APPENDIX

L

Air Quality Technical Report

PART 2 OF 2

Appendices A to H

CALVERT TO KAGARU ENVIRONMENTAL IMPACT STATEMENT

IR_1381

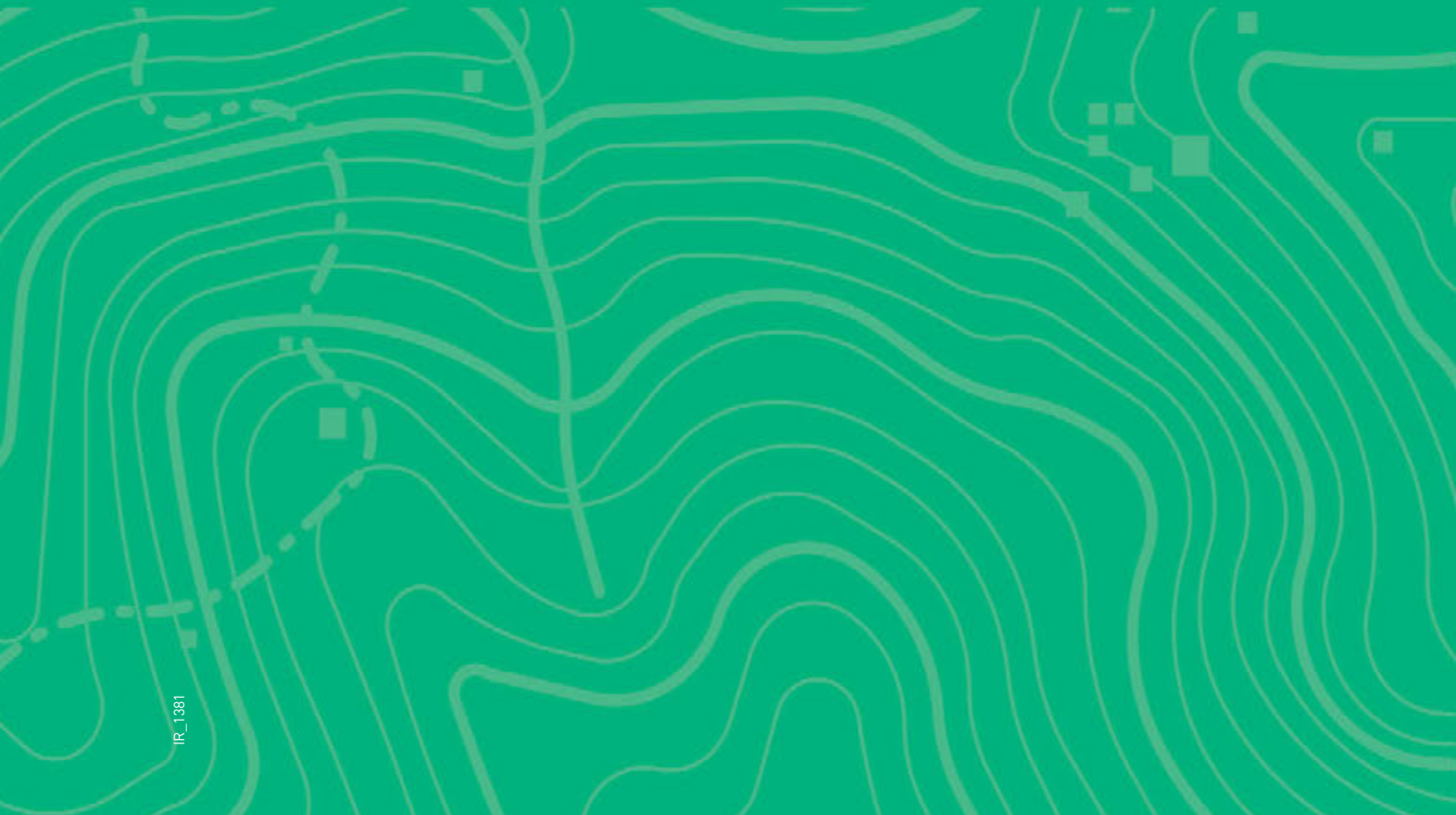
The Australian Government is delivering Inland Rail through the Australian Rail Track Corporation (ARTC), in partnership with the private sector.

APPENDIX L

Air Quality Technical Report

Appendix A Meteorological Data

CALVERT TO KAGARU ENVIRONMENTAL IMPACT STATEMENT



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Appendix A
Meteorological Data

El Niño-Southern Oscillation

For Australia, the El Niño-Southern Oscillation (ENSO) has the strongest effect on year to year climate variability in Australia, mostly affecting rainfall and temperature. El Niño incidences represent periods of unusually warm Pacific Ocean conditions along the western coast of South America, which frequently presents as high rainfall events in South America and drought conditions for Australia. Conversely, La Niña periods represent cooler ocean surface temperatures along the western coast of South America and increase the likelihood of drought conditions locally and high rainfall periods in Australia.

The Southern Oscillation Index (SOI), Oceanic Niño Index (ONI), and Multivariate ENSO Index (MEI) are measures that indicate episodes of El Niño and La Niña. Due to differences in methodology each of these aforementioned indices can have slightly differing results. In order to provide a robust investigation of ENSO periods, monthly results from each of these measures have been analysed.

The SOI is defined as the standardized differences in barometric readings from Darwin, Australia and Tahiti. Sustained negative SOI values of below -7 often present as El Niño episodes, and positive SOI values above 7 are associated with La Niña. Figure A1 presents the monthly SOI values for the period of 2008 to 2017. Several episodes of El Niño and La Niña have been documented by BoM for this period.

These include the following:

- El Nino periods in 2015 – 2016 and 2009 – 2010
- La Nina periods in 2010 – 2012 and 2008 – 2009.

From review of the monthly SOI, three years have been identified as being relatively neutral. These include 2013, 2014, and 2017, which were measured to have 7, 5, and 8 months of the year to be neutral in terms of the SOI, respectively.

The ONI is the primary indicator utilised by the National Oceanic and Atmospheric Administration (NOAA) in the USA to monitor the strength of ENSO. ONI is based upon the averages in sea surface temperature anomalies in an area of the east-central equatorial Pacific Ocean, which is called the Niño-3.4 region. The index consists of a monthly 3-monthly running mean in order to better isolate variability closely related to the ENSO phenomenon. Threshold values of +/- 0.5°C indicate periods of higher likelihood for El Niño and La Niña.

For the period of 2008 to 2017 the following El Niño and La Niña periods have been identified by NCEP utilising the ONI index.

- 2007 – 2008 Strong La Niña
- 2008 – 2009 Weak La Niña
- 2009 – 2010 Moderate El Niño
- 2010 – 2011 Strong La Niña
- 2011 – 2012 Moderate La Niña
- 2014 – 2015 Weak El Niño
- 2015 – 2016 Very Strong El Niño
- 2016 – 2017 Weak La Niña
- 2017 – 2018 Weak La Niña.

The period of 2012 – 2013 and 2013 – 2014 represent the only years that have been neutral in terms of ENSO utilising the ONI measure for the years 2008 to 2017.

The Multivariate ENSO Index (MEI) utilises six main observed variables of the tropical Pacific. These six variables are: sea-level pressure, zonal and meridional components of surface wind, sea surface temperature, and total cloudiness fraction of the sky. Negative values of the MEI represent the cold ENSO phase, La Niña, while positive MEI values represent the warm ENSO phase (El Niño). From review of the MEI monthly values, significant periods of La Niña are observed for 2008, 2010-2011, and El Niño for 2009 and 2014 to 2016. Weaker periods of El Niño in 2012 and the first half of 2017 were recorded. Neutral conditions were observed for 2013 utilising the MEI measure.

Utilising the SEI, ONI, and MEI measures for ENSO, agreeance can be seen on which years represent periods of El Niño or La Niña. The three indices show that the year 2013 was relatively neutral in terms of ENSO. Therefore, the year 2013 represents an ideal candidate for selection of meteorological period that is relatively unaffected by variances in weather due to ENSO.

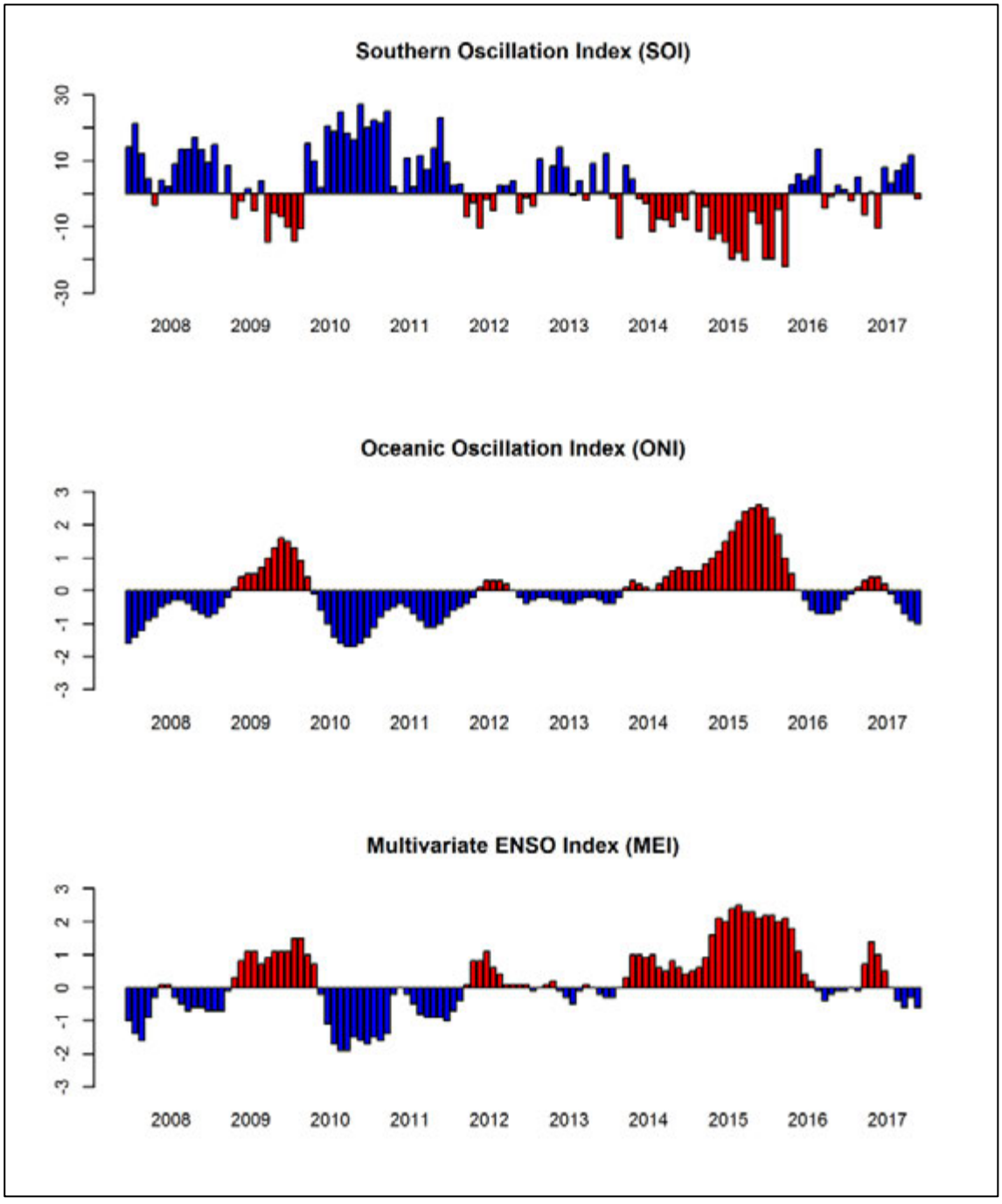


Figure A1 **Comparison of Monthly SOI, ONI, and MEI for 2008 to 2017 (red indicating higher likelihood of El Niño conditions, and blue indication higher likelihood of La Niña conditions)**

Amberley AMO Meteorological Data

Table A1 and Figure A2 contain a summary of the meteorological data for the BoM Amberley AMO monitoring station.

Historical meteorological data including average temperatures; rainfall; relative humidity; wind speed and wind roses showing the average monthly wind conditions at 9.00 am and 3.00 pm were obtained from the BoM website (*http://www.bom.gov.au/climate/averages/tables/cw_040004.shtml;* accessed 30 November 2018).

The warmest temperatures occur in summer, with the average maximum temperature recorded in January (31.2°C). July is the coldest month with an average minimum temperature of 4.5°C. Rainfall is highest in February (mean rainfall of 121.2 mm) and lowest in August (mean rainfall of 28.6 mm). Annual average rainfall is 864.0 mm. Both morning and afternoon mean wind speed is relatively consistent throughout the year ranging from 5.5 to 17.9 km/h (1.5 to 5 m/s) with wind roses showing the following patterns:

- Daylight winds are typically from the east with low calms (2.1 per cent). Night time also is predominantly from the east and south with moderate (8.5 per cent) calm conditions.
- Spring winds are predominantly from northeast and east with low (3.6 per cent) calm conditions
- Summer winds are predominantly from the east with low (2.1 per cent) calm conditions
- Autumn winds are generally from the east and south with moderate (6.5 per cent) calm conditions
- Winter winds are predominantly from the west with moderate (7.5 per cent) calm conditions.

Table A1 Meteorological Data Amberley AMO Station (1941 to 2010)

Statistics	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Temperature													
Mean maximum temperature (°C)	31.2	30.4	29.4	27.2	24.1	21.6	21.3	22.8	25.7	27.8	29.6	30.8	26.8
Mean minimum temperature (°C)	19.6	19.5	17.8	14	10	7.1	5.4	6.2	9.5	13.3	16.3	18.4	13.1
Rainfall													
Mean rainfall (mm)	116.9	121.2	85.5	54.5	52.8	46.9	37.6	28.6	33.3	73.4	81.5	119.4	864
Decile 5 (median) rainfall (mm)	94	102.8	74.2	33.4	32.4	27.1	26.2	24.6	24	66.4	67.3	105.3	882.5
Mean number of days of rain ≥ 1 mm	8.2	8.3	8	5.2	5.4	4.3	4.2	3.8	4.1	6.7	7.1	8.2	73.5
9.00 am conditions													
Mean 9.00 am temperature (°C)	25.7	25.2	23.8	20.9	16.7	13.3	12.2	14.2	18.3	21.6	23.8	25.2	20.1
Mean 9.00 am relative humidity (per cent)	67	70	71	72	76	77	74	68	62	60	60	63	68
Mean 9.00 am wind speed (km/h)	8.8	8.4	7.9	6.1	5.2	5.5	5.3	5.9	7.4	8.5	9.2	8.6	7.2
3.00 pm conditions													
Mean 3.00 pm temperature (°C)	29.7	29	28	26.1	23	20.6	20.3	21.7	24.5	26.3	27.9	29.3	25.5
Mean 3.00 pm relative humidity (per cent)	51	54	52	48	48	46	42	38	38	43	46	49	46
Mean 3.00 pm wind speed (km/h)	16.5	15.1	14.3	12.3	11.1	12.1	12.6	13.9	15.8	17.9	17.9	17.6	14.8

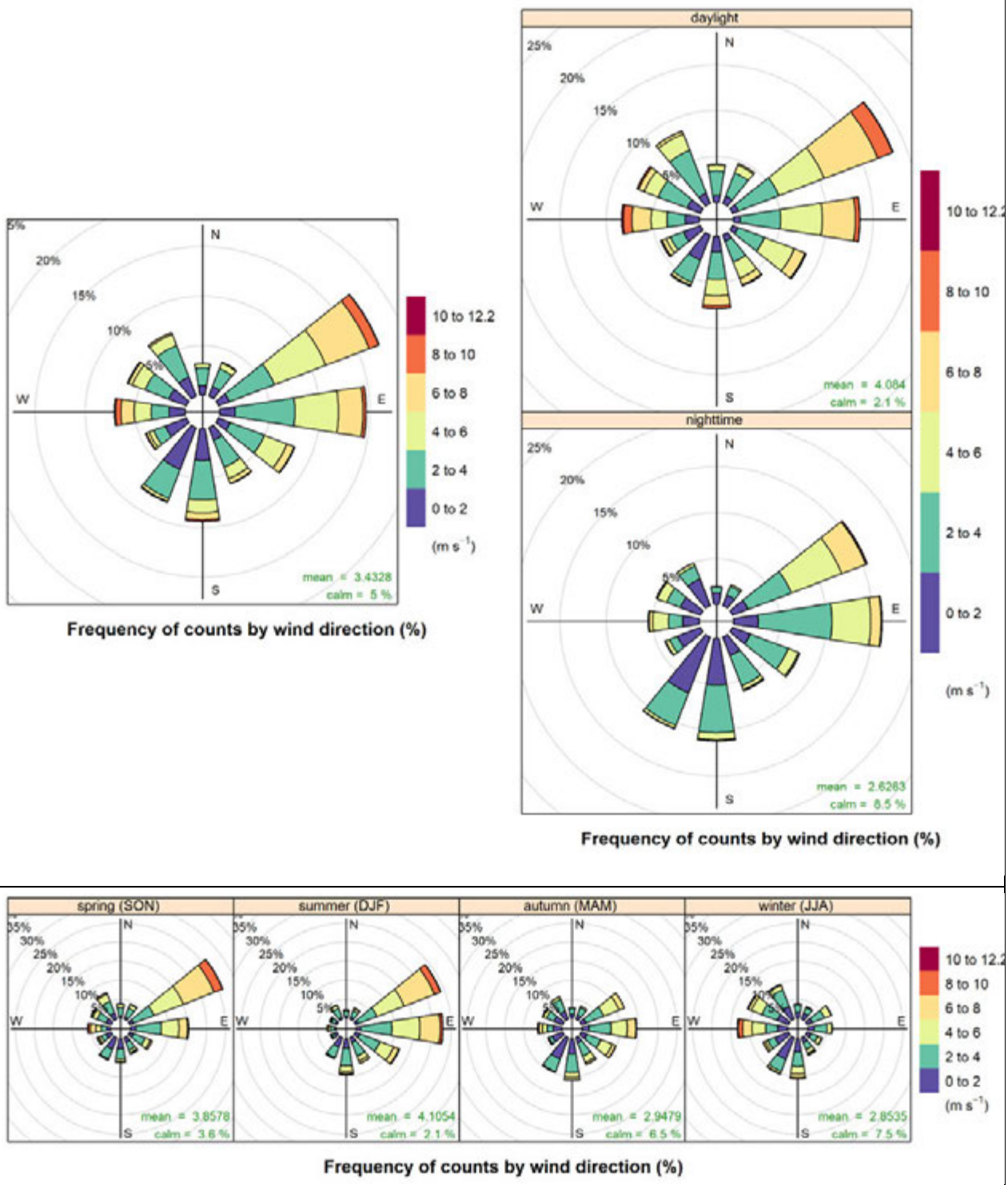


Figure A2 **Amberley AMO Bureau of Meteorology station wind roses for 2012 to 2016: all hours (top left); daylight hours (top right); and seasons (bottom)**

Beaudesert Meteorological Data

Table A2 contains a summary of the BoM Beaudesert Cryna monitoring station. Figure A3 contains a summary of the wind rose data from the BoM Beaudesert Drumley Street monitoring station.

Historical meteorological data including average temperatures; rainfall; relative humidity; wind speed and wind roses showing the average monthly wind conditions at 9.00 am and 3.00 pm were obtained from the BoM website (*http://www.bom.gov.au/climate/averages/tables/cw_040014.shtml;* accessed 4 December 2018).

The warmest temperatures occur in summer, with the average maximum temperature recorded in January (°C). July is the coldest month with an average minimum temperature of °C. Rainfall is highest in February (mean rainfall of mm) and lowest in August (mean rainfall of mm). Annual average rainfall is 864.0 mm. Both morning and afternoon mean wind speed is relatively consistent throughout the year ranging from 5.5 to 17.9 km/h with wind roses showing the following patterns:

- Daylight winds are typically from the with low calms (per cent). Night time is predominantly from the with moderate (per cent) calm conditions.
- Spring winds are predominantly from northeast and east with low (3.6 per cent) calm conditions
- Summer winds are predominantly from the east with low (2.1 per cent) calm conditions
- Autumn winds are generally from the east and south with moderate (6.5 per cent) calm conditions
- Winter winds are predominantly from the west with moderate (7.5 per cent) calm conditions.

Table A2 Meteorological Data Beaudesert Cryna Station (1967 to 2012)

Statistics	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Temperature													
Mean maximum temperature (°C)	30.8	30	29.2	27.6	23.8	21.5	21.2	22.4	24.6	27.1	29.4	31	26.5
Mean minimum temperature (°C)	19.2	18.6	17.3	13.5	9.8	6.4	5.1	6.2	9.1	12.9	15.9	17.8	12.6
Rainfall													
Mean rainfall (mm)	129.1	123.3	95.9	61.3	57.4	52.9	42.2	34.5	40.1	70.5	83.4	120	907.1
Decile 5 (median) rainfall (mm)	104	93.4	91.2	44.8	36.6	33.4	31.2	29.8	34.1	60.4	72	100.3	899.1
Mean number of days of rain ≥ 1 mm	7.9	7.5	7.6	5.1	5	4.1	3.8	3.7	4.5	6.2	7.1	8	70.5
9.00 am conditions													
Mean 9.00 am temperature (°C)	25.7	25	23.5	20.9	16.2	12.7	11.6	13.8	17.7	21.4	23.7	25.3	19.8
Mean 9.00 am relative humidity (per cent)	-	-	-	-	-	-	-	-	-	-	-	-	-
Mean 9.00 am wind speed (km/h)	8.1	8.7	6.7	7	6.4	6	5.2	5.6	6.6	6.9	7.5	6.5	6.8
3.00 pm conditions													
Mean 3.00 pm temperature (°C)	28.7	28.2	26.9	26.3	22.4	20.4	19.8	21.5	23.1	25.3	27.7	29.4	25
Mean 3.00 pm relative humidity (per cent)	-	-	-	-	-	-	-	-	-	-	-	-	-
Mean 3.00 pm wind speed (km/h)	-	-	-	-	-	-	-	-	-	-	-	-	-

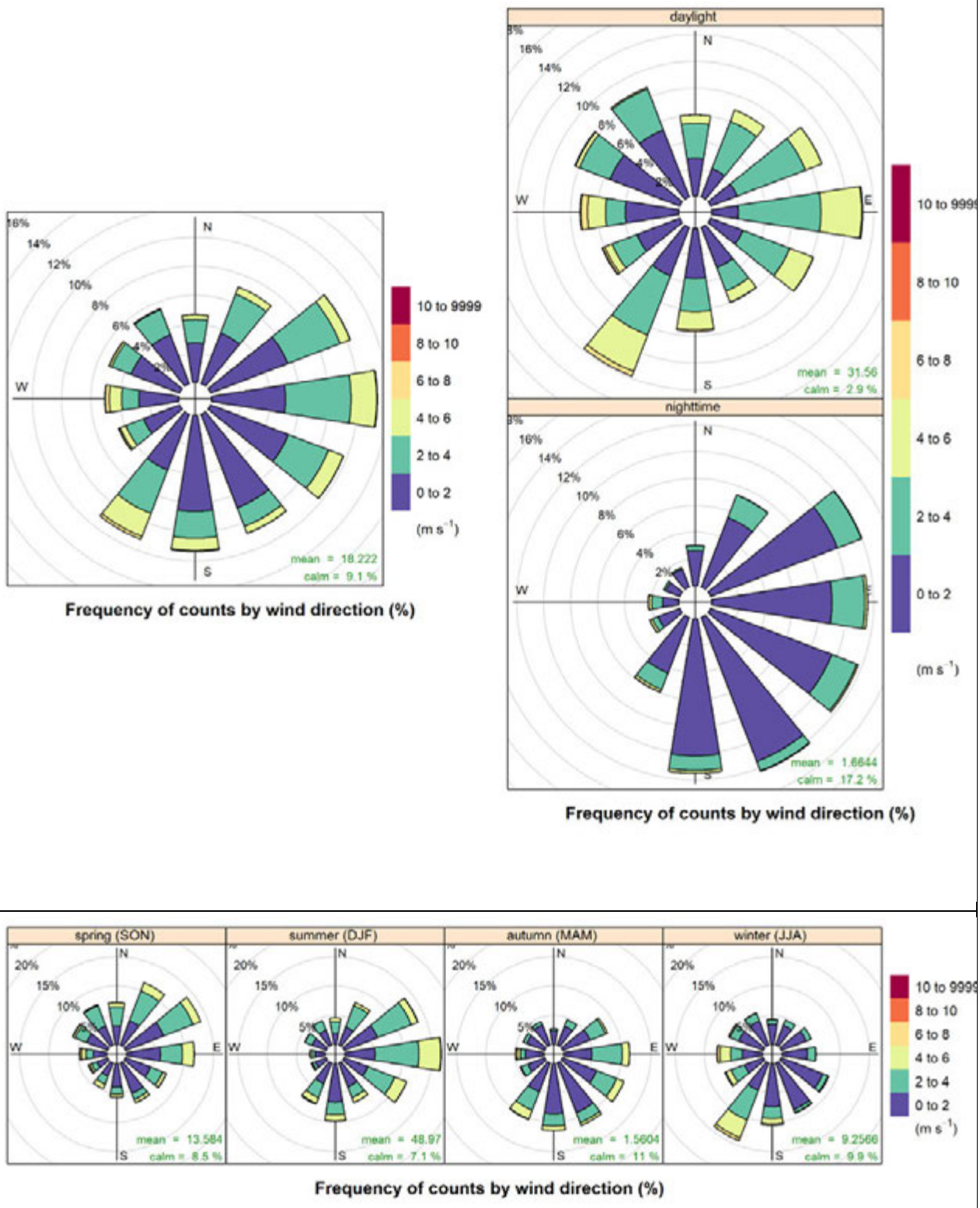


Figure A3 **Beaudesert Drumley Street Bureau of Meteorology station wind roses for 2012 to 2016: all hours (top left); daylight hours (top right); and seasons (bottom)**

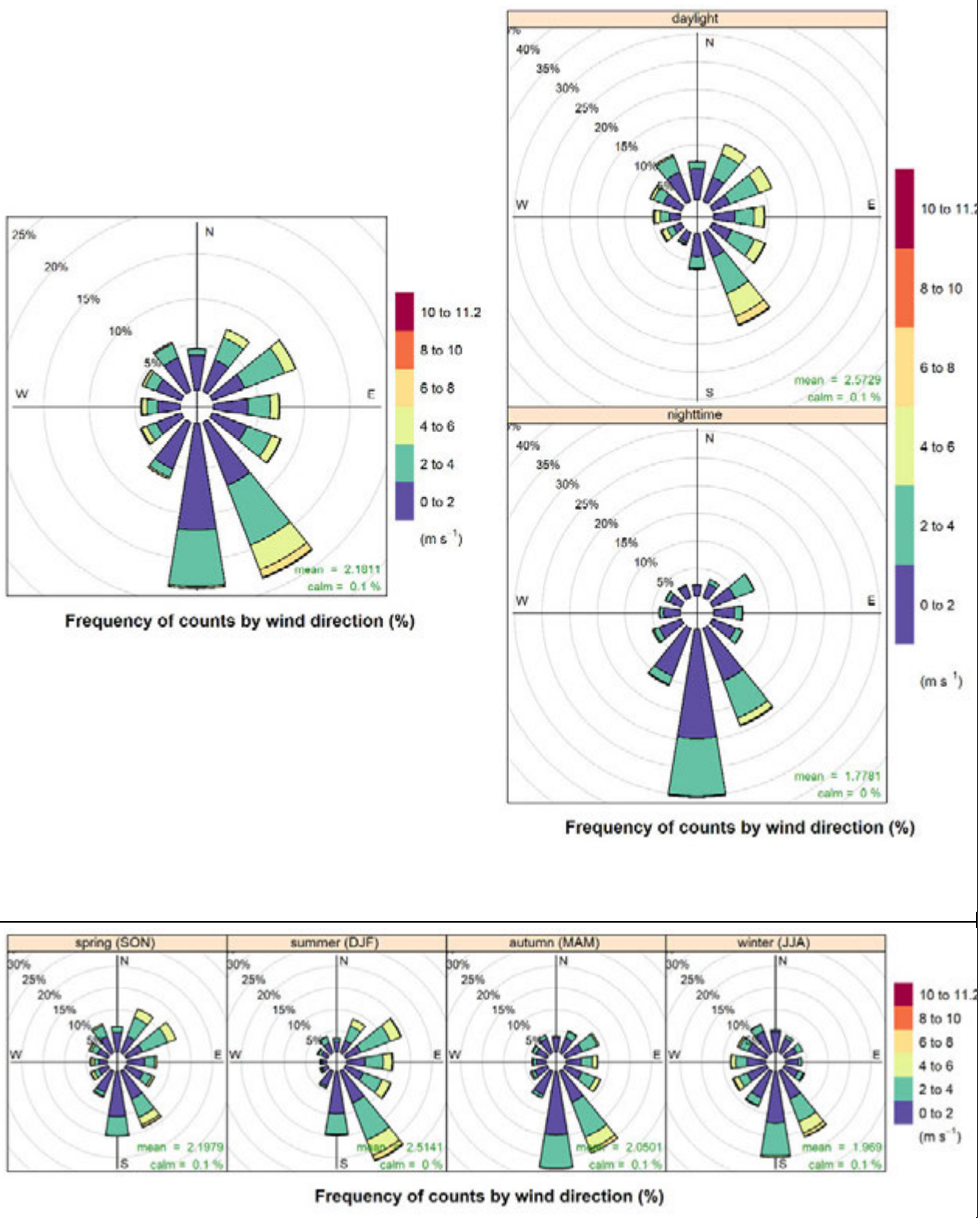
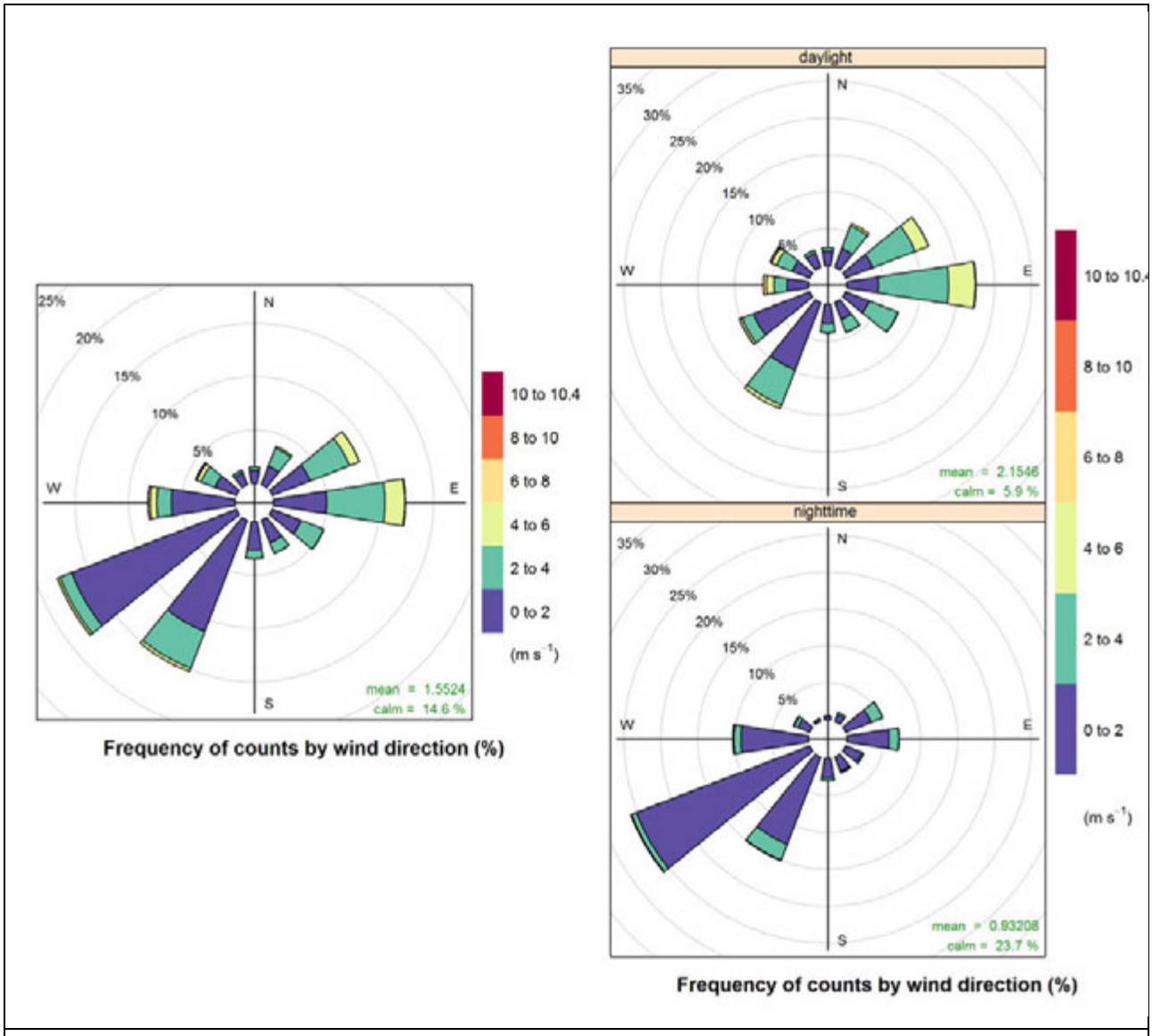


Figure A4 **Mutdapilly Department of Environment and Science station wind roses for 2012 to 2016: all hours (top left); daylight hours (top right); and seasons (bottom)**



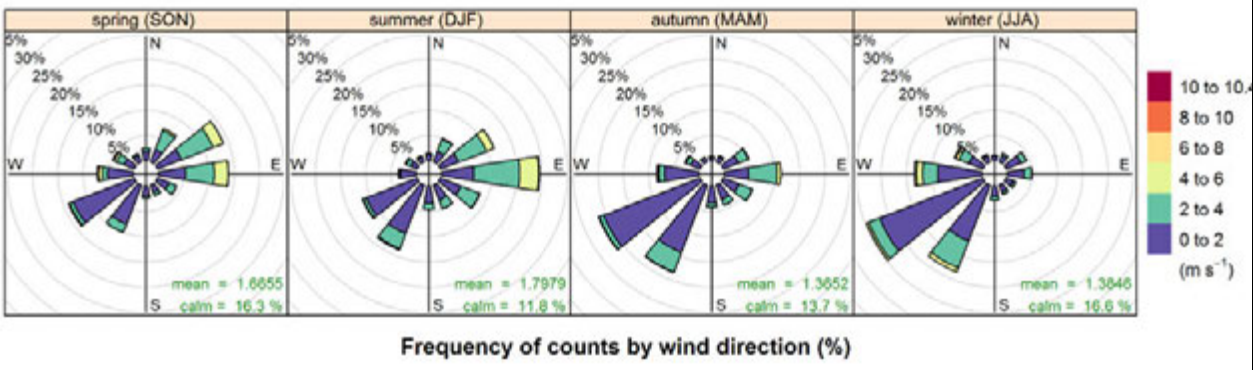


Figure A5 **North Maclean Department of Environment and Science station wind roses for 2012 to 2016: all hours (top left); daylight hours (top right); and seasons (bottom)**

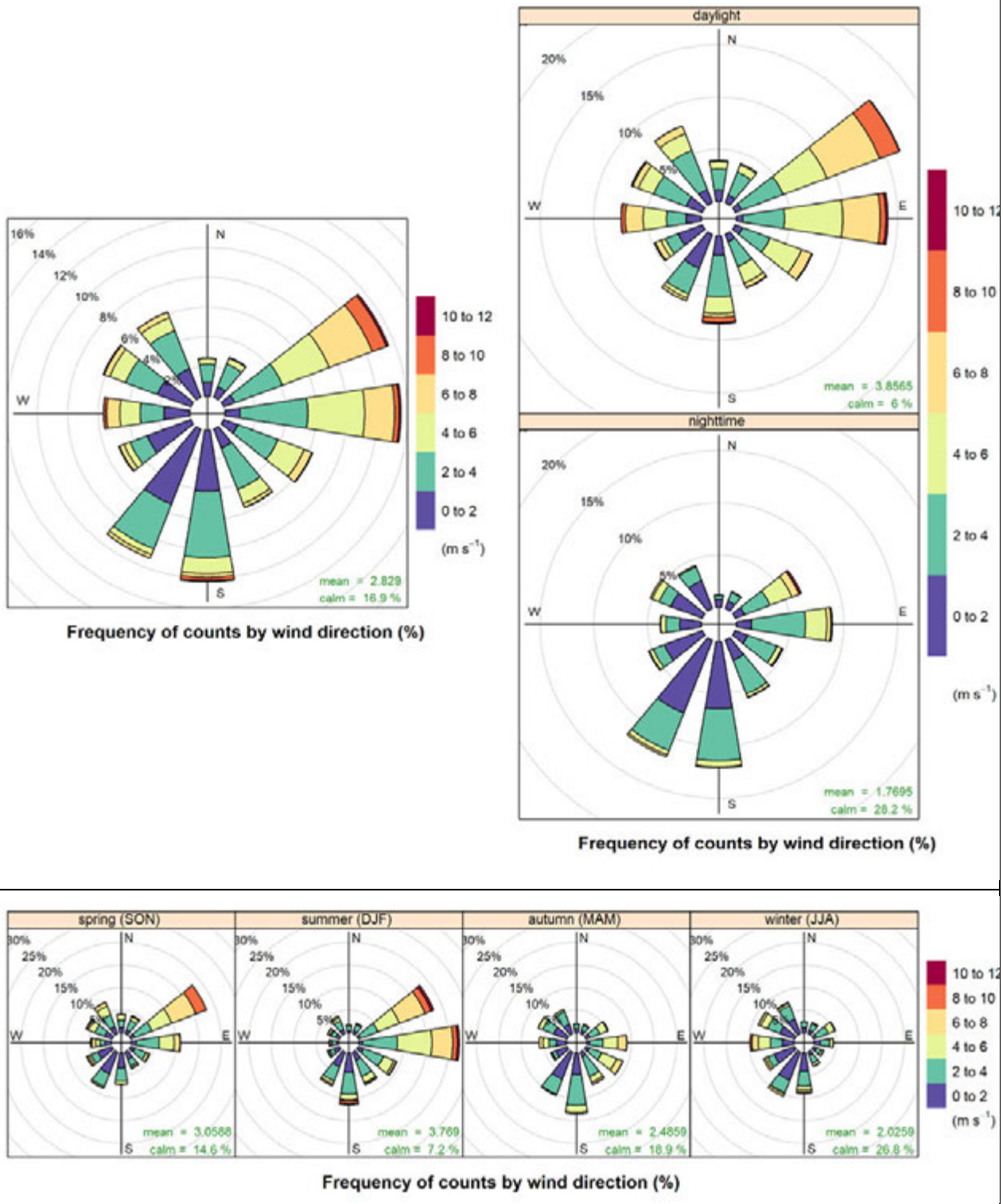


Figure A6 **CALMET Generated – Amberley AMO Bureau of Meteorology station wind roses for 2013: all hours (top left); daylight hours (top right); and seasons (bottom)**

