235,       0.000,       0.000!   !END!
332 ! X =   681.06044,  5561.0235,       0.000,       0.000!   !END!
333 ! X =   681.26044,  5560.4235,       0.000,       0.000!   !END!
334 ! X =   681.26044,  5560.6235,       0.000,       0.000!   !END!
335 ! X =   681.26044,  5560.8235,       0.000,       0.000!   !END!
336 ! X =   681.26044,  5561.0235,       0.000,       0.000!   !END!
337 ! X =   681.46044,  5560.2235,       0.000,       0.000!   !END!
338 ! X =   681.46044,  5560.4235,       0.000,       0.000!   !END!
339 ! X =   681.46044,  5560.6235,       0.000,       0.000!   !END!
340 ! X =   681.46044,  5560.8235,       0.000,       0.000!   !END!
341 ! X =   681.46044,  5561.0235,       0.000,       0.000!   !END!
342 ! X =   681.66044,  5560.2235,       0.000,       0.000!   !END!
343 ! X =   681.66044,  5560.4235,       0.000,       0.000!   !END!
344 ! X =   681.66044,  5560.6235,       0.000,       0.000!   !END!
345 ! X =   681.66044,  5560.8235,       0.000,       0.000!   !END!
346 ! X =   681.66044,  5561.0235,       0.000,       0.000!   !END!
347 ! X =   681.86044,  5560.2235,       0.000,       0.000!   !END!
348 ! X =   681.86044,  5560.4235,       0.000,       0.000!   !END!
349 ! X =   681.86044,  5560.6235,       0.000,       0.000!   !END!
350 ! X =   681.86044,  5560.8235,       0.000,       0.000!   !END!
351 ! X =   681.86044,  5561.0235,       0.000,       0.000!   !END!
352 ! X =   682.06044,  5560.2235,       0.000,       0.000!   !END!
353 ! X =   682.06044,  5560.4235,       0.000,       0.000!   !END!
354 ! X =   682.06044,  5560.6235,       0.000,       0.000!   !END!
355 ! X =   682.06044,  5560.8235,       0.000,       0.000!   !END!
356 ! X =   682.06044,  5561.0235,       0.000,       0.000!   !END!
357 ! X =   682.26044,  5560.4235,       0.000,       0.000!   !END!
358 ! X =   682.26044,  5560.6235,       0.000,       0.000!   !END!
359 ! X =   682.26044,  5560.8235,       0.000,       0.000!   !END!
360 ! X =   682.26044,  5561.0235,       0.000,       0.000!   !END!
361 ! X =   681.46044,  5560.0235,       0.000,       0.000!   !END!
362 ! X =   681.46044,  5558.6235,     135.384,       0.000!   !END!
363 ! X =   681.46044,  5558.4235,     123.101,       0.000!   !END!
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364 ! X =   681.46044,  5558.2235,     126.289,       0.000!   !END!
365 ! X =   681.46044,  5558.0235,     130.831,       0.000!   !END!
366 ! X =   681.46044,  5557.8235,     122.574,       0.000!   !END!
367 ! X =   681.46044,  5557.6235,     118.018,       0.000!   !END!
368 ! X =   681.46044,  5557.4235,     108.403,       0.000!   !END!
369 ! X =   681.46044,  5557.2235,      96.438,       0.000!   !END!
370 ! X =   681.46044,  5557.0235,      95.975,       0.000!   !END!
371 ! X =   681.66044,  5560.0235,       0.000,       0.000!   !END!
372 ! X =   681.66044,  5558.8235,      91.802,       0.000!   !END!
373 ! X =   681.66044,  5558.6235,     106.535,       0.000!   !END!
374 ! X =   681.66044,  5558.4235,     123.546,       0.000!   !END!
375 ! X =   681.66044,  5558.2235,     144.234,       0.000!   !END!
376 ! X =   681.66044,  5558.0235,     130.624,       0.000!   !END!
377 ! X =   681.66044,  5557.8235,      97.527,       0.000!   !END!
378 ! X =   681.66044,  5557.6235,      79.336,       0.000!   !END!
379 ! X =   681.66044,  5557.4235,      69.496,       0.000!   !END!
380 ! X =   681.66044,  5557.2235,      41.008,       0.000!   !END!
381 ! X =   681.66044,  5557.0235,      44.320,       0.000!   !END!
382 ! X =   681.86044,  5560.0235,       0.000,       0.000!   !END!
383 ! X =   681.86044,  5559.2235,      33.760,       0.000!   !END!
384 ! X =   681.86044,  5559.0235,      43.380,       0.000!   !END!
385 ! X =   681.86044,  5558.8235,      74.115,       0.000!   !END!
386 ! X =   681.86044,  5558.6235,      87.354,       0.000!   !END!
387 ! X =   681.86044,  5558.4235,     130.493,       0.000!   !END!
388 ! X =   681.86044,  5558.2235,     141.053,       0.000!   !END!
389 ! X =   681.86044,  5558.0235,     105.175,       0.000!   !END!
390 ! X =   681.86044,  5557.8235,      72.268,       0.000!   !END!
391 ! X =   681.86044,  5557.6235,      43.642,       0.000!   !END!
392 ! X =   681.86044,  5557.4235,      29.737,       0.000!   !END!
393 ! X =   681.86044,  5557.2235,      12.601,       0.000!   !END!
394 ! X =   681.86044,  5557.0235,       9.373,       0.000!   !END!
395 ! X =   682.06044,  5559.2235,      43.183,       0.000!   !END!
396 ! X =   682.06044,  5559.0235,      43.803,       0.000!   !END!
397 ! X =   682.06044,  5558.8235,      49.732,       0.000!   !END!
398 ! X =   682.06044,  5558.6235,      88.878,       0.000!   !END!
399 ! X =   682.06044,  5558.4235,     109.646,       0.000!   !END!
400 ! X =   682.06044,  5558.2235,      91.991,       0.000!   !END!
401 ! X =   682.06044,  5558.0235,      49.539,       0.000!   !END!
402 ! X =   682.06044,  5557.8235,      26.419,       0.000!   !END!
403 ! X =   682.06044,  5557.6235,       6.095,       0.000!   !END!
404 ! X =   682.06044,  5557.4235,       0.714,       0.000!   !END!
405 ! X =   682.06044,  5557.2235,       0.000,       0.000!   !END!
406 ! X =   682.06044,  5557.0235,       0.000,       0.000!   !END!
407 ! X =   682.26044,  5559.4235,      31.168,       0.000!   !END!
408 ! X =   682.26044,  5559.2235,      40.975,       0.000!   !END!
409 ! X =   682.26044,  5559.0235,      42.311,       0.000!   !END!
410 ! X =   682.26044,  5558.8235,      40.645,       0.000!   !END!
411 ! X =   682.26044,  5558.6235,      84.888,       0.000!   !END!
412 ! X =   682.26044,  5558.4235,      78.255,       0.000!   !END!
413 ! X =   682.26044,  5558.2235,      35.245,       0.000!   !END!
414 ! X =   682.26044,  5558.0235,      13.855,       0.000!   !END!
415 ! X =   682.26044,  5557.8235,       3.133,       0.000!   !END!
416 ! X =   682.26044,  5557.6235,       0.000,       0.000!   !END!
417 ! X =   682.26044,  5557.4235,       0.000,       0.000!   !END!
418 ! X =   682.26044,  5557.2235,       0.000,       0.000!   !END!
419 ! X =   682.26044,  5557.0235,       0.000,       0.000!   !END!
420 ! X =   681.26044,  5557.8235,     169.054,       0.000!   !END!
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421 ! X =   681.26044,  5557.6235,     143.580,       0.000!   !END!
422 ! X =   681.26044,  5557.4235,     139.174,       0.000!   !END!
423 ! X =   681.26044,  5557.2235,     128.594,       0.000!   !END!
424 ! X =   681.26044,  5557.0235,     128.122,       0.000!   !END!
425 ! X =   681.06044,  5557.8235,     210.949,       0.000!   !END!
426 ! X =   681.06044,  5557.6235,     182.057,       0.000!   !END!
427 ! X =   681.06044,  5557.4235,     163.838,       0.000!   !END!
428 ! X =   681.06044,  5557.2235,     142.937,       0.000!   !END!
429 ! X =   681.06044,  5557.0235,     122.967,       0.000!   !END!
430 ! X =   680.86044,  5557.8235,     206.351,       0.000!   !END!
431 ! X =   680.86044,  5557.6235,     192.528,       0.000!   !END!
432 ! X =   680.86044,  5557.4235,     164.055,       0.000!   !END!
433 ! X =   680.86044,  5557.2235,     142.630,       0.000!   !END!
434 ! X =   680.86044,  5557.0235,     142.541,       0.000!   !END!
435 ! X =   680.66044,  5557.8235,     190.996,       0.000!   !END!
436 ! X =   680.66044,  5557.6235,     178.656,       0.000!   !END!
437 ! X =   680.66044,  5557.4235,     150.818,       0.000!   !END!
438 ! X =   680.66044,  5557.2235,     137.029,       0.000!   !END!
439 ! X =   680.66044,  5557.0235,     123.584,       0.000!   !END!
440 ! X =   680.46044,  5557.8235,     173.100,       0.000!   !END!
441 ! X =   680.46044,  5557.6235,     210.425,       0.000!   !END!
442 ! X =   680.46044,  5557.4235,     170.593,       0.000!   !END!
443 ! X =   680.46044,  5557.2235,     117.358,       0.000!   !END!
444 ! X =   680.46044,  5557.0235,      90.258,       0.000!   !END!
445 ! X =   680.26044,  5557.8235,     164.403,       0.000!   !END!
446 ! X =   680.26044,  5557.6235,     185.155,       0.000!   !END!
447 ! X =   680.26044,  5557.4235,     176.314,       0.000!   !END!
448 ! X =   680.26044,  5557.2235,     146.607,       0.000!   !END!
449 ! X =   680.26044,  5557.0235,     115.600,       0.000!   !END!
450 ! X =   680.06044,  5557.8235,     180.295,       0.000!   !END!
451 ! X =   680.06044,  5557.6235,     160.098,       0.000!   !END!
452 ! X =   680.06044,  5557.4235,     133.254,       0.000!   !END!
453 ! X =   680.06044,  5557.2235,     121.153,       0.000!   !END!
454 ! X =   680.06044,  5557.0235,     111.286,       0.000!   !END!
455 ! X =   679.86044,  5557.8235,     158.730,       0.000!   !END!
456 ! X =   679.86044,  5557.6235,     162.376,       0.000!   !END!
457 ! X =   679.86044,  5557.4235,     121.769,       0.000!   !END!
458 ! X =   679.86044,  5557.2235,      71.922,       0.000!   !END!
459 ! X =   679.86044,  5557.0235,      55.091,       0.000!   !END!
460 ! X =   679.66044,  5557.8235,     155.185,       0.000!   !END!
461 ! X =   679.66044,  5557.6235,     131.431,       0.000!   !END!
462 ! X =   679.66044,  5557.4235,     125.440,       0.000!   !END!
463 ! X =   679.66044,  5557.2235,      71.686,       0.000!   !END!
464 ! X =   679.66044,  5557.0235,      20.377,       0.000!   !END!
465 ! X =   679.46044,  5557.8235,     156.131,       0.000!   !END!
466 ! X =   679.46044,  5557.6235,     129.063,       0.000!   !END!
467 ! X =   679.46044,  5557.4235,      93.056,       0.000!   !END!
468 ! X =   679.46044,  5557.2235,      67.838,       0.000!   !END!
469 ! X =   679.46044,  5557.0235,      12.973,       0.000!   !END!
470 ! X =   679.26044,  5557.8235,     161.301,       0.000!   !END!
471 ! X =   679.26044,  5557.6235,     136.286,       0.000!   !END!
472 ! X =   679.26044,  5557.4235,      88.126,       0.000!   !END!
473 ! X =   679.26044,  5557.2235,      32.743,       0.000!   !END!
474 ! X =   679.26044,  5557.0235,       0.365,       0.000!   !END!
475 ! X =   679.06044,  5557.8235,     163.985,       0.000!   !END!
476 ! X =   679.06044,  5557.6235,     135.999,       0.000!   !END!
477 ! X =   679.06044,  5557.4235,      75.126,       0.000!   !END!
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478 ! X =   679.06044,  5557.2235,      14.686,       0.000!   !END!
479 ! X =   679.06044,  5557.0235,       0.000,       0.000!   !END!
480 ! X =   678.86044,  5557.8235,     129.931,       0.000!   !END!
481 ! X =   678.86044,  5557.6235,     114.179,       0.000!   !END!
482 ! X =   678.86044,  5557.4235,      71.317,       0.000!   !END!
483 ! X =   678.86044,  5557.2235,      11.032,       0.000!   !END!
484 ! X =   678.86044,  5557.0235,       0.000,       0.000!   !END!
485 ! X =   678.66044,  5557.8235,      77.436,       0.000!   !END!
486 ! X =   678.66044,  5557.6235,      70.643,       0.000!   !END!
487 ! X =   678.66044,  5557.4235,      43.548,       0.000!   !END!
488 ! X =   678.66044,  5557.2235,       1.114,       0.000!   !END!
489 ! X =   678.66044,  5557.0235,       0.000,       0.000!   !END!
490 ! X =   678.46044,  5557.8235,      20.433,       0.000!   !END!
491 ! X =   678.46044,  5557.6235,      10.149,       0.000!   !END!
492 ! X =   678.46044,  5557.4235,       0.919,       0.000!   !END!
493 ! X =   678.46044,  5557.2235,       0.000,       0.000!   !END!
494 ! X =   678.46044,  5557.0235,       0.000,       0.000!   !END!
495 ! X =   678.26044,  5557.8235,       1.057,       0.000!   !END!
496 ! X =   678.26044,  5557.6235,       0.000,       0.000!   !END!
497 ! X =   678.26044,  5557.4235,       0.000,       0.000!   !END!
498 ! X =   678.26044,  5557.2235,       0.000,       0.000!   !END!
499 ! X =   678.26044,  5557.0235,       0.000,       0.000!   !END!
500 ! X =   679.06044,  5558.0235,     145.040,       0.000!   !END!
501 ! X =   679.06044,  5558.2235,     115.773,       0.000!   !END!
502 ! X =   679.06044,  5558.4235,      64.391,       0.000!   !END!
503 ! X =   679.06044,  5558.6235,      35.297,       0.000!   !END!
504 ! X =   679.06044,  5558.8235,      51.670,       0.000!   !END!
505 ! X =   679.06044,  5559.0235,      58.050,       0.000!   !END!
506 ! X =   679.06044,  5559.2235,      39.077,       0.000!   !END!
507 ! X =   679.06044,  5559.4235,      14.272,       0.000!   !END!
508 ! X =   679.06044,  5559.6235,       0.000,       0.000!   !END!
509 ! X =   679.06044,  5559.8235,       0.000,       0.000!   !END!
510 ! X =   679.06044,  5560.0235,       0.000,       0.000!   !END!
511 ! X =   679.06044,  5560.2235,       0.000,       0.000!   !END!
512 ! X =   679.06044,  5560.6235,       0.000,       0.000!   !END!
513 ! X =   679.06044,  5560.8235,       0.000,       0.000!   !END!
514 ! X =   679.06044,  5561.0235,       0.000,       0.000!   !END!
515 ! X =   678.86044,  5558.0235,     117.544,       0.000!   !END!
516 ! X =   678.86044,  5558.2235,      98.861,       0.000!   !END!
517 ! X =   678.86044,  5558.4235,      44.167,       0.000!   !END!
518 ! X =   678.86044,  5558.6235,      54.824,       0.000!   !END!
519 ! X =   678.86044,  5558.8235,      57.387,       0.000!   !END!
520 ! X =   678.86044,  5559.0235,      46.306,       0.000!   !END!
521 ! X =   678.86044,  5559.2235,      30.405,       0.000!   !END!
522 ! X =   678.86044,  5559.4235,      14.938,       0.000!   !END!
523 ! X =   678.86044,  5559.6235,       0.000,       0.000!   !END!
524 ! X =   678.86044,  5559.8235,       0.000,       0.000!   !END!
525 ! X =   678.86044,  5560.0235,       0.000,       0.000!   !END!
526 ! X =   678.86044,  5560.2235,       0.000,       0.000!   !END!
527 ! X =   678.86044,  5560.4235,       0.000,       0.000!   !END!
528 ! X =   678.86044,  5560.6235,       0.000,       0.000!   !END!
529 ! X =   678.86044,  5560.8235,       0.000,       0.000!   !END!
530 ! X =   678.86044,  5561.0235,       0.000,       0.000!   !END!
531 ! X =   678.66044,  5558.0235,      77.882,       0.000!   !END!
532 ! X =   678.66044,  5558.2235,      40.376,       0.000!   !END!
533 ! X =   678.66044,  5558.4235,      51.512,       0.000!   !END!
534 ! X =   678.66044,  5558.6235,      62.723,       0.000!   !END!
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535 ! X =   678.66044,  5558.8235,      54.250,       0.000!   !END!
536 ! X =   678.66044,  5559.0235,      39.403,       0.000!   !END!
537 ! X =   678.66044,  5559.2235,      21.280,       0.000!   !END!
538 ! X =   678.66044,  5559.4235,      11.981,       0.000!   !END!
539 ! X =   678.66044,  5559.6235,       0.000,       0.000!   !END!
540 ! X =   678.66044,  5559.8235,       0.000,       0.000!   !END!
541 ! X =   678.66044,  5560.0235,       0.000,       0.000!   !END!
542 ! X =   678.66044,  5560.2235,       0.000,       0.000!   !END!
543 ! X =   678.66044,  5560.4235,       0.000,       0.000!   !END!
544 ! X =   678.66044,  5560.6235,       0.000,       0.000!   !END!
545 ! X =   678.66044,  5560.8235,       0.000,       0.000!   !END!
546 ! X =   678.66044,  5561.0235,       0.000,       0.000!   !END!
547 ! X =   678.46044,  5558.0235,      20.296,       0.000!   !END!
548 ! X =   678.46044,  5558.2235,      38.369,       0.000!   !END!
549 ! X =   678.46044,  5558.4235,      82.698,       0.000!   !END!
550 ! X =   678.46044,  5558.6235,      62.244,       0.000!   !END!
551 ! X =   678.46044,  5558.8235,      48.831,       0.000!   !END!
552 ! X =   678.46044,  5559.0235,      32.323,       0.000!   !END!
553 ! X =   678.46044,  5559.2235,      18.380,       0.000!   !END!
554 ! X =   678.46044,  5559.4235,       1.850,       0.000!   !END!
555 ! X =   678.46044,  5559.6235,       0.000,       0.000!   !END!
556 ! X =   678.46044,  5559.8235,       0.000,       0.000!   !END!
557 ! X =   678.46044,  5560.0235,       0.000,       0.000!   !END!
558 ! X =   678.46044,  5560.2235,       0.000,       0.000!   !END!
559 ! X =   678.46044,  5560.4235,       0.000,       0.000!   !END!
560 ! X =   678.46044,  5560.6235,       0.000,       0.000!   !END!
561 ! X =   678.46044,  5560.8235,       0.000,       0.000!   !END!
562 ! X =   678.46044,  5561.0235,       0.000,       0.000!   !END!
563 ! X =   678.26044,  5558.0235,      25.802,       0.000!   !END!
564 ! X =   678.26044,  5558.2235,      82.908,       0.000!   !END!
565 ! X =   678.26044,  5558.4235,      97.436,       0.000!   !END!
566 ! X =   678.26044,  5558.6235,      62.980,       0.000!   !END!
567 ! X =   678.26044,  5558.8235,      44.319,       0.000!   !END!
568 ! X =   678.26044,  5559.0235,      24.253,       0.000!   !END!
569 ! X =   678.26044,  5559.2235,       8.192,       0.000!   !END!
570 ! X =   678.26044,  5559.4235,       0.865,       0.000!   !END!
571 ! X =   678.26044,  5559.6235,       0.000,       0.000!   !END!
572 ! X =   678.26044,  5559.8235,       0.000,       0.000!   !END!
573 ! X =   678.26044,  5560.0235,       0.000,       0.000!   !END!
574 ! X =   678.26044,  5560.2235,       0.000,       0.000!   !END!
575 ! X =   678.26044,  5560.4235,       0.000,       0.000!   !END!
576 ! X =   678.26044,  5560.6235,       0.000,       0.000!   !END!
577 ! X =   678.26044,  5560.8235,       0.000,       0.000!   !END!
578 ! X =   678.26044,  5561.0235,       0.000,       0.000!   !END!
579 ! X =   678.26044,  5561.5235,       0.000,       0.000!   !END!
580 ! X =   678.26044,  5562.0235,       0.000,       0.000!   !END!
581 ! X =   678.26044,  5562.5235,       0.000,       0.000!   !END!
582 ! X =   678.26044,  5563.0235,       0.000,       0.000!   !END!
583 ! X =   678.26044,  5563.5235,       0.000,       0.000!   !END!
584 ! X =   678.26044,  5564.0235,       0.000,       0.000!   !END!
585 ! X =   678.26044,  5564.5235,       0.000,       0.000!   !END!
586 ! X =   678.26044,  5565.0235,       0.000,       0.000!   !END!
587 ! X =   678.26044,  5565.5235,       0.000,       0.000!   !END!
588 ! X =   678.26044,  5566.0235,       0.000,       0.000!   !END!
589 ! X =   678.26044,  5566.5235,       0.000,       0.000!   !END!
590 ! X =   678.26044,  5567.0235,       0.000,       0.000!   !END!
591 ! X =   678.26044,  5567.5235,       0.000,       0.000!   !END!
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592 ! X =   678.26044,  5568.0235,       0.000,       0.000!   !END!
593 ! X =   678.26044,  5568.5235,       0.000,       0.000!   !END!
594 ! X =   678.26044,  5569.0235,       0.963,       0.000!   !END!
595 ! X =   678.26044,  5569.5235,       7.965,       0.000!   !END!
596 ! X =   678.26044,  5570.0235,      23.239,       0.000!   !END!
597 ! X =   678.26044,  5570.5235,      51.455,       0.000!   !END!
598 ! X =   678.26044,  5571.0235,      98.143,       0.000!   !END!
599 ! X =   678.26044,  5571.5235,      98.167,       0.000!   !END!
600 ! X =   678.26044,  5572.0235,      69.616,       0.000!   !END!
601 ! X =   678.26044,  5572.5235,      93.635,       0.000!   !END!
602 ! X =   678.26044,  5573.0235,     125.669,       0.000!   !END!
603 ! X =   678.26044,  5573.5235,     114.099,       0.000!   !END!
604 ! X =   678.26044,  5574.0235,     116.572,       0.000!   !END!
605 ! X =   678.76044,  5561.5235,       0.000,       0.000!   !END!
606 ! X =   678.76044,  5562.0235,       0.000,       0.000!   !END!
607 ! X =   678.76044,  5562.5235,       0.000,       0.000!   !END!
608 ! X =   678.76044,  5563.0235,       0.000,       0.000!   !END!
609 ! X =   678.76044,  5563.5235,       0.000,       0.000!   !END!
610 ! X =   678.76044,  5564.0235,       0.000,       0.000!   !END!
611 ! X =   678.76044,  5564.5235,       0.000,       0.000!   !END!
612 ! X =   678.76044,  5565.0235,       0.000,       0.000!   !END!
613 ! X =   678.76044,  5565.5235,       0.000,       0.000!   !END!
614 ! X =   678.76044,  5566.0235,       0.000,       0.000!   !END!
615 ! X =   678.76044,  5566.5235,       0.000,       0.000!   !END!
616 ! X =   678.76044,  5567.0235,       0.000,       0.000!   !END!
617 ! X =   678.76044,  5567.5235,       0.000,       0.000!   !END!
618 ! X =   678.76044,  5568.0235,       0.000,       0.000!   !END!
619 ! X =   678.76044,  5568.5235,       0.000,       0.000!   !END!
620 ! X =   678.76044,  5569.0235,       0.000,       0.000!   !END!
621 ! X =   678.76044,  5569.5235,       3.946,       0.000!   !END!
622 ! X =   678.76044,  5570.0235,       9.337,       0.000!   !END!
623 ! X =   678.76044,  5570.5235,      27.426,       0.000!   !END!
624 ! X =   678.76044,  5571.0235,      70.952,       0.000!   !END!
625 ! X =   678.76044,  5571.5235,      77.775,       0.000!   !END!
626 ! X =   678.76044,  5572.0235,      81.638,       0.000!   !END!
627 ! X =   678.76044,  5572.5235,      95.862,       0.000!   !END!
628 ! X =   678.76044,  5573.0235,     110.734,       0.000!   !END!
629 ! X =   678.76044,  5573.5235,     117.239,       0.000!   !END!
630 ! X =   678.76044,  5574.0235,     132.534,       0.000!   !END!
631 ! X =   679.26044,  5561.5235,       0.000,       0.000!   !END!
632 ! X =   679.26044,  5562.0235,       0.000,       0.000!   !END!
633 ! X =   679.26044,  5562.5235,       0.000,       0.000!   !END!
634 ! X =   679.26044,  5563.0235,       0.000,       0.000!   !END!
635 ! X =   679.26044,  5563.5235,       0.000,       0.000!   !END!
636 ! X =   679.26044,  5564.0235,       0.000,       0.000!   !END!
637 ! X =   679.26044,  5564.5235,       0.000,       0.000!   !END!
638 ! X =   679.26044,  5565.0235,       0.000,       0.000!   !END!
639 ! X =   679.26044,  5565.5235,       0.000,       0.000!   !END!
640 ! X =   679.26044,  5566.0235,       0.000,       0.000!   !END!
641 ! X =   679.26044,  5566.5235,       0.000,       0.000!   !END!
642 ! X =   679.26044,  5567.0235,       0.000,       0.000!   !END!
643 ! X =   679.26044,  5567.5235,       0.000,       0.000!   !END!
644 ! X =   679.26044,  5568.0235,       0.000,       0.000!   !END!
645 ! X =   679.26044,  5568.5235,       0.000,       0.000!   !END!
646 ! X =   679.26044,  5569.0235,       0.000,       0.000!   !END!
647 ! X =   679.26044,  5569.5235,       0.000,       0.000!   !END!
648 ! X =   679.26044,  5570.0235,       7.343,       0.000!   !END!
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649 ! X =   679.26044,  5570.5235,       8.540,       0.000!   !END!
650 ! X =   679.26044,  5571.0235,      32.424,       0.000!   !END!
651 ! X =   679.26044,  5571.5235,      62.550,       0.000!   !END!
652 ! X =   679.26044,  5572.0235,      76.805,       0.000!   !END!
653 ! X =   679.26044,  5572.5235,      68.414,       0.000!   !END!
654 ! X =   679.26044,  5573.0235,      91.287,       0.000!   !END!
655 ! X =   679.26044,  5573.5235,      82.711,       0.000!   !END!
656 ! X =   679.26044,  5574.0235,     112.856,       0.000!   !END!
657 ! X =   679.76044,  5561.5235,       0.000,       0.000!   !END!
658 ! X =   679.76044,  5562.0235,       0.000,       0.000!   !END!
659 ! X =   679.76044,  5562.5235,       0.000,       0.000!   !END!
660 ! X =   679.76044,  5563.0235,       0.000,       0.000!   !END!
661 ! X =   679.76044,  5563.5235,       0.000,       0.000!   !END!
662 ! X =   679.76044,  5564.0235,       0.000,       0.000!   !END!
663 ! X =   679.76044,  5564.5235,       0.000,       0.000!   !END!
664 ! X =   679.76044,  5565.0235,       0.000,       0.000!   !END!
665 ! X =   679.76044,  5565.5235,       0.000,       0.000!   !END!
666 ! X =   679.76044,  5566.0235,       0.000,       0.000!   !END!
667 ! X =   679.76044,  5566.5235,       0.000,       0.000!   !END!
668 ! X =   679.76044,  5567.0235,       0.000,       0.000!   !END!
669 ! X =   679.76044,  5567.5235,       0.000,       0.000!   !END!
670 ! X =   679.76044,  5568.0235,       0.000,       0.000!   !END!
671 ! X =   679.76044,  5568.5235,       0.000,       0.000!   !END!
672 ! X =   679.76044,  5569.0235,       0.000,       0.000!   !END!
673 ! X =   679.76044,  5569.5235,       0.000,       0.000!   !END!
674 ! X =   679.76044,  5570.0235,       3.239,       0.000!   !END!
675 ! X =   679.76044,  5570.5235,       7.728,       0.000!   !END!
676 ! X =   679.76044,  5571.0235,      14.043,       0.000!   !END!
677 ! X =   679.76044,  5571.5235,      46.083,       0.000!   !END!
678 ! X =   679.76044,  5572.0235,      69.560,       0.000!   !END!
679 ! X =   679.76044,  5572.5235,      67.104,       0.000!   !END!
680 ! X =   679.76044,  5573.0235,      81.857,       0.000!   !END!
681 ! X =   679.76044,  5573.5235,      75.127,       0.000!   !END!
682 ! X =   679.76044,  5574.0235,     119.276,       0.000!   !END!
683 ! X =   680.26044,  5561.5235,       0.000,       0.000!   !END!
684 ! X =   680.26044,  5562.0235,       0.000,       0.000!   !END!
685 ! X =   680.26044,  5562.5235,       0.000,       0.000!   !END!
686 ! X =   680.26044,  5563.0235,       0.000,       0.000!   !END!
687 ! X =   680.26044,  5563.5235,       0.000,       0.000!   !END!
688 ! X =   680.26044,  5564.0235,       0.000,       0.000!   !END!
689 ! X =   680.26044,  5564.5235,       0.000,       0.000!   !END!
690 ! X =   680.26044,  5565.0235,       0.000,       0.000!   !END!
691 ! X =   680.26044,  5565.5235,       0.000,       0.000!   !END!
692 ! X =   680.26044,  5566.0235,       0.000,       0.000!   !END!
693 ! X =   680.26044,  5566.5235,       0.000,       0.000!   !END!
694 ! X =   680.26044,  5567.0235,       0.000,       0.000!   !END!
695 ! X =   680.26044,  5567.5235,       0.000,       0.000!   !END!
696 ! X =   680.26044,  5568.0235,       0.000,       0.000!   !END!
697 ! X =   680.26044,  5568.5235,       0.000,       0.000!   !END!
698 ! X =   680.26044,  5569.0235,       0.000,       0.000!   !END!
699 ! X =   680.26044,  5569.5235,       0.000,       0.000!   !END!
700 ! X =   680.26044,  5570.0235,       0.000,       0.000!   !END!
701 ! X =   680.26044,  5570.5235,       6.031,       0.000!   !END!
702 ! X =   680.26044,  5571.0235,       8.078,       0.000!   !END!
703 ! X =   680.26044,  5571.5235,      28.664,       0.000!   !END!
704 ! X =   680.26044,  5572.0235,      54.707,       0.000!   !END!
705 ! X =   680.26044,  5572.5235,      68.825,       0.000!   !END!
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706 ! X =   680.26044,  5573.0235,      67.566,       0.000!   !END!
707 ! X =   680.26044,  5573.5235,      81.209,       0.000!   !END!
708 ! X =   680.26044,  5574.0235,     116.591,       0.000!   !END!
709 ! X =   680.76044,  5561.5235,       0.000,       0.000!   !END!
710 ! X =   680.76044,  5562.0235,       0.000,       0.000!   !END!
711 ! X =   680.76044,  5562.5235,       0.000,       0.000!   !END!
712 ! X =   680.76044,  5563.0235,       0.000,       0.000!   !END!
713 ! X =   680.76044,  5563.5235,       0.000,       0.000!   !END!
714 ! X =   680.76044,  5564.0235,       0.000,       0.000!   !END!
715 ! X =   680.76044,  5564.5235,       0.000,       0.000!   !END!
716 ! X =   680.76044,  5565.0235,       0.000,       0.000!   !END!
717 ! X =   680.76044,  5565.5235,       0.000,       0.000!   !END!
718 ! X =   680.76044,  5566.0235,       0.000,       0.000!   !END!
719 ! X =   680.76044,  5566.5235,       0.000,       0.000!   !END!
720 ! X =   680.76044,  5567.0235,       0.000,       0.000!   !END!
721 ! X =   680.76044,  5567.5235,       0.000,       0.000!   !END!
722 ! X =   680.76044,  5568.0235,       0.000,       0.000!   !END!
723 ! X =   680.76044,  5568.5235,       0.000,       0.000!   !END!
724 ! X =   680.76044,  5569.0235,       0.000,       0.000!   !END!
725 ! X =   680.76044,  5569.5235,       0.000,       0.000!   !END!
726 ! X =   680.76044,  5570.0235,       0.000,       0.000!   !END!
727 ! X =   680.76044,  5570.5235,       0.000,       0.000!   !END!
728 ! X =   680.76044,  5571.0235,       0.000,       0.000!   !END!
729 ! X =   680.76044,  5571.5235,      11.031,       0.000!   !END!
730 ! X =   680.76044,  5572.0235,      18.890,       0.000!   !END!
731 ! X =   680.76044,  5572.5235,      53.034,       0.000!   !END!
732 ! X =   680.76044,  5573.0235,      69.327,       0.000!   !END!
733 ! X =   680.76044,  5573.5235,     101.815,       0.000!   !END!
734 ! X =   680.76044,  5574.0235,      89.892,       0.000!   !END!
735 ! X =   681.26044,  5561.5235,       0.000,       0.000!   !END!
736 ! X =   681.26044,  5562.0235,       0.000,       0.000!   !END!
737 ! X =   681.26044,  5562.5235,       0.000,       0.000!   !END!
738 ! X =   681.26044,  5563.0235,       0.000,       0.000!   !END!
739 ! X =   681.26044,  5563.5235,       0.000,       0.000!   !END!
740 ! X =   681.26044,  5564.0235,       0.000,       0.000!   !END!
741 ! X =   681.26044,  5564.5235,       0.000,       0.000!   !END!
742 ! X =   681.26044,  5565.0235,       0.000,       0.000!   !END!
743 ! X =   681.26044,  5565.5235,       0.000,       0.000!   !END!
744 ! X =   681.26044,  5566.0235,       0.000,       0.000!   !END!
745 ! X =   681.26044,  5566.5235,       0.000,       0.000!   !END!
746 ! X =   681.26044,  5567.0235,       0.000,       0.000!   !END!
747 ! X =   681.26044,  5567.5235,       0.000,       0.000!   !END!
748 ! X =   681.26044,  5568.0235,       0.000,       0.000!   !END!
749 ! X =   681.26044,  5568.5235,       0.000,       0.000!   !END!
750 ! X =   681.26044,  5569.0235,       0.000,       0.000!   !END!
751 ! X =   681.26044,  5569.5235,       0.000,       0.000!   !END!
752 ! X =   681.26044,  5570.0235,       0.000,       0.000!   !END!
753 ! X =   681.26044,  5570.5235,       0.000,       0.000!   !END!
754 ! X =   681.26044,  5571.0235,       0.000,       0.000!   !END!
755 ! X =   681.26044,  5571.5235,       0.000,       0.000!   !END!
756 ! X =   681.26044,  5572.0235,      29.287,       0.000!   !END!
757 ! X =   681.26044,  5572.5235,      36.466,       0.000!   !END!
758 ! X =   681.26044,  5573.0235,      66.819,       0.000!   !END!
759 ! X =   681.26044,  5573.5235,      69.976,       0.000!   !END!
760 ! X =   681.26044,  5574.0235,      66.100,       0.000!   !END!
761 ! X =   681.76044,  5561.5235,       0.000,       0.000!   !END!
762 ! X =   681.76044,  5562.0235,       0.000,       0.000!   !END!
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763 ! X =   681.76044,  5562.5235,       0.000,       0.000!   !END!
764 ! X =   681.76044,  5563.0235,       0.000,       0.000!   !END!
765 ! X =   681.76044,  5563.5235,       0.000,       0.000!   !END!
766 ! X =   681.76044,  5564.0235,       0.000,       0.000!   !END!
767 ! X =   681.76044,  5564.5235,       0.000,       0.000!   !END!
768 ! X =   681.76044,  5565.0235,       0.000,       0.000!   !END!
769 ! X =   681.76044,  5565.5235,       0.000,       0.000!   !END!
770 ! X =   681.76044,  5566.0235,       0.000,       0.000!   !END!
771 ! X =   681.76044,  5566.5235,       0.000,       0.000!   !END!
772 ! X =   681.76044,  5567.0235,       0.000,       0.000!   !END!
773 ! X =   681.76044,  5567.5235,       0.000,       0.000!   !END!
774 ! X =   681.76044,  5568.0235,       0.000,       0.000!   !END!
775 ! X =   681.76044,  5568.5235,       0.000,       0.000!   !END!
776 ! X =   681.76044,  5569.0235,       0.000,       0.000!   !END!
777 ! X =   681.76044,  5569.5235,       0.000,       0.000!   !END!
778 ! X =   681.76044,  5570.0235,       0.000,       0.000!   !END!
779 ! X =   681.76044,  5570.5235,       0.000,       0.000!   !END!
780 ! X =   681.76044,  5571.0235,       0.000,       0.000!   !END!
781 ! X =   681.76044,  5571.5235,       8.784,       0.000!   !END!
782 ! X =   681.76044,  5572.0235,       9.015,       0.000!   !END!
783 ! X =   681.76044,  5572.5235,      30.386,       0.000!   !END!
784 ! X =   681.76044,  5573.0235,      48.133,       0.000!   !END!
785 ! X =   681.76044,  5573.5235,      74.248,       0.000!   !END!
786 ! X =   681.76044,  5574.0235,      68.717,       0.000!   !END!
787 ! X =   682.26044,  5561.5235,       0.000,       0.000!   !END!
788 ! X =   682.26044,  5562.0235,       0.000,       0.000!   !END!
789 ! X =   682.26044,  5562.5235,       0.000,       0.000!   !END!
790 ! X =   682.26044,  5563.0235,       0.000,       0.000!   !END!
791 ! X =   682.26044,  5563.5235,       0.000,       0.000!   !END!
792 ! X =   682.26044,  5564.0235,       0.000,       0.000!   !END!
793 ! X =   682.26044,  5564.5235,       0.000,       0.000!   !END!
794 ! X =   682.26044,  5565.0235,       0.000,       0.000!   !END!
795 ! X =   682.26044,  5565.5235,       0.000,       0.000!   !END!
796 ! X =   682.26044,  5566.0235,       0.000,       0.000!   !END!
797 ! X =   682.26044,  5566.5235,       0.000,       0.000!   !END!
798 ! X =   682.26044,  5567.0235,       0.000,       0.000!   !END!
799 ! X =   682.26044,  5567.5235,       0.000,       0.000!   !END!
800 ! X =   682.26044,  5568.0235,       0.000,       0.000!   !END!
801 ! X =   682.26044,  5568.5235,       0.000,       0.000!   !END!
802 ! X =   682.26044,  5569.0235,       0.000,       0.000!   !END!
803 ! X =   682.26044,  5569.5235,       0.000,       0.000!   !END!
804 ! X =   682.26044,  5570.0235,       0.000,       0.000!   !END!
805 ! X =   682.26044,  5570.5235,       0.000,       0.000!   !END!
806 ! X =   682.26044,  5571.0235,       0.000,       0.000!   !END!
807 ! X =   682.26044,  5571.5235,       5.408,       0.000!   !END!
808 ! X =   682.26044,  5572.0235,       9.695,       0.000!   !END!
809 ! X =   682.26044,  5572.5235,      34.386,       0.000!   !END!
810 ! X =   682.26044,  5573.0235,      38.847,       0.000!   !END!
811 ! X =   682.26044,  5573.5235,      82.494,       0.000!   !END!
812 ! X =   682.26044,  5574.0235,      87.092,       0.000!   !END!
813 ! X =   682.76044,  5561.5235,       0.000,       0.000!   !END!
814 ! X =   682.76044,  5562.0235,       0.000,       0.000!   !END!
815 ! X =   682.76044,  5562.5235,       0.000,       0.000!   !END!
816 ! X =   682.76044,  5563.0235,       0.000,       0.000!   !END!
817 ! X =   682.76044,  5563.5235,       0.000,       0.000!   !END!
818 ! X =   682.76044,  5564.0235,       0.000,       0.000!   !END!
819 ! X =   682.76044,  5564.5235,       0.000,       0.000!   !END!
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820 ! X =   682.76044,  5565.0235,       0.000,       0.000!   !END!
821 ! X =   682.76044,  5565.5235,       0.000,       0.000!   !END!
822 ! X =   682.76044,  5566.0235,       0.000,       0.000!   !END!
823 ! X =   682.76044,  5566.5235,       0.000,       0.000!   !END!
824 ! X =   682.76044,  5567.0235,       0.000,       0.000!   !END!
825 ! X =   682.76044,  5567.5235,       0.000,       0.000!   !END!
826 ! X =   682.76044,  5568.0235,       0.000,       0.000!   !END!
827 ! X =   682.76044,  5568.5235,       0.000,       0.000!   !END!
828 ! X =   682.76044,  5569.0235,       0.000,       0.000!   !END!
829 ! X =   682.76044,  5569.5235,       0.000,       0.000!   !END!
830 ! X =   682.76044,  5570.0235,       0.000,       0.000!   !END!
831 ! X =   682.76044,  5570.5235,       0.000,       0.000!   !END!
832 ! X =   682.76044,  5571.0235,       0.000,       0.000!   !END!
833 ! X =   682.76044,  5571.5235,       3.141,       0.000!   !END!
834 ! X =   682.76044,  5572.0235,       9.542,       0.000!   !END!
835 ! X =   682.76044,  5572.5235,      18.063,       0.000!   !END!
836 ! X =   682.76044,  5573.0235,      42.199,       0.000!   !END!
837 ! X =   682.76044,  5573.5235,      68.754,       0.000!   !END!
838 ! X =   682.76044,  5574.0235,      88.894,       0.000!   !END!
839 ! X =   683.26044,  5561.5235,       0.000,       0.000!   !END!
840 ! X =   683.26044,  5562.0235,       0.000,       0.000!   !END!
841 ! X =   683.26044,  5562.5235,       0.000,       0.000!   !END!
842 ! X =   683.26044,  5563.0235,       0.000,       0.000!   !END!
843 ! X =   683.26044,  5563.5235,       0.000,       0.000!   !END!
844 ! X =   683.26044,  5564.0235,       0.000,       0.000!   !END!
845 ! X =   683.26044,  5564.5235,       0.000,       0.000!   !END!
846 ! X =   683.26044,  5565.0235,       0.000,       0.000!   !END!
847 ! X =   683.26044,  5565.5235,       0.000,       0.000!   !END!
848 ! X =   683.26044,  5566.0235,       0.000,       0.000!   !END!
849 ! X =   683.26044,  5566.5235,       0.000,       0.000!   !END!
850 ! X =   683.26044,  5567.0235,       0.000,       0.000!   !END!
851 ! X =   683.26044,  5567.5235,       0.000,       0.000!   !END!
852 ! X =   683.26044,  5568.0235,       0.000,       0.000!   !END!
853 ! X =   683.26044,  5568.5235,       0.000,       0.000!   !END!
854 ! X =   683.26044,  5569.0235,       0.000,       0.000!   !END!
855 ! X =   683.26044,  5569.5235,       0.000,       0.000!   !END!
856 ! X =   683.26044,  5570.0235,       0.000,       0.000!   !END!
857 ! X =   683.26044,  5570.5235,       0.000,       0.000!   !END!
858 ! X =   683.26044,  5571.0235,       0.000,       0.000!   !END!
859 ! X =   683.26044,  5571.5235,       4.710,       0.000!   !END!
860 ! X =   683.26044,  5572.0235,       9.491,       0.000!   !END!
861 ! X =   683.26044,  5572.5235,      22.474,       0.000!   !END!
862 ! X =   683.26044,  5573.0235,      32.757,       0.000!   !END!
863 ! X =   683.26044,  5573.5235,      48.687,       0.000!   !END!
864 ! X =   683.26044,  5574.0235,      83.310,       0.000!   !END!
865 ! X =   683.76044,  5561.5235,       0.000,       0.000!   !END!
866 ! X =   683.76044,  5562.0235,       0.000,       0.000!   !END!
867 ! X =   683.76044,  5562.5235,       0.000,       0.000!   !END!
868 ! X =   683.76044,  5563.0235,       0.000,       0.000!   !END!
869 ! X =   683.76044,  5563.5235,       0.000,       0.000!   !END!
870 ! X =   683.76044,  5564.0235,       0.000,       0.000!   !END!
871 ! X =   683.76044,  5564.5235,       0.000,       0.000!   !END!
872 ! X =   683.76044,  5565.0235,       0.000,       0.000!   !END!
873 ! X =   683.76044,  5565.5235,       0.000,       0.000!   !END!
874 ! X =   683.76044,  5566.0235,       0.000,       0.000!   !END!
875 ! X =   683.76044,  5566.5235,       0.000,       0.000!   !END!
876 ! X =   683.76044,  5567.0235,       0.000,       0.000!   !END!
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877 ! X =   683.76044,  5567.5235,       0.000,       0.000!   !END!
878 ! X =   683.76044,  5568.0235,       0.000,       0.000!   !END!
879 ! X =   683.76044,  5568.5235,       0.000,       0.000!   !END!
880 ! X =   683.76044,  5569.0235,       0.000,       0.000!   !END!
881 ! X =   683.76044,  5569.5235,       0.000,       0.000!   !END!
882 ! X =   683.76044,  5570.0235,       0.000,       0.000!   !END!
883 ! X =   683.76044,  5570.5235,       0.000,       0.000!   !END!
884 ! X =   683.76044,  5571.0235,       0.000,       0.000!   !END!
885 ! X =   683.76044,  5571.5235,       3.853,       0.000!   !END!
886 ! X =   683.76044,  5572.0235,       8.118,       0.000!   !END!
887 ! X =   683.76044,  5572.5235,      19.286,       0.000!   !END!
888 ! X =   683.76044,  5573.0235,      39.440,       0.000!   !END!
889 ! X =   683.76044,  5573.5235,      55.785,       0.000!   !END!
890 ! X =   683.76044,  5574.0235,      74.732,       0.000!   !END!
891 ! X =   684.26044,  5561.5235,       0.000,       0.000!   !END!
892 ! X =   684.26044,  5562.0235,       0.000,       0.000!   !END!
893 ! X =   684.26044,  5562.5235,       0.000,       0.000!   !END!
894 ! X =   684.26044,  5563.0235,       0.000,       0.000!   !END!
895 ! X =   684.26044,  5563.5235,       0.000,       0.000!   !END!
896 ! X =   684.26044,  5564.0235,       0.000,       0.000!   !END!
897 ! X =   684.26044,  5564.5235,       0.000,       0.000!   !END!
898 ! X =   684.26044,  5565.0235,       0.000,       0.000!   !END!
899 ! X =   684.26044,  5565.5235,       0.000,       0.000!   !END!
900 ! X =   684.26044,  5566.0235,       0.000,       0.000!   !END!
901 ! X =   684.26044,  5566.5235,       0.000,       0.000!   !END!
902 ! X =   684.26044,  5567.0235,       0.000,       0.000!   !END!
903 ! X =   684.26044,  5567.5235,       0.000,       0.000!   !END!
904 ! X =   684.26044,  5568.0235,       0.000,       0.000!   !END!
905 ! X =   684.26044,  5568.5235,       0.000,       0.000!   !END!
906 ! X =   684.26044,  5569.0235,       0.000,       0.000!   !END!
907 ! X =   684.26044,  5569.5235,       0.000,       0.000!   !END!
908 ! X =   684.26044,  5570.0235,       0.000,       0.000!   !END!
909 ! X =   684.26044,  5570.5235,       0.000,       0.000!   !END!
910 ! X =   684.26044,  5571.0235,       0.000,       0.000!   !END!
911 ! X =   684.26044,  5571.5235,       3.686,       0.000!   !END!
912 ! X =   684.26044,  5572.0235,       9.869,       0.000!   !END!
913 ! X =   684.26044,  5572.5235,      15.263,       0.000!   !END!
914 ! X =   684.26044,  5573.0235,      34.922,       0.000!   !END!
915 ! X =   684.26044,  5573.5235,      53.139,       0.000!   !END!
916 ! X =   684.26044,  5574.0235,      66.482,       0.000!   !END!
917 ! X =   684.76044,  5561.5235,       0.000,       0.000!   !END!
918 ! X =   684.76044,  5562.0235,       0.000,       0.000!   !END!
919 ! X =   684.76044,  5562.5235,       0.000,       0.000!   !END!
920 ! X =   684.76044,  5563.0235,       0.000,       0.000!   !END!
921 ! X =   684.76044,  5563.5235,       0.000,       0.000!   !END!
922 ! X =   684.76044,  5564.0235,       0.000,       0.000!   !END!
923 ! X =   684.76044,  5564.5235,       0.000,       0.000!   !END!
924 ! X =   684.76044,  5565.0235,       0.000,       0.000!   !END!
925 ! X =   684.76044,  5565.5235,       0.000,       0.000!   !END!
926 ! X =   684.76044,  5566.0235,       0.000,       0.000!   !END!
927 ! X =   684.76044,  5566.5235,       1.513,       0.000!   !END!
928 ! X =   684.76044,  5567.0235,       0.000,       0.000!   !END!
929 ! X =   684.76044,  5567.5235,       0.000,       0.000!   !END!
930 ! X =   684.76044,  5568.0235,       0.000,       0.000!   !END!
931 ! X =   684.76044,  5568.5235,       0.000,       0.000!   !END!
932 ! X =   684.76044,  5569.0235,       0.000,       0.000!   !END!
933 ! X =   684.76044,  5569.5235,       0.000,       0.000!   !END!
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934 ! X =   684.76044,  5570.0235,       0.000,       0.000!   !END!
935 ! X =   684.76044,  5570.5235,       3.520,       0.000!   !END!
936 ! X =   684.76044,  5571.0235,       0.958,       0.000!   !END!
937 ! X =   684.76044,  5571.5235,       7.334,       0.000!   !END!
938 ! X =   684.76044,  5572.0235,       9.562,       0.000!   !END!
939 ! X =   684.76044,  5572.5235,      16.099,       0.000!   !END!
940 ! X =   684.76044,  5573.0235,      34.237,       0.000!   !END!
941 ! X =   684.76044,  5573.5235,      50.102,       0.000!   !END!
942 ! X =   684.76044,  5574.0235,      64.716,       0.000!   !END!
943 ! X =   685.26044,  5561.5235,       0.000,       0.000!   !END!
944 ! X =   685.26044,  5562.0235,       0.000,       0.000!   !END!
945 ! X =   685.26044,  5562.5235,       0.000,       0.000!   !END!
946 ! X =   685.26044,  5563.0235,       0.000,       0.000!   !END!
947 ! X =   685.26044,  5563.5235,       0.000,       0.000!   !END!
948 ! X =   685.26044,  5564.0235,       0.000,       0.000!   !END!
949 ! X =   685.26044,  5564.5235,       0.000,       0.000!   !END!
950 ! X =   685.26044,  5565.0235,       0.000,       0.000!   !END!
951 ! X =   685.26044,  5565.5235,       0.000,       0.000!   !END!
952 ! X =   685.26044,  5566.0235,       5.227,       0.000!   !END!
953 ! X =   685.26044,  5566.5235,       8.573,       0.000!   !END!
954 ! X =   685.26044,  5567.0235,       3.468,       0.000!   !END!
955 ! X =   685.26044,  5567.5235,       0.000,       0.000!   !END!
956 ! X =   685.26044,  5568.0235,       0.000,       0.000!   !END!
957 ! X =   685.26044,  5568.5235,       0.000,       0.000!   !END!
958 ! X =   685.26044,  5569.0235,       0.000,       0.000!   !END!
959 ! X =   685.26044,  5569.5235,       1.151,       0.000!   !END!
960 ! X =   685.26044,  5570.0235,       3.625,       0.000!   !END!
961 ! X =   685.26044,  5570.5235,       5.026,       0.000!   !END!
962 ! X =   685.26044,  5571.0235,       5.000,       0.000!   !END!
963 ! X =   685.26044,  5571.5235,       5.894,       0.000!   !END!
964 ! X =   685.26044,  5572.0235,      13.792,       0.000!   !END!
965 ! X =   685.26044,  5572.5235,      19.072,       0.000!   !END!
966 ! X =   685.26044,  5573.0235,      35.501,       0.000!   !END!
967 ! X =   685.26044,  5573.5235,      50.368,       0.000!   !END!
968 ! X =   685.26044,  5574.0235,      66.858,       0.000!   !END!
969 ! X =   685.76044,  5561.5235,       0.000,       0.000!   !END!
970 ! X =   685.76044,  5562.0235,       0.000,       0.000!   !END!
971 ! X =   685.76044,  5562.5235,       0.000,       0.000!   !END!
972 ! X =   685.76044,  5563.0235,       0.000,       0.000!   !END!
973 ! X =   685.76044,  5563.5235,       0.000,       0.000!   !END!
974 ! X =   685.76044,  5564.0235,       0.000,       0.000!   !END!
975 ! X =   685.76044,  5564.5235,       0.000,       0.000!   !END!
976 ! X =   685.76044,  5565.0235,       0.000,       0.000!   !END!
977 ! X =   685.76044,  5565.5235,       4.759,       0.000!   !END!
978 ! X =   685.76044,  5566.0235,       7.423,       0.000!   !END!
979 ! X =   685.76044,  5566.5235,       9.999,       0.000!   !END!
980 ! X =   685.76044,  5567.0235,      11.867,       0.000!   !END!
981 ! X =   685.76044,  5567.5235,       0.000,       0.000!   !END!
982 ! X =   685.76044,  5568.0235,       3.988,       0.000!   !END!
983 ! X =   685.76044,  5568.5235,       5.936,       0.000!   !END!
984 ! X =   685.76044,  5569.0235,       5.980,       0.000!   !END!
985 ! X =   685.76044,  5569.5235,       7.478,       0.000!   !END!
986 ! X =   685.76044,  5570.0235,       7.254,       0.000!   !END!
987 ! X =   685.76044,  5570.5235,       7.283,       0.000!   !END!
988 ! X =   685.76044,  5571.0235,       9.348,       0.000!   !END!
989 ! X =   685.76044,  5571.5235,       7.172,       0.000!   !END!
990 ! X =   685.76044,  5572.0235,      15.308,       0.000!   !END!
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 991 ! X =   685.76044,  5572.5235,      22.893,       0.000!   !END!
 992 ! X =   685.76044,  5573.0235,      40.401,       0.000!   !END!
 993 ! X =   685.76044,  5573.5235,      48.503,       0.000!   !END!
 994 ! X =   685.76044,  5574.0235,      67.000,       0.000!   !END!
 995 ! X =   686.26044,  5561.5235,       0.000,       0.000!   !END!
 996 ! X =   686.26044,  5562.0235,       0.000,       0.000!   !END!
 997 ! X =   686.26044,  5562.5235,       0.000,       0.000!   !END!
 998 ! X =   686.26044,  5563.0235,       0.000,       0.000!   !END!
 999 ! X =   686.26044,  5563.5235,       0.000,       0.000!   !END!
1000 ! X =   686.26044,  5564.0235,       0.000,       0.000!   !END!
1001 ! X =   686.26044,  5564.5235,       0.000,       0.000!   !END!
1002 ! X =   686.26044,  5565.0235,       5.145,       0.000!   !END!
1003 ! X =   686.26044,  5565.5235,       7.033,       0.000!   !END!
1004 ! X =   686.26044,  5566.0235,       8.468,       0.000!   !END!
1005 ! X =   686.26044,  5566.5235,      12.512,       0.000!   !END!
1006 ! X =   686.26044,  5567.0235,      12.213,       0.000!   !END!
1007 ! X =   686.26044,  5567.5235,       6.369,       0.000!   !END!
1008 ! X =   686.26044,  5568.0235,       7.256,       0.000!   !END!
1009 ! X =   686.26044,  5568.5235,       8.214,       0.000!   !END!
1010 ! X =   686.26044,  5569.0235,      10.000,       0.000!   !END!
1011 ! X =   686.26044,  5569.5235,      10.288,       0.000!   !END!
1012 ! X =   686.26044,  5570.0235,       9.691,       0.000!   !END!
1013 ! X =   686.26044,  5570.5235,       9.749,       0.000!   !END!
1014 ! X =   686.26044,  5571.0235,      11.354,       0.000!   !END!
1015 ! X =   686.26044,  5571.5235,      11.563,       0.000!   !END!
1016 ! X =   686.26044,  5572.0235,      15.362,       0.000!   !END!
1017 ! X =   686.26044,  5572.5235,      29.441,       0.000!   !END!
1018 ! X =   686.26044,  5573.0235,      43.290,       0.000!   !END!
1019 ! X =   686.26044,  5573.5235,      50.047,       0.000!   !END!
1020 ! X =   686.26044,  5574.0235,      67.426,       0.000!   !END!
1021 ! X =   686.76044,  5561.5235,       0.000,       0.000!   !END!
1022 ! X =   686.76044,  5562.0235,       0.000,       0.000!   !END!
1023 ! X =   686.76044,  5562.5235,       0.000,       0.000!   !END!
1024 ! X =   686.76044,  5563.0235,       0.000,       0.000!   !END!
1025 ! X =   686.76044,  5563.5235,       0.000,       0.000!   !END!
1026 ! X =   686.76044,  5564.0235,       0.207,       0.000!   !END!
1027 ! X =   686.76044,  5564.5235,       9.599,       0.000!   !END!
1028 ! X =   686.76044,  5565.0235,      10.375,       0.000!   !END!
1029 ! X =   686.76044,  5565.5235,      10.000,       0.000!   !END!
1030 ! X =   686.76044,  5566.0235,      13.968,       0.000!   !END!
1031 ! X =   686.76044,  5566.5235,      14.587,       0.000!   !END!
1032 ! X =   686.76044,  5567.0235,      14.782,       0.000!   !END!
1033 ! X =   686.76044,  5567.5235,      10.000,       0.000!   !END!
1034 ! X =   686.76044,  5568.0235,       9.000,       0.000!   !END!
1035 ! X =   686.76044,  5568.5235,       7.478,       0.000!   !END!
1036 ! X =   686.76044,  5569.0235,      10.307,       0.000!   !END!
1037 ! X =   686.76044,  5569.5235,      10.460,       0.000!   !END!
1038 ! X =   686.76044,  5570.0235,      14.425,       0.000!   !END!
1039 ! X =   686.76044,  5570.5235,      14.109,       0.000!   !END!
1040 ! X =   686.76044,  5571.0235,      15.083,       0.000!   !END!
1041 ! X =   686.76044,  5571.5235,      19.011,       0.000!   !END!
1042 ! X =   686.76044,  5572.0235,      19.030,       0.000!   !END!
1043 ! X =   686.76044,  5572.5235,      38.367,       0.000!   !END!
1044 ! X =   686.76044,  5573.0235,      42.534,       0.000!   !END!
1045 ! X =   686.76044,  5573.5235,      48.515,       0.000!   !END!
1046 ! X =   686.76044,  5574.0235,      71.802,       0.000!   !END!
1047 ! X =   687.26044,  5561.5235,       0.000,       0.000!   !END!
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1048 ! X =   687.26044,  5562.0235,       0.000,       0.000!   !END!
1049 ! X =   687.26044,  5562.5235,       0.000,       0.000!   !END!
1050 ! X =   687.26044,  5563.0235,       0.000,       0.000!   !END!
1051 ! X =   687.26044,  5563.5235,       0.868,       0.000!   !END!
1052 ! X =   687.26044,  5564.0235,       9.175,       0.000!   !END!
1053 ! X =   687.26044,  5564.5235,      11.000,       0.000!   !END!
1054 ! X =   687.26044,  5565.0235,      13.051,       0.000!   !END!
1055 ! X =   687.26044,  5565.5235,      14.674,       0.000!   !END!
1056 ! X =   687.26044,  5566.0235,      16.838,       0.000!   !END!
1057 ! X =   687.26044,  5566.5235,      14.455,       0.000!   !END!
1058 ! X =   687.26044,  5567.0235,      10.688,       0.000!   !END!
1059 ! X =   687.26044,  5567.5235,      12.424,       0.000!   !END!
1060 ! X =   687.26044,  5568.0235,       9.881,       0.000!   !END!
1061 ! X =   687.26044,  5568.5235,      11.370,       0.000!   !END!
1062 ! X =   687.26044,  5569.0235,       8.268,       0.000!   !END!
1063 ! X =   687.26044,  5569.5235,      10.551,       0.000!   !END!
1064 ! X =   687.26044,  5570.0235,      12.968,       0.000!   !END!
1065 ! X =   687.26044,  5570.5235,      15.000,       0.000!   !END!
1066 ! X =   687.26044,  5571.0235,      16.814,       0.000!   !END!
1067 ! X =   687.26044,  5571.5235,      18.146,       0.000!   !END!
1068 ! X =   687.26044,  5572.0235,      21.297,       0.000!   !END!
1069 ! X =   687.26044,  5572.5235,      44.286,       0.000!   !END!
1070 ! X =   687.26044,  5573.0235,      43.521,       0.000!   !END!
1071 ! X =   687.26044,  5573.5235,      48.911,       0.000!   !END!
1072 ! X =   687.26044,  5574.0235,      63.894,       0.000!   !END!
1073 ! X =   687.76044,  5561.5235,       8.897,       0.000!   !END!
1074 ! X =   687.76044,  5562.0235,       0.000,       0.000!   !END!
1075 ! X =   687.76044,  5562.5235,       0.000,       0.000!   !END!
1076 ! X =   687.76044,  5563.0235,       7.763,       0.000!   !END!
1077 ! X =   687.76044,  5563.5235,       6.161,       0.000!   !END!
1078 ! X =   687.76044,  5564.0235,      10.000,       0.000!   !END!
1079 ! X =   687.76044,  5564.5235,      14.878,       0.000!   !END!
1080 ! X =   687.76044,  5565.0235,      17.396,       0.000!   !END!
1081 ! X =   687.76044,  5565.5235,      17.468,       0.000!   !END!
1082 ! X =   687.76044,  5566.0235,      16.286,       0.000!   !END!
1083 ! X =   687.76044,  5566.5235,      12.894,       0.000!   !END!
1084 ! X =   687.76044,  5567.0235,      12.356,       0.000!   !END!
1085 ! X =   687.76044,  5567.5235,      13.107,       0.000!   !END!
1086 ! X =   687.76044,  5568.0235,      12.373,       0.000!   !END!
1087 ! X =   687.76044,  5568.5235,      17.858,       0.000!   !END!
1088 ! X =   687.76044,  5569.0235,      12.451,       0.000!   !END!
1089 ! X =   687.76044,  5569.5235,      13.659,       0.000!   !END!
1090 ! X =   687.76044,  5570.0235,      14.008,       0.000!   !END!
1091 ! X =   687.76044,  5570.5235,      16.582,       0.000!   !END!
1092 ! X =   687.76044,  5571.0235,      17.828,       0.000!   !END!
1093 ! X =   687.76044,  5571.5235,      19.159,       0.000!   !END!
1094 ! X =   687.76044,  5572.0235,      29.983,       0.000!   !END!
1095 ! X =   687.76044,  5572.5235,      43.223,       0.000!   !END!
1096 ! X =   687.76044,  5573.0235,      45.118,       0.000!   !END!
1097 ! X =   687.76044,  5573.5235,      48.138,       0.000!   !END!
1098 ! X =   687.76044,  5574.0235,      66.605,       0.000!   !END!
1099 ! X =   688.26044,  5561.5235,      15.778,       0.000!   !END!
1100 ! X =   688.26044,  5562.0235,       0.000,       0.000!   !END!
1101 ! X =   688.26044,  5562.5235,       0.000,       0.000!   !END!
1102 ! X =   688.26044,  5563.0235,       8.756,       0.000!   !END!
1103 ! X =   688.26044,  5563.5235,       9.584,       0.000!   !END!
1104 ! X =   688.26044,  5564.0235,       7.557,       0.000!   !END!
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1105 ! X =   688.26044,  5564.5235,      15.899,       0.000!   !END!
1106 ! X =   688.26044,  5565.0235,      17.902,       0.000!   !END!
1107 ! X =   688.26044,  5565.5235,      17.610,       0.000!   !END!
1108 ! X =   688.26044,  5566.0235,      18.102,       0.000!   !END!
1109 ! X =   688.26044,  5566.5235,      17.936,       0.000!   !END!
1110 ! X =   688.26044,  5567.0235,      15.701,       0.000!   !END!
1111 ! X =   688.26044,  5567.5235,      15.490,       0.000!   !END!
1112 ! X =   688.26044,  5568.0235,      17.235,       0.000!   !END!
1113 ! X =   688.26044,  5568.5235,      16.595,       0.000!   !END!
1114 ! X =   688.26044,  5569.0235,      14.506,       0.000!   !END!
1115 ! X =   688.26044,  5569.5235,      15.679,       0.000!   !END!
1116 ! X =   688.26044,  5570.0235,      14.944,       0.000!   !END!
1117 ! X =   688.26044,  5570.5235,      16.368,       0.000!   !END!
1118 ! X =   688.26044,  5571.0235,      19.718,       0.000!   !END!
1119 ! X =   688.26044,  5571.5235,      21.899,       0.000!   !END!
1120 ! X =   688.26044,  5572.0235,      34.169,       0.000!   !END!
1121 ! X =   688.26044,  5572.5235,      45.579,       0.000!   !END!
1122 ! X =   688.26044,  5573.0235,      47.981,       0.000!   !END!
1123 ! X =   688.26044,  5573.5235,      53.984,       0.000!   !END!
1124 ! X =   688.26044,  5574.0235,      75.547,       0.000!   !END!
1125 ! X =   688.76044,  5561.5235,       0.000,       0.000!   !END!
1126 ! X =   688.76044,  5562.0235,       0.000,       0.000!   !END!
1127 ! X =   688.76044,  5562.5235,       0.000,       0.000!   !END!
1128 ! X =   688.76044,  5563.0235,       4.461,       0.000!   !END!
1129 ! X =   688.76044,  5563.5235,       8.316,       0.000!   !END!