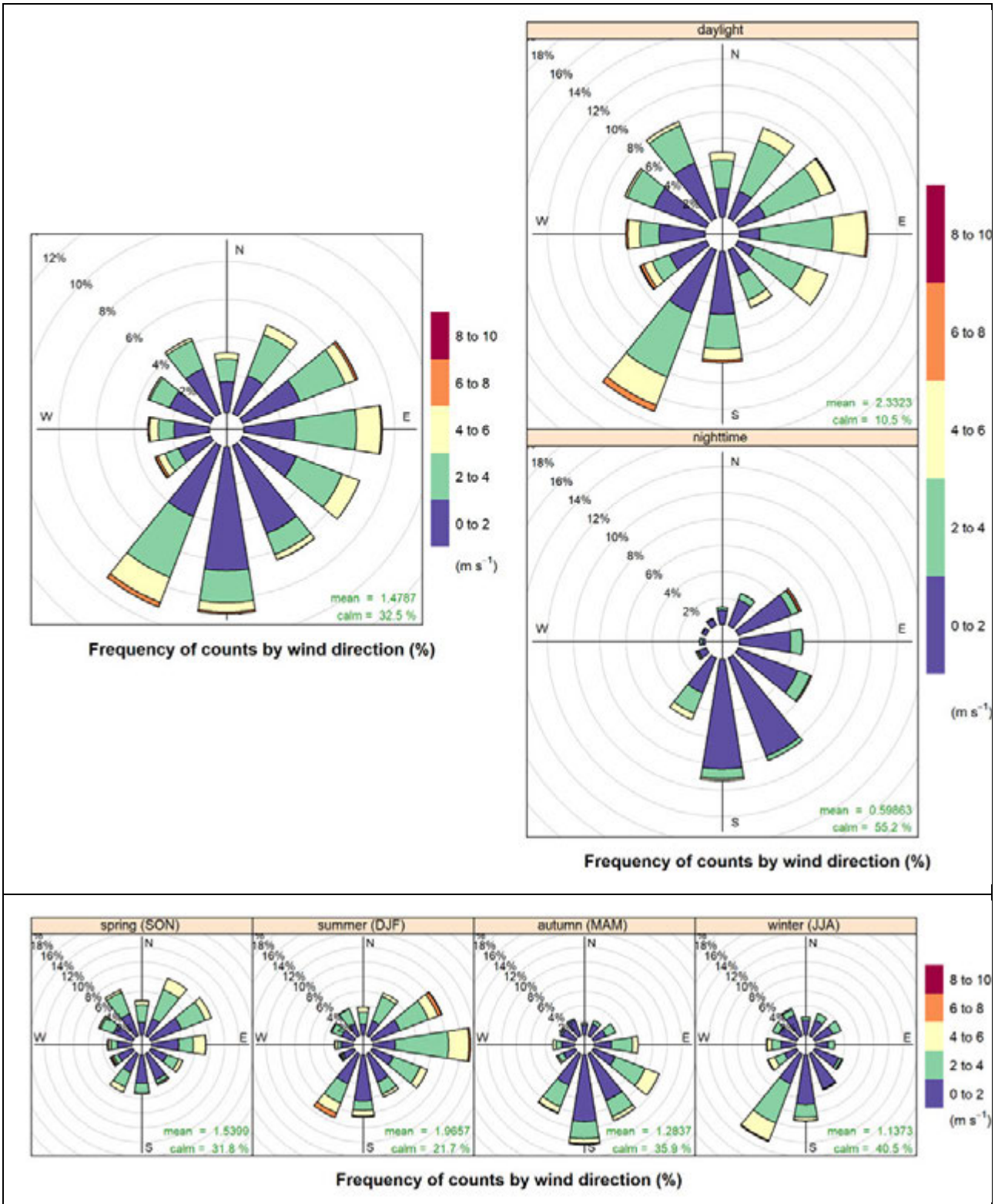


Figure A7 **CALMET Generated – Beaudesert Drumley Street Bureau of Meteorology station wind roses for 2013: all hours (top left); daylight hours (top right); and seasons (bottom)**

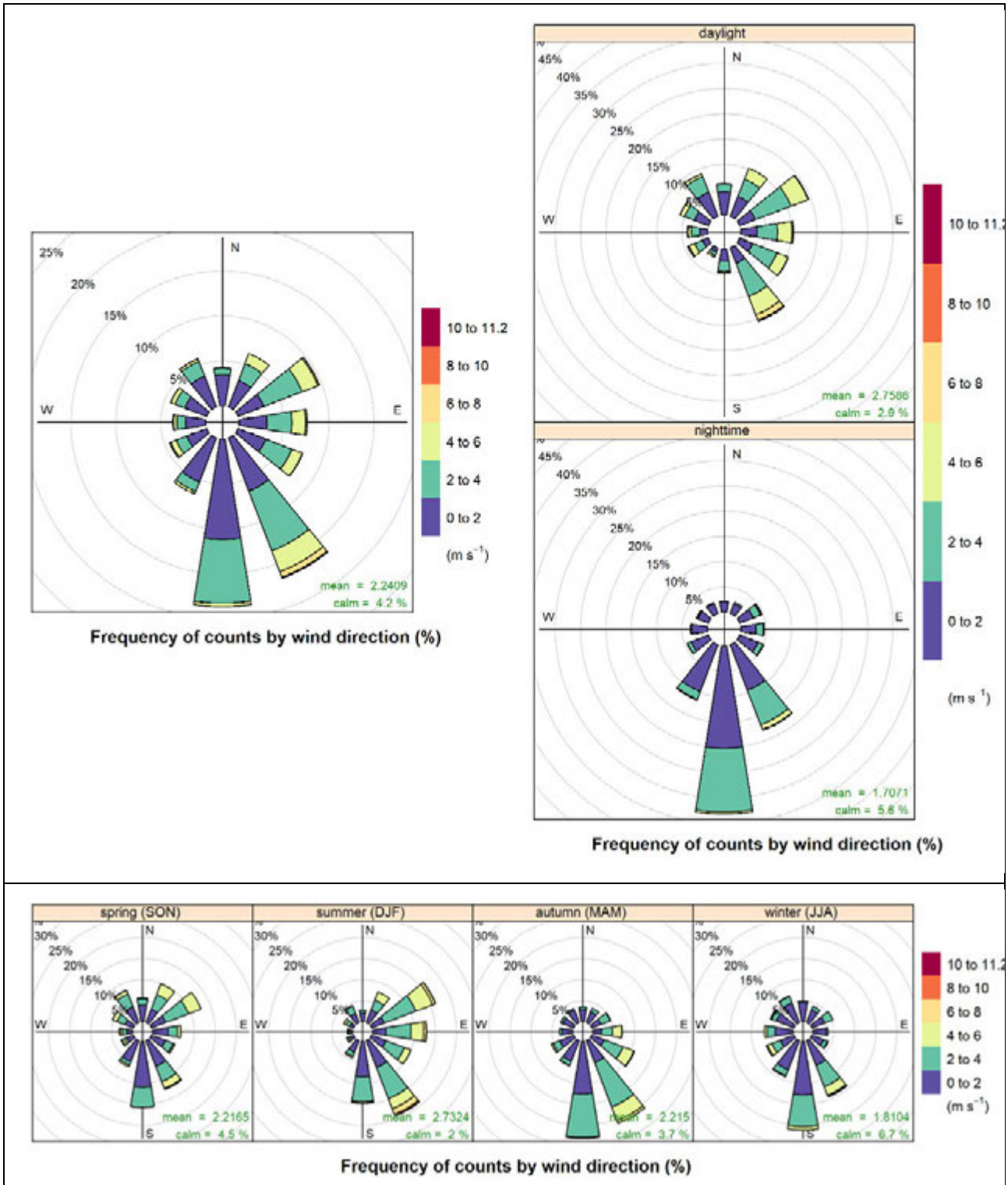


Figure A8 **CALMET Generated – Mutdapilly Department of Environment and Science station wind roses for 2013: all hours (top left); daylight hours (top right); and seasons (bottom)**

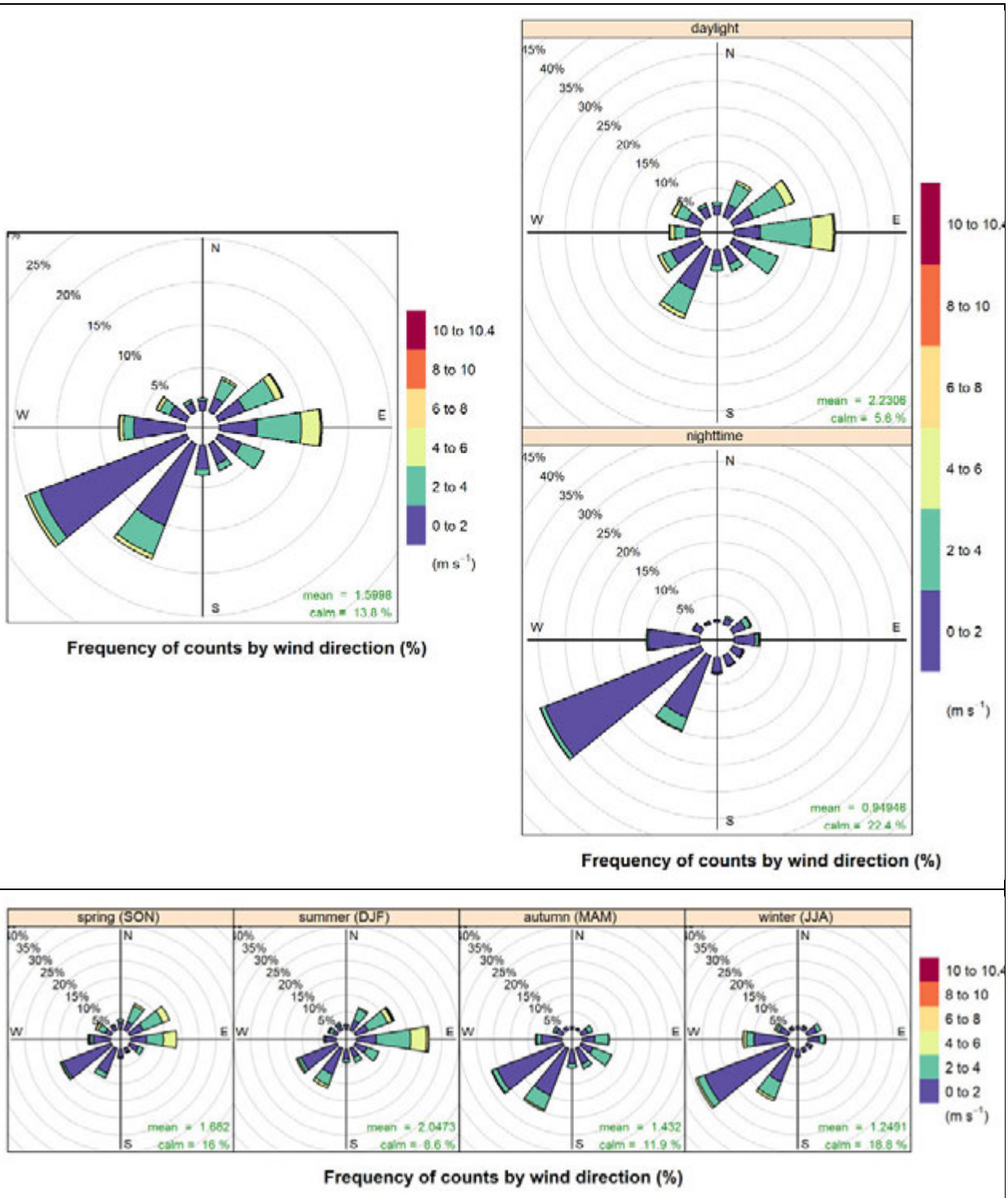


Figure A9 **CALMET Generated – North Maclean Department of Environment and Science station wind roses for 2013: all hours (top left); daylight hours (top right); and seasons (bottom)**

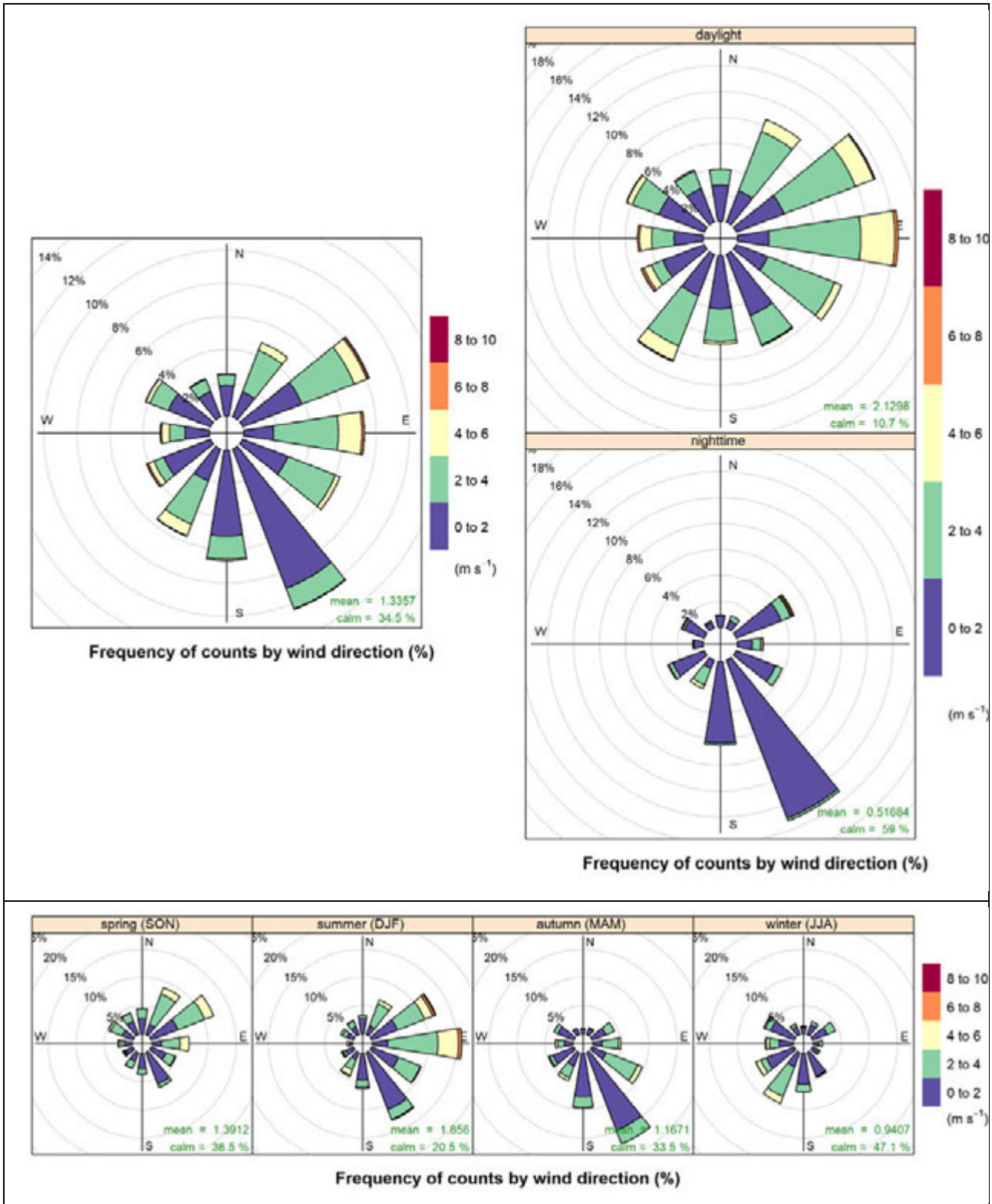


Figure A10 **CALMET Generated – West Portal Teviot Range Tunnel wind roses for 2013: all hours (top left); daylight hours (top right); and seasons (bottom)**

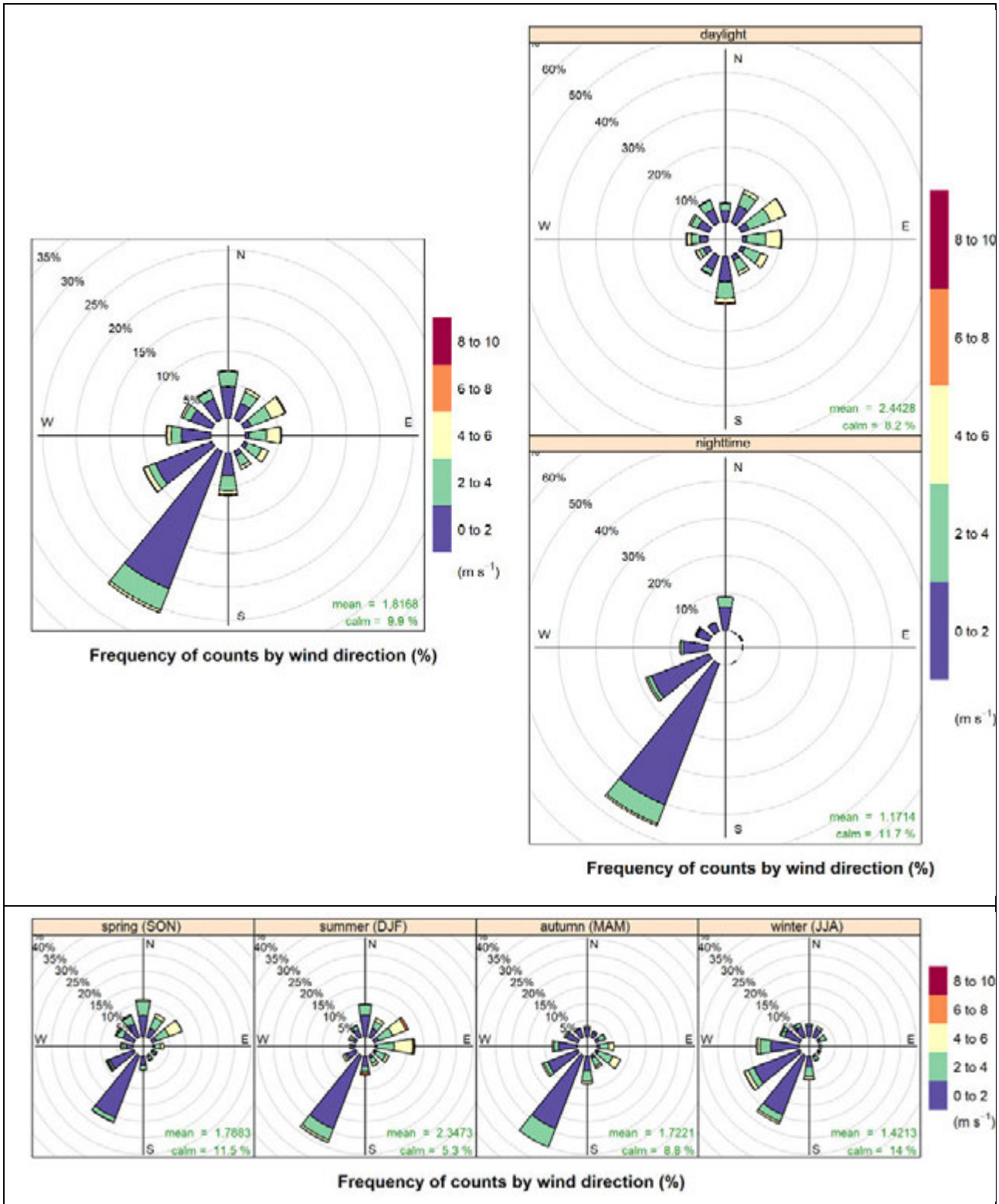


Figure A11 **CALMET Generated – East Portal Teviot Range Tunnel wind roses for 2013: all hours (top left); daylight hours (top right); and seasons (bottom)**

Atmospheric stability

Stability is a measure of the convective properties of a parcel of air. Stable conditions occur when convective processes are low, while unstable conditions are associated with stronger convective processes, which are associated with potentially rapid changes in temperature. Stable atmospheres occur when a parcel of air is cooler than the surrounding environment, so the parcel of air (and any pollution within it) sinks. Conversely, unstable atmospheres occur when a parcel of air is warmer than the surrounding environment, making the parcel of air buoyant and, subsequently, leading to the parcel of air rising.

Stability is commonly explained using Pasquill-Gifford A – F stability class designations Classes A, B and C represent unstable conditions, with class A representing very unstable conditions and C representing slightly unstable conditions. Class D stability corresponds to neutral conditions, which are typical during overcast days and nights. Classes E and F correspond to slightly stable and stable conditions respectively, which occur at night.

Stability class data extracted from the CALMET files for locations representing the Mutdapilly DES station, Beaudesert Drumley Street BoM station and the Teviot Range Tunnel western portal locations are presented in the following tables. As expected, the stability classes indicate stable conditions during the night hours and neutral and unstable conditions during the day.

Table A3 **Hourly stability class frequency for CALMET generated for Mutdapilly Department of Environment and Science site (2013)**

Hour	Stability Class Frequency Counts					
	A	B	C	D	E	F
1	0	0	0	3	11	350
2	0	0	0	5	7	353
3	0	0	0	3	14	348
4	0	0	0	3	13	349
5	0	0	0	3	16	346
6	0	0	77	52	10	226
7	0	62	144	79	2	78
8	0	124	179	62	0	0
9	15	226	107	17	0	0
10	24	237	91	13	0	0
11	105	201	55	4	0	0
12	109	196	54	6	0	0
13	98	201	59	7	0	0
14	60	199	94	12	0	0
15	5	149	189	22	0	0
16	3	92	236	34	0	0
17	0	12	213	140	0	0
18	0	1	49	179	8	128
19	0	0	10	68	23	264
20	0	0	0	5	24	336
21	0	0	0	3	21	341
22	0	0	0	3	18	344
23	0	0	0	2	13	350
24	0	0	0	3	10	351
Proportion	5 per cent	19 per cent	18 per cent	8 per cent	2 per cent	48 per cent

Hour	Stability Class Frequency Counts					
	A	B	C	D	E	F
Average Wind Speed (m/s)	1.5	2.1	3.3	4.1	4.0	1.6

Table A4 **Hourly stability class frequency for CALMET generated for Beaudesert Drumley Street Bureau of Meteorology site (2013)**

Hour	Stability Class Frequency Counts					
	A	B	C	D	E	F
1	0	0	0	0	7	357
2	0	0	0	0	6	359
3	0	0	0	1	4	360
4	0	0	0	1	5	359
5	0	0	0	1	7	357
6	0	0	123	8	6	228
7	0	95	181	12	3	74
8	0	200	154	11	0	0
9	20	290	49	6	0	0
10	53	250	52	10	0	0
11	133	189	41	2	0	0
12	131	190	39	5	0	0
13	112	208	43	2	0	0
14	60	221	78	6	0	0
15	2	195	151	17	0	0
16	0	129	205	31	0	0
17	0	13	222	130	0	0
18	0	3	46	175	5	136
19	0	0	10	63	18	274
20	0	0	0	0	18	347
21	0	0	0	1	9	355
22	0	0	0	1	6	358
23	0	0	0	1	5	359
24	0	0	0	1	4	359
Proportion	6 per cent	23 per cent	16 per cent	6 per cent	1 per cent	49 per cent
Average Wind Speed (m/s)	1.7	1.9	2.7	3.9	4.1	0.6

Table A5 **Hourly stability class frequency for CALMET generated for hourly stability class frequency for CALMET generated for the western portal of the Teviot Range Tunnel (2013)**

Hour	Stability Class Frequency Counts					
	A	B	C	D	E	F
1	0	0	0	1	3	360
2	0	0	0	1	4	360
3	0	0	0	1	5	359
4	0	0	0	1	5	359
5	0	0	0	1	6	358
6	0	0	122	8	5	230
7	0	98	178	13	0	76
8	0	195	158	12	0	0
9	31	276	55	3	0	0
10	62	245	52	6	0	0
11	152	188	25	0	0	0
12	138	202	24	1	0	0
13	116	221	27	1	0	0
14	73	227	60	5	0	0
15	4	207	142	12	0	0
16	0	145	206	14	0	0
17	0	14	261	90	0	0
18	0	1	67	156	4	137
19	0	0	13	58	8	286
20	0	0	0	1	12	352
21	0	0	0	1	7	357
22	0	0	0	1	4	360
23	0	0	0	1	4	360
24	0	0	0	1	3	360
Proportion	7 per cent	23 per cent	16 per cent	4 per cent	1 per cent	49 per cent
Average Wind Speed (m/s)	1.3	2.0	2.4	3.5	4.0	0.6

Mixing height

Mixing height is estimated within CALMET for stable and convective conditions (respectively), with a minimum mixing height of 50 m. The following figures present mixing height statistics by hour of day across the meteorological dataset, as generated by CALMET at the Mutdapilly, Beaudesert and Teviot Range Tunnel locations. These results are consistent with general atmospheric processes that show increased vertical mixing with the progression of the day, as well as lower mixing heights during night time. In addition, peak mixing heights are consistent with typical ranges.

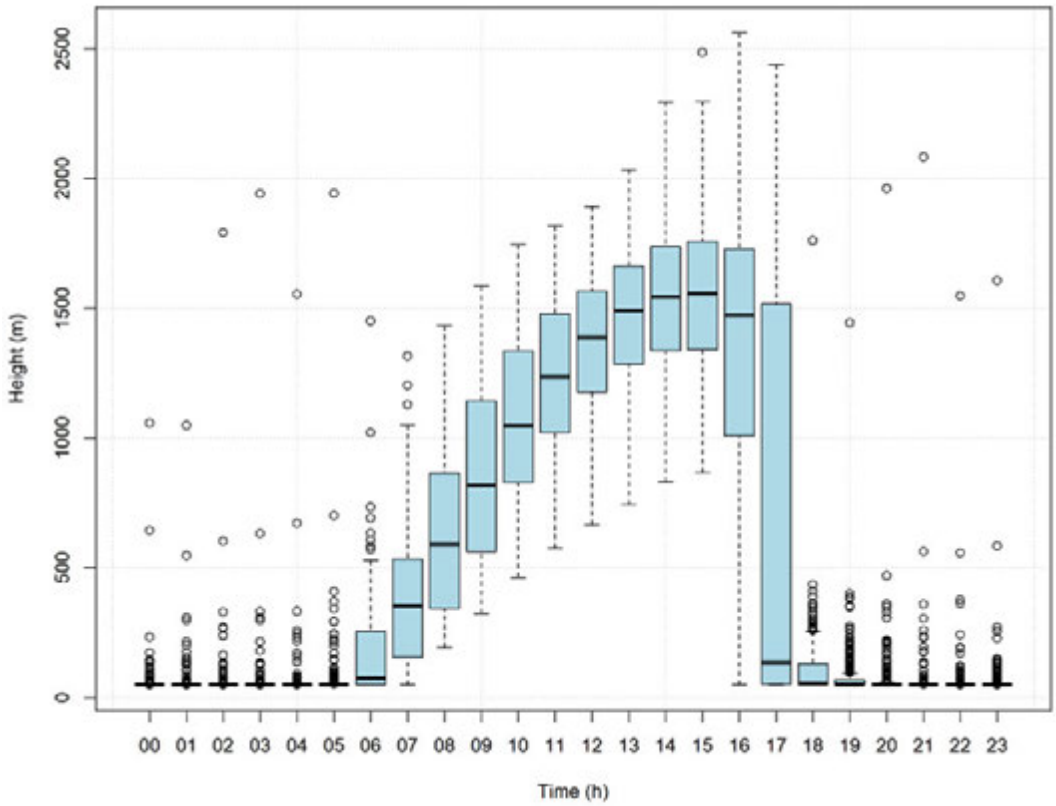


Figure A12 **Mixing height statistics by hour of day for Mutdapilly Department of Environment and Science site (CALMET Generated)**

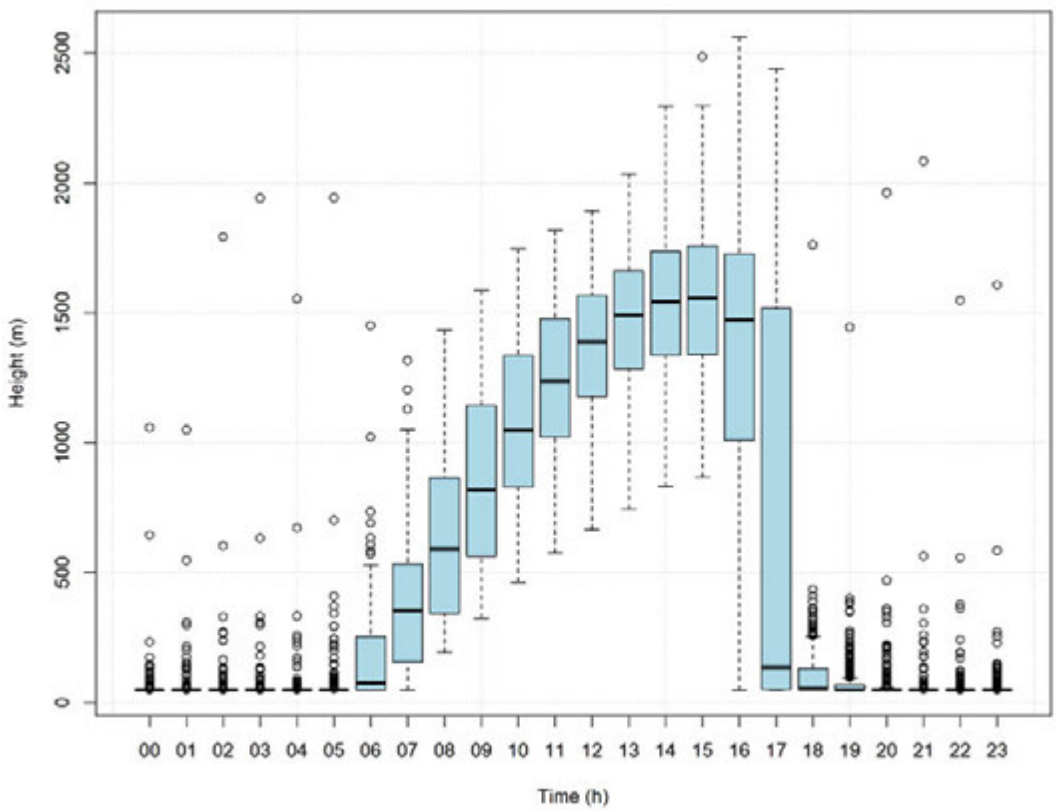


Figure A13 **Mixing height statistics by hour of day for Beaudesert Drumley Street Bureau of Meteorology site (CALMET Generated)**

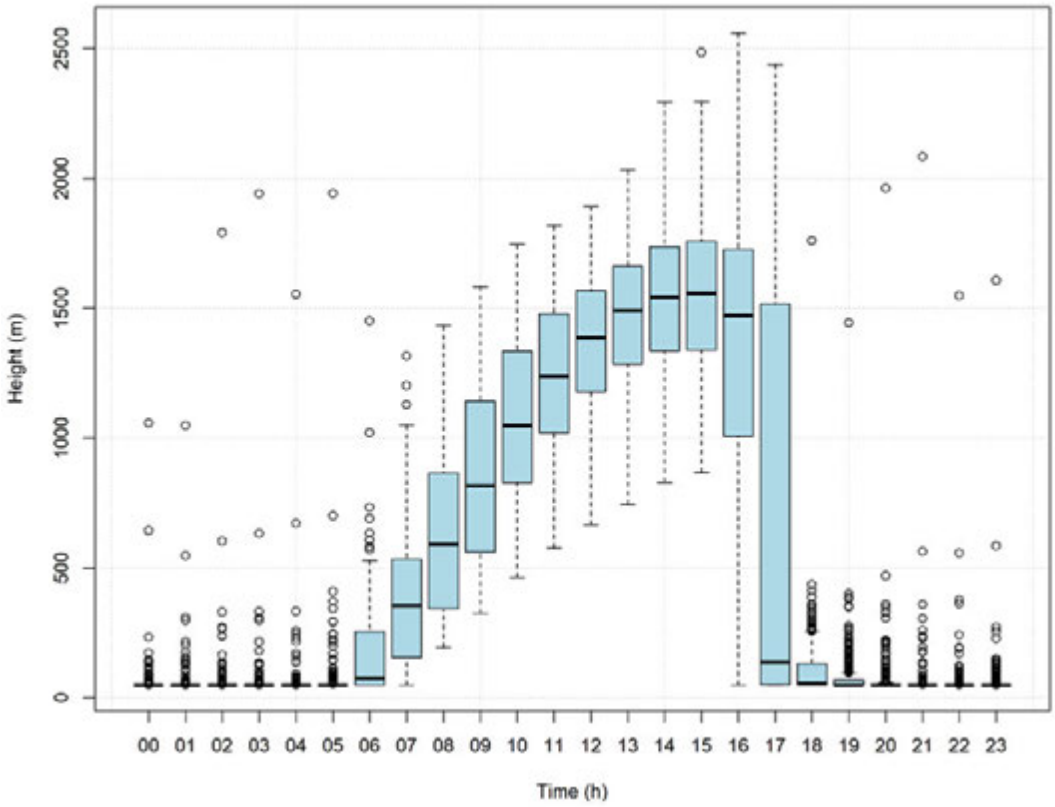


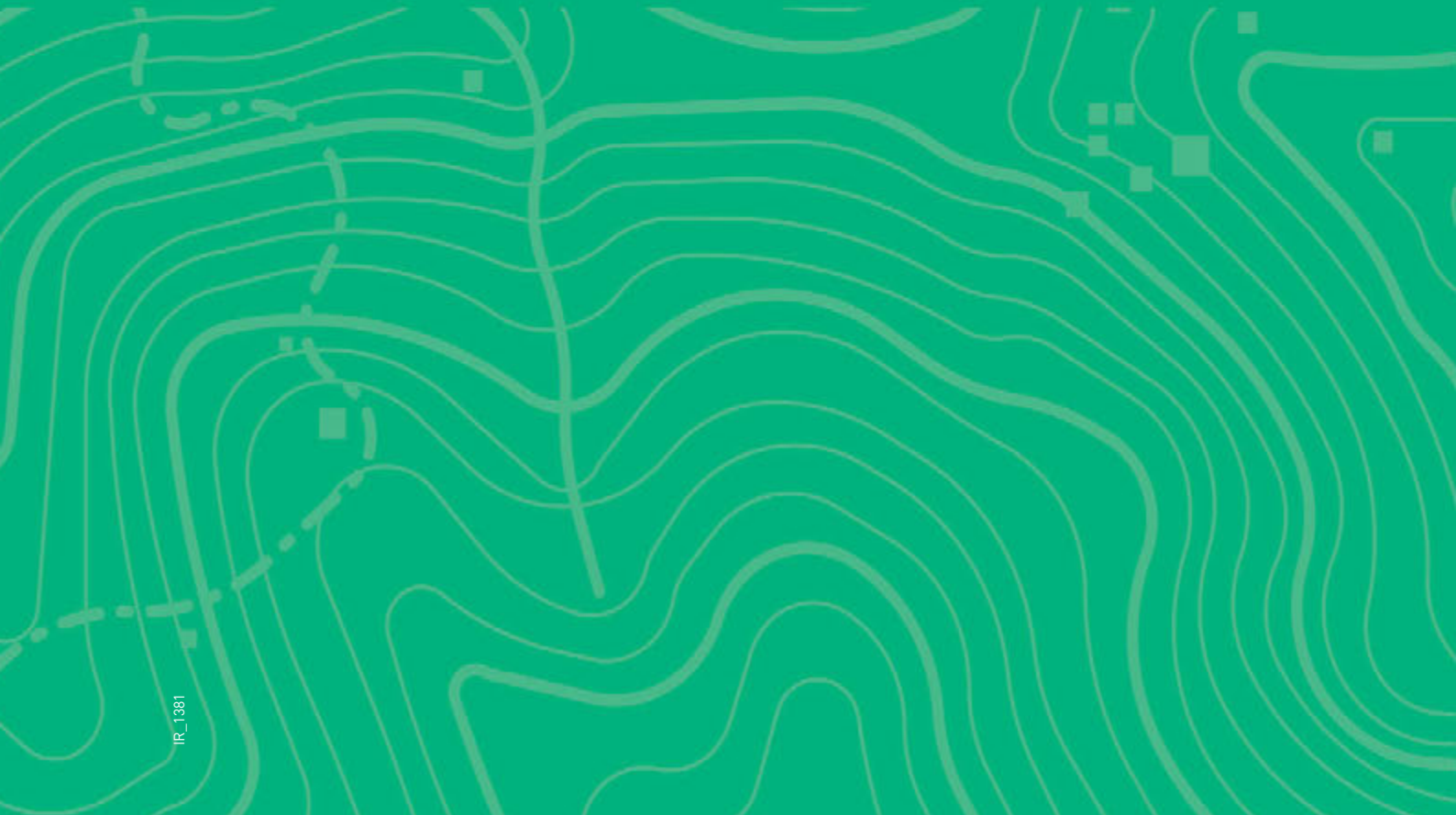
Figure A14 **Mixing height statistics by hour of day for Teviot Range Tunnel western portal (CALMET Generated)**

APPENDIX L

Air Quality Technical Report

Appendix B Dispersion Model Details

CALVERT TO KAGARU ENVIRONMENTAL IMPACT STATEMENT



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Appendix B
Dispersion Model Details

Dispersion modelling uses mathematical equations to characterise atmospheric processes, which disperse a pollutant emitted by a source. Based on emissions and meteorological inputs, dispersion models can be used to predict concentrations at selected downwind receiver locations. Air quality models are used to determine compliance with air quality standards. Two well-known and internationally used US EPA guideline models were used in this assessment - CALPUFF and CALROADS. Details of both these models can be found on the US EPA SCRAM (Support Centre for Regulatory Atmospheric Modelling) Bulletin board. The models are addressed in Appendix A of the US EPA's Guideline on Air Quality Models of 40 CFR Part 51.

Dispersion models

Two dispersion models are recommended for regulatory assessments in Australia and New Zealand, which are CALPUFF and AERMOD. AERMOD has recently replaced AUSPLUME as the guideline model for all near-field, steady state modelling applications in Victoria. CALPUFF is recommended for use for all modelling applications where the steady state assumption does not apply; this includes complex terrain and coastal environments. A major difference between AERMOD and CALPUFF is in the models' treatment of meteorology. AERMOD is a 2-dimensional model where the effects of one single surface station and one single upper air station are assumed to be spatially uniform across the entire modelling region in its meteorological processor. In contrast, CALMET (CALPUFF's meteorological module) is a 3-dimensional model and is able to use the output of numerical prognostic meteorological models as well as multiple observation sites to assist in the development of three-dimensional wind fields.

Overview of the CALPUFF suite of models

The CALPUFF modelling system provides a non-steady state modelling approach, which evaluates the effects of spatial changes in the meteorological and surface characteristics. It offers the ability to treat stagnation, multiple-hour pollutant build-up, recirculation and causality effects, which are beyond the capabilities of steady-state models. The CALPUFF modelling system was adopted by the U.S. EPA as a guideline model for long range transport applications and, on a case-by-case basis, for near-field applications involving complex flows (Federal Register, April 15, 2003, pp 18,440-18,482). CALPUFF is also recommended by both the Federal Land Managers Air Quality Workgroup (FLAG, 2000, 2008) and the Interagency Workgroup on Air Quality Modelling (IWAQM, 1998). It was adopted for world-wide use by the United Nations International Atomic Energy Agency (IAEA). CALPUFF is widely used in many countries (over 100 countries) throughout the world, and has been incorporated as a regulatory model in several countries.

The CALPUFF modelling system includes three main components - CALMET, CALPUFF and CALPOST - and a large set of pre-processing programs designed to interface the model to standard, routinely-available meteorological and geophysical datasets. In simple terms, CALMET is a meteorological model, which develops hourly wind and temperature fields on a three-dimensional gridded modelling domain. CALPUFF is a transport and dispersion model, which advects 'puffs' of material emitted from modelled source, simulating dispersion and transformation processes along the way. In doing so, it uses the fields generated by CALMET. The primary output files from CALPUFF contain either hourly concentrations or hourly deposition fluxes evaluated at selected receiver locations. CALPOST is used to process these files, producing summaries of the results of the simulation.