1130 ! X =   688.76044,  5564.0235,       9.096,       0.000!   !END!
1131 ! X =   688.76044,  5564.5235,      15.690,       0.000!   !END!
1132 ! X =   688.76044,  5565.0235,      19.344,       0.000!   !END!
1133 ! X =   688.76044,  5565.5235,      19.072,       0.000!   !END!
1134 ! X =   688.76044,  5566.0235,      19.481,       0.000!   !END!
1135 ! X =   688.76044,  5566.5235,      19.337,       0.000!   !END!
1136 ! X =   688.76044,  5567.0235,      20.495,       0.000!   !END!
1137 ! X =   688.76044,  5567.5235,      19.006,       0.000!   !END!
1138 ! X =   688.76044,  5568.0235,      17.031,       0.000!   !END!
1139 ! X =   688.76044,  5568.5235,      16.818,       0.000!   !END!
1140 ! X =   688.76044,  5569.0235,      17.000,       0.000!   !END!
1141 ! X =   688.76044,  5569.5235,      17.684,       0.000!   !END!
1142 ! X =   688.76044,  5570.0235,      17.182,       0.000!   !END!
1143 ! X =   688.76044,  5570.5235,      17.996,       0.000!   !END!
1144 ! X =   688.76044,  5571.0235,      19.461,       0.000!   !END!
1145 ! X =   688.76044,  5571.5235,      29.039,       0.000!   !END!
1146 ! X =   688.76044,  5572.0235,      45.782,       0.000!   !END!
1147 ! X =   688.76044,  5572.5235,      49.488,       0.000!   !END!
1148 ! X =   688.76044,  5573.0235,      49.272,       0.000!   !END!
1149 ! X =   688.76044,  5573.5235,      58.302,       0.000!   !END!
1150 ! X =   688.76044,  5574.0235,      85.927,       0.000!   !END!
1151 ! X =   689.26044,  5561.5235,       0.000,       0.000!   !END!
1152 ! X =   689.26044,  5562.0235,       0.000,       0.000!   !END!
1153 ! X =   689.26044,  5562.5235,       0.000,       0.000!   !END!
1154 ! X =   689.26044,  5563.0235,       0.000,       0.000!   !END!
1155 ! X =   689.26044,  5563.5235,       8.335,       0.000!   !END!
1156 ! X =   689.26044,  5564.0235,      11.435,       0.000!   !END!
1157 ! X =   689.26044,  5564.5235,      15.360,       0.000!   !END!
1158 ! X =   689.26044,  5565.0235,      18.893,       0.000!   !END!
1159 ! X =   689.26044,  5565.5235,      21.082,       0.000!   !END!
1160 ! X =   689.26044,  5566.0235,      22.489,       0.000!   !END!
1161 ! X =   689.26044,  5566.5235,      22.864,       0.000!   !END!
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1162 ! X =   689.26044,  5567.0235,      21.994,       0.000!   !END!
1163 ! X =   689.26044,  5567.5235,      17.822,       0.000!   !END!
1164 ! X =   689.26044,  5568.0235,      16.749,       0.000!   !END!
1165 ! X =   689.26044,  5568.5235,      15.498,       0.000!   !END!
1166 ! X =   689.26044,  5569.0235,      21.557,       0.000!   !END!
1167 ! X =   689.26044,  5569.5235,      18.571,       0.000!   !END!
1168 ! X =   689.26044,  5570.0235,      19.884,       0.000!   !END!
1169 ! X =   689.26044,  5570.5235,      20.148,       0.000!   !END!
1170 ! X =   689.26044,  5571.0235,      31.000,       0.000!   !END!
1171 ! X =   689.26044,  5571.5235,      44.357,       0.000!   !END!
1172 ! X =   689.26044,  5572.0235,      47.924,       0.000!   !END!
1173 ! X =   689.26044,  5572.5235,      51.469,       0.000!   !END!
1174 ! X =   689.26044,  5573.0235,      50.033,       0.000!   !END!
1175 ! X =   689.26044,  5573.5235,      72.400,       0.000!   !END!
1176 ! X =   689.26044,  5574.0235,     124.509,       0.000!   !END!
1177 ! X =   689.76044,  5561.5235,       0.000,       0.000!   !END!
1178 ! X =   689.76044,  5562.0235,       0.000,       0.000!   !END!
1179 ! X =   689.76044,  5562.5235,       0.000,       0.000!   !END!
1180 ! X =   689.76044,  5563.0235,       0.000,       0.000!   !END!
1181 ! X =   689.76044,  5563.5235,       0.089,       0.000!   !END!
1182 ! X =   689.76044,  5564.0235,      10.415,       0.000!   !END!
1183 ! X =   689.76044,  5564.5235,      11.927,       0.000!   !END!
1184 ! X =   689.76044,  5565.0235,      18.317,       0.000!   !END!
1185 ! X =   689.76044,  5565.5235,      22.173,       0.000!   !END!
1186 ! X =   689.76044,  5566.0235,      23.182,       0.000!   !END!
1187 ! X =   689.76044,  5566.5235,      22.532,       0.000!   !END!
1188 ! X =   689.76044,  5567.0235,      25.878,       0.000!   !END!
1189 ! X =   689.76044,  5567.5235,      21.480,       0.000!   !END!
1190 ! X =   689.76044,  5568.0235,      19.741,       0.000!   !END!
1191 ! X =   689.76044,  5568.5235,      21.629,       0.000!   !END!
1192 ! X =   689.76044,  5569.0235,      20.560,       0.000!   !END!
1193 ! X =   689.76044,  5569.5235,      19.179,       0.000!   !END!
1194 ! X =   689.76044,  5570.0235,      23.048,       0.000!   !END!
1195 ! X =   689.76044,  5570.5235,      29.797,       0.000!   !END!
1196 ! X =   689.76044,  5571.0235,      45.890,       0.000!   !END!
1197 ! X =   689.76044,  5571.5235,      48.901,       0.000!   !END!
1198 ! X =   689.76044,  5572.0235,      50.942,       0.000!   !END!
1199 ! X =   689.76044,  5572.5235,      50.000,       0.000!   !END!
1200 ! X =   689.76044,  5573.0235,      55.233,       0.000!   !END!
1201 ! X =   689.76044,  5573.5235,      76.834,       0.000!   !END!
1202 ! X =   689.76044,  5574.0235,     129.645,       0.000!   !END!
1203 ! X =   690.26044,  5561.5235,       0.000,       0.000!   !END!
1204 ! X =   690.26044,  5562.0235,       0.000,       0.000!   !END!
1205 ! X =   690.26044,  5562.5235,       0.000,       0.000!   !END!
1206 ! X =   690.26044,  5563.0235,       0.000,       0.000!   !END!
1207 ! X =   690.26044,  5563.5235,       0.000,       0.000!   !END!
1208 ! X =   690.26044,  5564.0235,       5.168,       0.000!   !END!
1209 ! X =   690.26044,  5564.5235,      12.019,       0.000!   !END!
1210 ! X =   690.26044,  5565.0235,      19.248,       0.000!   !END!
1211 ! X =   690.26044,  5565.5235,      21.024,       0.000!   !END!
1212 ! X =   690.26044,  5566.0235,      25.816,       0.000!   !END!
1213 ! X =   690.26044,  5566.5235,      27.706,       0.000!   !END!
1214 ! X =   690.26044,  5567.0235,      22.966,       0.000!   !END!
1215 ! X =   690.26044,  5567.5235,      20.061,       0.000!   !END!
1216 ! X =   690.26044,  5568.0235,      22.196,       0.000!   !END!
1217 ! X =   690.26044,  5568.5235,      23.827,       0.000!   !END!
1218 ! X =   690.26044,  5569.0235,      23.535,       0.000!   !END!
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1219 ! X =   690.26044,  5569.5235,      30.310,       0.000!   !END!
1220 ! X =   690.26044,  5570.0235,      32.377,       0.000!   !END!
1221 ! X =   690.26044,  5570.5235,      45.999,       0.000!   !END!
1222 ! X =   690.26044,  5571.0235,      48.507,       0.000!   !END!
1223 ! X =   690.26044,  5571.5235,      51.318,       0.000!   !END!
1224 ! X =   690.26044,  5572.0235,      50.000,       0.000!   !END!
1225 ! X =   690.26044,  5572.5235,      54.164,       0.000!   !END!
1226 ! X =   690.26044,  5573.0235,      74.807,       0.000!   !END!
1227 ! X =   690.26044,  5573.5235,     119.710,       0.000!   !END!
1228 ! X =   690.26044,  5574.0235,     132.150,       0.000!   !END!
1229 ! X =   690.76044,  5561.5235,       0.000,       0.000!   !END!
1230 ! X =   690.76044,  5562.0235,       0.000,       0.000!   !END!
1231 ! X =   690.76044,  5562.5235,       0.000,       0.000!   !END!
1232 ! X =   690.76044,  5563.0235,       0.000,       0.000!   !END!
1233 ! X =   690.76044,  5563.5235,       0.000,       0.000!   !END!
1234 ! X =   690.76044,  5564.0235,       0.000,       0.000!   !END!
1235 ! X =   690.76044,  5564.5235,      11.768,       0.000!   !END!
1236 ! X =   690.76044,  5565.0235,      21.006,       0.000!   !END!
1237 ! X =   690.76044,  5565.5235,      23.285,       0.000!   !END!
1238 ! X =   690.76044,  5566.0235,      27.000,       0.000!   !END!
1239 ! X =   690.76044,  5566.5235,      27.000,       0.000!   !END!
1240 ! X =   690.76044,  5567.0235,      25.652,       0.000!   !END!
1241 ! X =   690.76044,  5567.5235,      24.408,       0.000!   !END!
1242 ! X =   690.76044,  5568.0235,      25.897,       0.000!   !END!
1243 ! X =   690.76044,  5568.5235,      29.730,       0.000!   !END!
1244 ! X =   690.76044,  5569.0235,      32.000,       0.000!   !END!
1245 ! X =   690.76044,  5569.5235,      33.447,       0.000!   !END!
1246 ! X =   690.76044,  5570.0235,      43.731,       0.000!   !END!
1247 ! X =   690.76044,  5570.5235,      49.632,       0.000!   !END!
1248 ! X =   690.76044,  5571.0235,      51.385,       0.000!   !END!
1249 ! X =   690.76044,  5571.5235,      52.983,       0.000!   !END!
1250 ! X =   690.76044,  5572.0235,      55.710,       0.000!   !END!
1251 ! X =   690.76044,  5572.5235,      85.408,       0.000!   !END!
1252 ! X =   690.76044,  5573.0235,     123.328,       0.000!   !END!
1253 ! X =   690.76044,  5573.5235,     129.662,       0.000!   !END!
1254 ! X =   690.76044,  5574.0235,     131.934,       0.000!   !END!
1255 ! X =   691.26044,  5561.5235,       0.000,       0.000!   !END!
1256 ! X =   691.26044,  5562.0235,       0.000,       0.000!   !END!
1257 ! X =   691.26044,  5562.5235,       0.000,       0.000!   !END!
1258 ! X =   691.26044,  5563.0235,       0.000,       0.000!   !END!
1259 ! X =   691.26044,  5563.5235,       0.000,       0.000!   !END!
1260 ! X =   691.26044,  5564.0235,       0.000,       0.000!   !END!
1261 ! X =   691.26044,  5564.5235,       0.630,       0.000!   !END!
1262 ! X =   691.26044,  5565.0235,      18.994,       0.000!   !END!
1263 ! X =   691.26044,  5565.5235,      28.478,       0.000!   !END!
1264 ! X =   691.26044,  5566.0235,      27.000,       0.000!   !END!
1265 ! X =   691.26044,  5566.5235,      27.000,       0.000!   !END!
1266 ! X =   691.26044,  5567.0235,      27.000,       0.000!   !END!
1267 ! X =   691.26044,  5567.5235,      30.999,       0.000!   !END!
1268 ! X =   691.26044,  5568.0235,      31.301,       0.000!   !END!
1269 ! X =   691.26044,  5568.5235,      33.073,       0.000!   !END!
1270 ! X =   691.26044,  5569.0235,      33.920,       0.000!   !END!
1271 ! X =   691.26044,  5569.5235,      44.284,       0.000!   !END!
1272 ! X =   691.26044,  5570.0235,      50.465,       0.000!   !END!
1273 ! X =   691.26044,  5570.5235,      53.025,       0.000!   !END!
1274 ! X =   691.26044,  5571.0235,      54.068,       0.000!   !END!
1275 ! X =   691.26044,  5571.5235,      55.281,       0.000!   !END!
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1276 ! X =   691.26044,  5572.0235,      79.182,       0.000!   !END!
1277 ! X =   691.26044,  5572.5235,      96.728,       0.000!   !END!
1278 ! X =   691.26044,  5573.0235,     126.681,       0.000!   !END!
1279 ! X =   691.26044,  5573.5235,     125.000,       0.000!   !END!
1280 ! X =   691.26044,  5574.0235,     128.762,       0.000!   !END!
1281 ! X =   691.76044,  5561.5235,       0.000,       0.000!   !END!
1282 ! X =   691.76044,  5562.0235,       0.000,       0.000!   !END!
1283 ! X =   691.76044,  5562.5235,       0.000,       0.000!   !END!
1284 ! X =   691.76044,  5563.0235,       0.000,       0.000!   !END!
1285 ! X =   691.76044,  5563.5235,       0.000,       0.000!   !END!
1286 ! X =   691.76044,  5564.0235,       0.000,       0.000!   !END!
1287 ! X =   691.76044,  5564.5235,       0.000,       0.000!   !END!
1288 ! X =   691.76044,  5565.0235,      12.311,       0.000!   !END!
1289 ! X =   691.76044,  5565.5235,      24.987,       0.000!   !END!
1290 ! X =   691.76044,  5566.0235,      29.327,       0.000!   !END!
1291 ! X =   691.76044,  5566.5235,      31.678,       0.000!   !END!
1292 ! X =   691.76044,  5567.0235,      32.818,       0.000!   !END!
1293 ! X =   691.76044,  5567.5235,      32.993,       0.000!   !END!
1294 ! X =   691.76044,  5568.0235,      33.851,       0.000!   !END!
1295 ! X =   691.76044,  5568.5235,      36.831,       0.000!   !END!
1296 ! X =   691.76044,  5569.0235,      48.412,       0.000!   !END!
1297 ! X =   691.76044,  5569.5235,      53.581,       0.000!   !END!
1298 ! X =   691.76044,  5570.0235,      53.838,       0.000!   !END!
1299 ! X =   691.76044,  5570.5235,      55.591,       0.000!   !END!
1300 ! X =   691.76044,  5571.0235,      54.367,       0.000!   !END!
1301 ! X =   691.76044,  5571.5235,      62.830,       0.000!   !END!
1302 ! X =   691.76044,  5572.0235,      84.002,       0.000!   !END!
1303 ! X =   691.76044,  5572.5235,     107.052,       0.000!   !END!
1304 ! X =   691.76044,  5573.0235,     125.787,       0.000!   !END!
1305 ! X =   691.76044,  5573.5235,     118.073,       0.000!   !END!
1306 ! X =   691.76044,  5574.0235,     128.416,       0.000!   !END!
1307 ! X =   692.26044,  5561.5235,       0.000,       0.000!   !END!
1308 ! X =   692.26044,  5562.0235,       0.000,       0.000!   !END!
1309 ! X =   692.26044,  5562.5235,       0.000,       0.000!   !END!
1310 ! X =   692.26044,  5563.0235,       0.000,       0.000!   !END!
1311 ! X =   692.26044,  5563.5235,       0.000,       0.000!   !END!
1312 ! X =   692.26044,  5564.0235,       0.000,       0.000!   !END!
1313 ! X =   692.26044,  5564.5235,       0.000,       0.000!   !END!
1314 ! X =   692.26044,  5565.0235,       6.208,       0.000!   !END!
1315 ! X =   692.26044,  5565.5235,      31.000,       0.000!   !END!
1316 ! X =   692.26044,  5566.0235,      31.188,       0.000!   !END!
1317 ! X =   692.26044,  5566.5235,      33.425,       0.000!   !END!
1318 ! X =   692.26044,  5567.0235,      35.455,       0.000!   !END!
1319 ! X =   692.26044,  5567.5235,      36.137,       0.000!   !END!
1320 ! X =   692.26044,  5568.0235,      38.947,       0.000!   !END!
1321 ! X =   692.26044,  5568.5235,      51.445,       0.000!   !END!
1322 ! X =   692.26044,  5569.0235,      52.487,       0.000!   !END!
1323 ! X =   692.26044,  5569.5235,      53.000,       0.000!   !END!
1324 ! X =   692.26044,  5570.0235,      55.169,       0.000!   !END!
1325 ! X =   692.26044,  5570.5235,      58.867,       0.000!   !END!
1326 ! X =   692.26044,  5571.0235,      57.060,       0.000!   !END!
1327 ! X =   692.26044,  5571.5235,      69.472,       0.000!   !END!
1328 ! X =   692.26044,  5572.0235,      86.640,       0.000!   !END!
1329 ! X =   692.26044,  5572.5235,     112.090,       0.000!   !END!
1330 ! X =   692.26044,  5573.0235,     123.406,       0.000!   !END!
1331 ! X =   692.26044,  5573.5235,     122.919,       0.000!   !END!
1332 ! X =   692.26044,  5574.0235,     128.657,       0.000!   !END!
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1333 ! X =   692.76044,  5561.5235,       0.000,       0.000!   !END!
1334 ! X =   692.76044,  5562.0235,       0.000,       0.000!   !END!
1335 ! X =   692.76044,  5562.5235,       0.000,       0.000!   !END!
1336 ! X =   692.76044,  5563.0235,       0.000,       0.000!   !END!
1337 ! X =   692.76044,  5563.5235,       0.000,       0.000!   !END!
1338 ! X =   692.76044,  5564.0235,       0.000,       0.000!   !END!
1339 ! X =   692.76044,  5564.5235,       0.000,       0.000!   !END!
1340 ! X =   692.76044,  5565.0235,       4.460,       0.000!   !END!
1341 ! X =   692.76044,  5565.5235,      32.544,       0.000!   !END!
1342 ! X =   692.76044,  5566.0235,      34.953,       0.000!   !END!
1343 ! X =   692.76044,  5566.5235,      37.676,       0.000!   !END!
1344 ! X =   692.76044,  5567.0235,      37.970,       0.000!   !END!
1345 ! X =   692.76044,  5567.5235,      43.228,       0.000!   !END!
1346 ! X =   692.76044,  5568.0235,      52.006,       0.000!   !END!
1347 ! X =   692.76044,  5568.5235,      53.885,       0.000!   !END!
1348 ! X =   692.76044,  5569.0235,      52.758,       0.000!   !END!
1349 ! X =   692.76044,  5569.5235,      53.381,       0.000!   !END!
1350 ! X =   692.76044,  5570.0235,      56.349,       0.000!   !END!
1351 ! X =   692.76044,  5570.5235,      58.450,       0.000!   !END!
1352 ! X =   692.76044,  5571.0235,      60.343,       0.000!   !END!
1353 ! X =   692.76044,  5571.5235,      76.631,       0.000!   !END!
1354 ! X =   692.76044,  5572.0235,      88.384,       0.000!   !END!
1355 ! X =   692.76044,  5572.5235,     113.307,       0.000!   !END!
1356 ! X =   692.76044,  5573.0235,     125.776,       0.000!   !END!
1357 ! X =   692.76044,  5573.5235,     127.315,       0.000!   !END!
1358 ! X =   692.76044,  5574.0235,     129.940,       0.000!   !END!
1359 ! X =   693.26044,  5561.5235,       0.000,       0.000!   !END!
1360 ! X =   693.26044,  5562.0235,       0.000,       0.000!   !END!
1361 ! X =   693.26044,  5562.5235,       0.000,       0.000!   !END!
1362 ! X =   693.26044,  5563.0235,       0.000,       0.000!   !END!
1363 ! X =   693.26044,  5563.5235,       0.000,       0.000!   !END!
1364 ! X =   693.26044,  5564.0235,       0.000,       0.000!   !END!
1365 ! X =   693.26044,  5564.5235,       0.000,       0.000!   !END!
1366 ! X =   693.26044,  5565.0235,       3.997,       0.000!   !END!
1367 ! X =   693.26044,  5565.5235,      34.813,       0.000!   !END!
1368 ! X =   693.26044,  5566.0235,      37.657,       0.000!   !END!
1369 ! X =   693.26044,  5566.5235,      41.870,       0.000!   !END!
1370 ! X =   693.26044,  5567.0235,      47.157,       0.000!   !END!
1371 ! X =   693.26044,  5567.5235,      52.127,       0.000!   !END!
1372 ! X =   693.26044,  5568.0235,      51.333,       0.000!   !END!
1373 ! X =   693.26044,  5568.5235,      52.779,       0.000!   !END!
1374 ! X =   693.26044,  5569.0235,      52.564,       0.000!   !END!
1375 ! X =   693.26044,  5569.5235,      55.771,       0.000!   !END!
1376 ! X =   693.26044,  5570.0235,      57.277,       0.000!   !END!
1377 ! X =   693.26044,  5570.5235,      61.000,       0.000!   !END!
1378 ! X =   693.26044,  5571.0235,      65.960,       0.000!   !END!
1379 ! X =   693.26044,  5571.5235,      79.117,       0.000!   !END!
1380 ! X =   693.26044,  5572.0235,      87.420,       0.000!   !END!
1381 ! X =   693.26044,  5572.5235,     110.860,       0.000!   !END!
1382 ! X =   693.26044,  5573.0235,     125.591,       0.000!   !END!
1383 ! X =   693.26044,  5573.5235,     133.884,       0.000!   !END!
1384 ! X =   693.26044,  5574.0235,     135.028,       0.000!   !END!
1385 ! X =   693.76044,  5561.5235,       0.000,       0.000!   !END!
1386 ! X =   693.76044,  5562.0235,       0.000,       0.000!   !END!
1387 ! X =   693.76044,  5562.5235,       0.000,       0.000!   !END!
1388 ! X =   693.76044,  5563.0235,       0.000,       0.000!   !END!
1389 ! X =   693.76044,  5563.5235,       0.000,       0.000!   !END!
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1390 ! X =   693.76044,  5564.0235,       0.000,       0.000!   !END!
1391 ! X =   693.76044,  5564.5235,       0.000,       0.000!   !END!
1392 ! X =   693.76044,  5565.0235,       1.523,       0.000!   !END!
1393 ! X =   693.76044,  5565.5235,      23.695,       0.000!   !END!
1394 ! X =   693.76044,  5566.0235,      42.542,       0.000!   !END!
1395 ! X =   693.76044,  5566.5235,      46.932,       0.000!   !END!
1396 ! X =   693.76044,  5567.0235,      50.000,       0.000!   !END!
1397 ! X =   693.76044,  5567.5235,      52.988,       0.000!   !END!
1398 ! X =   693.76044,  5568.0235,      52.963,       0.000!   !END!
1399 ! X =   693.76044,  5568.5235,      54.683,       0.000!   !END!
1400 ! X =   693.76044,  5569.0235,      54.931,       0.000!   !END!
1401 ! X =   693.76044,  5569.5235,      55.970,       0.000!   !END!
1402 ! X =   693.76044,  5570.0235,      59.816,       0.000!   !END!
1403 ! X =   693.76044,  5570.5235,      63.053,       0.000!   !END!
1404 ! X =   693.76044,  5571.0235,      68.133,       0.000!   !END!
1405 ! X =   693.76044,  5571.5235,      80.221,       0.000!   !END!
1406 ! X =   693.76044,  5572.0235,      87.223,       0.000!   !END!
1407 ! X =   693.76044,  5572.5235,     108.214,       0.000!   !END!
1408 ! X =   693.76044,  5573.0235,     128.609,       0.000!   !END!
1409 ! X =   693.76044,  5573.5235,     131.305,       0.000!   !END!
1410 ! X =   693.76044,  5574.0235,     133.431,       0.000!   !END!
1411 ! X =   694.26044,  5561.5235,       0.000,       0.000!   !END!
1412 ! X =   694.26044,  5562.0235,       0.000,       0.000!   !END!
1413 ! X =   694.26044,  5562.5235,       0.000,       0.000!   !END!
1414 ! X =   694.26044,  5563.0235,       0.000,       0.000!   !END!
1415 ! X =   694.26044,  5563.5235,       0.000,       0.000!   !END!
1416 ! X =   694.26044,  5564.0235,       0.000,       0.000!   !END!
1417 ! X =   694.26044,  5564.5235,       0.000,       0.000!   !END!
1418 ! X =   694.26044,  5565.0235,       0.000,       0.000!   !END!
1419 ! X =   694.26044,  5565.5235,      10.369,       0.000!   !END!
1420 ! X =   694.26044,  5566.0235,      47.668,       0.000!   !END!
1421 ! X =   694.26044,  5566.5235,      49.477,       0.000!   !END!
1422 ! X =   694.26044,  5567.0235,      52.768,       0.000!   !END!
1423 ! X =   694.26044,  5567.5235,      51.302,       0.000!   !END!
1424 ! X =   694.26044,  5568.0235,      51.585,       0.000!   !END!
1425 ! X =   694.26044,  5568.5235,      56.704,       0.000!   !END!
1426 ! X =   694.26044,  5569.0235,      55.769,       0.000!   !END!
1427 ! X =   694.26044,  5569.5235,      56.454,       0.000!   !END!
1428 ! X =   694.26044,  5570.0235,      61.511,       0.000!   !END!
1429 ! X =   694.26044,  5570.5235,      63.856,       0.000!   !END!
1430 ! X =   694.26044,  5571.0235,      70.593,       0.000!   !END!
1431 ! X =   694.26044,  5571.5235,      78.716,       0.000!   !END!
1432 ! X =   694.26044,  5572.0235,      88.230,       0.000!   !END!
1433 ! X =   694.26044,  5572.5235,     106.212,       0.000!   !END!
1434 ! X =   694.26044,  5573.0235,     126.084,       0.000!   !END!
1435 ! X =   694.26044,  5573.5235,     131.004,       0.000!   !END!
1436 ! X =   694.26044,  5574.0235,     128.343,       0.000!   !END!
1437 ! X =   694.76044,  5561.5235,       0.000,       0.000!   !END!
1438 ! X =   694.76044,  5562.0235,       0.000,       0.000!   !END!
1439 ! X =   694.76044,  5562.5235,       0.000,       0.000!   !END!
1440 ! X =   694.76044,  5563.0235,       0.000,       0.000!   !END!
1441 ! X =   694.76044,  5563.5235,       0.000,       0.000!   !END!
1442 ! X =   694.76044,  5564.0235,       0.000,       0.000!   !END!
1443 ! X =   694.76044,  5564.5235,       0.000,       0.000!   !END!
1444 ! X =   694.76044,  5565.0235,       0.000,       0.000!   !END!
1445 ! X =   694.76044,  5565.5235,       4.518,       0.000!   !END!
1446 ! X =   694.76044,  5566.0235,      50.629,       0.000!   !END!
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1447 ! X =   694.76044,  5566.5235,      49.631,       0.000!   !END!
1448 ! X =   694.76044,  5567.0235,      50.944,       0.000!   !END!
1449 ! X =   694.76044,  5567.5235,      52.373,       0.000!   !END!
1450 ! X =   694.76044,  5568.0235,      54.489,       0.000!   !END!
1451 ! X =   694.76044,  5568.5235,      58.000,       0.000!   !END!
1452 ! X =   694.76044,  5569.0235,      56.644,       0.000!   !END!
1453 ! X =   694.76044,  5569.5235,      57.878,       0.000!   !END!
1454 ! X =   694.76044,  5570.0235,      61.702,       0.000!   !END!
1455 ! X =   694.76044,  5570.5235,      66.088,       0.000!   !END!
1456 ! X =   694.76044,  5571.0235,      71.169,       0.000!   !END!
1457 ! X =   694.76044,  5571.5235,      78.877,       0.000!   !END!
1458 ! X =   694.76044,  5572.0235,      87.319,       0.000!   !END!
1459 ! X =   694.76044,  5572.5235,     102.312,       0.000!   !END!
1460 ! X =   694.76044,  5573.0235,     125.000,       0.000!   !END!
1461 ! X =   694.76044,  5573.5235,     129.516,       0.000!   !END!
1462 ! X =   694.76044,  5574.0235,     127.074,       0.000!   !END!
1463 ! X =   695.26044,  5561.5235,       0.000,       0.000!   !END!
1464 ! X =   695.26044,  5562.0235,       0.000,       0.000!   !END!
1465 ! X =   695.26044,  5562.5235,       0.000,       0.000!   !END!
1466 ! X =   695.26044,  5563.0235,       0.000,       0.000!   !END!
1467 ! X =   695.26044,  5563.5235,       0.000,       0.000!   !END!
1468 ! X =   695.26044,  5564.0235,       0.000,       0.000!   !END!
1469 ! X =   695.26044,  5564.5235,       0.000,       0.000!   !END!
1470 ! X =   695.26044,  5565.0235,       0.000,       0.000!   !END!
1471 ! X =   695.26044,  5565.5235,       0.000,       0.000!   !END!
1472 ! X =   695.26044,  5566.0235,      50.958,       0.000!   !END!
1473 ! X =   695.26044,  5566.5235,      52.117,       0.000!   !END!
1474 ! X =   695.26044,  5567.0235,      49.976,       0.000!   !END!
1475 ! X =   695.26044,  5567.5235,      53.026,       0.000!   !END!
1476 ! X =   695.26044,  5568.0235,      55.501,       0.000!   !END!
1477 ! X =   695.26044,  5568.5235,      57.900,       0.000!   !END!
1478 ! X =   695.26044,  5569.0235,      56.358,       0.000!   !END!
1479 ! X =   695.26044,  5569.5235,      58.371,       0.000!   !END!
1480 ! X =   695.26044,  5570.0235,      62.017,       0.000!   !END!
1481 ! X =   695.26044,  5570.5235,      67.460,       0.000!   !END!
1482 ! X =   695.26044,  5571.0235,      75.468,       0.000!   !END!
1483 ! X =   695.26044,  5571.5235,      79.000,       0.000!   !END!
1484 ! X =   695.26044,  5572.0235,      85.259,       0.000!   !END!
1485 ! X =   695.26044,  5572.5235,      96.082,       0.000!   !END!
1486 ! X =   695.26044,  5573.0235,     115.789,       0.000!   !END!
1487 ! X =   695.26044,  5573.5235,     127.545,       0.000!   !END!
1488 ! X =   695.26044,  5574.0235,     130.335,       0.000!   !END!
1489 ! X =   682.76044,  5561.0235,       0.000,       0.000!   !END!
1490 ! X =   682.76044,  5560.0235,       0.000,       0.000!   !END!
1491 ! X =   682.76044,  5559.5235,      38.575,       0.000!   !END!
1492 ! X =   682.76044,  5559.0235,      41.117,       0.000!   !END!
1493 ! X =   682.76044,  5558.5235,      12.221,       0.000!   !END!
1494 ! X =   682.76044,  5558.0235,       0.000,       0.000!   !END!
1495 ! X =   682.76044,  5557.5235,       0.000,       0.000!   !END!
1496 ! X =   682.76044,  5557.0235,       0.000,       0.000!   !END!
1497 ! X =   682.76044,  5556.5235,       0.000,       0.000!   !END!
1498 ! X =   682.76044,  5556.0235,       0.000,       0.000!   !END!
1499 ! X =   682.76044,  5555.5235,       0.000,       0.000!   !END!
1500 ! X =   682.76044,  5555.0235,       0.000,       0.000!   !END!
1501 ! X =   682.76044,  5554.5235,       0.000,       0.000!   !END!
1502 ! X =   682.76044,  5554.0235,       0.000,       0.000!   !END!
1503 ! X =   682.76044,  5553.5235,       0.000,       0.000!   !END!
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1504 ! X =   682.76044,  5553.0235,       0.000,       0.000!   !END!
1505 ! X =   682.76044,  5552.5235,       0.000,       0.000!   !END!
1506 ! X =   682.76044,  5552.0235,       0.000,       0.000!   !END!
1507 ! X =   682.76044,  5551.5235,       0.000,       0.000!   !END!
1508 ! X =   682.76044,  5551.0235,       0.000,       0.000!   !END!
1509 ! X =   682.76044,  5550.5235,       0.000,       0.000!   !END!
1510 ! X =   682.76044,  5550.0235,       0.000,       0.000!   !END!
1511 ! X =   682.76044,  5549.5235,       0.000,       0.000!   !END!
1512 ! X =   682.76044,  5549.0235,       0.000,       0.000!   !END!
1513 ! X =   682.76044,  5548.5235,       0.000,       0.000!   !END!
1514 ! X =   682.76044,  5548.0235,       0.000,       0.000!   !END!
1515 ! X =   682.76044,  5547.5235,       0.000,       0.000!   !END!
1516 ! X =   682.76044,  5547.0235,       0.000,       0.000!   !END!
1517 ! X =   682.76044,  5546.5235,       0.000,       0.000!   !END!
1518 ! X =   682.76044,  5546.0235,       0.000,       0.000!   !END!
1519 ! X =   682.76044,  5545.5235,       0.000,       0.000!   !END!
1520 ! X =   682.76044,  5545.0235,       0.000,       0.000!   !END!
1521 ! X =   682.76044,  5544.5235,       0.000,       0.000!   !END!
1522 ! X =   682.76044,  5544.0235,       0.000,       0.000!   !END!
1523 ! X =   683.26044,  5561.0235,       0.000,       0.000!   !END!
1524 ! X =   683.26044,  5560.5235,       0.000,       0.000!   !END!
1525 ! X =   683.26044,  5559.5235,      32.866,       0.000!   !END!
1526 ! X =   683.26044,  5559.0235,      45.622,       0.000!   !END!
1527 ! X =   683.26044,  5558.5235,       0.000,       0.000!   !END!
1528 ! X =   683.26044,  5558.0235,       0.000,       0.000!   !END!
1529 ! X =   683.26044,  5557.5235,       0.000,       0.000!   !END!
1530 ! X =   683.26044,  5557.0235,       0.000,       0.000!   !END!
1531 ! X =   683.26044,  5556.5235,       0.000,       0.000!   !END!
1532 ! X =   683.26044,  5556.0235,       0.000,       0.000!   !END!
1533 ! X =   683.26044,  5555.5235,       0.000,       0.000!   !END!
1534 ! X =   683.26044,  5555.0235,       0.000,       0.000!   !END!
1535 ! X =   683.26044,  5554.5235,       0.000,       0.000!   !END!
1536 ! X =   683.26044,  5554.0235,       0.000,       0.000!   !END!
1537 ! X =   683.26044,  5553.5235,       0.000,       0.000!   !END!
1538 ! X =   683.26044,  5553.0235,       0.000,       0.000!   !END!
1539 ! X =   683.26044,  5552.5235,       0.000,       0.000!   !END!
1540 ! X =   683.26044,  5552.0235,       0.000,       0.000!   !END!
1541 ! X =   683.26044,  5551.5235,       0.000,       0.000!   !END!
1542 ! X =   683.26044,  5551.0235,       0.000,       0.000!   !END!
1543 ! X =   683.26044,  5550.5235,       0.000,       0.000!   !END!
1544 ! X =   683.26044,  5550.0235,       0.000,       0.000!   !END!
1545 ! X =   683.26044,  5549.5235,       0.000,       0.000!   !END!
1546 ! X =   683.26044,  5549.0235,       0.000,       0.000!   !END!
1547 ! X =   683.26044,  5548.5235,       0.000,       0.000!   !END!
1548 ! X =   683.26044,  5548.0235,       0.000,       0.000!   !END!
1549 ! X =   683.26044,  5547.5235,       0.000,       0.000!   !END!
1550 ! X =   683.26044,  5547.0235,       0.000,       0.000!   !END!
1551 ! X =   683.26044,  5546.5235,       0.000,       0.000!   !END!
1552 ! X =   683.26044,  5546.0235,       0.000,       0.000!   !END!
1553 ! X =   683.26044,  5545.5235,       0.000,       0.000!   !END!
1554 ! X =   683.26044,  5545.0235,       0.000,       0.000!   !END!
1555 ! X =   683.26044,  5544.5235,       0.000,       0.000!   !END!
1556 ! X =   683.26044,  5544.0235,       0.000,       0.000!   !END!
1557 ! X =   683.76044,  5561.0235,       0.000,       0.000!   !END!
1558 ! X =   683.76044,  5560.5235,       0.000,       0.000!   !END!
1559 ! X =   683.76044,  5559.5235,       0.000,       0.000!   !END!
1560 ! X =   683.76044,  5559.0235,      59.883,       0.000!   !END!
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1561 ! X =   683.76044,  5558.5235,       4.066,       0.000!   !END!
1562 ! X =   683.76044,  5558.0235,       0.000,       0.000!   !END!
1563 ! X =   683.76044,  5557.5235,       0.000,       0.000!   !END!
1564 ! X =   683.76044,  5557.0235,       0.000,       0.000!   !END!
1565 ! X =   683.76044,  5556.5235,       0.000,       0.000!   !END!
1566 ! X =   683.76044,  5556.0235,       0.000,       0.000!   !END!
1567 ! X =   683.76044,  5555.5235,       0.000,       0.000!   !END!
1568 ! X =   683.76044,  5555.0235,       0.000,       0.000!   !END!
1569 ! X =   683.76044,  5554.5235,       0.000,       0.000!   !END!
1570 ! X =   683.76044,  5554.0235,       0.000,       0.000!   !END!
1571 ! X =   683.76044,  5553.5235,       0.000,       0.000!   !END!
1572 ! X =   683.76044,  5553.0235,       0.000,       0.000!   !END!
1573 ! X =   683.76044,  5552.5235,       0.000,       0.000!   !END!
1574 ! X =   683.76044,  5552.0235,       0.000,       0.000!   !END!
1575 ! X =   683.76044,  5551.5235,       0.000,       0.000!   !END!
1576 ! X =   683.76044,  5551.0235,       0.000,       0.000!   !END!
1577 ! X =   683.76044,  5550.5235,       0.000,       0.000!   !END!
1578 ! X =   683.76044,  5550.0235,       0.000,       0.000!   !END!
1579 ! X =   683.76044,  5549.5235,       0.000,       0.000!   !END!
1580 ! X =   683.76044,  5549.0235,       0.000,       0.000!   !END!
1581 ! X =   683.76044,  5548.5235,       0.000,       0.000!   !END!
1582 ! X =   683.76044,  5548.0235,       0.000,       0.000!   !END!
1583 ! X =   683.76044,  5547.5235,       0.000,       0.000!   !END!
1584 ! X =   683.76044,  5547.0235,       0.000,       0.000!   !END!
1585 ! X =   683.76044,  5546.5235,       0.000,       0.000!   !END!
1586 ! X =   683.76044,  5546.0235,       0.000,       0.000!   !END!
1587 ! X =   683.76044,  5545.5235,       0.000,       0.000!   !END!
1588 ! X =   683.76044,  5545.0235,       0.000,       0.000!   !END!
1589 ! X =   683.76044,  5544.5235,       0.000,       0.000!   !END!
1590 ! X =   683.76044,  5544.0235,       0.000,       0.000!   !END!
1591 ! X =   684.26044,  5561.0235,       0.000,       0.000!   !END!
1592 ! X =   684.26044,  5560.5235,       0.000,       0.000!   !END!
1593 ! X =   684.26044,  5560.0235,       0.000,       0.000!   !END!
1594 ! X =   684.26044,  5559.5235,       0.000,       0.000!   !END!
1595 ! X =   684.26044,  5559.0235,       0.000,       0.000!   !END!
1596 ! X =   684.26044,  5558.5235,       0.000,       0.000!   !END!
1597 ! X =   684.26044,  5558.0235,       0.000,       0.000!   !END!
1598 ! X =   684.26044,  5557.5235,       0.000,       0.000!   !END!
1599 ! X =   684.26044,  5557.0235,       0.000,       0.000!   !END!
1600 ! X =   684.26044,  5556.5235,       0.000,       0.000!   !END!
1601 ! X =   684.26044,  5556.0235,       0.000,       0.000!   !END!
1602 ! X =   684.26044,  5555.5235,       0.000,       0.000!   !END!
1603 ! X =   684.26044,  5555.0235,       0.000,       0.000!   !END!
1604 ! X =   684.26044,  5554.5235,       0.000,       0.000!   !END!
1605 ! X =   684.26044,  5554.0235,       2.034,       0.000!   !END!
1606 ! X =   684.26044,  5553.5235,       0.000,       0.000!   !END!
1607 ! X =   684.26044,  5553.0235,       0.000,       0.000!   !END!
1608 ! X =   684.26044,  5552.5235,       0.000,       0.000!   !END!
1609 ! X =   684.26044,  5552.0235,       0.000,       0.000!   !END!
1610 ! X =   684.26044,  5551.5235,       0.000,       0.000!   !END!
1611 ! X =   684.26044,  5551.0235,       0.000,       0.000!   !END!
1612 ! X =   684.26044,  5550.5235,       0.000,       0.000!   !END!
1613 ! X =   684.26044,  5550.0235,       0.000,       0.000!   !END!
1614 ! X =   684.26044,  5549.5235,       0.000,       0.000!   !END!
1615 ! X =   684.26044,  5549.0235,       0.000,       0.000!   !END!
1616 ! X =   684.26044,  5548.5235,       0.000,       0.000!   !END!
1617 ! X =   684.26044,  5548.0235,       0.000,       0.000!   !END!
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1618 ! X =   684.26044,  5547.5235,       0.000,       0.000!   !END!
1619 ! X =   684.26044,  5547.0235,       0.000,       0.000!   !END!
1620 ! X =   684.26044,  5546.5235,       0.000,       0.000!   !END!
1621 ! X =   684.26044,  5546.0235,       0.000,       0.000!   !END!
1622 ! X =   684.26044,  5545.5235,       0.000,       0.000!   !END!
1623 ! X =   684.26044,  5545.0235,       0.000,       0.000!   !END!
1624 ! X =   684.26044,  5544.5235,       0.000,       0.000!   !END!
1625 ! X =   684.26044,  5544.0235,       0.000,       0.000!   !END!
1626 ! X =   684.76044,  5561.0235,       0.000,       0.000!   !END!
1627 ! X =   684.76044,  5560.5235,       0.000,       0.000!   !END!
1628 ! X =   684.76044,  5560.0235,       0.000,       0.000!   !END!
1629 ! X =   684.76044,  5559.5235,       0.000,       0.000!   !END!
1630 ! X =   684.76044,  5559.0235,       0.000,       0.000!   !END!
1631 ! X =   684.76044,  5558.5235,       0.000,       0.000!   !END!
1632 ! X =   684.76044,  5558.0235,       0.000,       0.000!   !END!
1633 ! X =   684.76044,  5557.5235,       0.000,       0.000!   !END!
1634 ! X =   684.76044,  5557.0235,       0.000,       0.000!   !END!
1635 ! X =   684.76044,  5556.5235,       0.000,       0.000!   !END!
1636 ! X =   684.76044,  5556.0235,       0.000,       0.000!   !END!
1637 ! X =   684.76044,  5555.5235,       0.000,       0.000!   !END!
1638 ! X =   684.76044,  5555.0235,       0.000,       0.000!   !END!
1639 ! X =   684.76044,  5554.5235,       0.000,       0.000!   !END!
1640 ! X =   684.76044,  5554.0235,      22.614,       0.000!   !END!
1641 ! X =   684.76044,  5553.5235,       3.547,       0.000!   !END!
1642 ! X =   684.76044,  5553.0235,       0.000,       0.000!   !END!
1643 ! X =   684.76044,  5552.5235,       0.000,       0.000!   !END!
1644 ! X =   684.76044,  5552.0235,       0.000,       0.000!   !END!
1645 ! X =   684.76044,  5551.5235,       0.000,       0.000!   !END!
1646 ! X =   684.76044,  5551.0235,       0.000,       0.000!   !END!
1647 ! X =   684.76044,  5550.5235,       0.000,       0.000!   !END!
1648 ! X =   684.76044,  5550.0235,       0.000,       0.000!   !END!
1649 ! X =   684.76044,  5549.5235,       0.000,       0.000!   !END!
1650 ! X =   684.76044,  5549.0235,       0.000,       0.000!   !END!
1651 ! X =   684.76044,  5548.5235,       0.000,       0.000!   !END!
1652 ! X =   684.76044,  5548.0235,       0.000,       0.000!   !END!
1653 ! X =   684.76044,  5547.5235,       0.000,       0.000!   !END!
1654 ! X =   684.76044,  5547.0235,       0.000,       0.000!   !END!
1655 ! X =   684.76044,  5546.5235,       0.000,       0.000!   !END!
1656 ! X =   684.76044,  5546.0235,       0.000,       0.000!   !END!
1657 ! X =   684.76044,  5545.5235,       0.000,       0.000!   !END!
1658 ! X =   684.76044,  5545.0235,       0.000,       0.000!   !END!
1659 ! X =   684.76044,  5544.5235,       0.000,       0.000!   !END!
1660 ! X =   684.76044,  5544.0235,       0.000,       0.000!   !END!
1661 ! X =   685.26044,  5561.0235,       0.000,       0.000!   !END!
1662 ! X =   685.26044,  5560.5235,       0.000,       0.000!   !END!
1663 ! X =   685.26044,  5560.0235,       0.000,       0.000!   !END!
1664 ! X =   685.26044,  5559.5235,       0.000,       0.000!   !END!
1665 ! X =   685.26044,  5559.0235,       0.000,       0.000!   !END!
1666 ! X =   685.26044,  5558.5235,       0.000,       0.000!   !END!
1667 ! X =   685.26044,  5558.0235,       0.000,       0.000!   !END!
1668 ! X =   685.26044,  5557.5235,       0.000,       0.000!   !END!
1669 ! X =   685.26044,  5557.0235,       0.000,       0.000!   !END!
1670 ! X =   685.26044,  5556.5235,       0.000,       0.000!   !END!
1671 ! X =   685.26044,  5556.0235,       0.000,       0.000!   !END!
1672 ! X =   685.26044,  5555.5235,       0.000,       0.000!   !END!
1673 ! X =   685.26044,  5555.0235,       0.000,       0.000!   !END!
1674 ! X =   685.26044,  5554.5235,       0.000,       0.000!   !END!
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1675 ! X =   685.26044,  5554.0235,      16.143,       0.000!   !END!
1676 ! X =   685.26044,  5553.5235,      36.056,       0.000!   !END!
1677 ! X =   685.26044,  5553.0235,       0.000,       0.000!   !END!
1678 ! X =   685.26044,  5552.5235,       0.000,       0.000!   !END!
1679 ! X =   685.26044,  5552.0235,       0.000,       0.000!   !END!
1680 ! X =   685.26044,  5551.5235,       0.000,       0.000!   !END!
1681 ! X =   685.26044,  5551.0235,       0.000,       0.000!   !END!
1682 ! X =   685.26044,  5550.5235,       0.000,       0.000!   !END!
1683 ! X =   685.26044,  5550.0235,       0.000,       0.000!   !END!
1684 ! X =   685.26044,  5549.5235,       0.000,       0.000!   !END!
1685 ! X =   685.26044,  5549.0235,       0.000,       0.000!   !END!
1686 ! X =   685.26044,  5548.5235,       0.000,       0.000!   !END!
1687 ! X =   685.26044,  5548.0235,       0.000,       0.000!   !END!
1688 ! X =   685.26044,  5547.5235,       0.000,       0.000!   !END!
1689 ! X =   685.26044,  5547.0235,       0.000,       0.000!   !END!
1690 ! X =   685.26044,  5546.5235,       0.000,       0.000!   !END!
1691 ! X =   685.26044,  5546.0235,       0.000,       0.000!   !END!
1692 ! X =   685.26044,  5545.5235,       0.000,       0.000!   !END!
1693 ! X =   685.26044,  5545.0235,       0.000,       0.000!   !END!
1694 ! X =   685.26044,  5544.5235,       0.000,       0.000!   !END!
1695 ! X =   685.26044,  5544.0235,       0.000,       0.000!   !END!
1696 ! X =   685.76044,  5561.0235,       0.000,       0.000!   !END!
1697 ! X =   685.76044,  5560.5235,       0.000,       0.000!   !END!
1698 ! X =   685.76044,  5560.0235,       0.000,       0.000!   !END!
1699 ! X =   685.76044,  5559.5235,       0.000,       0.000!   !END!
1700 ! X =   685.76044,  5559.0235,       0.000,       0.000!   !END!
1701 ! X =   685.76044,  5558.5235,       0.000,       0.000!   !END!
1702 ! X =   685.76044,  5558.0235,       0.000,       0.000!   !END!
1703 ! X =   685.76044,  5557.5235,       0.000,       0.000!   !END!
1704 ! X =   685.76044,  5557.0235,       0.000,       0.000!   !END!
1705 ! X =   685.76044,  5556.5235,       0.000,       0.000!   !END!
1706 ! X =   685.76044,  5556.0235,       0.000,       0.000!   !END!
1707 ! X =   685.76044,  5555.5235,       0.000,       0.000!   !END!
1708 ! X =   685.76044,  5555.0235,       0.000,       0.000!   !END!
1709 ! X =   685.76044,  5554.5235,       0.000,       0.000!   !END!
1710 ! X =   685.76044,  5554.0235,       0.000,       0.000!   !END!
1711 ! X =   685.76044,  5553.5235,      40.319,       0.000!   !END!
1712 ! X =   685.76044,  5553.0235,      45.216,       0.000!   !END!
1713 ! X =   685.76044,  5552.5235,       0.000,       0.000!   !END!
1714 ! X =   685.76044,  5552.0235,       0.000,       0.000!   !END!
1715 ! X =   685.76044,  5551.5235,       0.000,       0.000!   !END!
1716 ! X =   685.76044,  5551.0235,       0.000,       0.000!   !END!
1717 ! X =   685.76044,  5550.5235,       0.000,       0.000!   !END!
1718 ! X =   685.76044,  5550.0235,       0.000,       0.000!   !END!
1719 ! X =   685.76044,  5549.5235,       0.000,       0.000!   !END!
1720 ! X =   685.76044,  5549.0235,       0.000,       0.000!   !END!
1721 ! X =   685.76044,  5548.5235,       0.000,       0.000!   !END!
1722 ! X =   685.76044,  5548.0235,       0.000,       0.000!   !END!
1723 ! X =   685.76044,  5547.5235,       0.000,       0.000!   !END!
1724 ! X =   685.76044,  5547.0235,       0.000,       0.000!   !END!
1725 ! X =   685.76044,  5546.5235,       0.000,       0.000!   !END!
1726 ! X =   685.76044,  5546.0235,       0.000,       0.000!   !END!
1727 ! X =   685.76044,  5545.5235,       0.000,       0.000!   !END!
1728 ! X =   685.76044,  5545.0235,       0.000,       0.000!   !END!
1729 ! X =   685.76044,  5544.5235,       0.000,       0.000!   !END!
1730 ! X =   685.76044,  5544.0235,       0.000,       0.000!   !END!
1731 ! X =   686.26044,  5561.0235,       0.000,       0.000!   !END!
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1732 ! X =   686.26044,  5560.5235,       0.000,       0.000!   !END!
1733 ! X =   686.26044,  5560.0235,       0.000,       0.000!   !END!
1734 ! X =   686.26044,  5559.5235,       0.000,       0.000!   !END!
1735 ! X =   686.26044,  5559.0235,       0.000,       0.000!   !END!
1736 ! X =   686.26044,  5558.5235,       0.000,       0.000!   !END!
1737 ! X =   686.26044,  5558.0235,       0.000,       0.000!   !END!
1738 ! X =   686.26044,  5557.5235,       0.000,       0.000!   !END!
1739 ! X =   686.26044,  5557.0235,       0.000,       0.000!   !END!
1740 ! X =   686.26044,  5556.5235,       0.000,       0.000!   !END!
1741 ! X =   686.26044,  5556.0235,       0.000,       0.000!   !END!
1742 ! X =   686.26044,  5555.5235,       0.000,       0.000!   !END!
1743 ! X =   686.26044,  5555.0235,       0.000,       0.000!   !END!
1744 ! X =   686.26044,  5554.5235,       0.000,       0.000!   !END!
1745 ! X =   686.26044,  5554.0235,       0.000,       0.000!   !END!
1746 ! X =   686.26044,  5553.5235,      41.557,       0.000!   !END!
1747 ! X =   686.26044,  5553.0235,     123.494,       0.000!   !END!
1748 ! X =   686.26044,  5552.5235,       0.019,       0.000!   !END!
1749 ! X =   686.26044,  5552.0235,       2.711,       0.000!   !END!
1750 ! X =   686.26044,  5551.5235,       0.322,       0.000!   !END!
1751 ! X =   686.26044,  5551.0235,       0.000,       0.000!   !END!
1752 ! X =   686.26044,  5550.5235,       0.000,       0.000!   !END!
1753 ! X =   686.26044,  5550.0235,       0.000,       0.000!   !END!
1754 ! X =   686.26044,  5549.5235,       0.000,       0.000!   !END!
1755 ! X =   686.26044,  5549.0235,       0.000,       0.000!   !END!
1756 ! X =   686.26044,  5548.5235,       0.000,       0.000!   !END!
1757 ! X =   686.26044,  5548.0235,       0.000,       0.000!   !END!
1758 ! X =   686.26044,  5547.5235,       0.000,       0.000!   !END!
1759 ! X =   686.26044,  5547.0235,       0.000,       0.000!   !END!
1760 ! X =   686.26044,  5546.5235,       0.000,       0.000!   !END!
1761 ! X =   686.26044,  5546.0235,       0.000,       0.000!   !END!
1762 ! X =   686.26044,  5545.5235,       0.000,       0.000!   !END!
1763 ! X =   686.26044,  5545.0235,       0.000,       0.000!   !END!
1764 ! X =   686.26044,  5544.5235,       0.000,       0.000!   !END!
1765 ! X =   686.26044,  5544.0235,       0.000,       0.000!   !END!
1766 ! X =   686.76044,  5561.0235,       0.000,       0.000!   !END!
1767 ! X =   686.76044,  5560.5235,       0.000,       0.000!   !END!
1768 ! X =   686.76044,  5560.0235,       0.000,       0.000!   !END!
1769 ! X =   686.76044,  5559.5235,       0.000,       0.000!   !END!
1770 ! X =   686.76044,  5559.0235,       0.000,       0.000!   !END!
1771 ! X =   686.76044,  5558.5235,       0.000,       0.000!   !END!
1772 ! X =   686.76044,  5558.0235,       0.000,       0.000!   !END!
1773 ! X =   686.76044,  5557.5235,       0.000,       0.000!   !END!
1774 ! X =   686.76044,  5557.0235,       0.000,       0.000!   !END!
1775 ! X =   686.76044,  5556.5235,       0.000,       0.000!   !END!
1776 ! X =   686.76044,  5556.0235,       0.000,       0.000!   !END!
1777 ! X =   686.76044,  5555.5235,       0.000,       0.000!   !END!
1778 ! X =   686.76044,  5555.0235,       0.000,       0.000!   !END!
1779 ! X =   686.76044,  5554.5235,       0.000,       0.000!   !END!
1780 ! X =   686.76044,  5554.0235,       0.000,       0.000!   !END!
1781 ! X =   686.76044,  5553.5235,      15.965,       0.000!   !END!
1782 ! X =   686.76044,  5553.0235,      43.198,       0.000!   !END!
1783 ! X =   686.76044,  5552.5235,       3.889,       0.000!   !END!
1784 ! X =   686.76044,  5552.0235,      42.879,       0.000!   !END!
1785 ! X =   686.76044,  5551.5235,       0.082,       0.000!   !END!
1786 ! X =   686.76044,  5551.0235,       0.000,       0.000!   !END!
1787 ! X =   686.76044,  5550.5235,       0.000,       0.000!   !END!
1788 ! X =   686.76044,  5550.0235,       0.000,       0.000!   !END!
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1789 ! X =   686.76044,  5549.5235,       0.000,       0.000!   !END!
1790 ! X =   686.76044,  5549.0235,       0.000,       0.000!   !END!
1791 ! X =   686.76044,  5548.5235,       0.000,       0.000!   !END!
1792 ! X =   686.76044,  5548.0235,       0.000,       0.000!   !END!
1793 ! X =   686.76044,  5547.5235,       0.000,       0.000!   !END!
1794 ! X =   686.76044,  5547.0235,       0.000,       0.000!   !END!
1795 ! X =   686.76044,  5546.5235,       0.000,       0.000!   !END!
1796 ! X =   686.76044,  5546.0235,       0.000,       0.000!   !END!
1797 ! X =   686.76044,  5545.5235,       0.000,       0.000!   !END!
1798 ! X =   686.76044,  5545.0235,       0.000,       0.000!   !END!
1799 ! X =   686.76044,  5544.5235,       0.000,       0.000!   !END!
1800 ! X =   686.76044,  5544.0235,       0.000,       0.000!   !END!
1801 ! X =   687.26044,  5561.0235,       0.000,       0.000!   !END!
1802 ! X =   687.26044,  5560.5235,       0.000,       0.000!   !END!
1803 ! X =   687.26044,  5560.0235,       0.000,       0.000!   !END!
1804 ! X =   687.26044,  5559.5235,       0.000,       0.000!   !END!
1805 ! X =   687.26044,  5559.0235,       0.000,       0.000!   !END!
1806 ! X =   687.26044,  5558.5235,       0.000,       0.000!   !END!
1807 ! X =   687.26044,  5558.0235,       0.000,       0.000!   !END!
1808 ! X =   687.26044,  5557.5235,       0.000,       0.000!   !END!
1809 ! X =   687.26044,  5557.0235,       0.000,       0.000!   !END!
1810 ! X =   687.26044,  5556.5235,       0.000,       0.000!   !END!
1811 ! X =   687.26044,  5556.0235,       0.000,       0.000!   !END!
1812 ! X =   687.26044,  5555.5235,       0.000,       0.000!   !END!
1813 ! X =   687.26044,  5555.0235,       0.000,       0.000!   !END!
1814 ! X =   687.26044,  5554.5235,       0.000,       0.000!   !END!
1815 ! X =   687.26044,  5554.0235,       0.000,       0.000!   !END!
1816 ! X =   687.26044,  5553.5235,       0.000,       0.000!   !END!
1817 ! X =   687.26044,  5553.0235,       0.000,       0.000!   !END!
1818 ! X =   687.26044,  5552.5235,       0.000,       0.000!   !END!
1819 ! X =   687.26044,  5552.0235,      56.363,       0.000!   !END!
1820 ! X =   687.26044,  5551.5235,       0.000,       0.000!   !END!
1821 ! X =   687.26044,  5551.0235,       0.000,       0.000!   !END!
1822 ! X =   687.26044,  5550.5235,       0.000,       0.000!   !END!
1823 ! X =   687.26044,  5550.0235,       0.000,       0.000!   !END!
1824 ! X =   687.26044,  5549.5235,       0.000,       0.000!   !END!
1825 ! X =   687.26044,  5549.0235,       0.000,       0.000!   !END!
1826 ! X =   687.26044,  5548.5235,       0.000,       0.000!   !END!
1827 ! X =   687.26044,  5548.0235,       0.000,       0.000!   !END!
1828 ! X =   687.26044,  5547.5235,       0.000,       0.000!   !END!
1829 ! X =   687.26044,  5547.0235,       0.000,       0.000!   !END!
1830 ! X =   687.26044,  5546.5235,       0.000,       0.000!   !END!
1831 ! X =   687.26044,  5546.0235,       0.000,       0.000!   !END!
1832 ! X =   687.26044,  5545.5235,       0.000,       0.000!   !END!
1833 ! X =   687.26044,  5545.0235,       0.000,       0.000!   !END!
1834 ! X =   687.26044,  5544.5235,       0.000,       0.000!   !END!
1835 ! X =   687.26044,  5544.0235,       0.000,       0.000!   !END!
1836 ! X =   687.76044,  5561.0235,      23.833,       0.000!   !END!
1837 ! X =   687.76044,  5560.5235,      46.452,       0.000!   !END!
1838 ! X =   687.76044,  5560.0235,      73.026,       0.000!   !END!
1839 ! X =   687.76044,  5559.5235,      53.157,       0.000!   !END!
1840 ! X =   687.76044,  5559.0235,      39.143,       0.000!   !END!
1841 ! X =   687.76044,  5558.5235,       0.847,       0.000!   !END!
1842 ! X =   687.76044,  5558.0235,       0.000,       0.000!   !END!
1843 ! X =   687.76044,  5557.5235,       0.000,       0.000!   !END!
1844 ! X =   687.76044,  5557.0235,       0.000,       0.000!   !END!
1845 ! X =   687.76044,  5556.5235,       0.000,       0.000!   !END!
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1846 ! X =   687.76044,  5556.0235,       0.000,       0.000!   !END!
1847 ! X =   687.76044,  5555.5235,       0.000,       0.000!   !END!
1848 ! X =   687.76044,  5555.0235,       0.000,       0.000!   !END!
1849 ! X =   687.76044,  5554.5235,       0.000,       0.000!   !END!
1850 ! X =   687.76044,  5554.0235,       0.000,       0.000!   !END!
1851 ! X =   687.76044,  5553.5235,       0.000,       0.000!   !END!
1852 ! X =   687.76044,  5553.0235,       0.000,       0.000!   !END!
1853 ! X =   687.76044,  5552.5235,       0.000,       0.000!   !END!
1854 ! X =   687.76044,  5552.0235,       1.287,       0.000!   !END!
1855 ! X =   687.76044,  5551.5235,       0.000,       0.000!   !END!
1856 ! X =   687.76044,  5551.0235,       0.000,       0.000!   !END!
1857 ! X =   687.76044,  5550.5235,       0.000,       0.000!   !END!
1858 ! X =   687.76044,  5550.0235,       0.000,       0.000!   !END!
1859 ! X =   687.76044,  5549.5235,       0.000,       0.000!   !END!
1860 ! X =   687.76044,  5549.0235,       0.000,       0.000!   !END!
1861 ! X =   687.76044,  5548.5235,       0.000,       0.000!   !END!
1862 ! X =   687.76044,  5548.0235,       0.000,       0.000!   !END!
1863 ! X =   687.76044,  5547.5235,       0.000,       0.000!   !END!
1864 ! X =   687.76044,  5547.0235,       0.000,       0.000!   !END!
1865 ! X =   687.76044,  5546.5235,       0.000,       0.000!   !END!
1866 ! X =   687.76044,  5546.0235,       0.000,       0.000!   !END!
1867 ! X =   687.76044,  5545.5235,       0.000,       0.000!   !END!
1868 ! X =   687.76044,  5545.0235,       0.000,       0.000!   !END!
1869 ! X =   687.76044,  5544.5235,       0.000,       0.000!   !END!
1870 ! X =   687.76044,  5544.0235,       0.000,       0.000!   !END!
1871 ! X =   688.26044,  5561.0235,      27.917,       0.000!   !END!
1872 ! X =   688.26044,  5560.5235,      58.216,       0.000!   !END!
1873 ! X =   688.26044,  5560.0235,     130.507,       0.000!   !END!
1874 ! X =   688.26044,  5559.5235,      96.142,       0.000!   !END!
1875 ! X =   688.26044,  5559.0235,      97.164,       0.000!   !END!
1876 ! X =   688.26044,  5558.5235,      52.718,       0.000!   !END!
1877 ! X =   688.26044,  5558.0235,       0.000,       0.000!   !END!
1878 ! X =   688.26044,  5557.5235,      27.275,       0.000!   !END!
1879 ! X =   688.26044,  5557.0235,       4.867,       0.000!   !END!
1880 ! X =   688.26044,  5556.5235,       0.000,       0.000!   !END!
1881 ! X =   688.26044,  5556.0235,       0.000,       0.000!   !END!
1882 ! X =   688.26044,  5555.5235,       0.000,       0.000!   !END!
1883 ! X =   688.26044,  5555.0235,       0.000,       0.000!   !END!
1884 ! X =   688.26044,  5554.5235,       0.000,       0.000!   !END!
1885 ! X =   688.26044,  5554.0235,       0.000,       0.000!   !END!
1886 ! X =   688.26044,  5553.5235,       0.000,       0.000!   !END!
1887 ! X =   688.26044,  5553.0235,       0.000,       0.000!   !END!
1888 ! X =   688.26044,  5552.5235,       0.000,       0.000!   !END!
1889 ! X =   688.26044,  5552.0235,       0.000,       0.000!   !END!
1890 ! X =   688.26044,  5551.5235,       0.000,       0.000!   !END!
1891 ! X =   688.26044,  5551.0235,       0.000,       0.000!   !END!
1892 ! X =   688.26044,  5550.5235,       0.000,       0.000!   !END!
1893 ! X =   688.26044,  5550.0235,       0.000,       0.000!   !END!
1894 ! X =   688.26044,  5549.5235,       0.000,       0.000!   !END!
1895 ! X =   688.26044,  5549.0235,       0.000,       0.000!   !END!
1896 ! X =   688.26044,  5548.5235,       0.000,       0.000!   !END!
1897 ! X =   688.26044,  5548.0235,       0.000,       0.000!   !END!
1898 ! X =   688.26044,  5547.5235,       0.000,       0.000!   !END!
1899 ! X =   688.26044,  5547.0235,       0.000,       0.000!   !END!
1900 ! X =   688.26044,  5546.5235,       0.000,       0.000!   !END!
1901 ! X =   688.26044,  5546.0235,       0.000,       0.000!   !END!
1902 ! X =   688.26044,  5545.5235,       0.000,       0.000!   !END!
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1903 ! X =   688.26044,  5545.0235,       0.000,       0.000!   !END!
1904 ! X =   688.26044,  5544.5235,       0.000,       0.000!   !END!
1905 ! X =   688.26044,  5544.0235,       0.000,       0.000!   !END!
1906 ! X =   688.76044,  5561.0235,       0.000,       0.000!   !END!
1907 ! X =   688.76044,  5560.5235,       0.000,       0.000!   !END!
1908 ! X =   688.76044,  5560.0235,      25.979,       0.000!   !END!
1909 ! X =   688.76044,  5559.5235,      53.299,       0.000!   !END!
1910 ! X =   688.76044,  5559.0235,      34.624,       0.000!   !END!
1911 ! X =   688.76044,  5558.5235,      48.655,       0.000!   !END!
1912 ! X =   688.76044,  5558.0235,       0.000,       0.000!   !END!
1913 ! X =   688.76044,  5557.5235,      42.879,       0.000!   !END!
1914 ! X =   688.76044,  5557.0235,      54.037,       0.000!   !END!
1915 ! X =   688.76044,  5556.5235,       2.101,       0.000!   !END!
1916 ! X =   688.76044,  5556.0235,       0.000,       0.000!   !END!
1917 ! X =   688.76044,  5555.5235,       0.000,       0.000!   !END!
1918 ! X =   688.76044,  5555.0235,       0.000,       0.000!   !END!
1919 ! X =   688.76044,  5554.5235,       0.000,       0.000!   !END!
1920 ! X =   688.76044,  5554.0235,       0.000,       0.000!   !END!
1921 ! X =   688.76044,  5553.5235,       0.000,       0.000!   !END!
1922 ! X =   688.76044,  5553.0235,       0.000,       0.000!   !END!
1923 ! X =   688.76044,  5552.5235,       0.000,       0.000!   !END!
1924 ! X =   688.76044,  5552.0235,       0.000,       0.000!   !END!
1925 ! X =   688.76044,  5551.5235,       0.000,       0.000!   !END!
1926 ! X =   688.76044,  5551.0235,       0.000,       0.000!   !END!
1927 ! X =   688.76044,  5550.5235,       0.000,       0.000!   !END!
1928 ! X =   688.76044,  5550.0235,       0.000,       0.000!   !END!
1929 ! X =   688.76044,  5549.5235,       0.000,       0.000!   !END!
1930 ! X =   688.76044,  5549.0235,       0.000,       0.000!   !END!
1931 ! X =   688.76044,  5548.5235,       0.000,       0.000!   !END!
1932 ! X =   688.76044,  5548.0235,       0.000,       0.000!   !END!
1933 ! X =   688.76044,  5547.5235,       0.000,       0.000!   !END!
1934 ! X =   688.76044,  5547.0235,       0.000,       0.000!   !END!
1935 ! X =   688.76044,  5546.5235,       0.000,       0.000!   !END!
1936 ! X =   688.76044,  5546.0235,       0.000,       0.000!   !END!
1937 ! X =   688.76044,  5545.5235,       0.000,       0.000!   !END!
1938 ! X =   688.76044,  5545.0235,       0.000,       0.000!   !END!
1939 ! X =   688.76044,  5544.5235,       0.000,       0.000!   !END!
1940 ! X =   688.76044,  5544.0235,       0.000,       0.000!   !END!
1941 ! X =   689.26044,  5561.0235,       0.000,       0.000!   !END!
1942 ! X =   689.26044,  5560.5235,       0.000,       0.000!   !END!
1943 ! X =   689.26044,  5560.0235,       0.000,       0.000!   !END!
1944 ! X =   689.26044,  5559.5235,       0.000,       0.000!   !END!
1945 ! X =   689.26044,  5559.0235,       0.000,       0.000!   !END!
1946 ! X =   689.26044,  5558.5235,       0.000,       0.000!   !END!
1947 ! X =   689.26044,  5558.0235,       0.000,       0.000!   !END!
1948 ! X =   689.26044,  5557.5235,       0.000,       0.000!   !END!
1949 ! X =   689.26044,  5557.0235,       8.840,       0.000!   !END!
1950 ! X =   689.26044,  5556.5235,      59.810,       0.000!   !END!
1951 ! X =   689.26044,  5556.0235,       0.000,       0.000!   !END!
1952 ! X =   689.26044,  5555.5235,       0.000,       0.000!   !END!
1953 ! X =   689.26044,  5555.0235,       0.000,       0.000!   !END!
1954 ! X =   689.26044,  5554.5235,       0.000,       0.000!   !END!
1955 ! X =   689.26044,  5554.0235,       0.000,       0.000!   !END!
1956 ! X =   689.26044,  5553.5235,       0.000,       0.000!   !END!
1957 ! X =   689.26044,  5553.0235,       0.000,       0.000!   !END!
1958 ! X =   689.26044,  5552.5235,       0.000,       0.000!   !END!
1959 ! X =   689.26044,  5552.0235,       0.000,       0.000!   !END!
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1960 ! X =   689.26044,  5551.5235,       0.000,       0.000!   !END!
1961 ! X =   689.26044,  5551.0235,       0.000,       0.000!   !END!
1962 ! X =   689.26044,  5550.5235,       0.000,       0.000!   !END!
1963 ! X =   689.26044,  5550.0235,       0.000,       0.000!   !END!
1964 ! X =   689.26044,  5549.5235,       0.000,       0.000!   !END!
1965 ! X =   689.26044,  5549.0235,       0.000,       0.000!   !END!
1966 ! X =   689.26044,  5548.5235,       0.000,       0.000!   !END!
1967 ! X =   689.26044,  5548.0235,       0.000,       0.000!   !END!
1968 ! X =   689.26044,  5547.5235,       0.000,       0.000!   !END!
1969 ! X =   689.26044,  5547.0235,       0.000,       0.000!   !END!
1970 ! X =   689.26044,  5546.5235,       0.000,       0.000!   !END!
1971 ! X =   689.26044,  5546.0235,       0.000,       0.000!   !END!
1972 ! X =   689.26044,  5545.5235,       0.000,       0.000!   !END!
1973 ! X =   689.26044,  5545.0235,       0.000,       0.000!   !END!
1974 ! X =   689.26044,  5544.5235,       0.000,       0.000!   !END!
1975 ! X =   689.26044,  5544.0235,       0.000,       0.000!   !END!
1976 ! X =   689.76044,  5561.0235,       0.000,       0.000!   !END!
1977 ! X =   689.76044,  5560.5235,       0.000,       0.000!   !END!
1978 ! X =   689.76044,  5560.0235,       0.000,       0.000!   !END!
1979 ! X =   689.76044,  5559.5235,       0.000,       0.000!   !END!
1980 ! X =   689.76044,  5559.0235,       0.000,       0.000!   !END!
1981 ! X =   689.76044,  5558.5235,       0.000,       0.000!   !END!
1982 ! X =   689.76044,  5558.0235,       0.000,       0.000!   !END!
1983 ! X =   689.76044,  5557.5235,       0.000,       0.000!   !END!
1984 ! X =   689.76044,  5557.0235,       0.000,       0.000!   !END!
1985 ! X =   689.76044,  5556.5235,       0.000,       0.000!   !END!
1986 ! X =   689.76044,  5556.0235,       0.108,       0.000!   !END!
1987 ! X =   689.76044,  5555.5235,       0.000,       0.000!   !END!
1988 ! X =   689.76044,  5555.0235,       0.000,       0.000!   !END!
1989 ! X =   689.76044,  5554.5235,       0.000,       0.000!   !END!
1990 ! X =   689.76044,  5554.0235,       0.000,       0.000!   !END!
1991 ! X =   689.76044,  5553.5235,       0.000,       0.000!   !END!
1992 ! X =   689.76044,  5553.0235,       0.000,       0.000!   !END!
1993 ! X =   689.76044,  5552.5235,       0.000,       0.000!   !END!
1994 ! X =   689.76044,  5552.0235,       0.000,       0.000!   !END!
1995 ! X =   689.76044,  5551.5235,       0.000,       0.000!   !END!
1996 ! X =   689.76044,  5551.0235,       0.000,       0.000!   !END!
1997 ! X =   689.76044,  5550.5235,       0.000,       0.000!   !END!
1998 ! X =   689.76044,  5550.0235,       0.000,       0.000!   !END!
1999 ! X =   689.76044,  5549.5235,       0.000,       0.000!   !END!
2000 ! X =   689.76044,  5549.0235,       0.000,       0.000!   !END!
2001 ! X =   689.76044,  5548.5235,       0.000,       0.000!   !END!
2002 ! X =   689.76044,  5548.0235,       0.000,       0.000!   !END!
2003 ! X =   689.76044,  5547.5235,       0.000,       0.000!   !END!
2004 ! X =   689.76044,  5547.0235,       0.000,       0.000!   !END!
2005 ! X =   689.76044,  5546.5235,       0.000,       0.000!   !END!
2006 ! X =   689.76044,  5546.0235,       0.000,       0.000!   !END!
2007 ! X =   689.76044,  5545.5235,       0.000,       0.000!   !END!
2008 ! X =   689.76044,  5545.0235,       0.000,       0.000!   !END!
2009 ! X =   689.76044,  5544.5235,       0.000,       0.000!   !END!
2010 ! X =   689.76044,  5544.0235,       0.000,       0.000!   !END!
2011 ! X =   690.26044,  5561.0235,       0.000,       0.000!   !END!
2012 ! X =   690.26044,  5560.5235,       0.000,       0.000!   !END!
2013 ! X =   690.26044,  5560.0235,       0.000,       0.000!   !END!
2014 ! X =   690.26044,  5559.5235,       0.000,       0.000!   !END!
2015 ! X =   690.26044,  5559.0235,       0.000,       0.000!   !END!
2016 ! X =   690.26044,  5558.5235,       0.000,       0.000!   !END!
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2017 ! X =   690.26044,  5558.0235,       0.000,       0.000!   !END!
2018 ! X =   690.26044,  5557.5235,       0.000,       0.000!   !END!
2019 ! X =   690.26044,  5557.0235,       0.000,       0.000!   !END!
2020 ! X =   690.26044,  5556.5235,       0.000,       0.000!   !END!
2021 ! X =   690.26044,  5556.0235,       0.000,       0.000!   !END!
2022 ! X =   690.26044,  5555.5235,       0.000,       0.000!   !END!
2023 ! X =   690.26044,  5555.0235,       0.000,       0.000!   !END!
2024 ! X =   690.26044,  5554.5235,       0.000,       0.000!   !END!
2025 ! X =   690.26044,  5554.0235,       0.000,       0.000!   !END!
2026 ! X =   690.26044,  5553.5235,       0.000,       0.000!   !END!
2027 ! X =   690.26044,  5553.0235,       0.000,       0.000!   !END!
2028 ! X =   690.26044,  5552.5235,       0.000,       0.000!   !END!
2029 ! X =   690.26044,  5552.0235,       0.000,       0.000!   !END!
2030 ! X =   690.26044,  5551.5235,       0.000,       0.000!   !END!
2031 ! X =   690.26044,  5551.0235,       0.000,       0.000!   !END!
2032 ! X =   690.26044,  5550.5235,       0.000,       0.000!   !END!
2033 ! X =   690.26044,  5550.0235,       0.000,       0.000!   !END!
2034 ! X =   690.26044,  5549.5235,       0.000,       0.000!   !END!
2035 ! X =   690.26044,  5549.0235,       0.000,       0.000!   !END!
2036 ! X =   690.26044,  5548.5235,       0.000,       0.000!   !END!
2037 ! X =   690.26044,  5548.0235,       0.000,       0.000!   !END!
2038 ! X =   690.26044,  5547.5235,       0.000,       0.000!   !END!
2039 ! X =   690.26044,  5547.0235,       0.000,       0.000!   !END!
2040 ! X =   690.26044,  5546.5235,       0.000,       0.000!   !END!
2041 ! X =   690.26044,  5546.0235,       0.000,       0.000!   !END!
2042 ! X =   690.26044,  5545.5235,       0.000,       0.000!   !END!
2043 ! X =   690.26044,  5545.0235,       0.000,       0.000!   !END!
2044 ! X =   690.26044,  5544.5235,       0.000,       0.000!   !END!
2045 ! X =   690.26044,  5544.0235,       0.000,       0.000!   !END!
2046 ! X =   690.76044,  5561.0235,       0.000,       0.000!   !END!
2047 ! X =   690.76044,  5560.5235,       0.000,       0.000!   !END!
2048 ! X =   690.76044,  5560.0235,       0.000,       0.000!   !END!
2049 ! X =   690.76044,  5559.5235,       0.000,       0.000!   !END!
2050 ! X =   690.76044,  5559.0235,       0.000,       0.000!   !END!
2051 ! X =   690.76044,  5558.5235,       0.000,       0.000!   !END!
2052 ! X =   690.76044,  5558.0235,       0.000,       0.000!   !END!
2053 ! X =   690.76044,  5557.5235,       0.000,       0.000!   !END!
2054 ! X =   690.76044,  5557.0235,       0.000,       0.000!   !END!
2055 ! X =   690.76044,  5556.5235,       0.000,       0.000!   !END!
2056 ! X =   690.76044,  5556.0235,       0.000,       0.000!   !END!
2057 ! X =   690.76044,  5555.5235,       0.000,       0.000!   !END!
2058 ! X =   690.76044,  5555.0235,       0.000,       0.000!   !END!
2059 ! X =   690.76044,  5554.5235,       0.000,       0.000!   !END!
2060 ! X =   690.76044,  5554.0235,       0.000,       0.000!   !END!
2061 ! X =   690.76044,  5553.5235,       0.000,       0.000!   !END!
2062 ! X =   690.76044,  5553.0235,       0.000,       0.000!   !END!
2063 ! X =   690.76044,  5552.5235,       0.000,       0.000!   !END!
2064 ! X =   690.76044,  5552.0235,       0.000,       0.000!   !END!
2065 ! X =   690.76044,  5551.5235,       0.000,       0.000!   !END!
2066 ! X =   690.76044,  5551.0235,       0.000,       0.000!   !END!
2067 ! X =   690.76044,  5550.5235,       0.000,       0.000!   !END!
2068 ! X =   690.76044,  5550.0235,       0.000,       0.000!   !END!
2069 ! X =   690.76044,  5549.5235,       0.000,       0.000!   !END!
2070 ! X =   690.76044,  5549.0235,       0.000,       0.000!   !END!
2071 ! X =   690.76044,  5548.5235,       0.000,       0.000!   !END!
2072 ! X =   690.76044,  5548.0235,       0.000,       0.000!   !END!
2073 ! X =   690.76044,  5547.5235,       0.000,       0.000!   !END!
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2074 ! X =   690.76044,  5547.0235,       0.000,       0.000!   !END!
2075 ! X =   690.76044,  5546.5235,       0.000,       0.000!   !END!
2076 ! X =   690.76044,  5546.0235,       0.000,       0.000!   !END!
2077 ! X =   690.76044,  5545.5235,       0.000,       0.000!   !END!
2078 ! X =   690.76044,  5545.0235,       0.000,       0.000!   !END!
2079 ! X =   690.76044,  5544.5235,       0.000,       0.000!   !END!
2080 ! X =   690.76044,  5544.0235,       0.000,       0.000!   !END!
2081 ! X =   691.26044,  5561.0235,       0.000,       0.000!   !END!
2082 ! X =   691.26044,  5560.5235,       0.000,       0.000!   !END!
2083 ! X =   691.26044,  5560.0235,       0.000,       0.000!   !END!
2084 ! X =   691.26044,  5559.5235,       0.000,       0.000!   !END!
2085 ! X =   691.26044,  5559.0235,       0.000,       0.000!   !END!
2086 ! X =   691.26044,  5558.5235,       0.000,       0.000!   !END!
2087 ! X =   691.26044,  5558.0235,       0.000,       0.000!   !END!
2088 ! X =   691.26044,  5557.5235,       0.000,       0.000!   !END!
2089 ! X =   691.26044,  5557.0235,       0.000,       0.000!   !END!
2090 ! X =   691.26044,  5556.5235,       0.000,       0.000!   !END!
2091 ! X =   691.26044,  5556.0235,       0.000,       0.000!   !END!
2092 ! X =   691.26044,  5555.5235,       0.000,       0.000!   !END!
2093 ! X =   691.26044,  5555.0235,       0.000,       0.000!   !END!
2094 ! X =   691.26044,  5554.5235,       0.000,       0.000!   !END!
2095 ! X =   691.26044,  5554.0235,       0.000,       0.000!   !END!
2096 ! X =   691.26044,  5553.5235,       0.000,       0.000!   !END!
2097 ! X =   691.26044,  5553.0235,       0.000,       0.000!   !END!
2098 ! X =   691.26044,  5552.5235,       0.000,       0.000!   !END!
2099 ! X =   691.26044,  5552.0235,       0.000,       0.000!   !END!
2100 ! X =   691.26044,  5551.5235,       0.000,       0.000!   !END!
2101 ! X =   691.26044,  5551.0235,       0.000,       0.000!   !END!
2102 ! X =   691.26044,  5550.5235,       0.000,       0.000!   !END!
2103 ! X =   691.26044,  5550.0235,       0.000,       0.000!   !END!
2104 ! X =   691.26044,  5549.5235,       0.000,       0.000!   !END!
2105 ! X =   691.26044,  5549.0235,       0.000,       0.000!   !END!
2106 ! X =   691.26044,  5548.5235,       0.000,       0.000!   !END!
2107 ! X =   691.26044,  5548.0235,       0.000,       0.000!   !END!
2108 ! X =   691.26044,  5547.5235,       0.000,       0.000!   !END!
2109 ! X =   691.26044,  5547.0235,       0.000,       0.000!   !END!
2110 ! X =   691.26044,  5546.5235,       0.000,       0.000!   !END!
2111 ! X =   691.26044,  5546.0235,       0.000,       0.000!   !END!
2112 ! X =   691.26044,  5545.5235,       0.000,       0.000!   !END!
2113 ! X =   691.26044,  5545.0235,       0.000,       0.000!   !END!
2114 ! X =   691.26044,  5544.5235,       0.000,       0.000!   !END!
2115 ! X =   691.26044,  5544.0235,       0.000,       0.000!   !END!
2116 ! X =   691.76044,  5561.0235,       0.000,       0.000!   !END!
2117 ! X =   691.76044,  5560.5235,       0.000,       0.000!   !END!
2118 ! X =   691.76044,  5560.0235,       0.000,       0.000!   !END!
2119 ! X =   691.76044,  5559.5235,       0.000,       0.000!   !END!
2120 ! X =   691.76044,  5559.0235,       0.000,       0.000!   !END!
2121 ! X =   691.76044,  5558.5235,       0.000,       0.000!   !END!
2122 ! X =   691.76044,  5558.0235,       0.000,       0.000!   !END!
2123 ! X =   691.76044,  5557.5235,       0.000,       0.000!   !END!
2124 ! X =   691.76044,  5557.0235,       0.000,       0.000!   !END!
2125 ! X =   691.76044,  5556.5235,       0.000,       0.000!   !END!
2126 ! X =   691.76044,  5556.0235,       0.000,       0.000!   !END!
2127 ! X =   691.76044,  5555.5235,       0.000,       0.000!   !END!
2128 ! X =   691.76044,  5555.0235,       0.000,       0.000!   !END!
2129 ! X =   691.76044,  5554.5235,       0.000,       0.000!   !END!
2130 ! X =   691.76044,  5554.0235,       0.000,       0.000!   !END!
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2131 ! X =   691.76044,  5553.5235,       0.000,       0.000!   !END!
2132 ! X =   691.76044,  5553.0235,       0.000,       0.000!   !END!
2133 ! X =   691.76044,  5552.5235,       0.000,       0.000!   !END!
2134 ! X =   691.76044,  5552.0235,       0.000,       0.000!   !END!
2135 ! X =   691.76044,  5551.5235,       0.000,       0.000!   !END!
2136 ! X =   691.76044,  5551.0235,       0.000,       0.000!   !END!
2137 ! X =   691.76044,  5550.5235,       0.000,       0.000!   !END!
2138 ! X =   691.76044,  5550.0235,       0.000,       0.000!   !END!
2139 ! X =   691.76044,  5549.5235,       0.000,       0.000!   !END!
2140 ! X =   691.76044,  5549.0235,       0.000,       0.000!   !END!
2141 ! X =   691.76044,  5548.5235,       0.000,       0.000!   !END!
2142 ! X =   691.76044,  5548.0235,       0.000,       0.000!   !END!
2143 ! X =   691.76044,  5547.5235,       0.000,       0.000!   !END!
2144 ! X =   691.76044,  5547.0235,       0.000,       0.000!   !END!
2145 ! X =   691.76044,  5546.5235,       0.000,       0.000!   !END!
2146 ! X =   691.76044,  5546.0235,       0.000,       0.000!   !END!
2147 ! X =   691.76044,  5545.5235,       0.000,       0.000!   !END!
2148 ! X =   691.76044,  5545.0235,       0.000,       0.000!   !END!
2149 ! X =   691.76044,  5544.5235,       0.000,       0.000!   !END!
2150 ! X =   691.76044,  5544.0235,       0.000,       0.000!   !END!
2151 ! X =   692.26044,  5561.0235,      19.720,       0.000!   !END!
2152 ! X =   692.26044,  5560.5235,      59.336,       0.000!   !END!
2153 ! X =   692.26044,  5560.0235,       8.970,       0.000!   !END!
2154 ! X =   692.26044,  5559.5235,       0.000,       0.000!   !END!
2155 ! X =   692.26044,  5559.0235,       0.000,       0.000!   !END!
2156 ! X =   692.26044,  5558.5235,       0.000,       0.000!   !END!
2157 ! X =   692.26044,  5558.0235,       0.000,       0.000!   !END!
2158 ! X =   692.26044,  5557.5235,       0.000,       0.000!   !END!
2159 ! X =   692.26044,  5557.0235,       0.000,       0.000!   !END!
2160 ! X =   692.26044,  5556.5235,       0.000,       0.000!   !END!
2161 ! X =   692.26044,  5556.0235,       0.000,       0.000!   !END!
2162 ! X =   692.26044,  5555.5235,       0.000,       0.000!   !END!
2163 ! X =   692.26044,  5555.0235,       0.000,       0.000!   !END!
2164 ! X =   692.26044,  5554.5235,       0.000,       0.000!   !END!
2165 ! X =   692.26044,  5554.0235,       0.000,       0.000!   !END!
2166 ! X =   692.26044,  5553.5235,       0.000,       0.000!   !END!
2167 ! X =   692.26044,  5553.0235,       0.000,       0.000!   !END!
2168 ! X =   692.26044,  5552.5235,       0.000,       0.000!   !END!
2169 ! X =   692.26044,  5552.0235,       0.000,       0.000!   !END!
2170 ! X =   692.26044,  5551.5235,       0.000,       0.000!   !END!
2171 ! X =   692.26044,  5551.0235,       0.000,       0.000!   !END!
2172 ! X =   692.26044,  5550.5235,       0.000,       0.000!   !END!
2173 ! X =   692.26044,  5550.0235,       0.000,       0.000!   !END!
2174 ! X =   692.26044,  5549.5235,       0.000,       0.000!   !END!
2175 ! X =   692.26044,  5549.0235,       0.000,       0.000!   !END!
2176 ! X =   692.26044,  5548.5235,       0.000,       0.000!   !END!
2177 ! X =   692.26044,  5548.0235,       0.000,       0.000!   !END!
2178 ! X =   692.26044,  5547.5235,       0.000,       0.000!   !END!
2179 ! X =   692.26044,  5547.0235,       0.000,       0.000!   !END!
2180 ! X =   692.26044,  5546.5235,       0.000,       0.000!   !END!
2181 ! X =   692.26044,  5546.0235,       0.000,       0.000!   !END!
2182 ! X =   692.26044,  5545.5235,       0.000,       0.000!   !END!
2183 ! X =   692.26044,  5545.0235,       0.000,       0.000!   !END!
2184 ! X =   692.26044,  5544.5235,       0.000,       0.000!   !END!
2185 ! X =   692.26044,  5544.0235,       0.000,       0.000!   !END!
2186 ! X =   692.76044,  5561.0235,      75.439,       0.000!   !END!
2187 ! X =   692.76044,  5560.5235,     100.453,       0.000!   !END!
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2188 ! X =   692.76044,  5560.0235,      49.659,       0.000!   !END!
2189 ! X =   692.76044,  5559.5235,       0.000,       0.000!   !END!
2190 ! X =   692.76044,  5559.0235,       0.000,       0.000!   !END!
2191 ! X =   692.76044,  5558.5235,       0.000,       0.000!   !END!
2192 ! X =   692.76044,  5558.0235,       0.000,       0.000!   !END!
2193 ! X =   692.76044,  5557.5235,      63.397,       0.000!   !END!
2194 ! X =   692.76044,  5557.0235,      44.320,       0.000!   !END!
2195 ! X =   692.76044,  5556.5235,      83.159,       0.000!   !END!
2196 ! X =   692.76044,  5556.0235,      45.004,       0.000!   !END!
2197 ! X =   692.76044,  5555.5235,       0.000,       0.000!   !END!
2198 ! X =   692.76044,  5555.0235,       0.000,       0.000!   !END!
2199 ! X =   692.76044,  5554.5235,       0.000,       0.000!   !END!
2200 ! X =   692.76044,  5554.0235,       0.000,       0.000!   !END!
2201 ! X =   692.76044,  5553.5235,       0.000,       0.000!   !END!
2202 ! X =   692.76044,  5553.0235,       0.000,       0.000!   !END!
2203 ! X =   692.76044,  5552.5235,       0.000,       0.000!   !END!
2204 ! X =   692.76044,  5552.0235,       0.000,       0.000!   !END!
2205 ! X =   692.76044,  5551.5235,       0.000,       0.000!   !END!
2206 ! X =   692.76044,  5551.0235,       0.000,       0.000!   !END!
2207 ! X =   692.76044,  5550.5235,       0.000,       0.000!   !END!
2208 ! X =   692.76044,  5550.0235,       0.000,       0.000!   !END!
2209 ! X =   692.76044,  5549.5235,       0.000,       0.000!   !END!
2210 ! X =   692.76044,  5549.0235,       0.000,       0.000!   !END!
2211 ! X =   692.76044,  5548.5235,       0.000,       0.000!   !END!
2212 ! X =   692.76044,  5548.0235,       0.000,       0.000!   !END!
2213 ! X =   692.76044,  5547.5235,       0.000,       0.000!   !END!
2214 ! X =   692.76044,  5547.0235,       0.000,       0.000!   !END!
2215 ! X =   692.76044,  5546.5235,       0.000,       0.000!   !END!
2216 ! X =   692.76044,  5546.0235,       0.000,       0.000!   !END!
2217 ! X =   692.76044,  5545.5235,       0.000,       0.000!   !END!
2218 ! X =   692.76044,  5545.0235,       0.000,       0.000!   !END!
2219 ! X =   692.76044,  5544.5235,       0.000,       0.000!   !END!
2220 ! X =   692.76044,  5544.0235,       0.000,       0.000!   !END!
2221 ! X =   693.26044,  5561.0235,       0.000,       0.000!   !END!
2222 ! X =   693.26044,  5560.5235,      68.060,       0.000!   !END!
2223 ! X =   693.26044,  5560.0235,      18.765,       0.000!   !END!
2224 ! X =   693.26044,  5559.5235,       0.000,       0.000!   !END!
2225 ! X =   693.26044,  5559.0235,       0.000,       0.000!   !END!
2226 ! X =   693.26044,  5558.5235,       0.374,       0.000!   !END!
2227 ! X =   693.26044,  5558.0235,      77.506,       0.000!   !END!
2228 ! X =   693.26044,  5557.5235,     126.889,       0.000!   !END!
2229 ! X =   693.26044,  5557.0235,      95.173,       0.000!   !END!
2230 ! X =   693.26044,  5556.5235,      25.690,       0.000!   !END!
2231 ! X =   693.26044,  5556.0235,       0.000,       0.000!   !END!
2232 ! X =   693.26044,  5555.5235,       0.000,       0.000!   !END!
2233 ! X =   693.26044,  5555.0235,       0.000,       0.000!   !END!
2234 ! X =   693.26044,  5554.5235,       0.000,       0.000!   !END!
2235 ! X =   693.26044,  5554.0235,       0.000,       0.000!   !END!
2236 ! X =   693.26044,  5553.5235,       0.000,       0.000!   !END!
2237 ! X =   693.26044,  5553.0235,       0.000,       0.000!   !END!
2238 ! X =   693.26044,  5552.5235,       0.000,       0.000!   !END!
2239 ! X =   693.26044,  5552.0235,       0.000,       0.000!   !END!
2240 ! X =   693.26044,  5551.5235,       0.000,       0.000!   !END!
2241 ! X =   693.26044,  5551.0235,       0.000,       0.000!   !END!
2242 ! X =   693.26044,  5550.5235,       0.000,       0.000!   !END!
2243 ! X =   693.26044,  5550.0235,       0.000,       0.000!   !END!
2244 ! X =   693.26044,  5549.5235,       0.000,       0.000!   !END!
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2245 ! X =   693.26044,  5549.0235,       0.000,       0.000!   !END!
2246 ! X =   693.26044,  5548.5235,       0.000,       0.000!   !END!
2247 ! X =   693.26044,  5548.0235,       0.000,       0.000!   !END!
2248 ! X =   693.26044,  5547.5235,       0.000,       0.000!   !END!
2249 ! X =   693.26044,  5547.0235,       0.000,       0.000!   !END!
2250 ! X =   693.26044,  5546.5235,       0.000,       0.000!   !END!
2251 ! X =   693.26044,  5546.0235,       0.000,       0.000!   !END!
2252 ! X =   693.26044,  5545.5235,       0.000,       0.000!   !END!
2253 ! X =   693.26044,  5545.0235,       0.000,       0.000!   !END!
2254 ! X =   693.26044,  5544.5235,       0.000,       0.000!   !END!
2255 ! X =   693.26044,  5544.0235,       0.000,       0.000!   !END!
2256 ! X =   693.76044,  5561.0235,       0.000,       0.000!   !END!
2257 ! X =   693.76044,  5560.5235,       0.000,       0.000!   !END!
2258 ! X =   693.76044,  5560.0235,       0.000,       0.000!   !END!
2259 ! X =   693.76044,  5559.5235,      10.722,       0.000!   !END!
2260 ! X =   693.76044,  5559.0235,      41.151,       0.000!   !END!
2261 ! X =   693.76044,  5558.5235,      90.771,       0.000!   !END!
2262 ! X =   693.76044,  5558.0235,     168.930,       0.000!   !END!
2263 ! X =   693.76044,  5557.5235,     195.226,       0.000!   !END!
2264 ! X =   693.76044,  5557.0235,      73.232,       0.000!   !END!
2265 ! X =   693.76044,  5556.5235,       0.000,       0.000!   !END!
2266 ! X =   693.76044,  5556.0235,       0.000,       0.000!   !END!
2267 ! X =   693.76044,  5555.5235,       0.000,       0.000!   !END!
2268 ! X =   693.76044,  5555.0235,       0.000,       0.000!   !END!
2269 ! X =   693.76044,  5554.5235,       0.000,       0.000!   !END!
2270 ! X =   693.76044,  5554.0235,       0.000,       0.000!   !END!
2271 ! X =   693.76044,  5553.5235,       0.000,       0.000!   !END!
2272 ! X =   693.76044,  5553.0235,       0.000,       0.000!   !END!
2273 ! X =   693.76044,  5552.5235,       0.000,       0.000!   !END!
2274 ! X =   693.76044,  5552.0235,       0.000,       0.000!   !END!
2275 ! X =   693.76044,  5551.5235,       0.000,       0.000!   !END!
2276 ! X =   693.76044,  5551.0235,       0.000,       0.000!   !END!
2277 ! X =   693.76044,  5550.5235,       0.000,       0.000!   !END!
2278 ! X =   693.76044,  5550.0235,       0.000,       0.000!   !END!
2279 ! X =   693.76044,  5549.5235,       0.000,       0.000!   !END!
2280 ! X =   693.76044,  5549.0235,       0.000,       0.000!   !END!
2281 ! X =   693.76044,  5548.5235,       0.000,       0.000!   !END!
2282 ! X =   693.76044,  5548.0235,       0.000,       0.000!   !END!
2283 ! X =   693.76044,  5547.5235,       0.000,       0.000!   !END!
2284 ! X =   693.76044,  5547.0235,       0.000,       0.000!   !END!
2285 ! X =   693.76044,  5546.5235,       0.000,       0.000!   !END!
2286 ! X =   693.76044,  5546.0235,       0.000,       0.000!   !END!
2287 ! X =   693.76044,  5545.5235,       0.000,       0.000!   !END!
2288 ! X =   693.76044,  5545.0235,       0.000,       0.000!   !END!
2289 ! X =   693.76044,  5544.5235,       0.000,       0.000!   !END!
2290 ! X =   693.76044,  5544.0235,       0.000,       0.000!   !END!
2291 ! X =   694.26044,  5561.0235,       0.000,       0.000!   !END!
2292 ! X =   694.26044,  5560.5235,       0.000,       0.000!   !END!
2293 ! X =   694.26044,  5560.0235,       0.000,       0.000!   !END!
2294 ! X =   694.26044,  5559.5235,       0.000,       0.000!   !END!
2295 ! X =   694.26044,  5559.0235,       0.000,       0.000!   !END!
2296 ! X =   694.26044,  5558.5235,      32.795,       0.000!   !END!
2297 ! X =   694.26044,  5558.0235,      84.338,       0.000!   !END!
2298 ! X =   694.26044,  5557.5235,     126.612,       0.000!   !END!
2299 ! X =   694.26044,  5557.0235,       4.210,       0.000!   !END!
2300 ! X =   694.26044,  5556.5235,       0.000,       0.000!   !END!
2301 ! X =   694.26044,  5556.0235,       0.000,       0.000!   !END!
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2302 ! X =   694.26044,  5555.5235,       0.000,       0.000!   !END!
2303 ! X =   694.26044,  5555.0235,       0.000,       0.000!   !END!
2304 ! X =   694.26044,  5554.5235,       0.000,       0.000!   !END!
2305 ! X =   694.26044,  5554.0235,       0.000,       0.000!   !END!
2306 ! X =   694.26044,  5553.5235,       0.000,       0.000!   !END!
2307 ! X =   694.26044,  5553.0235,       0.000,       0.000!   !END!
2308 ! X =   694.26044,  5552.5235,       0.000,       0.000!   !END!
2309 ! X =   694.26044,  5552.0235,       0.000,       0.000!   !END!
2310 ! X =   694.26044,  5551.5235,       0.000,       0.000!   !END!
2311 ! X =   694.26044,  5551.0235,       0.000,       0.000!   !END!
2312 ! X =   694.26044,  5550.5235,       0.000,       0.000!   !END!
2313 ! X =   694.26044,  5550.0235,       0.000,       0.000!   !END!
2314 ! X =   694.26044,  5549.5235,       0.000,       0.000!   !END!
2315 ! X =   694.26044,  5549.0235,       0.000,       0.000!   !END!
2316 ! X =   694.26044,  5548.5235,       0.000,       0.000!   !END!
2317 ! X =   694.26044,  5548.0235,       0.000,       0.000!   !END!
2318 ! X =   694.26044,  5547.5235,       0.000,       0.000!   !END!
2319 ! X =   694.26044,  5547.0235,       0.000,       0.000!   !END!
2320 ! X =   694.26044,  5546.5235,       0.000,       0.000!   !END!
2321 ! X =   694.26044,  5546.0235,       0.000,       0.000!   !END!
2322 ! X =   694.26044,  5545.5235,       0.000,       0.000!   !END!
2323 ! X =   694.26044,  5545.0235,       0.000,       0.000!   !END!
2324 ! X =   694.26044,  5544.5235,       0.000,       0.000!   !END!
2325 ! X =   694.26044,  5544.0235,       0.000,       0.000!   !END!
2326 ! X =   694.76044,  5561.0235,       0.000,       0.000!   !END!
2327 ! X =   694.76044,  5560.5235,       0.000,       0.000!   !END!
2328 ! X =   694.76044,  5560.0235,       0.000,       0.000!   !END!
2329 ! X =   694.76044,  5559.5235,       0.000,       0.000!   !END!
2330 ! X =   694.76044,  5559.0235,       0.000,       0.000!   !END!
2331 ! X =   694.76044,  5558.5235,       0.000,       0.000!   !END!
2332 ! X =   694.76044,  5558.0235,       0.000,       0.000!   !END!
2333 ! X =   694.76044,  5557.5235,      30.491,       0.000!   !END!
2334 ! X =   694.76044,  5557.0235,       0.000,       0.000!   !END!
2335 ! X =   694.76044,  5556.5235,       0.000,       0.000!   !END!
2336 ! X =   694.76044,  5556.0235,       0.000,       0.000!   !END!
2337 ! X =   694.76044,  5555.5235,       0.000,       0.000!   !END!
2338 ! X =   694.76044,  5555.0235,       0.000,       0.000!   !END!
2339 ! X =   694.76044,  5554.5235,       0.000,       0.000!   !END!
2340 ! X =   694.76044,  5554.0235,       0.000,       0.000!   !END!
2341 ! X =   694.76044,  5553.5235,       0.000,       0.000!   !END!
2342 ! X =   694.76044,  5553.0235,       0.000,       0.000!   !END!
2343 ! X =   694.76044,  5552.5235,       0.000,       0.000!   !END!
2344 ! X =   694.76044,  5552.0235,       0.000,       0.000!   !END!
2345 ! X =   694.76044,  5551.5235,       0.000,       0.000!   !END!
2346 ! X =   694.76044,  5551.0235,       0.000,       0.000!   !END!
2347 ! X =   694.76044,  5550.5235,       0.000,       0.000!   !END!
2348 ! X =   694.76044,  5550.0235,       0.000,       0.000!   !END!
2349 ! X =   694.76044,  5549.5235,       0.000,       0.000!   !END!
2350 ! X =   694.76044,  5549.0235,       0.000,       0.000!   !END!
2351 ! X =   694.76044,  5548.5235,       0.000,       0.000!   !END!
2352 ! X =   694.76044,  5548.0235,       0.000,       0.000!   !END!
2353 ! X =   694.76044,  5547.5235,       0.000,       0.000!   !END!
2354 ! X =   694.76044,  5547.0235,       0.000,       0.000!   !END!
2355 ! X =   694.76044,  5546.5235,       0.000,       0.000!   !END!
2356 ! X =   694.76044,  5546.0235,       0.000,       0.000!   !END!
2357 ! X =   694.76044,  5545.5235,       0.000,       0.000!   !END!
2358 ! X =   694.76044,  5545.0235,       0.000,       0.000!   !END!
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2359 ! X =   694.76044,  5544.5235,       0.000,       0.000!   !END!
2360 ! X =   694.76044,  5544.0235,       0.000,       0.000!   !END!
2361 ! X =   695.26044,  5561.0235,       0.000,       0.000!   !END!
2362 ! X =   695.26044,  5560.5235,       0.000,       0.000!   !END!
2363 ! X =   695.26044,  5560.0235,       0.000,       0.000!   !END!
2364 ! X =   695.26044,  5559.5235,       0.000,       0.000!   !END!
2365 ! X =   695.26044,  5559.0235,       0.000,       0.000!   !END!
2366 ! X =   695.26044,  5558.5235,       0.000,       0.000!   !END!
2367 ! X =   695.26044,  5558.0235,       0.000,       0.000!   !END!
2368 ! X =   695.26044,  5557.5235,       0.000,       0.000!   !END!
2369 ! X =   695.26044,  5557.0235,       0.000,       0.000!   !END!
2370 ! X =   695.26044,  5556.5235,       0.000,       0.000!   !END!
2371 ! X =   695.26044,  5556.0235,       0.000,       0.000!   !END!
2372 ! X =   695.26044,  5555.5235,       0.000,       0.000!   !END!
2373 ! X =   695.26044,  5555.0235,       0.000,       0.000!   !END!
2374 ! X =   695.26044,  5554.5235,       0.000,       0.000!   !END!
2375 ! X =   695.26044,  5554.0235,       0.000,       0.000!   !END!
2376 ! X =   695.26044,  5553.5235,       0.000,       0.000!   !END!
2377 ! X =   695.26044,  5553.0235,       0.000,       0.000!   !END!
2378 ! X =   695.26044,  5552.5235,       0.000,       0.000!   !END!
2379 ! X =   695.26044,  5552.0235,       0.000,       0.000!   !END!
2380 ! X =   695.26044,  5551.5235,       0.000,       0.000!   !END!
2381 ! X =   695.26044,  5551.0235,       0.000,       0.000!   !END!
2382 ! X =   695.26044,  5550.5235,       0.000,       0.000!   !END!
2383 ! X =   695.26044,  5550.0235,       0.000,       0.000!   !END!
2384 ! X =   695.26044,  5549.5235,       0.000,       0.000!   !END!
2385 ! X =   695.26044,  5549.0235,       0.000,       0.000!   !END!
2386 ! X =   695.26044,  5548.5235,       0.000,       0.000!   !END!
2387 ! X =   695.26044,  5548.0235,       0.000,       0.000!   !END!
2388 ! X =   695.26044,  5547.5235,       0.000,       0.000!   !END!
2389 ! X =   695.26044,  5547.0235,       0.000,       0.000!   !END!
2390 ! X =   695.26044,  5546.5235,       0.000,       0.000!   !END!
2391 ! X =   695.26044,  5546.0235,       0.000,       0.000!   !END!
2392 ! X =   695.26044,  5545.5235,       0.000,       0.000!   !END!
2393 ! X =   695.26044,  5545.0235,       0.000,       0.000!   !END!
2394 ! X =   695.26044,  5544.5235,       0.000,       0.000!   !END!
2395 ! X =   695.26044,  5544.0235,       0.000,       0.000!   !END!
2396 ! X =   682.26044,  5556.5235,       0.000,       0.000!   !END!
2397 ! X =   682.26044,  5556.0235,       0.000,       0.000!   !END!
2398 ! X =   682.26044,  5555.5235,       0.000,       0.000!   !END!
2399 ! X =   682.26044,  5555.0235,       0.000,       0.000!   !END!
2400 ! X =   682.26044,  5554.5235,       0.000,       0.000!   !END!
2401 ! X =   682.26044,  5554.0235,       0.000,       0.000!   !END!
2402 ! X =   682.26044,  5553.5235,       0.000,       0.000!   !END!
2403 ! X =   682.26044,  5553.0235,       0.000,       0.000!   !END!
2404 ! X =   682.26044,  5552.5235,       0.000,       0.000!   !END!
2405 ! X =   682.26044,  5552.0235,       0.000,       0.000!   !END!
2406 ! X =   682.26044,  5551.5235,       0.000,       0.000!   !END!
2407 ! X =   682.26044,  5551.0235,       0.000,       0.000!   !END!
2408 ! X =   682.26044,  5550.5235,       0.000,       0.000!   !END!
2409 ! X =   682.26044,  5550.0235,       0.000,       0.000!   !END!
2410 ! X =   682.26044,  5549.5235,       0.000,       0.000!   !END!
2411 ! X =   682.26044,  5549.0235,       0.000,       0.000!   !END!
2412 ! X =   682.26044,  5548.5235,       0.000,       0.000!   !END!
2413 ! X =   682.26044,  5548.0235,       0.000,       0.000!   !END!
2414 ! X =   682.26044,  5547.5235,       0.000,       0.000!   !END!
2415 ! X =   682.26044,  5547.0235,       0.000,       0.000!   !END!
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2416 ! X =   682.26044,  5546.5235,       0.000,       0.000!   !END!
2417 ! X =   682.26044,  5546.0235,       0.000,       0.000!   !END!
2418 ! X =   682.26044,  5545.5235,       0.000,       0.000!   !END!
2419 ! X =   682.26044,  5545.0235,       0.000,       0.000!   !END!
2420 ! X =   682.26044,  5544.5235,       0.000,       0.000!   !END!
2421 ! X =   682.26044,  5544.0235,       0.000,       0.000!   !END!
2422 ! X =   681.76044,  5556.5235,       1.235,       0.000!   !END!
2423 ! X =   681.76044,  5556.0235,      42.920,       0.000!   !END!
2424 ! X =   681.76044,  5555.5235,       0.000,       0.000!   !END!
2425 ! X =   681.76044,  5555.0235,       0.000,       0.000!   !END!
2426 ! X =   681.76044,  5554.5235,       0.000,       0.000!   !END!
2427 ! X =   681.76044,  5554.0235,       0.000,       0.000!   !END!
2428 ! X =   681.76044,  5553.5235,       0.000,       0.000!   !END!
2429 ! X =   681.76044,  5553.0235,       0.000,       0.000!   !END!
2430 ! X =   681.76044,  5552.5235,       0.000,       0.000!   !END!
2431 ! X =   681.76044,  5552.0235,       0.000,       0.000!   !END!
2432 ! X =   681.76044,  5551.5235,       0.000,       0.000!   !END!
2433 ! X =   681.76044,  5551.0235,       0.000,       0.000!   !END!
2434 ! X =   681.76044,  5550.5235,       0.000,       0.000!   !END!
2435 ! X =   681.76044,  5550.0235,       0.000,       0.000!   !END!
2436 ! X =   681.76044,  5549.5235,       0.000,       0.000!   !END!
2437 ! X =   681.76044,  5549.0235,       0.000,       0.000!   !END!
2438 ! X =   681.76044,  5548.5235,       0.000,       0.000!   !END!
2439 ! X =   681.76044,  5548.0235,       0.000,       0.000!   !END!
2440 ! X =   681.76044,  5547.5235,       0.000,       0.000!   !END!
2441 ! X =   681.76044,  5547.0235,       0.000,       0.000!   !END!
2442 ! X =   681.76044,  5546.5235,       0.000,       0.000!   !END!
2443 ! X =   681.76044,  5546.0235,       0.000,       0.000!   !END!
2444 ! X =   681.76044,  5545.5235,       0.000,       0.000!   !END!
2445 ! X =   681.76044,  5545.0235,       0.000,       0.000!   !END!
2446 ! X =   681.76044,  5544.5235,       0.000,       0.000!   !END!
2447 ! X =   681.76044,  5544.0235,       0.000,       0.000!   !END!
2448 ! X =   681.26044,  5556.5235,     108.836,       0.000!   !END!
2449 ! X =   681.26044,  5556.0235,      68.676,       0.000!   !END!
2450 ! X =   681.26044,  5555.5235,       0.000,       0.000!   !END!
2451 ! X =   681.26044,  5555.0235,       0.000,       0.000!   !END!
2452 ! X =   681.26044,  5554.5235,       0.000,       0.000!   !END!
2453 ! X =   681.26044,  5554.0235,       0.000,       0.000!   !END!
2454 ! X =   681.26044,  5553.5235,       0.000,       0.000!   !END!
2455 ! X =   681.26044,  5553.0235,       0.000,       0.000!   !END!
2456 ! X =   681.26044,  5552.5235,       0.000,       0.000!   !END!
2457 ! X =   681.26044,  5552.0235,       0.000,       0.000!   !END!
2458 ! X =   681.26044,  5551.5235,       0.000,       0.000!   !END!
2459 ! X =   681.26044,  5551.0235,       0.000,       0.000!   !END!
2460 ! X =   681.26044,  5550.5235,       0.000,       0.000!   !END!
2461 ! X =   681.26044,  5550.0235,       0.000,       0.000!   !END!
2462 ! X =   681.26044,  5549.5235,       0.000,       0.000!   !END!
2463 ! X =   681.26044,  5549.0235,       0.000,       0.000!   !END!
2464 ! X =   681.26044,  5548.5235,       0.000,       0.000!   !END!
2465 ! X =   681.26044,  5548.0235,       0.000,       0.000!   !END!
2466 ! X =   681.26044,  5547.5235,       0.000,       0.000!   !END!
2467 ! X =   681.26044,  5547.0235,       0.000,       0.000!   !END!
2468 ! X =   681.26044,  5546.5235,       0.000,       0.000!   !END!
2469 ! X =   681.26044,  5546.0235,       0.000,       0.000!   !END!
2470 ! X =   681.26044,  5545.5235,       0.000,       0.000!   !END!
2471 ! X =   681.26044,  5545.0235,       0.000,       0.000!   !END!
2472 ! X =   681.26044,  5544.5235,       0.000,       0.000!   !END!
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2473 ! X =   681.26044,  5544.0235,       0.000,       0.000!   !END!
2474 ! X =   680.76044,  5556.5235,      96.152,       0.000!   !END!
2475 ! X =   680.76044,  5556.0235,      42.882,       0.000!   !END!
2476 ! X =   680.76044,  5555.5235,       0.000,       0.000!   !END!
2477 ! X =   680.76044,  5555.0235,       0.000,       0.000!   !END!
2478 ! X =   680.76044,  5554.5235,       0.000,       0.000!   !END!
2479 ! X =   680.76044,  5554.0235,       0.000,       0.000!   !END!
2480 ! X =   680.76044,  5553.5235,       0.000,       0.000!   !END!
2481 ! X =   680.76044,  5553.0235,       0.000,       0.000!   !END!
2482 ! X =   680.76044,  5552.5235,       0.000,       0.000!   !END!
2483 ! X =   680.76044,  5552.0235,       0.000,       0.000!   !END!
2484 ! X =   680.76044,  5551.5235,       0.000,       0.000!   !END!
2485 ! X =   680.76044,  5551.0235,       0.000,       0.000!   !END!
2486 ! X =   680.76044,  5550.5235,       0.000,       0.000!   !END!
2487 ! X =   680.76044,  5550.0235,       0.000,       0.000!   !END!
2488 ! X =   680.76044,  5549.5235,       0.000,       0.000!   !END!
2489 ! X =   680.76044,  5549.0235,       0.000,       0.000!   !END!
2490 ! X =   680.76044,  5548.5235,       0.000,       0.000!   !END!
2491 ! X =   680.76044,  5548.0235,       0.000,       0.000!   !END!
2492 ! X =   680.76044,  5547.5235,       0.000,       0.000!   !END!
2493 ! X =   680.76044,  5547.0235,       0.000,       0.000!   !END!
2494 ! X =   680.76044,  5546.5235,       0.000,       0.000!   !END!
2495 ! X =   680.76044,  5546.0235,       0.000,       0.000!   !END!
2496 ! X =   680.76044,  5545.5235,       0.000,       0.000!   !END!
2497 ! X =   680.76044,  5545.0235,       0.000,       0.000!   !END!
2498 ! X =   680.76044,  5544.5235,       0.000,       0.000!   !END!
2499 ! X =   680.76044,  5544.0235,       0.000,       0.000!   !END!
2500 ! X =   680.26044,  5556.5235,      27.483,       0.000!   !END!
2501 ! X =   680.26044,  5556.0235,       0.000,       0.000!   !END!
2502 ! X =   680.26044,  5555.5235,       0.000,       0.000!   !END!
2503 ! X =   680.26044,  5555.0235,       0.000,       0.000!   !END!
2504 ! X =   680.26044,  5554.5235,       0.000,       0.000!   !END!
2505 ! X =   680.26044,  5554.0235,       0.000,       0.000!   !END!
2506 ! X =   680.26044,  5553.5235,       0.000,       0.000!   !END!
2507 ! X =   680.26044,  5553.0235,       0.000,       0.000!   !END!
2508 ! X =   680.26044,  5552.5235,       0.000,       0.000!   !END!
2509 ! X =   680.26044,  5552.0235,       0.000,       0.000!   !END!
2510 ! X =   680.26044,  5551.5235,       0.000,       0.000!   !END!
2511 ! X =   680.26044,  5551.0235,       0.000,       0.000!   !END!
2512 ! X =   680.26044,  5550.5235,       0.000,       0.000!   !END!
2513 ! X =   680.26044,  5550.0235,       0.000,       0.000!   !END!
2514 ! X =   680.26044,  5549.5235,       0.000,       0.000!   !END!
2515 ! X =   680.26044,  5549.0235,       0.000,       0.000!   !END!
2516 ! X =   680.26044,  5548.5235,       0.000,       0.000!   !END!
2517 ! X =   680.26044,  5548.0235,       0.000,       0.000!   !END!
2518 ! X =   680.26044,  5547.5235,       0.000,       0.000!   !END!
2519 ! X =   680.26044,  5547.0235,       0.000,       0.000!   !END!
2520 ! X =   680.26044,  5546.5235,       0.000,       0.000!   !END!
2521 ! X =   680.26044,  5546.0235,       0.000,       0.000!   !END!
2522 ! X =   680.26044,  5545.5235,       0.000,       0.000!   !END!
2523 ! X =   680.26044,  5545.0235,       0.000,       0.000!   !END!
2524 ! X =   680.26044,  5544.5235,       0.000,       0.000!   !END!
2525 ! X =   680.26044,  5544.0235,       0.000,       0.000!   !END!
2526 ! X =   679.76044,  5556.5235,       0.197,       0.000!   !END!
2527 ! X =   679.76044,  5556.0235,       0.000,       0.000!   !END!
2528 ! X =   679.76044,  5555.5235,       0.000,       0.000!   !END!
2529 ! X =   679.76044,  5555.0235,       0.000,       0.000!   !END!
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2530 ! X =   679.76044,  5554.5235,       0.000,       0.000!   !END!
2531 ! X =   679.76044,  5554.0235,       0.000,       0.000!   !END!
2532 ! X =   679.76044,  5553.5235,       0.000,       0.000!   !END!
2533 ! X =   679.76044,  5553.0235,       0.000,       0.000!   !END!
2534 ! X =   679.76044,  5552.5235,       0.000,       0.000!   !END!
2535 ! X =   679.76044,  5552.0235,       0.000,       0.000!   !END!
2536 ! X =   679.76044,  5551.5235,       0.000,       0.000!   !END!
2537 ! X =   679.76044,  5551.0235,       0.000,       0.000!   !END!
2538 ! X =   679.76044,  5550.5235,       0.000,       0.000!   !END!
2539 ! X =   679.76044,  5550.0235,       0.000,       0.000!   !END!
2540 ! X =   679.76044,  5549.5235,       0.000,       0.000!   !END!
2541 ! X =   679.76044,  5549.0235,       0.000,       0.000!   !END!
2542 ! X =   679.76044,  5548.5235,       0.000,       0.000!   !END!
2543 ! X =   679.76044,  5548.0235,       0.000,       0.000!   !END!
2544 ! X =   679.76044,  5547.5235,       0.000,       0.000!   !END!
2545 ! X =   679.76044,  5547.0235,       0.000,       0.000!   !END!
2546 ! X =   679.76044,  5546.5235,       0.000,       0.000!   !END!
2547 ! X =   679.76044,  5546.0235,       0.000,       0.000!   !END!
2548 ! X =   679.76044,  5545.5235,       0.000,       0.000!   !END!
2549 ! X =   679.76044,  5545.0235,       0.000,       0.000!   !END!
2550 ! X =   679.76044,  5544.5235,       0.000,       0.000!   !END!
2551 ! X =   679.76044,  5544.0235,       0.000,       0.000!   !END!
2552 ! X =   679.26044,  5556.5235,       0.000,       0.000!   !END!
2553 ! X =   679.26044,  5556.0235,       0.000,       0.000!   !END!
2554 ! X =   679.26044,  5555.5235,       0.000,       0.000!   !END!
2555 ! X =   679.26044,  5555.0235,       0.000,       0.000!   !END!
2556 ! X =   679.26044,  5554.5235,       0.000,       0.000!   !END!
2557 ! X =   679.26044,  5554.0235,       0.000,       0.000!   !END!
2558 ! X =   679.26044,  5553.5235,       0.000,       0.000!   !END!
2559 ! X =   679.26044,  5553.0235,       0.000,       0.000!   !END!
2560 ! X =   679.26044,  5552.5235,       0.000,       0.000!   !END!
2561 ! X =   679.26044,  5552.0235,       0.000,       0.000!   !END!
2562 ! X =   679.26044,  5551.5235,       0.000,       0.000!   !END!
2563 ! X =   679.26044,  5551.0235,       0.000,       0.000!   !END!
2564 ! X =   679.26044,  5550.5235,       0.000,       0.000!   !END!
2565 ! X =   679.26044,  5550.0235,       0.000,       0.000!   !END!
2566 ! X =   679.26044,  5549.5235,       0.000,       0.000!   !END!
2567 ! X =   679.26044,  5549.0235,       0.000,       0.000!   !END!
2568 ! X =   679.26044,  5548.5235,       0.000,       0.000!   !END!
2569 ! X =   679.26044,  5548.0235,       0.000,       0.000!   !END!
2570 ! X =   679.26044,  5547.5235,       0.000,       0.000!   !END!
2571 ! X =   679.26044,  5547.0235,       0.000,       0.000!   !END!
2572 ! X =   679.26044,  5546.5235,       0.000,       0.000!   !END!
2573 ! X =   679.26044,  5546.0235,       0.000,       0.000!   !END!
2574 ! X =   679.26044,  5545.5235,       0.000,       0.000!   !END!
2575 ! X =   679.26044,  5545.0235,       0.000,       0.000!   !END!
2576 ! X =   679.26044,  5544.5235,       0.000,       0.000!   !END!
2577 ! X =   679.26044,  5544.0235,       0.000,       0.000!   !END!
2578 ! X =   678.76044,  5556.5235,       0.000,       0.000!   !END!
2579 ! X =   678.76044,  5556.0235,       0.000,       0.000!   !END!
2580 ! X =   678.76044,  5555.5235,       0.000,       0.000!   !END!
2581 ! X =   678.76044,  5555.0235,       0.000,       0.000!   !END!
2582 ! X =   678.76044,  5554.5235,       0.000,       0.000!   !END!
2583 ! X =   678.76044,  5554.0235,       0.000,       0.000!   !END!
2584 ! X =   678.76044,  5553.5235,       0.000,       0.000!   !END!
2585 ! X =   678.76044,  5553.0235,       0.000,       0.000!   !END!
2586 ! X =   678.76044,  5552.5235,       0.000,       0.000!   !END!
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2587 ! X =   678.76044,  5552.0235,       0.000,       0.000!   !END!
2588 ! X =   678.76044,  5551.5235,       0.000,       0.000!   !END!
2589 ! X =   678.76044,  5551.0235,       0.000,       0.000!   !END!
2590 ! X =   678.76044,  5550.5235,       0.000,       0.000!   !END!
2591 ! X =   678.76044,  5550.0235,       0.000,       0.000!   !END!
2592 ! X =   678.76044,  5549.5235,       0.000,       0.000!   !END!
2593 ! X =   678.76044,  5549.0235,       0.000,       0.000!   !END!
2594 ! X =   678.76044,  5548.5235,       0.000,       0.000!   !END!
2595 ! X =   678.76044,  5548.0235,       0.000,       0.000!   !END!
2596 ! X =   678.76044,  5547.5235,       0.000,       0.000!   !END!
2597 ! X =   678.76044,  5547.0235,       0.000,       0.000!   !END!
2598 ! X =   678.76044,  5546.5235,       0.000,       0.000!   !END!
2599 ! X =   678.76044,  5546.0235,       0.000,       0.000!   !END!
2600 ! X =   678.76044,  5545.5235,       0.000,       0.000!   !END!
2601 ! X =   678.76044,  5545.0235,       0.000,       0.000!   !END!
2602 ! X =   678.76044,  5544.5235,       0.000,       0.000!   !END!
2603 ! X =   678.76044,  5544.0235,       0.000,       0.000!   !END!
2604 ! X =   678.26044,  5556.5235,       0.000,       0.000!   !END!
2605 ! X =   678.26044,  5556.0235,       0.000,       0.000!   !END!
2606 ! X =   678.26044,  5555.5235,       0.000,       0.000!   !END!
2607 ! X =   678.26044,  5555.0235,       0.000,       0.000!   !END!
2608 ! X =   678.26044,  5554.5235,       0.000,       0.000!   !END!
2609 ! X =   678.26044,  5554.0235,       0.000,       0.000!   !END!
2610 ! X =   678.26044,  5553.5235,       0.000,       0.000!   !END!
2611 ! X =   678.26044,  5553.0235,       0.000,       0.000!   !END!
2612 ! X =   678.26044,  5552.5235,       0.000,       0.000!   !END!
2613 ! X =   678.26044,  5552.0235,       0.000,       0.000!   !END!
2614 ! X =   678.26044,  5551.5235,       0.000,       0.000!   !END!
2615 ! X =   678.26044,  5551.0235,       0.000,       0.000!   !END!
2616 ! X =   678.26044,  5550.5235,       0.000,       0.000!   !END!
2617 ! X =   678.26044,  5550.0235,       0.000,       0.000!   !END!
2618 ! X =   678.26044,  5549.5235,       0.000,       0.000!   !END!
2619 ! X =   678.26044,  5549.0235,       0.000,       0.000!   !END!
2620 ! X =   678.26044,  5548.5235,       0.000,       0.000!   !END!
2621 ! X =   678.26044,  5548.0235,       0.000,       0.000!   !END!
2622 ! X =   678.26044,  5547.5235,       0.000,       0.000!   !END!
2623 ! X =   678.26044,  5547.0235,       0.000,       0.000!   !END!
2624 ! X =   678.26044,  5546.5235,       0.000,       0.000!   !END!
2625 ! X =   678.26044,  5546.0235,       0.000,       0.000!   !END!
2626 ! X =   678.26044,  5545.5235,       0.000,       0.000!   !END!
2627 ! X =   678.26044,  5545.0235,       0.000,       0.000!   !END!
2628 ! X =   678.26044,  5544.5235,       0.000,       0.000!   !END!
2629 ! X =   678.26044,  5544.0235,       0.000,       0.000!   !END!
2630 ! X =   677.76044,  5556.5235,       0.000,       0.000!   !END!
2631 ! X =   677.76044,  5556.0235,       0.000,       0.000!   !END!
2632 ! X =   677.76044,  5555.5235,       0.000,       0.000!   !END!
2633 ! X =   677.76044,  5555.0235,       0.000,       0.000!   !END!
2634 ! X =   677.76044,  5554.5235,       0.000,       0.000!   !END!
2635 ! X =   677.76044,  5554.0235,       0.000,       0.000!   !END!
2636 ! X =   677.76044,  5553.5235,       0.000,       0.000!   !END!
2637 ! X =   677.76044,  5553.0235,       0.000,       0.000!   !END!
2638 ! X =   677.76044,  5552.5235,       0.000,       0.000!   !END!
2639 ! X =   677.76044,  5552.0235,       0.000,       0.000!   !END!
2640 ! X =   677.76044,  5551.5235,       0.000,       0.000!   !END!
2641 ! X =   677.76044,  5551.0235,       0.000,       0.000!   !END!
2642 ! X =   677.76044,  5550.5235,       0.000,       0.000!   !END!
2643 ! X =   677.76044,  5550.0235,       0.000,       0.000!   !END!
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2644 ! X =   677.76044,  5549.5235,       0.000,       0.000!   !END!
2645 ! X =   677.76044,  5549.0235,       0.000,       0.000!   !END!
2646 ! X =   677.76044,  5548.5235,       0.000,       0.000!   !END!
2647 ! X =   677.76044,  5548.0235,       0.000,       0.000!   !END!
2648 ! X =   677.76044,  5547.5235,       0.000,       0.000!   !END!
2649 ! X =   677.76044,  5547.0235,       0.000,       0.000!   !END!
2650 ! X =   677.76044,  5546.5235,       0.000,       0.000!   !END!
2651 ! X =   677.76044,  5546.0235,       0.000,       0.000!   !END!
2652 ! X =   677.76044,  5545.5235,       0.000,       0.000!   !END!
2653 ! X =   677.76044,  5545.0235,       0.000,       0.000!   !END!
2654 ! X =   677.76044,  5544.5235,       0.000,       0.000!   !END!
2655 ! X =   677.76044,  5544.0235,       0.000,       0.000!   !END!
2656 ! X =   677.26044,  5556.5235,       0.000,       0.000!   !END!
2657 ! X =   677.26044,  5556.0235,       0.000,       0.000!   !END!
2658 ! X =   677.26044,  5555.5235,       0.000,       0.000!   !END!
2659 ! X =   677.26044,  5555.0235,       0.000,       0.000!   !END!
2660 ! X =   677.26044,  5554.5235,       0.000,       0.000!   !END!
2661 ! X =   677.26044,  5554.0235,       0.000,       0.000!   !END!
2662 ! X =   677.26044,  5553.5235,       0.000,       0.000!   !END!
2663 ! X =   677.26044,  5553.0235,       0.000,       0.000!   !END!
2664 ! X =   677.26044,  5552.5235,       0.000,       0.000!   !END!
2665 ! X =   677.26044,  5552.0235,       0.000,       0.000!   !END!
2666 ! X =   677.26044,  5551.5235,       0.000,       0.000!   !END!
2667 ! X =   677.26044,  5551.0235,       0.000,       0.000!   !END!
2668 ! X =   677.26044,  5550.5235,       0.000,       0.000!   !END!
2669 ! X =   677.26044,  5550.0235,       0.000,       0.000!   !END!
2670 ! X =   677.26044,  5549.5235,       0.000,       0.000!   !END!
2671 ! X =   677.26044,  5549.0235,       0.000,       0.000!   !END!
2672 ! X =   677.26044,  5548.5235,       0.000,       0.000!   !END!
2673 ! X =   677.26044,  5548.0235,       0.000,       0.000!   !END!
2674 ! X =   677.26044,  5547.5235,       0.000,       0.000!   !END!
2675 ! X =   677.26044,  5547.0235,       0.000,       0.000!   !END!
2676 ! X =   677.26044,  5546.5235,       0.000,       0.000!   !END!
2677 ! X =   677.26044,  5546.0235,       0.000,       0.000!   !END!
2678 ! X =   677.26044,  5545.5235,       0.000,       0.000!   !END!
2679 ! X =   677.26044,  5545.0235,       0.000,       0.000!   !END!
2680 ! X =   677.26044,  5544.5235,       0.000,       0.000!   !END!
2681 ! X =   677.26044,  5544.0235,       0.000,       0.000!   !END!
2682 ! X =   676.76044,  5556.5235,       0.000,       0.000!   !END!
2683 ! X =   676.76044,  5556.0235,       0.000,       0.000!   !END!
2684 ! X =   676.76044,  5555.5235,       0.000,       0.000!   !END!
2685 ! X =   676.76044,  5555.0235,       0.000,       0.000!   !END!
2686 ! X =   676.76044,  5554.5235,       0.000,       0.000!   !END!
2687 ! X =   676.76044,  5554.0235,       0.000,       0.000!   !END!
2688 ! X =   676.76044,  5553.5235,       0.000,       0.000!   !END!
2689 ! X =   676.76044,  5553.0235,       0.000,       0.000!   !END!
2690 ! X =   676.76044,  5552.5235,       0.000,       0.000!   !END!
2691 ! X =   676.76044,  5552.0235,       0.000,       0.000!   !END!
2692 ! X =   676.76044,  5551.5235,       0.000,       0.000!   !END!
2693 ! X =   676.76044,  5551.0235,       0.000,       0.000!   !END!
2694 ! X =   676.76044,  5550.5235,       0.000,       0.000!   !END!
2695 ! X =   676.76044,  5550.0235,       0.000,       0.000!   !END!
2696 ! X =   676.76044,  5549.5235,       0.000,       0.000!   !END!
2697 ! X =   676.76044,  5549.0235,       0.000,       0.000!   !END!
2698 ! X =   676.76044,  5548.5235,       0.000,       0.000!   !END!
2699 ! X =   676.76044,  5548.0235,       0.000,       0.000!   !END!
2700 ! X =   676.76044,  5547.5235,       0.000,       0.000!   !END!
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2701 ! X =   676.76044,  5547.0235,       0.000,       0.000!   !END!
2702 ! X =   676.76044,  5546.5235,       0.000,       0.000!   !END!
2703 ! X =   676.76044,  5546.0235,       0.000,       0.000!   !END!
2704 ! X =   676.76044,  5545.5235,       0.000,       0.000!   !END!
2705 ! X =   676.76044,  5545.0235,       0.000,       0.000!   !END!
2706 ! X =   676.76044,  5544.5235,       0.000,       0.000!   !END!
2707 ! X =   676.76044,  5544.0235,       0.000,       0.000!   !END!
2708 ! X =   676.26044,  5556.5235,       0.000,       0.000!   !END!