CALMET overview

CALMET is a diagnostic meteorological model, which produces three-dimensional wind fields based on parameterised treatments of terrain effects such as slope flows and terrain blocking effects. Meteorological observations are used to determine the wind field in areas of the domain within which the observations are representative. Fine scale terrain effects are determined by the diagnostic wind module in CALMET.

The CALMET meteorological model consists of a diagnostic wind field module and micrometeorological modules for overwater and overland boundary layers (Scire et al. 2000a). When using large domains, the user has the option to adjust input winds to a Lambert Conformal Projection coordinate system to account for the Earth's curvature. The diagnostic wind field module uses a two-step approach to the computation of the wind fields (Douglas and Kessler, 1988). In the first step, an initial-guess wind field is adjusted for kinematic effects of terrain, slope flows, and terrain blocking effects to produce a Step 1 wind field. The second step consists of an objective analysis procedure to introduce observational data into the Step 1 wind field in order to produce a final wind field. An option is provided to allow gridded prognostic wind fields to be used by CALMET, which may better represent regional flows and certain aspects of sea breeze circulations and slope/valley circulations. The prognostic data (as a 3D.DAT file) can be introduced into CALMET in three different ways:

- As a replacement for the initial guess wind field
- As a replacement for the Step 1 field
- As observations in the objective analysis procedure.

The techniques used in the CALMET model are briefly described below.

Step 1 wind field

Kinematic effects on terrain: CALMET uses the approach of Liu and Yocke (1980) to evaluate kinematic terrain effects. The domain-scale winds are used to compute a terrain-forced vertical velocity, subject to an exponential stability-dependent decay function. The kinematic effects of terrain on the horizontal wind components are evaluated by applying a divergence-minimisation scheme to the initial guess wind field. The divergence minimisation scheme is applied iteratively until the three dimensional divergence is less than a threshold value.

Slope flows. Slope flows are computed based on the shooting flow parameterisation of Mahrt (1982). Shooting flows are buoyancy-driven flows, balanced by advection of weaker momentum, surface drag and entrainment at the top of the slope flow layer. The slope flow is parameterised in terms of the terrain slope, distance to the crest and local sensible heat flux. The thickness of the slope flow layer varies with the elevation drop from the crest.

Blocking effects. The thermodynamic blocking effects of terrain on the wind flow are parameterised in terms of the local Froude number (Allwine and Whiteman 1985). If the Froude number at a particular grid point is less than a critical value and the wind has an uphill component, the wind direction is adjusted to be tangential to the terrain.

Step 2 wind field

The wind field resulting from the adjustments of the initial guess wind described above is the Step 1 wind field. The second step of the procedure involves the introduction of observational data into the Step 1 wind field through an objective analysis procedure. An inverse-distance squared interpolation scheme is used, which weighs observational data heavily in the vicinity of the observational station, while the Step 1 wind field dominates the interpolated wind field in regions with no observational data. The resulting wind field is subject to smoothing, an optional adjustment of vertical velocities based on the O'Brien (1970) method, and divergence minimisation to produce final Step 2 wind fields.

Overview of CALPUFF

CALPUFF is a non-steady-state puff dispersion model. It accounts for spatial changes in the meteorological fields, variability in surface conditions such as (elevation, surface roughness, vegetation type, etc.), chemical transformation, wet removal due to rain and snow, dry deposition and terrain influences on plume interaction with the surface. CALPUFF can simulate the effects of time- and space-varying meteorological conditions on pollutant transport, transformation and removal. CALPUFF contains algorithms for near-source effects, such as building downwash, transitional plume rise, partial plume penetration, sub-grid scale terrain interactions, as well as longer range effects, such as pollutant removal (wet scavenging and dry deposition), chemical transformation, vertical wind shear, overwater transport and coastal interaction effects. It can accommodate arbitrarily-varying point source and gridded area source emissions. The major features of CALPUFF model are detailed below (after Scire et al. 2002).

Major features of the CALPUFF model

- Source types
  - Point sources (constant or variable emissions)
  - Line Sources (constant or variable emissions)
  - Area Sources (constant or variable emissions)
  - Volume sources (constant or variable emissions)
- Non-steady-state emissions and meteorological conditions
  - Gridded 3D fields of meteorological variables
  - Spatially variable 3D fields of mixing height, friction velocity, convective velocity scale, Monin-Obukhov length, precipitation rate
  - Vertically and horizontally-varying turbulence and dispersion rates
  - Time-dependent source and emissions data
- Efficient sampling functions
  - Integrated puff formulation
  - Elongated puff (slug) formulation
- Dispersion coefficient options
  - Direct measures of sigma v and sigma w
  - Estimated values of sigma v and sigma w based on similarity theory
  - PG dispersion coefficients (rural areas)
  - McElroy Pooler dispersion coefficients (urban areas)
  - CTDM dispersion coefficients (neutral/stable)
- Vertical wind shear
  - Puff Splitting
  - Differential advection and dispersion
- Plume Rise
  - Partial penetration
  - Buoyant and momentum rise
  - Stack tip downwash effects

- Vertical wind shear
- Building downwash effects

- Building downwash
  - Huber-Snyder method
  - PRIME downwash
  - Schulman Scire method
- Dry deposition
  - Gases and particulate matter
  - Three options
    - Full treatment of space and time variations of deposition with a resistance model
    - User-specified diurnal cycles for each pollutant
    - No dry deposition
- Overwater and coastal interaction effects
  - Overwater boundary layer parameters
  - Abrupt change in meteorological conditions, plume dispersion at coastal boundary
  - Plume fumigation
  - Option to introduce sub grid scale TIBLs into coastal grid cells
- Chemical transformation options
  - Pseudo-first-order chemical mechanism for SO_2, SO_4, NO_x HNO_3 and NO_3 (MESOPUFF II method)
  - User specified diurnal cycles of transformation rates
  - No chemical conversion
  - Wet Removal
  - Scavenging coefficient approach
  - Removal rate a function of precipitation intensity and precipitation type.

Overview of GRAL

Given the physical complexity of the rail line and the surrounding terrain, the use of a complex dispersion model able to predict concentrations in the near field is required. The common models used in Victoria for complex modelling scenarios (AERMOD and CALPUFF) do not perform well within 100 m, in complex terrain and urban canyons and therefore an alternative model is proposed. The GRAL model has therefore been used for the assessment of the detailed modelling scenarios.

GRAL is a Lagrangian Particle model developed at the Institute for Internal Combustion Engines and Thermodynamics, Technical University Graz, Austria specifically to assess the dispersion of pollutants from roadways and tunnel portals (Oettl et al. 2002; Oettl et al. 2003; Oettl et al. 2005). GRAL has been extensively evaluated against experimental data from five different tunnel portals both in flat and complex terrain, with high and low traffic volumes, namely the Enrei, Hitachi and Ninomiya tunnels in Japan (Oettl et al. 2003), and the Enrentalerbergtunnel in Austria (Oettl et al. 2002). GRAL has also been compared to other models (ADMS, LASAT, MUMO).

SF_6 tracer experiments performed over two days in the vicinity of a road tunnel portal in Austria showed that the jet stream from the tunnel portals was highly dependent on the ambient wind field. The changing ambient wind field direction (meandering) causes the jet stream of the tunnel portal to change its position in the order of tens of metres, while the characteristic length scale of eddies evolving at the surface between the jet stream and the ambient wind field are of the order of some metres. This specific effect was found to be more important than the diffusion due to shear stresses along the surface between the jet stream and the ambient wind field. GRAL was developed from these experiments, and specifically describes these features in its modelling equations.

Of particular note, the GRAL model have algorithms that effectively consider dispersion in low wind speed conditions, which is a particular advantage over Gaussian plume models and for the consideration of fine scale modelling domains.

The GRAL model requires a range of data inputs that need to be defined prior to running the model. The data required for a run can be broadly categorised as follows:

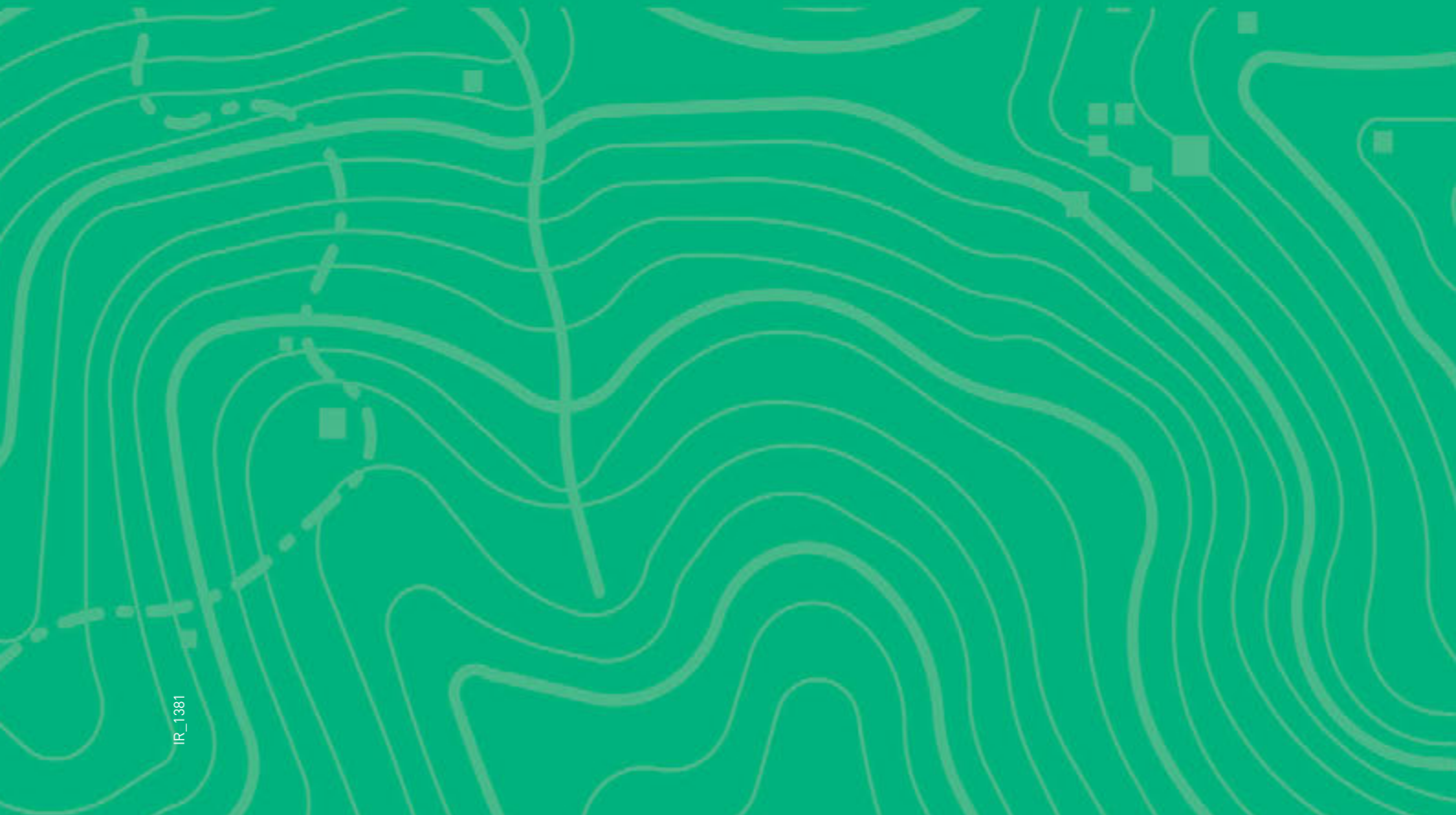
- Terrain data
- Land use data
- Building data
- Meteorological data.

APPENDIX L

Air Quality Technical Report

Appendix C Example Calculation—Locomotive Emissions

CALVERT TO KAGARU ENVIRONMENTAL IMPACT STATEMENT



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Appendix C
Example Calculation – Locomotive Emissions

To calculate emissions of NO_x for the NR Class locomotive utilise the following steps.

$$P_{NR\ Class} = t_{NR\ Class} \times n_{NR\ Class} \times c_{NR\ Class}$$

Where:

- t_{loco} is the average time taken for the NR Class locomotive to travel the alignment, derived from the average line speed 86 km/hr and the alignment length 51.4 km. Resulting in an average travel time of 0.6 hours.
- $n_{NR\ Class}$ is the total number of NR locomotives per hour, an average of 0.5 per hour derived from a total of 84 per week
- c_{loco} is the calculated average duty cycle power for the NR Class locomotive type, 823 kWhr.

This results in $P_{NR\ Class}$ is the total calculated power per hour for entire alignment for the NR Class locomotive type of 245 kWhr.

The following equation determines the NOx emission rate for the NR Class locomotive.

$$ER_{NOx} = \frac{\left[\sum^{loco}(P_{NR\ Class} \times EF_{NOx})\right]}{3600 \times d}$$

Where:

- $P_{NR\ Class}$ is the calculated power per hour, 245 kWhr
- EF_{NOx} is the adopted emission factor for NOx for the NR Class locomotive, 12.74 g/kWhr
- d is the distance of the alignment, 51,400 m.

Resulting in a calculated emission rate, ER_{NOx} of 1.69 x 10^{-5} g/m/s for the NR Class locomotive.

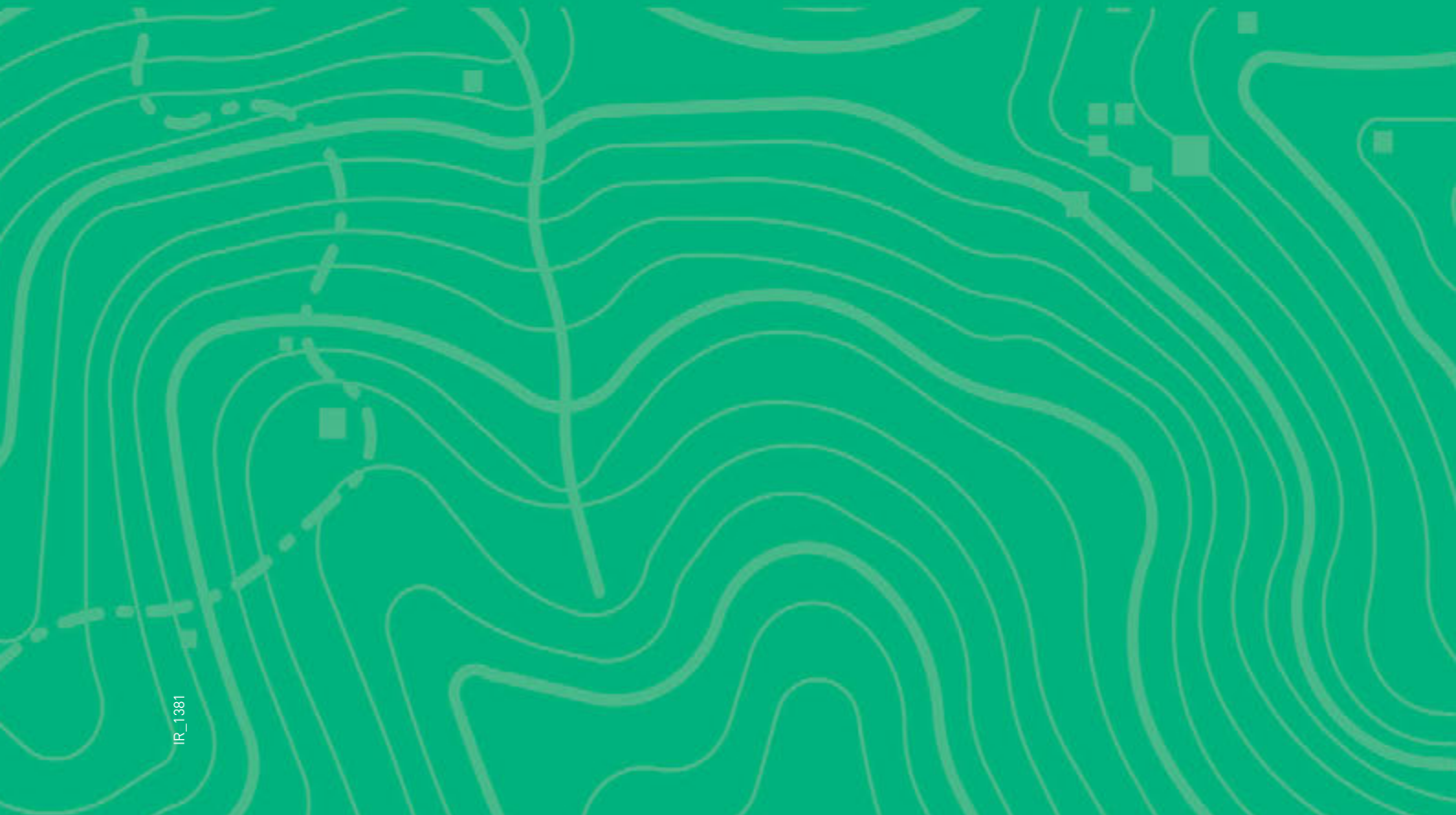
Emissions from each locomotive type are calculated in this manner, with the sum of emissions from all locomotives assumed to operate on the alignment being the resultant emission rate utilised for dispersion modelling.

APPENDIX L

Air Quality Technical Report

Appendix D Emissions Inventory

CALVERT TO KAGARU ENVIRONMENTAL IMPACT STATEMENT



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Appendix D
Emissions Inventory

Table D1 **Locomotive power used by train service and locomotive type for travel on the Project alignment**

Train service	Cargo type	Trains per week	Loco-motives per train	Average speed (km/hr)	Average travel time (hr)	Direction of travel	Total locomotives per week				Total locomotive power per week (kWhr)			
							NR Class	SCT Class	Class 82	PR22L	NR Class	SCT Class	Class 82	PR22L
MB Express (Bromelton)	Freight	7	3	86	0.56	East	21	-	-	-	10,300	-	-	-
MB Express (Bromelton)	Freight	7	3	86	0.56	West	21	-	-	-	10,300	-	-	-
MB Express (Acacia Ridge)	Freight	7	3	86	0.56	East	21	-	-	-	10,300	-	-	-
MB Express (Acacia Ridge)	Freight	7	3	86	0.56	West	21	-	-	-	10,300	-	-	-
GB Superfreighter (Bromelton)	Freight	11	2	86	0.56	East	-	22	-	-	-	10,791	-	-
GB Superfreighter (Bromelton)	Freight	11	2	86	0.56	West	-	22	-	-	-	10,791	-	-
GB Superfreighter (Acacia Ridge)	Freight	5	2	86	0.56	East	-	10	-	-	-	4,905	-	-
GB Superfreighter (Acacia Ridge)	Freight	5	2	86	0.56	West	-	10	-	-	-	4,905	-	-
MB Superfreighter (Bromelton)	Freight	20	2	86	0.56	East	-	40	-	-	-	19,620	-	-
MB Superfreighter (Bromelton)	Freight	20	2	86	0.56	West	-	40	-	-	-	19,620	-	-
MB Superfreighter (Acacia Ridge)	Freight	4	2	86	0.56	East	-	8	-	-	-	3,924	-	-
MB Superfreighter (Acacia Ridge)	Freight	4	2	86	0.56	West	-	8	-	-	-	3,924	-	-
Narrabri to Fisherman Islands Grain (POB)	Grain	12	2	60	0.80	East	-	-	24	-	-	-	16,922	-

Train service	Cargo type	Trains per week	Loco-motives per train	Average speed (km/hr)	Average travel time (hr)	Direction of travel	Total locomotives per week				Total locomotive power per week (kWhr)			
							NR Class	SCT Class	Class 82	PR22L	NR Class	SCT Class	Class 82	PR22L
Narrabri to Fisherman Islands Grain (POB)	Grain	12	2	60	0.80	West	-	-	24	-	-	-	16,922	-
Oakey to Fisherman Island Grain (POB)	Grain	12	2	60	0.80	East	-	-	24	-	-	-	16,922	-
Oakey to Fisherman Island Grain (POB)	Grain	12	2	60	0.80	West	-	-	24	-	-	-	16,922	-
Yelarbon to Fisherman Islands Grain (POB)	Grain	12	3	60	0.80	East	-	-	36	-	-	-	25,383	-
Yelarbon to Fisherman Islands Grain (POB)	Grain	12	3	60	0.80	West	-	-	36	-	-	-	25,383	-
Yelarbon to Fisherman Islands Cotton (POB)	Cotton	3	3	60	0.80	East	-	-	9	-	-	-	6,346	-
Yelarbon to Fisherman Islands Cotton (POB)	Cotton	3	3	60	0.80	West	-	-	9	-	-	-	6,346	-
Oakey - Rosewood Livestock	Livestock	0	2	60	0.80	East	-	-	-	-	-	-	-	-
Oakey - Rosewood Livestock	Livestock	0	2	60	0.80	West	-	-	-	-	-	-	-	-
Narrabri - Fisherman Island Export (Cont) (POB)	Freight	6	2	60	0.80	East	-	-	12	-	-	-	8,461	-
Narrabri - Fisherman Island Export (Cont) (POB)	Freight	6	2	60	0.80	West	-	-	12	-	-	-	8,461	-
Ebenezer IMEX	Freight	6	3	60	0.80	East	-	-	18	-	-	-	12,692	-
Ebenezer IMEX	Freight	6	3	60	0.80	West	-	-	18	-	-	-	12,692	-
New Acland Coal	Coal	28	3	75	0.64	East	-	-	-	84	-	-	-	47,382
New Acland Coal	Coal	28	3	60	0.80	West	-	-	-	84	-	-	-	59,227
Kogan Creek Coal	Coal	21	3	75	0.64	East	-	-	-	63	-	-	-	35,536
Kogan Creek Coal	Coal	21	3	60	0.80	West	-	-	-	63	-	-	-	44,421

Train service	Cargo type	Trains per week	Loco-motives per train	Average speed (km/hr)	Average travel time (hr)	Direction of travel	Total locomotives per week				Total locomotive power per week (kWhr)			
							NR Class	SCT Class	Class 82	PR22L	NR Class	SCT Class	Class 82	PR22L
Wilkie Creek Coal	Coal	14	3	75	0.64	East	-	-	-	42	-	-	-	23,691
Wilkie Creek Coal	Coal	14	3	60	0.80	West	-	-	-	42	-	-	-	29,614
Comby Downs/Rywung Coal	Coal	28	3	75	0.64	East	-	-	-	84	-	-	-	47,382
Comby Downs/Rywung Coal	Coal	28	3	60	0.80	West	-	-	-	84	-	-	-	59,227
Ipswich Basin Coal	Coal	7	3	75	0.64	East	-	-	-	21	-	-	-	11,845
Ipswich Basin Coal	Coal	7	3	60	0.80	West	-	-	-	21	-	-	-	14,807
Westlander	Passenger	0	1	60	0.80	East	-	-	-	-	-	-	-	-
Westlander	Passenger	0	1	60	0.80	West	-	-	-	-	-	-	-	-
Toowoomba Export Containers	Freight	6	3	60	0.80	East	-	-	18	-	-	-	12,692	-
Toowoomba Export Containers	Freight	6	3	60	0.80	West	-	-	18	-	-	-	12,692	-
TOTAL		**418**	**-**	**-**	**-**	**-**	**84**	**160**	**264**	**588**	**41,202**	**78,479**	**198,835**	**373,133**

Table D2 **Total locomotive emissions for the alignment (g/s)**

Pollutant	Emission rate per locomotive type (g/s)				
	NR Class	SCT Class	Class 82	PR22L	Total
NOx	0.8679	1.2872	4.1884	3.7017	10.0453
TSP	0.0545	0.0779	0.2630	0.1234	0.5188
PM10	0.0532	0.0760	0.2567	0.1204	0.5063
PM2.5	0.0511	0.0729	0.2464	0.1156	0.4861
THC	0.0913	0.1739	0.4405	0.8267	1.5324

Table D3 **Total locomotive and coal dust emissions for the alignment (g/m/s)**

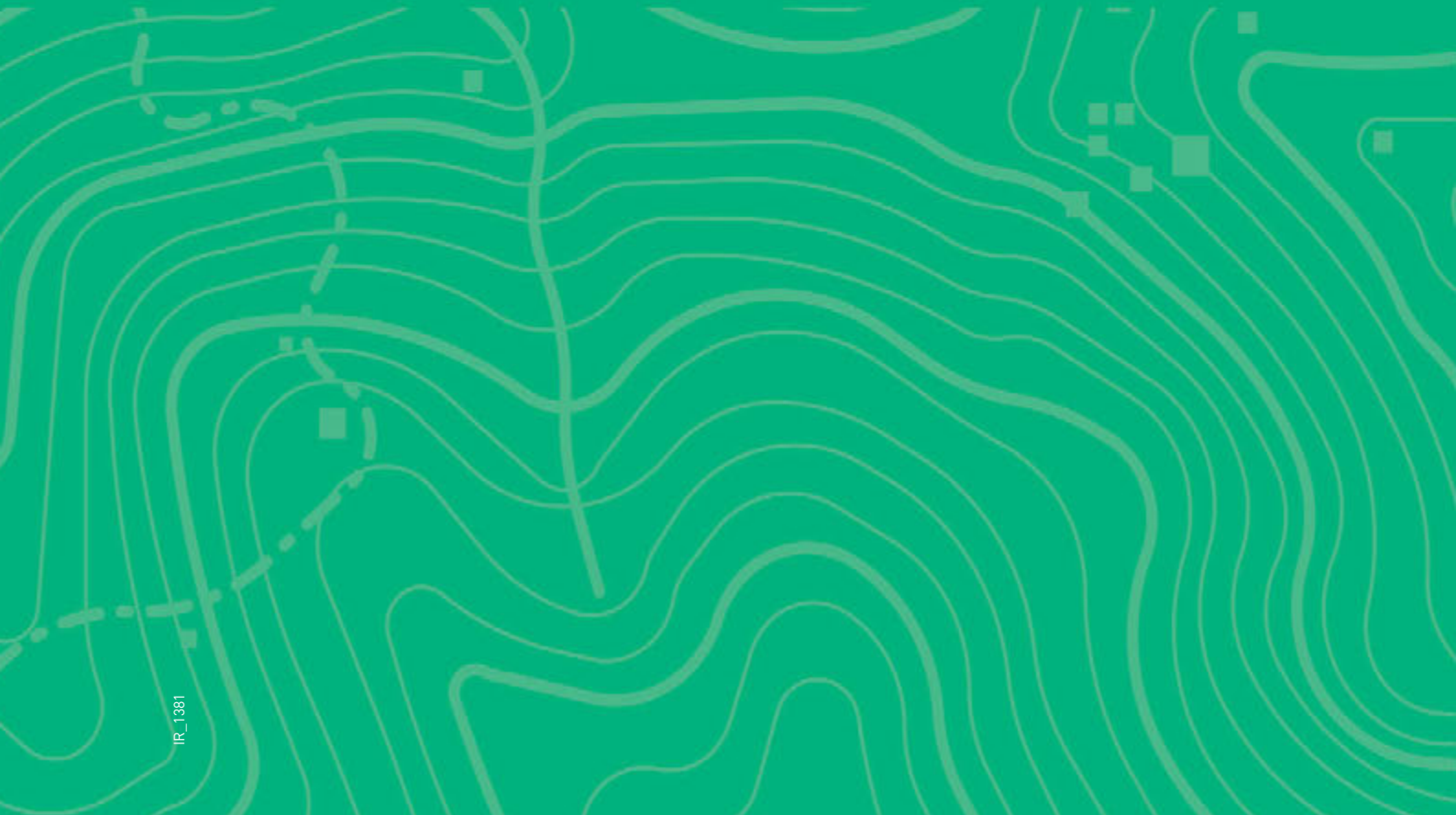
Pollutant	Emission rate per locomotive type (g/m/s)				Coal dust	Total
	NR Class	SCT Class	Class 82	PR22L		
NOx	1.69E-05	2.50E-05	8.15E-05	7.20E-05	-	1.95E-04
TSP	1.06E-06	1.51E-06	5.12E-06	2.40E-06	5.25E-05	6.26E-05
PM10	1.04E-06	1.48E-06	4.99E-06	2.34E-06	2.63E-05	3.61E-05
PM2.5	9.94E-07	1.42E-06	4.80E-06	2.25E-06	3.94E-06	1.34E-05
THC	1.78E-06	3.38E-06	8.57E-06	1.61E-05	-	2.98E-05

APPENDIX L

Air Quality Technical Report

Appendix E NO_x to NO_2 Conversion

CALVERT TO KAGARU ENVIRONMENTAL IMPACT STATEMENT



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Appendix E
NO_x to NO_2 Conversion

One of the challenges of modelling NO_x emissions is determining the amount of NO_2 at a receiver, due to uncertainties in the conversion rates. Early studies (Hegg et al., 1977) showed that the rate of oxidation is controlled by the rate of plume mixing rather than by gas reaction kinetics. Ozone is usually the chemical that is responsible for most of the oxidation, but other reactive atmospheric gases can also oxidise NO.

Several methods were proposed for evaluating the amount of NO2 that is formed from NO. These include:

- Total conversion
- The Ambient Ratio Method (ARM) (0.75 is the US default value) when no measured nearby NO_x/NO_2 ratios are available
- Ozone Limiting Method (OLM)
- Jansenn's equations (which assume approximately 10 per cent of all NO_x is NO_2) – used in Australia and New Zealand
- Plume Volume Molar Ratio method.

All of these methods are referenced in the Federal Guideline on Air Quality Models (GAQM) and DEC (2005).

NO_x to NO_2 conversion

In QLD, the oxidation of NO to NO_2 is typically assessed by three methods (Method 1, the most simple, to Method 3, the most complex). Method 1, which assumes 100 per cent conversion of NO to NO_2, can be used in one of two ways. A Level 1 assessment uses maximum predicted NOx concentrations (assuming NOx = NO_2) and maximum ambient NO_2 concentrations to determine a cumulative NO_2 concentration. If the facility fails to meet the NO_2 goals, a Level 2 assessment is conducted, which again assumes 100 per cent conversion but with contemporaneous assessment of model predictions and ambient concentrations.

Method 2 is the OLM, where NO to NO_2 conversion is limited by the amount of ozone available. The OLM uses a simple approach to the reaction chemistry; it assumes that O_3 and NO react to form NO_2 in proportion to their ground level concentrations. That is, for each hour:

- If O_3 < NO plume,
- NO_2 plume = NO_2 initial + O_3, and if
- $O_3 \geq$ NO plume, NO_2 plume = NO_x plume.

Method 3 uses an empirical relationship to convert NO to NO_2 based on the equation developed by Janssen et al., (1988). The conversion is based on the distance of the receiver downwind from the source, and can be used with various levels of refinement (i.e. using maxima or contemporaneous data).

NO_x to NO_2 assessment in the United States

In the United States, the first level recommended technique in the Guideline on Air Quality Models (GAQM) is to assume the total conversion of NO to NO_2. This is the same first tier level as DEC (2005). It is a conservative, first-level technique, which may lead to unnecessary control in areas where the predicted impacts are close to ambient air quality goals.

The Ambient Ratio Method (ARM) is the second-level technique recommended in the GAQM. The ARM is defined as the ratio of the average NO_2 and NOx ambient concentrations measured at a representative site. It uses local monitoring or a default 75 per cent ratio to find the ambient equilibrium NO_2/NOx ratio (annual average). Theoretically, equilibrium occurs when the rate of NO2 formation equals the rate of dissociation of NO_2 by sunlight. Chu and Meyer (1991), who developed this technique, recommended that this monitoring be performed far away so that true equilibrium would occur. Unfortunately, ambient monitoring is usually insufficient for determining this ratio because ambient concentrations are frequently below the minimum monitoring threshold for NOx (20 ppb). Further, if the monitoring is performed too close to an existing source, the ARM's assumption of equilibrium is violated and the monitoring results are not applicable to receivers further downwind.

The third-level tier is the OLM (stated above) and a Plume Volume Molar Ratio method (PVMRM). The PVMRM method better simulates the NO to NO_2 conversion chemistry during plume expansion and is particularly well suited for the receivers located close to sources where maximum modelled NO concentrations are usually predicted. The PVMRM method follows the chemistry of the main forward reaction of NO with O_3 as it occurs during expansion of a plume segment travelling downwind:

$NO + O_3 \rightarrow NO_2 + O_2$

This is accomplished by computing the number of moles of NOx and O_3 that are contained within a plume segment as it reaches a receiver. Although the PVMRM follows the same chemical reactions as those used in the OLM, it uses both plume size and O_3 concentration to derive the amount of O_3 available for the reaction. NOx moles are determined by emission rate and travel time through the plume segment. The number of O_3 moles is determined by the size of the plume segment and the measured background O3 concentration. This plume segment always contains the same amount of primary NOx emissions as it travels downwind. The amount of O_3 available for reaction, however, increases as the plume segment enlarges downwind. The last approach, which is not yet included in any US Guideline criteria, is based on an empirical approach of some 3,000 co-located NOx and NO_2 monitors in Europe. The approach uses a scaled approach to NOx bins of concentration levels. This method was developed by the Atmospheric Studies Group and is included in the US EPA guideline model CALPOST. It has been used on a case-by-case basis when all other methods fail.

Concerns with and likely conservatism of the OLM

The OLM employed by the EPA (DEC 2005) was taken from the US EPA OLM, originally developed by Cole and Summerhays (1979) and Tikvart (1996). The method assumes that all the available ozone in the atmosphere will react with NO in the plume until either all the O_3 or all the NO is used up. The approach is known to be conservative. Some of the reasons for its lack of robustness and conservatism are listed below:

- The OLM approach assumes that the atmospheric reaction is instant, whereas in reality the reaction takes place over a number of hours
- The actual reactions of NO to NO_2 occur in proportion to the moles of each reactant rather than in proportion to the concentration assumed by the OLM. At constant volume, 1 ppm of a gas is proportional to 1 mole of a gas. This assumption is not valid in the open atmosphere, as there is virtually unlimited amount of O_3 available for reaction. As plumes expand downwind, more O_3 is available for reaction, and even lower concentrations of O_3 can react with NO in the plume.
- The OLM is further complicated as some of the NOx is already converted to NO_2 upstream in the plume before it reaches the receiver
- Studies have shown that the NOx emission rates are extremely important with respect to the rate of conversion to NO_2. The size of the plume is not affected by the NOx emission rate, which means that there is the same amount of O_3 available for chemical conversion regardless of the NOx emission rate. Larger NOx emission rates lead to lower predicted ratios of NO_2/NOx. Maximum impacts that occur at receivers located further away have high predicted NO_2/NOx ratios. Further emissions emitted into stable (narrow) plumes will have less conversion to NO_2 compared to those emissions emitted into less stable (wider) plumes. The OLM does not take the NOx emission rate or plume size into consideration.

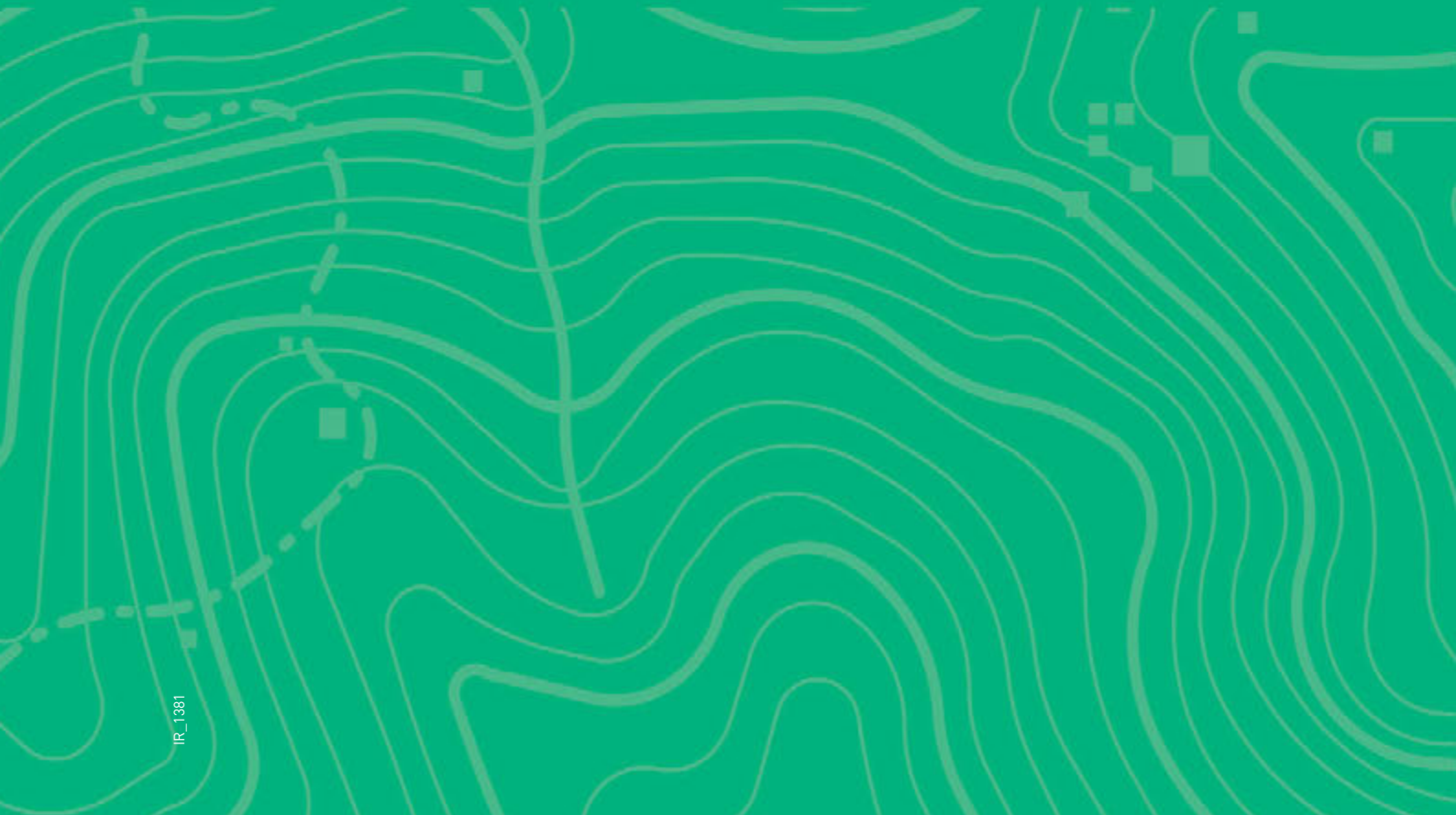
- The OLM can only be used on one plume at a time. The US EPA states that the OLM should be used with a 'plume-by-plume' approach. This is a big limitation to a facility with lots of different plumes. The OLM will therefore be very conservative for close in NO_2 impacts for large multi plume sources. The OLM may not be conservative for single plumes downwind, where low concentrations of O_3 can still react with the plume. The OLM is expected to be conservative during daylight hours when the photochemical equilibrium reverses the oxidation of NO by O_3. It is also expected to be conservative during stable and night conditions when both NO_2 and O_3 are removed by reaction with vegetation and other surfaces.

APPENDIX L

Air Quality Technical Report

Appendix F Detailed Dispersion Model Results

CALVERT TO KAGARU ENVIRONMENTAL IMPACT STATEMENT



IR_1381

Table F.1 Predicted cumulative ground level concentrations (µg/m^3) at discrete sensitive receptors (peak train scenario, with veneering)

Pollutant			**NO_2**		**PM_{10}**		**$PM_{2.5}$**	
Averaging time			**1 hour**	**1 year**	**24 hours**	**1 year**	**24 hours**	**1 year**
Statistic			**Maximum**	**Average**	**Maximum**	**Average**	**Maximum**	**Average**
Air quality objective			*250*	*62*	*50*	*25*	*25*	*8*
Background concentration			26.7	7.8	18.7	16.2	6.4	5.7
Maximum predicted result (across all receptors)			175.9	24.4	28.0	21.9	10.8	7.7
Receptor ID	**Coordinate (X, m, GDA Zone 56)**	**Coordinate (Y, m, GDA Zone 56)**	**Cumulative predicted ground level concentration (µg/m^3)**					
sr1	474669.0	6932156.0	66.5	8.5	19.6	16.4	6.9	5.8
sr2	473127.0	6932759.0	71.8	9.2	19.9	16.6	7.1	5.8
sr3	472789.0	6932606.0	73.0	9.2	19.9	16.6	7.0	5.8
sr4	472966.0	6932834.0	69.5	9.1	19.7	16.6	7.0	5.8
sr5	472705.0	6933176.0	58.9	8.6	19.4	16.4	6.8	5.8
sr6	472069.0	6933333.0	59.9	8.2	19.1	16.3	6.6	5.7
sr7	472388.0	6933635.0	58.3	8.2	19.1	16.3	6.6	5.7
sr8	472487.0	6933679.0	58.1	8.2	19.1	16.3	6.6	5.7
sr9	471063.0	6932192.0	70.6	10.7	20.6	17.1	7.1	6.0
sr10	470774.0	6932169.0	71.4	11.6	21.4	17.4	7.3	6.1
sr11	470789.0	6932313.0	69.0	11.0	20.8	17.2	7.1	6.0
sr12	470927.0	6933026.0	60.5	8.5	19.4	16.4	6.6	5.8
sr13	470956.0	6933274.0	59.8	8.3	19.4	16.4	6.7	5.8
sr13	470956.0	6933274.0	59.4	8.1	19.3	16.3	6.7	5.7
sr14	471095.0	6933519.0	58.6	8.1	19.4	16.3	6.7	5.7
sr14	471095.0	6933519.0	58.8	8.1	19.3	16.3	6.7	5.7
sr15	470873.0	6933771.0	58.8	8.2	19.4	16.4	6.7	5.8
sr15	470873.0	6933771.0	58.7	8.1	19.2	16.3	6.7	5.7

Pollutant			NO_2		PM_{10}		$PM_{2.5}$	
Averaging time			1 hour	1 year	24 hours	1 year	24 hours	1 year
Statistic			Maximum	Average	Maximum	Average	Maximum	Average
Air quality objective			*250*	*62*	*50*	*25*	*25*	*8*
Background concentration			26.7	7.8	18.7	16.2	6.4	5.7
Maximum predicted result (across all receptors)			175.9	24.4	28.0	21.9	10.8	7.7
Receptor ID	**Coordinate (X, m, GDA Zone 56)**	**Coordinate (Y, m, GDA Zone 56)**	**Cumulative predicted ground level concentration (µg/m³)**					
sr16	471005.0	6933767.0	58.2	8.0	19.2	16.3	6.6	5.7
sr16	471005.0	6933767.0	58.0	8.0	19.2	16.3	6.7	5.7
sr17	470794.0	6933554.0	57.8	8.0	19.2	16.3	6.6	5.7
sr17	470794.0	6933554.0	57.9	8.1	19.3	16.3	6.7	5.7
sr18	471325.0	6933835.0	57.7	8.0	19.2	16.3	6.6	5.7
sr18	471325.0	6933835.0	57.7	8.0	19.2	16.3	6.6	5.7
sr19	471434.0	6934031.0	57.7	8.0	19.2	16.3	6.6	5.7
sr19	471434.0	6934031.0	57.7	8.1	19.3	16.3	6.7	5.7
sr20	471167.0	6934242.0	57.8	8.1	19.3	16.3	6.7	5.7
sr20	471167.0	6934242.0	57.7	8.1	19.3	16.3	6.7	5.7
sr21	471237.0	6934551.0	65.9	9.2	19.7	16.6	6.9	5.8
sr21	471237.0	6934551.0	65.8	8.8	19.5	16.5	6.7	5.8
sr22	470897.0	6934370.0	60.3	8.4	19.3	16.4	6.7	5.8
sr22	470897.0	6934370.0	59.2	8.6	19.5	16.4	6.8	5.8
sr23	471184.0	6934812.0	64.4	8.8	19.7	16.5	6.9	5.8
sr23	471184.0	6934812.0	69.5	8.8	19.8	16.5	7.0	5.8
sr24	471038.0	6934831.0	61.7	8.0	19.0	16.2	6.6	5.7
sr24	471038.0	6934831.0	62.7	8.0	19.1	16.3	6.7	5.7
sr25	471026.0	6934770.0	62.5	8.0	19.1	16.2	6.6	5.7

Pollutant			NO_2		PM_{10}		$PM_{2.5}$	
Averaging time			1 hour	1 year	24 hours	1 year	24 hours	1 year
Statistic			Maximum	Average	Maximum	Average	Maximum	Average
Air quality objective			*250*	*62*	*50*	*25*	*25*	*8*
Background concentration			26.7	7.8	18.7	16.2	6.4	5.7
Maximum predicted result (across all receptors)			175.9	24.4	28.0	21.9	10.8	7.7
Receptor ID	**Coordinate (X, m, GDA Zone 56)**	**Coordinate (Y, m, GDA Zone 56)**	**Cumulative predicted ground level concentration (µg/m³)**					
sr25	471026.0	6934770.0	62.8	8.0	19.1	16.3	6.7	5.7
sr26	470812.0	6934821.0	79.6	8.2	19.6	16.3	6.9	5.7
sr26	470812.0	6934821.0	94.2	8.0	19.4	16.3	6.9	5.7
sr27	470890.0	6934657.0	81.5	8.0	19.2	16.3	6.8	5.7
sr27	470890.0	6934657.0	57.9	7.9	19.0	16.2	6.6	5.7
sr28	470796.0	6935043.0	61.2	8.0	19.2	16.3	6.6	5.7
sr28	470796.0	6935043.0	61.2	8.1	19.2	16.3	6.6	5.7
sr29	472266.0	6932458.0	60.8	8.0	19.2	16.3	6.6	5.7
sr30	471994.0	6932604.0	61.8	8.1	19.2	16.3	6.7	5.7
sr31	472380.0	6933068.0	62.6	8.1	19.3	16.3	6.7	5.7
sr32	474676.0	6931591.0	62.8	8.2	19.3	16.3	6.7	5.8
sr33	474545.0	6931352.0	62.7	8.1	19.3	16.3	6.7	5.7
sr34	474506.0	6931751.0	61.1	8.0	19.2	16.3	6.6	5.7
sr35	475981.0	6931196.0	64.3	8.2	19.4	16.4	6.7	5.8
sr36	475932.0	6930289.0	72.1	8.2	19.5	16.4	6.8	5.8
sr37	476192.0	6930201.0	81.5	8.3	19.6	16.5	6.9	5.8
sr38	476152.0	6930014.0	79.6	8.4	19.7	16.5	6.9	5.8
sr39	476534.0	6928444.0	82.9	8.4	19.7	16.5	6.9	5.8
sr39	476534.0	6928444.0	75.5	8.3	19.4	16.4	6.8	5.8

Pollutant			NO_2		PM_{10}		$PM_{2.5}$	
Averaging time			1 hour	1 year	24 hours	1 year	24 hours	1 year
Statistic			Maximum	Average	Maximum	Average	Maximum	Average
Air quality objective			*250*	*62*	*50*	*25*	*25*	*8*
Background concentration			26.7	7.8	18.7	16.2	6.4	5.7
Maximum predicted result (across all receptors)			175.9	24.4	28.0	21.9	10.8	7.7
Receptor ID	**Coordinate (X, m, GDA Zone 56)**	**Coordinate (Y, m, GDA Zone 56)**	**Cumulative predicted ground level concentration (µg/m³)**					
sr40	476596.0	6929008.0	75.1	8.3	19.4	16.4	6.8	5.8
sr40	476596.0	6929008.0	97.5	8.7	19.8	16.5	7.0	5.8
sr41	476863.0	6928920.0	102.4	8.9	20.1	16.5	7.2	5.8
sr41	476863.0	6928920.0	60.9	8.1	19.2	16.3	6.6	5.7
sr42	477715.0	6928336.0	60.8	8.1	19.2	16.3	6.6	5.7
sr42	477715.0	6928336.0	61.0	8.2	19.2	16.3	6.7	5.7
sr43	473884.0	6926324.0	61.1	8.2	19.2	16.3	6.7	5.7
sr43	473884.0	6926324.0	61.2	8.2	19.2	16.3	6.7	5.7
sr44	473910.0	6926317.0	61.7	8.2	19.3	16.3	6.7	5.7
sr44	473910.0	6926317.0	79.0	8.2	19.7	16.3	7.2	5.7
sr45	473838.0	6926269.0	76.2	8.3	19.9	16.3	7.4	5.7
sr45	473838.0	6926269.0	58.8	7.9	19.1	16.2	6.7	5.7
sr46	474039.0	6926121.0	64.2	7.9	19.4	16.3	6.9	5.7
sr46	474039.0	6926121.0	77.6	8.3	20.0	17.3	7.5	6.1
sr47	474074.0	6926294.0	71.7	13.3	21.1	17.5	7.3	6.2
sr47	474074.0	6926294.0	64.8	8.4	19.1	16.4	6.6	5.8
sr48	474133.0	6926332.0	63.0	8.4	19.1	16.4	6.6	5.8
sr48	474133.0	6926332.0	64.5	9.5	19.4	16.6	6.7	5.9
sr49	474082.0	6926349.0	60.3	8.0	19.1	16.3	6.6	5.7

Pollutant			NO_2		PM_{10}		$PM_{2.5}$	
Averaging time			1 hour	1 year	24 hours	1 year	24 hours	1 year
Statistic			Maximum	Average	Maximum	Average	Maximum	Average
Air quality objective			*250*	*62*	*50*	*25*	*25*	*8*
Background concentration			26.7	7.8	18.7	16.2	6.4	5.7
Maximum predicted result (across all receptors)			175.9	24.4	28.0	21.9	10.8	7.7
Receptor ID	**Coordinate (X, m, GDA Zone 56)**	**Coordinate (Y, m, GDA Zone 56)**	**Cumulative predicted ground level concentration (µg/m³)**					
sr49	474082.0	6926349.0	60.7	8.1	19.2	16.3	6.6	5.7
sr50	473867.0	6926411.0	59.9	8.0	19.1	16.3	6.6	5.7
sr50	473867.0	6926411.0	60.1	8.0	19.1	16.3	6.6	5.7
sr51	474109.0	6926587.0	59.8	7.9	19.0	16.2	6.5	5.7
sr51	474109.0	6926587.0	59.8	7.9	19.0	16.2	6.6	5.7
sr52	474149.0	6927267.0	59.7	7.9	18.9	16.2	6.5	5.7
sr52	474149.0	6927267.0	59.8	7.9	19.0	16.2	6.5	5.7
sr53	474083.0	6927765.0	59.5	7.9	18.9	16.2	6.5	5.7
sr53	474083.0	6927765.0	59.9	7.9	19.0	16.2	6.6	5.7
sr54	474071.0	6927990.0	60.2	7.9	19.0	16.2	6.6	5.7
sr54	474071.0	6927990.0	60.1	7.9	19.0	16.2	6.6	5.7
sr55	473914.0	6928178.0	59.9	7.9	19.0	16.2	6.5	5.7
sr55	473914.0	6928178.0	136.3	8.8	20.0	16.4	7.0	5.8
sr56	473192.0	6928648.0	87.6	8.1	19.3	16.3	6.8	5.7
sr56	473192.0	6928648.0	60.9	8.0	19.1	16.2	6.6	5.7
sr57	473109.0	6928759.0	60.5	7.9	19.0	16.2	6.6	5.7
sr57	473109.0	6928759.0	59.9	7.9	18.9	16.2	6.6	5.7
sr58	473478.0	6929185.0	59.8	7.9	18.9	16.2	6.6	5.7
sr59	473538.0	6929423.0	92.3	8.3	19.5	16.3	6.9	5.7

Pollutant			NO_2		PM_{10}		$PM_{2.5}$	
Averaging time			1 hour	1 year	24 hours	1 year	24 hours	1 year
Statistic			Maximum	Average	Maximum	Average	Maximum	Average
Air quality objective			*250*	*62*	*50*	*25*	*25*	*8*
Background concentration			26.7	7.8	18.7	16.2	6.4	5.7
Maximum predicted result (across all receptors)			175.9	24.4	28.0	21.9	10.8	7.7
Receptor ID	**Coordinate (X, m, GDA Zone 56)**	**Coordinate (Y, m, GDA Zone 56)**	**Cumulative predicted ground level concentration (µg/m³)**					
sr60	473991.0	6925835.0	110.4	11.8	21.5	17.1	7.5	6.0
sr60	473991.0	6925835.0	68.0	8.1	19.1	16.3	6.6	5.7
sr61	473990.0	6925769.0	72.7	8.2	19.1	16.3	6.7	5.7
sr61	473990.0	6925769.0	73.1	8.3	19.2	16.3	6.7	5.7
sr62	474058.0	6925836.0	65.0	8.1	19.1	16.3	6.6	5.7
sr62	474058.0	6925836.0	66.9	8.4	19.2	16.3	6.7	5.7
sr63	474066.0	6925867.0	69.8	8.5	19.2	16.3	6.7	5.8
sr63	474066.0	6925867.0	59.8	8.5	19.2	16.4	6.6	5.8
sr64	474066.0	6925914.0	99.9	15.8	23.7	18.1	8.1	6.4
sr64	474066.0	6925914.0	58.3	8.1	19.0	16.3	6.5	5.7
sr65	474086.0	6926079.0	58.6	8.2	19.0	16.3	6.6	5.7
sr65	474086.0	6926079.0	57.9	8.1	18.9	16.3	6.5	5.7
sr66	478267.0	6922278.0	57.9	8.1	18.9	16.3	6.5	5.7
sr67	478850.0	6921060.0	59.3	8.4	19.1	16.3	6.6	5.7
sr67	478850.0	6921060.0	60.4	8.1	19.0	16.3	6.6	5.7
sr68	480637.0	6920720.0	64.1	8.2	19.1	16.3	6.6	5.7
sr68	480637.0	6920720.0	64.3	8.2	19.1	16.3	6.6	5.7
sr69	480142.0	6919232.0	61.0	8.1	19.1	16.3	6.6	5.7
sr69	480142.0	6919232.0	62.1	8.1	19.1	16.3	6.6	5.7

Pollutant			NO_2		PM_{10}		$PM_{2.5}$	
Averaging time			1 hour	1 year	24 hours	1 year	24 hours	1 year
Statistic			Maximum	Average	Maximum	Average	Maximum	Average
Air quality objective			*250*	*62*	*50*	*25*	*25*	*8*
Background concentration			26.7	7.8	18.7	16.2	6.4	5.7
Maximum predicted result (across all receptors)			175.9	24.4	28.0	21.9	10.8	7.7
Receptor ID	**Coordinate (X, m, GDA Zone 56)**	**Coordinate (Y, m, GDA Zone 56)**	**Cumulative predicted ground level concentration (µg/m³)**					
sr70	479353.0	6920064.0	61.7	8.1	19.1	16.3	6.6	5.7
sr70	479353.0	6920064.0	65.8	8.7	19.3	16.4	6.7	5.8
sr71	489490.0	6919150.0	60.0	8.1	19.1	16.3	6.6	5.7
sr72	489911.0	6920152.0	60.6	8.3	19.3	16.4	6.7	5.8
sr73	490364.0	6920341.0	61.0	8.3	19.3	16.4	6.7	5.8
sr74	490855.0	6919815.0	60.9	8.7	19.6	16.5	6.8	5.8
sr75	493901.0	6918216.0	58.3	8.8	19.5	16.5	6.7	5.8
sr76	493557.0	6917858.0	57.7	8.1	18.9	16.3	6.5	5.7
sr77	493723.0	6917471.0	57.6	8.0	18.9	16.3	6.5	5.7
sr78	493519.0	6917256.0	57.9	8.2	19.0	16.3	6.5	5.7
sr79	493802.0	6917040.0	57.6	8.0	18.9	16.3	6.5	5.7
sr80	492786.0	6915653.0	57.6	7.9	18.9	16.2	6.5	5.7
sr81	493163.0	6915637.0	57.6	8.1	18.9	16.3	6.5	5.7
sr82	493126.0	6915828.0	58.4	8.3	19.1	16.3	6.5	5.7
sr83	493415.0	6915796.0	57.8	7.9	18.9	16.2	6.5	5.7
sr84	493179.0	6915929.0	57.8	7.9	18.9	16.2	6.5	5.7
sr85	493233.0	6916123.0	58.2	8.6	19.3	16.4	6.6	5.8
sr86	493307.0	6916201.0	58.5	9.0	19.5	16.5	6.7	5.8
sr87	493553.0	6916662.0	58.1	8.6	19.2	16.4	6.6	5.8

Pollutant			NO_2		PM_{10}		$PM_{2.5}$	
Averaging time			1 hour	1 year	24 hours	1 year	24 hours	1 year
Statistic			Maximum	Average	Maximum	Average	Maximum	Average
Air quality objective			*250*	*62*	*50*	*25*	*25*	*8*
Background concentration			26.7	7.8	18.7	16.2	6.4	5.7
Maximum predicted result (across all receptors)			175.9	24.4	28.0	21.9	10.8	7.7
Receptor ID	**Coordinate (X, m, GDA Zone 56)**	**Coordinate (Y, m, GDA Zone 56)**	**Cumulative predicted ground level concentration (µg/m³)**					
sr88	484461.0	6916554.0	58.0	8.4	19.1	16.4	6.5	5.8
sr89	484560.0	6916015.0	70.1	9.7	20.3	16.7	6.9	5.9
sr90	484999.0	6915645.0	60.4	10.2	19.9	16.8	6.8	5.9
sr91	485128.0	6915268.0	59.1	9.5	19.7	16.6	6.7	5.8
sr92	484184.0	6914947.0	59.9	10.0	19.9	16.8	6.8	5.9
sr93	483577.0	6914854.0	60.0	10.1	19.9	16.8	6.8	5.9
sr94	476426.0	6919253.0	76.0	9.2	20.2	16.6	7.1	5.8
sr95	476618.0	6920228.0	79.4	10.5	20.9	16.9	7.4	6.0
sr96	474695.0	6920581.0	63.5	11.0	20.4	17.0	7.0	6.0
sr97	474755.0	6921691.0	57.6	8.0	19.2	16.3	6.6	5.7
sr98	475127.0	6921755.0	57.6	8.0	19.2	16.3	6.6	5.7
sr99	474368.0	6921849.0	57.6	8.0	19.2	16.3	6.6	5.7
sr100	475188.0	6922063.0	57.6	8.0	19.2	16.3	6.6	5.7
sr101	475295.0	6922042.0	57.6	8.1	19.4	16.4	6.7	5.8
sr102	474810.0	6922884.0	59.1	9.4	19.7	16.6	6.8	5.8
sr103	476277.0	6922347.0	58.8	9.3	19.7	16.6	6.7	5.8
sr104	474273.0	6922652.0	57.6	7.9	18.9	16.2	6.5	5.7
sr105	474430.0	6922866.0	57.6	8.3	19.6	16.4	6.8	5.8
sr106	473766.0	6923116.0	57.6	7.9	18.8	16.2	6.4	5.7

Pollutant			NO_2		PM_{10}		$PM_{2.5}$	
Averaging time			1 hour	1 year	24 hours	1 year	24 hours	1 year
Statistic			Maximum	Average	Maximum	Average	Maximum	Average
Air quality objective			*250*	*62*	*50*	*25*	*25*	*8*
Background concentration			26.7	7.8	18.7	16.2	6.4	5.7
Maximum predicted result (across all receptors)			175.9	24.4	28.0	21.9	10.8	7.7
Receptor ID	**Coordinate (X, m, GDA Zone 56)**	**Coordinate (Y, m, GDA Zone 56)**	**Cumulative predicted ground level concentration (µg/m³)**					
sr107	473750.0	6923305.0	57.6	7.9	18.8	16.2	6.4	5.7
sr108	474523.0	6923170.0	57.6	8.0	18.9	16.2	6.5	5.7
sr109	473835.0	6923869.0	57.6	8.0	18.9	16.3	6.5	5.7
sr109	473835.0	6923869.0	57.6	8.0	19.0	16.3	6.5	5.7
sr110	474116.0	6923868.0	57.6	8.0	18.9	16.3	6.5	5.7
sr110	474116.0	6923868.0	57.6	8.0	19.0	16.3	6.5	5.7
sr111	474072.0	6923978.0	57.7	8.1	19.0	16.3	6.5	5.7
sr111	474072.0	6923978.0	57.7	8.1	19.1	16.3	6.5	5.7
sr112	473879.0	6924704.0	57.7	8.1	19.0	16.3	6.5	5.7
sr112	473879.0	6924704.0	57.7	8.1	19.0	16.3	6.5	5.7
sr113	473815.0	6924434.0	57.6	8.0	18.9	16.2	6.5	5.7
sr113	473815.0	6924434.0	57.6	8.0	18.9	16.3	6.5	5.7
sr114	473780.0	6924206.0	57.6	8.0	18.9	16.3	6.5	5.7
sr114	473780.0	6924206.0	57.6	8.0	19.0	16.3	6.5	5.7
sr115	474505.0	6924076.0	57.6	8.0	19.0	16.3	6.5	5.7
sr115	474505.0	6924076.0	57.7	8.1	19.1	16.3	6.5	5.7
sr116	473900.0	6925426.0	57.6	8.0	19.0	16.3	6.5	5.7
sr116	473900.0	6925426.0	57.7	8.1	19.1	16.3	6.5	5.7
sr117	474240.0	6925479.0	57.7	8.2	19.1	16.3	6.5	5.7

Pollutant			NO_2		PM_{10}		$PM_{2.5}$	
Averaging time			1 hour	1 year	24 hours	1 year	24 hours	1 year
Statistic			Maximum	Average	Maximum	Average	Maximum	Average
Air quality objective			*250*	*62*	*50*	*25*	*25*	*8*
Background concentration			26.7	7.8	18.7	16.2	6.4	5.7
Maximum predicted result (across all receptors)			175.9	24.4	28.0	21.9	10.8	7.7
Receptor ID	**Coordinate (X, m, GDA Zone 56)**	**Coordinate (Y, m, GDA Zone 56)**	**Cumulative predicted ground level concentration (µg/m³)**					
sr117	474240.0	6925479.0	57.7	8.2	19.1	16.3	6.5	5.7
sr118	474242.0	6925611.0	57.7	8.2	19.1	16.3	6.5	5.7
sr118	474242.0	6925611.0	57.7	8.2	19.1	16.3	6.5	5.7
sr119	474503.0	6925659.0	57.7	8.2	19.1	16.3	6.5	5.7
sr119	474503.0	6925659.0	57.7	8.1	19.0	16.3	6.5	5.7
sr120	456542.0	6941793.0	57.6	8.1	19.0	16.3	6.5	5.7
sr121	453007.0	6940783.0	57.6	7.9	18.8	16.2	6.5	5.7
sr122	452474.0	6940579.0	57.7	8.2	19.2	16.3	6.6	5.7
sr123	453244.0	6940596.0	57.8	8.4	19.3	16.3	6.6	5.7
sr124	452510.0	6940489.0	57.8	8.3	19.2	16.3	6.6	5.7
sr125	452297.0	6940390.0	57.8	8.3	19.2	16.3	6.6	5.7
sr126	452631.0	6940401.0	57.8	8.4	19.2	16.3	6.6	5.7
sr127	453438.0	6940477.0	57.8	8.4	19.2	16.3	6.6	5.8
sr128	454229.0	6942102.0	57.8	8.4	19.2	16.3	6.6	5.7
sr129	453636.0	6941553.0	57.9	8.4	19.2	16.4	6.6	5.8
sr130	456037.0	6942093.0	57.8	8.4	19.2	16.3	6.6	5.7
sr131	456084.0	6941798.0	57.8	8.3	19.1	16.3	6.5	5.7
sr132	455854.0	6942175.0	57.9	8.3	19.2	16.3	6.6	5.7
sr133	455729.0	6942293.0	57.7	7.9	18.9	16.2	6.5	5.7

Pollutant			NO_2		PM_{10}		$PM_{2.5}$	
Averaging time			1 hour	1 year	24 hours	1 year	24 hours	1 year
Statistic			Maximum	Average	Maximum	Average	Maximum	Average
Air quality objective			*250*	*62*	*50*	*25*	*25*	*8*
Background concentration			26.7	7.8	18.7	16.2	6.4	5.7
Maximum predicted result (across all receptors)			175.9	24.4	28.0	21.9	10.8	7.7
Receptor ID	**Coordinate (X, m, GDA Zone 56)**	**Coordinate (Y, m, GDA Zone 56)**	**Cumulative predicted ground level concentration (µg/m³)**					
sr134	453419.0	6939548.0	58.5	8.1	19.1	16.3	6.6	5.7
sr135	457139.0	6940328.0	58.1	8.0	18.9	16.3	6.5	5.7
sr136	457816.0	6940320.0	58.8	8.1	19.1	16.3	6.5	5.7
sr137	457644.0	6940150.0	57.9	8.1	19.0	16.3	6.5	5.7
sr138	457890.0	6939944.0	57.8	8.0	18.9	16.3	6.5	5.7
sr139	467577.0	6937751.0	59.0	8.1	19.0	16.3	6.5	5.7
sr139	467577.0	6937751.0	59.5	8.2	19.1	16.3	6.6	5.7
sr140	467448.0	6936851.0	59.9	8.3	19.2	16.3	6.6	5.7
sr140	467448.0	6936851.0	58.9	8.2	19.1	16.3	6.6	5.7
sr141	457700.0	6939482.0	61.2	8.5	19.5	16.4	6.7	5.8
sr142	471194.0	6935153.0	60.9	10.5	20.2	16.9	6.9	5.9
sr142	471194.0	6935153.0	58.5	9.1	19.5	16.5	6.7	5.8
sr143	471102.0	6935163.0	58.6	9.2	19.6	16.5	6.7	5.8
sr143	471102.0	6935163.0	61.8	10.6	20.2	16.9	6.9	5.9
sr144	471102.0	6935218.0	59.8	10.0	19.9	16.7	6.8	5.9
sr144	471102.0	6935218.0	59.5	9.9	19.8	16.7	6.8	5.9
sr145	471076.0	6935328.0	59.0	9.5	19.7	16.6	6.7	5.8
sr145	471076.0	6935328.0	58.9	9.4	19.7	16.6	6.7	5.8
sr146	470560.0	6935369.0	58.9	9.3	19.6	16.6	6.7	5.8

Pollutant			NO_2		PM_{10}		$PM_{2.5}$	
Averaging time			1 hour	1 year	24 hours	1 year	24 hours	1 year
Statistic			Maximum	Average	Maximum	Average	Maximum	Average
Air quality objective			*250*	*62*	*50*	*25*	*25*	*8*
Background concentration			26.7	7.8	18.7	16.2	6.4	5.7
Maximum predicted result (across all receptors)			175.9	24.4	28.0	21.9	10.8	7.7
Receptor ID	**Coordinate (X, m, GDA Zone 56)**	**Coordinate (Y, m, GDA Zone 56)**	**Cumulative predicted ground level concentration (µg/m³)**					
sr146	470560.0	6935369.0	58.3	8.7	19.3	16.4	6.6	5.8
sr147	455174.0	6941574.0	58.4	8.5	19.2	16.4	6.6	5.8
sr148	455470.0	6941727.0	58.6	8.5	19.2	16.4	6.6	5.8
sr149	452139.0	6939984.0	58.7	8.5	19.2	16.4	6.6	5.8
sr150	470295.0	6936005.0	58.5	8.5	19.2	16.4	6.6	5.8
sr150	470295.0	6936005.0	58.9	8.6	19.2	16.4	6.6	5.8
sr151	452134.0	6939794.0	59.2	8.6	19.2	16.4	6.6	5.8
sr152	452116.0	6939878.0	59.6	8.7	19.2	16.4	6.6	5.8
sr153	452422.0	6939925.0	64.6	8.8	19.2	16.5	6.7	5.8
sr154	452472.0	6939851.0	73.3	8.8	19.3	16.4	6.8	5.8
sr155	452553.0	6939917.0	74.3	8.7	19.3	16.4	6.8	5.8
sr156	452481.0	6939910.0	77.9	8.9	19.5	16.5	6.9	5.8
sr157	452540.0	6939813.0	82.5	9.1	19.5	16.5	6.9	5.8
sr158	452626.0	6939919.0	80.3	9.0	19.5	16.5	6.9	5.8
sr159	452646.0	6939881.0	82.5	9.0	19.4	16.5	6.8	5.8
sr160	452616.0	6939869.0	78.7	9.0	19.4	16.5	6.8	5.8
sr161	452611.0	6939802.0	69.6	8.9	19.3	16.5	6.8	5.8
sr162	452410.0	6939796.0	66.9	8.8	19.2	16.5	6.7	5.8
sr163	452474.0	6939776.0	67.7	8.9	19.2	16.5	6.7	5.8

Pollutant			NO_2		PM_{10}		$PM_{2.5}$	
Averaging time			1 hour	1 year	24 hours	1 year	24 hours	1 year
Statistic			Maximum	Average	Maximum	Average	Maximum	Average
Air quality objective			*250*	*62*	*50*	*25*	*25*	*8*
Background concentration			26.7	7.8	18.7	16.2	6.4	5.7
Maximum predicted result (across all receptors)			175.9	24.4	28.0	21.9	10.8	7.7
Receptor ID	**Coordinate (X, m, GDA Zone 56)**	**Coordinate (Y, m, GDA Zone 56)**	**Cumulative predicted ground level concentration (µg/m³)**					
sr164	452489.0	6939763.0	66.6	8.8	19.2	16.5	6.7	5.8
sr165	452526.0	6939746.0	66.6	9.0	19.3	16.5	6.7	5.8
sr166	452547.0	6939734.0	66.3	8.8	19.2	16.5	6.7	5.8
sr167	452642.0	6939839.0	66.1	9.0	19.3	16.5	6.7	5.8
sr168	452547.0	6939673.0	64.6	9.1	19.4	16.5	6.7	5.8
sr169	452687.0	6939647.0	65.0	9.0	19.4	16.5	6.7	5.8
sr170	452709.0	6939646.0	66.0	9.0	19.3	16.5	6.7	5.8
sr171	452716.0	6939619.0	65.8	8.9	19.3	16.5	6.7	5.8
sr172	452741.0	6939623.0	58.9	8.6	19.2	16.4	6.6	5.8
sr173	452781.0	6939610.0	59.2	8.6	19.2	16.4	6.6	5.8
sr174	452745.0	6939556.0	59.7	8.7	19.3	16.4	6.6	5.8
sr175	452679.0	6939506.0	60.2	8.7	19.3	16.4	6.7	5.8
sr176	452688.0	6939345.0	61.0	8.8	19.3	16.4	6.7	5.8
sr177	452241.0	6939339.0	60.4	8.7	19.3	16.4	6.7	5.8
sr178	452767.0	6939867.0	62.5	8.9	19.3	16.5	6.7	5.8
sr179	452858.0	6939791.0	61.7	8.9	19.3	16.5	6.7	5.8
sr180	452845.0	6939582.0	61.3	8.8	19.3	16.5	6.7	5.8
sr181	452867.0	6939571.0	61.4	8.8	19.3	16.5	6.7	5.8
sr182	452879.0	6939553.0	62.9	9.0	19.3	16.5	6.7	5.8

Pollutant			NO_2		PM_{10}		$PM_{2.5}$	
Averaging time			1 hour	1 year	24 hours	1 year	24 hours	1 year
Statistic			Maximum	Average	Maximum	Average	Maximum	Average
Air quality objective			*250*	*62*	*50*	*25*	*25*	*8*
Background concentration			26.7	7.8	18.7	16.2	6.4	5.7
Maximum predicted result (across all receptors)			175.9	24.4	28.0	21.9	10.8	7.7
Receptor ID	**Coordinate (X, m, GDA Zone 56)**	**Coordinate (Y, m, GDA Zone 56)**	**Cumulative predicted ground level concentration (µg/m³)**					
sr183	452913.0	6939537.0	63.7	9.1	19.4	16.5	6.7	5.8
sr184	452925.0	6939503.0	64.5	9.2	19.5	16.6	6.7	5.8
sr185	452948.0	6939515.0	64.2	9.5	19.6	16.6	6.7	5.8
sr186	452940.0	6939456.0	63.4	9.5	19.6	16.6	6.7	5.8
sr187	452943.0	6939339.0	60.5	8.7	19.3	16.4	6.6	5.8
sr188	453011.0	6939311.0	60.2	8.7	19.3	16.4	6.6	5.8
sr189	453410.0	6938210.0	60.9	8.9	19.4	16.5	6.7	5.8
sr190	453973.0	6938808.0	60.6	8.8	19.3	16.5	6.6	5.8
sr191	454566.0	6938417.0	61.2	9.0	19.4	16.5	6.7	5.8
sr192	454554.0	6938858.0	62.0	9.3	19.5	16.6	6.7	5.8
sr193	455421.0	6937513.0	61.6	9.2	19.5	16.5	6.7	5.8
sr194	455345.0	6937185.0	61.5	9.1	19.4	16.5	6.7	5.8
sr195	457776.0	6936213.0	59.3	8.8	19.4	16.5	6.6	5.8
sr196	457785.0	6936589.0	61.2	9.9	19.8	16.7	6.8	5.9
sr197	457512.0	6936961.0	60.8	8.8	19.4	16.5	6.6	5.8
sr198	456789.0	6937090.0	63.3	9.2	19.5	16.6	6.7	5.8
sr199	457019.0	6937600.0	59.6	8.1	19.1	16.3	6.5	5.7
sr200	457917.0	6939673.0	60.1	8.3	19.4	16.3	6.6	5.7
sr201	459679.0	6939318.0	59.9	8.2	19.4	16.3	6.6	5.7

Pollutant			NO_2		PM_{10}		$PM_{2.5}$	
Averaging time			1 hour	1 year	24 hours	1 year	24 hours	1 year
Statistic			Maximum	Average	Maximum	Average	Maximum	Average
Air quality objective			*250*	*62*	*50*	*25*	*25*	*8*
Background concentration			26.7	7.8	18.7	16.2	6.4	5.7
Maximum predicted result (across all receptors)			175.9	24.4	28.0	21.9	10.8	7.7
Receptor ID	**Coordinate (X, m, GDA Zone 56)**	**Coordinate (Y, m, GDA Zone 56)**	**Cumulative predicted ground level concentration (µg/m³)**					
sr202	459647.0	6939284.0	59.9	8.2	19.3	16.3	6.6	5.7
sr203	458875.0	6938787.0	59.2	8.1	19.1	16.3	6.5	5.7
sr204	459332.0	6938946.0	59.2	8.1	19.1	16.3	6.6	5.7
sr205	459386.0	6939024.0	58.9	8.1	19.0	16.3	6.5	5.7
sr206	459516.0	6939147.0	58.8	8.0	19.0	16.3	6.5	5.7
sr207	459530.0	6939180.0	65.1	8.5	19.4	16.4	6.7	5.8
sr208	459618.0	6939180.0	67.7	8.1	19.0	16.3	6.6	5.7
sr209	460040.0	6939417.0	66.6	8.1	19.0	16.3	6.6	5.7
sr210	460352.0	6939380.0	63.0	8.3	19.2	16.3	6.6	5.7
sr211	460482.0	6939317.0	83.5	9.3	20.2	16.6	7.0	5.8
sr212	460555.0	6939305.0	57.7	8.1	19.0	16.3	6.5	5.7
sr213	460659.0	6939454.0	58.1	8.9	20.0	16.6	6.9	5.8
sr214	460693.0	6939249.0	58.3	9.1	20.2	16.7	7.0	5.9
sr215	460788.0	6939239.0	58.5	9.2	20.3	16.7	7.0	5.9
sr216	460872.0	6939224.0	58.5	9.1	20.2	16.7	7.0	5.9
sr217	461452.0	6939210.0	58.7	9.2	20.3	16.7	7.0	5.9
sr218	462599.0	6939003.0	58.7	9.3	20.6	16.8	7.1	5.9
sr219	462926.0	6938849.0	79.1	8.1	19.1	16.3	6.6	5.7
sr220	463169.0	6938554.0	85.1	8.2	19.1	16.3	6.6	5.7

Pollutant			NO_2		PM_{10}		$PM_{2.5}$	
Averaging time			1 hour	1 year	24 hours	1 year	24 hours	1 year
Statistic			Maximum	Average	Maximum	Average	Maximum	Average
Air quality objective			*250*	*62*	*50*	*25*	*25*	*8*
Background concentration			26.7	7.8	18.7	16.2	6.4	5.7
Maximum predicted result (across all receptors)			175.9	24.4	28.0	21.9	10.8	7.7
Receptor ID	**Coordinate (X, m, GDA Zone 56)**	**Coordinate (Y, m, GDA Zone 56)**	**Cumulative predicted ground level concentration (µg/m³)**					
sr221	462823.0	6938485.0	72.5	8.1	19.1	16.3	6.6	5.7
sr222	462664.0	6938576.0	62.3	8.1	19.0	16.3	6.6	5.7
sr223	462559.0	6938522.0	83.5	8.5	19.5	16.4	6.7	5.8
sr224	462458.0	6938567.0	83.0	8.6	19.5	16.4	6.7	5.8
sr225	462431.0	6938838.0	119.7	8.9	19.8	16.4	6.9	5.8
sr226	462295.0	6938914.0	95.3	8.6	19.5	16.4	6.8	5.8
sr227	462205.0	6938828.0	97.2	8.5	19.4	16.4	6.8	5.8
sr228	462149.0	6938925.0	75.7	8.2	19.2	16.3	6.7	5.7
sr229	461970.0	6938652.0	75.2	8.2	19.2	16.3	6.6	5.7
sr230	461932.0	6938928.0	79.5	8.1	19.1	16.3	6.6	5.7
sr231	461724.0	6938697.0	65.0	8.5	20.1	16.5	7.0	5.8
sr232	461351.0	6938714.0	60.7	8.2	19.5	16.3	6.7	5.7
sr233	461442.0	6938796.0	60.1	8.0	19.1	16.3	6.5	5.7
sr234	461655.0	6938806.0	62.8	8.1	19.3	16.3	6.6	5.7
sr235	461605.0	6938927.0	62.0	8.1	19.2	16.3	6.6	5.7
sr236	460507.0	6939186.0	66.0	8.1	19.1	16.3	6.6	5.7
sr237	460585.0	6939124.0	81.2	8.2	19.4	16.4	6.8	5.8
sr238	460656.0	6939053.0	81.2	8.1	19.3	16.4	6.7	5.8
sr239	460721.0	6939046.0	81.0	8.2	19.4	16.4	6.8	5.8