2709 ! X =   676.26044,  5556.0235,       0.000,       0.000!   !END!
2710 ! X =   676.26044,  5555.5235,       0.000,       0.000!   !END!
2711 ! X =   676.26044,  5555.0235,       0.000,       0.000!   !END!
2712 ! X =   676.26044,  5554.5235,       0.000,       0.000!   !END!
2713 ! X =   676.26044,  5554.0235,       0.000,       0.000!   !END!
2714 ! X =   676.26044,  5553.5235,       0.000,       0.000!   !END!
2715 ! X =   676.26044,  5553.0235,       0.000,       0.000!   !END!
2716 ! X =   676.26044,  5552.5235,       0.000,       0.000!   !END!
2717 ! X =   676.26044,  5552.0235,       0.000,       0.000!   !END!
2718 ! X =   676.26044,  5551.5235,       0.000,       0.000!   !END!
2719 ! X =   676.26044,  5551.0235,       0.000,       0.000!   !END!
2720 ! X =   676.26044,  5550.5235,       0.000,       0.000!   !END!
2721 ! X =   676.26044,  5550.0235,       0.000,       0.000!   !END!
2722 ! X =   676.26044,  5549.5235,       0.000,       0.000!   !END!
2723 ! X =   676.26044,  5549.0235,       0.000,       0.000!   !END!
2724 ! X =   676.26044,  5548.5235,       0.000,       0.000!   !END!
2725 ! X =   676.26044,  5548.0235,       0.000,       0.000!   !END!
2726 ! X =   676.26044,  5547.5235,       0.000,       0.000!   !END!
2727 ! X =   676.26044,  5547.0235,       0.000,       0.000!   !END!
2728 ! X =   676.26044,  5546.5235,       0.000,       0.000!   !END!
2729 ! X =   676.26044,  5546.0235,       0.000,       0.000!   !END!
2730 ! X =   676.26044,  5545.5235,       0.000,       0.000!   !END!
2731 ! X =   676.26044,  5545.0235,       0.000,       0.000!   !END!
2732 ! X =   676.26044,  5544.5235,       0.000,       0.000!   !END!
2733 ! X =   676.26044,  5544.0235,       0.000,       0.000!   !END!
2734 ! X =   675.76044,  5556.5235,       0.000,       0.000!   !END!
2735 ! X =   675.76044,  5556.0235,       0.000,       0.000!   !END!
2736 ! X =   675.76044,  5555.5235,       0.000,       0.000!   !END!
2737 ! X =   675.76044,  5555.0235,       0.000,       0.000!   !END!
2738 ! X =   675.76044,  5554.5235,       0.000,       0.000!   !END!
2739 ! X =   675.76044,  5554.0235,       0.000,       0.000!   !END!
2740 ! X =   675.76044,  5553.5235,       0.000,       0.000!   !END!
2741 ! X =   675.76044,  5553.0235,       0.000,       0.000!   !END!
2742 ! X =   675.76044,  5552.5235,       0.000,       0.000!   !END!
2743 ! X =   675.76044,  5552.0235,       0.000,       0.000!   !END!
2744 ! X =   675.76044,  5551.5235,       0.000,       0.000!   !END!
2745 ! X =   675.76044,  5551.0235,       0.000,       0.000!   !END!
2746 ! X =   675.76044,  5550.5235,       0.000,       0.000!   !END!
2747 ! X =   675.76044,  5550.0235,       0.000,       0.000!   !END!
2748 ! X =   675.76044,  5549.5235,       0.000,       0.000!   !END!
2749 ! X =   675.76044,  5549.0235,       0.000,       0.000!   !END!
2750 ! X =   675.76044,  5548.5235,       0.000,       0.000!   !END!
2751 ! X =   675.76044,  5548.0235,       0.000,       0.000!   !END!
2752 ! X =   675.76044,  5547.5235,       0.000,       0.000!   !END!
2753 ! X =   675.76044,  5547.0235,       0.000,       0.000!   !END!
2754 ! X =   675.76044,  5546.5235,       0.000,       0.000!   !END!
2755 ! X =   675.76044,  5546.0235,       0.000,       0.000!   !END!
2756 ! X =   675.76044,  5545.5235,       0.000,       0.000!   !END!
2757 ! X =   675.76044,  5545.0235,       0.000,       0.000!   !END!
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2758 ! X =   675.76044,  5544.5235,       0.000,       0.000!   !END!
2759 ! X =   675.76044,  5544.0235,       0.000,       0.000!   !END!
2760 ! X =   675.26044,  5556.5235,       0.000,       0.000!   !END!
2761 ! X =   675.26044,  5556.0235,       0.000,       0.000!   !END!
2762 ! X =   675.26044,  5555.5235,       0.000,       0.000!   !END!
2763 ! X =   675.26044,  5555.0235,       0.000,       0.000!   !END!
2764 ! X =   675.26044,  5554.5235,       0.000,       0.000!   !END!
2765 ! X =   675.26044,  5554.0235,       0.000,       0.000!   !END!
2766 ! X =   675.26044,  5553.5235,       0.000,       0.000!   !END!
2767 ! X =   675.26044,  5553.0235,       0.000,       0.000!   !END!
2768 ! X =   675.26044,  5552.5235,       0.000,       0.000!   !END!
2769 ! X =   675.26044,  5552.0235,       0.000,       0.000!   !END!
2770 ! X =   675.26044,  5551.5235,       0.000,       0.000!   !END!
2771 ! X =   675.26044,  5551.0235,       0.000,       0.000!   !END!
2772 ! X =   675.26044,  5550.5235,       0.000,       0.000!   !END!
2773 ! X =   675.26044,  5550.0235,       0.000,       0.000!   !END!
2774 ! X =   675.26044,  5549.5235,       0.000,       0.000!   !END!
2775 ! X =   675.26044,  5549.0235,       0.000,       0.000!   !END!
2776 ! X =   675.26044,  5548.5235,       0.000,       0.000!   !END!
2777 ! X =   675.26044,  5548.0235,       0.000,       0.000!   !END!
2778 ! X =   675.26044,  5547.5235,       0.000,       0.000!   !END!
2779 ! X =   675.26044,  5547.0235,       0.000,       0.000!   !END!
2780 ! X =   675.26044,  5546.5235,       0.000,       0.000!   !END!
2781 ! X =   675.26044,  5546.0235,       0.000,       0.000!   !END!
2782 ! X =   675.26044,  5545.5235,       0.000,       0.000!   !END!
2783 ! X =   675.26044,  5545.0235,       0.000,       0.000!   !END!
2784 ! X =   675.26044,  5544.5235,       0.000,       0.000!   !END!
2785 ! X =   675.26044,  5544.0235,       0.000,       0.000!   !END!
2786 ! X =   674.76044,  5556.5235,       0.000,       0.000!   !END!
2787 ! X =   674.76044,  5556.0235,       0.000,       0.000!   !END!
2788 ! X =   674.76044,  5555.5235,       0.000,       0.000!   !END!
2789 ! X =   674.76044,  5555.0235,       0.000,       0.000!   !END!
2790 ! X =   674.76044,  5554.5235,       0.000,       0.000!   !END!
2791 ! X =   674.76044,  5554.0235,       0.000,       0.000!   !END!
2792 ! X =   674.76044,  5553.5235,       0.000,       0.000!   !END!
2793 ! X =   674.76044,  5553.0235,       0.000,       0.000!   !END!
2794 ! X =   674.76044,  5552.5235,       0.000,       0.000!   !END!
2795 ! X =   674.76044,  5552.0235,       0.000,       0.000!   !END!
2796 ! X =   674.76044,  5551.5235,       0.000,       0.000!   !END!
2797 ! X =   674.76044,  5551.0235,       0.000,       0.000!   !END!
2798 ! X =   674.76044,  5550.5235,       0.000,       0.000!   !END!
2799 ! X =   674.76044,  5550.0235,       0.000,       0.000!   !END!
2800 ! X =   674.76044,  5549.5235,       0.000,       0.000!   !END!
2801 ! X =   674.76044,  5549.0235,       0.000,       0.000!   !END!
2802 ! X =   674.76044,  5548.5235,       0.000,       0.000!   !END!
2803 ! X =   674.76044,  5548.0235,       0.000,       0.000!   !END!
2804 ! X =   674.76044,  5547.5235,       0.000,       0.000!   !END!
2805 ! X =   674.76044,  5547.0235,       0.000,       0.000!   !END!
2806 ! X =   674.76044,  5546.5235,       0.000,       0.000!   !END!
2807 ! X =   674.76044,  5546.0235,       0.000,       0.000!   !END!
2808 ! X =   674.76044,  5545.5235,       0.000,       0.000!   !END!
2809 ! X =   674.76044,  5545.0235,       0.000,       0.000!   !END!
2810 ! X =   674.76044,  5544.5235,       0.000,       0.000!   !END!
2811 ! X =   674.76044,  5544.0235,       0.000,       0.000!   !END!
2812 ! X =   674.26044,  5556.5235,       0.000,       0.000!   !END!
2813 ! X =   674.26044,  5556.0235,       0.000,       0.000!   !END!
2814 ! X =   674.26044,  5555.5235,       0.000,       0.000!   !END!
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2815 ! X =   674.26044,  5555.0235,       0.000,       0.000!   !END!
2816 ! X =   674.26044,  5554.5235,       0.000,       0.000!   !END!
2817 ! X =   674.26044,  5554.0235,       0.000,       0.000!   !END!
2818 ! X =   674.26044,  5553.5235,       0.000,       0.000!   !END!
2819 ! X =   674.26044,  5553.0235,       0.000,       0.000!   !END!
2820 ! X =   674.26044,  5552.5235,       0.000,       0.000!   !END!
2821 ! X =   674.26044,  5552.0235,       0.000,       0.000!   !END!
2822 ! X =   674.26044,  5551.5235,       0.000,       0.000!   !END!
2823 ! X =   674.26044,  5551.0235,       0.000,       0.000!   !END!
2824 ! X =   674.26044,  5550.5235,       0.000,       0.000!   !END!
2825 ! X =   674.26044,  5550.0235,       0.000,       0.000!   !END!
2826 ! X =   674.26044,  5549.5235,       0.000,       0.000!   !END!
2827 ! X =   674.26044,  5549.0235,       0.000,       0.000!   !END!
2828 ! X =   674.26044,  5548.5235,       0.000,       0.000!   !END!
2829 ! X =   674.26044,  5548.0235,       0.000,       0.000!   !END!
2830 ! X =   674.26044,  5547.5235,       0.000,       0.000!   !END!
2831 ! X =   674.26044,  5547.0235,       0.000,       0.000!   !END!
2832 ! X =   674.26044,  5546.5235,       0.000,       0.000!   !END!
2833 ! X =   674.26044,  5546.0235,       0.000,       0.000!   !END!
2834 ! X =   674.26044,  5545.5235,       0.000,       0.000!   !END!
2835 ! X =   674.26044,  5545.0235,       0.000,       0.000!   !END!
2836 ! X =   674.26044,  5544.5235,       0.000,       0.000!   !END!
2837 ! X =   674.26044,  5544.0235,       0.000,       0.000!   !END!
2838 ! X =   673.76044,  5556.5235,       0.000,       0.000!   !END!
2839 ! X =   673.76044,  5556.0235,       0.000,       0.000!   !END!
2840 ! X =   673.76044,  5555.5235,       0.000,       0.000!   !END!
2841 ! X =   673.76044,  5555.0235,       0.000,       0.000!   !END!
2842 ! X =   673.76044,  5554.5235,       0.000,       0.000!   !END!
2843 ! X =   673.76044,  5554.0235,       0.000,       0.000!   !END!
2844 ! X =   673.76044,  5553.5235,       0.000,       0.000!   !END!
2845 ! X =   673.76044,  5553.0235,       0.000,       0.000!   !END!
2846 ! X =   673.76044,  5552.5235,       0.000,       0.000!   !END!
2847 ! X =   673.76044,  5552.0235,       0.000,       0.000!   !END!
2848 ! X =   673.76044,  5551.5235,       0.000,       0.000!   !END!
2849 ! X =   673.76044,  5551.0235,       0.000,       0.000!   !END!
2850 ! X =   673.76044,  5550.5235,       0.000,       0.000!   !END!
2851 ! X =   673.76044,  5550.0235,       0.000,       0.000!   !END!
2852 ! X =   673.76044,  5549.5235,       0.000,       0.000!   !END!
2853 ! X =   673.76044,  5549.0235,       0.000,       0.000!   !END!
2854 ! X =   673.76044,  5548.5235,       0.000,       0.000!   !END!
2855 ! X =   673.76044,  5548.0235,       0.000,       0.000!   !END!
2856 ! X =   673.76044,  5547.5235,       0.000,       0.000!   !END!
2857 ! X =   673.76044,  5547.0235,       0.000,       0.000!   !END!
2858 ! X =   673.76044,  5546.5235,       0.000,       0.000!   !END!
2859 ! X =   673.76044,  5546.0235,       0.000,       0.000!   !END!
2860 ! X =   673.76044,  5545.5235,       0.000,       0.000!   !END!
2861 ! X =   673.76044,  5545.0235,       0.000,       0.000!   !END!
2862 ! X =   673.76044,  5544.5235,       0.000,       0.000!   !END!
2863 ! X =   673.76044,  5544.0235,       0.000,       0.000!   !END!
2864 ! X =   673.26044,  5556.5235,       0.000,       0.000!   !END!
2865 ! X =   673.26044,  5556.0235,       0.000,       0.000!   !END!
2866 ! X =   673.26044,  5555.5235,       0.000,       0.000!   !END!
2867 ! X =   673.26044,  5555.0235,       0.000,       0.000!   !END!
2868 ! X =   673.26044,  5554.5235,       0.000,       0.000!   !END!
2869 ! X =   673.26044,  5554.0235,       0.000,       0.000!   !END!
2870 ! X =   673.26044,  5553.5235,       0.000,       0.000!   !END!
2871 ! X =   673.26044,  5553.0235,       0.000,       0.000!   !END!
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2872 ! X =   673.26044,  5552.5235,       0.000,       0.000!   !END!
2873 ! X =   673.26044,  5552.0235,       0.000,       0.000!   !END!
2874 ! X =   673.26044,  5551.5235,       0.000,       0.000!   !END!
2875 ! X =   673.26044,  5551.0235,       0.000,       0.000!   !END!
2876 ! X =   673.26044,  5550.5235,       0.000,       0.000!   !END!
2877 ! X =   673.26044,  5550.0235,       0.000,       0.000!   !END!
2878 ! X =   673.26044,  5549.5235,       0.000,       0.000!   !END!
2879 ! X =   673.26044,  5549.0235,       0.000,       0.000!   !END!
2880 ! X =   673.26044,  5548.5235,       0.000,       0.000!   !END!
2881 ! X =   673.26044,  5548.0235,       0.000,       0.000!   !END!
2882 ! X =   673.26044,  5547.5235,       0.000,       0.000!   !END!
2883 ! X =   673.26044,  5547.0235,       0.000,       0.000!   !END!
2884 ! X =   673.26044,  5546.5235,       0.000,       0.000!   !END!
2885 ! X =   673.26044,  5546.0235,       0.000,       0.000!   !END!
2886 ! X =   673.26044,  5545.5235,       0.000,       0.000!   !END!
2887 ! X =   673.26044,  5545.0235,       0.000,       0.000!   !END!
2888 ! X =   673.26044,  5544.5235,       0.000,       0.000!   !END!
2889 ! X =   673.26044,  5544.0235,       0.000,       0.000!   !END!
2890 ! X =   672.76044,  5556.5235,       0.000,       0.000!   !END!
2891 ! X =   672.76044,  5556.0235,       0.000,       0.000!   !END!
2892 ! X =   672.76044,  5555.5235,       0.000,       0.000!   !END!
2893 ! X =   672.76044,  5555.0235,       0.000,       0.000!   !END!
2894 ! X =   672.76044,  5554.5235,       0.000,       0.000!   !END!
2895 ! X =   672.76044,  5554.0235,       0.000,       0.000!   !END!
2896 ! X =   672.76044,  5553.5235,       0.000,       0.000!   !END!
2897 ! X =   672.76044,  5553.0235,       0.000,       0.000!   !END!
2898 ! X =   672.76044,  5552.5235,       0.000,       0.000!   !END!
2899 ! X =   672.76044,  5552.0235,       0.000,       0.000!   !END!
2900 ! X =   672.76044,  5551.5235,       0.000,       0.000!   !END!
2901 ! X =   672.76044,  5551.0235,       0.000,       0.000!   !END!
2902 ! X =   672.76044,  5550.5235,       0.000,       0.000!   !END!
2903 ! X =   672.76044,  5550.0235,       0.000,       0.000!   !END!
2904 ! X =   672.76044,  5549.5235,       0.000,       0.000!   !END!
2905 ! X =   672.76044,  5549.0235,       0.000,       0.000!   !END!
2906 ! X =   672.76044,  5548.5235,       0.000,       0.000!   !END!
2907 ! X =   672.76044,  5548.0235,       0.000,       0.000!   !END!
2908 ! X =   672.76044,  5547.5235,       0.000,       0.000!   !END!
2909 ! X =   672.76044,  5547.0235,       0.000,       0.000!   !END!
2910 ! X =   672.76044,  5546.5235,       0.000,       0.000!   !END!
2911 ! X =   672.76044,  5546.0235,       0.000,       0.000!   !END!
2912 ! X =   672.76044,  5545.5235,       0.000,       0.000!   !END!
2913 ! X =   672.76044,  5545.0235,       0.000,       0.000!   !END!
2914 ! X =   672.76044,  5544.5235,       0.000,       0.000!   !END!
2915 ! X =   672.76044,  5544.0235,       0.000,       0.000!   !END!
2916 ! X =   672.26044,  5556.5235,       0.000,       0.000!   !END!
2917 ! X =   672.26044,  5556.0235,       0.000,       0.000!   !END!
2918 ! X =   672.26044,  5555.5235,       0.000,       0.000!   !END!
2919 ! X =   672.26044,  5555.0235,       0.000,       0.000!   !END!
2920 ! X =   672.26044,  5554.5235,       0.000,       0.000!   !END!
2921 ! X =   672.26044,  5554.0235,       0.000,       0.000!   !END!
2922 ! X =   672.26044,  5553.5235,       0.000,       0.000!   !END!
2923 ! X =   672.26044,  5553.0235,       0.000,       0.000!   !END!
2924 ! X =   672.26044,  5552.5235,       0.000,       0.000!   !END!
2925 ! X =   672.26044,  5552.0235,       0.000,       0.000!   !END!
2926 ! X =   672.26044,  5551.5235,       0.000,       0.000!   !END!
2927 ! X =   672.26044,  5551.0235,       0.000,       0.000!   !END!
2928 ! X =   672.26044,  5550.5235,       0.000,       0.000!   !END!
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2929 ! X =   672.26044,  5550.0235,       0.000,       0.000!   !END!
2930 ! X =   672.26044,  5549.5235,       0.000,       0.000!   !END!
2931 ! X =   672.26044,  5549.0235,       0.000,       0.000!   !END!
2932 ! X =   672.26044,  5548.5235,       0.000,       0.000!   !END!
2933 ! X =   672.26044,  5548.0235,       0.000,       0.000!   !END!
2934 ! X =   672.26044,  5547.5235,       0.000,       0.000!   !END!
2935 ! X =   672.26044,  5547.0235,       0.000,       0.000!   !END!
2936 ! X =   672.26044,  5546.5235,       0.000,       0.000!   !END!
2937 ! X =   672.26044,  5546.0235,       0.000,       0.000!   !END!
2938 ! X =   672.26044,  5545.5235,       0.000,       0.000!   !END!
2939 ! X =   672.26044,  5545.0235,       0.000,       0.000!   !END!
2940 ! X =   672.26044,  5544.5235,       0.000,       0.000!   !END!
2941 ! X =   672.26044,  5544.0235,       0.000,       0.000!   !END!
2942 ! X =   671.76044,  5556.5235,       0.000,       0.000!   !END!
2943 ! X =   671.76044,  5556.0235,       0.000,       0.000!   !END!
2944 ! X =   671.76044,  5555.5235,       0.000,       0.000!   !END!
2945 ! X =   671.76044,  5555.0235,       0.000,       0.000!   !END!
2946 ! X =   671.76044,  5554.5235,       0.000,       0.000!   !END!
2947 ! X =   671.76044,  5554.0235,       0.000,       0.000!   !END!
2948 ! X =   671.76044,  5553.5235,       0.000,       0.000!   !END!
2949 ! X =   671.76044,  5553.0235,       0.000,       0.000!   !END!
2950 ! X =   671.76044,  5552.5235,       0.000,       0.000!   !END!
2951 ! X =   671.76044,  5552.0235,       0.000,       0.000!   !END!
2952 ! X =   671.76044,  5551.5235,       0.000,       0.000!   !END!
2953 ! X =   671.76044,  5551.0235,       0.000,       0.000!   !END!
2954 ! X =   671.76044,  5550.5235,       0.000,       0.000!   !END!
2955 ! X =   671.76044,  5550.0235,       0.000,       0.000!   !END!
2956 ! X =   671.76044,  5549.5235,       0.000,       0.000!   !END!
2957 ! X =   671.76044,  5549.0235,       0.000,       0.000!   !END!
2958 ! X =   671.76044,  5548.5235,       0.000,       0.000!   !END!
2959 ! X =   671.76044,  5548.0235,       0.000,       0.000!   !END!
2960 ! X =   671.76044,  5547.5235,       0.000,       0.000!   !END!
2961 ! X =   671.76044,  5547.0235,       0.000,       0.000!   !END!
2962 ! X =   671.76044,  5546.5235,       0.000,       0.000!   !END!
2963 ! X =   671.76044,  5546.0235,       0.000,       0.000!   !END!
2964 ! X =   671.76044,  5545.5235,       0.000,       0.000!   !END!
2965 ! X =   671.76044,  5545.0235,       0.000,       0.000!   !END!
2966 ! X =   671.76044,  5544.5235,       0.000,       0.000!   !END!
2967 ! X =   671.76044,  5544.0235,       0.000,       0.000!   !END!
2968 ! X =   671.26044,  5556.5235,       0.000,       0.000!   !END!
2969 ! X =   671.26044,  5556.0235,       0.000,       0.000!   !END!
2970 ! X =   671.26044,  5555.5235,       0.000,       0.000!   !END!
2971 ! X =   671.26044,  5555.0235,       0.000,       0.000!   !END!
2972 ! X =   671.26044,  5554.5235,       0.000,       0.000!   !END!
2973 ! X =   671.26044,  5554.0235,       0.000,       0.000!   !END!
2974 ! X =   671.26044,  5553.5235,       0.000,       0.000!   !END!
2975 ! X =   671.26044,  5553.0235,       0.000,       0.000!   !END!
2976 ! X =   671.26044,  5552.5235,       0.000,       0.000!   !END!
2977 ! X =   671.26044,  5552.0235,       0.000,       0.000!   !END!
2978 ! X =   671.26044,  5551.5235,       0.000,       0.000!   !END!
2979 ! X =   671.26044,  5551.0235,       0.000,       0.000!   !END!
2980 ! X =   671.26044,  5550.5235,       0.000,       0.000!   !END!
2981 ! X =   671.26044,  5550.0235,       0.000,       0.000!   !END!
2982 ! X =   671.26044,  5549.5235,       0.000,       0.000!   !END!
2983 ! X =   671.26044,  5549.0235,       0.000,       0.000!   !END!
2984 ! X =   671.26044,  5548.5235,       0.000,       0.000!   !END!
2985 ! X =   671.26044,  5548.0235,       0.000,       0.000!   !END!
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2986 ! X =   671.26044,  5547.5235,       0.000,       0.000!   !END!
2987 ! X =   671.26044,  5547.0235,       0.000,       0.000!   !END!
2988 ! X =   671.26044,  5546.5235,       0.000,       0.000!   !END!
2989 ! X =   671.26044,  5546.0235,       0.000,       0.000!   !END!
2990 ! X =   671.26044,  5545.5235,       0.000,       0.000!   !END!
2991 ! X =   671.26044,  5545.0235,       0.000,       0.000!   !END!
2992 ! X =   671.26044,  5544.5235,       0.000,       0.000!   !END!
2993 ! X =   671.26044,  5544.0235,       0.000,       0.000!   !END!
2994 ! X =   670.76044,  5556.5235,       0.000,       0.000!   !END!
2995 ! X =   670.76044,  5556.0235,       0.000,       0.000!   !END!
2996 ! X =   670.76044,  5555.5235,       0.000,       0.000!   !END!
2997 ! X =   670.76044,  5555.0235,       0.000,       0.000!   !END!
2998 ! X =   670.76044,  5554.5235,       0.000,       0.000!   !END!
2999 ! X =   670.76044,  5554.0235,       0.000,       0.000!   !END!
3000 ! X =   670.76044,  5553.5235,       0.000,       0.000!   !END!
3001 ! X =   670.76044,  5553.0235,       0.000,       0.000!   !END!
3002 ! X =   670.76044,  5552.5235,       0.000,       0.000!   !END!
3003 ! X =   670.76044,  5552.0235,       0.000,       0.000!   !END!
3004 ! X =   670.76044,  5551.5235,       0.000,       0.000!   !END!
3005 ! X =   670.76044,  5551.0235,       0.000,       0.000!   !END!
3006 ! X =   670.76044,  5550.5235,       0.000,       0.000!   !END!
3007 ! X =   670.76044,  5550.0235,       0.000,       0.000!   !END!
3008 ! X =   670.76044,  5549.5235,       0.000,       0.000!   !END!
3009 ! X =   670.76044,  5549.0235,       0.000,       0.000!   !END!
3010 ! X =   670.76044,  5548.5235,       0.000,       0.000!   !END!
3011 ! X =   670.76044,  5548.0235,       0.000,       0.000!   !END!
3012 ! X =   670.76044,  5547.5235,       0.000,       0.000!   !END!
3013 ! X =   670.76044,  5547.0235,       0.000,       0.000!   !END!
3014 ! X =   670.76044,  5546.5235,       0.000,       0.000!   !END!
3015 ! X =   670.76044,  5546.0235,       0.000,       0.000!   !END!
3016 ! X =   670.76044,  5545.5235,       0.000,       0.000!   !END!
3017 ! X =   670.76044,  5545.0235,       0.000,       0.000!   !END!
3018 ! X =   670.76044,  5544.5235,       0.000,       0.000!   !END!
3019 ! X =   670.76044,  5544.0235,       0.000,       0.000!   !END!
3020 ! X =   670.26044,  5556.5235,       4.444,       0.000!   !END!
3021 ! X =   670.26044,  5556.0235,       0.126,       0.000!   !END!
3022 ! X =   670.26044,  5555.5235,       0.000,       0.000!   !END!
3023 ! X =   670.26044,  5555.0235,       0.000,       0.000!   !END!
3024 ! X =   670.26044,  5554.5235,       0.000,       0.000!   !END!
3025 ! X =   670.26044,  5554.0235,       0.000,       0.000!   !END!
3026 ! X =   670.26044,  5553.5235,       0.000,       0.000!   !END!
3027 ! X =   670.26044,  5553.0235,       0.000,       0.000!   !END!
3028 ! X =   670.26044,  5552.5235,       0.000,       0.000!   !END!
3029 ! X =   670.26044,  5552.0235,       0.000,       0.000!   !END!
3030 ! X =   670.26044,  5551.5235,       0.000,       0.000!   !END!
3031 ! X =   670.26044,  5551.0235,       0.000,       0.000!   !END!
3032 ! X =   670.26044,  5550.5235,       0.000,       0.000!   !END!
3033 ! X =   670.26044,  5550.0235,       0.000,       0.000!   !END!
3034 ! X =   670.26044,  5549.5235,       0.000,       0.000!   !END!
3035 ! X =   670.26044,  5549.0235,       0.000,       0.000!   !END!
3036 ! X =   670.26044,  5548.5235,       0.000,       0.000!   !END!
3037 ! X =   670.26044,  5548.0235,       0.000,       0.000!   !END!
3038 ! X =   670.26044,  5547.5235,       0.000,       0.000!   !END!
3039 ! X =   670.26044,  5547.0235,       0.000,       0.000!   !END!
3040 ! X =   670.26044,  5546.5235,       0.000,       0.000!   !END!
3041 ! X =   670.26044,  5546.0235,       0.000,       0.000!   !END!
3042 ! X =   670.26044,  5545.5235,       0.000,       0.000!   !END!
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3043 ! X =   670.26044,  5545.0235,       0.000,       0.000!   !END!
3044 ! X =   670.26044,  5544.5235,       0.000,       0.000!   !END!
3045 ! X =   670.26044,  5544.0235,       0.000,       0.000!   !END!
3046 ! X =   669.76044,  5556.5235,       8.665,       0.000!   !END!
3047 ! X =   669.76044,  5556.0235,       4.610,       0.000!   !END!
3048 ! X =   669.76044,  5555.5235,       0.000,       0.000!   !END!
3049 ! X =   669.76044,  5555.0235,       0.000,       0.000!   !END!
3050 ! X =   669.76044,  5554.5235,       0.000,       0.000!   !END!
3051 ! X =   669.76044,  5554.0235,       0.000,       0.000!   !END!
3052 ! X =   669.76044,  5553.5235,       0.000,       0.000!   !END!
3053 ! X =   669.76044,  5553.0235,       0.000,       0.000!   !END!
3054 ! X =   669.76044,  5552.5235,       0.000,       0.000!   !END!
3055 ! X =   669.76044,  5552.0235,       0.000,       0.000!   !END!
3056 ! X =   669.76044,  5551.5235,       0.000,       0.000!   !END!
3057 ! X =   669.76044,  5551.0235,       0.000,       0.000!   !END!
3058 ! X =   669.76044,  5550.5235,       0.000,       0.000!   !END!
3059 ! X =   669.76044,  5550.0235,       0.000,       0.000!   !END!
3060 ! X =   669.76044,  5549.5235,       0.000,       0.000!   !END!
3061 ! X =   669.76044,  5549.0235,       0.000,       0.000!   !END!
3062 ! X =   669.76044,  5548.5235,       0.000,       0.000!   !END!
3063 ! X =   669.76044,  5548.0235,       0.000,       0.000!   !END!
3064 ! X =   669.76044,  5547.5235,       0.000,       0.000!   !END!
3065 ! X =   669.76044,  5547.0235,       0.000,       0.000!   !END!
3066 ! X =   669.76044,  5546.5235,       0.000,       0.000!   !END!
3067 ! X =   669.76044,  5546.0235,       0.000,       0.000!   !END!
3068 ! X =   669.76044,  5545.5235,       0.000,       0.000!   !END!
3069 ! X =   669.76044,  5545.0235,       0.000,       0.000!   !END!
3070 ! X =   669.76044,  5544.5235,       0.000,       0.000!   !END!
3071 ! X =   669.76044,  5544.0235,       0.000,       0.000!   !END!
3072 ! X =   669.26044,  5556.5235,      17.834,       0.000!   !END!
3073 ! X =   669.26044,  5556.0235,       6.923,       0.000!   !END!
3074 ! X =   669.26044,  5555.5235,       0.000,       0.000!   !END!
3075 ! X =   669.26044,  5555.0235,       0.000,       0.000!   !END!
3076 ! X =   669.26044,  5554.5235,       0.000,       0.000!   !END!
3077 ! X =   669.26044,  5554.0235,       0.000,       0.000!   !END!
3078 ! X =   669.26044,  5553.5235,       0.000,       0.000!   !END!
3079 ! X =   669.26044,  5553.0235,       0.000,       0.000!   !END!
3080 ! X =   669.26044,  5552.5235,       0.000,       0.000!   !END!
3081 ! X =   669.26044,  5552.0235,       0.000,       0.000!   !END!
3082 ! X =   669.26044,  5551.5235,       0.000,       0.000!   !END!
3083 ! X =   669.26044,  5551.0235,       0.000,       0.000!   !END!
3084 ! X =   669.26044,  5550.5235,       0.000,       0.000!   !END!
3085 ! X =   669.26044,  5550.0235,       0.000,       0.000!   !END!
3086 ! X =   669.26044,  5549.5235,       0.000,       0.000!   !END!
3087 ! X =   669.26044,  5549.0235,       0.000,       0.000!   !END!
3088 ! X =   669.26044,  5548.5235,       0.000,       0.000!   !END!
3089 ! X =   669.26044,  5548.0235,       0.000,       0.000!   !END!
3090 ! X =   669.26044,  5547.5235,       0.000,       0.000!   !END!
3091 ! X =   669.26044,  5547.0235,       0.000,       0.000!   !END!
3092 ! X =   669.26044,  5546.5235,       0.000,       0.000!   !END!
3093 ! X =   669.26044,  5546.0235,       0.000,       0.000!   !END!
3094 ! X =   669.26044,  5545.5235,       0.000,       0.000!   !END!
3095 ! X =   669.26044,  5545.0235,       0.000,       0.000!   !END!
3096 ! X =   669.26044,  5544.5235,       0.000,       0.000!   !END!
3097 ! X =   669.26044,  5544.0235,       0.000,       0.000!   !END!
3098 ! X =   668.76044,  5556.5235,      21.646,       0.000!   !END!
3099 ! X =   668.76044,  5556.0235,       6.901,       0.000!   !END!
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3100 ! X =   668.76044,  5555.5235,       0.716,       0.000!   !END!
3101 ! X =   668.76044,  5555.0235,       0.000,       0.000!   !END!
3102 ! X =   668.76044,  5554.5235,       0.000,       0.000!   !END!
3103 ! X =   668.76044,  5554.0235,       0.000,       0.000!   !END!
3104 ! X =   668.76044,  5553.5235,       0.000,       0.000!   !END!
3105 ! X =   668.76044,  5553.0235,       0.000,       0.000!   !END!
3106 ! X =   668.76044,  5552.5235,       0.000,       0.000!   !END!
3107 ! X =   668.76044,  5552.0235,       0.000,       0.000!   !END!
3108 ! X =   668.76044,  5551.5235,       0.000,       0.000!   !END!
3109 ! X =   668.76044,  5551.0235,       0.000,       0.000!   !END!
3110 ! X =   668.76044,  5550.5235,       0.000,       0.000!   !END!
3111 ! X =   668.76044,  5550.0235,       0.000,       0.000!   !END!
3112 ! X =   668.76044,  5549.5235,       0.000,       0.000!   !END!
3113 ! X =   668.76044,  5549.0235,       0.000,       0.000!   !END!
3114 ! X =   668.76044,  5548.5235,       0.000,       0.000!   !END!
3115 ! X =   668.76044,  5548.0235,       0.000,       0.000!   !END!
3116 ! X =   668.76044,  5547.5235,       0.000,       0.000!   !END!
3117 ! X =   668.76044,  5547.0235,       0.000,       0.000!   !END!
3118 ! X =   668.76044,  5546.5235,       0.000,       0.000!   !END!
3119 ! X =   668.76044,  5546.0235,       0.000,       0.000!   !END!
3120 ! X =   668.76044,  5545.5235,       0.000,       0.000!   !END!
3121 ! X =   668.76044,  5545.0235,       0.000,       0.000!   !END!
3122 ! X =   668.76044,  5544.5235,       0.000,       0.000!   !END!
3123 ! X =   668.76044,  5544.0235,       0.000,       0.000!   !END!
3124 ! X =   668.26044,  5556.5235,      18.779,       0.000!   !END!
3125 ! X =   668.26044,  5556.0235,      11.999,       0.000!   !END!
3126 ! X =   668.26044,  5555.5235,       3.045,       0.000!   !END!
3127 ! X =   668.26044,  5555.0235,       0.000,       0.000!   !END!
3128 ! X =   668.26044,  5554.5235,       0.000,       0.000!   !END!
3129 ! X =   668.26044,  5554.0235,       0.000,       0.000!   !END!
3130 ! X =   668.26044,  5553.5235,       0.000,       0.000!   !END!
3131 ! X =   668.26044,  5553.0235,       0.000,       0.000!   !END!
3132 ! X =   668.26044,  5552.5235,       0.000,       0.000!   !END!
3133 ! X =   668.26044,  5552.0235,       0.000,       0.000!   !END!
3134 ! X =   668.26044,  5551.5235,       0.000,       0.000!   !END!
3135 ! X =   668.26044,  5551.0235,       0.000,       0.000!   !END!
3136 ! X =   668.26044,  5550.5235,       0.000,       0.000!   !END!
3137 ! X =   668.26044,  5550.0235,       0.000,       0.000!   !END!
3138 ! X =   668.26044,  5549.5235,       0.000,       0.000!   !END!
3139 ! X =   668.26044,  5549.0235,       0.000,       0.000!   !END!
3140 ! X =   668.26044,  5548.5235,       0.000,       0.000!   !END!
3141 ! X =   668.26044,  5548.0235,       0.000,       0.000!   !END!
3142 ! X =   668.26044,  5547.5235,       0.000,       0.000!   !END!
3143 ! X =   668.26044,  5547.0235,       0.000,       0.000!   !END!
3144 ! X =   668.26044,  5546.5235,       0.000,       0.000!   !END!
3145 ! X =   668.26044,  5546.0235,       0.000,       0.000!   !END!
3146 ! X =   668.26044,  5545.5235,       0.000,       0.000!   !END!
3147 ! X =   668.26044,  5545.0235,       0.000,       0.000!   !END!
3148 ! X =   668.26044,  5544.5235,       0.000,       0.000!   !END!
3149 ! X =   668.26044,  5544.0235,       0.000,       0.000!   !END!
3150 ! X =   667.76044,  5556.5235,      18.836,       0.000!   !END!
3151 ! X =   667.76044,  5556.0235,      14.241,       0.000!   !END!
3152 ! X =   667.76044,  5555.5235,       6.547,       0.000!   !END!
3153 ! X =   667.76044,  5555.0235,       0.000,       0.000!   !END!
3154 ! X =   667.76044,  5554.5235,       0.000,       0.000!   !END!
3155 ! X =   667.76044,  5554.0235,       0.000,       0.000!   !END!
3156 ! X =   667.76044,  5553.5235,       0.000,       0.000!   !END!
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3157 ! X =   667.76044,  5553.0235,       0.000,       0.000!   !END!
3158 ! X =   667.76044,  5552.5235,       0.000,       0.000!   !END!
3159 ! X =   667.76044,  5552.0235,       0.000,       0.000!   !END!
3160 ! X =   667.76044,  5551.5235,       0.000,       0.000!   !END!
3161 ! X =   667.76044,  5551.0235,       0.000,       0.000!   !END!
3162 ! X =   667.76044,  5550.5235,       0.000,       0.000!   !END!
3163 ! X =   667.76044,  5550.0235,       0.000,       0.000!   !END!
3164 ! X =   667.76044,  5549.5235,       0.000,       0.000!   !END!
3165 ! X =   667.76044,  5549.0235,       0.000,       0.000!   !END!
3166 ! X =   667.76044,  5548.5235,       0.000,       0.000!   !END!
3167 ! X =   667.76044,  5548.0235,       0.000,       0.000!   !END!
3168 ! X =   667.76044,  5547.5235,       0.000,       0.000!   !END!
3169 ! X =   667.76044,  5547.0235,       0.000,       0.000!   !END!
3170 ! X =   667.76044,  5546.5235,       0.000,       0.000!   !END!
3171 ! X =   667.76044,  5546.0235,       0.000,       0.000!   !END!
3172 ! X =   667.76044,  5545.5235,       0.000,       0.000!   !END!
3173 ! X =   667.76044,  5545.0235,       0.000,       0.000!   !END!
3174 ! X =   667.76044,  5544.5235,       0.000,       0.000!   !END!
3175 ! X =   667.76044,  5544.0235,       0.000,       0.000!   !END!
3176 ! X =   667.26044,  5556.5235,      21.574,       0.000!   !END!
3177 ! X =   667.26044,  5556.0235,      15.722,       0.000!   !END!
3178 ! X =   667.26044,  5555.5235,       8.018,       0.000!   !END!
3179 ! X =   667.26044,  5555.0235,       0.000,       0.000!   !END!
3180 ! X =   667.26044,  5554.5235,       0.000,       0.000!   !END!
3181 ! X =   667.26044,  5554.0235,       0.000,       0.000!   !END!
3182 ! X =   667.26044,  5553.5235,       0.000,       0.000!   !END!
3183 ! X =   667.26044,  5553.0235,       0.000,       0.000!   !END!
3184 ! X =   667.26044,  5552.5235,       0.000,       0.000!   !END!
3185 ! X =   667.26044,  5552.0235,       0.000,       0.000!   !END!
3186 ! X =   667.26044,  5551.5235,       0.000,       0.000!   !END!
3187 ! X =   667.26044,  5551.0235,       0.000,       0.000!   !END!
3188 ! X =   667.26044,  5550.5235,       0.000,       0.000!   !END!
3189 ! X =   667.26044,  5550.0235,       0.000,       0.000!   !END!
3190 ! X =   667.26044,  5549.5235,       0.000,       0.000!   !END!
3191 ! X =   667.26044,  5549.0235,       0.000,       0.000!   !END!
3192 ! X =   667.26044,  5548.5235,       0.000,       0.000!   !END!
3193 ! X =   667.26044,  5548.0235,       0.000,       0.000!   !END!
3194 ! X =   667.26044,  5547.5235,       0.000,       0.000!   !END!
3195 ! X =   667.26044,  5547.0235,       0.000,       0.000!   !END!
3196 ! X =   667.26044,  5546.5235,       0.000,       0.000!   !END!
3197 ! X =   667.26044,  5546.0235,       0.000,       0.000!   !END!
3198 ! X =   667.26044,  5545.5235,       0.000,       0.000!   !END!
3199 ! X =   667.26044,  5545.0235,       0.000,       0.000!   !END!
3200 ! X =   667.26044,  5544.5235,       0.000,       0.000!   !END!
3201 ! X =   667.26044,  5544.0235,       0.000,       0.000!   !END!
3202 ! X =   666.76044,  5556.5235,      21.582,       0.000!   !END!
3203 ! X =   666.76044,  5556.0235,      19.579,       0.000!   !END!
3204 ! X =   666.76044,  5555.5235,      13.027,       0.000!   !END!
3205 ! X =   666.76044,  5555.0235,       4.791,       0.000!   !END!
3206 ! X =   666.76044,  5554.5235,       0.000,       0.000!   !END!
3207 ! X =   666.76044,  5554.0235,       0.000,       0.000!   !END!
3208 ! X =   666.76044,  5553.5235,       0.000,       0.000!   !END!
3209 ! X =   666.76044,  5553.0235,       0.000,       0.000!   !END!
3210 ! X =   666.76044,  5552.5235,       0.000,       0.000!   !END!
3211 ! X =   666.76044,  5552.0235,       0.000,       0.000!   !END!
3212 ! X =   666.76044,  5551.5235,       0.000,       0.000!   !END!
3213 ! X =   666.76044,  5551.0235,       0.000,       0.000!   !END!
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3214 ! X =   666.76044,  5550.5235,       0.000,       0.000!   !END!
3215 ! X =   666.76044,  5550.0235,       0.000,       0.000!   !END!
3216 ! X =   666.76044,  5549.5235,       0.000,       0.000!   !END!
3217 ! X =   666.76044,  5549.0235,       0.000,       0.000!   !END!
3218 ! X =   666.76044,  5548.5235,       0.000,       0.000!   !END!
3219 ! X =   666.76044,  5548.0235,       0.000,       0.000!   !END!
3220 ! X =   666.76044,  5547.5235,       0.000,       0.000!   !END!
3221 ! X =   666.76044,  5547.0235,       0.000,       0.000!   !END!
3222 ! X =   666.76044,  5546.5235,       0.000,       0.000!   !END!
3223 ! X =   666.76044,  5546.0235,       0.000,       0.000!   !END!
3224 ! X =   666.76044,  5545.5235,       0.000,       0.000!   !END!
3225 ! X =   666.76044,  5545.0235,       0.000,       0.000!   !END!
3226 ! X =   666.76044,  5544.5235,       0.000,       0.000!   !END!
3227 ! X =   666.76044,  5544.0235,       0.000,       0.000!   !END!
3228 ! X =   666.26044,  5556.5235,      20.000,       0.000!   !END!
3229 ! X =   666.26044,  5556.0235,      20.000,       0.000!   !END!
3230 ! X =   666.26044,  5555.5235,      15.408,       0.000!   !END!
3231 ! X =   666.26044,  5555.0235,       5.454,       0.000!   !END!
3232 ! X =   666.26044,  5554.5235,       0.000,       0.000!   !END!
3233 ! X =   666.26044,  5554.0235,       0.000,       0.000!   !END!
3234 ! X =   666.26044,  5553.5235,       0.000,       0.000!   !END!
3235 ! X =   666.26044,  5553.0235,       0.000,       0.000!   !END!
3236 ! X =   666.26044,  5552.5235,       0.000,       0.000!   !END!
3237 ! X =   666.26044,  5552.0235,       0.000,       0.000!   !END!
3238 ! X =   666.26044,  5551.5235,       0.000,       0.000!   !END!
3239 ! X =   666.26044,  5551.0235,       0.000,       0.000!   !END!
3240 ! X =   666.26044,  5550.5235,       0.000,       0.000!   !END!
3241 ! X =   666.26044,  5550.0235,       0.000,       0.000!   !END!
3242 ! X =   666.26044,  5549.5235,       0.000,       0.000!   !END!
3243 ! X =   666.26044,  5549.0235,       0.000,       0.000!   !END!
3244 ! X =   666.26044,  5548.5235,       0.000,       0.000!   !END!
3245 ! X =   666.26044,  5548.0235,       0.000,       0.000!   !END!
3246 ! X =   666.26044,  5547.5235,       0.000,       0.000!   !END!
3247 ! X =   666.26044,  5547.0235,       0.000,       0.000!   !END!
3248 ! X =   666.26044,  5546.5235,       0.000,       0.000!   !END!
3249 ! X =   666.26044,  5546.0235,       0.000,       0.000!   !END!
3250 ! X =   666.26044,  5545.5235,       0.000,       0.000!   !END!
3251 ! X =   666.26044,  5545.0235,       0.000,       0.000!   !END!
3252 ! X =   666.26044,  5544.5235,       0.000,       0.000!   !END!
3253 ! X =   666.26044,  5544.0235,       0.000,       0.000!   !END!
3254 ! X =   665.76044,  5556.5235,      25.196,       0.000!   !END!
3255 ! X =   665.76044,  5556.0235,      20.259,       0.000!   !END!
3256 ! X =   665.76044,  5555.5235,      18.047,       0.000!   !END!
3257 ! X =   665.76044,  5555.0235,      13.822,       0.000!   !END!
3258 ! X =   665.76044,  5554.5235,       7.205,       0.000!   !END!
3259 ! X =   665.76044,  5554.0235,       0.000,       0.000!   !END!
3260 ! X =   665.76044,  5553.5235,       0.000,       0.000!   !END!
3261 ! X =   665.76044,  5553.0235,       0.000,       0.000!   !END!
3262 ! X =   665.76044,  5552.5235,       0.000,       0.000!   !END!
3263 ! X =   665.76044,  5552.0235,       0.000,       0.000!   !END!
3264 ! X =   665.76044,  5551.5235,       0.000,       0.000!   !END!
3265 ! X =   665.76044,  5551.0235,       0.000,       0.000!   !END!
3266 ! X =   665.76044,  5550.5235,       0.000,       0.000!   !END!
3267 ! X =   665.76044,  5550.0235,       0.000,       0.000!   !END!
3268 ! X =   665.76044,  5549.5235,       0.000,       0.000!   !END!
3269 ! X =   665.76044,  5549.0235,       0.000,       0.000!   !END!
3270 ! X =   665.76044,  5548.5235,       0.000,       0.000!   !END!
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3271 ! X =   665.76044,  5548.0235,       0.000,       0.000!   !END!
3272 ! X =   665.76044,  5547.5235,       0.000,       0.000!   !END!
3273 ! X =   665.76044,  5547.0235,       0.000,       0.000!   !END!
3274 ! X =   665.76044,  5546.5235,       0.000,       0.000!   !END!
3275 ! X =   665.76044,  5546.0235,       0.000,       0.000!   !END!
3276 ! X =   665.76044,  5545.5235,       0.000,       0.000!   !END!
3277 ! X =   665.76044,  5545.0235,       0.000,       0.000!   !END!
3278 ! X =   665.76044,  5544.5235,       0.000,       0.000!   !END!
3279 ! X =   665.76044,  5544.0235,       0.000,       0.000!   !END!
3280 ! X =   665.26044,  5556.5235,      30.525,       0.000!   !END!
3281 ! X =   665.26044,  5556.0235,      24.286,       0.000!   !END!
3282 ! X =   665.26044,  5555.5235,      19.691,       0.000!   !END!
3283 ! X =   665.26044,  5555.0235,      17.124,       0.000!   !END!
3284 ! X =   665.26044,  5554.5235,      13.321,       0.000!   !END!
3285 ! X =   665.26044,  5554.0235,       5.970,       0.000!   !END!
3286 ! X =   665.26044,  5553.5235,       0.000,       0.000!   !END!
3287 ! X =   665.26044,  5553.0235,       0.000,       0.000!   !END!
3288 ! X =   665.26044,  5552.5235,       0.000,       0.000!   !END!
3289 ! X =   665.26044,  5552.0235,       0.000,       0.000!   !END!
3290 ! X =   665.26044,  5551.5235,       0.000,       0.000!   !END!
3291 ! X =   665.26044,  5551.0235,       0.000,       0.000!   !END!
3292 ! X =   665.26044,  5550.5235,       0.000,       0.000!   !END!
3293 ! X =   665.26044,  5550.0235,       0.000,       0.000!   !END!
3294 ! X =   665.26044,  5549.5235,       0.000,       0.000!   !END!
3295 ! X =   665.26044,  5549.0235,       0.000,       0.000!   !END!
3296 ! X =   665.26044,  5548.5235,       0.000,       0.000!   !END!
3297 ! X =   665.26044,  5548.0235,       0.000,       0.000!   !END!
3298 ! X =   665.26044,  5547.5235,       0.000,       0.000!   !END!
3299 ! X =   665.26044,  5547.0235,       0.000,       0.000!   !END!
3300 ! X =   665.26044,  5546.5235,       0.000,       0.000!   !END!
3301 ! X =   665.26044,  5546.0235,       0.000,       0.000!   !END!
3302 ! X =   665.26044,  5545.5235,       0.000,       0.000!   !END!
3303 ! X =   665.26044,  5545.0235,       0.000,       0.000!   !END!
3304 ! X =   665.26044,  5544.5235,       0.000,       0.000!   !END!
3305 ! X =   665.26044,  5544.0235,       0.000,       0.000!   !END!
3306 ! X =   677.76044,  5557.0235,       0.000,       0.000!   !END!
3307 ! X =   677.76044,  5557.5235,       0.000,       0.000!   !END!
3308 ! X =   677.76044,  5558.0235,      45.236,       0.000!   !END!
3309 ! X =   677.76044,  5558.5235,      28.638,       0.000!   !END!
3310 ! X =   677.76044,  5559.0235,      16.046,       0.000!   !END!
3311 ! X =   677.76044,  5559.5235,       0.000,       0.000!   !END!
3312 ! X =   677.76044,  5560.0235,       0.000,       0.000!   !END!
3313 ! X =   677.76044,  5560.5235,       0.000,       0.000!   !END!
3314 ! X =   677.76044,  5561.0235,       0.000,       0.000!   !END!
3315 ! X =   677.76044,  5561.5235,       0.000,       0.000!   !END!
3316 ! X =   677.76044,  5562.0235,       0.000,       0.000!   !END!
3317 ! X =   677.76044,  5562.5235,       0.000,       0.000!   !END!
3318 ! X =   677.76044,  5563.0235,       0.000,       0.000!   !END!
3319 ! X =   677.76044,  5563.5235,       0.000,       0.000!   !END!
3320 ! X =   677.76044,  5564.0235,       0.000,       0.000!   !END!
3321 ! X =   677.76044,  5564.5235,       0.000,       0.000!   !END!
3322 ! X =   677.76044,  5565.0235,       0.000,       0.000!   !END!
3323 ! X =   677.76044,  5565.5235,       0.000,       0.000!   !END!
3324 ! X =   677.76044,  5566.0235,       0.000,       0.000!   !END!
3325 ! X =   677.76044,  5566.5235,       0.000,       0.000!   !END!
3326 ! X =   677.76044,  5567.0235,       0.000,       0.000!   !END!
3327 ! X =   677.76044,  5567.5235,       0.000,       0.000!   !END!
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3328 ! X =   677.76044,  5568.0235,       0.000,       0.000!   !END!
3329 ! X =   677.76044,  5568.5235,       1.920,       0.000!   !END!
3330 ! X =   677.76044,  5569.0235,      13.785,       0.000!   !END!
3331 ! X =   677.76044,  5569.5235,      33.629,       0.000!   !END!
3332 ! X =   677.76044,  5570.0235,      63.944,       0.000!   !END!
3333 ! X =   677.76044,  5570.5235,      96.949,       0.000!   !END!
3334 ! X =   677.76044,  5571.0235,      91.094,       0.000!   !END!
3335 ! X =   677.76044,  5571.5235,      82.786,       0.000!   !END!
3336 ! X =   677.76044,  5572.0235,      86.753,       0.000!   !END!
3337 ! X =   677.76044,  5572.5235,      83.880,       0.000!   !END!
3338 ! X =   677.76044,  5573.0235,     100.945,       0.000!   !END!
3339 ! X =   677.76044,  5573.5235,     121.275,       0.000!   !END!
3340 ! X =   677.76044,  5574.0235,     103.733,       0.000!   !END!
3341 ! X =   677.26044,  5557.0235,       0.000,       0.000!   !END!
3342 ! X =   677.26044,  5557.5235,      10.201,       0.000!   !END!
3343 ! X =   677.26044,  5558.0235,      34.689,       0.000!   !END!
3344 ! X =   677.26044,  5558.5235,      25.883,       0.000!   !END!
3345 ! X =   677.26044,  5559.0235,      28.529,       0.000!   !END!
3346 ! X =   677.26044,  5559.5235,      10.143,       0.000!   !END!
3347 ! X =   677.26044,  5560.0235,       0.000,       0.000!   !END!
3348 ! X =   677.26044,  5560.5235,       0.000,       0.000!   !END!
3349 ! X =   677.26044,  5561.0235,       0.000,       0.000!   !END!
3350 ! X =   677.26044,  5561.5235,       0.000,       0.000!   !END!
3351 ! X =   677.26044,  5562.0235,       0.000,       0.000!   !END!
3352 ! X =   677.26044,  5562.5235,       0.000,       0.000!   !END!
3353 ! X =   677.26044,  5563.0235,       0.000,       0.000!   !END!
3354 ! X =   677.26044,  5563.5235,       0.000,       0.000!   !END!
3355 ! X =   677.26044,  5564.0235,       0.000,       0.000!   !END!
3356 ! X =   677.26044,  5564.5235,       0.000,       0.000!   !END!
3357 ! X =   677.26044,  5565.0235,       0.000,       0.000!   !END!
3358 ! X =   677.26044,  5565.5235,       0.000,       0.000!   !END!
3359 ! X =   677.26044,  5566.0235,       0.000,       0.000!   !END!
3360 ! X =   677.26044,  5566.5235,       0.000,       0.000!   !END!
3361 ! X =   677.26044,  5567.0235,       0.000,       0.000!   !END!
3362 ! X =   677.26044,  5567.5235,       0.000,       0.000!   !END!
3363 ! X =   677.26044,  5568.0235,       0.945,       0.000!   !END!
3364 ! X =   677.26044,  5568.5235,      11.014,       0.000!   !END!
3365 ! X =   677.26044,  5569.0235,      32.188,       0.000!   !END!
3366 ! X =   677.26044,  5569.5235,      69.986,       0.000!   !END!
3367 ! X =   677.26044,  5570.0235,      86.737,       0.000!   !END!
3368 ! X =   677.26044,  5570.5235,      91.219,       0.000!   !END!
3369 ! X =   677.26044,  5571.0235,     100.942,       0.000!   !END!
3370 ! X =   677.26044,  5571.5235,      79.491,       0.000!   !END!
3371 ! X =   677.26044,  5572.0235,      91.702,       0.000!   !END!
3372 ! X =   677.26044,  5572.5235,     110.748,       0.000!   !END!
3373 ! X =   677.26044,  5573.0235,     100.979,       0.000!   !END!
3374 ! X =   677.26044,  5573.5235,     128.828,       0.000!   !END!
3375 ! X =   677.26044,  5574.0235,     125.341,       0.000!   !END!
3376 ! X =   676.76044,  5557.0235,       0.000,       0.000!   !END!
3377 ! X =   676.76044,  5557.5235,       0.000,       0.000!   !END!
3378 ! X =   676.76044,  5558.0235,       0.000,       0.000!   !END!
3379 ! X =   676.76044,  5558.5235,      27.799,       0.000!   !END!
3380 ! X =   676.76044,  5559.0235,      29.655,       0.000!   !END!
3381 ! X =   676.76044,  5559.5235,      28.876,       0.000!   !END!
3382 ! X =   676.76044,  5560.0235,      26.121,       0.000!   !END!
3383 ! X =   676.76044,  5560.5235,       2.484,       0.000!   !END!
3384 ! X =   676.76044,  5561.0235,       0.000,       0.000!   !END!
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3385 ! X =   676.76044,  5561.5235,       0.000,       0.000!   !END!
3386 ! X =   676.76044,  5562.0235,       0.000,       0.000!   !END!
3387 ! X =   676.76044,  5562.5235,       0.000,       0.000!   !END!
3388 ! X =   676.76044,  5563.0235,       0.000,       0.000!   !END!
3389 ! X =   676.76044,  5563.5235,       0.000,       0.000!   !END!
3390 ! X =   676.76044,  5564.0235,       0.000,       0.000!   !END!
3391 ! X =   676.76044,  5564.5235,       0.000,       0.000!   !END!
3392 ! X =   676.76044,  5565.0235,       0.000,       0.000!   !END!
3393 ! X =   676.76044,  5565.5235,       0.000,       0.000!   !END!
3394 ! X =   676.76044,  5566.0235,       0.000,       0.000!   !END!
3395 ! X =   676.76044,  5566.5235,       0.000,       0.000!   !END!
3396 ! X =   676.76044,  5567.0235,       0.000,       0.000!   !END!
3397 ! X =   676.76044,  5567.5235,       0.074,       0.000!   !END!
3398 ! X =   676.76044,  5568.0235,       9.215,       0.000!   !END!
3399 ! X =   676.76044,  5568.5235,      28.264,       0.000!   !END!
3400 ! X =   676.76044,  5569.0235,      51.409,       0.000!   !END!
3401 ! X =   676.76044,  5569.5235,      87.547,       0.000!   !END!
3402 ! X =   676.76044,  5570.0235,      93.888,       0.000!   !END!
3403 ! X =   676.76044,  5570.5235,      85.302,       0.000!   !END!
3404 ! X =   676.76044,  5571.0235,      81.039,       0.000!   !END!
3405 ! X =   676.76044,  5571.5235,      79.108,       0.000!   !END!
3406 ! X =   676.76044,  5572.0235,     102.656,       0.000!   !END!
3407 ! X =   676.76044,  5572.5235,     117.040,       0.000!   !END!
3408 ! X =   676.76044,  5573.0235,     109.494,       0.000!   !END!
3409 ! X =   676.76044,  5573.5235,     117.886,       0.000!   !END!
3410 ! X =   676.76044,  5574.0235,     112.312,       0.000!   !END!
3411 ! X =   676.26044,  5557.0235,       0.000,       0.000!   !END!
3412 ! X =   676.26044,  5557.5235,       0.000,       0.000!   !END!
3413 ! X =   676.26044,  5558.0235,       0.000,       0.000!   !END!
3414 ! X =   676.26044,  5558.5235,      25.693,       0.000!   !END!
3415 ! X =   676.26044,  5559.0235,      27.413,       0.000!   !END!
3416 ! X =   676.26044,  5559.5235,      29.990,       0.000!   !END!
3417 ! X =   676.26044,  5560.0235,      28.000,       0.000!   !END!
3418 ! X =   676.26044,  5560.5235,      30.597,       0.000!   !END!
3419 ! X =   676.26044,  5561.0235,      27.791,       0.000!   !END!
3420 ! X =   676.26044,  5561.5235,      11.042,       0.000!   !END!
3421 ! X =   676.26044,  5562.0235,       0.000,       0.000!   !END!
3422 ! X =   676.26044,  5562.5235,       0.000,       0.000!   !END!
3423 ! X =   676.26044,  5563.0235,       0.000,       0.000!   !END!
3424 ! X =   676.26044,  5563.5235,       0.000,       0.000!   !END!
3425 ! X =   676.26044,  5564.0235,       0.000,       0.000!   !END!
3426 ! X =   676.26044,  5564.5235,       0.000,       0.000!   !END!
3427 ! X =   676.26044,  5565.0235,       0.000,       0.000!   !END!
3428 ! X =   676.26044,  5565.5235,       0.000,       0.000!   !END!
3429 ! X =   676.26044,  5566.0235,       0.000,       0.000!   !END!
3430 ! X =   676.26044,  5566.5235,       0.000,       0.000!   !END!
3431 ! X =   676.26044,  5567.0235,       0.000,       0.000!   !END!
3432 ! X =   676.26044,  5567.5235,      15.569,       0.000!   !END!
3433 ! X =   676.26044,  5568.0235,      33.518,       0.000!   !END!
3434 ! X =   676.26044,  5568.5235,      53.573,       0.000!   !END!
3435 ! X =   676.26044,  5569.0235,      64.237,       0.000!   !END!
3436 ! X =   676.26044,  5569.5235,      88.394,       0.000!   !END!
3437 ! X =   676.26044,  5570.0235,      84.041,       0.000!   !END!
3438 ! X =   676.26044,  5570.5235,      80.693,       0.000!   !END!
3439 ! X =   676.26044,  5571.0235,      85.126,       0.000!   !END!
3440 ! X =   676.26044,  5571.5235,     103.380,       0.000!   !END!
3441 ! X =   676.26044,  5572.0235,     114.195,       0.000!   !END!
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3442 ! X =   676.26044,  5572.5235,      98.968,       0.000!   !END!
3443 ! X =   676.26044,  5573.0235,      73.204,       0.000!   !END!
3444 ! X =   676.26044,  5573.5235,      79.076,       0.000!   !END!
3445 ! X =   676.26044,  5574.0235,     107.462,       0.000!   !END!
3446 ! X =   675.76044,  5557.0235,       0.000,       0.000!   !END!
3447 ! X =   675.76044,  5557.5235,       0.000,       0.000!   !END!
3448 ! X =   675.76044,  5558.0235,       0.000,       0.000!   !END!
3449 ! X =   675.76044,  5558.5235,      26.620,       0.000!   !END!
3450 ! X =   675.76044,  5559.0235,      27.000,       0.000!   !END!
3451 ! X =   675.76044,  5559.5235,      29.764,       0.000!   !END!
3452 ! X =   675.76044,  5560.0235,      30.000,       0.000!   !END!
3453 ! X =   675.76044,  5560.5235,      28.404,       0.000!   !END!
3454 ! X =   675.76044,  5561.0235,      27.677,       0.000!   !END!
3455 ! X =   675.76044,  5561.5235,      28.033,       0.000!   !END!
3456 ! X =   675.76044,  5562.0235,      29.198,       0.000!   !END!
3457 ! X =   675.76044,  5562.5235,      23.439,       0.000!   !END!
3458 ! X =   675.76044,  5563.0235,      20.085,       0.000!   !END!
3459 ! X =   675.76044,  5563.5235,      11.905,       0.000!   !END!
3460 ! X =   675.76044,  5564.0235,       6.304,       0.000!   !END!
3461 ! X =   675.76044,  5564.5235,       0.170,       0.000!   !END!
3462 ! X =   675.76044,  5565.0235,       0.000,       0.000!   !END!
3463 ! X =   675.76044,  5565.5235,       6.245,       0.000!   !END!
3464 ! X =   675.76044,  5566.0235,      12.288,       0.000!   !END!
3465 ! X =   675.76044,  5566.5235,      12.376,       0.000!   !END!
3466 ! X =   675.76044,  5567.0235,      29.493,       0.000!   !END!
3467 ! X =   675.76044,  5567.5235,      35.986,       0.000!   !END!
3468 ! X =   675.76044,  5568.0235,      51.225,       0.000!   !END!
3469 ! X =   675.76044,  5568.5235,      75.818,       0.000!   !END!
3470 ! X =   675.76044,  5569.0235,      83.633,       0.000!   !END!
3471 ! X =   675.76044,  5569.5235,      67.728,       0.000!   !END!
3472 ! X =   675.76044,  5570.0235,      84.464,       0.000!   !END!
3473 ! X =   675.76044,  5570.5235,      81.168,       0.000!   !END!
3474 ! X =   675.76044,  5571.0235,      92.259,       0.000!   !END!
3475 ! X =   675.76044,  5571.5235,     102.591,       0.000!   !END!
3476 ! X =   675.76044,  5572.0235,      78.000,       0.000!   !END!
3477 ! X =   675.76044,  5572.5235,      89.576,       0.000!   !END!
3478 ! X =   675.76044,  5573.0235,     112.977,       0.000!   !END!
3479 ! X =   675.76044,  5573.5235,      69.424,       0.000!   !END!
3480 ! X =   675.76044,  5574.0235,     118.020,       0.000!   !END!
3481 ! X =   675.26044,  5557.0235,       0.000,       0.000!   !END!
3482 ! X =   675.26044,  5557.5235,       0.000,       0.000!   !END!
3483 ! X =   675.26044,  5558.0235,       0.000,       0.000!   !END!
3484 ! X =   675.26044,  5558.5235,      24.494,       0.000!   !END!
3485 ! X =   675.26044,  5559.0235,      26.008,       0.000!   !END!
3486 ! X =   675.26044,  5559.5235,      26.528,       0.000!   !END!
3487 ! X =   675.26044,  5560.0235,      28.992,       0.000!   !END!
3488 ! X =   675.26044,  5560.5235,      40.651,       0.000!   !END!
3489 ! X =   675.26044,  5561.0235,      44.447,       0.000!   !END!
3490 ! X =   675.26044,  5561.5235,      46.537,       0.000!   !END!
3491 ! X =   675.26044,  5562.0235,      31.649,       0.000!   !END!
3492 ! X =   675.26044,  5562.5235,      29.891,       0.000!   !END!
3493 ! X =   675.26044,  5563.0235,      29.627,       0.000!   !END!
3494 ! X =   675.26044,  5563.5235,      28.565,       0.000!   !END!
3495 ! X =   675.26044,  5564.0235,      26.882,       0.000!   !END!
3496 ! X =   675.26044,  5564.5235,      28.119,       0.000!   !END!
3497 ! X =   675.26044,  5565.0235,      20.827,       0.000!   !END!
3498 ! X =   675.26044,  5565.5235,      28.022,       0.000!   !END!
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3499 ! X =   675.26044,  5566.0235,      16.551,       0.000!   !END!
3500 ! X =   675.26044,  5566.5235,       5.536,       0.000!   !END!
3501 ! X =   675.26044,  5567.0235,      32.858,       0.000!   !END!
3502 ! X =   675.26044,  5567.5235,      65.201,       0.000!   !END!
3503 ! X =   675.26044,  5568.0235,      83.896,       0.000!   !END!
3504 ! X =   675.26044,  5568.5235,      81.259,       0.000!   !END!
3505 ! X =   675.26044,  5569.0235,      94.813,       0.000!   !END!
3506 ! X =   675.26044,  5569.5235,      92.759,       0.000!   !END!
3507 ! X =   675.26044,  5570.0235,      74.027,       0.000!   !END!
3508 ! X =   675.26044,  5570.5235,      86.529,       0.000!   !END!
3509 ! X =   675.26044,  5571.0235,     102.395,       0.000!   !END!
3510 ! X =   675.26044,  5571.5235,     104.067,       0.000!   !END!
3511 ! X =   675.26044,  5572.0235,      92.672,       0.000!   !END!
3512 ! X =   675.26044,  5572.5235,     100.666,       0.000!   !END!
3513 ! X =   675.26044,  5573.0235,     101.587,       0.000!   !END!
3514 ! X =   675.26044,  5573.5235,     111.054,       0.000!   !END!
3515 ! X =   675.26044,  5574.0235,      77.614,       0.000!   !END!
3516 ! X =   674.76044,  5557.0235,       0.000,       0.000!   !END!
3517 ! X =   674.76044,  5557.5235,       0.000,       0.000!   !END!
3518 ! X =   674.76044,  5558.0235,       0.000,       0.000!   !END!
3519 ! X =   674.76044,  5558.5235,      29.093,       0.000!   !END!
3520 ! X =   674.76044,  5559.0235,      26.000,       0.000!   !END!
3521 ! X =   674.76044,  5559.5235,      25.556,       0.000!   !END!
3522 ! X =   674.76044,  5560.0235,      27.105,       0.000!   !END!
3523 ! X =   674.76044,  5560.5235,      47.139,       0.000!   !END!
3524 ! X =   674.76044,  5561.0235,      46.730,       0.000!   !END!
3525 ! X =   674.76044,  5561.5235,      46.388,       0.000!   !END!
3526 ! X =   674.76044,  5562.0235,      44.771,       0.000!   !END!
3527 ! X =   674.76044,  5562.5235,      46.632,       0.000!   !END!
3528 ! X =   674.76044,  5563.0235,      40.630,       0.000!   !END!
3529 ! X =   674.76044,  5563.5235,      35.404,       0.000!   !END!
3530 ! X =   674.76044,  5564.0235,      32.538,       0.000!   !END!
3531 ! X =   674.76044,  5564.5235,      31.990,       0.000!   !END!
3532 ! X =   674.76044,  5565.0235,      29.108,       0.000!   !END!
3533 ! X =   674.76044,  5565.5235,      34.022,       0.000!   !END!
3534 ! X =   674.76044,  5566.0235,      33.329,       0.000!   !END!
3535 ! X =   674.76044,  5566.5235,      37.786,       0.000!   !END!
3536 ! X =   674.76044,  5567.0235,      48.460,       0.000!   !END!
3537 ! X =   674.76044,  5567.5235,      82.402,       0.000!   !END!
3538 ! X =   674.76044,  5568.0235,      92.875,       0.000!   !END!
3539 ! X =   674.76044,  5568.5235,      86.643,       0.000!   !END!
3540 ! X =   674.76044,  5569.0235,      89.033,       0.000!   !END!
3541 ! X =   674.76044,  5569.5235,      94.260,       0.000!   !END!
3542 ! X =   674.76044,  5570.0235,      94.014,       0.000!   !END!
3543 ! X =   674.76044,  5570.5235,      90.799,       0.000!   !END!
3544 ! X =   674.76044,  5571.0235,     100.000,       0.000!   !END!
3545 ! X =   674.76044,  5571.5235,     104.727,       0.000!   !END!
3546 ! X =   674.76044,  5572.0235,      97.140,       0.000!   !END!
3547 ! X =   674.76044,  5572.5235,     117.182,       0.000!   !END!
3548 ! X =   674.76044,  5573.0235,     120.373,       0.000!   !END!
3549 ! X =   674.76044,  5573.5235,     105.921,       0.000!   !END!
3550 ! X =   674.76044,  5574.0235,      75.692,       0.000!   !END!
3551 ! X =   674.26044,  5557.0235,       0.000,       0.000!   !END!
3552 ! X =   674.26044,  5557.5235,       0.000,       0.000!   !END!
3553 ! X =   674.26044,  5558.0235,       0.000,       0.000!   !END!
3554 ! X =   674.26044,  5558.5235,      26.282,       0.000!   !END!
3555 ! X =   674.26044,  5559.0235,      39.616,       0.000!   !END!
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3556 ! X =   674.26044,  5559.5235,      25.372,       0.000!   !END!
3557 ! X =   674.26044,  5560.0235,      29.108,       0.000!   !END!
3558 ! X =   674.26044,  5560.5235,      45.346,       0.000!   !END!
3559 ! X =   674.26044,  5561.0235,      45.383,       0.000!   !END!
3560 ! X =   674.26044,  5561.5235,      46.925,       0.000!   !END!
3561 ! X =   674.26044,  5562.0235,      44.769,       0.000!   !END!
3562 ! X =   674.26044,  5562.5235,      46.040,       0.000!   !END!
3563 ! X =   674.26044,  5563.0235,      45.159,       0.000!   !END!
3564 ! X =   674.26044,  5563.5235,      48.855,       0.000!   !END!
3565 ! X =   674.26044,  5564.0235,      42.414,       0.000!   !END!
3566 ! X =   674.26044,  5564.5235,      40.002,       0.000!   !END!
3567 ! X =   674.26044,  5565.0235,      40.274,       0.000!   !END!
3568 ! X =   674.26044,  5565.5235,      41.467,       0.000!   !END!
3569 ! X =   674.26044,  5566.0235,      41.673,       0.000!   !END!
3570 ! X =   674.26044,  5566.5235,      48.485,       0.000!   !END!
3571 ! X =   674.26044,  5567.0235,      74.076,       0.000!   !END!
3572 ! X =   674.26044,  5567.5235,      81.953,       0.000!   !END!
3573 ! X =   674.26044,  5568.0235,      77.635,       0.000!   !END!
3574 ! X =   674.26044,  5568.5235,      95.553,       0.000!   !END!
3575 ! X =   674.26044,  5569.0235,      89.938,       0.000!   !END!
3576 ! X =   674.26044,  5569.5235,      87.637,       0.000!   !END!
3577 ! X =   674.26044,  5570.0235,      86.865,       0.000!   !END!
3578 ! X =   674.26044,  5570.5235,      97.365,       0.000!   !END!
3579 ! X =   674.26044,  5571.0235,      98.435,       0.000!   !END!
3580 ! X =   674.26044,  5571.5235,     104.225,       0.000!   !END!
3581 ! X =   674.26044,  5572.0235,     117.000,       0.000!   !END!
3582 ! X =   674.26044,  5572.5235,     108.372,       0.000!   !END!
3583 ! X =   674.26044,  5573.0235,     105.334,       0.000!   !END!
3584 ! X =   674.26044,  5573.5235,      69.000,       0.000!   !END!
3585 ! X =   674.26044,  5574.0235,     179.316,       0.000!   !END!
3586 ! X =   673.76044,  5557.0235,       0.000,       0.000!   !END!
3587 ! X =   673.76044,  5557.5235,       0.000,       0.000!   !END!
3588 ! X =   673.76044,  5558.0235,       0.735,       0.000!   !END!
3589 ! X =   673.76044,  5558.5235,      30.136,       0.000!   !END!
3590 ! X =   673.76044,  5559.0235,      42.384,       0.000!   !END!
3591 ! X =   673.76044,  5559.5235,      39.891,       0.000!   !END!
3592 ! X =   673.76044,  5560.0235,      29.000,       0.000!   !END!
3593 ! X =   673.76044,  5560.5235,      31.703,       0.000!   !END!
3594 ! X =   673.76044,  5561.0235,      45.083,       0.000!   !END!
3595 ! X =   673.76044,  5561.5235,      46.474,       0.000!   !END!
3596 ! X =   673.76044,  5562.0235,      45.332,       0.000!   !END!
3597 ! X =   673.76044,  5562.5235,      46.393,       0.000!   !END!
3598 ! X =   673.76044,  5563.0235,      43.866,       0.000!   !END!
3599 ! X =   673.76044,  5563.5235,      48.683,       0.000!   !END!
3600 ! X =   673.76044,  5564.0235,      45.305,       0.000!   !END!
3601 ! X =   673.76044,  5564.5235,      46.859,       0.000!   !END!
3602 ! X =   673.76044,  5565.0235,      46.897,       0.000!   !END!
3603 ! X =   673.76044,  5565.5235,      47.861,       0.000!   !END!
3604 ! X =   673.76044,  5566.0235,      42.997,       0.000!   !END!
3605 ! X =   673.76044,  5566.5235,      63.894,       0.000!   !END!
3606 ! X =   673.76044,  5567.0235,      74.682,       0.000!   !END!
3607 ! X =   673.76044,  5567.5235,      73.247,       0.000!   !END!
3608 ! X =   673.76044,  5568.0235,      88.176,       0.000!   !END!
3609 ! X =   673.76044,  5568.5235,      86.662,       0.000!   !END!
3610 ! X =   673.76044,  5569.0235,      96.423,       0.000!   !END!
3611 ! X =   673.76044,  5569.5235,      95.550,       0.000!   !END!
3612 ! X =   673.76044,  5570.0235,      99.302,       0.000!   !END!
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3613 ! X =   673.76044,  5570.5235,     104.556,       0.000!   !END!
3614 ! X =   673.76044,  5571.0235,     102.211,       0.000!   !END!
3615 ! X =   673.76044,  5571.5235,     113.927,       0.000!   !END!
3616 ! X =   673.76044,  5572.0235,      97.544,       0.000!   !END!
3617 ! X =   673.76044,  5572.5235,     107.330,       0.000!   !END!
3618 ! X =   673.76044,  5573.0235,      82.974,       0.000!   !END!
3619 ! X =   673.76044,  5573.5235,      72.054,       0.000!   !END!
3620 ! X =   673.76044,  5574.0235,     255.083,       0.000!   !END!
3621 ! X =   673.26044,  5557.0235,       0.000,       0.000!   !END!
3622 ! X =   673.26044,  5557.5235,       0.000,       0.000!   !END!
3623 ! X =   673.26044,  5558.0235,       8.365,       0.000!   !END!
3624 ! X =   673.26044,  5558.5235,      28.543,       0.000!   !END!
3625 ! X =   673.26044,  5559.0235,      42.000,       0.000!   !END!
3626 ! X =   673.26044,  5559.5235,      42.071,       0.000!   !END!
3627 ! X =   673.26044,  5560.0235,      43.672,       0.000!   !END!
3628 ! X =   673.26044,  5560.5235,      27.816,       0.000!   !END!
3629 ! X =   673.26044,  5561.0235,      28.028,       0.000!   !END!
3630 ! X =   673.26044,  5561.5235,      26.700,       0.000!   !END!
3631 ! X =   673.26044,  5562.0235,      34.859,       0.000!   !END!
3632 ! X =   673.26044,  5562.5235,      46.866,       0.000!   !END!
3633 ! X =   673.26044,  5563.0235,      48.827,       0.000!   !END!
3634 ! X =   673.26044,  5563.5235,      48.527,       0.000!   !END!
3635 ! X =   673.26044,  5564.0235,      48.602,       0.000!   !END!
3636 ! X =   673.26044,  5564.5235,      54.583,       0.000!   !END!
3637 ! X =   673.26044,  5565.0235,      60.078,       0.000!   !END!
3638 ! X =   673.26044,  5565.5235,      68.704,       0.000!   !END!
3639 ! X =   673.26044,  5566.0235,      70.534,       0.000!   !END!
3640 ! X =   673.26044,  5566.5235,      73.564,       0.000!   !END!
3641 ! X =   673.26044,  5567.0235,      72.138,       0.000!   !END!
3642 ! X =   673.26044,  5567.5235,      94.759,       0.000!   !END!
3643 ! X =   673.26044,  5568.0235,      80.482,       0.000!   !END!
3644 ! X =   673.26044,  5568.5235,      99.123,       0.000!   !END!
3645 ! X =   673.26044,  5569.0235,      99.980,       0.000!   !END!
3646 ! X =   673.26044,  5569.5235,      93.234,       0.000!   !END!
3647 ! X =   673.26044,  5570.0235,      97.413,       0.000!   !END!
3648 ! X =   673.26044,  5570.5235,      95.971,       0.000!   !END!
3649 ! X =   673.26044,  5571.0235,     102.355,       0.000!   !END!
3650 ! X =   673.26044,  5571.5235,     109.458,       0.000!   !END!
3651 ! X =   673.26044,  5572.0235,      97.294,       0.000!   !END!
3652 ! X =   673.26044,  5572.5235,     106.000,       0.000!   !END!
3653 ! X =   673.26044,  5573.0235,      69.000,       0.000!   !END!
3654 ! X =   673.26044,  5573.5235,     101.326,       0.000!   !END!
3655 ! X =   673.26044,  5574.0235,     292.505,       0.000!   !END!
3656 ! X =   672.76044,  5557.0235,       0.000,       0.000!   !END!
3657 ! X =   672.76044,  5557.5235,       0.000,       0.000!   !END!
3658 ! X =   672.76044,  5558.0235,       7.564,       0.000!   !END!
3659 ! X =   672.76044,  5558.5235,      31.032,       0.000!   !END!
3660 ! X =   672.76044,  5559.0235,      49.186,       0.000!   !END!
3661 ! X =   672.76044,  5559.5235,      43.845,       0.000!   !END!
3662 ! X =   672.76044,  5560.0235,      44.282,       0.000!   !END!
3663 ! X =   672.76044,  5560.5235,      42.925,       0.000!   !END!
3664 ! X =   672.76044,  5561.0235,      37.566,       0.000!   !END!
3665 ! X =   672.76044,  5561.5235,      34.094,       0.000!   !END!
3666 ! X =   672.76044,  5562.0235,      29.341,       0.000!   !END!
3667 ! X =   672.76044,  5562.5235,      50.989,       0.000!   !END!
3668 ! X =   672.76044,  5563.0235,      52.415,       0.000!   !END!
3669 ! X =   672.76044,  5563.5235,      64.945,       0.000!   !END!
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3670 ! X =   672.76044,  5564.0235,      65.669,       0.000!   !END!
3671 ! X =   672.76044,  5564.5235,      67.898,       0.000!   !END!
3672 ! X =   672.76044,  5565.0235,      70.565,       0.000!   !END!
3673 ! X =   672.76044,  5565.5235,      69.179,       0.000!   !END!
3674 ! X =   672.76044,  5566.0235,      69.395,       0.000!   !END!
3675 ! X =   672.76044,  5566.5235,      74.633,       0.000!   !END!
3676 ! X =   672.76044,  5567.0235,      74.961,       0.000!   !END!
3677 ! X =   672.76044,  5567.5235,      83.070,       0.000!   !END!
3678 ! X =   672.76044,  5568.0235,      86.390,       0.000!   !END!
3679 ! X =   672.76044,  5568.5235,      88.380,       0.000!   !END!
3680 ! X =   672.76044,  5569.0235,      92.518,       0.000!   !END!
3681 ! X =   672.76044,  5569.5235,      96.241,       0.000!   !END!
3682 ! X =   672.76044,  5570.0235,     105.751,       0.000!   !END!
3683 ! X =   672.76044,  5570.5235,      98.761,       0.000!   !END!
3684 ! X =   672.76044,  5571.0235,     106.707,       0.000!   !END!
3685 ! X =   672.76044,  5571.5235,      97.740,       0.000!   !END!
3686 ! X =   672.76044,  5572.0235,      97.023,       0.000!   !END!
3687 ! X =   672.76044,  5572.5235,      93.509,       0.000!   !END!
3688 ! X =   672.76044,  5573.0235,     158.303,       0.000!   !END!
3689 ! X =   672.76044,  5573.5235,     242.400,       0.000!   !END!
3690 ! X =   672.76044,  5574.0235,     234.978,       0.000!   !END!
3691 ! X =   672.26044,  5557.0235,       0.000,       0.000!   !END!
3692 ! X =   672.26044,  5557.5235,       0.437,       0.000!   !END!
3693 ! X =   672.26044,  5558.0235,      11.525,       0.000!   !END!
3694 ! X =   672.26044,  5558.5235,      19.012,       0.000!   !END!
3695 ! X =   672.26044,  5559.0235,      30.029,       0.000!   !END!
3696 ! X =   672.26044,  5559.5235,      34.896,       0.000!   !END!
3697 ! X =   672.26044,  5560.0235,      23.842,       0.000!   !END!
3698 ! X =   672.26044,  5560.5235,      24.548,       0.000!   !END!
3699 ! X =   672.26044,  5561.0235,      37.648,       0.000!   !END!
3700 ! X =   672.26044,  5561.5235,      33.628,       0.000!   !END!
3701 ! X =   672.26044,  5562.0235,      29.636,       0.000!   !END!
3702 ! X =   672.26044,  5562.5235,      53.765,       0.000!   !END!
3703 ! X =   672.26044,  5563.0235,      65.044,       0.000!   !END!
3704 ! X =   672.26044,  5563.5235,      67.743,       0.000!   !END!
3705 ! X =   672.26044,  5564.0235,      64.288,       0.000!   !END!
3706 ! X =   672.26044,  5564.5235,      67.998,       0.000!   !END!
3707 ! X =   672.26044,  5565.0235,      71.088,       0.000!   !END!
3708 ! X =   672.26044,  5565.5235,      72.189,       0.000!   !END!
3709 ! X =   672.26044,  5566.0235,      68.094,       0.000!   !END!
3710 ! X =   672.26044,  5566.5235,      74.907,       0.000!   !END!
3711 ! X =   672.26044,  5567.0235,      78.441,       0.000!   !END!
3712 ! X =   672.26044,  5567.5235,      81.661,       0.000!   !END!
3713 ! X =   672.26044,  5568.0235,      94.340,       0.000!   !END!
3714 ! X =   672.26044,  5568.5235,     100.462,       0.000!   !END!
3715 ! X =   672.26044,  5569.0235,      98.534,       0.000!   !END!
3716 ! X =   672.26044,  5569.5235,     101.585,       0.000!   !END!
3717 ! X =   672.26044,  5570.0235,     107.349,       0.000!   !END!
3718 ! X =   672.26044,  5570.5235,      99.793,       0.000!   !END!
3719 ! X =   672.26044,  5571.0235,      90.649,       0.000!   !END!
3720 ! X =   672.26044,  5571.5235,     106.439,       0.000!   !END!
3721 ! X =   672.26044,  5572.0235,      91.319,       0.000!   !END!
3722 ! X =   672.26044,  5572.5235,      74.991,       0.000!   !END!
3723 ! X =   672.26044,  5573.0235,     149.138,       0.000!   !END!
3724 ! X =   672.26044,  5573.5235,     230.907,       0.000!   !END!
3725 ! X =   672.26044,  5574.0235,     213.737,       0.000!   !END!
3726 ! X =   671.76044,  5557.0235,       1.249,       0.000!   !END!
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3727 ! X =   671.76044,  5557.5235,       0.000,       0.000!   !END!
3728 ! X =   671.76044,  5558.0235,       0.000,       0.000!   !END!
3729 ! X =   671.76044,  5558.5235,      16.362,       0.000!   !END!
3730 ! X =   671.76044,  5559.0235,      34.484,       0.000!   !END!
3731 ! X =   671.76044,  5559.5235,      24.457,       0.000!   !END!
3732 ! X =   671.76044,  5560.0235,      29.837,       0.000!   !END!
3733 ! X =   671.76044,  5560.5235,      27.783,       0.000!   !END!
3734 ! X =   671.76044,  5561.0235,      27.014,       0.000!   !END!
3735 ! X =   671.76044,  5561.5235,      35.552,       0.000!   !END!
3736 ! X =   671.76044,  5562.0235,      49.467,       0.000!   !END!
3737 ! X =   671.76044,  5562.5235,      66.451,       0.000!   !END!
3738 ! X =   671.76044,  5563.0235,      68.705,       0.000!   !END!
3739 ! X =   671.76044,  5563.5235,      66.000,       0.000!   !END!
3740 ! X =   671.76044,  5564.0235,      66.463,       0.000!   !END!
3741 ! X =   671.76044,  5564.5235,      66.982,       0.000!   !END!
3742 ! X =   671.76044,  5565.0235,      71.714,       0.000!   !END!
3743 ! X =   671.76044,  5565.5235,      70.452,       0.000!   !END!
3744 ! X =   671.76044,  5566.0235,      69.000,       0.000!   !END!
3745 ! X =   671.76044,  5566.5235,      78.972,       0.000!   !END!
3746 ! X =   671.76044,  5567.0235,      79.461,       0.000!   !END!
3747 ! X =   671.76044,  5567.5235,      92.069,       0.000!   !END!
3748 ! X =   671.76044,  5568.0235,      98.875,       0.000!   !END!
3749 ! X =   671.76044,  5568.5235,      93.501,       0.000!   !END!
3750 ! X =   671.76044,  5569.0235,      97.132,       0.000!   !END!
3751 ! X =   671.76044,  5569.5235,      97.552,       0.000!   !END!
3752 ! X =   671.76044,  5570.0235,     104.775,       0.000!   !END!
3753 ! X =   671.76044,  5570.5235,     115.657,       0.000!   !END!
3754 ! X =   671.76044,  5571.0235,     109.623,       0.000!   !END!
3755 ! X =   671.76044,  5571.5235,      69.408,       0.000!   !END!
3756 ! X =   671.76044,  5572.0235,      69.000,       0.000!   !END!
3757 ! X =   671.76044,  5572.5235,     114.208,       0.000!   !END!
3758 ! X =   671.76044,  5573.0235,     238.387,       0.000!   !END!
3759 ! X =   671.76044,  5573.5235,     205.128,       0.000!   !END!
3760 ! X =   671.76044,  5574.0235,     292.841,       0.000!   !END!
3761 ! X =   671.26044,  5557.0235,       0.000,       0.000!   !END!
3762 ! X =   671.26044,  5557.5235,       0.000,       0.000!   !END!
3763 ! X =   671.26044,  5558.0235,       0.000,       0.000!   !END!
3764 ! X =   671.26044,  5558.5235,       0.000,       0.000!   !END!
3765 ! X =   671.26044,  5559.0235,       0.000,       0.000!   !END!
3766 ! X =   671.26044,  5559.5235,      33.234,       0.000!   !END!
3767 ! X =   671.26044,  5560.0235,      34.099,       0.000!   !END!
3768 ! X =   671.26044,  5560.5235,      26.909,       0.000!   !END!
3769 ! X =   671.26044,  5561.0235,      25.027,       0.000!   !END!
3770 ! X =   671.26044,  5561.5235,      49.044,       0.000!   !END!
3771 ! X =   671.26044,  5562.0235,      48.779,       0.000!   !END!
3772 ! X =   671.26044,  5562.5235,      70.139,       0.000!   !END!
3773 ! X =   671.26044,  5563.0235,      67.159,       0.000!   !END!
3774 ! X =   671.26044,  5563.5235,      66.000,       0.000!   !END!
3775 ! X =   671.26044,  5564.0235,      69.104,       0.000!   !END!
3776 ! X =   671.26044,  5564.5235,      69.303,       0.000!   !END!
3777 ! X =   671.26044,  5565.0235,      71.570,       0.000!   !END!
3778 ! X =   671.26044,  5565.5235,      71.000,       0.000!   !END!
3779 ! X =   671.26044,  5566.0235,      72.986,       0.000!   !END!
3780 ! X =   671.26044,  5566.5235,      75.284,       0.000!   !END!
3781 ! X =   671.26044,  5567.0235,      84.501,       0.000!   !END!
3782 ! X =   671.26044,  5567.5235,      84.008,       0.000!   !END!
3783 ! X =   671.26044,  5568.0235,      92.017,       0.000!   !END!
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3784 ! X =   671.26044,  5568.5235,      96.900,       0.000!   !END!
3785 ! X =   671.26044,  5569.0235,      90.336,       0.000!   !END!
3786 ! X =   671.26044,  5569.5235,     101.149,       0.000!   !END!
3787 ! X =   671.26044,  5570.0235,     109.637,       0.000!   !END!
3788 ! X =   671.26044,  5570.5235,     108.927,       0.000!   !END!
3789 ! X =   671.26044,  5571.0235,     129.530,       0.000!   !END!
3790 ! X =   671.26044,  5571.5235,      69.000,       0.000!   !END!
3791 ! X =   671.26044,  5572.0235,      74.468,       0.000!   !END!
3792 ! X =   671.26044,  5572.5235,     219.505,       0.000!   !END!
3793 ! X =   671.26044,  5573.0235,     233.674,       0.000!   !END!
3794 ! X =   671.26044,  5573.5235,     262.348,       0.000!   !END!
3795 ! X =   671.26044,  5574.0235,     332.355,       0.000!   !END!
3796 ! X =   670.76044,  5557.0235,       2.713,       0.000!   !END!
3797 ! X =   670.76044,  5557.5235,      20.982,       0.000!   !END!
3798 ! X =   670.76044,  5558.0235,      19.777,       0.000!   !END!
3799 ! X =   670.76044,  5558.5235,       0.000,       0.000!   !END!
3800 ! X =   670.76044,  5559.0235,       0.000,       0.000!   !END!
3801 ! X =   670.76044,  5559.5235,       0.101,       0.000!   !END!
3802 ! X =   670.76044,  5560.0235,      27.068,       0.000!   !END!
3803 ! X =   670.76044,  5560.5235,      47.569,       0.000!   !END!
3804 ! X =   670.76044,  5561.0235,      48.989,       0.000!   !END!
3805 ! X =   670.76044,  5561.5235,      48.880,       0.000!   !END!
3806 ! X =   670.76044,  5562.0235,      52.548,       0.000!   !END!
3807 ! X =   670.76044,  5562.5235,      52.667,       0.000!   !END!
3808 ! X =   670.76044,  5563.0235,      61.465,       0.000!   !END!
3809 ! X =   670.76044,  5563.5235,      65.762,       0.000!   !END!
3810 ! X =   670.76044,  5564.0235,      69.723,       0.000!   !END!
3811 ! X =   670.76044,  5564.5235,      70.174,       0.000!   !END!
3812 ! X =   670.76044,  5565.0235,      72.948,       0.000!   !END!
3813 ! X =   670.76044,  5565.5235,      75.425,       0.000!   !END!
3814 ! X =   670.76044,  5566.0235,      73.583,       0.000!   !END!
3815 ! X =   670.76044,  5566.5235,      73.343,       0.000!   !END!
3816 ! X =   670.76044,  5567.0235,      79.978,       0.000!   !END!
3817 ! X =   670.76044,  5567.5235,      85.150,       0.000!   !END!
3818 ! X =   670.76044,  5568.0235,      92.566,       0.000!   !END!
3819 ! X =   670.76044,  5568.5235,      84.007,       0.000!   !END!
3820 ! X =   670.76044,  5569.0235,      95.410,       0.000!   !END!
3821 ! X =   670.76044,  5569.5235,     102.323,       0.000!   !END!
3822 ! X =   670.76044,  5570.0235,     111.766,       0.000!   !END!
3823 ! X =   670.76044,  5570.5235,      93.683,       0.000!   !END!
3824 ! X =   670.76044,  5571.0235,      85.435,       0.000!   !END!
3825 ! X =   670.76044,  5571.5235,      73.214,       0.000!   !END!
3826 ! X =   670.76044,  5572.0235,     144.240,       0.000!   !END!
3827 ! X =   670.76044,  5572.5235,     222.495,       0.000!   !END!
3828 ! X =   670.76044,  5573.0235,     234.629,       0.000!   !END!
3829 ! X =   670.76044,  5573.5235,     295.054,       0.000!   !END!
3830 ! X =   670.76044,  5574.0235,     363.296,       0.000!   !END!
3831 ! X =   670.26044,  5557.0235,      19.339,       0.000!   !END!
3832 ! X =   670.26044,  5557.5235,      25.324,       0.000!   !END!
3833 ! X =   670.26044,  5558.0235,      46.514,       0.000!   !END!
3834 ! X =   670.26044,  5558.5235,      53.884,       0.000!   !END!
3835 ! X =   670.26044,  5559.0235,      26.342,       0.000!   !END!
3836 ! X =   670.26044,  5559.5235,       0.000,       0.000!   !END!
3837 ! X =   670.26044,  5560.0235,      32.051,       0.000!   !END!
3838 ! X =   670.26044,  5560.5235,      47.487,       0.000!   !END!
3839 ! X =   670.26044,  5561.0235,      48.459,       0.000!   !END!
3840 ! X =   670.26044,  5561.5235,      50.279,       0.000!   !END!
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3841 ! X =   670.26044,  5562.0235,      50.974,       0.000!   !END!
3842 ! X =   670.26044,  5562.5235,      52.477,       0.000!   !END!
3843 ! X =   670.26044,  5563.0235,      54.724,       0.000!   !END!
3844 ! X =   670.26044,  5563.5235,      67.000,       0.000!   !END!
3845 ! X =   670.26044,  5564.0235,      69.606,       0.000!   !END!
3846 ! X =   670.26044,  5564.5235,      69.017,       0.000!   !END!
3847 ! X =   670.26044,  5565.0235,      72.000,       0.000!   !END!
3848 ! X =   670.26044,  5565.5235,      76.827,       0.000!   !END!
3849 ! X =   670.26044,  5566.0235,      76.793,       0.000!   !END!
3850 ! X =   670.26044,  5566.5235,      72.710,       0.000!   !END!
3851 ! X =   670.26044,  5567.0235,      71.510,       0.000!   !END!
3852 ! X =   670.26044,  5567.5235,      78.607,       0.000!   !END!
3853 ! X =   670.26044,  5568.0235,      82.061,       0.000!   !END!
3854 ! X =   670.26044,  5568.5235,      81.449,       0.000!   !END!
3855 ! X =   670.26044,  5569.0235,      83.617,       0.000!   !END!
3856 ! X =   670.26044,  5569.5235,      84.443,       0.000!   !END!
3857 ! X =   670.26044,  5570.0235,      94.307,       0.000!   !END!
3858 ! X =   670.26044,  5570.5235,      80.709,       0.000!   !END!
3859 ! X =   670.26044,  5571.0235,     122.956,       0.000!   !END!
3860 ! X =   670.26044,  5571.5235,     120.165,       0.000!   !END!
3861 ! X =   670.26044,  5572.0235,     197.112,       0.000!   !END!
3862 ! X =   670.26044,  5572.5235,     230.051,       0.000!   !END!
3863 ! X =   670.26044,  5573.0235,     268.189,       0.000!   !END!
3864 ! X =   670.26044,  5573.5235,     227.239,       0.000!   !END!
3865 ! X =   670.26044,  5574.0235,     299.155,       0.000!   !END!
3866 ! X =   669.76044,  5557.0235,      22.036,       0.000!   !END!
3867 ! X =   669.76044,  5557.5235,      26.733,       0.000!   !END!
3868 ! X =   669.76044,  5558.0235,      53.000,       0.000!   !END!
3869 ! X =   669.76044,  5558.5235,      54.000,       0.000!   !END!
3870 ! X =   669.76044,  5559.0235,      55.000,       0.000!   !END!
3871 ! X =   669.76044,  5559.5235,       8.743,       0.000!   !END!
3872 ! X =   669.76044,  5560.0235,       6.644,       0.000!   !END!
3873 ! X =   669.76044,  5560.5235,      39.299,       0.000!   !END!
3874 ! X =   669.76044,  5561.0235,      47.597,       0.000!   !END!
3875 ! X =   669.76044,  5561.5235,      51.327,       0.000!   !END!
3876 ! X =   669.76044,  5562.0235,      50.023,       0.000!   !END!
3877 ! X =   669.76044,  5562.5235,      52.952,       0.000!   !END!
3878 ! X =   669.76044,  5563.0235,      54.975,       0.000!   !END!
3879 ! X =   669.76044,  5563.5235,      55.767,       0.000!   !END!
3880 ! X =   669.76044,  5564.0235,      68.953,       0.000!   !END!
3881 ! X =   669.76044,  5564.5235,      70.002,       0.000!   !END!
3882 ! X =   669.76044,  5565.0235,      71.105,       0.000!   !END!
3883 ! X =   669.76044,  5565.5235,      78.001,       0.000!   !END!
3884 ! X =   669.76044,  5566.0235,      77.197,       0.000!   !END!
3885 ! X =   669.76044,  5566.5235,      77.234,       0.000!   !END!
3886 ! X =   669.76044,  5567.0235,      74.885,       0.000!   !END!
3887 ! X =   669.76044,  5567.5235,      73.866,       0.000!   !END!
3888 ! X =   669.76044,  5568.0235,      78.161,       0.000!   !END!
3889 ! X =   669.76044,  5568.5235,      79.652,       0.000!   !END!
3890 ! X =   669.76044,  5569.0235,      72.260,       0.000!   !END!
3891 ! X =   669.76044,  5569.5235,      72.290,       0.000!   !END!
3892 ! X =   669.76044,  5570.0235,      71.190,       0.000!   !END!
3893 ! X =   669.76044,  5570.5235,     123.225,       0.000!   !END!
3894 ! X =   669.76044,  5571.0235,     180.492,       0.000!   !END!
3895 ! X =   669.76044,  5571.5235,     128.286,       0.000!   !END!
3896 ! X =   669.76044,  5572.0235,     175.145,       0.000!   !END!
3897 ! X =   669.76044,  5572.5235,     183.154,       0.000!   !END!
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3898 ! X =   669.76044,  5573.0235,     248.273,       0.000!   !END!
3899 ! X =   669.76044,  5573.5235,     265.234,       0.000!   !END!
3900 ! X =   669.76044,  5574.0235,     221.830,       0.000!   !END!
3901 ! X =   669.26044,  5557.0235,      22.696,       0.000!   !END!
3902 ! X =   669.26044,  5557.5235,      27.809,       0.000!   !END!
3903 ! X =   669.26044,  5558.0235,      54.704,       0.000!   !END!
3904 ! X =   669.26044,  5558.5235,      59.418,       0.000!   !END!
3905 ! X =   669.26044,  5559.0235,      57.629,       0.000!   !END!
3906 ! X =   669.26044,  5559.5235,      32.984,       0.000!   !END!
3907 ! X =   669.26044,  5560.0235,       0.000,       0.000!   !END!
3908 ! X =   669.26044,  5560.5235,      23.068,       0.000!   !END!
3909 ! X =   669.26044,  5561.0235,      46.116,       0.000!   !END!
3910 ! X =   669.26044,  5561.5235,      49.000,       0.000!   !END!
3911 ! X =   669.26044,  5562.0235,      51.149,       0.000!   !END!
3912 ! X =   669.26044,  5562.5235,      50.961,       0.000!   !END!
3913 ! X =   669.26044,  5563.0235,      52.543,       0.000!   !END!
3914 ! X =   669.26044,  5563.5235,      57.938,       0.000!   !END!
3915 ! X =   669.26044,  5564.0235,      56.996,       0.000!   !END!
3916 ! X =   669.26044,  5564.5235,      69.231,       0.000!   !END!
3917 ! X =   669.26044,  5565.0235,      71.644,       0.000!   !END!
3918 ! X =   669.26044,  5565.5235,      79.000,       0.000!   !END!
3919 ! X =   669.26044,  5566.0235,      77.699,       0.000!   !END!
3920 ! X =   669.26044,  5566.5235,      79.637,       0.000!   !END!
3921 ! X =   669.26044,  5567.0235,      79.978,       0.000!   !END!
3922 ! X =   669.26044,  5567.5235,      79.887,       0.000!   !END!
3923 ! X =   669.26044,  5568.0235,      77.947,       0.000!   !END!
3924 ! X =   669.26044,  5568.5235,      70.989,       0.000!   !END!
3925 ! X =   669.26044,  5569.0235,      76.898,       0.000!   !END!
3926 ! X =   669.26044,  5569.5235,      86.322,       0.000!   !END!
3927 ! X =   669.26044,  5570.0235,     174.098,       0.000!   !END!
3928 ! X =   669.26044,  5570.5235,     207.821,       0.000!   !END!
3929 ! X =   669.26044,  5571.0235,     161.483,       0.000!   !END!
3930 ! X =   669.26044,  5571.5235,     163.957,       0.000!   !END!
3931 ! X =   669.26044,  5572.0235,     179.483,       0.000!   !END!
3932 ! X =   669.26044,  5572.5235,     212.298,       0.000!   !END!
3933 ! X =   669.26044,  5573.0235,     222.353,       0.000!   !END!
3934 ! X =   669.26044,  5573.5235,     273.150,       0.000!   !END!
3935 ! X =   669.26044,  5574.0235,     230.547,       0.000!   !END!
3936 ! X =   668.76044,  5557.0235,      21.368,       0.000!   !END!
3937 ! X =   668.76044,  5557.5235,      27.606,       0.000!   !END!
3938 ! X =   668.76044,  5558.0235,      52.750,       0.000!   !END!
3939 ! X =   668.76044,  5558.5235,      59.140,       0.000!   !END!
3940 ! X =   668.76044,  5559.0235,      60.749,       0.000!   !END!
3941 ! X =   668.76044,  5559.5235,      61.642,       0.000!   !END!
3942 ! X =   668.76044,  5560.0235,      63.543,       0.000!   !END!
3943 ! X =   668.76044,  5560.5235,       0.537,       0.000!   !END!
3944 ! X =   668.76044,  5561.0235,       0.817,       0.000!   !END!
3945 ! X =   668.76044,  5561.5235,       5.542,       0.000!   !END!
3946 ! X =   668.76044,  5562.0235,       4.000,       0.000!   !END!
3947 ! X =   668.76044,  5562.5235,       8.656,       0.000!   !END!
3948 ! X =   668.76044,  5563.0235,       8.000,       0.000!   !END!
3949 ! X =   668.76044,  5563.5235,      49.577,       0.000!   !END!
3950 ! X =   668.76044,  5564.0235,      58.892,       0.000!   !END!
3951 ! X =   668.76044,  5564.5235,      68.282,       0.000!   !END!
3952 ! X =   668.76044,  5565.0235,      73.075,       0.000!   !END!
3953 ! X =   668.76044,  5565.5235,      77.822,       0.000!   !END!
3954 ! X =   668.76044,  5566.0235,      78.265,       0.000!   !END!
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3955 ! X =   668.76044,  5566.5235,      78.612,       0.000!   !END!
3956 ! X =   668.76044,  5567.0235,      79.274,       0.000!   !END!
3957 ! X =   668.76044,  5567.5235,      77.000,       0.000!   !END!
3958 ! X =   668.76044,  5568.0235,      76.818,       0.000!   !END!
3959 ! X =   668.76044,  5568.5235,      85.060,       0.000!   !END!
3960 ! X =   668.76044,  5569.0235,     194.259,       0.000!   !END!
3961 ! X =   668.76044,  5569.5235,     170.849,       0.000!   !END!
3962 ! X =   668.76044,  5570.0235,     202.058,       0.000!   !END!
3963 ! X =   668.76044,  5570.5235,     241.382,       0.000!   !END!
3964 ! X =   668.76044,  5571.0235,     246.416,       0.000!   !END!
3965 ! X =   668.76044,  5571.5235,     222.752,       0.000!   !END!
3966 ! X =   668.76044,  5572.0235,     233.923,       0.000!   !END!
3967 ! X =   668.76044,  5572.5235,     265.565,       0.000!   !END!
3968 ! X =   668.76044,  5573.0235,     276.207,       0.000!   !END!
3969 ! X =   668.76044,  5573.5235,     288.307,       0.000!   !END!
3970 ! X =   668.76044,  5574.0235,     272.439,       0.000!   !END!
3971 ! X =   668.26044,  5557.0235,      22.404,       0.000!   !END!
3972 ! X =   668.26044,  5557.5235,      29.187,       0.000!   !END!
3973 ! X =   668.26044,  5558.0235,      50.409,       0.000!   !END!
3974 ! X =   668.26044,  5558.5235,      56.639,       0.000!   !END!
3975 ! X =   668.26044,  5559.0235,      61.790,       0.000!   !END!
3976 ! X =   668.26044,  5559.5235,      66.913,       0.000!   !END!
3977 ! X =   668.26044,  5560.0235,      65.404,       0.000!   !END!
3978 ! X =   668.26044,  5560.5235,      65.867,       0.000!   !END!
3979 ! X =   668.26044,  5561.0235,      59.119,       0.000!   !END!
3980 ! X =   668.26044,  5561.5235,      59.112,       0.000!   !END!
3981 ! X =   668.26044,  5562.0235,      39.453,       0.000!   !END!
3982 ! X =   668.26044,  5562.5235,      42.177,       0.000!   !END!
3983 ! X =   668.26044,  5563.0235,      47.790,       0.000!   !END!
3984 ! X =   668.26044,  5563.5235,      16.619,       0.000!   !END!
3985 ! X =   668.26044,  5564.0235,      41.373,       0.000!   !END!
3986 ! X =   668.26044,  5564.5235,      59.000,       0.000!   !END!
3987 ! X =   668.26044,  5565.0235,      71.764,       0.000!   !END!
3988 ! X =   668.26044,  5565.5235,      78.672,       0.000!   !END!
3989 ! X =   668.26044,  5566.0235,      80.777,       0.000!   !END!
3990 ! X =   668.26044,  5566.5235,      80.703,       0.000!   !END!
3991 ! X =   668.26044,  5567.0235,      77.226,       0.000!   !END!
3992 ! X =   668.26044,  5567.5235,      78.305,       0.000!   !END!
3993 ! X =   668.26044,  5568.0235,     136.290,       0.000!   !END!
3994 ! X =   668.26044,  5568.5235,     195.668,       0.000!   !END!
3995 ! X =   668.26044,  5569.0235,     240.557,       0.000!   !END!
3996 ! X =   668.26044,  5569.5235,     240.854,       0.000!   !END!
3997 ! X =   668.26044,  5570.0235,     214.546,       0.000!   !END!
3998 ! X =   668.26044,  5570.5235,     230.356,       0.000!   !END!
3999 ! X =   668.26044,  5571.0235,     246.291,       0.000!   !END!
4000 ! X =   668.26044,  5571.5235,     214.015,       0.000!   !END!
4001 ! X =   668.26044,  5572.0235,     189.688,       0.000!   !END!
4002 ! X =   668.26044,  5572.5235,     212.401,       0.000!   !END!
4003 ! X =   668.26044,  5573.0235,     240.955,       0.000!   !END!
4004 ! X =   668.26044,  5573.5235,     282.151,       0.000!   !END!
4005 ! X =   668.26044,  5574.0235,     277.108,       0.000!   !END!
4006 ! X =   667.76044,  5557.0235,      21.024,       0.000!   !END!
4007 ! X =   667.76044,  5557.5235,      31.857,       0.000!   !END!
4008 ! X =   667.76044,  5558.0235,      46.463,       0.000!   !END!
4009 ! X =   667.76044,  5558.5235,      53.243,       0.000!   !END!
4010 ! X =   667.76044,  5559.0235,      61.212,       0.000!   !END!
4011 ! X =   667.76044,  5559.5235,      66.733,       0.000!   !END!
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4012 ! X =   667.76044,  5560.0235,      67.615,       0.000!   !END!
4013 ! X =   667.76044,  5560.5235,      67.831,       0.000!   !END!
4014 ! X =   667.76044,  5561.0235,      67.927,       0.000!   !END!
4015 ! X =   667.76044,  5561.5235,      63.477,       0.000!   !END!
4016 ! X =   667.76044,  5562.0235,      56.235,       0.000!   !END!
4017 ! X =   667.76044,  5562.5235,      48.333,       0.000!   !END!
4018 ! X =   667.76044,  5563.0235,      52.345,       0.000!   !END!
4019 ! X =   667.76044,  5563.5235,      53.020,       0.000!   !END!
4020 ! X =   667.76044,  5564.0235,      28.715,       0.000!   !END!
4021 ! X =   667.76044,  5564.5235,      30.055,       0.000!   !END!
4022 ! X =   667.76044,  5565.0235,      76.734,       0.000!   !END!
4023 ! X =   667.76044,  5565.5235,      84.367,       0.000!   !END!
4024 ! X =   667.76044,  5566.0235,      83.127,       0.000!   !END!
4025 ! X =   667.76044,  5566.5235,      80.255,       0.000!   !END!
4026 ! X =   667.76044,  5567.0235,      92.050,       0.000!   !END!
4027 ! X =   667.76044,  5567.5235,     137.273,       0.000!   !END!
4028 ! X =   667.76044,  5568.0235,     199.233,       0.000!   !END!
4029 ! X =   667.76044,  5568.5235,     192.381,       0.000!   !END!
4030 ! X =   667.76044,  5569.0235,     187.981,       0.000!   !END!
4031 ! X =   667.76044,  5569.5235,     185.386,       0.000!   !END!
4032 ! X =   667.76044,  5570.0235,     188.002,       0.000!   !END!
4033 ! X =   667.76044,  5570.5235,     171.913,       0.000!   !END!
4034 ! X =   667.76044,  5571.0235,     164.085,       0.000!   !END!
4035 ! X =   667.76044,  5571.5235,     193.368,       0.000!   !END!
4036 ! X =   667.76044,  5572.0235,     202.112,       0.000!   !END!
4037 ! X =   667.76044,  5572.5235,     212.065,       0.000!   !END!
4038 ! X =   667.76044,  5573.0235,     203.885,       0.000!   !END!
4039 ! X =   667.76044,  5573.5235,     198.271,       0.000!   !END!
4040 ! X =   667.76044,  5574.0235,     203.910,       0.000!   !END!
4041 ! X =   667.26044,  5557.0235,      22.000,       0.000!   !END!
4042 ! X =   667.26044,  5557.5235,      33.346,       0.000!   !END!
4043 ! X =   667.26044,  5558.0235,      40.481,       0.000!   !END!
4044 ! X =   667.26044,  5558.5235,      50.369,       0.000!   !END!
4045 ! X =   667.26044,  5559.0235,      59.828,       0.000!   !END!
4046 ! X =   667.26044,  5559.5235,      69.495,       0.000!   !END!
4047 ! X =   667.26044,  5560.0235,      67.226,       0.000!   !END!
4048 ! X =   667.26044,  5560.5235,      67.120,       0.000!   !END!
4049 ! X =   667.26044,  5561.0235,      67.904,       0.000!   !END!
4050 ! X =   667.26044,  5561.5235,      67.834,       0.000!   !END!
4051 ! X =   667.26044,  5562.0235,      69.553,       0.000!   !END!
4052 ! X =   667.26044,  5562.5235,      42.816,       0.000!   !END!
4053 ! X =   667.26044,  5563.0235,      51.990,       0.000!   !END!
4054 ! X =   667.26044,  5563.5235,      50.537,       0.000!   !END!
4055 ! X =   667.26044,  5564.0235,      57.230,       0.000!   !END!
4056 ! X =   667.26044,  5564.5235,      47.955,       0.000!   !END!
4057 ! X =   667.26044,  5565.0235,      57.401,       0.000!   !END!
4058 ! X =   667.26044,  5565.5235,      73.762,       0.000!   !END!
4059 ! X =   667.26044,  5566.0235,      82.732,       0.000!   !END!
4060 ! X =   667.26044,  5566.5235,      88.434,       0.000!   !END!
4061 ! X =   667.26044,  5567.0235,     205.706,       0.000!   !END!
4062 ! X =   667.26044,  5567.5235,     207.320,       0.000!   !END!
4063 ! X =   667.26044,  5568.0235,     209.625,       0.000!   !END!
4064 ! X =   667.26044,  5568.5235,     198.221,       0.000!   !END!
4065 ! X =   667.26044,  5569.0235,     215.924,       0.000!   !END!
4066 ! X =   667.26044,  5569.5235,     194.842,       0.000!   !END!
4067 ! X =   667.26044,  5570.0235,     164.181,       0.000!   !END!
4068 ! X =   667.26044,  5570.5235,     153.497,       0.000!   !END!
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4069 ! X =   667.26044,  5571.0235,     150.064,       0.000!   !END!
4070 ! X =   667.26044,  5571.5235,     149.702,       0.000!   !END!
4071 ! X =   667.26044,  5572.0235,     175.988,       0.000!   !END!
4072 ! X =   667.26044,  5572.5235,     160.816,       0.000!   !END!
4073 ! X =   667.26044,  5573.0235,     128.169,       0.000!   !END!
4074 ! X =   667.26044,  5573.5235,      52.630,       0.000!   !END!
4075 ! X =   667.26044,  5574.0235,      53.454,       0.000!   !END!
4076 ! X =   666.76044,  5557.0235,      23.161,       0.000!   !END!
4077 ! X =   666.76044,  5557.5235,      32.293,       0.000!   !END!
4078 ! X =   666.76044,  5558.0235,      41.584,       0.000!   !END!
4079 ! X =   666.76044,  5558.5235,      48.233,       0.000!   !END!
4080 ! X =   666.76044,  5559.0235,      57.507,       0.000!   !END!
4081 ! X =   666.76044,  5559.5235,      65.630,       0.000!   !END!
4082 ! X =   666.76044,  5560.0235,      68.223,       0.000!   !END!
4083 ! X =   666.76044,  5560.5235,      68.516,       0.000!   !END!
4084 ! X =   666.76044,  5561.0235,      70.368,       0.000!   !END!
4085 ! X =   666.76044,  5561.5235,      69.000,       0.000!   !END!
4086 ! X =   666.76044,  5562.0235,      70.077,       0.000!   !END!
4087 ! X =   666.76044,  5562.5235,      70.255,       0.000!   !END!
4088 ! X =   666.76044,  5563.0235,      69.615,       0.000!   !END!
4089 ! X =   666.76044,  5563.5235,      68.517,       0.000!   !END!
4090 ! X =   666.76044,  5564.0235,      68.043,       0.000!   !END!
4091 ! X =   666.76044,  5564.5235,      58.521,       0.000!   !END!
4092 ! X =   666.76044,  5565.0235,      49.315,       0.000!   !END!
4093 ! X =   666.76044,  5565.5235,      53.377,       0.000!   !END!
4094 ! X =   666.76044,  5566.0235,      85.480,       0.000!   !END!
4095 ! X =   666.76044,  5566.5235,     107.115,       0.000!   !END!
4096 ! X =   666.76044,  5567.0235,     185.741,       0.000!   !END!
4097 ! X =   666.76044,  5567.5235,     208.250,       0.000!   !END!
4098 ! X =   666.76044,  5568.0235,     216.661,       0.000!   !END!
4099 ! X =   666.76044,  5568.5235,     207.322,       0.000!   !END!
4100 ! X =   666.76044,  5569.0235,     184.439,       0.000!   !END!
4101 ! X =   666.76044,  5569.5235,     143.228,       0.000!   !END!
4102 ! X =   666.76044,  5570.0235,     124.395,       0.000!   !END!
4103 ! X =   666.76044,  5570.5235,     168.060,       0.000!   !END!
4104 ! X =   666.76044,  5571.0235,     171.761,       0.000!   !END!
4105 ! X =   666.76044,  5571.5235,     164.572,       0.000!   !END!
4106 ! X =   666.76044,  5572.0235,     164.900,       0.000!   !END!
4107 ! X =   666.76044,  5572.5235,      99.019,       0.000!   !END!
4108 ! X =   666.76044,  5573.0235,      57.616,       0.000!   !END!
4109 ! X =   666.76044,  5573.5235,      50.000,       0.000!   !END!
4110 ! X =   666.76044,  5574.0235,      50.000,       0.000!   !END!
4111 ! X =   666.26044,  5557.0235,      29.230,       0.000!   !END!
4112 ! X =   666.26044,  5557.5235,      32.923,       0.000!   !END!
4113 ! X =   666.26044,  5558.0235,      40.139,       0.000!   !END!
4114 ! X =   666.26044,  5558.5235,      47.678,       0.000!   !END!
4115 ! X =   666.26044,  5559.0235,      55.401,       0.000!   !END!
4116 ! X =   666.26044,  5559.5235,      67.203,       0.000!   !END!
4117 ! X =   666.26044,  5560.0235,      67.729,       0.000!   !END!
4118 ! X =   666.26044,  5560.5235,      75.443,       0.000!   !END!
4119 ! X =   666.26044,  5561.0235,      70.666,       0.000!   !END!
4120 ! X =   666.26044,  5561.5235,      71.022,       0.000!   !END!
4121 ! X =   666.26044,  5562.0235,      71.875,       0.000!   !END!
4122 ! X =   666.26044,  5562.5235,      74.587,       0.000!   !END!
4123 ! X =   666.26044,  5563.0235,      75.140,       0.000!   !END!
4124 ! X =   666.26044,  5563.5235,      76.211,       0.000!   !END!
4125 ! X =   666.26044,  5564.0235,      71.027,       0.000!   !END!
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4126 ! X =   666.26044,  5564.5235,      68.842,       0.000!   !END!
4127 ! X =   666.26044,  5565.0235,      61.261,       0.000!   !END!
4128 ! X =   666.26044,  5565.5235,      49.000,       0.000!   !END!
4129 ! X =   666.26044,  5566.0235,      59.588,       0.000!   !END!
4130 ! X =   666.26044,  5566.5235,     113.261,       0.000!   !END!
4131 ! X =   666.26044,  5567.0235,      97.557,       0.000!   !END!
4132 ! X =   666.26044,  5567.5235,     198.626,       0.000!   !END!
4133 ! X =   666.26044,  5568.0235,     211.968,       0.000!   !END!
4134 ! X =   666.26044,  5568.5235,     219.350,       0.000!   !END!
4135 ! X =   666.26044,  5569.0235,     152.997,       0.000!   !END!
4136 ! X =   666.26044,  5569.5235,     129.892,       0.000!   !END!
4137 ! X =   666.26044,  5570.0235,     122.846,       0.000!   !END!
4138 ! X =   666.26044,  5570.5235,     122.016,       0.000!   !END!
4139 ! X =   666.26044,  5571.0235,     131.301,       0.000!   !END!
4140 ! X =   666.26044,  5571.5235,      98.344,       0.000!   !END!
4141 ! X =   666.26044,  5572.0235,      49.000,       0.000!   !END!
4142 ! X =   666.26044,  5572.5235,      54.560,       0.000!   !END!
4143 ! X =   666.26044,  5573.0235,      50.023,       0.000!   !END!
4144 ! X =   666.26044,  5573.5235,      58.590,       0.000!   !END!
4145 ! X =   666.26044,  5574.0235,      63.000,       0.000!   !END!
4146 ! X =   665.76044,  5557.0235,      31.959,       0.000!   !END!
4147 ! X =   665.76044,  5557.5235,      33.908,       0.000!   !END!
4148 ! X =   665.76044,  5558.0235,      39.353,       0.000!   !END!
4149 ! X =   665.76044,  5558.5235,      45.956,       0.000!   !END!
4150 ! X =   665.76044,  5559.0235,      52.890,       0.000!   !END!
4151 ! X =   665.76044,  5559.5235,      66.600,       0.000!   !END!
4152 ! X =   665.76044,  5560.0235,      64.395,       0.000!   !END!
4153 ! X =   665.76044,  5560.5235,      69.171,       0.000!   !END!
4154 ! X =   665.76044,  5561.0235,      68.811,       0.000!   !END!
4155 ! X =   665.76044,  5561.5235,      73.354,       0.000!   !END!
4156 ! X =   665.76044,  5562.0235,      72.618,       0.000!   !END!
4157 ! X =   665.76044,  5562.5235,      76.739,       0.000!   !END!
4158 ! X =   665.76044,  5563.0235,      78.401,       0.000!   !END!
4159 ! X =   665.76044,  5563.5235,      78.263,       0.000!   !END!
4160 ! X =   665.76044,  5564.0235,      80.660,       0.000!   !END!
4161 ! X =   665.76044,  5564.5235,     100.227,       0.000!   !END!
4162 ! X =   665.76044,  5565.0235,     117.930,       0.000!   !END!
4163 ! X =   665.76044,  5565.5235,      58.297,       0.000!   !END!
4164 ! X =   665.76044,  5566.0235,      49.000,       0.000!   !END!
4165 ! X =   665.76044,  5566.5235,      49.000,       0.000!   !END!
4166 ! X =   665.76044,  5567.0235,      49.000,       0.000!   !END!
4167 ! X =   665.76044,  5567.5235,      49.000,       0.000!   !END!
4168 ! X =   665.76044,  5568.0235,      49.000,       0.000!   !END!
4169 ! X =   665.76044,  5568.5235,      49.000,       0.000!   !END!
4170 ! X =   665.76044,  5569.0235,      65.589,       0.000!   !END!
4171 ! X =   665.76044,  5569.5235,      50.851,       0.000!   !END!
4172 ! X =   665.76044,  5570.0235,      49.000,       0.000!   !END!
4173 ! X =   665.76044,  5570.5235,      55.500,       0.000!   !END!
4174 ! X =   665.76044,  5571.0235,      49.000,       0.000!   !END!
4175 ! X =   665.76044,  5571.5235,      49.000,       0.000!   !END!
4176 ! X =   665.76044,  5572.0235,      49.000,       0.000!   !END!
4177 ! X =   665.76044,  5572.5235,      49.000,       0.000!   !END!
4178 ! X =   665.76044,  5573.0235,      50.000,       0.000!   !END!
4179 ! X =   665.76044,  5573.5235,      50.628,       0.000!   !END!
4180 ! X =   665.76044,  5574.0235,      51.000,       0.000!   !END!
4181 ! X =   665.26044,  5557.0235,      34.215,       0.000!   !END!
4182 ! X =   665.26044,  5557.5235,      34.585,       0.000!   !END!
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4183 ! X =   665.26044,  5558.0235,      38.650,       0.000!   !END!
4184 ! X =   665.26044,  5558.5235,      42.095,       0.000!   !END!
4185 ! X =   665.26044,  5559.0235,      53.694,       0.000!   !END!
4186 ! X =   665.26044,  5559.5235,      71.172,       0.000!   !END!
4187 ! X =   665.26044,  5560.0235,      67.811,       0.000!   !END!
4188 ! X =   665.26044,  5560.5235,      69.791,       0.000!   !END!
4189 ! X =   665.26044,  5561.0235,      71.557,       0.000!   !END!
4190 ! X =   665.26044,  5561.5235,      76.284,       0.000!   !END!
4191 ! X =   665.26044,  5562.0235,      78.017,       0.000!   !END!
4192 ! X =   665.26044,  5562.5235,      78.103,       0.000!   !END!
4193 ! X =   665.26044,  5563.0235,      78.316,       0.000!   !END!
4194 ! X =   665.26044,  5563.5235,      82.420,       0.000!   !END!
4195 ! X =   665.26044,  5564.0235,     105.815,       0.000!   !END!
4196 ! X =   665.26044,  5564.5235,     125.552,       0.000!   !END!
4197 ! X =   665.26044,  5565.0235,     200.104,       0.000!   !END!
4198 ! X =   665.26044,  5565.5235,     237.622,       0.000!   !END!
4199 ! X =   665.26044,  5566.0235,     184.632,       0.000!   !END!
4200 ! X =   665.26044,  5566.5235,      64.577,       0.000!   !END!
4201 ! X =   665.26044,  5567.0235,      49.000,       0.000!   !END!
4202 ! X =   665.26044,  5567.5235,      55.615,       0.000!   !END!
4203 ! X =   665.26044,  5568.0235,     120.834,       0.000!   !END!
4204 ! X =   665.26044,  5568.5235,      85.743,       0.000!   !END!
4205 ! X =   665.26044,  5569.0235,      49.000,       0.000!   !END!
4206 ! X =   665.26044,  5569.5235,      49.000,       0.000!   !END!
4207 ! X =   665.26044,  5570.0235,      50.638,       0.000!   !END!
4208 ! X =   665.26044,  5570.5235,     173.266,       0.000!   !END!
4209 ! X =   665.26044,  5571.0235,     176.590,       0.000!   !END!
4210 ! X =   665.26044,  5571.5235,      57.458,       0.000!   !END!
4211 ! X =   665.26044,  5572.0235,      60.976,       0.000!   !END!
4212 ! X =   665.26044,  5572.5235,     335.915,       0.000!   !END!
4213 ! X =   665.26044,  5573.0235,     316.326,       0.000!   !END!
4214 ! X =   665.26044,  5573.5235,     282.846,       0.000!   !END!
4215 ! X =   665.26044,  5574.0235,     119.250,       0.000!   !END!
4216 ! X =   678.99309, 5560.44449,       0.000,       0.000!   !END!
4217 ! X =    681.1254, 5560.59712,       0.000,       0.000!   !END!
4218 ! X =   681.57868, 5559.80618,       0.000,       0.000!   !END!
4219 ! X =   682.99868, 5560.79139,       0.000,       0.000!   !END!
4220 ! X =   682.59627, 5559.85706,       0.655,       0.000!   !END!
4221 ! X =    682.6379, 5559.84781,       2.880,       0.000!   !END!
4222 ! X =   682.65177, 5559.85706,       3.207,       0.000!   !END!
4223 ! X =   682.67028, 5559.86169,       3.567,       0.000!   !END!
4224 ! X =    682.7119, 5559.88944,       2.569,       0.000!   !END!
4225 ! X =   682.77666, 5559.94032,       0.941,       0.000!   !END!
4226 ! X =   682.77666, 5559.98657,       0.418,       0.000!   !END!
4227 ! X =   682.80904, 5560.00507,       0.470,       0.000!   !END!
4228 ! X =   682.83679, 5559.98657,       1.632,       0.000!   !END!
4229 ! X =   682.85992, 5559.98195,       2.721,       0.000!   !END!
4230 ! X =   682.87842, 5559.96807,       4.596,       0.000!   !END!
4231 ! X =   682.90617, 5559.98195,       4.704,       0.000!   !END!
4232 ! X =    682.9293, 5560.01895,       1.334,       0.000!   !END!
4233 ! X =   682.98943,  5560.0282,       2.274,       0.000!   !END!
4234 ! X =   683.09119,  5560.0837,       3.367,       0.000!   !END!
4235 ! X =   683.10044, 5560.07445,       4.585,       0.000!   !END!
4236 ! X =   683.15594, 5560.09296,       3.973,       0.000!   !END!
4237 ! X =   683.17444,  5560.0837,       5.337,       0.000!   !END!
4238 ! X =   683.23457, 5560.08833,       5.905,       0.000!   !END!
4239 ! X =   683.27158, 5560.11146,       3.271,       0.000!   !END!
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4240 ! X =   683.31783, 5560.13921,       1.119,       0.000!   !END!
4241 ! X =   683.34096, 5560.13921,       1.485,       0.000!   !END!
4242 ! X =   683.35021, 5560.12996,       2.014,       0.000!   !END!
4243 ! X =   683.37796, 5560.12533,       3.048,       0.000!   !END!
4244 ! X =   683.41959, 5560.13921,       1.890,       0.000!   !END!
4245 ! X =   683.44734, 5560.14383,       1.811,       0.000!   !END!
4246 ! X =   683.46122, 5560.16234,       1.422,       0.000!   !END!
4247 ! X =    683.4936, 5560.14846,       1.745,       0.000!   !END!
4248 ! X =   683.52135, 5560.15771,       1.567,       0.000!   !END!
4249 ! X =    683.5306, 5560.14383,       1.873,       0.000!   !END!
4250 ! X =   683.56298, 5560.14383,       1.564,       0.000!   !END!
4251 ! X =   683.58148, 5560.13921,       1.420,       0.000!   !END!
4252 ! X =   683.59998, 5560.12533,       3.470,       0.000!   !END!
4253 ! X =   683.63698, 5560.11608,       3.756,       0.000!   !END!
4254 ! X =   683.65086, 5560.09758,       5.480,       0.000!   !END!
4255 ! X =   683.69249, 5560.10683,       2.761,       0.000!   !END!
4256 ! X =   683.73874, 5560.09296,       1.638,       0.000!   !END!
4257 ! X =   683.75262, 5560.07445,       1.553,       0.000!   !END!
4258 ! X =   683.77112,  5560.0467,       1.755,       0.000!   !END!
4259 ! X =     683.822, 5560.05595,       0.000,       0.000!   !END!
4260 ! X =   683.84975, 5560.03745,       0.725,       0.000!   !END!
4261 ! X =   683.84975, 5560.00045,       2.209,       0.000!   !END!
4262 ! X =   683.86363,  5559.9912,       1.952,       0.000!   !END!
4263 ! X =   683.90526, 5559.92182,       2.070,       0.000!   !END!
4264 ! X =   683.93763, 5559.87556,       2.024,       0.000!   !END!
4265 ! X =   683.93301, 5559.83393,       2.371,       0.000!   !END!
4266 ! X =   683.92376, 5559.79693,       2.693,       0.000!   !END!
4267 ! X =   683.90988, 5559.79231,       3.348,       0.000!   !END!
4268 ! X =   683.90988, 5559.75068,       2.345,       0.000!   !END!
4269 ! X =   683.86825, 5559.69055,       1.929,       0.000!   !END!
4270 ! X =    683.8405, 5559.65354,       2.781,       0.000!   !END!
4271 ! X =   683.73412, 5559.63504,       8.825,       0.000!   !END!
4272 ! X =   683.67399, 5559.63042,      12.258,       0.000!   !END!
4273 ! X =   683.62311, 5559.61654,      12.989,       0.000!   !END!
4274 ! X =   683.39184, 5559.51941,      23.948,       0.000!   !END!
4275 ! X =   683.28083, 5559.73217,      32.915,       0.000!   !END!
4276 ! X =   683.35483, 5559.77843,      31.488,       0.000!   !END!
4277 ! X =   683.24845, 5559.98657,      17.239,       0.000!   !END!
4278 ! X =   681.70819, 5559.21876,      30.707,       0.000!   !END!
4279 ! X =   681.87008,  5558.8811,      62.724,       0.000!   !END!
4280 ! X =   681.78683, 5558.91348,      67.845,       0.000!   !END!
4281 ! X =   680.52872, 5558.32143,     130.846,       0.000!   !END!
4282 ! X =   680.14019, 5558.77009,      52.297,       0.000!   !END!
4283 ! X =   679.76553, 5559.32514,      11.688,       0.000!   !END!
4284 ! X =   679.92279, 5559.52403,       9.728,       0.000!   !END!
4285 ! X =    679.9598, 5559.54716,       8.394,       0.000!   !END!
4286 ! X =   679.98292, 5559.56566,       7.335,       0.000!   !END!
4287 ! X =   679.98755, 5559.58879,       8.581,       0.000!   !END!