Pollutant			NO_2		PM_{10}		$PM_{2.5}$	
Averaging time			1 hour	1 year	24 hours	1 year	24 hours	1 year
Statistic			Maximum	Average	Maximum	Average	Maximum	Average
Air quality objective			*250*	*62*	*50*	*25*	*25*	*8*
Background concentration			26.7	7.8	18.7	16.2	6.4	5.7
Maximum predicted result (across all receptors)			175.9	24.4	28.0	21.9	10.8	7.7
Receptor ID	**Coordinate (X, m, GDA Zone 56)**	**Coordinate (Y, m, GDA Zone 56)**	**Cumulative predicted ground level concentration (µg/m³)**					
sr240	460893.0	6939084.0	79.3	8.4	19.7	16.4	6.9	5.8
sr241	460820.0	6939110.0	92.8	9.0	20.3	16.6	7.1	5.9
sr242	461306.0	6939047.0	86.4	8.7	20.0	16.5	7.0	5.8
sr243	461214.0	6939071.0	85.9	8.7	19.9	16.5	7.0	5.8
sr244	461048.0	6939097.0	108.9	9.0	20.3	16.7	7.1	5.9
sr245	460976.0	6939076.0	85.0	9.5	20.9	16.9	7.3	5.9
sr246	461282.0	6938805.0	77.2	8.4	19.6	16.4	6.9	5.8
sr247	461266.0	6938742.0	77.0	8.3	19.5	16.4	6.8	5.8
sr248	461219.0	6938646.0	75.9	8.3	19.5	16.4	6.8	5.8
sr249	461088.0	6938529.0	75.0	8.3	19.5	16.4	6.8	5.8
sr250	461007.0	6938513.0	69.6	8.7	19.8	16.5	6.8	5.8
sr251	460402.0	6938616.0	81.5	8.1	19.1	16.3	6.6	5.7
sr252	460296.0	6938641.0	98.5	11.0	21.9	17.3	7.8	6.1
sr253	460568.0	6938622.0	99.8	11.2	22.0	17.3	7.9	6.1
sr254	460478.0	6938616.0	103.1	12.7	23.1	17.8	8.5	6.2
sr255	460635.0	6938593.0	93.1	9.2	19.9	16.6	7.0	5.8
sr256	460904.0	6938537.0	91.1	8.9	19.7	16.5	7.0	5.8
sr257	460807.0	6938545.0	57.9	8.3	19.3	16.4	6.7	5.8
sr258	460736.0	6938569.0	64.9	8.6	19.6	16.4	6.9	5.8

Pollutant			NO_2		PM_{10}		$PM_{2.5}$	
Averaging time			1 hour	1 year	24 hours	1 year	24 hours	1 year
Statistic			Maximum	Average	Maximum	Average	Maximum	Average
Air quality objective			*250*	*62*	*50*	*25*	*25*	*8*
Background concentration			26.7	7.8	18.7	16.2	6.4	5.7
Maximum predicted result (across all receptors)			175.9	24.4	28.0	21.9	10.8	7.7
Receptor ID	**Coordinate (X, m, GDA Zone 56)**	**Coordinate (Y, m, GDA Zone 56)**	**Cumulative predicted ground level concentration (µg/m³)**					
sr259	459954.0	6938859.0	76.4	9.1	20.0	16.6	7.1	5.8
sr260	459639.0	6938625.0	66.2	8.1	19.1	16.3	6.7	5.7
sr261	460176.0	6938515.0	86.8	9.0	19.5	16.5	6.8	5.8
sr262	460506.0	6938284.0	86.6	9.1	19.5	16.5	6.9	5.8
sr263	458859.0	6935659.0	86.4	9.1	19.5	16.5	6.9	5.8
sr264	459470.0	6935805.0	82.6	8.4	19.3	16.3	6.7	5.7
sr265	459739.0	6935720.0	63.7	8.1	19.1	16.3	6.6	5.7
sr266	459682.0	6935654.0	60.2	8.2	19.2	16.3	6.6	5.7
sr267	459671.0	6935243.0	64.8	9.2	19.5	16.5	6.7	5.8
sr268	459978.0	6935265.0	65.1	9.3	19.5	16.6	6.7	5.8
sr269	460042.0	6935097.0	66.1	9.4	19.6	16.6	6.7	5.8
sr270	459096.0	6935169.0	67.5	9.5	19.6	16.6	6.8	5.8
sr271	460801.0	6936280.0	72.7	9.8	19.9	16.7	6.8	5.9
sr272	460867.0	6935235.0	62.4	8.3	19.3	16.3	6.6	5.7
sr273	460872.0	6935176.0	83.8	9.0	19.5	16.5	7.0	5.8
sr274	460929.0	6935889.0	85.0	8.7	19.5	16.4	6.9	5.8
sr275	461060.0	6936746.0	144.4	9.9	20.7	16.7	7.5	5.9
sr276	452622.0	6939679.0	57.6	8.0	19.2	16.3	6.6	5.7
sr277	468500.0	6937844.0	57.6	8.0	19.3	16.3	6.6	5.7

Pollutant			NO_2		PM_{10}		$PM_{2.5}$	
Averaging time			1 hour	1 year	24 hours	1 year	24 hours	1 year
Statistic			Maximum	Average	Maximum	Average	Maximum	Average
Air quality objective			*250*	*62*	*50*	*25*	*25*	*8*
Background concentration			26.7	7.8	18.7	16.2	6.4	5.7
Maximum predicted result (across all receptors)			175.9	24.4	28.0	21.9	10.8	7.7
Receptor ID	**Coordinate (X, m, GDA Zone 56)**	**Coordinate (Y, m, GDA Zone 56)**	**Cumulative predicted ground level concentration (µg/m³)**					
sr277	468500.0	6937844.0	57.6	8.0	19.2	16.3	6.6	5.7
sr278	468579.0	6937649.0	57.6	8.0	19.1	16.3	6.6	5.7
sr278	468579.0	6937649.0	57.6	8.0	19.1	16.3	6.6	5.7
sr279	468481.0	6937631.0	58.5	8.1	19.4	16.3	6.7	5.7
sr279	468481.0	6937631.0	58.9	8.1	19.2	16.3	6.7	5.7
sr280	468441.0	6937692.0	75.7	14.2	23.6	18.2	8.1	6.4
sr280	468441.0	6937692.0	73.5	9.3	19.9	16.6	7.0	5.9
sr281	468363.0	6937639.0	80.0	9.3	20.2	16.6	7.3	5.8
sr281	468363.0	6937639.0	69.7	8.8	19.9	16.5	7.0	5.8
sr282	468678.0	6937303.0	61.6	8.5	19.5	16.4	6.8	5.8
sr282	468678.0	6937303.0	58.0	8.4	19.4	16.4	6.8	5.8
sr283	462845.0	6934763.0	86.6	9.6	20.5	16.7	7.3	5.9
sr284	462986.0	6934958.0	82.3	9.4	20.3	16.6	7.2	5.9
sr285	463259.0	6934702.0	94.4	10.0	20.7	16.8	7.5	5.9
sr286	461995.0	6934921.0	102.8	10.8	21.2	17.0	7.8	6.0
sr287	462386.0	6935785.0	115.4	12.0	22.3	17.3	8.3	6.1
sr288	462125.0	6935905.0	129.0	13.3	23.3	17.4	9.8	6.2
sr289	463278.0	6935743.0	96.4	8.9	19.8	16.5	7.0	5.8
sr290	462933.0	6935664.0	97.3	8.4	19.6	16.4	6.9	5.8

Pollutant			NO_2		PM_{10}		$PM_{2.5}$	
Averaging time			1 hour	1 year	24 hours	1 year	24 hours	1 year
Statistic			Maximum	Average	Maximum	Average	Maximum	Average
Air quality objective			*250*	*62*	*50*	*25*	*25*	*8*
Background concentration			26.7	7.8	18.7	16.2	6.4	5.7
Maximum predicted result (across all receptors)			175.9	24.4	28.0	21.9	10.8	7.7
Receptor ID	**Coordinate (X, m, GDA Zone 56)**	**Coordinate (Y, m, GDA Zone 56)**	**Cumulative predicted ground level concentration (µg/m³)**					
sr291	463053.0	6935550.0	105.9	11.5	21.2	17.2	7.5	6.1
sr292	463693.0	6934849.0	58.9	8.1	19.0	16.3	6.5	5.7
sr293	463920.0	6934756.0	59.2	8.0	19.0	16.3	6.5	5.7
sr294	464194.0	6934649.0	59.5	8.0	19.0	16.3	6.5	5.7
sr295	468286.0	6934092.0	62.2	8.0	19.1	16.3	6.5	5.7
sr295	468286.0	6934092.0	61.5	7.9	18.9	16.2	6.6	5.7
sr296	469781.0	6930771.0	86.4	8.7	20.2	16.6	7.0	5.8
sr297	470233.0	6930369.0	91.3	9.4	20.8	16.8	7.3	5.9
sr298	470581.0	6930796.0	89.8	8.2	19.5	16.3	6.9	5.7
sr299	470514.0	6930626.0	75.5	7.9	19.1	16.2	6.7	5.7
sr300	471176.0	6930230.0	58.7	7.9	19.2	16.3	6.7	5.7
sr301	473736.0	6927603.0	58.0	7.8	19.0	16.2	6.6	5.7
sr301	473736.0	6927603.0	70.8	8.2	19.6	16.3	6.8	5.7
sr302	473729.0	6927566.0	64.2	8.0	19.2	16.3	6.6	5.7
sr302	473729.0	6927566.0	61.3	8.7	19.4	16.4	6.8	5.8
sr303	473762.0	6927686.0	60.0	8.4	19.3	16.4	6.7	5.8
sr303	473762.0	6927686.0	59.9	8.4	19.3	16.4	6.7	5.8
sr304	473893.0	6928126.0	59.8	8.4	19.3	16.4	6.7	5.8
sr304	473893.0	6928126.0	59.8	8.3	19.2	16.4	6.7	5.8

Pollutant			NO_2		PM_{10}		$PM_{2.5}$	
Averaging time			1 hour	1 year	24 hours	1 year	24 hours	1 year
Statistic			Maximum	Average	Maximum	Average	Maximum	Average
Air quality objective			*250*	*62*	*50*	*25*	*25*	*8*
Background concentration			26.7	7.8	18.7	16.2	6.4	5.7
Maximum predicted result (across all receptors)			175.9	24.4	28.0	21.9	10.8	7.7
Receptor ID	**Coordinate (X, m, GDA Zone 56)**	**Coordinate (Y, m, GDA Zone 56)**	**Cumulative predicted ground level concentration (µg/m³)**					
sr305	474226.0	6928665.0	59.9	8.3	19.2	16.3	6.7	5.8
sr305	474226.0	6928665.0	59.8	8.3	19.2	16.3	6.7	5.7
sr306	474046.0	6928558.0	59.8	8.3	19.2	16.3	6.7	5.7
sr306	474046.0	6928558.0	59.8	8.2	19.2	16.3	6.7	5.7
sr307	474029.0	6928513.0	59.8	8.2	19.2	16.3	6.7	5.7
sr307	474029.0	6928513.0	59.8	8.2	19.2	16.3	6.6	5.7
sr308	474352.0	6928465.0	59.8	8.2	19.2	16.3	6.6	5.7
sr308	474352.0	6928465.0	59.8	8.2	19.1	16.3	6.6	5.7
sr309	474822.0	6928287.0	59.8	8.1	19.1	16.3	6.6	5.7
sr309	474822.0	6928287.0	59.9	8.1	19.1	16.3	6.6	5.7
sr310	473705.0	6928319.0	59.8	8.1	19.1	16.3	6.6	5.7
sr310	473705.0	6928319.0	59.8	8.1	19.1	16.3	6.6	5.7
sr311	473600.0	6928338.0	59.8	8.1	19.1	16.3	6.6	5.7
sr311	473600.0	6928338.0	59.8	8.1	19.1	16.3	6.6	5.7
sr312	473505.0	6928358.0	59.8	8.1	19.1	16.3	6.6	5.7
sr312	473505.0	6928358.0	59.8	8.1	19.1	16.3	6.6	5.7
sr313	473498.0	6928310.0	59.8	8.1	19.1	16.3	6.6	5.7
sr313	473498.0	6928310.0	59.8	8.1	19.1	16.3	6.6	5.7
sr314	471468.0	6931156.0	58.1	8.1	19.0	16.3	6.6	5.7

Pollutant			NO_2		PM_{10}		$PM_{2.5}$	
Averaging time			1 hour	1 year	24 hours	1 year	24 hours	1 year
Statistic			Maximum	Average	Maximum	Average	Maximum	Average
Air quality objective			*250*	*62*	*50*	*25*	*25*	*8*
Background concentration			26.7	7.8	18.7	16.2	6.4	5.7
Maximum predicted result (across all receptors)			175.9	24.4	28.0	21.9	10.8	7.7
Receptor ID	**Coordinate (X, m, GDA Zone 56)**	**Coordinate (Y, m, GDA Zone 56)**	**Cumulative predicted ground level concentration (µg/m³)**					
sr315	471751.0	6929408.0	67.7	7.9	19.4	16.2	6.9	5.7
sr316	475344.0	6928180.0	67.6	7.9	19.1	16.2	6.6	5.7
sr316	475344.0	6928180.0	69.7	7.8	19.2	16.2	6.7	5.7
sr317	475353.0	6928252.0	59.8	7.9	18.9	16.2	6.5	5.7
sr317	475353.0	6928252.0	58.1	7.9	19.1	16.2	6.6	5.7
sr318	475614.0	6928247.0	58.2	7.9	19.2	16.3	6.7	5.7
sr318	475614.0	6928247.0	58.2	7.9	19.1	16.2	6.6	5.7
sr319	474470.0	6931049.0	78.5	9.3	20.3	16.6	7.0	5.8
sr320	474584.0	6930934.0	76.2	10.2	20.2	16.8	6.9	5.9
sr321	474893.0	6931965.0	101.9	9.5	19.9	16.6	7.1	5.8
sr322	474668.0	6931902.0	60.3	8.3	19.5	16.3	6.7	5.7
sr323	474301.0	6931985.0	57.9	7.9	19.0	16.2	6.6	5.7
sr324	462216.0	6935161.0	58.1	7.9	19.2	16.2	6.6	5.7
sr325	462627.0	6938305.0	99.2	8.5	19.4	16.4	6.8	5.8
sr326	462668.0	6938455.0	57.7	8.6	19.7	16.5	6.8	5.8
sr327	462596.0	6938400.0	59.1	9.6	20.9	16.8	7.3	5.9
sr328	462030.0	6935762.0	70.3	8.2	19.4	16.3	6.9	5.7
sr329	462361.0	6935024.0	80.8	8.2	19.8	16.3	7.4	5.7
sr330	460297.0	6935743.0	68.6	11.1	21.4	17.2	7.3	6.1

Pollutant			NO_2		PM_{10}		$PM_{2.5}$	
Averaging time			1 hour	1 year	24 hours	1 year	24 hours	1 year
Statistic			Maximum	Average	Maximum	Average	Maximum	Average
Air quality objective			*250*	*62*	*50*	*25*	*25*	*8*
Background concentration			26.7	7.8	18.7	16.2	6.4	5.7
Maximum predicted result (across all receptors)			175.9	24.4	28.0	21.9	10.8	7.7
Receptor ID	**Coordinate (X, m, GDA Zone 56)**	**Coordinate (Y, m, GDA Zone 56)**	**Cumulative predicted ground level concentration (µg/m³)**					
sr331	461345.0	6938610.0	61.9	8.5	19.4	16.4	6.7	5.8
sr332	461298.0	6938515.0	62.0	7.9	19.1	16.3	6.6	5.8
sr333	461280.0	6938399.0	61.6	7.9	19.1	16.3	6.6	5.7
sr334	461268.0	6938336.0	61.6	8.0	19.2	16.3	6.6	5.7
sr335	461404.0	6938047.0	62.0	8.0	19.3	16.3	6.7	5.7
sr336	460592.0	6936082.0	61.7	8.0	19.3	16.3	6.7	5.7
sr337	463374.0	6938503.0	61.6	8.0	19.4	16.3	6.7	5.7
sr338	463710.0	6938709.0	78.1	13.6	24.9	17.9	8.6	6.4
sr339	463283.0	6936147.0	73.0	10.5	22.8	17.0	8.0	6.0
sr340	470918.0	6936024.0	61.3	8.9	20.6	16.5	7.1	5.8
sr340	470918.0	6936024.0	76.4	18.7	24.1	19.1	8.3	6.7
sr341	470876.0	6936185.0	72.1	14.4	21.6	17.8	7.4	6.3
sr341	470876.0	6936185.0	72.7	13.2	22.6	17.6	7.8	6.2
sr342	471118.0	6935401.0	61.9	8.8	19.2	16.5	6.6	5.8
sr342	471118.0	6935401.0	69.4	10.3	19.9	16.8	6.9	5.9
sr343	471308.0	6935409.0	96.1	7.9	19.1	16.2	6.8	5.7
sr343	471308.0	6935409.0	91.8	7.9	19.1	16.2	6.7	5.7
sr344	471284.0	6935600.0	72.9	7.9	19.0	16.2	6.7	5.7
sr344	471284.0	6935600.0	82.0	12.7	21.7	18.7	7.7	6.6

Pollutant			NO_2		PM_{10}		$PM_{2.5}$	
Averaging time			1 hour	1 year	24 hours	1 year	24 hours	1 year
Statistic			Maximum	Average	Maximum	Average	Maximum	Average
Air quality objective			*250*	*62*	*50*	*25*	*25*	*8*
Background concentration			26.7	7.8	18.7	16.2	6.4	5.7
Maximum predicted result (across all receptors)			175.9	24.4	28.0	21.9	10.8	7.7
Receptor ID	**Coordinate (X, m, GDA Zone 56)**	**Coordinate (Y, m, GDA Zone 56)**	**Cumulative predicted ground level concentration (µg/m³)**					
sr345	470865.0	6933853.0	80.7	12.3	21.5	18.4	7.9	6.5
sr345	470865.0	6933853.0	107.1	9.5	22.2	16.5	9.3	5.8
sr346	471376.0	6933757.0	96.4	13.7	22.1	18.7	8.5	6.5
sr346	471376.0	6933757.0	148.8	9.6	20.2	16.6	7.3	5.8
sr347	469889.0	6933130.0	115.4	13.4	23.4	17.3	9.7	6.1
sr348	472622.0	6932434.0	113.8	10.6	20.5	16.8	7.5	5.9
sr349	473786.0	6932399.0	91.5	9.2	20.2	16.5	7.4	5.8
sr350	474428.0	6932103.0	91.1	8.7	20.1	16.4	7.5	5.8
sr351	474754.0	6932116.0	80.3	9.0	19.4	16.5	6.8	5.8
sr352	474787.0	6931730.0	70.7	9.7	19.9	16.6	6.8	5.9
sr353	474255.0	6931534.0	69.4	9.3	19.6	16.6	6.7	5.8
sr354	474334.0	6931420.0	74.3	19.0	23.7	19.1	8.2	6.7
sr355	474166.0	6931200.0	61.0	9.3	20.5	16.6	7.2	5.8
sr356	474056.0	6931023.0	73.1	18.1	24.1	18.8	8.4	6.6
sr357	473456.0	6930777.0	71.7	16.0	23.1	18.2	8.0	6.4
sr358	473836.0	6930529.0	70.5	13.8	24.4	17.7	8.4	6.2
sr359	474703.0	6930275.0	86.5	16.1	24.4	18.9	8.5	6.6
sr360	474892.0	6930422.0	89.4	18.3	25.3	19.7	8.8	6.9
sr361	474535.0	6929140.0	100.0	13.9	24.2	18.1	8.6	6.4

Pollutant			NO_2		PM_{10}		$PM_{2.5}$	
Averaging time			1 hour	1 year	24 hours	1 year	24 hours	1 year
Statistic			Maximum	Average	Maximum	Average	Maximum	Average
Air quality objective			*250*	*62*	*50*	*25*	*25*	*8*
Background concentration			26.7	7.8	18.7	16.2	6.4	5.7
Maximum predicted result (across all receptors)			175.9	24.4	28.0	21.9	10.8	7.7
Receptor ID	Coordinate (X, m, GDA Zone 56)	Coordinate (Y, m, GDA Zone 56)	Cumulative predicted ground level concentration ($\mu g/m^3$)					
sr362	467289.0	6932941.0	78.9	8.6	20.4	16.5	7.2	5.8
sr363	468394.0	6930615.0	73.9	8.4	20.0	16.4	7.0	5.8
sr364	469776.0	6929816.0	70.2	8.1	19.5	16.3	6.8	5.7
sr365	470860.0	6930024.0	70.4	8.0	19.3	16.3	6.8	5.7
sr366	476513.0	6931073.0	115.6	13.0	22.2	17.6	8.5	6.2
sr367	474458.0	6928140.0	112.0	24.4	28.0	21.9	9.9	7.7
sr367	474458.0	6928140.0	116.7	21.1	26.6	20.6	9.4	7.2
sr368	474744.0	6928329.0	110.0	9.7	20.7	16.8	7.2	5.9
sr368	474744.0	6928329.0	109.3	9.6	20.6	16.8	7.2	5.9
sr369	476137.0	6929222.0	108.7	9.4	20.6	16.8	7.2	5.9
sr370	476750.0	6929396.0	104.5	9.3	20.5	16.7	7.1	5.9
sr371	477058.0	6927241.0	90.9	9.1	20.3	16.6	7.1	5.9
sr371	477058.0	6927241.0	95.6	9.1	20.3	16.6	7.1	5.9
sr372	478540.0	6927156.0	90.1	10.3	20.8	16.9	7.3	5.9
sr372	478540.0	6927156.0	106.5	12.6	22.0	17.6	8.0	6.2
sr373	476661.0	6927950.0	106.8	12.7	22.2	17.6	7.9	6.2
sr373	476661.0	6927950.0	103.3	10.6	21.5	17.0	7.8	6.0
sr374	473806.0	6926795.0	103.4	10.9	21.8	17.1	7.9	6.0
sr374	473806.0	6926795.0	121.7	13.1	23.3	17.4	9.8	6.1

Pollutant			NO_2		PM_{10}		$PM_{2.5}$	
Averaging time			1 hour	1 year	24 hours	1 year	24 hours	1 year
Statistic			Maximum	Average	Maximum	Average	Maximum	Average
Air quality objective			*250*	*62*	*50*	*25*	*25*	*8*
Background concentration			26.7	7.8	18.7	16.2	6.4	5.7
Maximum predicted result (across all receptors)			175.9	24.4	28.0	21.9	10.8	7.7
Receptor ID	**Coordinate (X, m, GDA Zone 56)**	**Coordinate (Y, m, GDA Zone 56)**	**Cumulative predicted ground level concentration (µg/m³)**					
sr375	474441.0	6925084.0	64.7	8.1	19.2	16.3	6.6	5.7
sr375	474441.0	6925084.0	68.1	8.4	19.5	16.4	6.7	5.8
sr376	474285.0	6925118.0	69.6	8.6	19.9	16.5	6.8	5.8
sr376	474285.0	6925118.0	68.7	8.4	19.7	16.4	6.8	5.8
sr377	474259.0	6925124.0	64.1	8.2	19.4	16.3	6.7	5.7
sr377	474259.0	6925124.0	68.0	8.4	19.8	16.4	6.8	5.8
sr378	474231.0	6925130.0	70.6	9.2	20.9	16.7	7.1	5.9
sr378	474231.0	6925130.0	84.6	12.0	23.9	17.6	8.2	6.2
sr379	474205.0	6925134.0	85.5	15.7	24.0	18.7	8.2	6.6
sr379	474205.0	6925134.0	76.6	15.5	24.0	18.7	8.2	6.5
sr380	474173.0	6925139.0	64.9	10.8	21.0	17.1	7.2	6.0
sr380	474173.0	6925139.0	64.7	9.8	20.1	16.8	6.9	5.9
sr381	474148.0	6925139.0	62.4	9.4	19.8	16.7	6.8	5.9
sr381	474148.0	6925139.0	60.9	8.9	19.6	16.6	6.7	5.8
sr382	474122.0	6925143.0	58.2	8.1	19.3	16.3	6.7	5.7
sr382	474122.0	6925143.0	61.4	10.1	21.0	16.9	7.2	6.0
sr383	474089.0	6925150.0	60.6	9.3	20.3	16.7	7.0	5.9
sr383	474089.0	6925150.0	58.0	8.7	20.1	16.5	7.0	5.8
sr384	474059.0	6925153.0	58.0	8.8	20.1	16.6	7.0	5.8

Pollutant			NO_2		PM_{10}		$PM_{2.5}$	
Averaging time			1 hour	1 year	24 hours	1 year	24 hours	1 year
Statistic			Maximum	Average	Maximum	Average	Maximum	Average
Air quality objective			*250*	*62*	*50*	*25*	*25*	*8*
Background concentration			26.7	7.8	18.7	16.2	6.4	5.7
Maximum predicted result (across all receptors)			175.9	24.4	28.0	21.9	10.8	7.7
Receptor ID	**Coordinate (X, m, GDA Zone 56)**	**Coordinate (Y, m, GDA Zone 56)**	**Cumulative predicted ground level concentration (µg/m³)**					
sr384	474059.0	6925153.0	59.4	8.6	19.7	16.5	6.8	5.8
sr385	474034.0	6925155.0	59.4	8.5	19.6	16.4	6.8	5.8
sr385	474034.0	6925155.0	91.3	11.1	23.5	17.2	8.3	6.1
sr386	474013.0	6925165.0	100.6	9.1	21.1	16.6	7.7	5.8
sr386	474013.0	6925165.0	94.3	9.9	22.6	16.8	8.6	5.9
sr387	473984.0	6925166.0	114.7	12.6	25.1	17.5	9.7	6.2
sr387	473984.0	6925166.0	110.3	18.8	26.4	19.2	9.4	6.7
sr388	473949.0	6925150.0	98.1	10.8	21.1	17.0	7.5	6.0
sr388	473949.0	6925150.0	59.3	9.5	20.4	16.8	7.0	5.9
sr389	473893.0	6925331.0	175.9	17.6	26.4	18.7	10.8	6.6
sr389	473893.0	6925331.0	115.2	11.0	21.1	16.9	7.8	6.0
sr390	473939.0	6925113.0	113.2	11.1	20.8	17.0	7.6	6.0
sr390	473939.0	6925113.0	133.7	20.6	28.0	20.0	9.7	7.0
sr391	473934.0	6925090.0	109.2	17.9	24.4	18.8	8.4	6.6
sr391	473934.0	6925090.0	105.8	17.4	24.1	18.7	8.3	6.5
sr392	473936.0	6925053.0	107.0	18.3	24.7	18.9	8.5	6.6
sr392	473936.0	6925053.0	79.8	9.9	19.8	16.7	6.9	5.9
sr393	473930.0	6925029.0	98.6	16.7	24.5	18.6	8.4	6.5
sr393	473930.0	6925029.0	86.2	13.5	22.4	17.7	7.7	6.2

Pollutant			NO_2		PM_{10}		$PM_{2.5}$	
Averaging time			1 hour	1 year	24 hours	1 year	24 hours	1 year
Statistic			Maximum	Average	Maximum	Average	Maximum	Average
Air quality objective			*250*	*62*	*50*	*25*	*25*	*8*
Background concentration			26.7	7.8	18.7	16.2	6.4	5.7
Maximum predicted result (across all receptors)			175.9	24.4	28.0	21.9	10.8	7.7
Receptor ID	**Coordinate (X, m, GDA Zone 56)**	**Coordinate (Y, m, GDA Zone 56)**	**Cumulative predicted ground level concentration (µg/m³)**					
sr394	473936.0	6924999.0	73.6	9.8	19.8	16.7	6.9	5.9
sr394	473936.0	6924999.0	77.1	9.9	19.9	16.7	6.9	5.9
sr395	473936.0	6924971.0	77.6	10.4	20.3	16.8	7.0	5.9
sr395	473936.0	6924971.0	78.7	11.1	20.9	17.0	7.2	6.0
sr396	473935.0	6924942.0	77.5	13.0	22.0	17.5	7.6	6.1
sr396	473935.0	6924942.0	79.0	11.7	21.3	17.2	7.3	6.0
sr397	473937.0	6924916.0	100.2	14.1	25.6	18.0	8.8	6.3
sr397	473937.0	6924916.0	82.4	12.8	22.0	17.5	7.6	6.1
sr398	474181.0	6922406.0	80.8	13.2	22.4	17.6	7.7	6.2
sr399	479997.0	6920735.0	79.9	12.6	21.9	17.4	7.5	6.1
sr399	479997.0	6920735.0	87.5	17.0	25.1	18.7	8.6	6.6
sr400	479560.0	6916738.0	77.9	15.4	23.8	18.2	8.2	6.4
sr400	479560.0	6916738.0	100.4	19.7	26.6	19.4	9.2	6.8
sr401	478164.0	6916508.0	64.0	9.2	19.6	16.6	6.7	5.8
sr401	478164.0	6916508.0	64.5	10.8	20.4	16.9	7.0	5.9
sr402	483771.0	6914642.0	73.2	14.3	22.3	17.8	7.7	6.3
sr403	477584.0	6927391.0	68.0	9.0	19.9	16.5	6.8	5.8
sr403	477584.0	6927391.0	71.3	12.1	21.4	17.3	7.3	6.1
sr404	477332.0	6927227.0	72.4	13.8	23.1	17.7	7.9	6.2

Pollutant			NO_2		PM_{10}		$PM_{2.5}$	
Averaging time			1 hour	1 year	24 hours	1 year	24 hours	1 year
Statistic			Maximum	Average	Maximum	Average	Maximum	Average
Air quality objective			*250*	*62*	*50*	*25*	*25*	*8*
Background concentration			26.7	7.8	18.7	16.2	6.4	5.7
Maximum predicted result (across all receptors)			175.9	24.4	28.0	21.9	10.8	7.7
Receptor ID	**Coordinate (X, m, GDA Zone 56)**	**Coordinate (Y, m, GDA Zone 56)**	**Cumulative predicted ground level concentration (µg/m³)**					
sr404	477332.0	6927227.0	65.1	11.4	20.7	17.1	7.1	6.0
sr405	477493.0	6927028.0	76.6	12.0	22.9	17.3	7.9	6.1
sr405	477493.0	6927028.0	69.0	9.6	20.0	16.6	6.9	5.8
sr406	460797.0	6936774.0	72.3	13.2	22.5	17.6	7.7	6.2
sr407	461382.0	6937824.0	63.7	10.3	20.4	16.8	7.0	5.9
sr408	462726.0	6937930.0	59.0	9.3	19.8	16.6	6.8	5.8
sr409	459741.0	6935849.0	61.8	10.2	20.3	16.8	7.0	5.9
sr410	477542.0	6928482.0	61.0	8.7	19.8	16.4	6.8	5.8
sr410	477542.0	6928482.0	59.6	9.8	19.9	16.7	6.8	5.9
sr411	477425.0	6927638.0	64.6	9.1	20.1	16.5	6.9	5.8
sr411	477425.0	6927638.0	59.4	8.2	19.2	16.3	6.6	5.7
sr412	463227.0	6935528.0	60.3	10.1	20.2	16.8	6.9	5.9
sr413	468908.0	6938043.0	66.7	9.2	20.2	16.5	6.9	5.8
sr413	468908.0	6938043.0	61.2	8.9	19.5	16.5	6.7	5.8
sr414	469833.0	6935062.0	60.0	8.4	19.2	16.4	6.6	5.8
sr414	469833.0	6935062.0	60.3	8.6	19.3	16.4	6.6	5.8
sr415	478522.0	6921876.0	59.9	8.5	19.2	16.4	6.6	5.8
sr415	478522.0	6921876.0	66.5	8.5	19.6	16.4	6.9	5.8
sr416	478757.0	6921681.0	71.8	9.2	19.9	16.6	7.1	5.8

Pollutant			NO_2		PM_{10}		$PM_{2.5}$	
Averaging time			1 hour	1 year	24 hours	1 year	24 hours	1 year
Statistic			Maximum	Average	Maximum	Average	Maximum	Average
Air quality objective			*250*	*62*	*50*	*25*	*25*	*8*
Background concentration			26.7	7.8	18.7	16.2	6.4	5.7
Maximum predicted result (across all receptors)			175.9	24.4	28.0	21.9	10.8	7.7
Receptor ID	**Coordinate (X, m, GDA Zone 56)**	**Coordinate (Y, m, GDA Zone 56)**	**Cumulative predicted ground level concentration (µg/m³)**					
sr416	478757.0	6921681.0	73.0	9.2	19.9	16.6	7.0	5.8
sr417	470040.0	6933180.0	69.5	9.1	19.7	16.6	7.0	5.8
sr418	471129.0	6932878.0	58.9	8.6	19.4	16.4	6.8	5.8
sr419	493140.6	6916474.0	59.9	8.2	19.1	16.3	6.6	5.7
sr420	493197.8	6916623.0	58.3	8.2	19.1	16.3	6.6	5.7
sr421	493188.9	6916755.0	58.1	8.2	19.1	16.3	6.6	5.7
sr422	493109.4	6917000.0	70.6	10.7	20.6	17.1	7.1	6.0
sr423	493144.6	6917075.0	71.4	11.6	21.4	17.4	7.3	6.1
sr424	493193.0	6917329.0	69.0	11.0	20.8	17.2	7.1	6.0
sr425	492129.7	6918017.0	60.5	8.5	19.4	16.4	6.6	5.8
sr426	491847.6	6917776.0	59.8	8.3	19.4	16.4	6.7	5.8
sr427	491600.8	6917482.0	59.4	8.1	19.3	16.3	6.7	5.7
sr428	490431.5	6918297.0	58.6	8.1	19.4	16.3	6.7	5.7
sr429	490590.1	6918516.0	58.8	8.1	19.3	16.3	6.7	5.7
sr430	492896.3	6919308.0	58.8	8.2	19.4	16.4	6.7	5.8
sr431	491664.6	6920843.0	58.7	8.1	19.2	16.3	6.7	5.7
sr432	489389.4	6919582.0	58.2	8.0	19.2	16.3	6.6	5.7
sr433	477592.6	6917092.0	58.0	8.0	19.2	16.3	6.7	5.7
sr433	477592.6	6917092.0	57.8	8.0	19.2	16.3	6.6	5.7

Pollutant			NO_2		PM_{10}		$PM_{2.5}$	
Averaging time			1 hour	1 year	24 hours	1 year	24 hours	1 year
Statistic			Maximum	Average	Maximum	Average	Maximum	Average
Air quality objective			*250*	*62*	*50*	*25*	*25*	*8*
Background concentration			26.7	7.8	18.7	16.2	6.4	5.7
Maximum predicted result (across all receptors)			175.9	24.4	28.0	21.9	10.8	7.7
Receptor ID	**Coordinate (X, m, GDA Zone 56)**	**Coordinate (Y, m, GDA Zone 56)**	**Cumulative predicted ground level concentration (µg/m³)**					
sr434	477399.1	6917300.0	57.9	8.1	19.3	16.3	6.7	5.7
sr435	477012.9	6917366.0	57.7	8.0	19.2	16.3	6.6	5.7
sr436	478704.2	6919808.0	57.7	8.0	19.2	16.3	6.6	5.7
sr436	478704.2	6919808.0	57.7	8.0	19.2	16.3	6.6	5.7
sr437	478536.1	6919975.0	57.7	8.1	19.3	16.3	6.7	5.7
sr437	478536.1	6919975.0	57.8	8.1	19.3	16.3	6.7	5.7
sr438	477495.8	6919505.0	57.7	8.1	19.3	16.3	6.7	5.7
sr438	477495.8	6919505.0	65.9	9.2	19.7	16.6	6.9	5.8
sr439	477989.9	6920157.0	65.8	8.8	19.5	16.5	6.7	5.8
sr439	477989.9	6920157.0	60.3	8.4	19.3	16.4	6.7	5.8
sr440	477167.9	6919730.0	59.2	8.6	19.5	16.4	6.8	5.8
sr441	477174.8	6920557.0	64.4	8.8	19.7	16.5	6.9	5.8
sr442	476031.6	6921173.0	69.5	8.8	19.8	16.5	7.0	5.8
sr443	477206.1	6921668.0	61.7	8.0	19.0	16.2	6.6	5.7
sr444	477288.5	6922562.0	62.7	8.0	19.1	16.3	6.7	5.7
sr445	475575.6	6922416.0	62.5	8.0	19.1	16.2	6.6	5.7
sr446	475541.2	6922784.0	62.8	8.0	19.1	16.3	6.7	5.7
sr447	475356.3	6922884.0	79.6	8.2	19.6	16.3	6.9	5.7
sr448	475581.5	6923628.0	94.2	8.0	19.4	16.3	6.9	5.7

Pollutant			NO_2		PM_{10}		$PM_{2.5}$	
Averaging time			1 hour	1 year	24 hours	1 year	24 hours	1 year
Statistic			Maximum	Average	Maximum	Average	Maximum	Average
Air quality objective			*250*	*62*	*50*	*25*	*25*	*8*
Background concentration			26.7	7.8	18.7	16.2	6.4	5.7
Maximum predicted result (across all receptors)			175.9	24.4	28.0	21.9	10.8	7.7
Receptor ID	**Coordinate (X, m, GDA Zone 56)**	**Coordinate (Y, m, GDA Zone 56)**	**Cumulative predicted ground level concentration (µg/m³)**					
sr448	475581.5	6923628.0	81.5	8.0	19.2	16.3	6.8	5.7
sr449	475906.4	6924965.0	57.9	7.9	19.0	16.2	6.6	5.7
sr449	475906.4	6924965.0	61.2	8.0	19.2	16.3	6.6	5.7
sr450	475545.7	6924764.0	61.2	8.1	19.2	16.3	6.6	5.7
sr450	475545.7	6924764.0	60.8	8.0	19.2	16.3	6.6	5.7
sr451	475511.2	6925182.0	61.8	8.1	19.2	16.3	6.7	5.7
sr451	475511.2	6925182.0	62.6	8.1	19.3	16.3	6.7	5.7
sr452	475754.5	6925324.0	62.8	8.2	19.3	16.3	6.7	5.8
sr452	475754.5	6925324.0	62.7	8.1	19.3	16.3	6.7	5.7
sr453	475876.1	6927464.0	61.1	8.0	19.2	16.3	6.6	5.7
sr453	475876.1	6927464.0	64.3	8.2	19.4	16.4	6.7	5.8
sr454	475884.4	6927597.0	72.1	8.2	19.5	16.4	6.8	5.8
sr454	475884.4	6927597.0	81.5	8.3	19.6	16.5	6.9	5.8
sr455	475958.9	6928149.0	79.6	8.4	19.7	16.5	6.9	5.8
sr455	475958.9	6928149.0	82.9	8.4	19.7	16.5	6.9	5.8
sr456	476379.4	6927866.0	75.5	8.3	19.4	16.4	6.8	5.8
sr456	476379.4	6927866.0	75.1	8.3	19.4	16.4	6.8	5.8
sr457	476480.2	6927883.0	97.5	8.7	19.8	16.5	7.0	5.8
sr457	476480.2	6927883.0	102.4	8.9	20.1	16.5	7.2	5.8