4288 ! X =   679.99217, 5559.60729,       9.581,       0.000!   !END!
4289 ! X =   680.00605, 5559.64892,      11.630,       0.000!   !END!
4290 ! X =    680.0153, 5559.70905,      13.977,       0.000!   !END!
4291 ! X =   679.98755,  5559.7738,      14.132,       0.000!   !END!
4292 ! X =   680.00143, 5559.90794,       4.706,       0.000!   !END!
4293 ! X =   679.87654, 5559.92182,       6.941,       0.000!   !END!
4294 ! X =   679.87191, 5559.88481,      10.099,       0.000!   !END!
4295 ! X =   679.80716, 5559.88481,       5.647,       0.000!   !END!
4296 ! X =   679.81178, 5559.92644,       2.111,       0.000!   !END!
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4297 ! X =   679.75628, 5559.87094,       4.666,       0.000!   !END!
4298 ! X =   679.65915, 5559.82931,       2.392,       0.000!   !END!
4299 ! X =   679.58051, 5559.82931,       1.161,       0.000!   !END!
4300 ! X =   679.51576, 5559.82931,       0.204,       0.000!   !END!
4301 ! X =   679.45563, 5559.81081,       0.273,       0.000!   !END!
4302 ! X =   679.44175, 5559.79231,       2.011,       0.000!   !END!
4303 ! X = 679.0130181,5560.445916,       0.000,       0.000!   !END!
4304 ! X = 679.0329463,5560.447343,       0.000,       0.000!   !END!
4305 ! X = 679.0528744,5560.448769,       0.000,       0.000!   !END!
4306 ! X = 679.0728025,5560.450196,       0.000,       0.000!   !END!
4307 ! X = 679.0927307,5560.451622,       0.000,       0.000!   !END!
4308 ! X = 679.1126588,5560.453049,       0.000,       0.000!   !END!
4309 ! X = 679.1325869,5560.454475,       0.000,       0.000!   !END!
4310 ! X =  679.152515,5560.455902,       0.000,       0.000!   !END!
4311 ! X = 679.1724432,5560.457328,       0.000,       0.000!   !END!
4312 ! X = 679.1923713,5560.458754,       0.000,       0.000!   !END!
4313 ! X = 679.2122994,5560.460181,       0.000,       0.000!   !END!
4314 ! X = 679.2322276,5560.461607,       0.000,       0.000!   !END!
4315 ! X = 679.2521557,5560.463034,       0.000,       0.000!   !END!
4316 ! X = 679.2720838, 5560.46446,       0.000,       0.000!   !END!
4317 ! X =  679.292012,5560.465887,       0.000,       0.000!   !END!
4318 ! X = 679.3119401,5560.467313,       0.000,       0.000!   !END!
4319 ! X = 679.3318682, 5560.46874,       0.000,       0.000!   !END!
4320 ! X = 679.3517964,5560.470166,       0.000,       0.000!   !END!
4321 ! X = 679.3717245,5560.471593,       0.000,       0.000!   !END!
4322 ! X = 679.3916526,5560.473019,       0.000,       0.000!   !END!
4323 ! X = 679.4115807,5560.474445,       0.000,       0.000!   !END!
4324 ! X = 679.4315089,5560.475872,       0.000,       0.000!   !END!
4325 ! X =  679.451437,5560.477298,       0.000,       0.000!   !END!
4326 ! X = 679.4713651,5560.478725,       0.000,       0.000!   !END!
4327 ! X = 679.4912933,5560.480151,       0.000,       0.000!   !END!
4328 ! X = 679.5112214,5560.481578,       0.000,       0.000!   !END!
4329 ! X = 679.5311495,5560.483004,       0.000,       0.000!   !END!
4330 ! X = 679.5510777,5560.484431,       0.000,       0.000!   !END!
4331 ! X = 679.5710058,5560.485857,       0.000,       0.000!   !END!
4332 ! X = 679.5909339,5560.487283,       0.000,       0.000!   !END!
4333 ! X = 679.6108621, 5560.48871,       0.000,       0.000!   !END!
4334 ! X = 679.6307902,5560.490136,       0.000,       0.000!   !END!
4335 ! X = 679.6507183,5560.491563,       0.000,       0.000!   !END!
4336 ! X = 679.6706464,5560.492989,       0.000,       0.000!   !END!
4337 ! X = 679.6905746,5560.494416,       0.000,       0.000!   !END!
4338 ! X = 679.7105027,5560.495842,       0.000,       0.000!   !END!
4339 ! X = 679.7304308,5560.497269,       0.000,       0.000!   !END!
4340 ! X =  679.750359,5560.498695,       0.000,       0.000!   !END!
4341 ! X = 679.7702871,5560.500121,       0.000,       0.000!   !END!
4342 ! X = 679.7902152,5560.501548,       0.000,       0.000!   !END!
4343 ! X = 679.8101434,5560.502974,       0.000,       0.000!   !END!
4344 ! X = 679.8300715,5560.504401,       0.000,       0.000!   !END!
4345 ! X = 679.8499996,5560.505827,       0.000,       0.000!   !END!
4346 ! X = 679.8699278,5560.507254,       0.000,       0.000!   !END!
4347 ! X = 679.8898559, 5560.50868,       0.000,       0.000!   !END!
4348 ! X =  679.909784,5560.510107,       0.000,       0.000!   !END!
4349 ! X = 679.9297121,5560.511533,       0.000,       0.000!   !END!
4350 ! X = 679.9496403, 5560.51296,       0.000,       0.000!   !END!
4351 ! X = 679.9695684,5560.514386,       0.000,       0.000!   !END!
4352 ! X = 679.9894965,5560.515812,       0.000,       0.000!   !END!
4353 ! X = 680.0094247,5560.517239,       0.000,       0.000!   !END!
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4354 ! X = 680.0293528,5560.518665,       0.000,       0.000!   !END!
4355 ! X = 680.0492809,5560.520092,       0.000,       0.000!   !END!
4356 ! X = 680.0692091,5560.521518,       0.000,       0.000!   !END!
4357 ! X = 680.0891372,5560.522945,       0.000,       0.000!   !END!
4358 ! X = 680.1090653,5560.524371,       0.000,       0.000!   !END!
4359 ! X = 680.1289935,5560.525798,       0.000,       0.000!   !END!
4360 ! X = 680.1489216,5560.527224,       0.000,       0.000!   !END!
4361 ! X = 680.1688497, 5560.52865,       0.000,       0.000!   !END!
4362 ! X = 680.1887779,5560.530077,       0.000,       0.000!   !END!
4363 ! X =  680.208706,5560.531503,       0.000,       0.000!   !END!
4364 ! X = 680.2286341, 5560.53293,       0.000,       0.000!   !END!
4365 ! X = 680.2485622,5560.534356,       0.000,       0.000!   !END!
4366 ! X = 680.2684904,5560.535783,       0.000,       0.000!   !END!
4367 ! X = 680.2884185,5560.537209,       0.000,       0.000!   !END!
4368 ! X = 680.3083466,5560.538636,       0.000,       0.000!   !END!
4369 ! X = 680.3282748,5560.540062,       0.000,       0.000!   !END!
4370 ! X = 680.3482029,5560.541489,       0.000,       0.000!   !END!
4371 ! X =  680.368131,5560.542915,       0.000,       0.000!   !END!
4372 ! X = 680.3880592,5560.544341,       0.000,       0.000!   !END!
4373 ! X = 680.4079873,5560.545768,       0.000,       0.000!   !END!
4374 ! X = 680.4279154,5560.547194,       0.000,       0.000!   !END!
4375 ! X = 680.4478436,5560.548621,       0.000,       0.000!   !END!
4376 ! X = 680.4677717,5560.550047,       0.000,       0.000!   !END!
4377 ! X = 680.4876998,5560.551474,       0.000,       0.000!   !END!
4378 ! X = 680.5076279,  5560.5529,       0.000,       0.000!   !END!
4379 ! X = 680.5275561,5560.554327,       0.000,       0.000!   !END!
4380 ! X = 680.5474842,5560.555753,       0.000,       0.000!   !END!
4381 ! X = 680.5674123,5560.557179,       0.000,       0.000!   !END!
4382 ! X = 680.5873405,5560.558606,       0.000,       0.000!   !END!
4383 ! X = 680.6072686,5560.560032,       0.000,       0.000!   !END!
4384 ! X = 680.6271967,5560.561459,       0.000,       0.000!   !END!
4385 ! X = 680.6471249,5560.562885,       0.000,       0.000!   !END!
4386 ! X =  680.667053,5560.564312,       0.000,       0.000!   !END!
4387 ! X = 680.6869811,5560.565738,       0.000,       0.000!   !END!
4388 ! X = 680.7069093,5560.567165,       0.000,       0.000!   !END!
4389 ! X = 680.7268374,5560.568591,       0.000,       0.000!   !END!
4390 ! X = 680.7467655,5560.570017,       0.000,       0.000!   !END!
4391 ! X = 680.7666936,5560.571444,       0.000,       0.000!   !END!
4392 ! X = 680.7866218, 5560.57287,       0.000,       0.000!   !END!
4393 ! X = 680.8065499,5560.574297,       0.000,       0.000!   !END!
4394 ! X =  680.826478,5560.575723,       0.000,       0.000!   !END!
4395 ! X = 680.8464062, 5560.57715,       0.000,       0.000!   !END!
4396 ! X = 680.8663343,5560.578576,       0.000,       0.000!   !END!
4397 ! X = 680.8862624,5560.580003,       0.000,       0.000!   !END!
4398 ! X = 680.9061906,5560.581429,       0.000,       0.000!   !END!
4399 ! X = 680.9261187,5560.582856,       0.000,       0.000!   !END!
4400 ! X = 680.9460468,5560.584282,       0.000,       0.000!   !END!
4401 ! X =  680.965975,5560.585708,       0.000,       0.000!   !END!
4402 ! X = 680.9859031,5560.587135,       0.000,       0.000!   !END!
4403 ! X = 681.0058312,5560.588561,       0.000,       0.000!   !END!
4404 ! X = 681.0257593,5560.589988,       0.000,       0.000!   !END!
4405 ! X = 681.0456875,5560.591414,       0.000,       0.000!   !END!
4406 ! X = 681.0656156,5560.592841,       0.000,       0.000!   !END!
4407 ! X = 681.0855437,5560.594267,       0.000,       0.000!   !END!
4408 ! X = 681.1054719,5560.595694,       0.000,       0.000!   !END!
4409 ! X = 681.1352539,5560.579926,       0.000,       0.000!   !END!
4410 ! X = 681.1451078,5560.562731,       0.000,       0.000!   !END!
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4411 ! X = 681.1549617,5560.545537,       0.000,       0.000!   !END!
4412 ! X = 681.1648157,5560.528343,       0.000,       0.000!   !END!
4413 ! X = 681.1746696,5560.511148,       0.000,       0.000!   !END!
4414 ! X = 681.1845235,5560.493954,       0.000,       0.000!   !END!
4415 ! X = 681.1943774, 5560.47676,       0.000,       0.000!   !END!
4416 ! X = 681.2042313,5560.459565,       0.000,       0.000!   !END!
4417 ! X = 681.2140852,5560.442371,       0.000,       0.000!   !END!
4418 ! X = 681.2239391,5560.425177,       0.000,       0.000!   !END!
4419 ! X =  681.233793,5560.407982,       0.000,       0.000!   !END!
4420 ! X =  681.243647,5560.390788,       0.000,       0.000!   !END!
4421 ! X = 681.2535009,5560.373593,       0.000,       0.000!   !END!
4422 ! X = 681.2633548,5560.356399,       0.000,       0.000!   !END!
4423 ! X = 681.2732087,5560.339205,       0.000,       0.000!   !END!
4424 ! X = 681.2830626, 5560.32201,       0.000,       0.000!   !END!
4425 ! X = 681.2929165,5560.304816,       0.000,       0.000!   !END!
4426 ! X = 681.3027704,5560.287622,       0.000,       0.000!   !END!
4427 ! X = 681.3126243,5560.270427,       0.000,       0.000!   !END!
4428 ! X = 681.3224783,5560.253233,       0.000,       0.000!   !END!
4429 ! X = 681.3323322,5560.236039,       0.000,       0.000!   !END!
4430 ! X = 681.3421861,5560.218844,       0.000,       0.000!   !END!
4431 ! X =   681.35204, 5560.20165,       0.000,       0.000!   !END!
4432 ! X = 681.3618939,5560.184456,       0.000,       0.000!   !END!
4433 ! X = 681.3717478,5560.167261,       0.000,       0.000!   !END!
4434 ! X = 681.3816017,5560.150067,       0.000,       0.000!   !END!
4435 ! X = 681.3914557,5560.132873,       0.000,       0.000!   !END!
4436 ! X = 681.4013096,5560.115678,       0.000,       0.000!   !END!
4437 ! X = 681.4111635,5560.098484,       0.000,       0.000!   !END!
4438 ! X = 681.4210174, 5560.08129,       0.000,       0.000!   !END!
4439 ! X = 681.4308713,5560.064095,       0.000,       0.000!   !END!
4440 ! X = 681.4407252,5560.046901,       0.000,       0.000!   !END!
4441 ! X = 681.4505791,5560.029707,       0.000,       0.000!   !END!
4442 ! X =  681.460433,5560.012512,       0.000,       0.000!   !END!
4443 ! X =  681.470287,5559.995318,       0.000,       0.000!   !END!
4444 ! X = 681.4801409,5559.978123,       0.000,       0.000!   !END!
4445 ! X = 681.4899948,5559.960929,       0.000,       0.000!   !END!
4446 ! X = 681.4998487,5559.943735,       0.000,       0.000!   !END!
4447 ! X = 681.5097026, 5559.92654,       0.000,       0.000!   !END!
4448 ! X = 681.5195565,5559.909346,       0.000,       0.000!   !END!
4449 ! X = 681.5294104,5559.892152,       0.000,       0.000!   !END!
4450 ! X = 681.5392643,5559.874957,       0.000,       0.000!   !END!
4451 ! X = 681.5491183,5559.857763,       0.000,       0.000!   !END!
4452 ! X = 681.5589722,5559.840569,       0.000,       0.000!   !END!
4453 ! X = 681.5688261,5559.823374,       0.000,       0.000!   !END!
4454 ! X = 681.5950018,5559.817504,       0.000,       0.000!   !END!
4455 ! X = 681.6113237,5559.828829,       0.000,       0.000!   !END!
4456 ! X = 681.6276455,5559.840153,       0.000,       0.000!   !END!
4457 ! X = 681.6439674,5559.851477,       0.000,       0.000!   !END!
4458 ! X = 681.6602892,5559.862801,       0.000,       0.000!   !END!
4459 ! X =  681.676611,5559.874126,       0.000,       0.000!   !END!
4460 ! X = 681.6929329, 5559.88545,       0.000,       0.000!   !END!
4461 ! X = 681.7092547,5559.896774,       0.000,       0.000!   !END!
4462 ! X = 681.7255766,5559.908098,       0.000,       0.000!   !END!
4463 ! X = 681.7418984,5559.919423,       0.000,       0.000!   !END!
4464 ! X = 681.7582202,5559.930747,       0.000,       0.000!   !END!
4465 ! X = 681.7745421,5559.942071,       0.000,       0.000!   !END!
4466 ! X = 681.7908639,5559.953395,       0.000,       0.000!   !END!
4467 ! X = 681.8071857, 5559.96472,       0.000,       0.000!   !END!
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4468 ! X = 681.8235076,5559.976044,       0.000,       0.000!   !END!
4469 ! X = 681.8398294,5559.987368,       0.000,       0.000!   !END!
4470 ! X = 681.8561513,5559.998692,       0.000,       0.000!   !END!
4471 ! X = 681.8724731,5560.010017,       0.000,       0.000!   !END!
4472 ! X = 681.8887949,5560.021341,       0.000,       0.000!   !END!
4473 ! X = 681.9051168,5560.032665,       0.000,       0.000!   !END!
4474 ! X = 681.9214386,5560.043989,       0.000,       0.000!   !END!
4475 ! X = 681.9377605,5560.055314,       0.000,       0.000!   !END!
4476 ! X = 681.9540823,5560.066638,       0.000,       0.000!   !END!
4477 ! X = 681.9704041,5560.077962,       0.000,       0.000!   !END!
4478 ! X =  681.986726,5560.089286,       0.000,       0.000!   !END!
4479 ! X = 682.0030478,5560.100611,       0.000,       0.000!   !END!
4480 ! X = 682.0193697,5560.111935,       0.000,       0.000!   !END!
4481 ! X = 682.0356915,5560.123259,       0.000,       0.000!   !END!
4482 ! X = 682.0520133,5560.134583,       0.000,       0.000!   !END!
4483 ! X = 682.0683352,5560.145908,       0.000,       0.000!   !END!
4484 ! X =  682.084657,5560.157232,       0.000,       0.000!   !END!
4485 ! X = 682.1009789,5560.168556,       0.000,       0.000!   !END!
4486 ! X = 682.1173007, 5560.17988,       0.000,       0.000!   !END!
4487 ! X = 682.1336225,5560.191205,       0.000,       0.000!   !END!
4488 ! X = 682.1499444,5560.202529,       0.000,       0.000!   !END!
4489 ! X = 682.1662662,5560.213853,       0.000,       0.000!   !END!
4490 ! X =  682.182588,5560.225177,       0.000,       0.000!   !END!
4491 ! X = 682.1989099,5560.236502,       0.000,       0.000!   !END!
4492 ! X = 682.2152317,5560.247826,       0.000,       0.000!   !END!
4493 ! X = 682.2315536, 5560.25915,       0.000,       0.000!   !END!
4494 ! X = 682.2478754,5560.270474,       0.000,       0.000!   !END!
4495 ! X = 682.2641972,5560.281799,       0.000,       0.000!   !END!
4496 ! X = 682.2805191,5560.293123,       0.000,       0.000!   !END!
4497 ! X = 682.2968409,5560.304447,       0.000,       0.000!   !END!
4498 ! X = 682.3131628,5560.315771,       0.000,       0.000!   !END!
4499 ! X = 682.3294846,5560.327096,       0.000,       0.000!   !END!
4500 ! X = 682.3458064, 5560.33842,       0.000,       0.000!   !END!
4501 ! X = 682.3621283,5560.349744,       0.000,       0.000!   !END!
4502 ! X = 682.3784501,5560.361068,       0.000,       0.000!   !END!
4503 ! X =  682.394772,5560.372393,       0.000,       0.000!   !END!
4504 ! X = 682.4110938,5560.383717,       0.000,       0.000!   !END!
4505 ! X = 682.4274156,5560.395041,       0.000,       0.000!   !END!
4506 ! X = 682.4437375,5560.406365,       0.000,       0.000!   !END!
4507 ! X = 682.4600593, 5560.41769,       0.000,       0.000!   !END!
4508 ! X = 682.4763811,5560.429014,       0.000,       0.000!   !END!
4509 ! X =  682.492703,5560.440338,       0.000,       0.000!   !END!
4510 ! X = 682.5090248,5560.451662,       0.000,       0.000!   !END!
4511 ! X = 682.5253467,5560.462987,       0.000,       0.000!   !END!
4512 ! X = 682.5416685,5560.474311,       0.000,       0.000!   !END!
4513 ! X = 682.5579903,5560.485635,       0.000,       0.000!   !END!
4514 ! X = 682.5743122,5560.496959,       0.000,       0.000!   !END!
4515 ! X =  682.590634,5560.508284,       0.000,       0.000!   !END!
4516 ! X = 682.6069559,5560.519608,       0.000,       0.000!   !END!
4517 ! X = 682.6232777,5560.530932,       0.000,       0.000!   !END!
4518 ! X = 682.6395995,5560.542256,       0.000,       0.000!   !END!
4519 ! X = 682.6559214,5560.553581,       0.000,       0.000!   !END!
4520 ! X = 682.6722432,5560.564905,       0.000,       0.000!   !END!
4521 ! X = 682.6885651,5560.576229,       0.000,       0.000!   !END!
4522 ! X = 682.7048869,5560.587553,       0.000,       0.000!   !END!
4523 ! X = 682.7212087,5560.598878,       0.000,       0.000!   !END!
4524 ! X = 682.7375306,5560.610202,       0.000,       0.000!   !END!
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4525 ! X = 682.7538524,5560.621526,       0.000,       0.000!   !END!
4526 ! X = 682.7701743, 5560.63285,       0.000,       0.000!   !END!
4527 ! X = 682.7864961,5560.644175,       0.000,       0.000!   !END!
4528 ! X = 682.8028179,5560.655499,       0.000,       0.000!   !END!
4529 ! X = 682.8191398,5560.666823,       0.000,       0.000!   !END!
4530 ! X = 682.8354616,5560.678147,       0.000,       0.000!   !END!
4531 ! X = 682.8517834,5560.689472,       0.000,       0.000!   !END!
4532 ! X = 682.8681053,5560.700796,       0.000,       0.000!   !END!
4533 ! X = 682.8844271, 5560.71212,       0.000,       0.000!   !END!
4534 ! X =  682.900749,5560.723444,       0.000,       0.000!   !END!
4535 ! X = 682.9170708,5560.734769,       0.000,       0.000!   !END!
4536 ! X = 682.9333926,5560.746093,       0.000,       0.000!   !END!
4537 ! X = 682.9497145,5560.757417,       0.000,       0.000!   !END!
4538 ! X = 682.9660363,5560.768741,       0.000,       0.000!   !END!
4539 ! X = 682.9823582,5560.780066,       0.000,       0.000!   !END!
4540 ! X = 682.9907896, 5560.77307,       0.000,       0.000!   !END!
4541 ! X = 682.9828992, 5560.75475,       0.000,       0.000!   !END!
4542 ! X = 682.9750088,5560.736429,       0.000,       0.000!   !END!
4543 ! X = 682.9671184,5560.718109,       0.000,       0.000!   !END!
4544 ! X =  682.959228,5560.699789,       0.000,       0.000!   !END!
4545 ! X = 682.9513376,5560.681469,       0.000,       0.000!   !END!
4546 ! X = 682.9434473,5560.663149,       0.000,       0.000!   !END!
4547 ! X = 682.9355569,5560.644828,       0.000,       0.000!   !END!
4548 ! X = 682.9276665,5560.626508,       0.000,       0.000!   !END!
4549 ! X = 682.9197761,5560.608188,       0.000,       0.000!   !END!
4550 ! X = 682.9118857,5560.589868,       0.000,       0.000!   !END!
4551 ! X = 682.9039953,5560.571548,       0.000,       0.000!   !END!
4552 ! X = 682.8961049,5560.553227,       0.000,       0.000!   !END!
4553 ! X = 682.8882145,5560.534907,       0.000,       0.000!   !END!
4554 ! X = 682.8803241,5560.516587,       0.000,       0.000!   !END!
4555 ! X = 682.8724337,5560.498267,       0.000,       0.000!   !END!
4556 ! X = 682.8645433,5560.479947,       0.000,       0.000!   !END!
4557 ! X = 682.8566529,5560.461626,       0.000,       0.000!   !END!
4558 ! X = 682.8487625,5560.443306,       0.000,       0.000!   !END!
4559 ! X = 682.8408722,5560.424986,       0.000,       0.000!   !END!
4560 ! X = 682.8329818,5560.406666,       0.000,       0.000!   !END!
4561 ! X = 682.8250914,5560.388346,       0.000,       0.000!   !END!
4562 ! X =  682.817201,5560.370025,       0.000,       0.000!   !END!
4563 ! X = 682.8093106,5560.351705,       0.000,       0.000!   !END!
4564 ! X = 682.8014202,5560.333385,       0.000,       0.000!   !END!
4565 ! X = 682.7935298,5560.315065,       0.000,       0.000!   !END!
4566 ! X = 682.7856394,5560.296745,       0.000,       0.000!   !END!
4567 ! X =  682.777749,5560.278425,       0.000,       0.000!   !END!
4568 ! X = 682.7698586,5560.260104,       0.000,       0.000!   !END!
4569 ! X = 682.7619682,5560.241784,       0.000,       0.000!   !END!
4570 ! X = 682.7540778,5560.223464,       0.000,       0.000!   !END!
4571 ! X = 682.7461875,5560.205144,       0.000,       0.000!   !END!
4572 ! X = 682.7382971,5560.186824,       0.000,       0.000!   !END!
4573 ! X = 682.7304067,5560.168503,       0.000,       0.000!   !END!
4574 ! X = 682.7225163,5560.150183,       0.000,       0.000!   !END!
4575 ! X = 682.7146259,5560.131863,       0.000,       0.000!   !END!
4576 ! X = 682.7067355,5560.113543,       0.000,       0.000!   !END!
4577 ! X = 682.6988451,5560.095223,       0.000,       0.000!   !END!
4578 ! X = 682.6909547,5560.076902,       0.000,       0.000!   !END!
4579 ! X = 682.6830643,5560.058582,       0.000,       0.000!   !END!
4580 ! X = 682.6751739,5560.040262,       0.000,       0.000!   !END!
4581 ! X = 682.6672835,5560.021942,       0.000,       0.000!   !END!
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4582 ! X = 682.6593931,5560.003622,       0.000,       0.000!   !END!
4583 ! X = 682.6515027,5559.985301,       0.000,       0.000!   !END!
4584 ! X = 682.6436124,5559.966981,       0.000,       0.000!   !END!
4585 ! X =  682.635722,5559.948661,       0.000,       0.000!   !END!
4586 ! X = 682.6278316,5559.930341,       0.000,       0.000!   !END!
4587 ! X = 682.6199412,5559.912021,       0.251,       0.000!   !END!
4588 ! X = 682.6120508,  5559.8937,       0.581,       0.000!   !END!
4589 ! X = 682.6041604, 5559.87538,       0.688,       0.000!   !END!
4590 ! X = 682.6101467,5559.853977,       1.271,       0.000!   !END!
4591 ! X = 682.6240233,5559.850893,       2.040,       0.000!   !END!
4592 ! X = 682.6841533, 5559.87094,       3.324,       0.000!   !END!
4593 ! X = 682.6980267, 5559.88019,       2.992,       0.000!   !END!
4594 ! X =  682.724852,5559.899616,       2.076,       0.000!   !END!
4595 ! X =  682.737804,5559.909792,       1.587,       0.000!   !END!
4596 ! X =  682.750756,5559.919968,       1.051,       0.000!   !END!
4597 ! X =  682.763708,5559.930144,       0.776,       0.000!   !END!
4598 ! X =   682.77666,5559.955737,       0.776,       0.000!   !END!
4599 ! X =   682.77666,5559.971153,       0.601,       0.000!   !END!
4600 ! X =   682.79285, 5559.99582,       0.522,       0.000!   !END!
4601 ! X =  682.822915, 5559.99582,       0.953,       0.000!   !END!
4602 ! X =  682.848355, 5559.98426,       2.149,       0.000!   !END!
4603 ! X =   682.86917, 5559.97501,       3.600,       0.000!   !END!
4604 ! X =  682.892295, 5559.97501,       4.669,       0.000!   !END!
4605 ! X =   682.91388,5559.994283,       3.723,       0.000!   !END!
4606 ! X =   682.92159,5560.006617,       2.600,       0.000!   !END!
4607 ! X = 682.9443325,5560.021263,       1.405,       0.000!   !END!
4608 ! X =  682.959365,5560.023575,       1.567,       0.000!   !END!
4609 ! X = 682.9743975,5560.025888,       1.828,       0.000!   !END!
4610 ! X =   683.00639, 5560.03745,       2.573,       0.000!   !END!
4611 ! X =   683.02335,  5560.0467,       2.953,       0.000!   !END!
4612 ! X =   683.04031, 5560.05595,       3.216,       0.000!   !END!
4613 ! X =   683.05727,  5560.0652,       3.318,       0.000!   !END!
4614 ! X =   683.07423, 5560.07445,       3.367,       0.000!   !END!
4615 ! X =   683.11894, 5560.08062,       4.794,       0.000!   !END!
4616 ! X =   683.13744, 5560.08679,       4.531,       0.000!   !END!
4617 ! X =   683.16519, 5560.08833,       4.647,       0.000!   !END!
4618 ! X = 683.1894725,5560.084858,       5.395,       0.000!   !END!
4619 ! X =  683.204505,5560.086015,       5.565,       0.000!   !END!
4620 ! X = 683.2195375,5560.087173,       5.735,       0.000!   !END!
4621 ! X = 683.2469067, 5560.09604,       5.156,       0.000!   !END!
4622 ! X = 683.2592433, 5560.10375,       4.213,       0.000!   !END!
4623 ! X = 683.2869967, 5560.12071,       2.143,       0.000!   !END!
4624 ! X = 683.3024133, 5560.12996,       1.015,       0.000!   !END!
4625 ! X =  683.329395, 5560.13921,       1.301,       0.000!   !END!
4626 ! X =  683.364085,5560.127645,       2.638,       0.000!   !END!
4627 ! X = 683.3918367,5560.129957,       2.464,       0.000!   !END!
4628 ! X = 683.4057133,5560.134583,       1.979,       0.000!   !END!
4629 ! X =  683.433465, 5560.14152,       1.850,       0.000!   !END!
4630 ! X =   683.45428,5560.153085,       1.617,       0.000!   !END!
4631 ! X =   683.47741,  5560.1554,       1.584,       0.000!   !END!
4632 ! X =  683.507475,5560.153085,       1.656,       0.000!   !END!
4633 ! X =   683.54679, 5560.14383,       1.810,       0.000!   !END!
4634 ! X =   683.59073, 5560.13227,       2.457,       0.000!   !END!
4635 ! X =   683.61848,5560.120705,       3.713,       0.000!   !END!
4636 ! X =   683.64392, 5560.10683,       4.675,       0.000!   !END!
4637 ! X = 683.6647367,5560.100663,       4.425,       0.000!   !END!
4638 ! X = 683.6786133,5560.103747,       3.553,       0.000!   !END!
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4639 ! X = 683.7079067,5560.102207,       2.456,       0.000!   !END!
4640 ! X = 683.7233233,5560.097583,       1.995,       0.000!   !END!
4641 ! X =   683.74568,5560.083705,       1.641,       0.000!   !END!
4642 ! X =   683.76187,5560.060575,       1.321,       0.000!   !END!
4643 ! X =   683.78808,5560.049783,       0.526,       0.000!   !END!
4644 ! X =   683.80504,5560.052867,       0.175,       0.000!   !END!
4645 ! X =  683.835875,  5560.0467,       0.486,       0.000!   !END!
4646 ! X =   683.84975, 5560.01895,       1.458,       0.000!   !END!
4647 ! X =  683.871956,5559.977324,       1.921,       0.000!   !END!
4648 ! X =  683.880282,5559.963448,       1.776,       0.000!   !END!
4649 ! X =  683.888608,5559.949572,       2.034,       0.000!   !END!
4650 ! X =  683.896934,5559.935696,       2.132,       0.000!   !END!
4651 ! X =   683.91605,  5559.9064,       2.202,       0.000!   !END!
4652 ! X =   683.92684, 5559.89098,       2.230,       0.000!   !END!
4653 ! X =   683.93609,5559.861683,       2.187,       0.000!   !END!
4654 ! X =   683.93455,5559.847807,       2.289,       0.000!   !END!
4655 ! X =  683.928385, 5559.81543,       2.567,       0.000!   !END!
4656 ! X =   683.90988,5559.778433,       3.213,       0.000!   !END!
4657 ! X =   683.90988,5559.764557,       2.785,       0.000!   !END!
4658 ! X = 683.8994725,5559.735648,       2.676,       0.000!   !END!
4659 ! X =  683.889065,5559.720615,       2.717,       0.000!   !END!
4660 ! X = 683.8786575,5559.705583,       2.468,       0.000!   !END!
4661 ! X =     683.859,5559.678213,       1.751,       0.000!   !END!
4662 ! X =   683.84975,5559.665877,       2.297,       0.000!   !END!
4663 ! X =   683.82277,5559.650457,       4.191,       0.000!   !END!
4664 ! X =   683.80504,5559.647373,       5.474,       0.000!   !END!
4665 ! X =   683.78731, 5559.64429,       6.528,       0.000!   !END!
4666 ! X =   683.76958,5559.641207,       7.393,       0.000!   !END!
4667 ! X =   683.75185,5559.638123,       8.147,       0.000!   !END!
4668 ! X = 683.7190875,5559.633885,       9.710,       0.000!   !END!
4669 ! X =  683.704055, 5559.63273,      10.575,       0.000!   !END!
4670 ! X = 683.6890225,5559.631575,      11.418,       0.000!   !END!
4671 ! X =   683.65703,5559.625793,      12.452,       0.000!   !END!
4672 ! X =   683.64007,5559.621167,      12.695,       0.000!   !END!
4673 ! X =   683.60532,5559.609068,      12.759,       0.000!   !END!
4674 ! X =   683.58753,5559.601597,      12.777,       0.000!   !END!
4675 ! X =   683.56974,5559.594125,      13.063,       0.000!   !END!
4676 ! X =   683.55195,5559.586654,      13.619,       0.000!   !END!
4677 ! X =   683.53416,5559.579182,      14.575,       0.000!   !END!
4678 ! X =   683.51637,5559.571711,      15.929,       0.000!   !END!
4679 ! X =   683.49858,5559.564239,      17.489,       0.000!   !END!
4680 ! X =   683.48079,5559.556768,      19.372,       0.000!   !END!
4681 ! X =     683.463,5559.549296,      21.032,       0.000!   !END!
4682 ! X =   683.44521,5559.541825,      22.467,       0.000!   !END!
4683 ! X =   683.42742,5559.534353,      22.928,       0.000!   !END!
4684 ! X =   683.40963,5559.526882,      23.393,       0.000!   !END!
4685 ! X = 683.3825892, 5559.53714,      26.275,       0.000!   !END!
4686 ! X = 683.3733383, 5559.55487,      28.372,       0.000!   !END!
4687 ! X = 683.3640875,  5559.5726,      30.356,       0.000!   !END!
4688 ! X = 683.3548367, 5559.59033,      31.334,       0.000!   !END!
4689 ! X = 683.3455858, 5559.60806,      32.066,       0.000!   !END!
4690 ! X =  683.336335, 5559.62579,      32.742,       0.000!   !END!
4691 ! X = 683.3270842, 5559.64352,      33.361,       0.000!   !END!
4692 ! X = 683.3178333, 5559.66125,      33.962,       0.000!   !END!
4693 ! X = 683.3085825, 5559.67898,      34.057,       0.000!   !END!
4694 ! X = 683.2993317, 5559.69671,      33.789,       0.000!   !END!
4695 ! X = 683.2900808, 5559.71444,      33.409,       0.000!   !END!
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4696 ! X =   683.29563,5559.741422,      32.514,       0.000!   !END!
4697 ! X =   683.31043,5559.750674,      32.209,       0.000!   !END!
4698 ! X =   683.32523,5559.759926,      31.997,       0.000!   !END!
4699 ! X =   683.34003,5559.769178,      31.695,       0.000!   !END!
4700 ! X =  683.345965,5559.795775,      30.867,       0.000!   !END!
4701 ! X =    683.3371, 5559.81312,      30.141,       0.000!   !END!
4702 ! X =  683.328235,5559.830465,      29.309,       0.000!   !END!
4703 ! X =   683.31937, 5559.84781,      28.371,       0.000!   !END!
4704 ! X =  683.310505,5559.865155,      26.922,       0.000!   !END!
4705 ! X =   683.30164,  5559.8825,      25.538,       0.000!   !END!
4706 ! X =  683.292775,5559.899845,      24.155,       0.000!   !END!
4707 ! X =   683.28391, 5559.91719,      22.771,       0.000!   !END!
4708 ! X =  683.275045,5559.934535,      21.387,       0.000!   !END!
4709 ! X =   683.26618, 5559.95188,      20.028,       0.000!   !END!
4710 ! X =  683.257315,5559.969225,      18.654,       0.000!   !END!
4711 ! X = 683.2307459,5559.977745,      18.396,       0.000!   !END!
4712 ! X = 683.2130417,5559.968919,      19.768,       0.000!   !END!
4713 ! X = 683.1953376,5559.960094,      21.354,       0.000!   !END!
4714 ! X = 683.1776334,5559.951268,      22.149,       0.000!   !END!
4715 ! X = 683.1599293,5559.942443,      22.596,       0.000!   !END!
4716 ! X = 683.1422252,5559.933618,      22.667,       0.000!   !END!
4717 ! X =  683.124521,5559.924792,      22.483,       0.000!   !END!
4718 ! X = 683.1068169,5559.915967,      22.388,       0.000!   !END!
4719 ! X = 683.0891128,5559.907141,      22.669,       0.000!   !END!
4720 ! X = 683.0714086,5559.898316,      23.255,       0.000!   !END!
4721 ! X = 683.0537045,5559.889491,      23.664,       0.000!   !END!
4722 ! X = 683.0360003,5559.880665,      24.233,       0.000!   !END!
4723 ! X = 683.0182962, 5559.87184,      24.963,       0.000!   !END!
4724 ! X = 683.0005921,5559.863014,      25.317,       0.000!   !END!
4725 ! X = 682.9828879,5559.854189,      25.330,       0.000!   !END!
4726 ! X = 682.9651838,5559.845364,      25.075,       0.000!   !END!
4727 ! X = 682.9474797,5559.836538,      24.523,       0.000!   !END!
4728 ! X = 682.9297755,5559.827713,      23.911,       0.000!   !END!
4729 ! X = 682.9120714,5559.818887,      23.405,       0.000!   !END!
4730 ! X = 682.8943672,5559.810062,      22.962,       0.000!   !END!
4731 ! X = 682.8766631,5559.801237,      22.492,       0.000!   !END!
4732 ! X =  682.858959,5559.792411,      22.182,       0.000!   !END!
4733 ! X = 682.8412548,5559.783586,      22.034,       0.000!   !END!
4734 ! X = 682.8235507, 5559.77476,      21.783,       0.000!   !END!
4735 ! X = 682.8058466,5559.765935,      21.512,       0.000!   !END!
4736 ! X = 682.7881424, 5559.75711,      21.242,       0.000!   !END!
4737 ! X = 682.7704383,5559.748284,      21.675,       0.000!   !END!
4738 ! X = 682.7527341,5559.739459,      22.624,       0.000!   !END!
4739 ! X =   682.73503,5559.730633,      23.545,       0.000!   !END!
4740 ! X = 682.7173259,5559.721808,      24.386,       0.000!   !END!
4741 ! X = 682.6996217,5559.712983,      24.841,       0.000!   !END!
4742 ! X = 682.6819176,5559.704157,      25.190,       0.000!   !END!
4743 ! X = 682.6642134,5559.695332,      25.431,       0.000!   !END!
4744 ! X = 682.6465093,5559.686506,      24.974,       0.000!   !END!
4745 ! X = 682.6288052,5559.677681,      24.397,       0.000!   !END!
4746 ! X =  682.611101,5559.668856,      23.712,       0.000!   !END!
4747 ! X = 682.5933969, 5559.66003,      23.694,       0.000!   !END!
4748 ! X = 682.5756928,5559.651205,      24.221,       0.000!   !END!
4749 ! X = 682.5579886,5559.642379,      24.962,       0.000!   !END!
4750 ! X = 682.5402845,5559.633554,      25.397,       0.000!   !END!
4751 ! X = 682.5225803,5559.624729,      25.773,       0.000!   !END!
4752 ! X = 682.5048762,5559.615903,      26.203,       0.000!   !END!
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4753 ! X = 682.4871721,5559.607078,      26.650,       0.000!   !END!
4754 ! X = 682.4694679,5559.598252,      26.453,       0.000!   !END!
4755 ! X = 682.4517638,5559.589427,      26.255,       0.000!   !END!
4756 ! X = 682.4340597,5559.580601,      26.057,       0.000!   !END!
4757 ! X = 682.4163555,5559.571776,      25.188,       0.000!   !END!
4758 ! X = 682.3986514,5559.562951,      24.083,       0.000!   !END!
4759 ! X = 682.3809472,5559.554125,      22.979,       0.000!   !END!
4760 ! X = 682.3632431,  5559.5453,      21.864,       0.000!   !END!
4761 ! X =  682.345539,5559.536474,      20.916,       0.000!   !END!
4762 ! X = 682.3278348,5559.527649,      20.295,       0.000!   !END!
4763 ! X = 682.3101307,5559.518824,      19.971,       0.000!   !END!
4764 ! X = 682.2924266,5559.509998,      20.091,       0.000!   !END!
4765 ! X = 682.2747224,5559.501173,      20.425,       0.000!   !END!
4766 ! X = 682.2570183,5559.492347,      20.973,       0.000!   !END!
4767 ! X = 682.2393141,5559.483522,      21.867,       0.000!   !END!
4768 ! X =   682.22161,5559.474697,      22.714,       0.000!   !END!
4769 ! X = 682.2039059,5559.465871,      23.453,       0.000!   !END!
4770 ! X = 682.1862017,5559.457046,      23.957,       0.000!   !END!
4771 ! X = 682.1684976, 5559.44822,      24.187,       0.000!   !END!
4772 ! X = 682.1507934,5559.439395,      24.211,       0.000!   !END!
4773 ! X = 682.1330893, 5559.43057,      24.358,       0.000!   !END!
4774 ! X = 682.1153852,5559.421744,      25.594,       0.000!   !END!
4775 ! X =  682.097681,5559.412919,      26.723,       0.000!   !END!
4776 ! X = 682.0799769,5559.404093,      27.744,       0.000!   !END!
4777 ! X = 682.0622728,5559.395268,      28.390,       0.000!   !END!
4778 ! X = 682.0445686,5559.386443,      28.895,       0.000!   !END!
4779 ! X = 682.0268645,5559.377617,      29.293,       0.000!   !END!
4780 ! X = 682.0091603,5559.368792,      29.536,       0.000!   !END!
4781 ! X = 681.9914562,5559.359966,      29.680,       0.000!   !END!
4782 ! X = 681.9737521,5559.351141,      29.771,       0.000!   !END!
4783 ! X = 681.9560479,5559.342316,      29.969,       0.000!   !END!
4784 ! X = 681.9383438, 5559.33349,      30.389,       0.000!   !END!
4785 ! X = 681.9206397,5559.324665,      30.746,       0.000!   !END!
4786 ! X = 681.9029355,5559.315839,      31.050,       0.000!   !END!
4787 ! X = 681.8852314,5559.307014,      31.010,       0.000!   !END!
4788 ! X = 681.8675272,5559.298189,      30.904,       0.000!   !END!
4789 ! X = 681.8498231,5559.289363,      30.744,       0.000!   !END!
4790 ! X =  681.832119,5559.280538,      30.577,       0.000!   !END!
4791 ! X = 681.8144148,5559.271712,      30.469,       0.000!   !END!
4792 ! X = 681.7967107,5559.262887,      30.414,       0.000!   !END!
4793 ! X = 681.7790066,5559.254062,      30.377,       0.000!   !END!
4794 ! X = 681.7613024,5559.245236,      30.430,       0.000!   !END!
4795 ! X = 681.7435983,5559.236411,      30.607,       0.000!   !END!
4796 ! X = 681.7258941,5559.227585,      30.724,       0.000!   !END!
4797 ! X = 681.7167105,5559.200988,      31.954,       0.000!   !END!
4798 ! X = 681.7252311,5559.183217,      33.096,       0.000!   !END!
4799 ! X = 681.7337516,5559.165445,      34.263,       0.000!   !END!
4800 ! X = 681.7422721,5559.147674,      35.538,       0.000!   !END!
4801 ! X = 681.7507926,5559.129902,      36.955,       0.000!   !END!
4802 ! X = 681.7593132,5559.112131,      38.217,       0.000!   !END!
4803 ! X = 681.7678337,5559.094359,      39.323,       0.000!   !END!
4804 ! X = 681.7763542,5559.076587,      40.274,       0.000!   !END!
4805 ! X = 681.7848747,5559.058816,      41.070,       0.000!   !END!
4806 ! X = 681.7933953,5559.041044,      43.715,       0.000!   !END!
4807 ! X = 681.8019158,5559.023273,      46.157,       0.000!   !END!
4808 ! X = 681.8104363,5559.005501,      48.391,       0.000!   !END!
4809 ! X = 681.8189568,5558.987729,      50.419,       0.000!   !END!
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4810 ! X = 681.8274774,5558.969958,      52.239,       0.000!   !END!
4811 ! X = 681.8359979,5558.952186,      54.642,       0.000!   !END!
4812 ! X = 681.8445184,5558.934415,      57.022,       0.000!   !END!
4813 ! X = 681.8530389,5558.916643,      59.196,       0.000!   !END!
4814 ! X = 681.8615595,5558.898872,      61.104,       0.000!   !END!
4815 ! X =   681.85343,5558.887576,      64.375,       0.000!   !END!
4816 ! X =   681.83678,5558.894052,      65.660,       0.000!   !END!
4817 ! X =   681.82013,5558.900528,      66.778,       0.000!   !END!
4818 ! X =   681.80348,5558.907004,      67.728,       0.000!   !END!
4819 ! X =  681.768857,5558.905022,      70.992,       0.000!   !END!
4820 ! X =  681.750884,5558.896564,      74.347,       0.000!   !END!
4821 ! X =  681.732911,5558.888106,      77.254,       0.000!   !END!
4822 ! X =  681.714938,5558.879649,      78.622,       0.000!   !END!
4823 ! X =  681.696965,5558.871191,      80.093,       0.000!   !END!
4824 ! X =  681.678992,5558.862733,      81.186,       0.000!   !END!
4825 ! X =  681.661019,5558.854275,      84.442,       0.000!   !END!
4826 ! X =  681.643046,5558.845817,      88.268,       0.000!   !END!
4827 ! X =  681.625073,5558.837359,      92.664,       0.000!   !END!
4828 ! X =    681.6071,5558.828901,      96.976,       0.000!   !END!
4829 ! X =  681.589127,5558.820444,     101.099,       0.000!   !END!
4830 ! X =  681.571154,5558.811986,     105.170,       0.000!   !END!
4831 ! X =  681.553181,5558.803528,     108.188,       0.000!   !END!
4832 ! X =  681.535208, 5558.79507,     110.077,       0.000!   !END!
4833 ! X =  681.517235,5558.786612,     111.862,       0.000!   !END!
4834 ! X =  681.499262,5558.778154,     113.816,       0.000!   !END!
4835 ! X =  681.481289,5558.769696,     116.624,       0.000!   !END!
4836 ! X =  681.463316,5558.761239,     118.555,       0.000!   !END!
4837 ! X =  681.445343,5558.752781,     120.282,       0.000!   !END!
4838 ! X =   681.42737,5558.744323,     120.374,       0.000!   !END!
4839 ! X =  681.409397,5558.735865,     120.460,       0.000!   !END!
4840 ! X =  681.391424,5558.727407,     120.597,       0.000!   !END!
4841 ! X =  681.373451,5558.718949,     120.679,       0.000!   !END!
4842 ! X =  681.355478,5558.710491,     120.722,       0.000!   !END!
4843 ! X =  681.337505,5558.702034,     120.765,       0.000!   !END!
4844 ! X =  681.319532,5558.693576,     120.975,       0.000!   !END!
4845 ! X =  681.301559,5558.685118,     121.362,       0.000!   !END!
4846 ! X =  681.283586, 5558.67666,     121.698,       0.000!   !END!
4847 ! X =  681.265613,5558.668202,     121.910,       0.000!   !END!
4848 ! X =   681.24764,5558.659744,     121.550,       0.000!   !END!
4849 ! X =  681.229667,5558.651286,     121.137,       0.000!   !END!
4850 ! X =  681.211694,5558.642829,     120.673,       0.000!   !END!
4851 ! X =  681.193721,5558.634371,     120.533,       0.000!   !END!
4852 ! X =  681.175748,5558.625913,     120.428,       0.000!   !END!
4853 ! X =  681.157775,5558.617455,     120.322,       0.000!   !END!
4854 ! X =  681.139802,5558.608997,     120.456,       0.000!   !END!
4855 ! X =  681.121829,5558.600539,     120.806,       0.000!   !END!
4856 ! X =  681.103856,5558.592081,     121.259,       0.000!   !END!
4857 ! X =  681.085883,5558.583624,     121.462,       0.000!   !END!
4858 ! X =   681.06791,5558.575166,     121.204,       0.000!   !END!
4859 ! X =  681.049937,5558.566708,     120.998,       0.000!   !END!
4860 ! X =  681.031964, 5558.55825,     120.699,       0.000!   !END!
4861 ! X =  681.013991,5558.549792,     119.907,       0.000!   !END!
4862 ! X =  680.996018,5558.541334,     119.166,       0.000!   !END!
4863 ! X =  680.978045,5558.532876,     118.477,       0.000!   !END!
4864 ! X =  680.960072,5558.524419,     118.049,       0.000!   !END!
4865 ! X =  680.942099,5558.515961,     117.900,       0.000!   !END!
4866 ! X =  680.924126,5558.507503,     118.010,       0.000!   !END!
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4867 ! X =  680.906153,5558.499045,     118.104,       0.000!   !END!
4868 ! X =   680.88818,5558.490587,     118.063,       0.000!   !END!
4869 ! X =  680.870207,5558.482129,     118.022,       0.000!   !END!
4870 ! X =  680.852234,5558.473671,     117.775,       0.000!   !END!
4871 ! X =  680.834261,5558.465214,     117.053,       0.000!   !END!
4872 ! X =  680.816288,5558.456756,     116.364,       0.000!   !END!
4873 ! X =  680.798315,5558.448298,     115.974,       0.000!   !END!
4874 ! X =  680.780342, 5558.43984,     117.526,       0.000!   !END!
4875 ! X =  680.762369,5558.431382,     118.767,       0.000!   !END!
4876 ! X =  680.744396,5558.422924,     119.697,       0.000!   !END!
4877 ! X =  680.726423,5558.414466,     120.363,       0.000!   !END!
4878 ! X =   680.70845,5558.406009,     120.917,       0.000!   !END!
4879 ! X =  680.690477,5558.397551,     121.367,       0.000!   !END!
4880 ! X =  680.672504,5558.389093,     121.946,       0.000!   !END!
4881 ! X =  680.654531,5558.380635,     122.740,       0.000!   !END!
4882 ! X =  680.636558,5558.372177,     123.585,       0.000!   !END!
4883 ! X =  680.618585,5558.363719,     124.477,       0.000!   !END!
4884 ! X =  680.600612,5558.355261,     125.376,       0.000!   !END!
4885 ! X =  680.582639,5558.346804,     126.275,       0.000!   !END!
4886 ! X =  680.564666,5558.338346,     127.185,       0.000!   !END!
4887 ! X =  680.546693,5558.329888,     129.067,       0.000!   !END!
4888 ! X =  680.515769,5558.336385,     130.801,       0.000!   !END!
4889 ! X =  680.502818,5558.351341,     130.872,       0.000!   !END!
4890 ! X =  680.489867,5558.366296,     130.826,       0.000!   !END!
4891 ! X =  680.476916,5558.381251,     130.412,       0.000!   !END!
4892 ! X =  680.463965,5558.396207,     130.068,       0.000!   !END!
4893 ! X =  680.451014,5558.411162,     129.793,       0.000!   !END!
4894 ! X =  680.438063,5558.426117,     129.427,       0.000!   !END!
4895 ! X =  680.425112,5558.441073,     128.721,       0.000!   !END!
4896 ! X =  680.412161,5558.456028,     127.817,       0.000!   !END!
4897 ! X =   680.39921,5558.470983,     126.316,       0.000!   !END!
4898 ! X =  680.386259,5558.485939,     124.955,       0.000!   !END!
4899 ! X =  680.373308,5558.500894,     123.720,       0.000!   !END!
4900 ! X =  680.360357,5558.515849,     122.175,       0.000!   !END!
4901 ! X =  680.347406,5558.530805,     120.215,       0.000!   !END!
4902 ! X =  680.334455, 5558.54576,     117.828,       0.000!   !END!
4903 ! X =  680.321504,5558.560715,     115.016,       0.000!   !END!
4904 ! X =  680.308553,5558.575671,     111.629,       0.000!   !END!
4905 ! X =  680.295602,5558.590626,     108.239,       0.000!   !END!
4906 ! X =  680.282651,5558.605581,     104.988,       0.000!   !END!
4907 ! X =    680.2697,5558.620537,     101.876,       0.000!   !END!
4908 ! X =  680.256749,5558.635492,      98.801,       0.000!   !END!
4909 ! X =  680.243798,5558.650447,      92.432,       0.000!   !END!
4910 ! X =  680.230847,5558.665403,      86.202,       0.000!   !END!
4911 ! X =  680.217896,5558.680358,      80.111,       0.000!   !END!
4912 ! X =  680.204945,5558.695313,      74.158,       0.000!   !END!
4913 ! X =  680.191994,5558.710269,      68.314,       0.000!   !END!
4914 ! X =  680.179043,5558.725224,      62.689,       0.000!   !END!
4915 ! X =  680.166092,5558.740179,      58.878,       0.000!   !END!
4916 ! X =  680.153141,5558.755135,      55.414,       0.000!   !END!
4917 ! X = 680.1291706,5558.786415,      49.138,       0.000!   !END!
4918 ! X = 680.1181512, 5558.80274,      45.563,       0.000!   !END!
4919 ! X = 680.1071318,5558.819065,      42.118,       0.000!   !END!
4920 ! X = 680.0961124, 5558.83539,      39.240,       0.000!   !END!
4921 ! X = 680.0850929,5558.851715,      36.552,       0.000!   !END!
4922 ! X = 680.0740735, 5558.86804,      34.054,       0.000!   !END!
4923 ! X = 680.0630541,5558.884365,      31.603,       0.000!   !END!
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4924 ! X = 680.0520347, 5558.90069,      29.105,       0.000!   !END!
4925 ! X = 680.0410153,5558.917015,      26.227,       0.000!   !END!
4926 ! X = 680.0299959, 5558.93334,      23.372,       0.000!   !END!
4927 ! X = 680.0189765,5558.949665,      20.770,       0.000!   !END!
4928 ! X = 680.0079571, 5558.96599,      18.421,       0.000!   !END!
4929 ! X = 679.9969376,5558.982315,      16.906,       0.000!   !END!
4930 ! X = 679.9859182, 5558.99864,      15.987,       0.000!   !END!
4931 ! X = 679.9748988,5559.014965,      16.141,       0.000!   !END!
4932 ! X = 679.9638794, 5559.03129,      16.169,       0.000!   !END!
4933 ! X =   679.95286,5559.047615,      16.069,       0.000!   !END!
4934 ! X = 679.9418406, 5559.06394,      15.767,       0.000!   !END!
4935 ! X = 679.9308212,5559.080265,      15.221,       0.000!   !END!
4936 ! X = 679.9198018, 5559.09659,      14.618,       0.000!   !END!
4937 ! X = 679.9087824,5559.112915,      13.838,       0.000!   !END!
4938 ! X = 679.8977629, 5559.12924,      12.930,       0.000!   !END!
4939 ! X = 679.8867435,5559.145565,      11.896,       0.000!   !END!
4940 ! X = 679.8757241, 5559.16189,      10.764,       0.000!   !END!
4941 ! X = 679.8647047,5559.178215,       9.724,       0.000!   !END!
4942 ! X = 679.8536853, 5559.19454,       9.071,       0.000!   !END!
4943 ! X = 679.8426659,5559.210865,       8.608,       0.000!   !END!
4944 ! X = 679.8316465, 5559.22719,       8.335,       0.000!   !END!
4945 ! X = 679.8206271,5559.243515,       8.251,       0.000!   !END!
4946 ! X = 679.8096076, 5559.25984,       8.250,       0.000!   !END!
4947 ! X = 679.7985882,5559.276165,       8.569,       0.000!   !END!
4948 ! X = 679.7875688, 5559.29249,       9.419,       0.000!   !END!
4949 ! X = 679.7765494,5559.308815,      10.459,       0.000!   !END!
4950 ! X = 679.7776269,5559.340439,      11.713,       0.000!   !END!
4951 ! X = 679.7897238,5559.355738,      11.533,       0.000!   !END!
4952 ! X = 679.8018208,5559.371038,      11.323,       0.000!   !END!
4953 ! X = 679.8139177,5559.386337,      11.341,       0.000!   !END!
4954 ! X = 679.8260146,5559.401636,      11.098,       0.000!   !END!
4955 ! X = 679.8381115,5559.416935,      10.843,       0.000!   !END!
4956 ! X = 679.8502085,5559.432235,      10.587,       0.000!   !END!
4957 ! X = 679.8623054,5559.447534,      10.331,       0.000!   !END!
4958 ! X = 679.8744023,5559.462833,       9.924,       0.000!   !END!
4959 ! X = 679.8864992,5559.478132,       9.365,       0.000!   !END!
4960 ! X = 679.8985962,5559.493432,       9.146,       0.000!   !END!
4961 ! X = 679.9106931,5559.508731,       9.267,       0.000!   !END!
4962 ! X = 679.9351267, 5559.53174,       9.497,       0.000!   !END!
4963 ! X = 679.9474633, 5559.53945,       8.995,       0.000!   !END!
4964 ! X =   679.97136, 5559.55641,       7.858,       0.000!   !END!
4965 ! X =  679.985235,5559.577225,       7.939,       0.000!   !END!
4966 ! X = 679.9967967,5559.621167,      10.268,       0.000!   !END!
4967 ! X = 680.0014233,5559.635043,      10.979,       0.000!   !END!
4968 ! X = 680.0083625,5559.663953,      12.102,       0.000!   !END!
4969 ! X =  680.010675,5559.678985,      12.650,       0.000!   !END!
4970 ! X = 680.0129875,5559.694018,      13.275,       0.000!   !END!
4971 ! X = 680.0083625,5559.725238,      14.798,       0.000!   !END!
4972 ! X =  680.001425,5559.741425,      15.253,       0.000!   !END!
4973 ! X = 679.9944875,5559.757613,      14.598,       0.000!   !END!
4974 ! X = 679.9895329,5559.792963,      13.505,       0.000!   !END!
4975 ! X = 679.9915157,5559.812126,      12.788,       0.000!   !END!
4976 ! X = 679.9934986,5559.831289,      11.979,       0.000!   !END!
4977 ! X = 679.9954814,5559.850451,      10.177,       0.000!   !END!
4978 ! X = 679.9974643,5559.869614,       8.353,       0.000!   !END!
4979 ! X = 679.9994471,5559.888777,       6.529,       0.000!   !END!
4980 ! X = 679.9835886,5559.909923,       5.676,       0.000!   !END!
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4981 ! X = 679.9657471,5559.911906,       6.646,       0.000!   !END!
4982 ! X = 679.9479057,5559.913889,       7.617,       0.000!   !END!
4983 ! X = 679.9300643,5559.915871,       8.587,       0.000!   !END!
4984 ! X = 679.9122229,5559.917854,       9.166,       0.000!   !END!
4985 ! X = 679.8943814,5559.919837,       8.051,       0.000!   !END!
4986 ! X =  679.874225,5559.903315,       8.499,       0.000!   !END!
4987 ! X = 679.8557225, 5559.88481,       9.297,       0.000!   !END!
4988 ! X =  679.839535, 5559.88481,       8.087,       0.000!   !END!
4989 ! X = 679.8233475, 5559.88481,       6.870,       0.000!   !END!
4990 ! X =    679.8087,5559.898687,       4.210,       0.000!   !END!
4991 ! X =   679.81024,5559.912563,       2.793,       0.000!   !END!
4992 ! X =  679.797905,5559.912565,       1.734,       0.000!   !END!
4993 ! X =   679.78403, 5559.89869,       2.866,       0.000!   !END!
4994 ! X =  679.770155,5559.884815,       3.870,       0.000!   !END!
4995 ! X = 679.7400917,5559.864002,       4.541,       0.000!   !END!
4996 ! X = 679.7239033,5559.857063,       4.237,       0.000!   !END!
4997 ! X =  679.707715,5559.850125,       3.741,       0.000!   !END!
4998 ! X = 679.6915267,5559.843187,       3.054,       0.000!   !END!
4999 ! X = 679.6753383,5559.836248,       2.440,       0.000!   !END!
5000 ! X =   679.63949, 5559.82931,       2.077,       0.000!   !END!
5001 ! X =   679.61983, 5559.82931,       1.767,       0.000!   !END!
5002 ! X =   679.60017, 5559.82931,       1.462,       0.000!   !END!
5003 ! X = 679.5643225, 5559.82931,       0.917,       0.000!   !END!
5004 ! X =  679.548135, 5559.82931,       0.676,       0.000!   !END!
5005 ! X = 679.5319475, 5559.82931,       0.438,       0.000!   !END!
5006 ! X = 679.5007275,5559.824685,       0.000,       0.000!   !END!
5007 ! X =  679.485695, 5559.82006,       0.000,       0.000!   !END!
5008 ! X = 679.4706625,5559.815435,       0.000,       0.000!   !END!
5009 ! X =   679.44869, 5559.80156,       1.154,       0.000!   !END!
5010 ! X = 679.4305335,5559.808615,       0.389,       0.000!   !END!
5011 ! X =  679.419317,5559.824919,       0.000,       0.000!   !END!
5012 ! X = 679.4081005,5559.841224,       0.000,       0.000!   !END!
5013 ! X =  679.396884,5559.857528,       0.000,       0.000!   !END!
5014 ! X = 679.3856675,5559.873833,       0.000,       0.000!   !END!
5015 ! X =  679.374451,5559.890137,       0.000,       0.000!   !END!
5016 ! X = 679.3632345,5559.906442,       0.000,       0.000!   !END!
5017 ! X =  679.352018,5559.922746,       0.000,       0.000!   !END!
5018 ! X = 679.3408015,5559.939051,       0.000,       0.000!   !END!
5019 ! X =  679.329585,5559.955355,       0.000,       0.000!   !END!
5020 ! X = 679.3183685, 5559.97166,       0.000,       0.000!   !END!
5021 ! X =  679.307152,5559.987964,       0.000,       0.000!   !END!
5022 ! X = 679.2959355,5560.004269,       0.000,       0.000!   !END!
5023 ! X =  679.284719,5560.020573,       0.000,       0.000!   !END!
5024 ! X = 679.2735025,5560.036878,       0.000,       0.000!   !END!
5025 ! X =  679.262286,5560.053182,       0.000,       0.000!   !END!
5026 ! X = 679.2510695,5560.069487,       0.000,       0.000!   !END!
5027 ! X =  679.239853,5560.085791,       0.000,       0.000!   !END!
5028 ! X = 679.2286365,5560.102096,       0.000,       0.000!   !END!
5029 ! X =   679.21742,  5560.1184,       0.000,       0.000!   !END!
5030 ! X = 679.2062035,5560.134705,       0.000,       0.000!   !END!
5031 ! X =  679.194987,5560.151009,       0.000,       0.000!   !END!
5032 ! X = 679.1837705,5560.167314,       0.000,       0.000!   !END!
5033 ! X =  679.172554,5560.183618,       0.000,       0.000!   !END!
5034 ! X = 679.1613375,5560.199923,       0.000,       0.000!   !END!
5035 ! X =  679.150121,5560.216227,       0.000,       0.000!   !END!
5036 ! X = 679.1389045,5560.232532,       0.000,       0.000!   !END!
5037 ! X =  679.127688,5560.248836,       0.000,       0.000!   !END!
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5038 ! X = 679.1164715,5560.265141,       0.000,       0.000!   !END!
5039 ! X =  679.105255,5560.281445,       0.000,       0.000!   !END!
5040 ! X = 679.0940385, 5560.29775,       0.000,       0.000!   !END!
5041 ! X =  679.082822,5560.314054,       0.000,       0.000!   !END!
5042 ! X = 679.0716055,5560.330359,       0.000,       0.000!   !END!
5043 ! X =  679.060389,5560.346663,       0.000,       0.000!   !END!
5044 ! X = 679.0491725,5560.362968,       0.000,       0.000!   !END!
5045 ! X =  679.037956,5560.379272,       0.000,       0.000!   !END!
5046 ! X = 679.0267395,5560.395577,       0.000,       0.000!   !END!
5047 ! X =  679.015523,5560.411881,       0.000,       0.000!   !END!
5048 ! X = 679.0043065,5560.428186,       0.000,       0.000!   !END!
5049 ! X =     688.805,   5567.253,      24.307,       0.000!   !END!
5050 ! X =     686.644,   5565.193,      11.050,       0.000!   !END!
5051 ! X =     687.128,   5565.544,      15.025,       0.000!   !END!
5052 ! X =     683.967,   5571.942,       8.885,       0.000!   !END!
5053 ! X =     686.061,   5568.469,       7.448,       0.000!   !END!
5054 ! X =     686.817,   5565.407,      10.111,       0.000!   !END!
5055 ! X =     686.395,   5566.997,      12.195,       0.000!   !END!
5056 ! X =     688.257,    5566.34,      17.016,       0.000!   !END!
5057 ! X =     685.071,    5566.41,       5.615,       0.000!   !END!
5058 ! X =     685.882,   5566.213,       8.836,       0.000!   !END!
5059 ! X =     675.049,   5558.368,      19.995,       0.000!   !END!
5060 ! X =     670.695,   5556.892,       4.445,       0.000!   !END!
5061 ! X =     669.341,   5563.329,      55.149,       0.000!   !END!
5062 ! X =     675.391,   5565.382,      21.698,       0.000!   !END!
5063 ! X =     673.754,   5566.473,      62.820,       0.000!   !END!
5064 ! X =     674.663,   5567.121,      51.995,       0.000!   !END!
5065 ! X =     675.556,   5566.775,      28.433,       0.000!   !END!
5066 ! X =     678.067,   5569.115,       4.648,       0.000!   !END!
5067 ! X =     683.014,   5572.409,      21.115,       0.000!   !END!
5068 ! X =     685.145,   5565.813,       1.601,       0.000!   !END!
5069 ! X =     687.285,   5564.064,      10.894,       0.000!   !END!
5070 ! X =     691.313,   5564.696,       6.727,       0.000!   !END!
5071 ! X =     686.414,    5564.74,       7.771,       0.000!   !END!
5072 ! X =     686.141,   5566.442,      11.322,       0.000!   !END!
5073 ! X =      681.01,   5557.827,     219.303,       0.000!   !END!
5074 ! X =     665.273,   5565.379,     253.307,       0.000!   !END!
5075 ! X =     693.848,   5557.622,     202.489,       0.000!   !END!
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APPENDIX D