Pollutant			NO_2		PM_{10}		$PM_{2.5}$	
Averaging time			1 hour	1 year	24 hours	1 year	24 hours	1 year
Statistic			Maximum	Average	Maximum	Average	Maximum	Average
Air quality objective			*250*	*62*	*50*	*25*	*25*	*8*
Background concentration			26.7	7.8	18.7	16.2	6.4	5.7
Maximum predicted result (across all receptors)			175.9	24.4	28.0	21.9	10.8	7.7
Receptor ID	**Coordinate (X, m, GDA Zone 56)**	**Coordinate (Y, m, GDA Zone 56)**	**Cumulative predicted ground level concentration (µg/m³)**					
sr458	476681.4	6928142.0	60.9	8.1	19.2	16.3	6.6	5.7
sr458	476681.4	6928142.0	60.8	8.1	19.2	16.3	6.6	5.7
sr459	476790.3	6928335.0	61.0	8.2	19.2	16.3	6.7	5.7
sr459	476790.3	6928335.0	61.1	8.2	19.2	16.3	6.7	5.7
sr460	474511.3	6929291.0	61.2	8.2	19.2	16.3	6.7	5.7
sr461	474611.2	6929743.0	61.7	8.2	19.3	16.3	6.7	5.7
sr462	474451.3	6929868.0	79.0	8.2	19.7	16.3	7.2	5.7
sr463	474431.7	6928892.0	76.2	8.3	19.9	16.3	7.4	5.7
sr463	474431.7	6928892.0	58.8	7.9	19.1	16.2	6.7	5.7
sr464	474376.1	6928894.0	64.2	7.9	19.4	16.3	6.9	5.7
sr464	474376.1	6928894.0	77.6	8.3	20.0	17.3	7.5	6.1
sr465	474329.7	6928899.0	71.7	13.3	21.1	17.5	7.3	6.2
sr465	474329.7	6928899.0	64.8	8.4	19.1	16.4	6.6	5.8
sr466	474250.8	6928912.0	63.0	8.4	19.1	16.4	6.6	5.8
sr466	474250.8	6928912.0	64.5	9.5	19.4	16.6	6.7	5.9
sr467	474090.7	6928960.0	60.3	8.0	19.1	16.3	6.6	5.7
sr467	474090.7	6928960.0	60.7	8.1	19.2	16.3	6.6	5.7
sr468	474086.1	6928923.0	59.9	8.0	19.1	16.3	6.6	5.7
sr468	474086.1	6928923.0	60.1	8.0	19.1	16.3	6.6	5.7

Pollutant			NO_2		PM_{10}		$PM_{2.5}$	
Averaging time			1 hour	1 year	24 hours	1 year	24 hours	1 year
Statistic			Maximum	Average	Maximum	Average	Maximum	Average
Air quality objective			*250*	*62*	*50*	*25*	*25*	*8*
Background concentration			26.7	7.8	18.7	16.2	6.4	5.7
Maximum predicted result (across all receptors)			175.9	24.4	28.0	21.9	10.8	7.7
Receptor ID	**Coordinate (X, m, GDA Zone 56)**	**Coordinate (Y, m, GDA Zone 56)**	**Cumulative predicted ground level concentration (µg/m³)**					
sr469	474066.2	6929549.0	59.8	7.9	19.0	16.2	6.5	5.7
sr470	474332.6	6929678.0	59.8	7.9	19.0	16.2	6.6	5.7
sr471	474318.7	6929704.0	59.7	7.9	18.9	16.2	6.5	5.7
sr472	473912.4	6929864.0	59.8	7.9	19.0	16.2	6.5	5.7
sr473	473909.9	6929950.0	59.5	7.9	18.9	16.2	6.5	5.7
sr474	473757.6	6930669.0	59.9	7.9	19.0	16.2	6.6	5.7
sr475	470969.3	6930720.0	60.2	7.9	19.0	16.2	6.6	5.7
sr476	471171.5	6931121.0	60.1	7.9	19.0	16.2	6.6	5.7
sr477	470892.8	6931331.0	59.9	7.9	19.0	16.2	6.5	5.7
sr478	470857.6	6931247.0	136.3	8.8	20.0	16.4	7.0	5.8
sr479	470619.8	6930996.0	87.6	8.1	19.3	16.3	6.8	5.7
sr480	470535.4	6931216.0	60.9	8.0	19.1	16.2	6.6	5.7
sr481	470464.1	6931497.0	60.5	7.9	19.0	16.2	6.6	5.7
sr482	470560.6	6931747.0	59.9	7.9	18.9	16.2	6.6	5.7
sr483	470166.1	6932366.0	59.8	7.9	18.9	16.2	6.6	5.7
sr484	470033.1	6932572.0	92.3	8.3	19.5	16.3	6.9	5.7
sr485	470297.7	6932708.0	110.4	11.8	21.5	17.1	7.5	6.0
sr486	470863.4	6932556.0	68.0	8.1	19.1	16.3	6.6	5.7
sr487	470725.9	6932793.0	72.7	8.2	19.1	16.3	6.7	5.7

Pollutant			NO_2		PM_{10}		$PM_{2.5}$	
Averaging time			1 hour	1 year	24 hours	1 year	24 hours	1 year
Statistic			Maximum	Average	Maximum	Average	Maximum	Average
Air quality objective			*250*	*62*	*50*	*25*	*25*	*8*
Background concentration			26.7	7.8	18.7	16.2	6.4	5.7
Maximum predicted result (across all receptors)			175.9	24.4	28.0	21.9	10.8	7.7
Receptor ID	**Coordinate (X, m, GDA Zone 56)**	**Coordinate (Y, m, GDA Zone 56)**	**Cumulative predicted ground level concentration (µg/m³)**					
sr488	470721.0	6932991.0	73.1	8.3	19.2	16.3	6.7	5.7
sr489	470886.6	6933986.0	65.0	8.1	19.1	16.3	6.6	5.7
sr489	470886.6	6933986.0	66.9	8.4	19.2	16.3	6.7	5.7
sr490	470005.2	6933508.0	69.8	8.5	19.2	16.3	6.7	5.8
sr490	470005.2	6933508.0	59.8	8.5	19.2	16.4	6.6	5.8
sr491	470139.6	6933541.0	99.9	15.8	23.7	18.1	8.1	6.4
sr491	470139.6	6933541.0	58.3	8.1	19.0	16.3	6.5	5.7
sr492	470120.5	6934461.0	58.6	8.2	19.0	16.3	6.6	5.7
sr492	470120.5	6934461.0	57.9	8.1	18.9	16.3	6.5	5.7
sr493	470112.3	6934352.0	57.9	8.1	18.9	16.3	6.5	5.7
sr493	470112.3	6934352.0	59.3	8.4	19.1	16.3	6.6	5.7
sr494	470543.4	6933383.0	60.4	8.1	19.0	16.3	6.6	5.7
sr494	470543.4	6933383.0	64.1	8.2	19.1	16.3	6.6	5.7
sr495	470636.0	6933359.0	64.3	8.2	19.1	16.3	6.6	5.7
sr495	470636.0	6933359.0	61.0	8.1	19.1	16.3	6.6	5.7
sr496	467713.1	6935651.0	62.1	8.1	19.1	16.3	6.6	5.7
sr496	467713.1	6935651.0	61.7	8.1	19.1	16.3	6.6	5.7
sr497	467108.6	6935356.0	65.8	8.7	19.3	16.4	6.7	5.8
sr497	467108.6	6935356.0	60.0	8.1	19.1	16.3	6.6	5.7

Pollutant			NO_2		PM_{10}		$PM_{2.5}$	
Averaging time			1 hour	1 year	24 hours	1 year	24 hours	1 year
Statistic			Maximum	Average	Maximum	Average	Maximum	Average
Air quality objective			*250*	*62*	*50*	*25*	*25*	*8*
Background concentration			26.7	7.8	18.7	16.2	6.4	5.7
Maximum predicted result (across all receptors)			175.9	24.4	28.0	21.9	10.8	7.7
Receptor ID	**Coordinate (X, m, GDA Zone 56)**	**Coordinate (Y, m, GDA Zone 56)**	**Cumulative predicted ground level concentration (µg/m³)**					
sr498	467208.8	6935616.0	60.6	8.3	19.3	16.4	6.7	5.8
sr498	467208.8	6935616.0	61.0	8.3	19.3	16.4	6.7	5.8
sr499	467014.6	6935942.0	60.9	8.7	19.6	16.5	6.8	5.8
sr499	467014.6	6935942.0	58.3	8.8	19.5	16.5	6.7	5.8
sr500	467199.2	6936067.0	57.7	8.1	18.9	16.3	6.5	5.7
sr500	467199.2	6936067.0	57.6	8.0	18.9	16.3	6.5	5.7
sr501	467214.3	6936728.0	57.9	8.2	19.0	16.3	6.5	5.7
sr501	467214.3	6936728.0	57.6	8.0	18.9	16.3	6.5	5.7
sr502	468296.9	6937475.0	57.6	7.9	18.9	16.2	6.5	5.7
sr502	468296.9	6937475.0	57.6	8.1	18.9	16.3	6.5	5.7
sr503	463952.4	6936569.0	58.4	8.3	19.1	16.3	6.5	5.7
sr504	463639.5	6937170.0	57.8	7.9	18.9	16.2	6.5	5.7
sr505	463454.1	6937311.0	57.8	7.9	18.9	16.2	6.5	5.7
sr506	463607.5	6936643.0	58.2	8.6	19.3	16.4	6.6	5.8
sr507	463312.9	6936726.0	58.5	9.0	19.5	16.5	6.7	5.8
sr508	463026.9	6936775.0	58.1	8.6	19.2	16.4	6.6	5.8
sr509	462883.9	6936783.0	58.0	8.4	19.1	16.4	6.5	5.8
sr510	461896.4	6937984.0	70.1	9.7	20.3	16.7	6.9	5.9
sr511	461890.9	6937072.0	60.4	10.2	19.9	16.8	6.8	5.9

Pollutant			NO_2		PM_{10}		$PM_{2.5}$	
Averaging time			1 hour	1 year	24 hours	1 year	24 hours	1 year
Statistic			Maximum	Average	Maximum	Average	Maximum	Average
Air quality objective			*250*	*62*	*50*	*25*	*25*	*8*
Background concentration			26.7	7.8	18.7	16.2	6.4	5.7
Maximum predicted result (across all receptors)			175.9	24.4	28.0	21.9	10.8	7.7
Receptor ID	**Coordinate (X, m, GDA Zone 56)**	**Coordinate (Y, m, GDA Zone 56)**	**Cumulative predicted ground level concentration (µg/m³)**					
sr512	461768.1	6937255.0	59.1	9.5	19.7	16.6	6.7	5.8
sr513	461629.3	6937883.0	59.9	10.0	19.9	16.8	6.8	5.9
sr514	461604.0	6937804.0	60.0	10.1	19.9	16.8	6.8	5.9
sr515	461392.9	6937771.0	76.0	9.2	20.2	16.6	7.1	5.8
sr516	461337.7	6937607.0	79.4	10.5	20.9	16.9	7.4	6.0
sr517	461134.1	6937403.0	63.5	11.0	20.4	17.0	7.0	6.0
sr518	461324.1	6937517.0	57.6	8.0	19.2	16.3	6.6	5.7
sr519	461639.2	6936934.0	57.6	8.0	19.2	16.3	6.6	5.7
sr520	461663.5	6937320.0	57.6	8.0	19.2	16.3	6.6	5.7
sr521	461568.5	6937292.0	57.6	8.0	19.2	16.3	6.6	5.7
sr522	461424.3	6937379.0	57.6	8.1	19.4	16.4	6.7	5.8
sr523	461415.8	6937139.0	59.1	9.4	19.7	16.6	6.8	5.8
sr524	461141.5	6937272.0	58.8	9.3	19.7	16.6	6.7	5.8
sr525	461181.6	6937048.0	57.6	7.9	18.9	16.2	6.5	5.7
sr526	460316.2	6938117.0	57.6	8.3	19.6	16.4	6.8	5.8
sr527	458622.6	6938603.0	57.6	7.9	18.8	16.2	6.4	5.7
sr528	458541.2	6937834.0	57.6	7.9	18.8	16.2	6.4	5.7
sr529	457831.4	6937419.0	57.6	8.0	18.9	16.2	6.5	5.7
sr530	458216.9	6938356.0	57.6	8.0	18.9	16.3	6.5	5.7

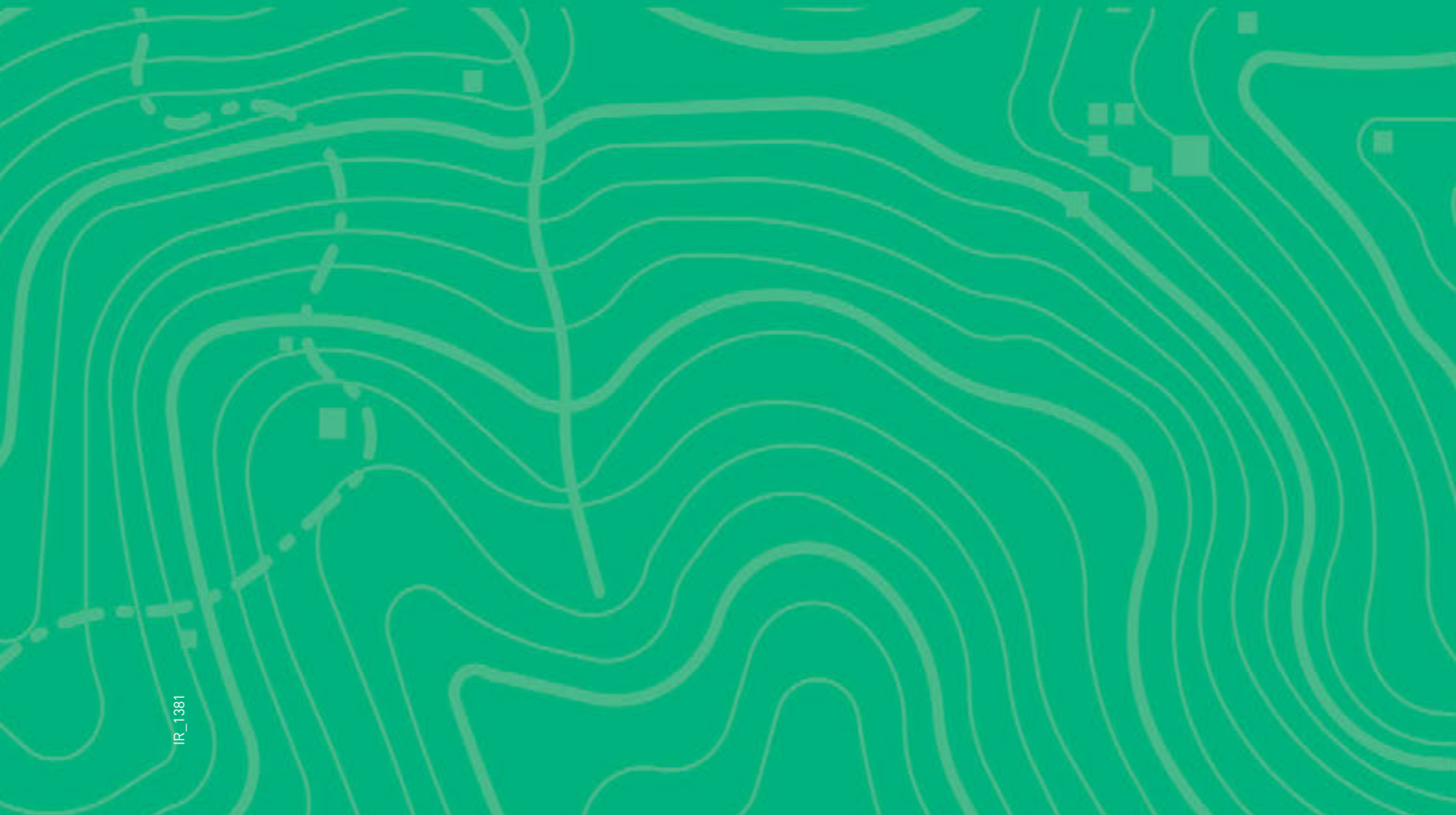
Pollutant			NO_2		PM_{10}		$PM_{2.5}$	
Averaging time			1 hour	1 year	24 hours	1 year	24 hours	1 year
Statistic			Maximum	Average	Maximum	Average	Maximum	Average
Air quality objective			*250*	*62*	*50*	*25*	*25*	*8*
Background concentration			26.7	7.8	18.7	16.2	6.4	5.7
Maximum predicted result (across all receptors)			175.9	24.4	28.0	21.9	10.8	7.7
Receptor ID	**Coordinate (X, m, GDA Zone 56)**	**Coordinate (Y, m, GDA Zone 56)**	**Cumulative predicted ground level concentration (µg/m³)**					
sr531	458191.5	6938040.0	57.6	8.0	19.0	16.3	6.5	5.7
sr532	457687.8	6939343.0	57.6	8.0	18.9	16.3	6.5	5.7
sr533	456757.7	6938729.0	57.6	8.0	19.0	16.3	6.5	5.7
sr534	456085.2	6938995.0	57.7	8.1	19.0	16.3	6.5	5.7
sr535	456066.2	6939368.0	57.7	8.1	19.1	16.3	6.5	5.7
sr536	456624.6	6940130.0	57.7	8.1	19.0	16.3	6.5	5.7
sr537	456208.4	6941513.0	57.7	8.1	19.0	16.3	6.5	5.7
sr538	455944.9	6941055.0	57.6	8.0	18.9	16.2	6.5	5.7
sr539	455355.0	6939255.0	57.6	8.0	18.9	16.3	6.5	5.7
sr540	455837.5	6941446.0	57.6	8.0	18.9	16.3	6.5	5.7
sr541	455022.7	6939491.0	57.6	8.0	19.0	16.3	6.5	5.7
sr542	454640.1	6939019.0	57.6	8.0	19.0	16.3	6.5	5.7
sr543	455184.0	6941311.0	57.7	8.1	19.1	16.3	6.5	5.7
sr544	453582.7	6939398.0	57.6	8.0	19.0	16.3	6.5	5.7
sr545	453606.3	6940163.0	57.7	8.1	19.1	16.3	6.5	5.7
sr546	454301.9	6940851.0	57.7	8.2	19.1	16.3	6.5	5.7
sr547	454495.9	6940962.0	57.7	8.2	19.1	16.3	6.5	5.7
sr548	454469.2	6941014.0	57.7	8.2	19.1	16.3	6.5	5.7

APPENDIX L

Air Quality Technical Report

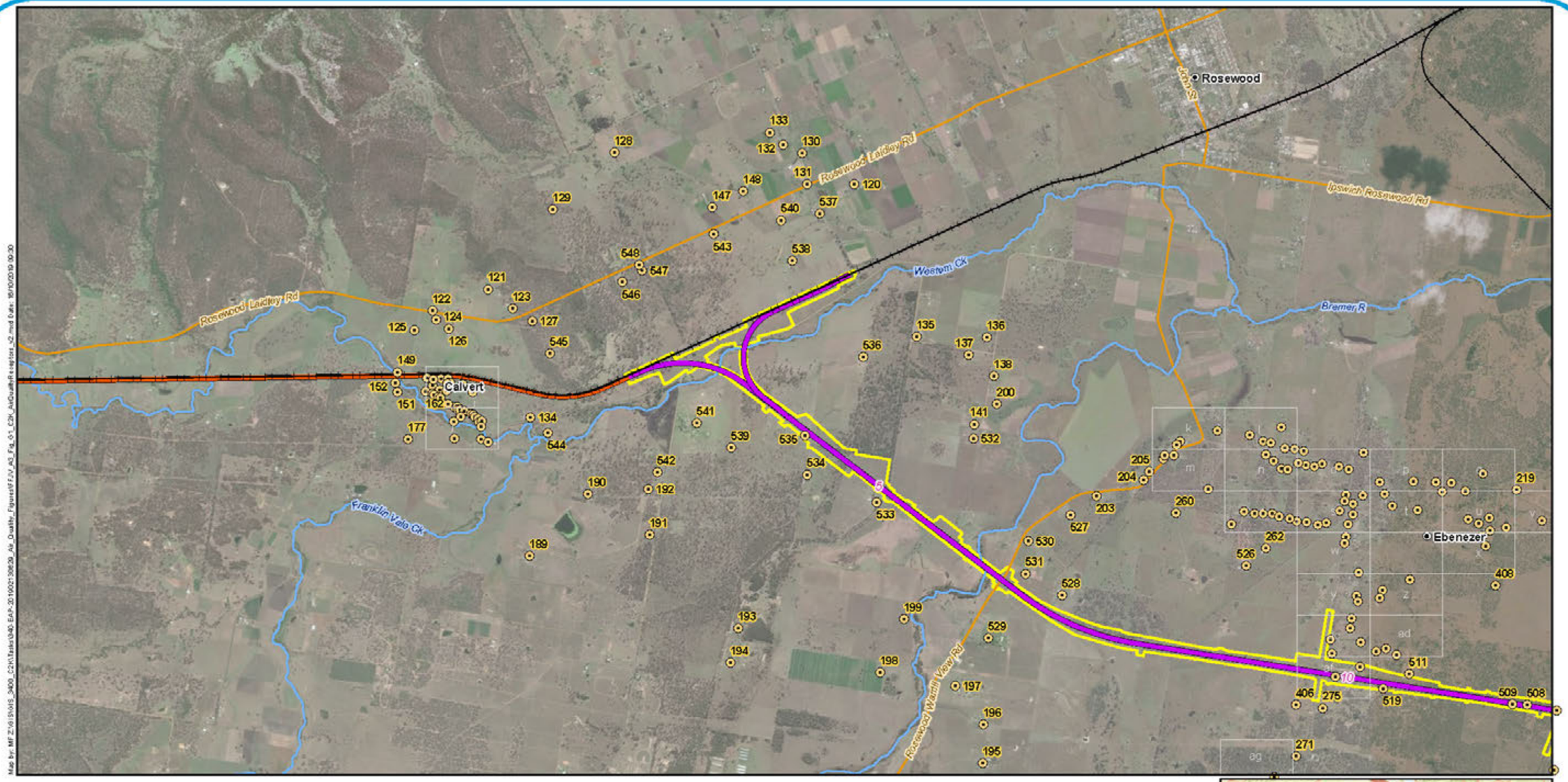
Appendix G Sensitive Receptor Maps

CALVERT TO KAGARU ENVIRONMENTAL IMPACT STATEMENT



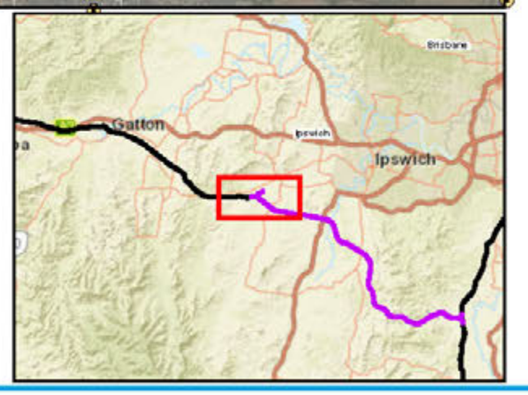
IR_1381

Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



Legend

- Sensitive receptors
- Chainage (km)
- Localities
- Existing rail
- H2C project alignment
- C2K project alignment
- Major roads
- Minor roads
- Watercourses
- EIS disturbance footprint



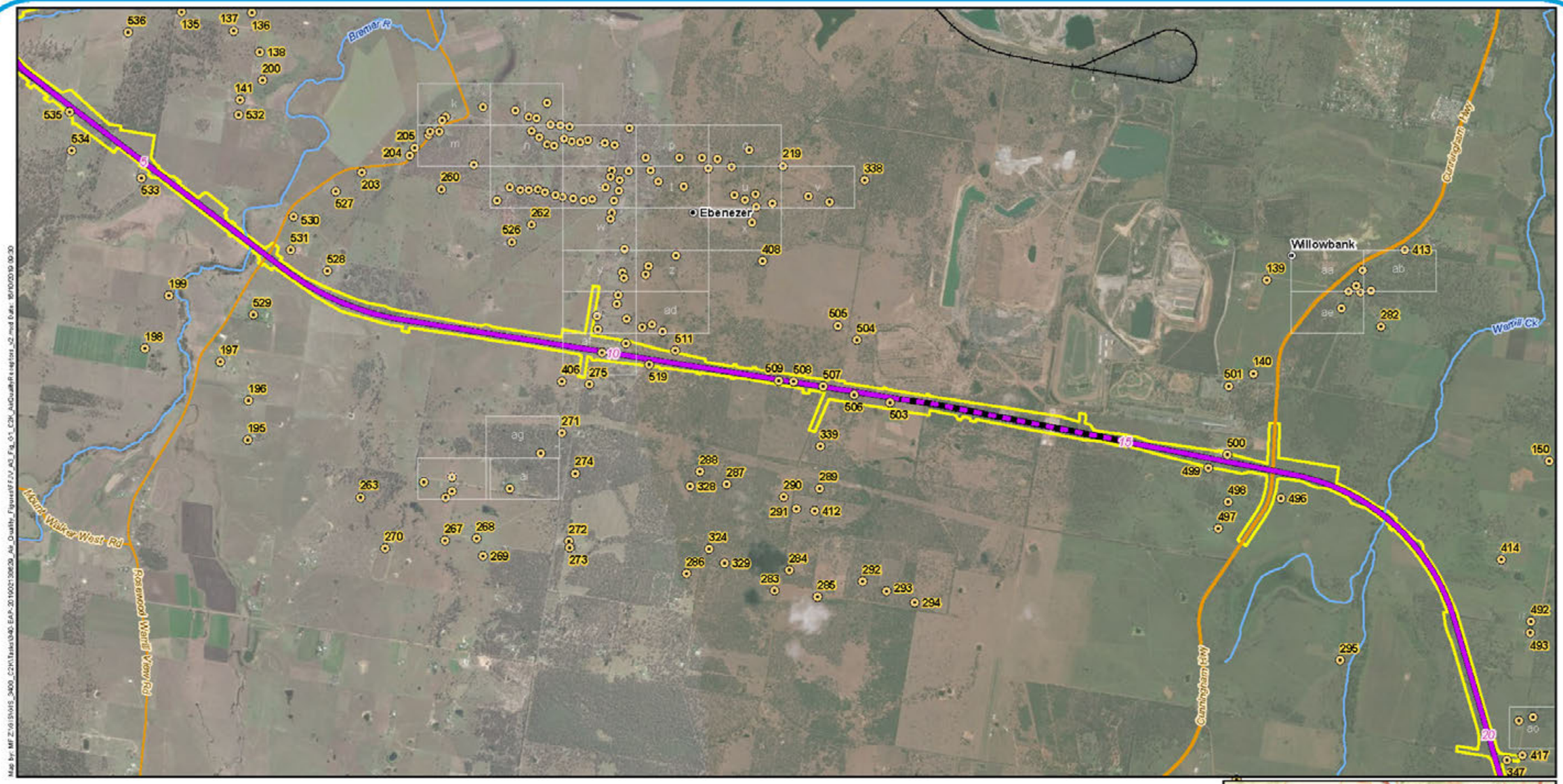
A3 scale: 1:40,000
0 0.4 0.8 1.2 1.6 2km

Future Freight
Integrating Community, Environment and Engineering

Issue date: 04/10/2019 Version: 0
Coordinate System: GDA 1994 MGA Zone 56

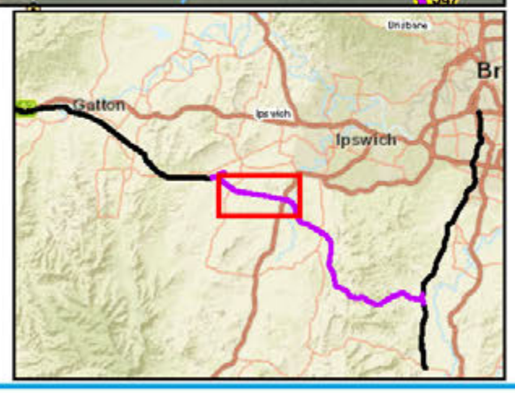
Calvert to Kagaru
Figure G1a:
Identified sensitive receptor locations

Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



Legend

- Sensitive receptors
- Chainage (km)
- Localities
- Existing rail
- Crossing loops
- C2K project alignment
- Major roads
- Minor roads
- Watercourses
- EIS disturbance footprint



A3 scale: 1:40,000
0 0.4 0.8 1.2 1.6 2km

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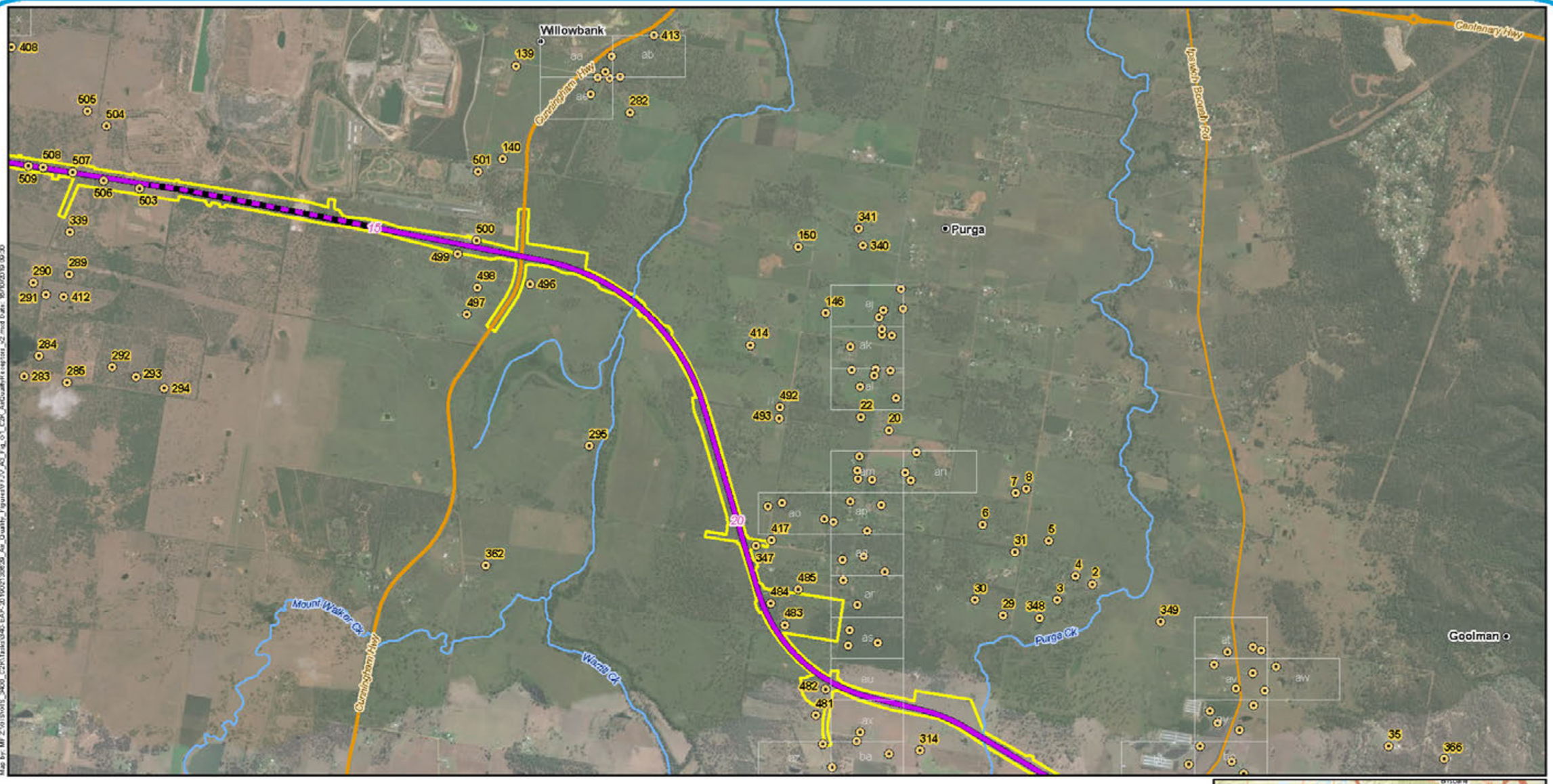
Issue date: 04/10/2019 Version: 0
Coordinate System: GDA 1994 MGA Zone 56

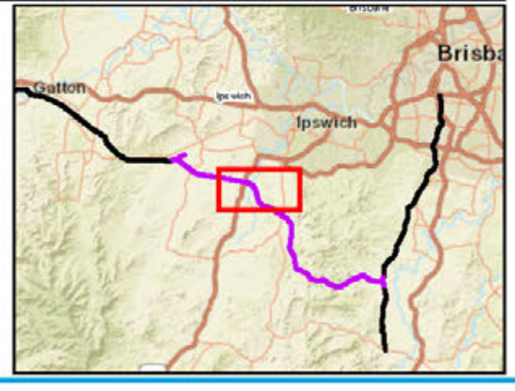
Calvert to Kagaru
Figure G1b:
Identified sensitive receptor locations

Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



Legend

- Sensitive receptors
- Chainage (km)
- Localities
- Crossing loops
- C2K project alignment
- Major roads
- Minor roads
- Watercourses
- EIS disturbance footprint



A3 scale: 1:40,000
0 0.4 0.8 1.2 1.6 2km

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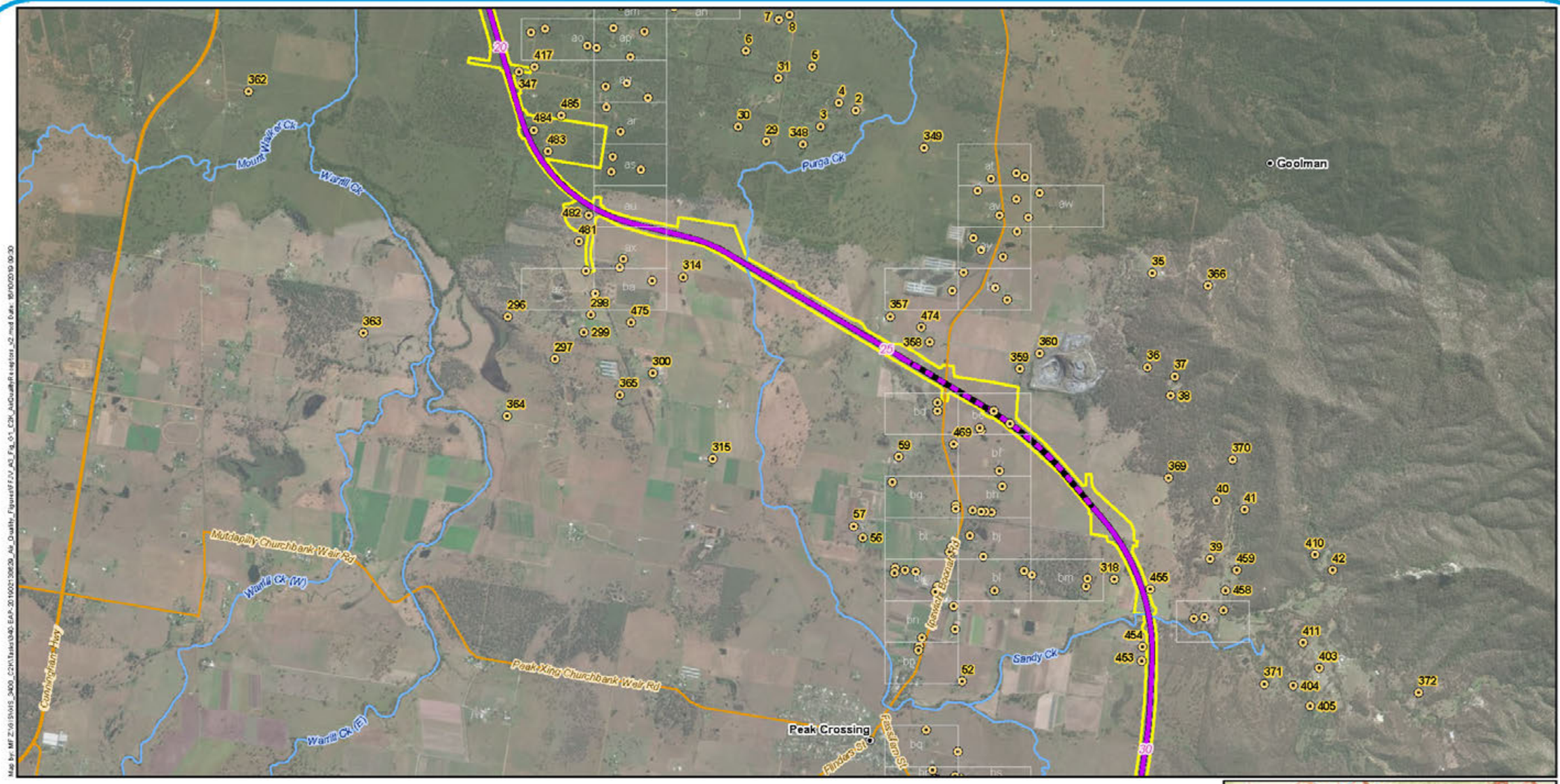
Issue date: 04/10/2019 Version: 0
Coordinate System: GDA 1994 MGA Zone 56

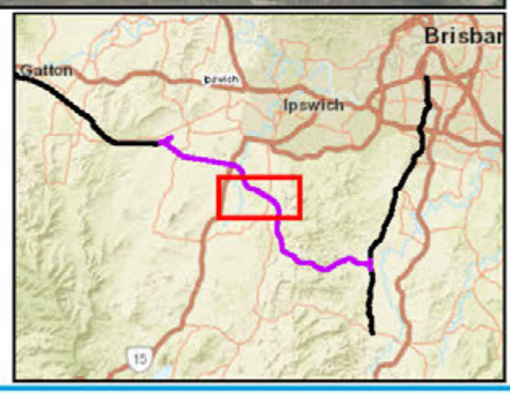
Calvert to Kagaru
Figure G1c:
Identified sensitive receptor locations

Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



Legend

- Sensitive receptors
- Chainage (km)
- Localities
- Crossing loops
- C2K project alignment
- Major roads
- Minor roads
- Watercourses
- EIS disturbance footprint



A3 scale: 1:40,000
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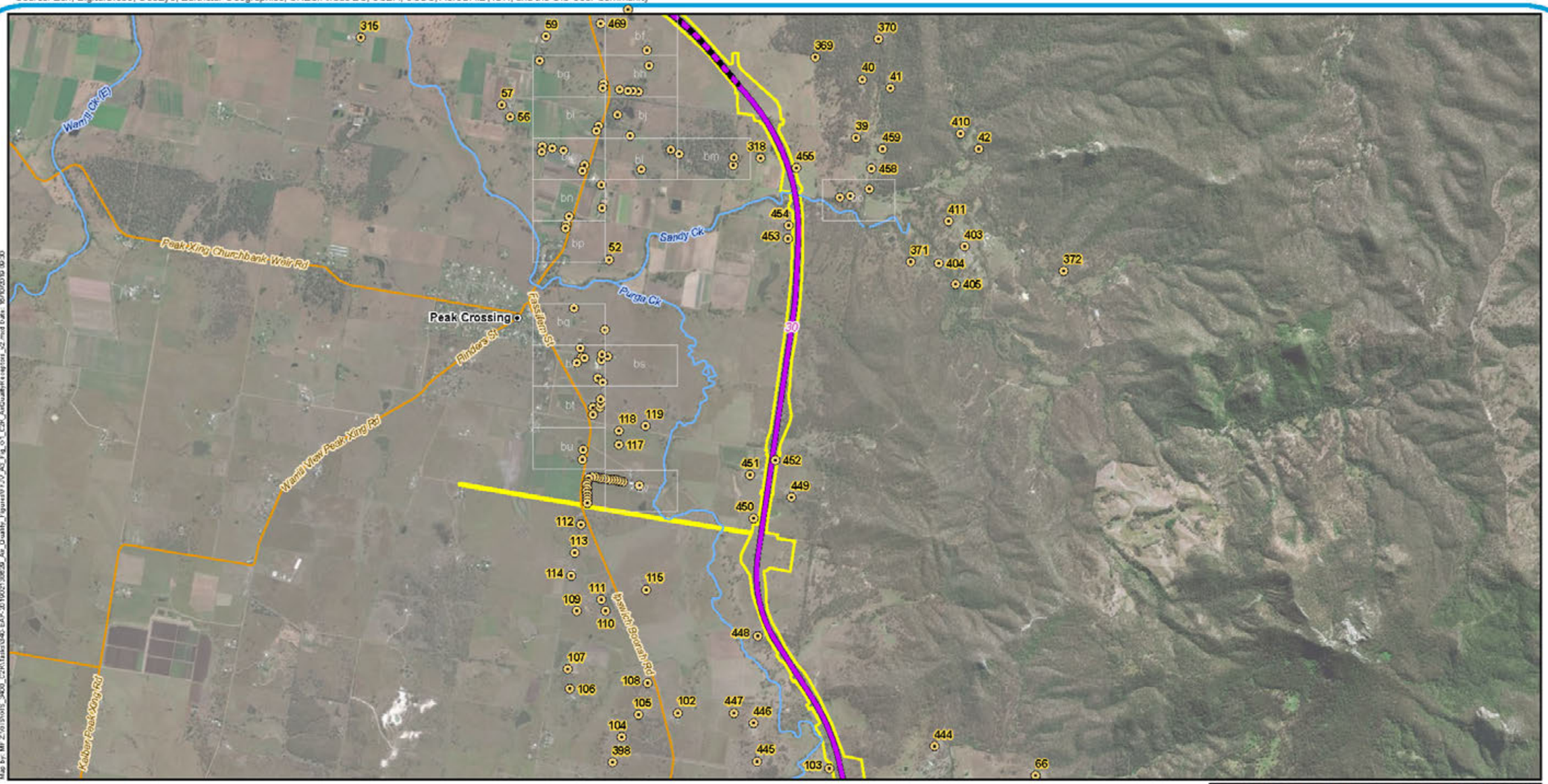
Issue date: 04/10/2019 Version: 0
Coordinate System: GDA 1994 MGA Zone 56