Maximum Ground Level Concentration Contours with Negligible Emissions Scenario for the Concentrate Piles

Figure D-1: Maximum 1-hour $PM_{2.5}$ Concentration ($\mu g/m^3$)

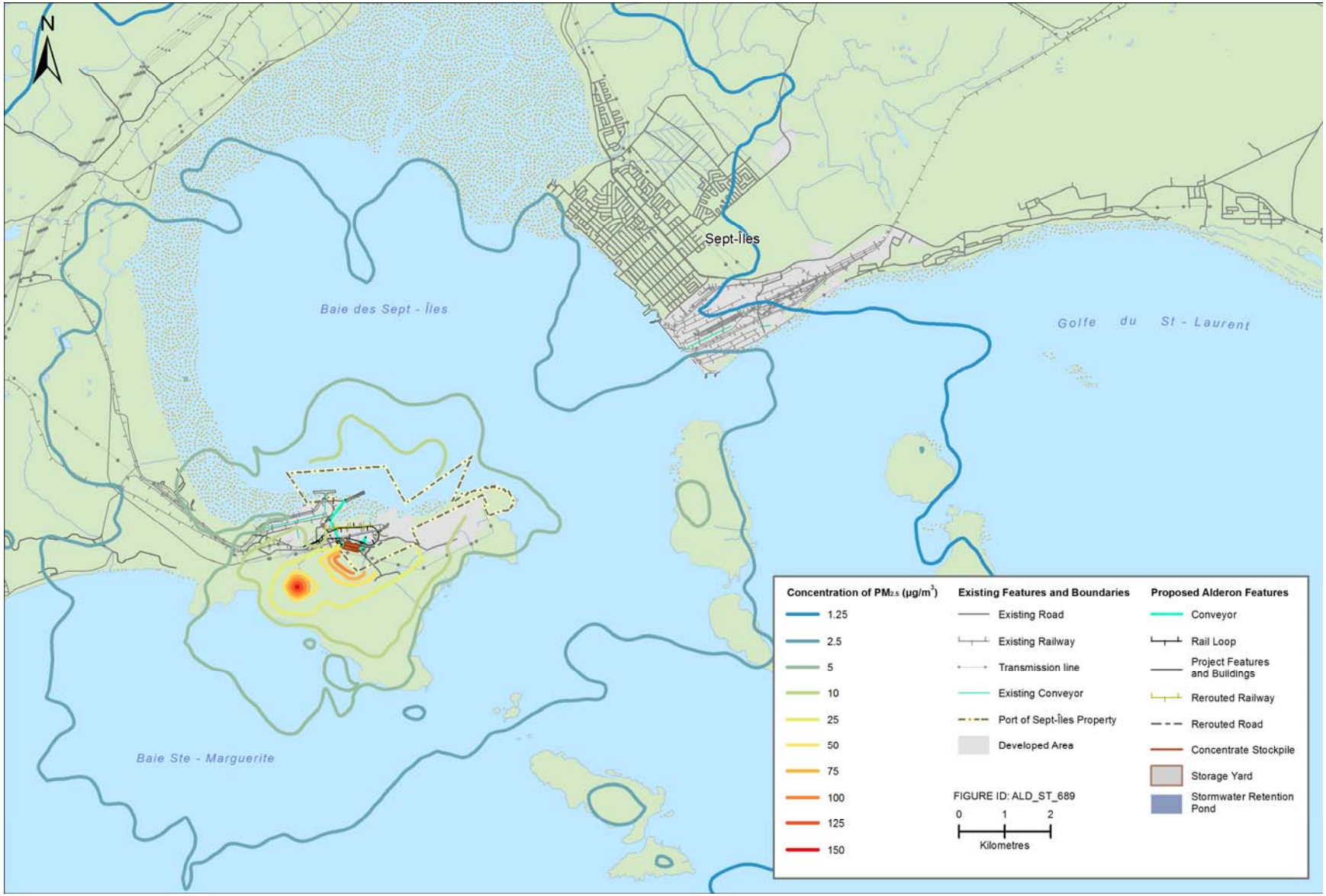


Figure D-2: Maximum $PM_{2.5}$ 24-hour Concentration ($\mu g/m^3$)

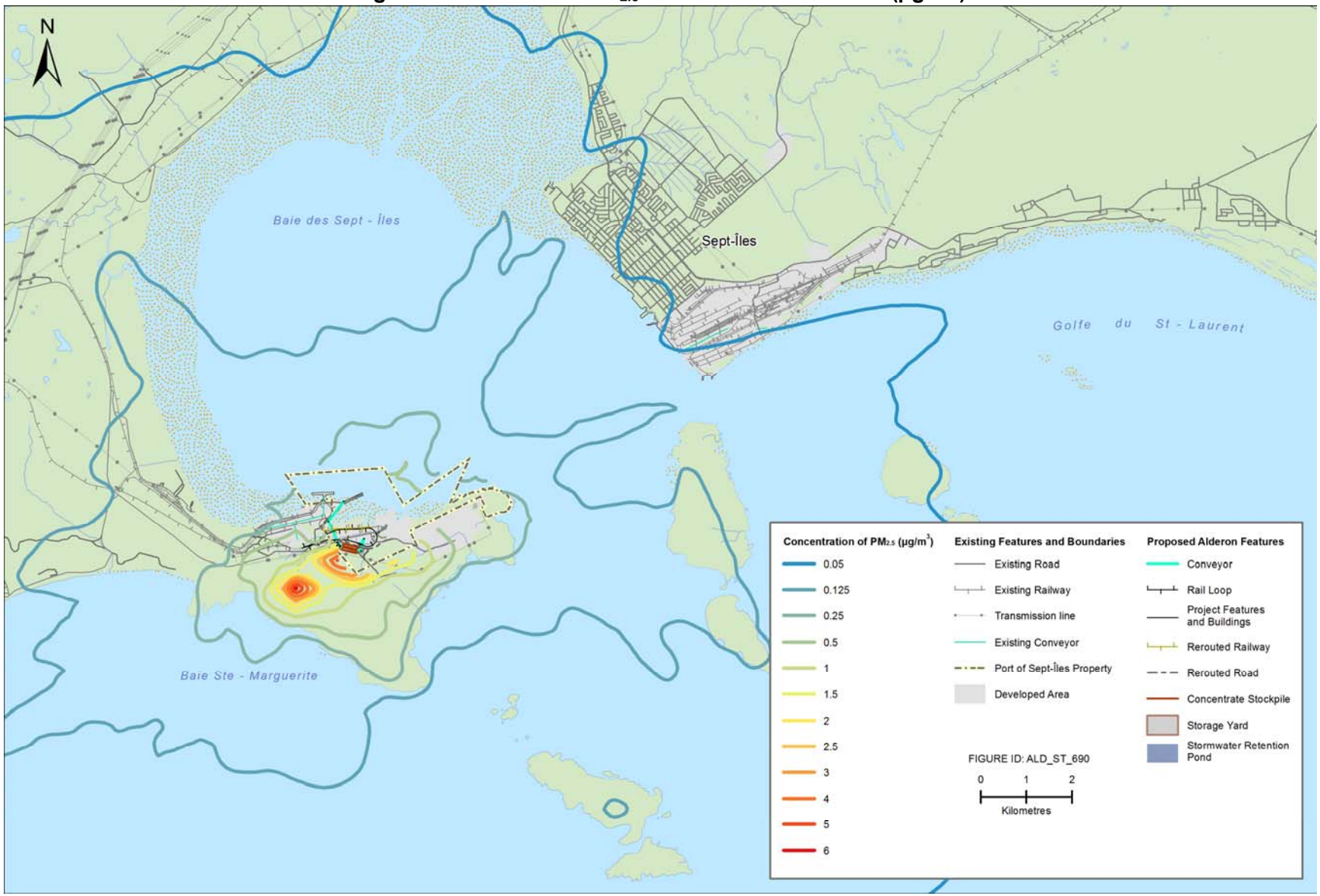


Figure D-3: Maximum 24-hour $PM_{2.5}$ Concentration + 20 µg/m^3 Background (µg/m^3)

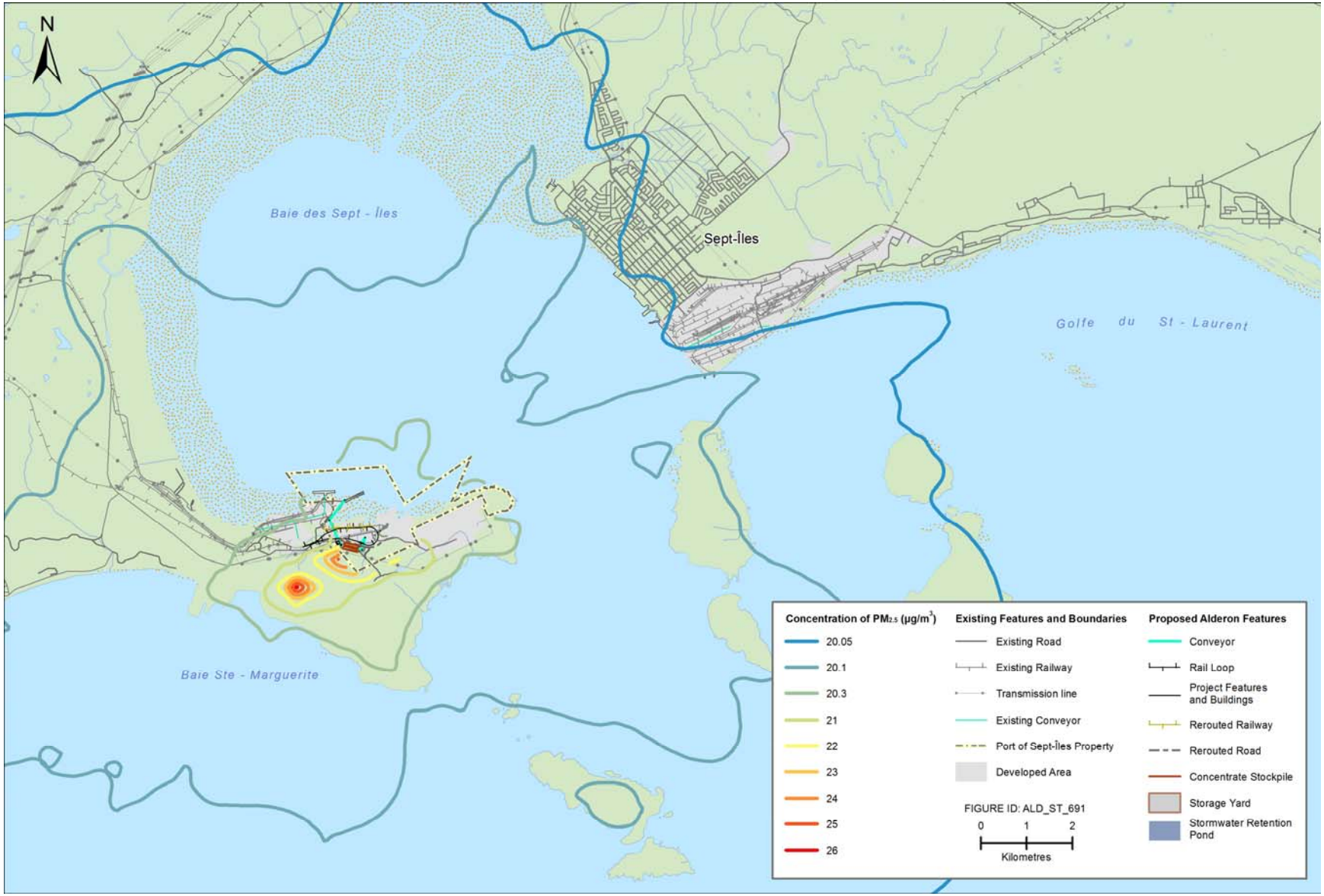


Figure D-4: Maximum $PM_{2.5}$ Annual Concentration (µg/m^3)

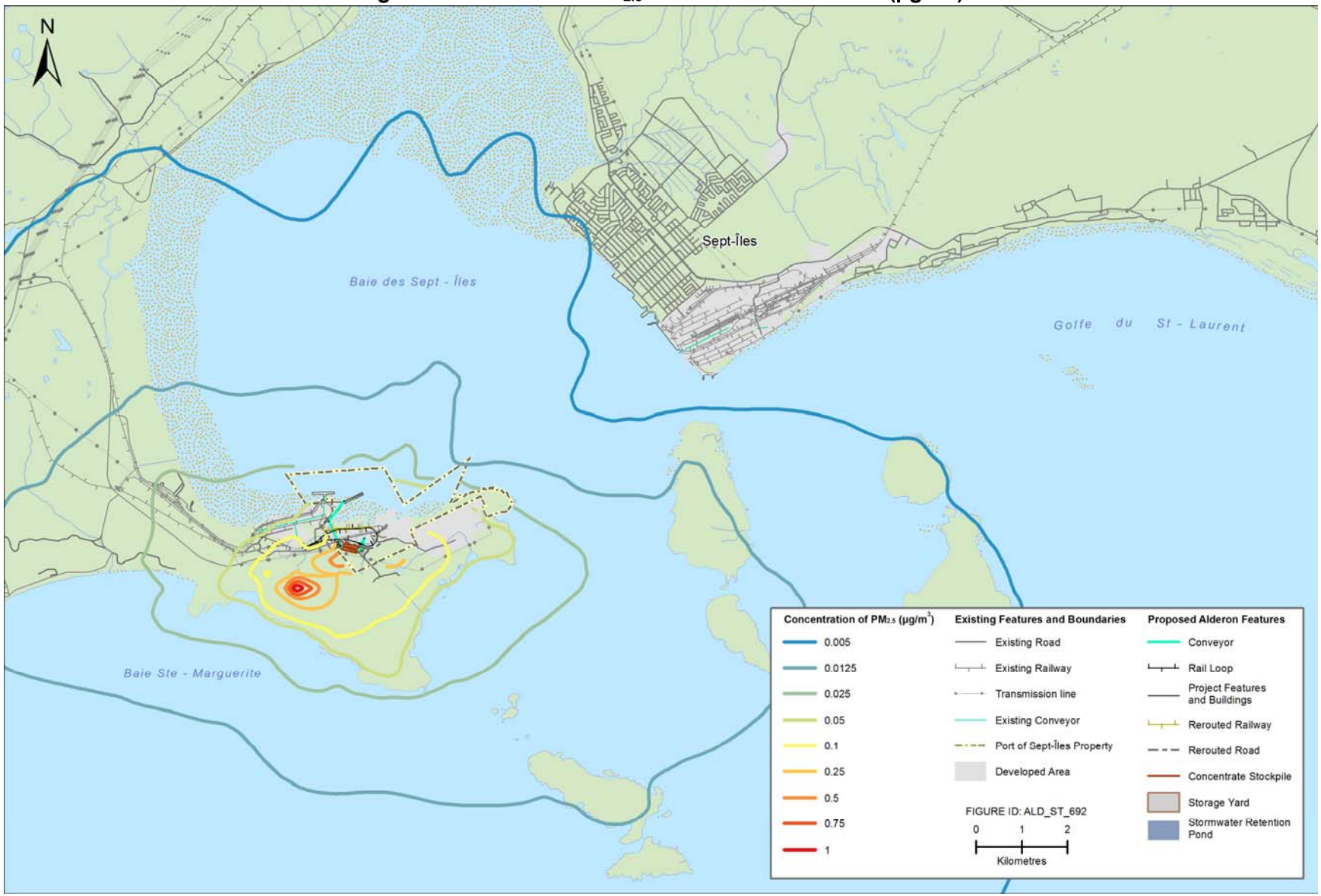


Figure D-5: Maximum 24-hour PM_{10} Concentration (µg/m^3)