Calvert to Kagaru
Figure G1d:
Identified sensitive receptor locations

Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



Legend

- Sensitive receptors
- Chainage (km)
- Localities
- Crossing loops
- C2K project alignment
- Major roads
- Minor roads
- Watercourses
- EIS disturbance footprint

A3 scale: 1:40,000
0 0.4 0.8 1.2 1.6 2km

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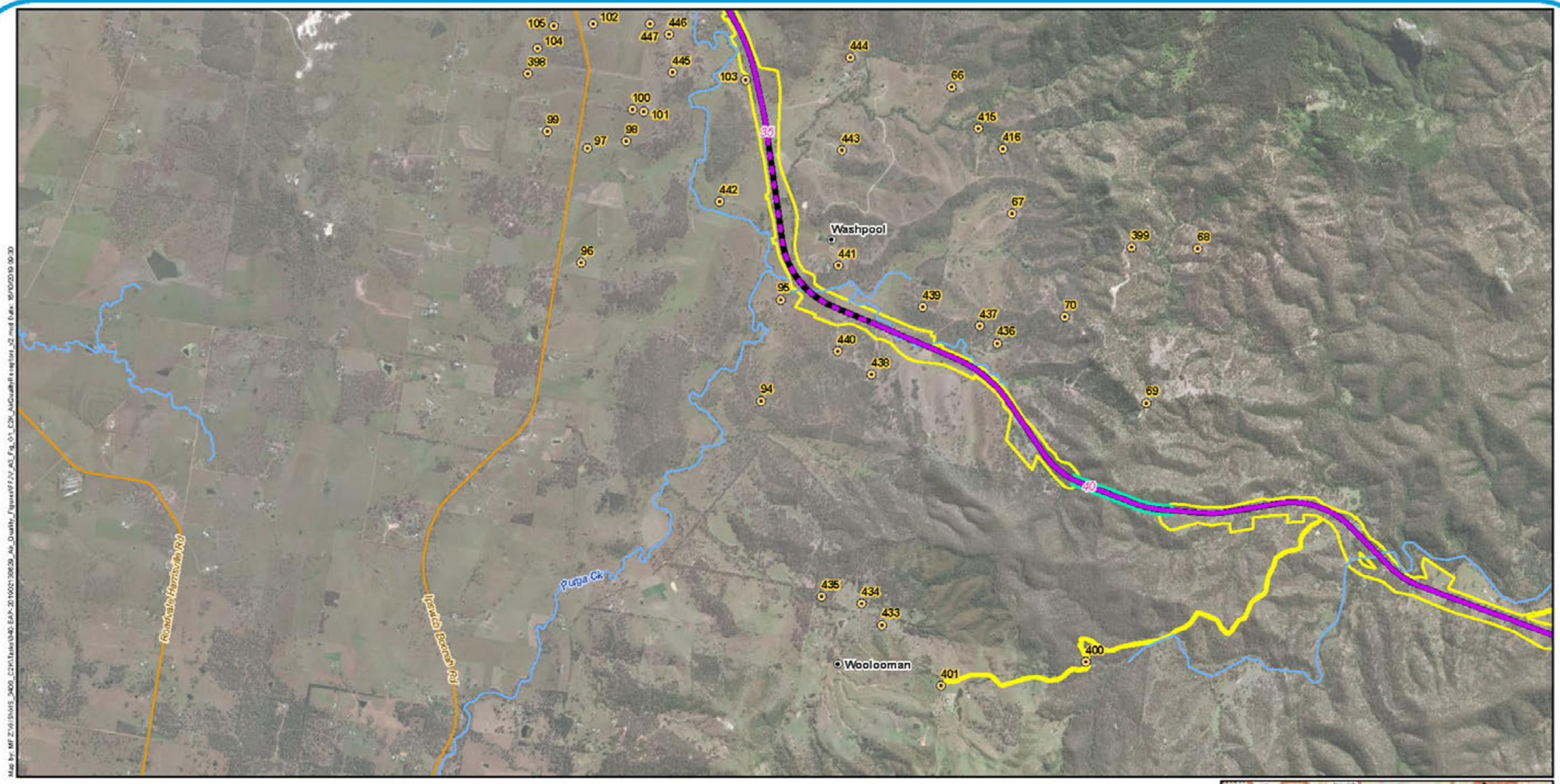
Issue date: 04/10/2019 Version: 0
Coordinate System: GDA 1994 MGA Zone 56

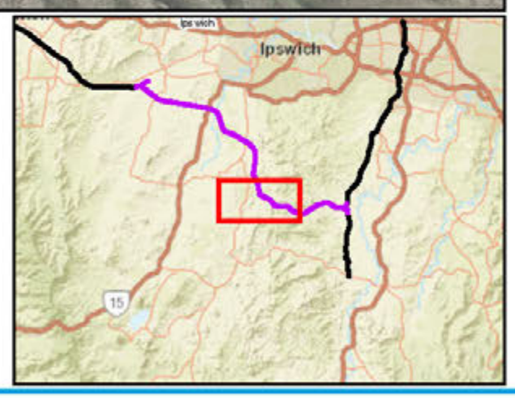
Calvert to Kagaru
Figure G1e:
Identified sensitive receptor locations

Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



Legend

- Sensitive receptors
- Chainage (km)
- Localities
- Crossing loops
- C2K project alignment
- Major roads
- Minor roads
- Watercourses
- Tunnel
- EIS disturbance footprint



A3 scale: 1:40,000
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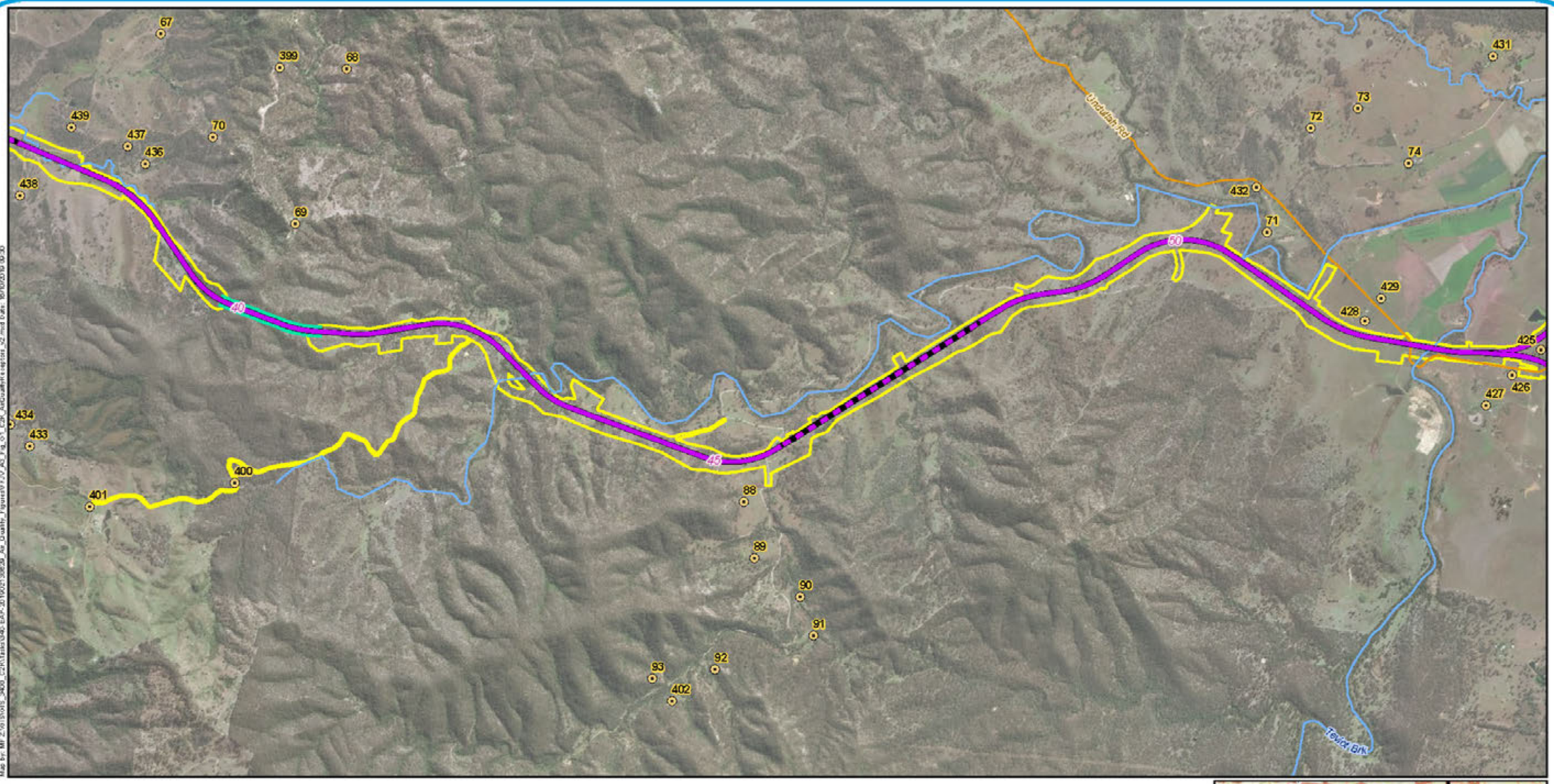
Future Freight
Integrating Community, Environment and Engineering

Issue date: 04/10/2019 Version: 0
Coordinate System: GDA 1994 MGA Zone 56

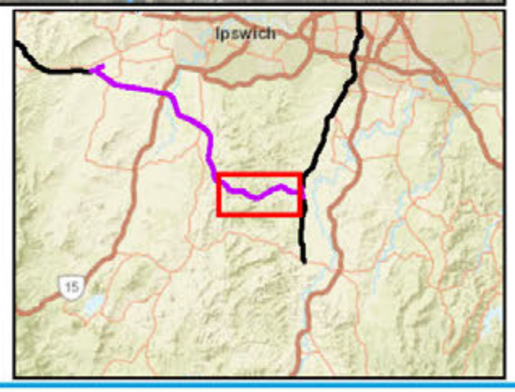
Calvert to Kagaru
Figure G1f:
Identified sensitive receptor locations

Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



Legend

- Sensitive receptors
- Chainage (km)
- Localities
- Crossing loops
- C2K project alignment
- Major roads
- Minor roads
- Watercourses
- Tunnel
- EIS disturbance footprint



A3 scale: 1:40,000
0 0.4 0.8 1.2 1.6 2km

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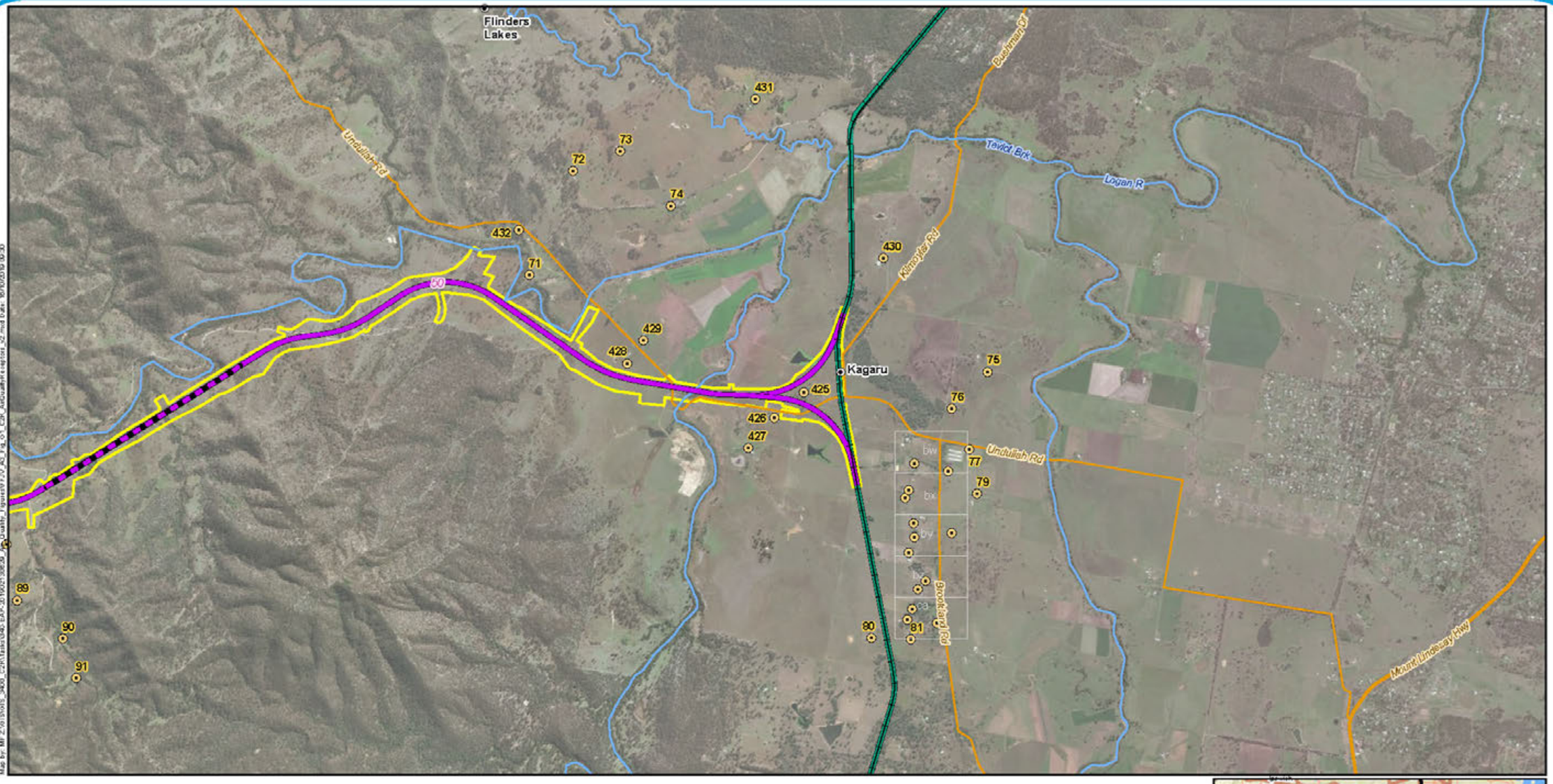
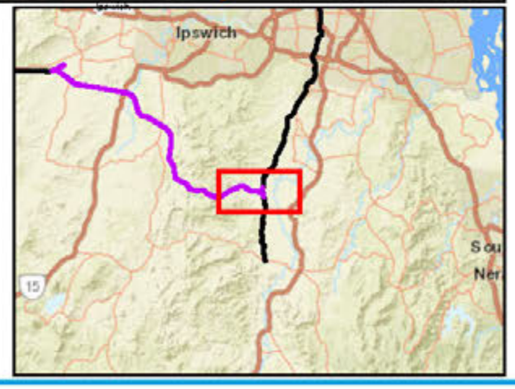
Calvert to Kagaru
Figure G1g:
Identified sensitive receptor locations

Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



Legend

- Sensitive receptors
- Chainage (km)
- Localities
- Existing rail
- Crossing loops
- C2K project alignment
- K2ARB project alignment
- Major roads
- Minor roads
- Watercourses
- EIS disturbance footprint



A3 scale: 1:40,000
0 0.4 0.8 1.2 1.6 2km

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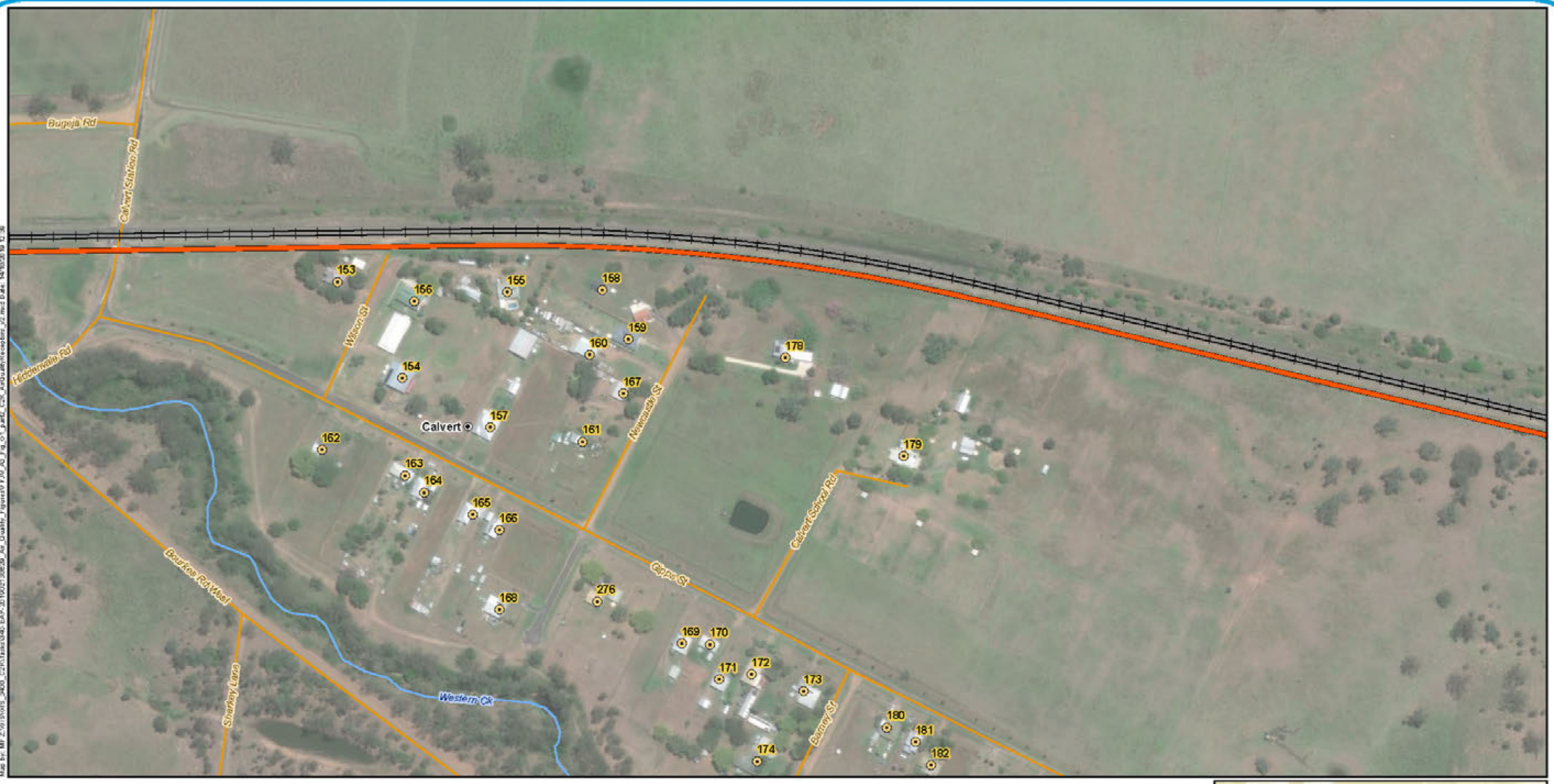
Coordinate System: GDA 1994 MGA Zone 56

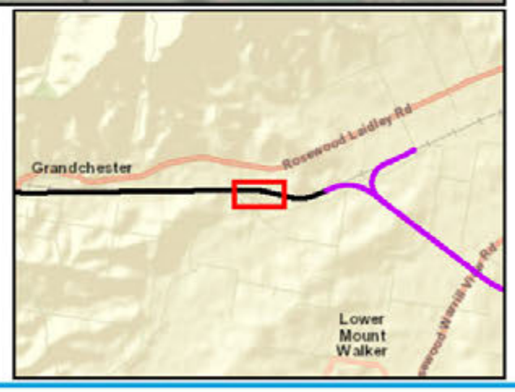
Calvert to Kagaru
Figure G1h:
Identified sensitive receptor locations

Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



Legend

- Sensitive receptors
- Localities
- Existing rail
- H2C project alignment
- Minor roads
- Watercourses



A3 scale: 1:3,200

0 25 50 75 100m

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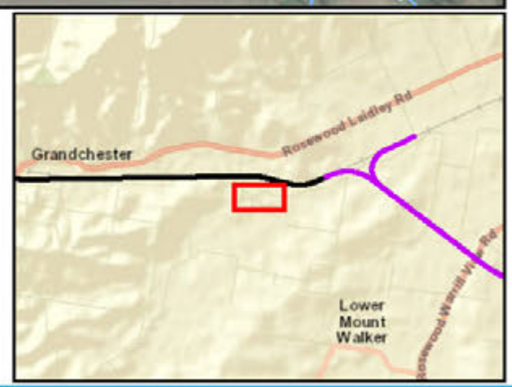
Calvert to Kagaru
Figure G1i:
Identified sensitive receptor locations

Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Legend
- Sensitive receptors
- Minor roads
- Watercourses



A3 scale: 1:3,200
0 25 50 75 100m

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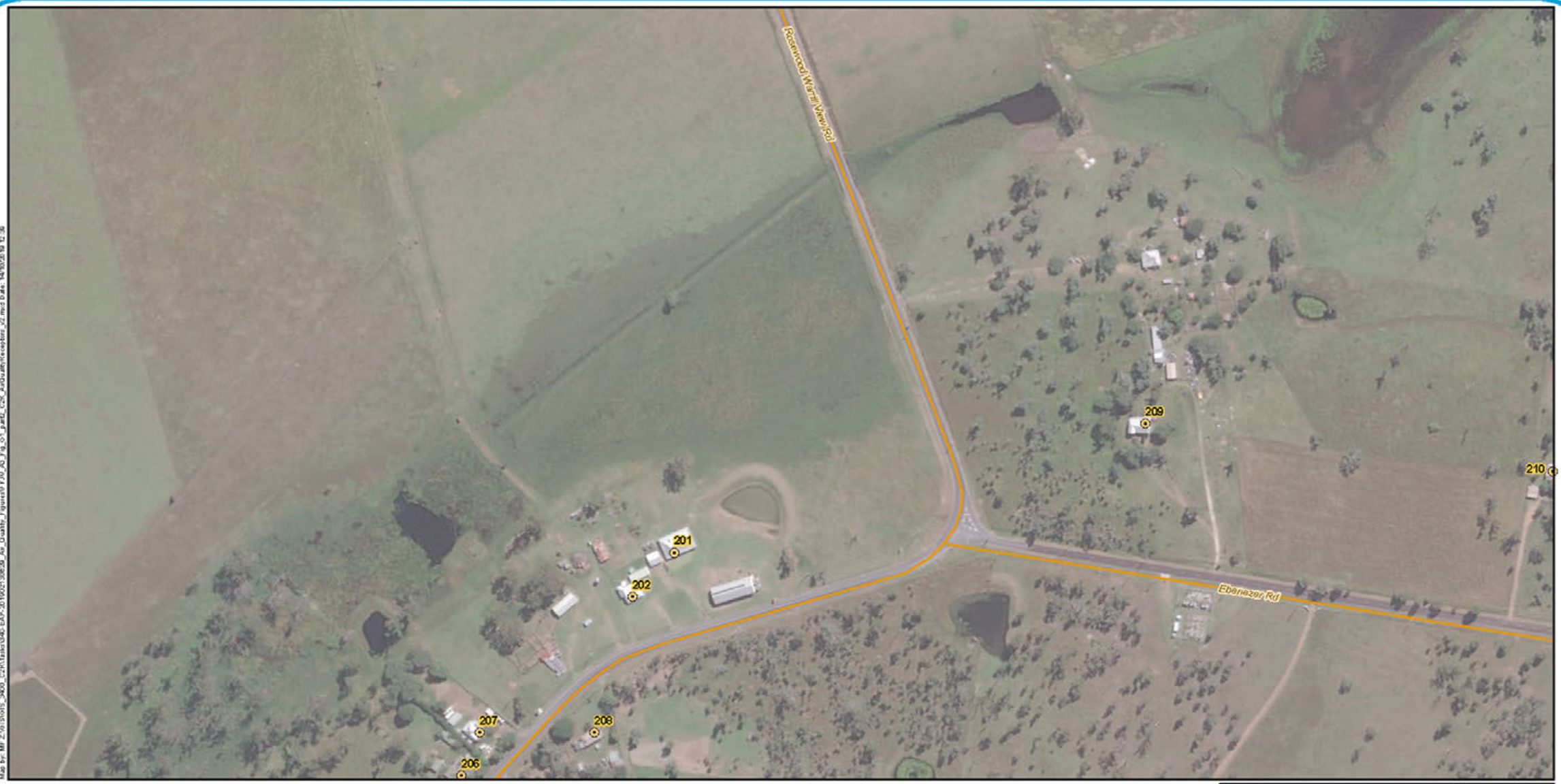
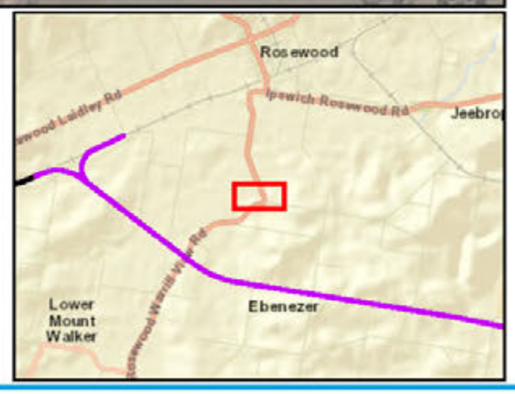
Calvert to Kagaru
Figure G1j:
Identified sensitive receptor locations

Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



Legend
- Sensitive receptors
- Minor roads



A3 scale: 1:3,200
0 25 50 75 100m

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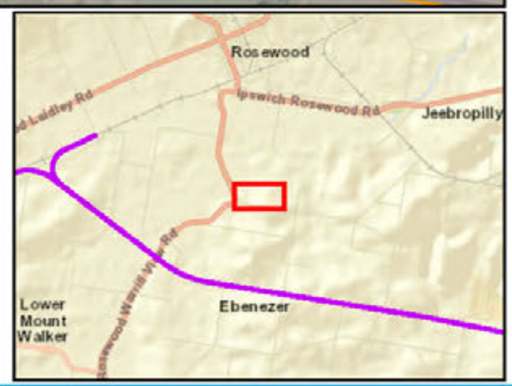
Calvert to Kagaru
Figure G1k:
Identified sensitive receptor locations

Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Legend
- Sensitive receptors
- Minor roads



A3 scale: 1:3,200
0 25 50 75 100m

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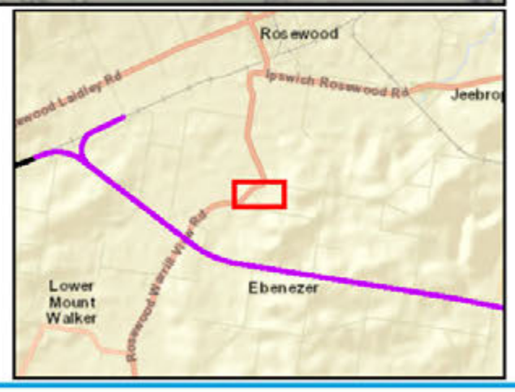
Calvert to Kagaru
Figure G1I:
Identified sensitive receptor locations

Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Legend
- Sensitive receptors
- Minor roads



A3 scale: 1:3,200
0 25 50 75 100m

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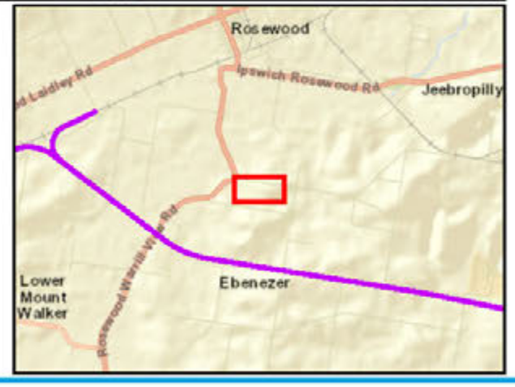
Calvert to Kagaru
Figure G1m:
Identified sensitive receptor locations

Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Map by: MF Z:\GIS\GIS_3400_C2K\Tasks\040_EAP_20190213\8039_Air_Quality_Figures\FFW_A3_Fig_G1_part2_C2K_AirQualityReceptors_v2.mxd Date: 14/10/2019 12:36

Legend

- Sensitive receptors
- Minor roads



A3 scale: 1:3,200

0 25 50 75 100m

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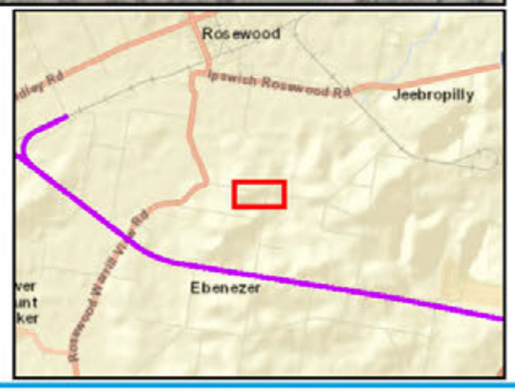
Coordinate System: GDA 1994 MGA Zone 56

Calvert to Kagaru
Figure G1n:
Identified sensitive receptor locations

Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Legend
- Sensitive receptors
- Minor roads



A3 scale: 1:3,200
0 25 50 75 100m

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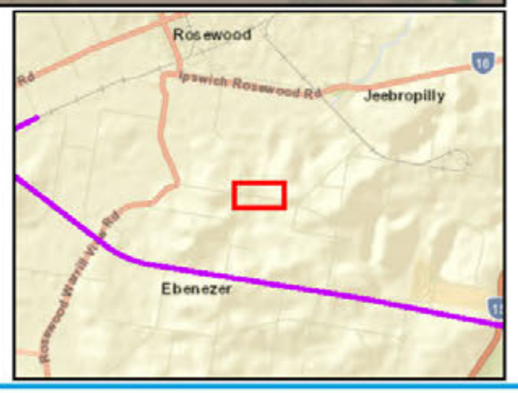
Coordinate System: GDA 1994 MGA Zone 56

Calvert to Kagaru
Figure G1o:
Identified sensitive receptor locations

Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Legend
- Sensitive receptors
- Minor roads



A3 scale: 1:3,200
0 25 50 75 100m

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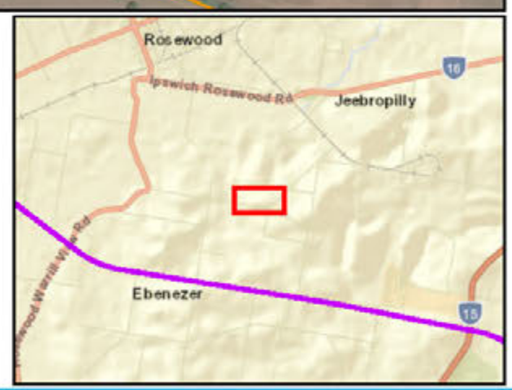
Calvert to Kagaru
Figure G1p:
Identified sensitive receptor locations

Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Legend
- Sensitive receptors
- Minor roads



A3 scale: 1:3,200
0 25 50 75 100m

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Coordinate System: GDA 1994 MGA Zone 56

Calvert to Kagaru
Figure G1q:
Identified sensitive receptor locations

Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Map by: MF Z:\GIS\GIS_3400_C2K\Tasks\340_EAP-20190213\EAP-20190213_Air_Quality_Figures\FFJV_A3_Fig_G1_part2_C2K_AirQualityReceptors_v2.mxd Date: 14/10/2019 12:36

Legend
- Sensitive receptors
- Minor roads

A3 scale: 1:3,200
0 25 50 75 100m

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Calvert to Kagaru
Figure G1r:
Identified sensitive receptor locations

Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Legend
- Sensitive receptors
- Minor roads

A3 scale: 1:3,200
0 25 50 75 100m

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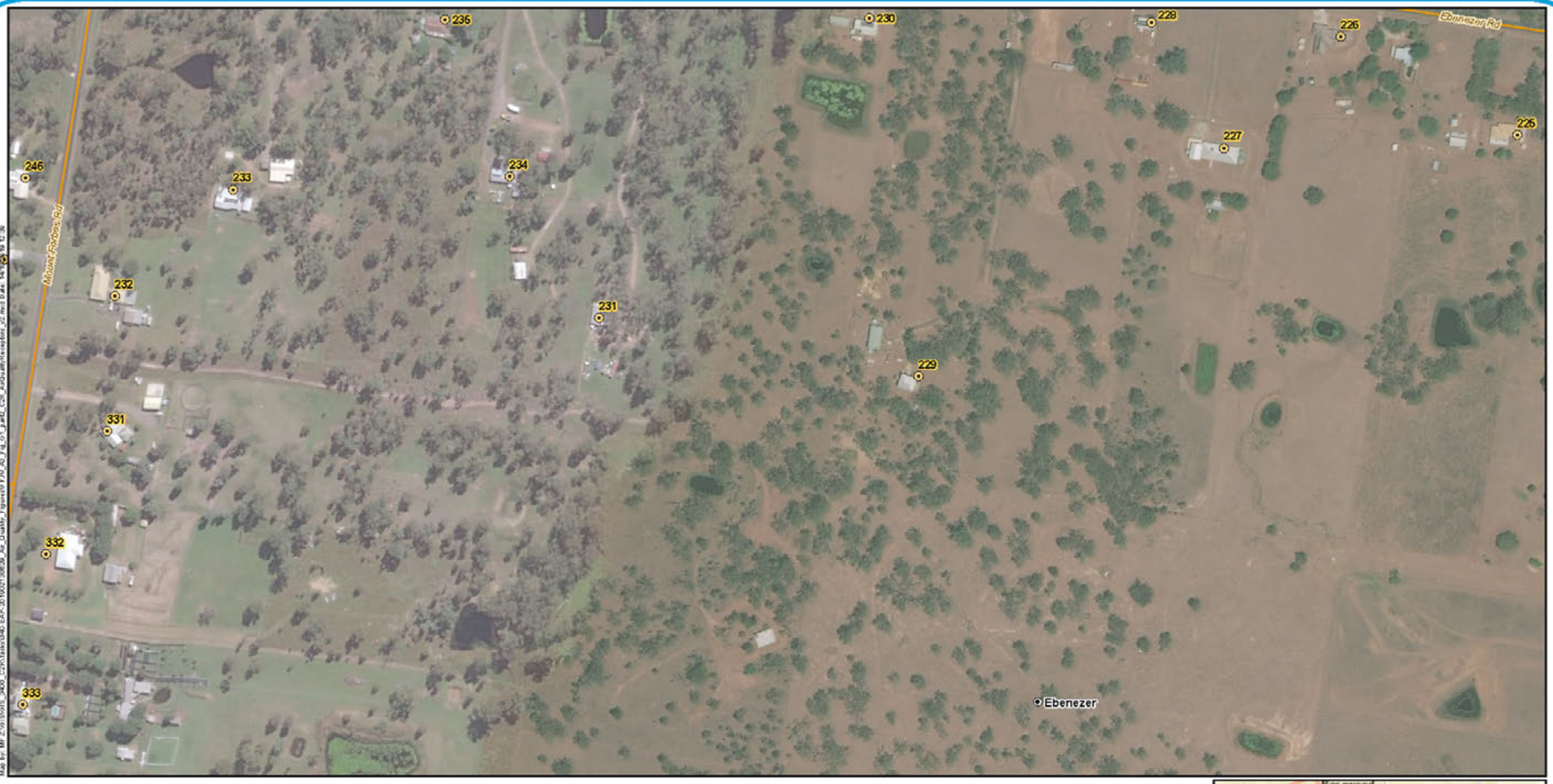
Coordinate System: GDA 1994 MGA Zone 56

Calvert to Kagaru
Figure G1s:
Identified sensitive receptor locations

Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



Legend
- Sensitive receptors
- Localities
- Minor roads

A3 scale: 1:3,200
0 25 50 75 100m

Future Freight
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Coordinate System: GDA 1994 MGA Zone 56

Calvert to Kagaru
Figure G1t:
Identified sensitive receptor locations

Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Legend
- Sensitive receptors
- Localities
- Minor roads

A3 scale: 1:3,200
0 25 50 75 100m

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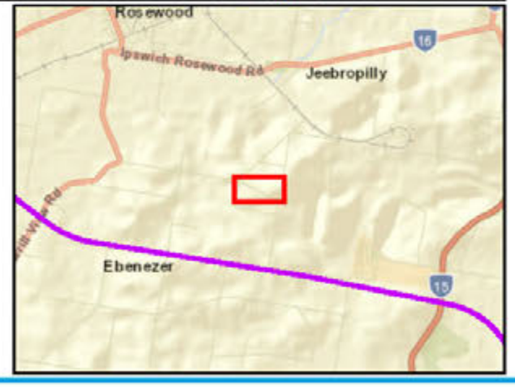
Calvert to Kagaru
Figure G1u:
Identified sensitive receptor locations

Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Legend
- Sensitive receptors
- Minor roads



A3 scale: 1:3,200
0 25 50 75 100m

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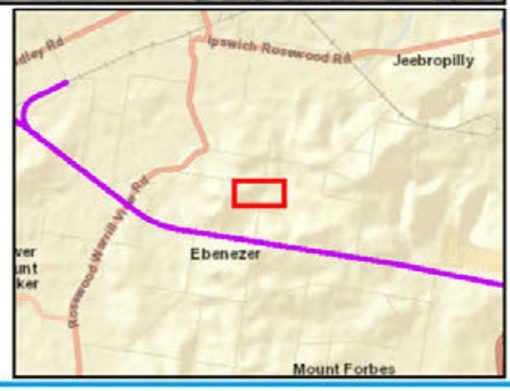
Calvert to Kagaru
Figure G1v:
Identified sensitive receptor locations

Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Map by: MF Z:\GIS\GIS_3400_C2K\Tasks\3400_EAP_20190219\3400_EAP_20190219_Air_Quality_Figures\FFJV_A3_Fig_G1_part2_C2K_AirQualityReceptors_v2.mxd Date: 14/03/2019 12:36