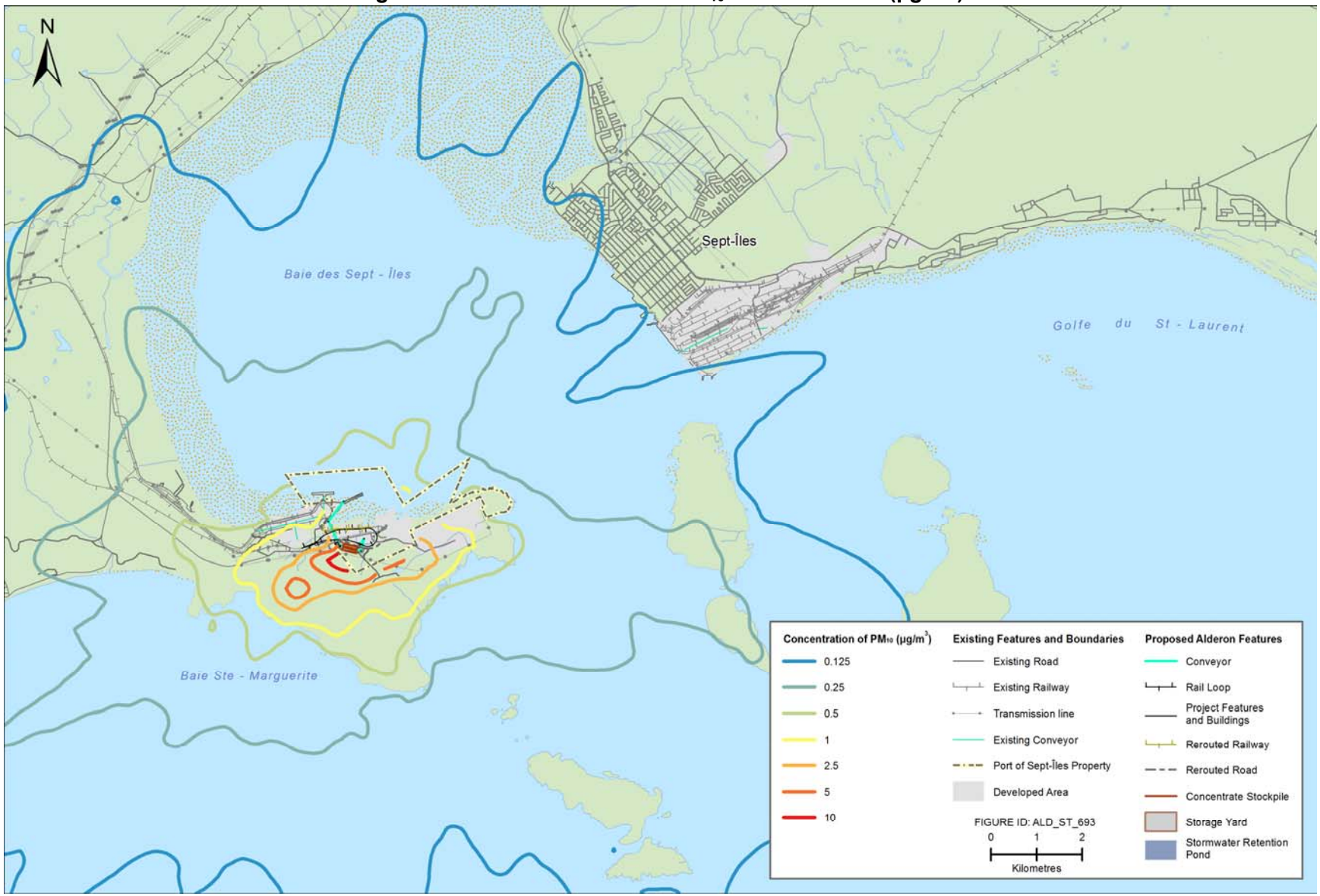


Figure D-6: Maximum 24-hour TPM Concentration (µg/m^3)

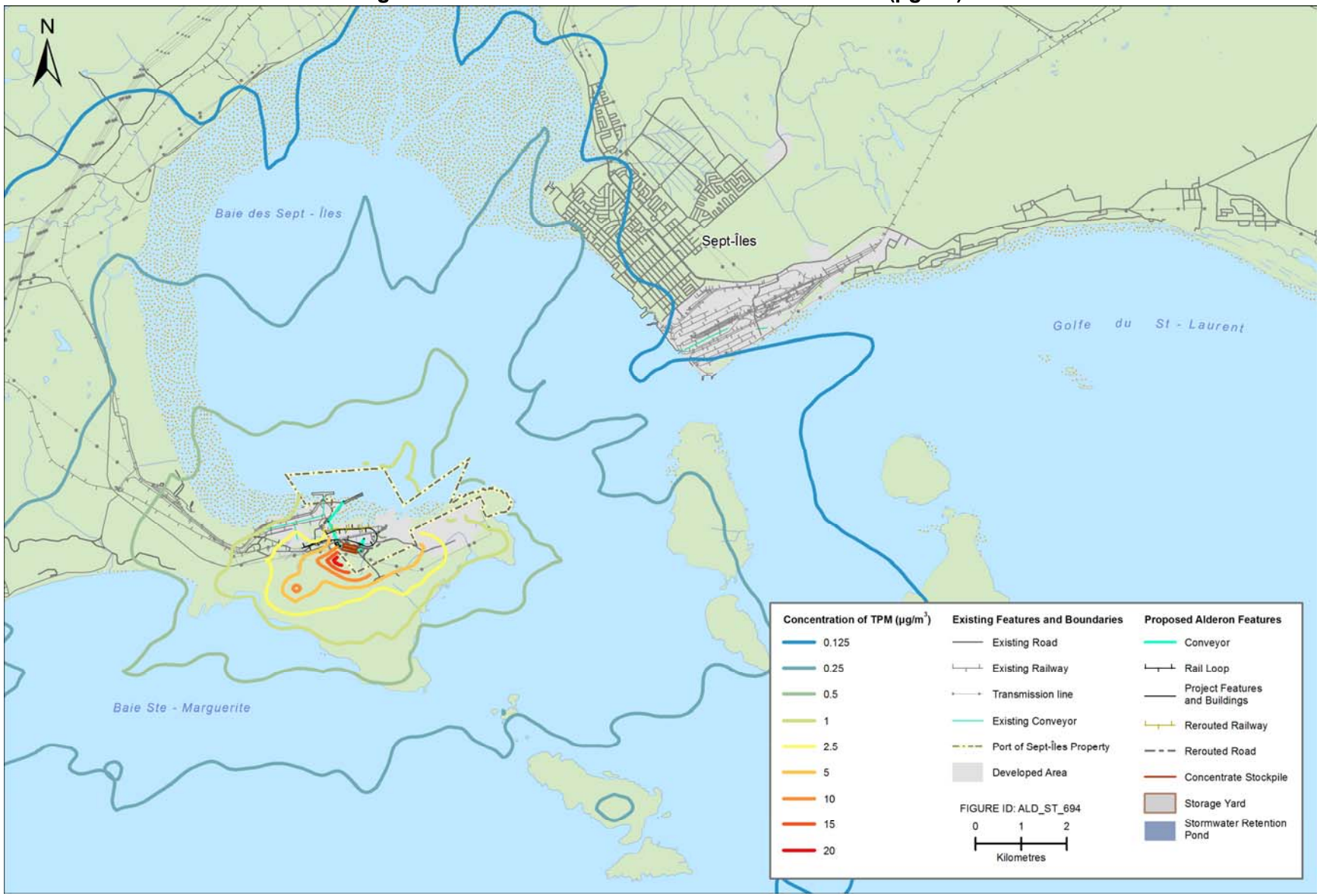


Figure D-7: Maximum 24-hour TPM Concentration + 90 µg/m^3 Background (µg/m^3)

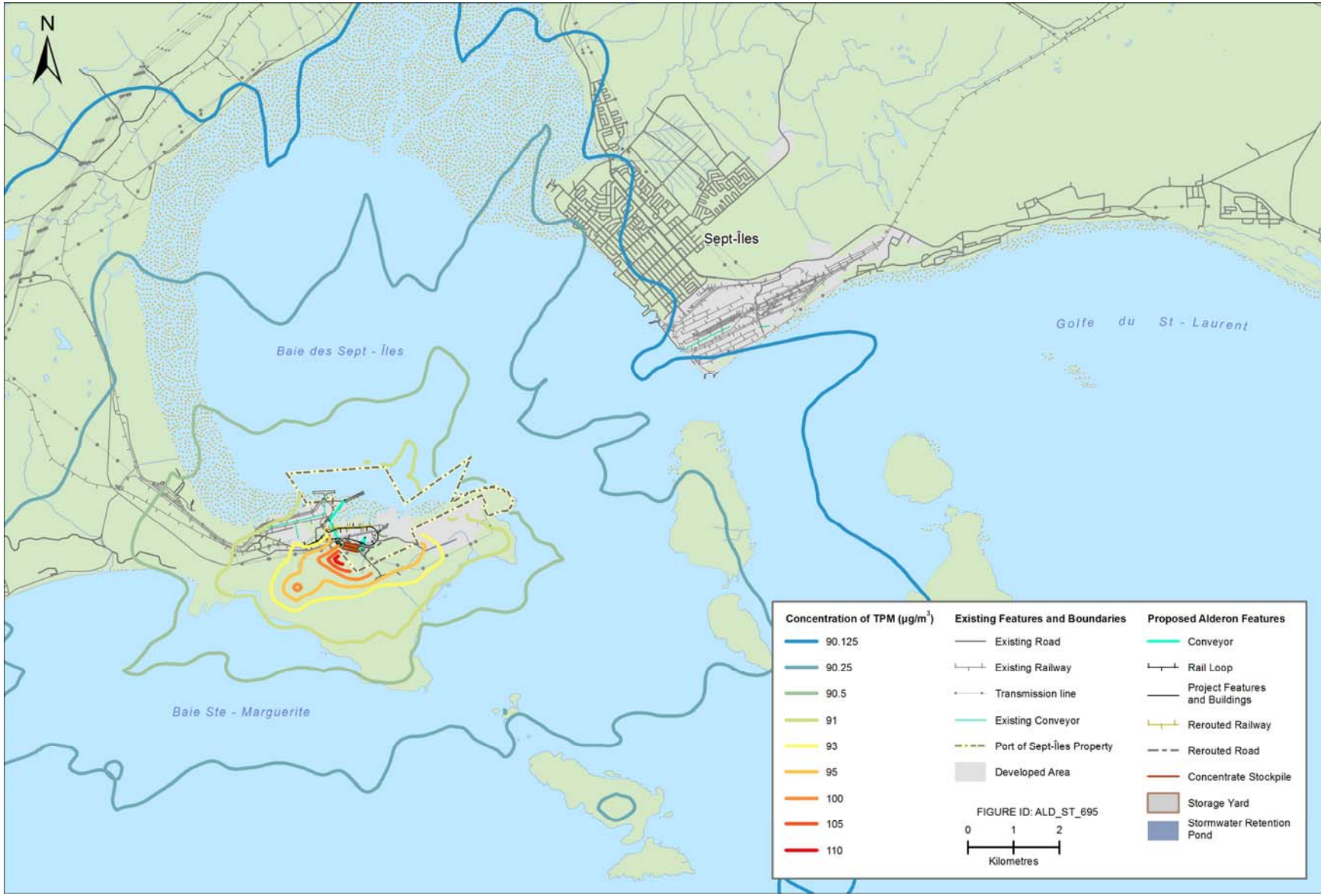
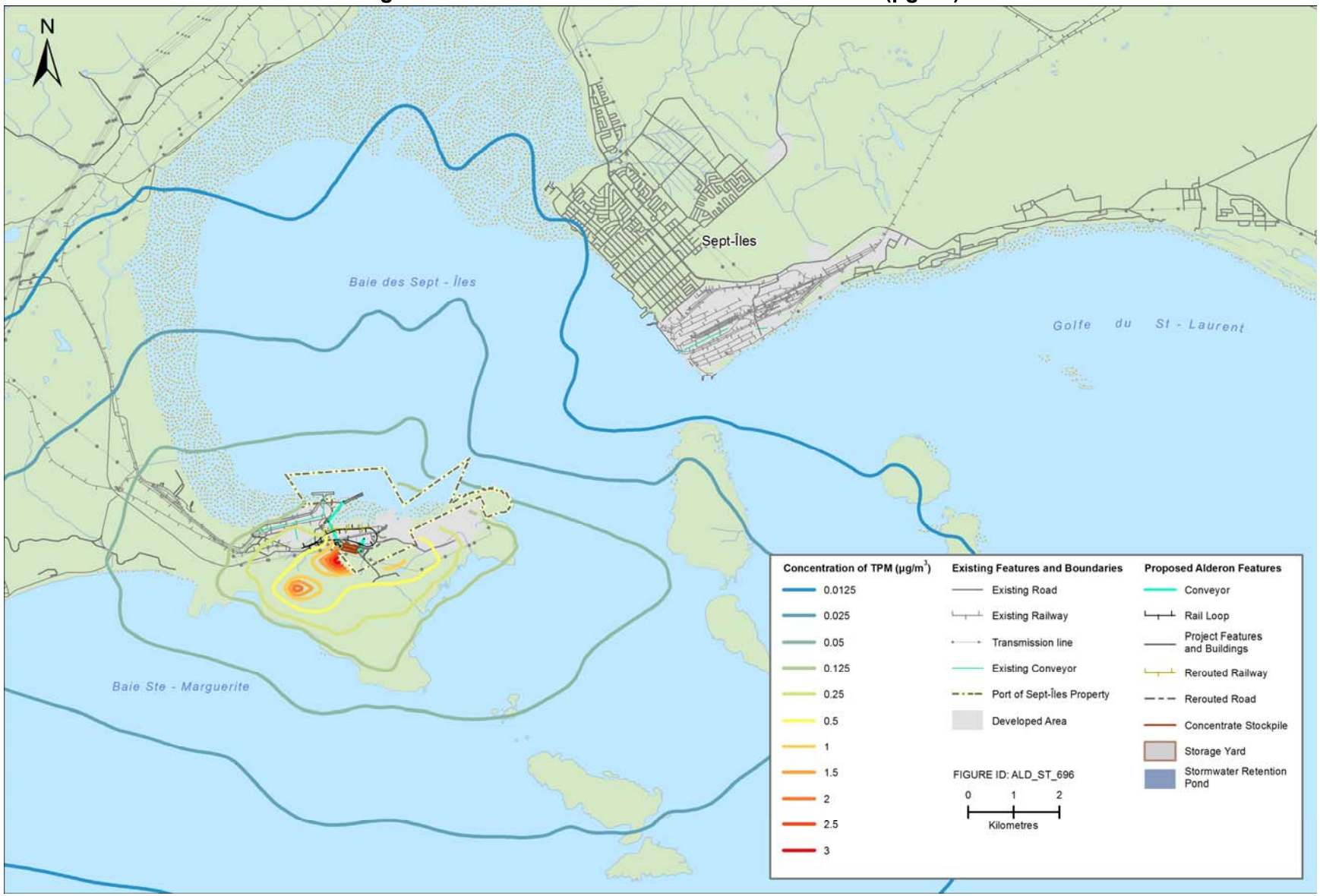


Figure D-8: Maximum Annual TPM Concentration (µg/m^3)



APPENDIX E

Maximum Ground Level Concentration Contour with a Worst Case Emission Scenario for the Concentrate Piles

Figure E-1: Maximum $PM_{2.5}$ 24-hour Concentration (µg/m^3)

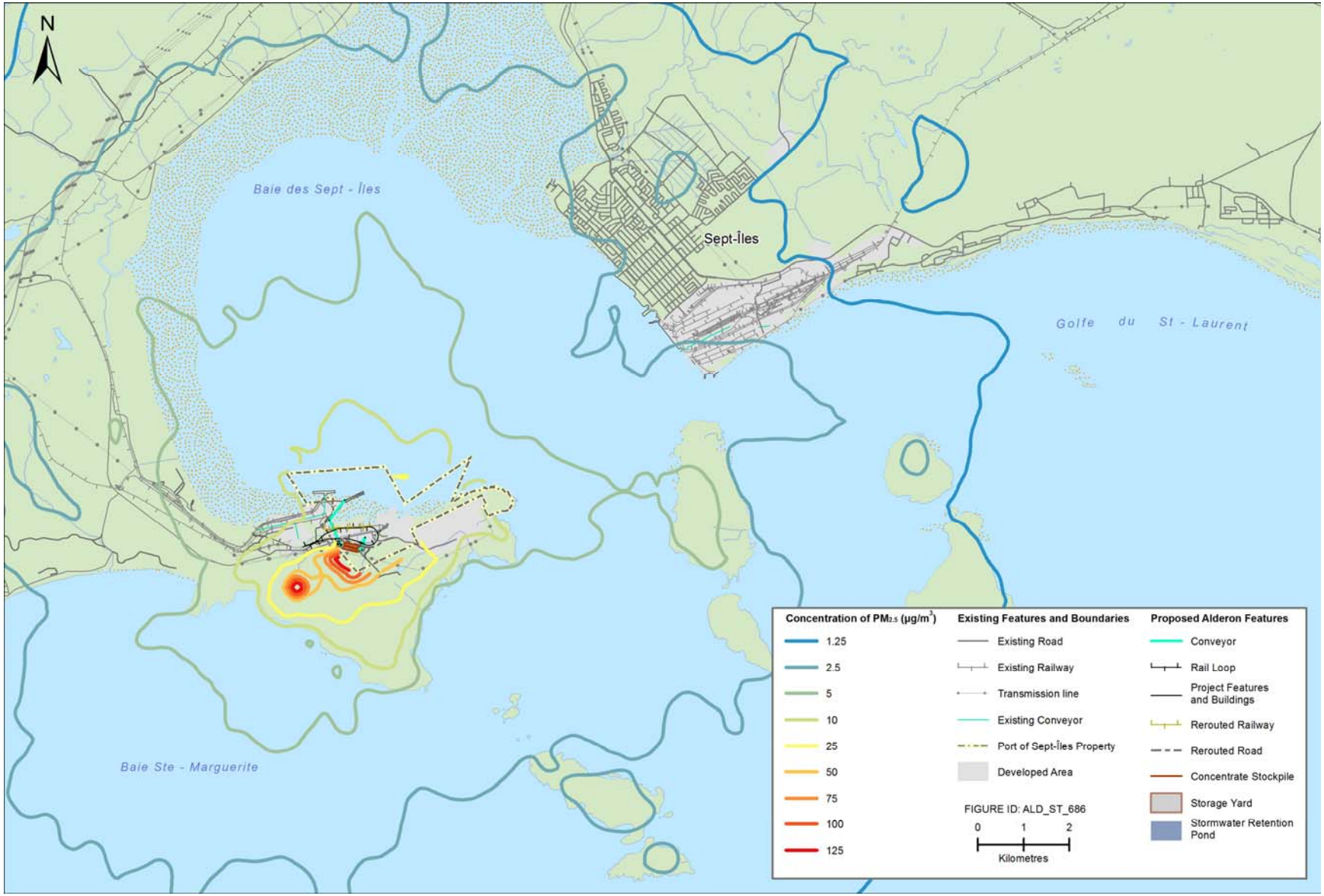


Figure E-2: Maximum $PM_{2.5}$ 24-hour Concentration ($\mu g/m^3$)

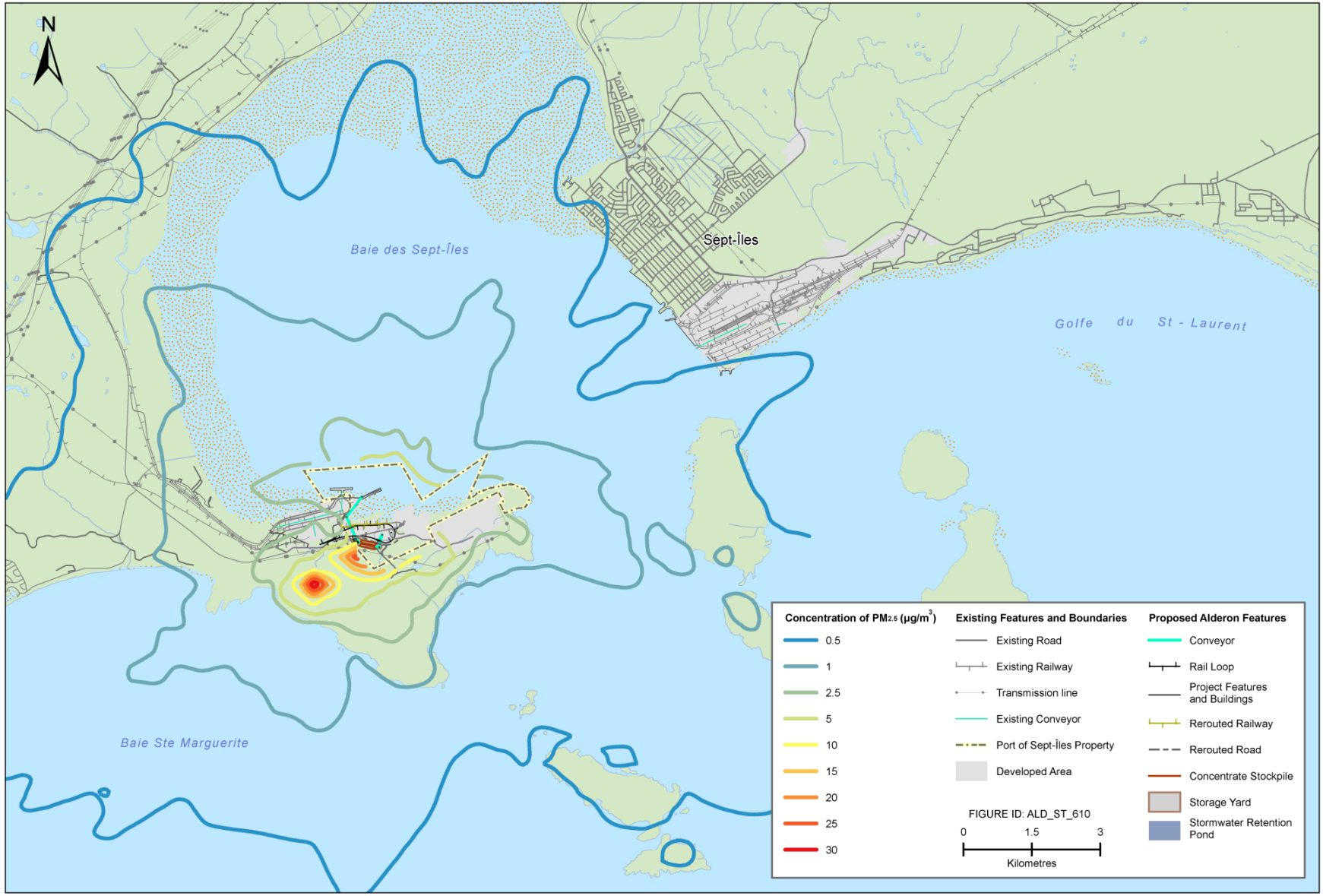


Figure E-3: Maximum 24-hour $PM_{2.5}$ Concentration + 20 µg/m^3 Background (µg/m^3)

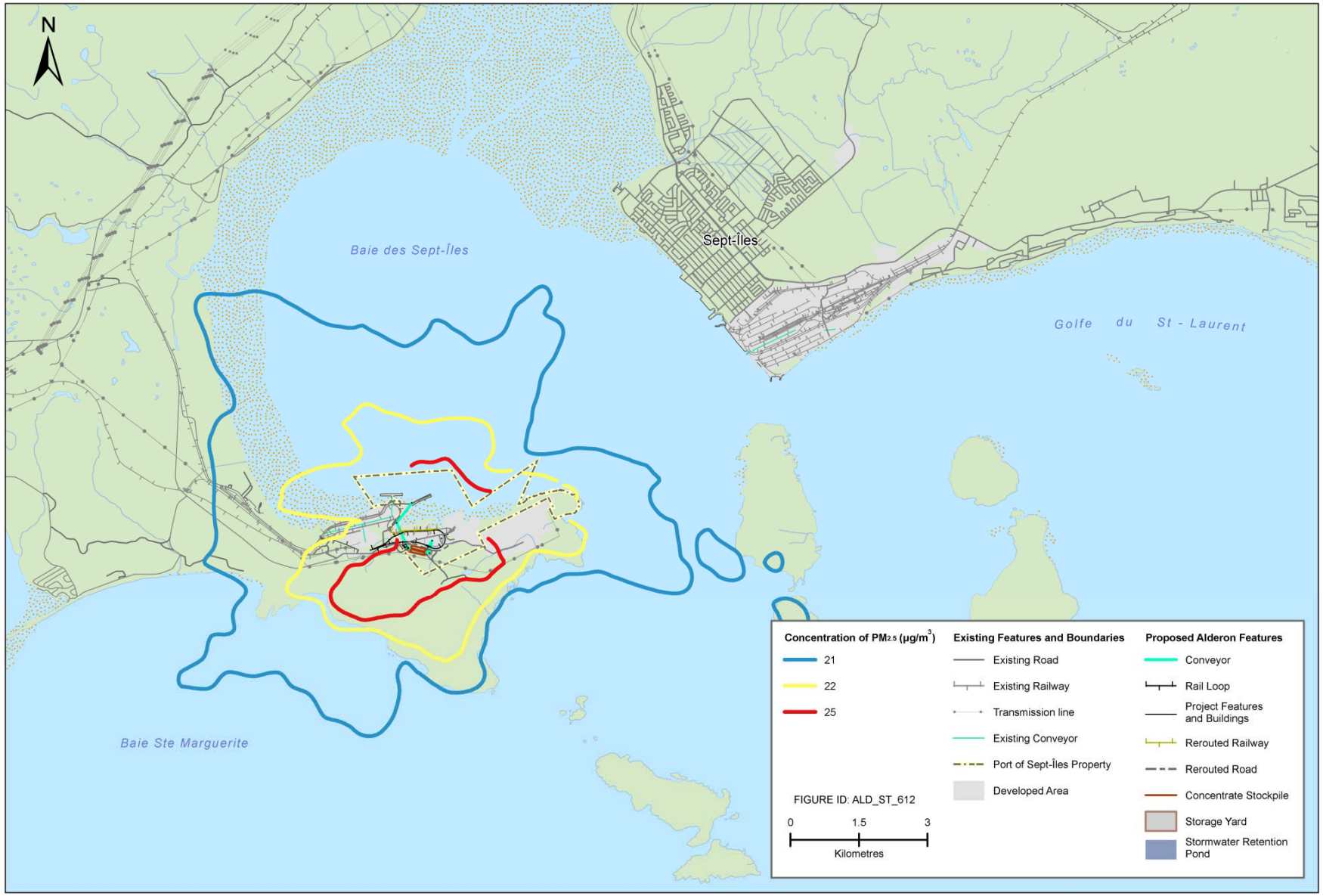


Figure E-4: Maximum $PM_{2.5}$ Annual Concentration (µg/m^3)

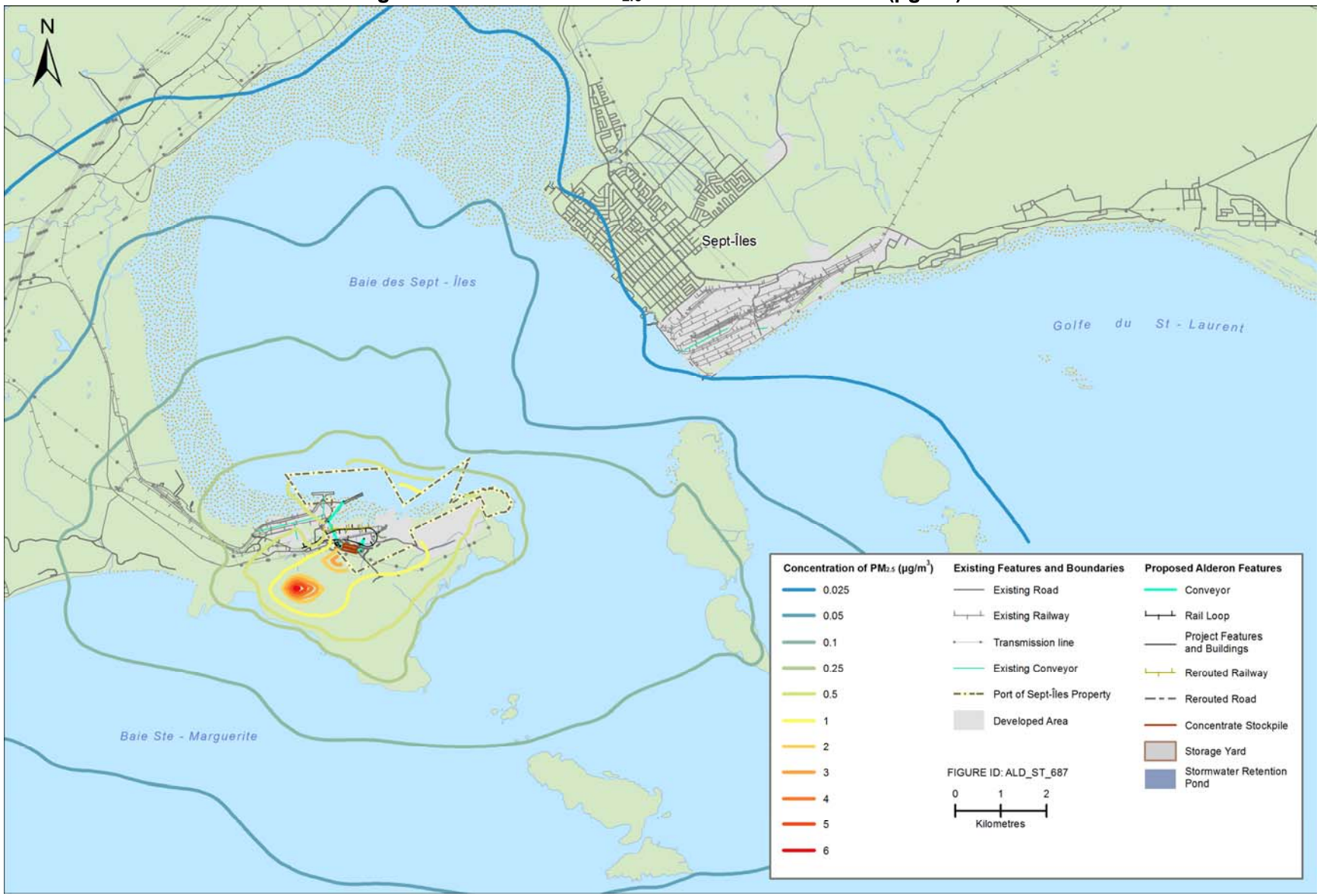


Figure E-5: Maximum 24-hour PM_{10} Concentration ($\mu g/m^3$)

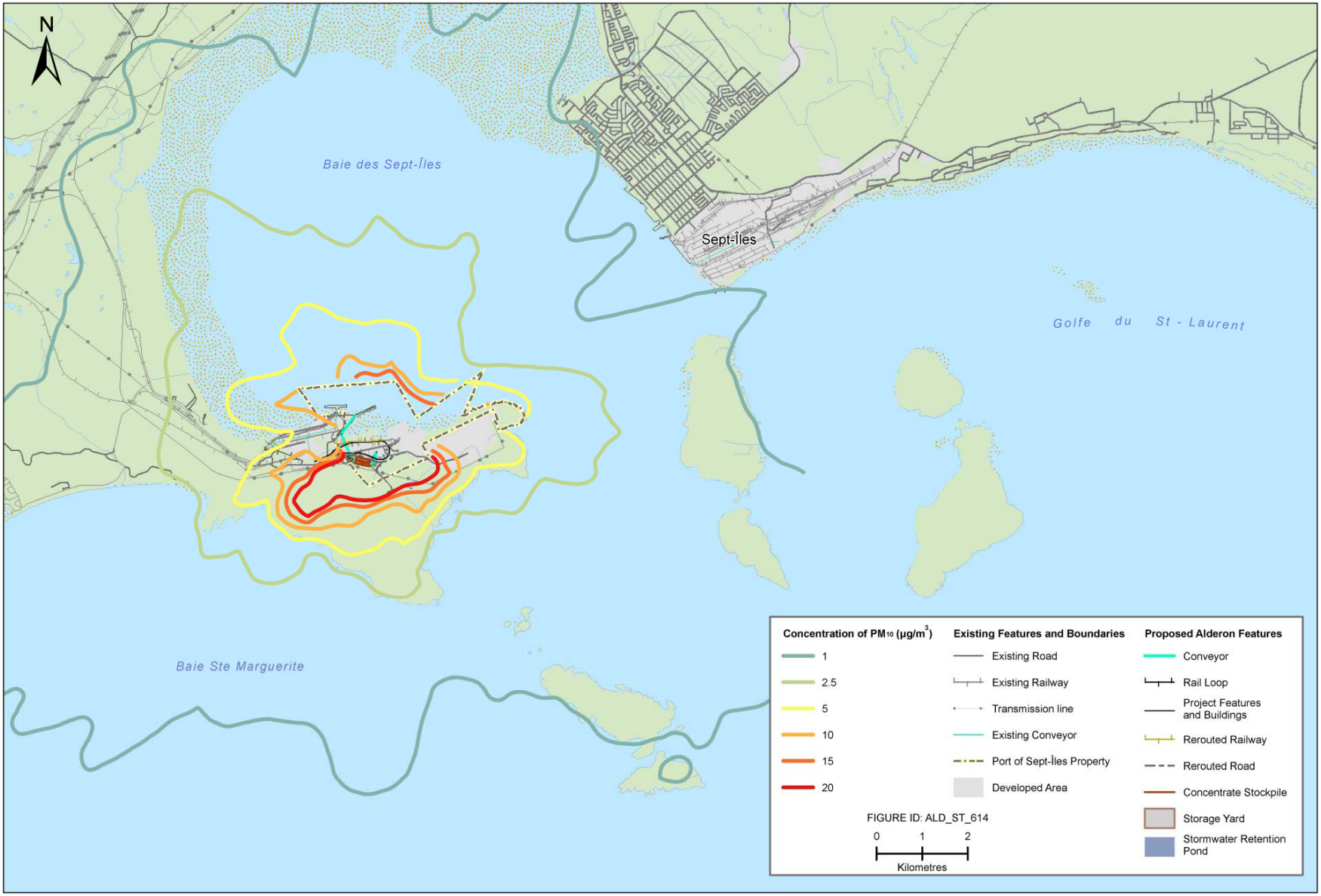


Figure E-6: Maximum 24-hour TPM Concentration (µg/m^3)

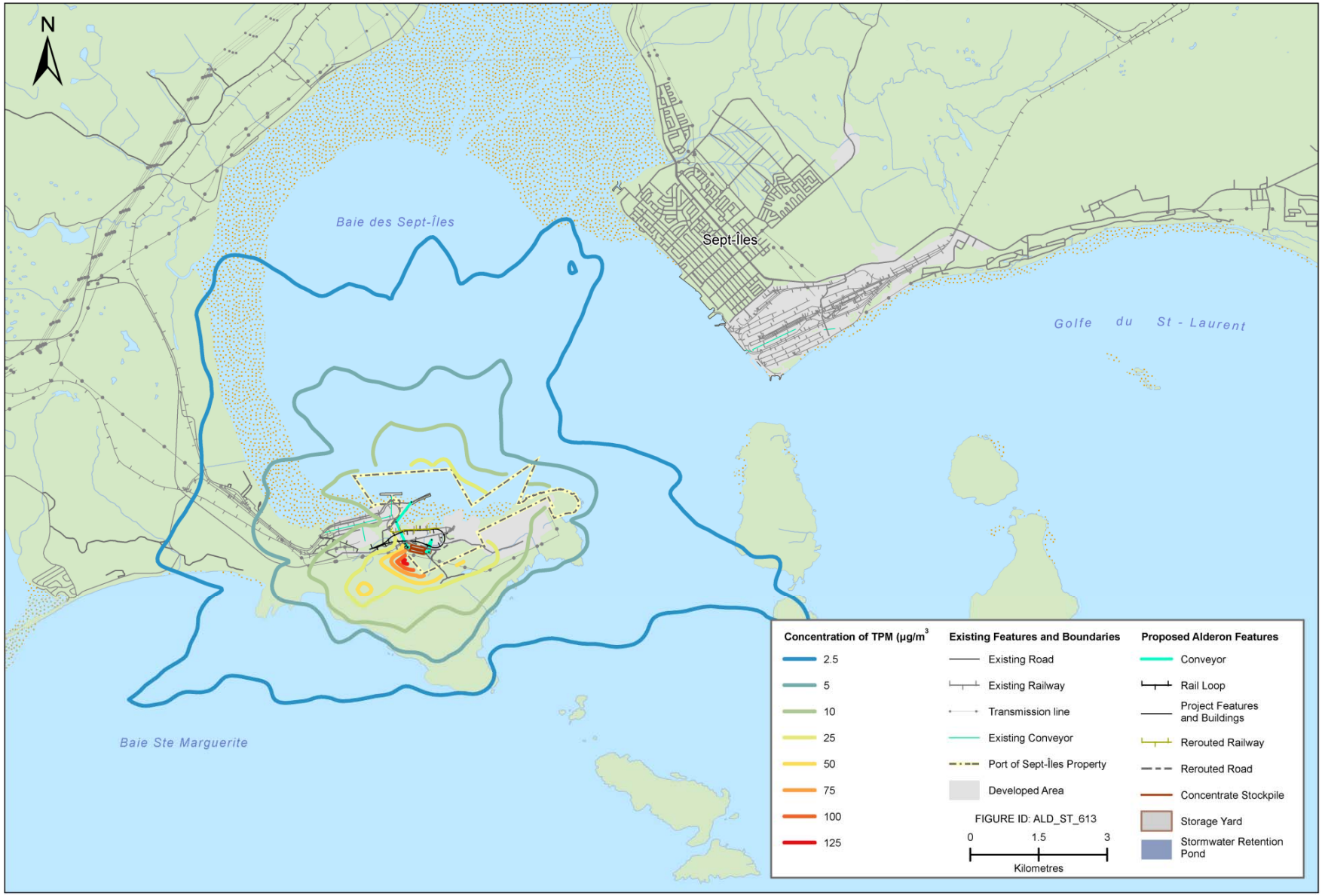


Figure E-7: Maximum 24-hour TPM Concentration + 90 µg/m^3 Background (µg/m^3)

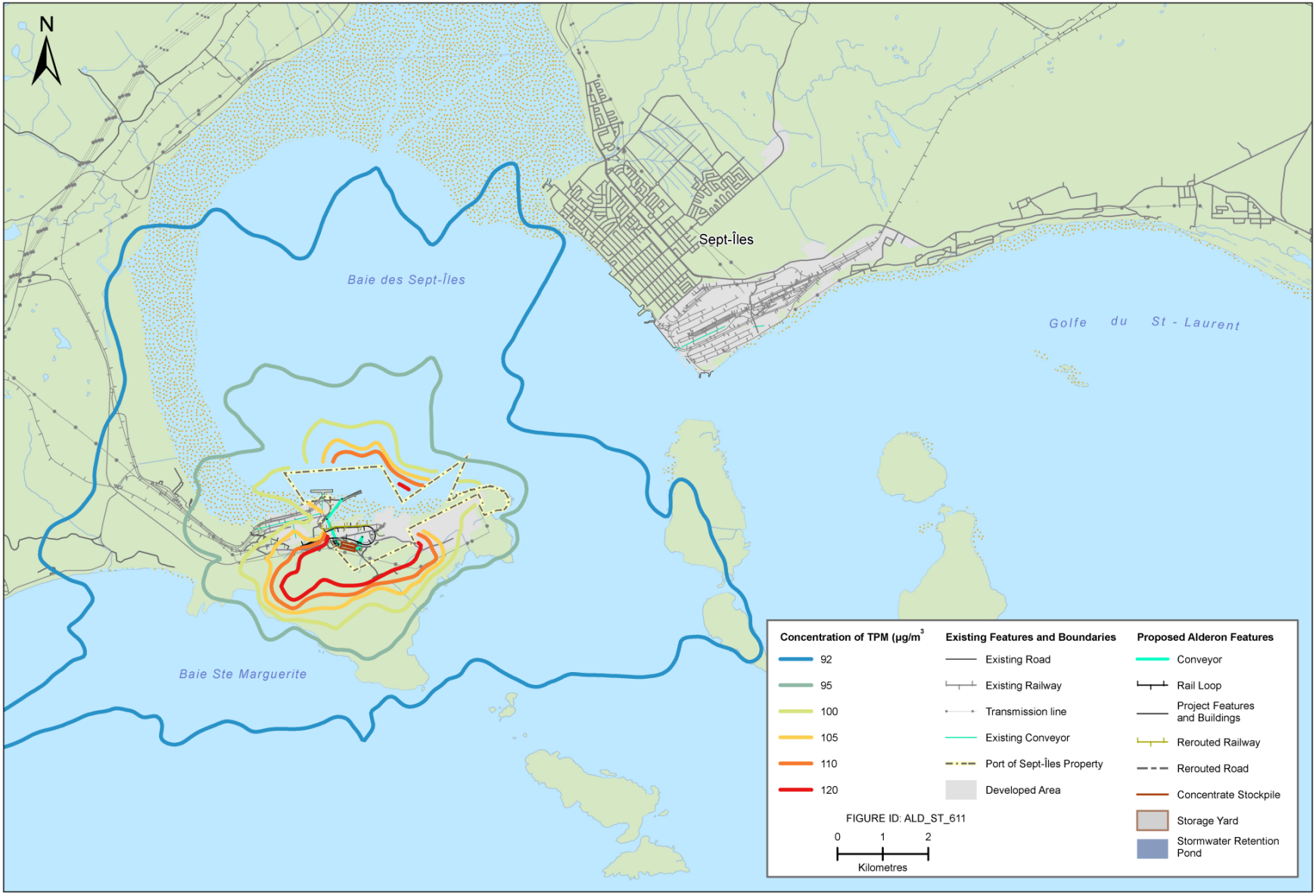
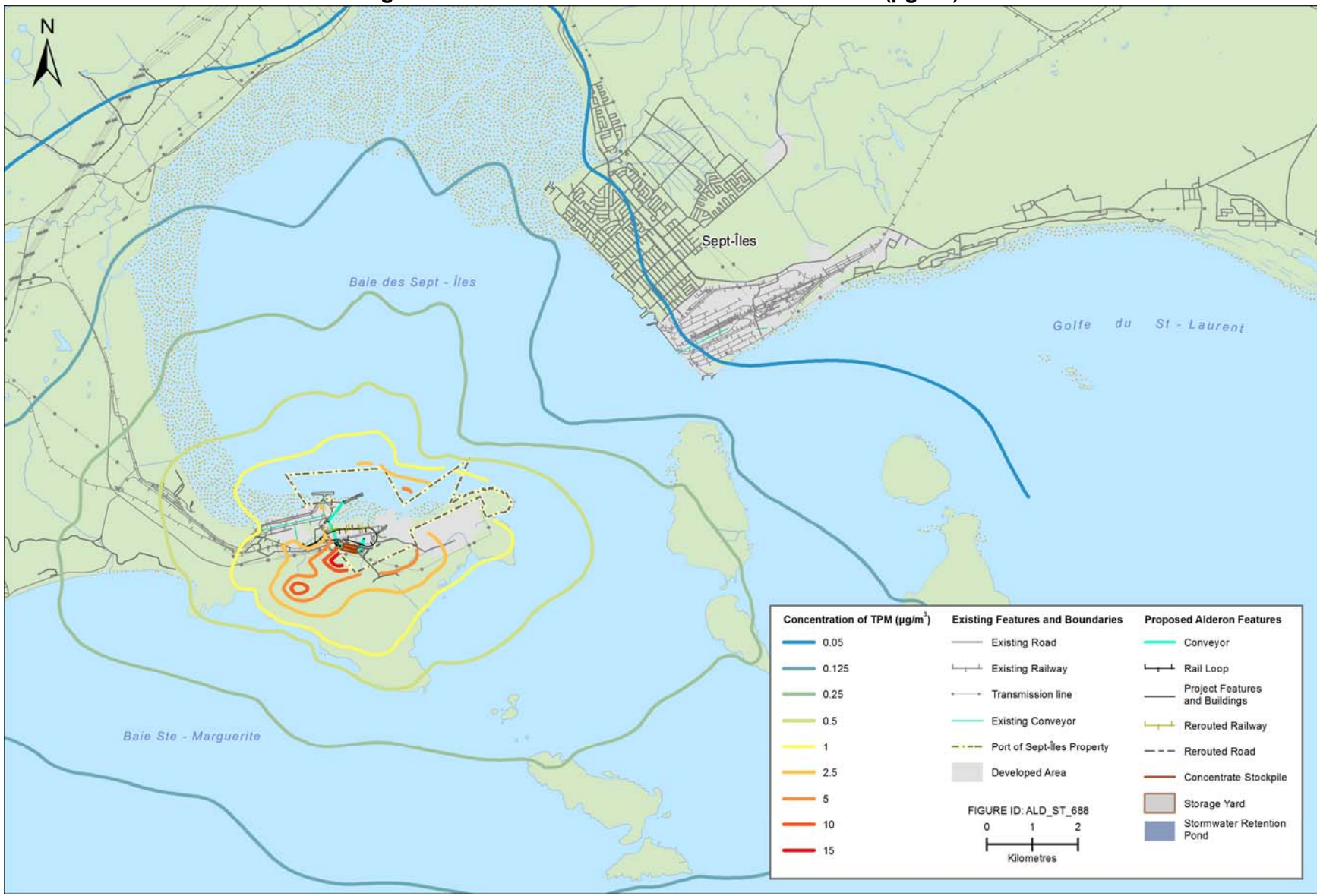


Figure E-8: Maximum Annual TPM Concentration (µg/m^3)



APPENDIX F

Maximum Ground Level Concentration Results Table for the Rail Emissions at the Special Receptors

Receptor #	X	Y	TSP		PM_{10}	$PM_{2.5}$			NO_2			CO		SO_2		
	Averaging Period		Daily	Annual	Daily	Hourly	Daily	Annual	Hourly	Daily	Annual	Hourly	8-Hour	Hourly	Daily	Annual
1	688.805	5567.253	0.31	0.06	0.31	0.87	0.31	0.06	34.7	13.0	2.35	4.87	3.51	0.12	0.05	8.4E-03
2	686.644	5565.193	0.25	0.05	0.25	0.72	0.25	0.05	31.5	10.7	1.82	4.42	3.12	0.11	0.04	6.5E-03
3	687.128	5565.544	0.26	0.05	0.26	0.73	0.26	0.05	32.1	11.1	1.87	4.50	3.19	0.11	0.04	6.7E-03
4	683.967	5571.942	0.56	0.11	0.56	1.53	0.56	0.11	63.4	22.3	4.28	8.89	5.69	0.23	0.08	0.02
5	686.061	5568.469	0.35	0.06	0.35	0.86	0.35	0.06	35.8	14.5	2.49	5.02	3.67	0.13	0.05	8.9E-03
6	686.817	5565.407	0.25	0.05	0.25	0.72	0.25	0.05	31.6	10.8	1.82	4.44	3.11	0.11	0.04	6.5E-03
7	686.395	5566.997	0.30	0.05	0.30	0.80	0.30	0.05	34.7	12.7	2.16	4.87	3.51	0.12	0.05	7.7E-03
8	688.257	5566.34	0.27	0.05	0.27	0.77	0.27	0.05	31.1	11.4	2.00	4.37	3.18	0.11	0.04	7.1E-03
9	685.071	5566.41	0.29	0.05	0.29	0.80	0.29	0.05	34.2	12.0	2.03	4.80	3.30	0.12	0.04	7.2E-03
10	685.882	5566.213	0.28	0.05	0.28	0.78	0.28	0.05	33.5	11.8	1.98	4.70	3.33	0.12	0.04	7.1E-03
11	675.049	5558.368	0.86	0.12	0.86	2.52	0.86	0.12	99.1	34.2	4.53	13.9	7.22	0.35	0.12	0.02
12	670.695	5556.892	0.33	0.03	0.33	0.88	0.33	0.03	35.3	13.7	1.18	4.95	2.66	0.13	0.05	4.2E-03
13	669.341	5563.329	0.23	0.03	0.23	1.90	0.23	0.03	74.2	9.81	1.15	10.4	2.74	0.26	0.04	4.1E-03
14	675.391	5565.382	0.78	0.15	0.78	2.22	0.78	0.15	89.2	31.4	5.72	12.5	9.20	0.32	0.11	0.02
15	673.754	5566.473	0.81	0.09	0.81	2.99	0.81	0.09	118.3	32.0	3.71	16.6	10.6	0.42	0.11	0.01
16	674.663	5567.121	1.50	0.15	1.50	6.15	1.50	0.15	241.1	58.4	5.98	33.8	18.0	0.86	0.21	0.02
17	675.556	5566.775	1.51	0.25	1.51	3.88	1.51	0.25	152.7	58.8	9.76	21.4	16.3	0.55	0.21	0.03
18	678.067	5569.115	0.60	0.12	0.60	1.91	0.60	0.12	79.9	24.2	4.74	11.2	8.12	0.29	0.09	0.02
19	683.014	5572.409	0.71	0.15	0.71	2.73	0.71	0.15	109.1	28.2	5.99	15.3	7.80	0.39	0.10	0.02
20	685.145	5565.813	0.26	0.05	0.26	0.76	0.26	0.05	32.6	11.1	1.95	4.57	3.11	0.12	0.04	6.9E-03
21	687.285	5564.064	0.23	0.04	0.23	0.68	0.23	0.04	29.6	9.87	1.67	4.15	2.88	0.11	0.04	6.0E-03
22	691.313	5564.696	0.19	0.04	0.19	0.61	0.19	0.04	26.5	8.70	1.48	3.72	2.45	0.09	0.03	5.3E-03
23	686.414	5564.74	0.24	0.04	0.24	0.70	0.24	0.04	30.3	10.4	1.78	4.25	3.01	0.11	0.04	6.3E-03
24	686.141	5566.442	0.29	0.05	0.29	0.78	0.29	0.05	33.9	12.1	2.03	4.75	3.41	0.12	0.04	7.3E-03
25	665.273	5565.379	0.11	0.01	0.11	0.50	0.11	0.01	19.7	4.90	0.50	2.77	1.31	0.07	0.02	1.8E-03
26	693.848	5557.622	0.13	0.02	0.13	0.42	0.13	0.02	18.0	5.87	0.86	2.53	1.80	0.06	0.02	3.1E-03

APPENDIX G

Maximum Ground Level Concentration Results Table for the Construction Emissions at the Special Receptors

Receptor #	X	Y	TSP		PM_{10}	$PM_{2.5}$			NO_2			CO		SO_2		
	Averaging Period		Daily	Annual	Daily	Hourly	Daily	Annual	Hourly	Daily	Annual	Hourly	8-Hour	Hourly	Daily	Annual
1	688.805	5567.253	1.1E-03	5.7E-05	9.3E-04	7.0E-04	6.2E-05	3.6E-06	0.017	1.6E-03	9.3E-05	0.03	8.6E-03	0.0E+00	0.0E+00	0.0E+00
2	686.644	5565.193	2.5E-03	1.0E-04	1.9E-03	1.4E-03	1.2E-04	5.8E-06	0.034	3.1E-03	1.5E-04	0.07	0.01	0.0E+00	0.0E+00	0.0E+00
3	687.128	5565.544	2.2E-03	8.3E-05	1.7E-03	1.1E-03	1.1E-04	4.9E-06	0.027	2.7E-03	1.3E-04	0.05	9.8E-03	0.0E+00	0.0E+00	0.0E+00
4	683.967	5571.942	1.5E-03	9.4E-05	1.2E-03	5.3E-04	8.2E-05	5.3E-06	0.014	2.1E-03	1.3E-04	0.03	9.6E-03	0.0E+00	0.0E+00	0.0E+00
5	686.061	5568.469	1.6E-03	1.0E-04	1.3E-03	1.4E-03	1.0E-04	5.7E-06	0.037	2.6E-03	1.5E-04	0.07	0.02	0.0E+00	0.0E+00	0.0E+00
6	686.817	5565.407	2.2E-03	9.4E-05	1.7E-03	1.3E-03	1.1E-04	5.4E-06	0.032	2.8E-03	1.4E-04	0.06	9.8E-03	0.0E+00	0.0E+00	0.0E+00
7	686.395	5566.997	1.9E-03	1.0E-04	1.3E-03	6.0E-04	1.0E-04	5.9E-06	0.016	2.5E-03	1.5E-04	0.03	0.01	0.0E+00	0.0E+00	0.0E+00
8	688.257	5566.34	1.5E-03	6.0E-05	1.2E-03	6.9E-04	7.9E-05	3.7E-06	0.017	2.0E-03	9.7E-05	0.03	9.0E-03	0.0E+00	0.0E+00	0.0E+00
9	685.071	5566.41	3.1E-03	1.7E-04	2.1E-03	9.4E-04	1.5E-04	8.7E-06	0.024	3.8E-03	2.2E-04	0.05	0.02	0.0E+00	0.0E+00	0.0E+00
10	685.882	5566.213	2.8E-03	1.4E-04	1.9E-03	8.2E-04	1.4E-04	7.8E-06	0.021	3.5E-03	2.0E-04	0.04	0.01	0.0E+00	0.0E+00	0.0E+00
11	675.049	5558.368	7.9E-03	5.0E-04	5.9E-03	3.3E-03	3.6E-04	2.5E-05	0.082	9.1E-03	6.4E-04	0.17	0.04	0.0E+00	0.0E+00	0.0E+00
12	670.695	5556.892	3.6E-03	1.8E-04	2.7E-03	1.2E-03	1.8E-04	9.8E-06	0.031	4.6E-03	2.5E-04	0.06	0.02	0.0E+00	0.0E+00	0.0E+00
13	669.341	5563.329	1.5E-03	9.6E-05	1.3E-03	6.4E-04	8.4E-05	5.9E-06	0.017	2.1E-03	1.5E-04	0.03	0.01	0.0E+00	0.0E+00	0.0E+00
14	675.391	5565.382	5.1E-03	2.7E-04	3.8E-03	1.7E-03	2.3E-04	1.4E-05	0.044	6.2E-03	3.7E-04	0.09	0.03	0.0E+00	0.0E+00	0.0E+00
15	673.754	5566.473	4.0E-03	1.5E-04	3.0E-03	1.4E-03	1.9E-04	8.7E-06	0.035	4.7E-03	2.3E-04	0.07	0.02	0.0E+00	0.0E+00	0.0E+00
16	674.663	5567.121	3.9E-03	1.6E-04	2.9E-03	1.3E-03	1.8E-04	9.1E-06	0.033	4.6E-03	2.3E-04	0.07	0.02	0.0E+00	0.0E+00	0.0E+00
17	675.556	5566.775	3.5E-03	2.1E-04	2.6E-03	1.6E-03	2.2E-04	1.1E-05	0.039	5.9E-03	2.9E-04	0.08	0.02	0.0E+00	0.0E+00	0.0E+00
18	678.067	5569.115	2.3E-03	1.3E-04	1.7E-03	1.1E-03	1.1E-04	7.3E-06	0.026	3.0E-03	1.9E-04	0.05	0.02	0.0E+00	0.0E+00	0.0E+00
19	683.014	5572.409	1.8E-03	8.9E-05	1.4E-03	5.7E-04	9.8E-05	4.8E-06	0.015	2.5E-03	1.2E-04	0.03	0.01	0.0E+00	0.0E+00	0.0E+00
20	685.145	5565.813	4.6E-03	2.2E-04	2.8E-03	1.1E-03	2.3E-04	1.2E-05	0.028	5.8E-03	3.0E-04	0.06	0.03	0.0E+00	0.0E+00	0.0E+00
21	687.285	5564.064	3.6E-03	9.5E-05	2.7E-03	1.1E-03	1.7E-04	5.4E-06	0.028	4.4E-03	1.4E-04	0.06	0.02	0.0E+00	0.0E+00	0.0E+00
22	691.313	5564.696	1.2E-03	4.1E-05	1.0E-03	4.8E-04	7.1E-05	2.6E-06	0.012	1.8E-03	6.7E-05	0.02	6.9E-03	0.0E+00	0.0E+00	0.0E+00
23	686.414	5564.74	3.3E-03	1.2E-04	2.5E-03	1.7E-03	1.5E-04	6.4E-06	0.042	3.9E-03	1.7E-04	0.08	0.01	0.0E+00	0.0E+00	0.0E+00
24	686.141	5566.442	2.4E-03	1.2E-04	1.6E-03	7.3E-04	1.3E-04	6.9E-06	0.018	3.1E-03	1.8E-04	0.04	0.01	0.0E+00	0.0E+00	0.0E+00
26	665.273	5565.379	6.9E-04	5.0E-05	6.2E-04	3.7E-04	4.1E-05	3.3E-06	0.010	1.2E-03	8.5E-05	0.02	6.6E-03	0.0E+00	0.0E+00	0.0E+00
27	693.848	5557.622	1.4E-03	1.1E-04	1.3E-03	6.5E-04	1.0E-04	6.3E-06	0.017	2.7E-03	1.6E-04	0.03	0.02	0.0E+00	0.0E+00	0.0E+00