Legend
- Sensitive receptors
- Minor roads



A3 scale: 1:3,200
0 25 50 75 100m

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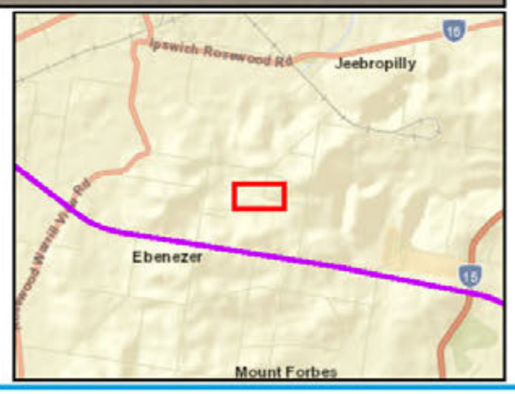
Calvert to Kagaru
Figure G1w:
Identified sensitive receptor locations

Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Map by: MF Z:\GIS\GIS_3400_C2K\Tasks\340_EAR-20190213\0639_Air_Quality_Figures\FFW_A3_Fig_G1_part2_C2K_AirQualityReceptors_v2.mxd Date: 14/03/2019 12:36

Legend

- Sensitive receptors
- Localities
- Minor roads



A3 scale: 1:3,200

0 25 50 75 100m

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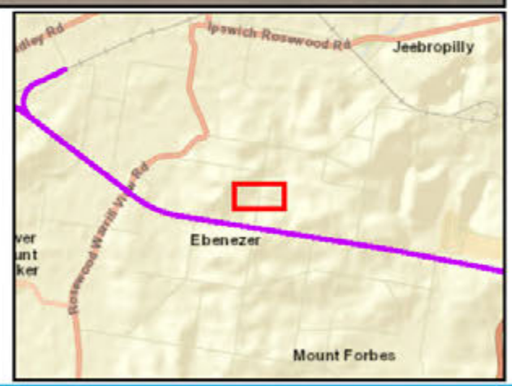
Calvert to Kagaru

Figure G1x:
Identified sensitive receptor locations

Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Legend
- Sensitive receptors
- Minor roads
- EIS disturbance footprint



A3 scale: 1:3,200
0 25 50 75 100m

Future Freight
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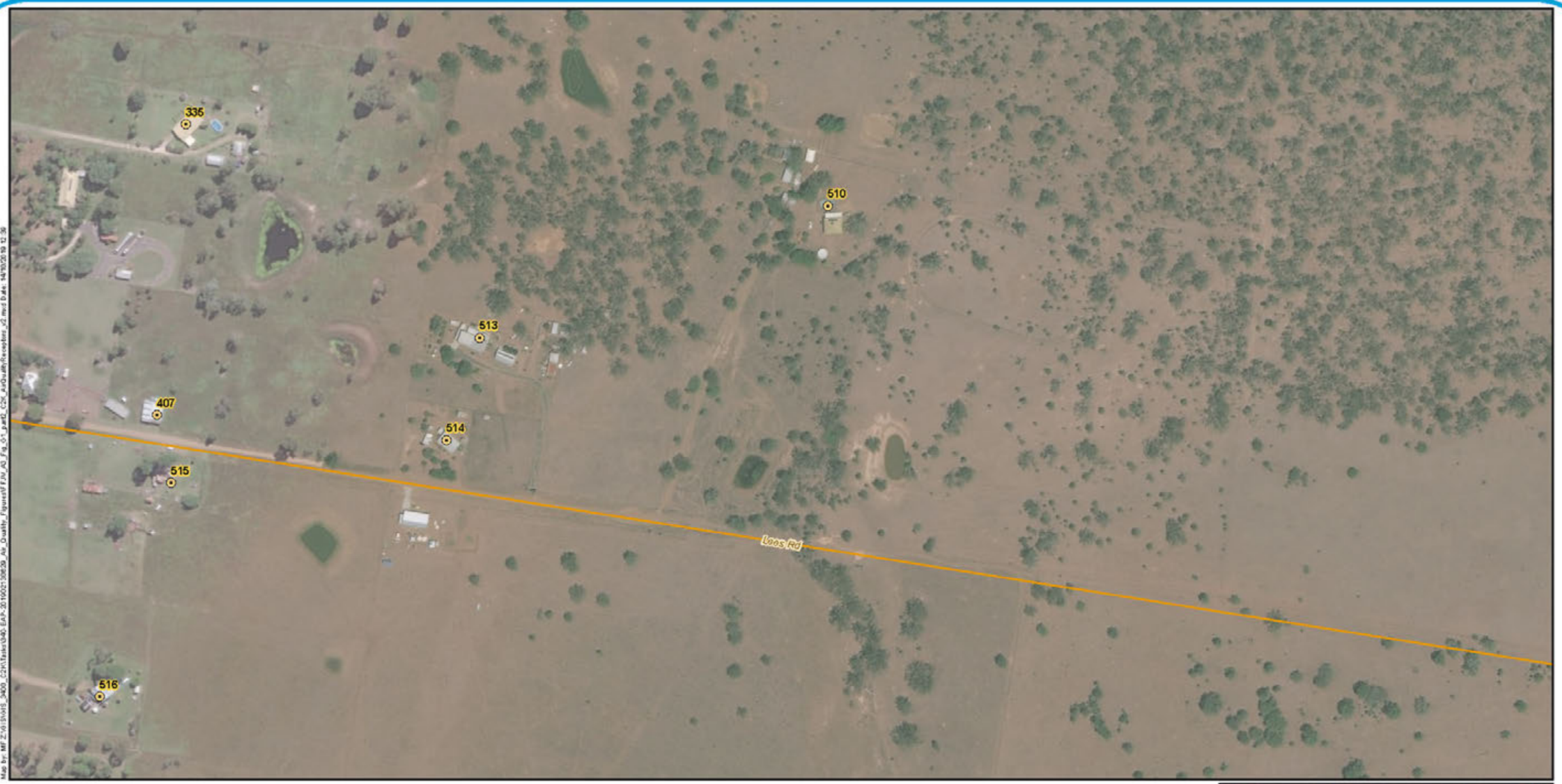
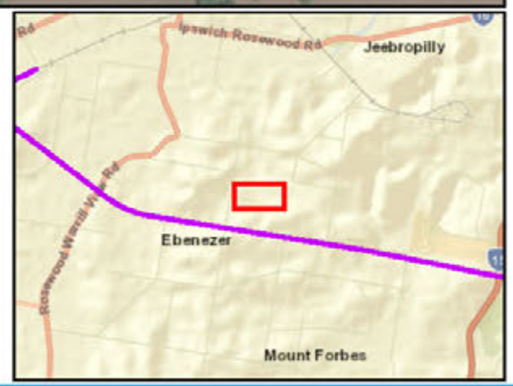
Coordinate System: GDA 1994 MGA Zone 56

Calvert to Kagaru
Figure G1y:
Identified sensitive receptor locations

Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



Legend
- Sensitive receptors
- Minor roads



A3 scale: 1:3,200
0 25 50 75 100m

Future Freight
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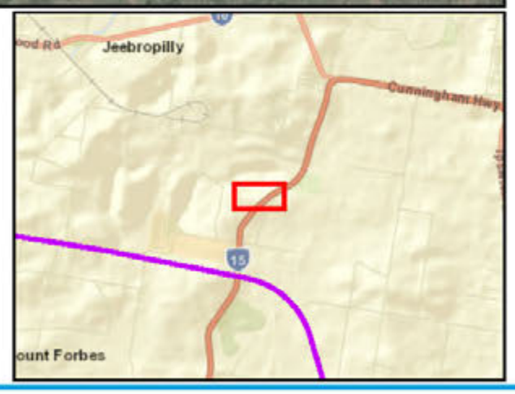
Coordinate System: GDA 1994 MGA Zone 56

Calvert to Kagaru
Figure G1z:
Identified sensitive receptor locations

Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Map by: MF Z:\GIS\GIS_3400_CQH\Tasks\340_EAR-20190213\0639_Air_Quality_Figures\FFJV_A3_Fig_G1_part2_CQK_AirQualityReceptors_v2.mxd Date: 14/03/2019 12:36

Legend
- Sensitive receptors
- Localities
- Major roads
- Minor roads



A3 scale: 1:3,200
0 25 50 75 100m

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Calvert to Kagaru
Figure G1aa:
Identified sensitive receptor locations

Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Map by: MF Z:\GIS\GIS_3400_C2K\Tasks\040 EAA-20190213\0839_Air_Quality_Figures\FIW_A3_Fig_01_part2_C2K_AirQualityReceptors_v2.mxd Date: 14/10/2019 12:36

Legend

- Sensitive receptors
- Major roads
- Minor roads

A3 scale: 1:3,200

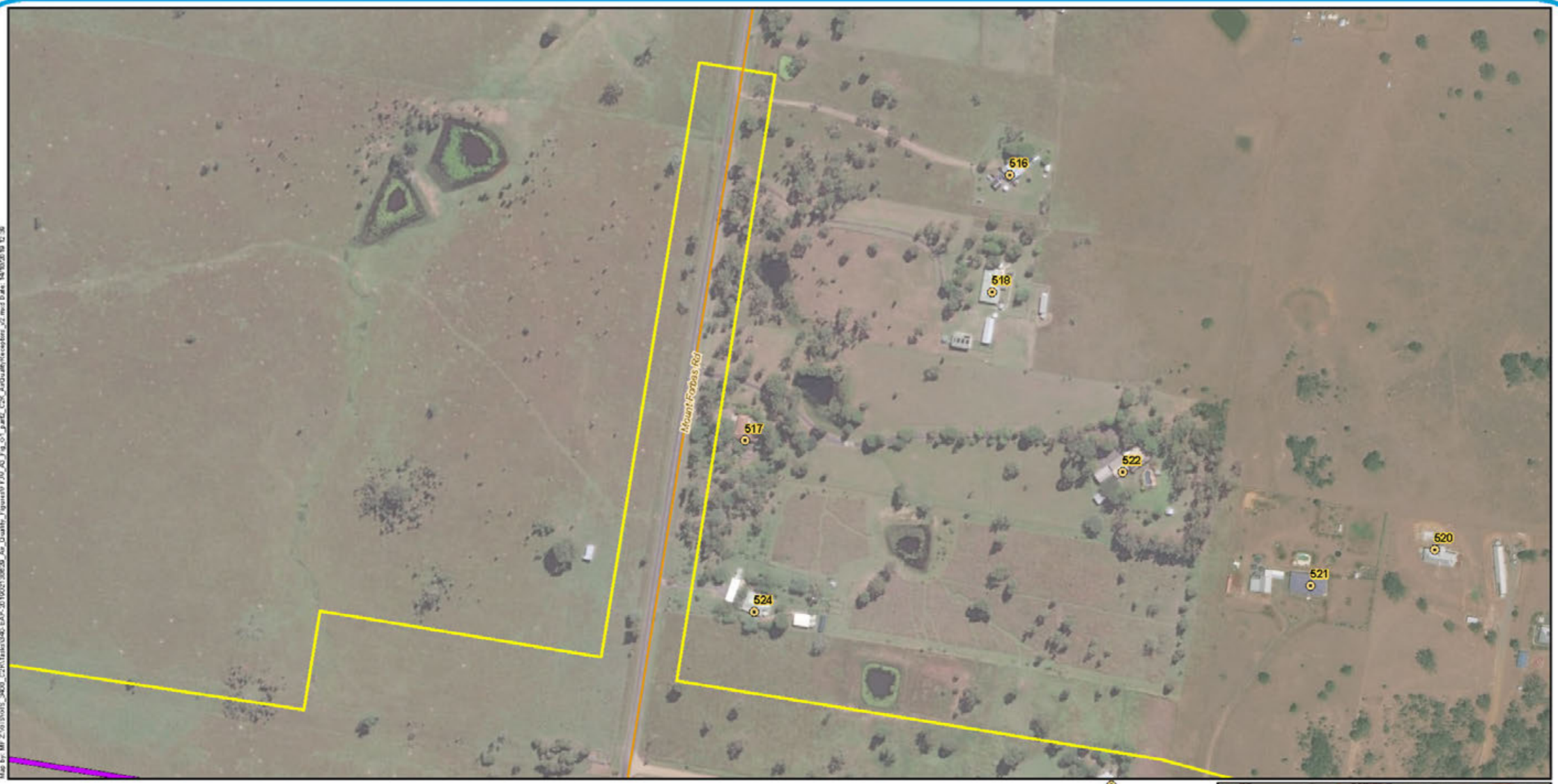
0 25 50 75 100m

Future Freight
Integrating Community, Environment and Engineering

Issue date: 04/10/2019 Version: 0
Coordinate System: GDA 1994 MGA Zone 56

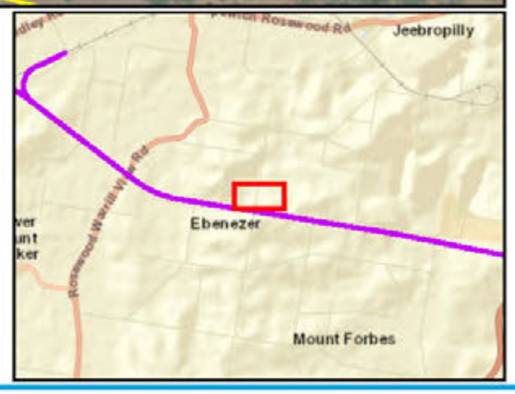
Calvert to Kagaru
Figure G1ab:
Identified sensitive receptor locations

Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



Legend

- Sensitive receptors
- C2K project alignment
- Minor roads
- EIS disturbance footprint



A3 scale: 1:3,200
0 25 50 75 100m

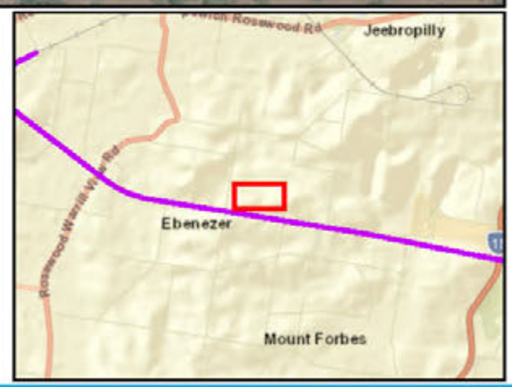
Future Freight
Integrating Community, Environment and Engineering

Issue date: 04/10/2019 Version: 0
Coordinate System: GDA 1994 MGA Zone 56

Calvert to Kagaru
Figure G1ac:
Identified sensitive receptor locations

Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Legend
- Sensitive receptors
- Minor roads
- EIS disturbance footprint



A3 scale: 1:3,200
0 25 50 75 100m

Future Freight
Integrating Community, Environment and Engineering

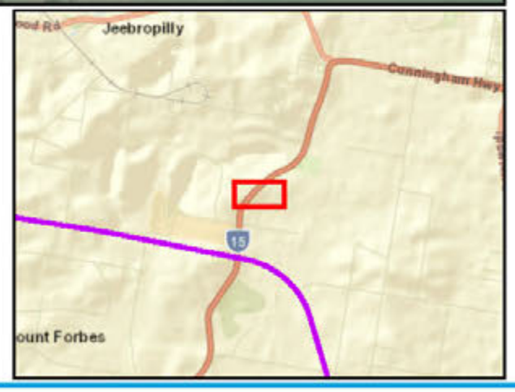
Issue date: 04/10/2019 Version: 0
Coordinate System: GDA 1994 MGA Zone 56

Calvert to Kagaru
Figure G1ad:
Identified sensitive receptor locations

Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Legend

- Sensitive receptors
- Major roads
- Minor roads



A3 scale: 1:3,200
0 25 50 75 100m

Future Freight
Integrating Community, Environment and Engineering

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Coordinate System: GDA 1994 MGA Zone 56

Calvert to Kagaru
Figure G1ae:
Identified sensitive receptor locations

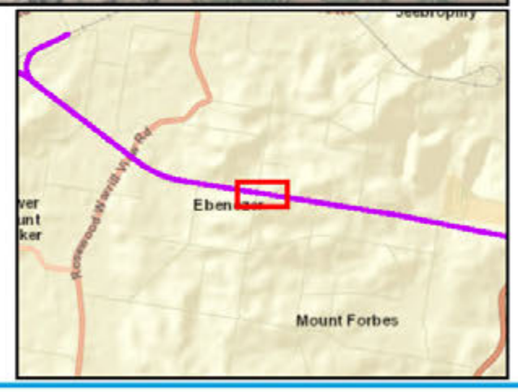
Map by: MF Z:\GIS\GIS_3400_CZK\Tasks\0345 EAA-20190213\839_Air_Quality_Figures\FFW_A3_Fig_G1_part2_CZK_AirQualityReceptors_v2.mxd Date: 14/03/2019 12:36

Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Map by: MF Z:\GIS\GIS_3400_C2K\Tasks\040 EAP_20190213\0639_Air_Quality_Figures\FFJV_A3_Fig_G1_part2_C2K_AirQualityReceptors_v2.mxd Date: 14/03/2019 12:36

Legend

- Sensitive receptors
- C2K project alignment
- Minor roads
- EIS disturbance footprint



A3 scale: 1:3,200
0 25 50 75 100m

Future Freight
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Coordinate System: GDA 1994 MGA Zone 56

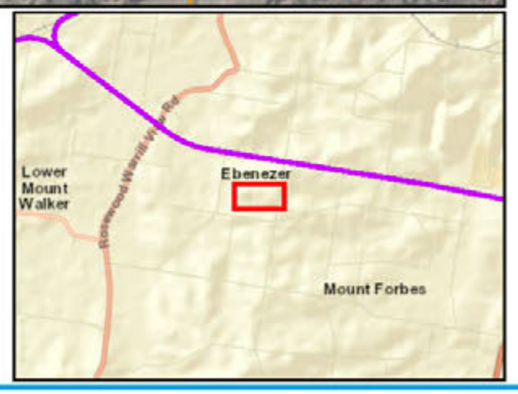
Calvert to Kagaru
Figure G1af:
Identified sensitive receptor locations

Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Map by: MF Z:\GIS\GIS_3400_C2K\Tasks\340_EAP-20190213\6239_Air_Quality_Figures\FFW_A3_Fig_01_part2_C2K_AirQualityReceptors_v2.mxd Date: 14/10/2019 12:36

Legend

- Sensitive receptors
- Minor roads



A3 scale: 1:3,200

0 25 50 75 100m

Future Freight
Integrating Community, Environment and Engineering

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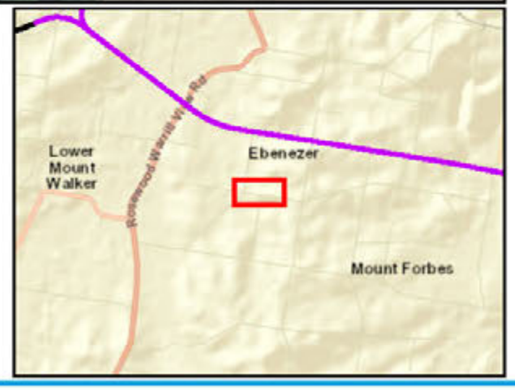
Coordinate System: GDA 1994 MGA Zone 56

Calvert to Kagaru
Figure G1ag:
Identified sensitive receptor locations

Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Legend
- Sensitive receptors
- Minor roads



A3 scale: 1:3,200
0 25 50 75 100m

Future Freight
Integrating Community, Environment and Engineering

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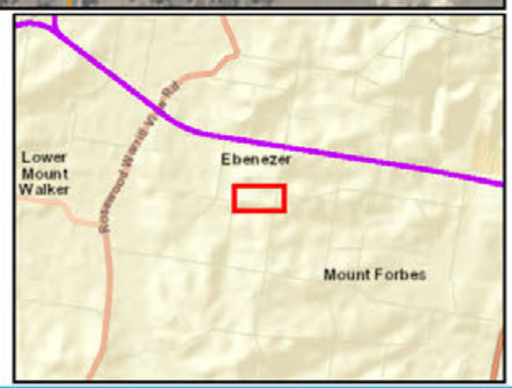
Coordinate System: GDA 1994 MGA Zone 56

Calvert to Kagaru
Figure G1ah:
Identified sensitive receptor locations

Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Map by: MF Z:\GIS\GIS_3400_C2K\Tasks\340_EAP_20190213\0639_Air_Quality_Figures\FFW_A3_Fig_01_part2_C2K_AirQualityReceptors_v2.mxd Date: 14/03/2019 12:36

Legend
- Sensitive receptors
- Minor roads



A3 scale: 1:3,200
0 25 50 75 100m

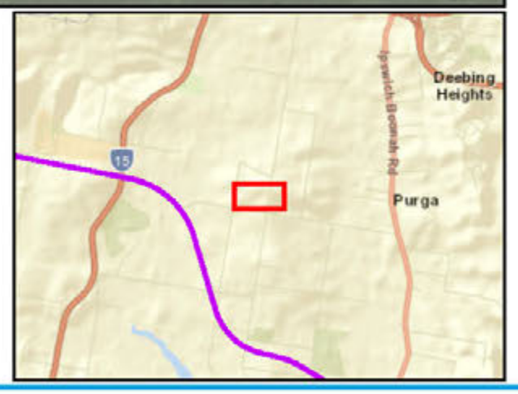
Future Freight
Integrating Community, Environment and Engineering

Issue date: 04/10/2019 Version: 0
Coordinate System: GDA 1994 MGA Zone 56

Calvert to Kagaru
Figure G1ai:
Identified sensitive receptor locations

Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Legend
- Sensitive receptors
- Minor roads



A3 scale: 1:3,200
0 25 50 75 100m

Future Freight
Integrating Community, Environment and Engineering

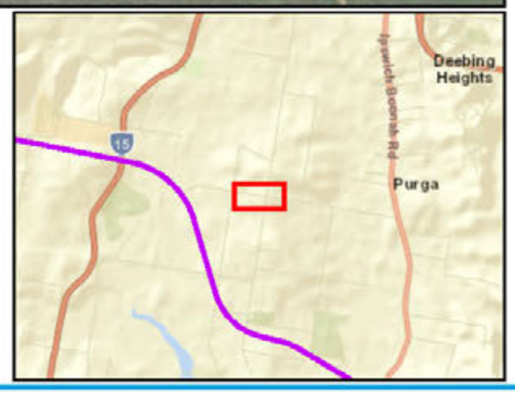
Issue date: 04/10/2019 Version: 0
Coordinate System: GDA 1994 MGA Zone 56

Calvert to Kagaru
Figure G1aj:
Identified sensitive receptor locations

Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Map by: MF Z:\GIS\GIS_3400_CDN\Tasks\340_EAR-20190213039_Air_Quality_Figures\FFJV_A3_Fig_01_part2_CDK_AirQualityReceptors_v2.mxd Date: 14/03/2019 12:36

Legend
- Sensitive receptors
- Minor roads



A3 scale: 1:3,200
0 25 50 75 100m

Future Freight
Integrating Community, Environment and Engineering

Issue date: 04/10/2019 Version: 0
Coordinate System: GDA 1994 MGA Zone 56

Calvert to Kagaru
Figure G1ak:
Identified sensitive receptor locations

Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Map by: MF Z:\GIS\GIS_3400_C2K\Tasks\046 EAA-20190213039_Air_Quality_Figures\FFJV_A3_Fig_G1_part2_C2K_AirQualityReceptors_v2.mxd Date: 14/03/2019 12:36

Legend

- Sensitive receptors
- Minor roads

A3 scale: 1:3,200

0 25 50 75 100m

Future Freight
Integrating Community, Environment and Engineering

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Coordinate System: GDA 1994 MGA Zone 56

Calvert to Kagaru
Figure G1al:
Identified sensitive receptor locations

Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Map by: MF Z:\GIS\GIS_3400_C2K\Tasks\340_EAP-20190213\3839_Air_Quality_Figures\FFW_A3_Fig_G1_part2_C2K_AirQualityReceptors_v2.mxd Date: 14/10/2019 12:36

Legend

- Sensitive receptors
- Minor roads

A3 scale: 1:3,200

0 25 50 75 100m

Future Freight
Integrating Community, Environment and Engineering

Issue date: 04/10/2019 Version: 0
Coordinate System: GDA 1994 MGA Zone 56

Calvert to Kagaru
Figure G1am:
Identified sensitive receptor locations

Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Map by: MF Z:\GIS\GIS_3400_C2K\Tasks\340_EAP-20190213\3039_Air_Quality_Figures\FFW_A3_Fig_01_part2_C2K_AirQualityReceptors_v2.mxd Date: 14/03/2019 12:36

Legend

- Sensitive receptors

A3 scale: 1:3,200

0 25 50 75 100m

Future Freight
Integrating Community, Environment and Engineering

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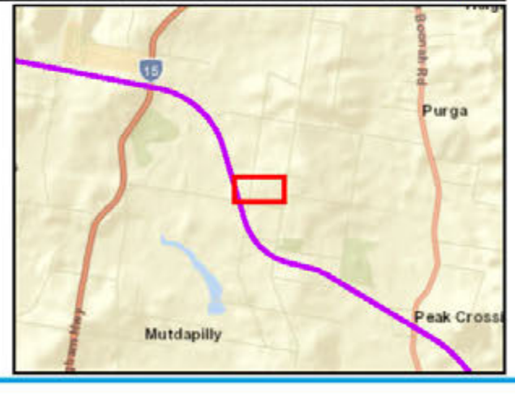
Coordinate System: GDA 1994 MGA Zone 56

Calvert to Kagaru
Figure G1an:
Identified sensitive receptor locations

Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Legend
- Sensitive receptors
- C2K project alignment
- Minor roads
- EIS disturbance footprint



A3 scale: 1:3,200
0 25 50 75 100m

Future Freight
Integrating Community, Environment and Engineering

Issue date: 04/10/2019 Version: 0
Coordinate System: GDA 1994 MGA Zone 56

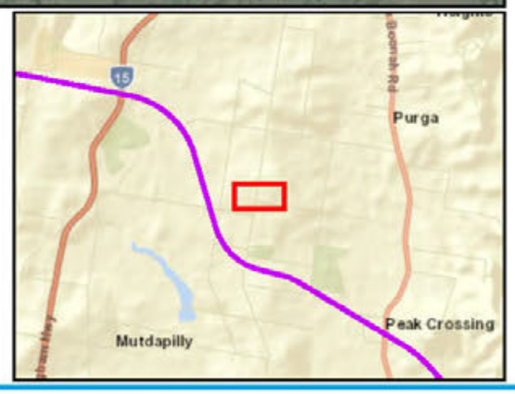
Calvert to Kagaru
Figure G1ao:
Identified sensitive receptor locations

Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Map by: MF Z:\GIS\GIS_3400_C2K\Tasks\340_EAP-20190213\639_Air_Quality_Figures\FAV_A3_Fig_G1_part2_C2K_AirQualityReceptors_v2.mxd Date: 14/03/2019 12:36

Legend

- Sensitive receptors
- Minor roads



A3 scale: 1:3,200

0 25 50 75 100m

Future Freight
Integrating Community, Environment and Engineering

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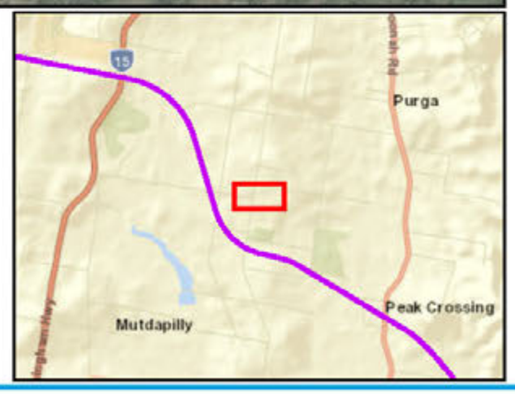
Coordinate System: GDA 1994 MGA Zone 56

Calvert to Kagaru
Figure G1ap:
Identified sensitive receptor locations

Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Legend
- Sensitive receptors
- Minor roads



A3 scale: 1:3,200
0 25 50 75 100m

Future Freight
Integrating Community, Environment and Engineering

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Coordinate System: GDA 1994 MGA Zone 56

Calvert to Kagaru
Figure G1aq:
Identified sensitive receptor locations

Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Map by: MF Z:\GIS\GIS_3400_C2K\Tasks\040_EAP-20190213\0039_Air_Quality_Figures\FFW_A3_Fig_01_part2_C2K_AirQualityReceptors_v2.mxd Date: 14/03/2019 12:36

Legend

- Sensitive receptors
- Minor roads
- EIS disturbance footprint

A3 scale: 1:3,200

0 25 50 75 100m

Future Freight
Integrating Community, Environment and Engineering

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Coordinate System: GDA 1994 MGA Zone 56

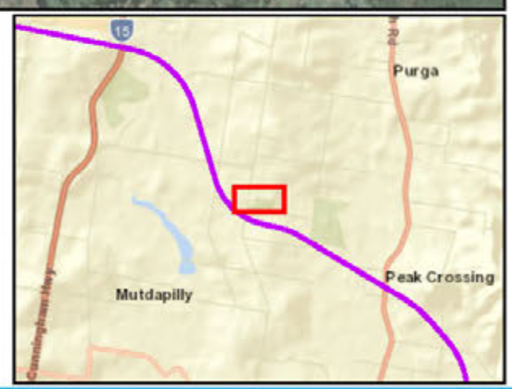
Calvert to Kagaru
Figure G1ar:
Identified sensitive receptor locations

Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Map by: MF Z:\GIS\GIS_3400_C2K\Tasks\340_EAP-20190213\0839_Air_Quality_Figures\FIN_A3_Fig_G1_part2_C2K_AirQualityReceptors_v2.mxd Date: 14/03/2019 12:36

Legend

- Sensitive receptors
- C2K project alignment
- Minor roads
- EIS disturbance footprint



A3 scale: 1:3,200

0 25 50 75 100m

Future Freight
Integrating Community, Environment and Engineering

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Coordinate System: GDA 1994 MGA Zone 56

Calvert to Kagaru
Figure G1as:
Identified sensitive receptor locations

Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Map by: MF Z:\GIS\GIS_3400_C2K\Tasks\945 EAP-20190213\MXD\EAP-20190213_Air_Quality_Figures\FFJV_A3_Fig_G1_part2_C2K_AirQualityReceptors_v2.mxd Date: 14/03/2019 12:36

Legend
- Sensitive receptors
- Minor roads

A3 scale: 1:3,200
0 25 50 75 100m

Future Freight
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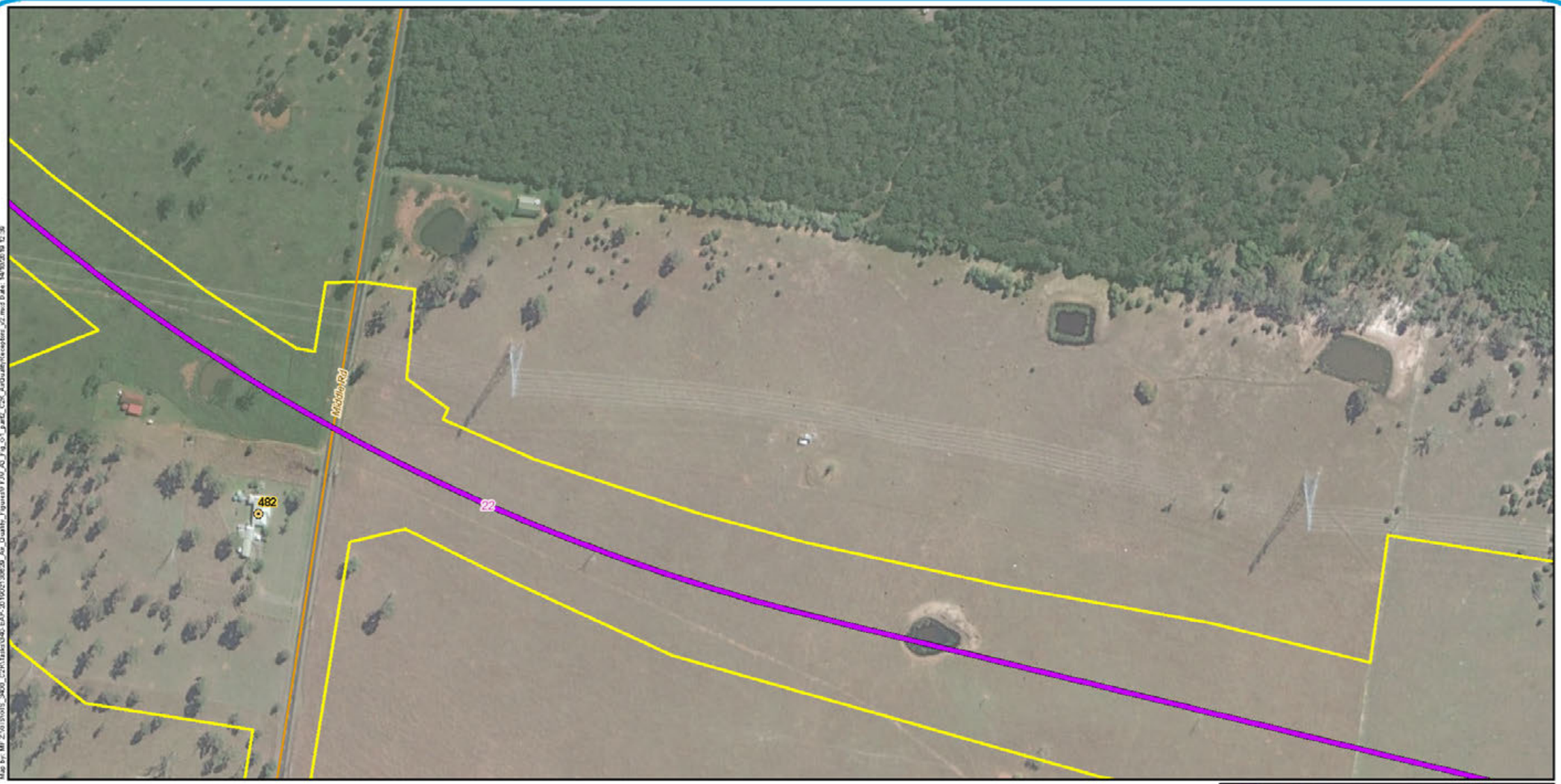
Coordinate System: GDA 1994 MGA Zone 56

Calvert to Kagaru
Figure G1at:
Identified sensitive receptor locations

Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



Legend
- Sensitive receptors
- C2K project alignment
- Minor roads
- EIS disturbance footprint

A3 scale: 1:3,200
0 25 50 75 100m

Future Freight
Integrating Community, Environment and Engineering

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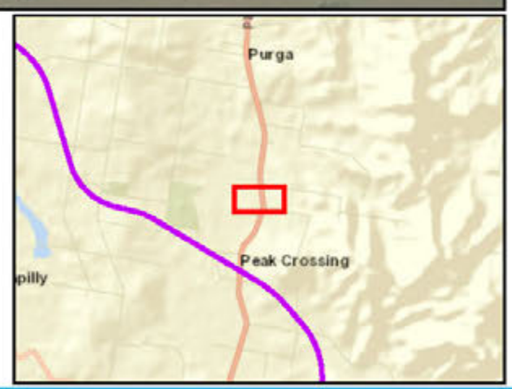
Coordinate System: GDA 1994 MGA Zone 56

Calvert to Kagaru
Figure G1au:
Identified sensitive receptor locations

Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Map by: MF Z:\GIS\GIS_3400_C2K\Tasks\040_EAR-20190213839_Air_Quality_Figures\FFW_A3_Fig_01_part2_C2K_AirQualityReceptors_v2.mxd Date: 14/03/2019 12:36

Legend
- Sensitive receptors
- Minor roads



A3 scale: 1:3,200
0 25 50 75 100m

Future Freight
Integrating Community, Environment and Engineering

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Coordinate System: GDA 1994 MGA Zone 56

Calvert to Kagaru
Figure G1av:
Identified sensitive receptor locations

Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Map by: MF Z:\GIS\GIS_3400_C2K\Tasks\340_EAR_20190213839_Air_Quality_Figures\FAV_A3_Fig_G1_part2_C2K_AirQualityReceptors_v2.mxd Date: 14/03/2019 12:36

Legend
- Sensitive receptors
- Minor roads

A3 scale: 1:3,200
0 25 50 75 100m

Future Freight
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Coordinate System: GDA 1994 MGA Zone 56

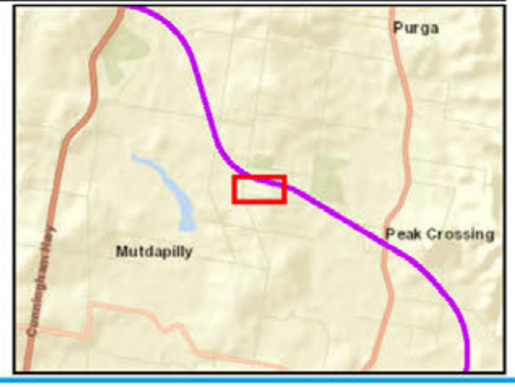
Calvert to Kagaru
Figure G1aw:
Identified sensitive receptor locations

Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Map by: MF Z:\GIS\GIS_3400_C2K\Tasks\3340_EAP-20190215\3639_Air_Quality_Figures\FFJV_A3_Fig_G1_part2_C2K_AirQualityReceptors_v2.mxd Date: 14/10/2019 12:36

Legend

- Sensitive receptors
- C2K project alignment
- Minor roads
- EIS disturbance footprint



A3 scale: 1:3,200
0 25 50 75 100m

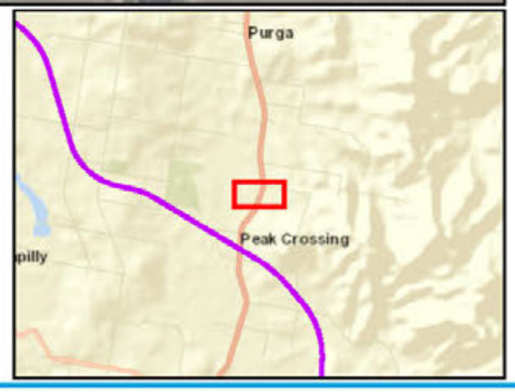
Future Freight
Integrating Community, Environment and Engineering

Issue date: 04/10/2019 Version: 0
Coordinate System: GDA 1994 MGA Zone 56

Calvert to Kagaru
Figure G1ax:
Identified sensitive receptor locations

Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Legend
- Sensitive receptors
- Minor roads



A3 scale: 1:3,200
0 25 50 75 100m

Future Freight
Integrating Community, Environment and Engineering

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Coordinate System: GDA 1994 MGA Zone 56

Calvert to Kagaru
Figure G1ay:
Identified sensitive receptor locations

Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Map by: MF Z:\GIS\GIS_3400_C2K\Tasks\340_EAP-20190215\3839_Air_Quality_Figures\FFJV_A3_Fig_G1_part2_C2K_AirQualityReceptors_v2.mxd Date: 14/10/2019 12:36

Legend
- Sensitive receptors
- Minor roads
- EIS disturbance footprint

A3 scale: 1:3,200
0 25 50 75 100m

Future Freight
Integrating Community, Environment and Engineering

Issue date: 04/10/2019 Version: 0
Coordinate System: GDA 1994 MGA Zone 56

Calvert to Kagaru
Figure G1az:
Identified sensitive receptor locations

Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Map by: MF Z:\GIS\GIS_3400_C2K\Tasks\3400_EAP-20190212\639_Air_Quality_Figures\FFW_A3_Fig_01_part2_C2K_AirQualityReceptors_v2.mxd Date: 14/10/2019 12:36

Legend
- Sensitive receptors
- Minor roads
- EIS disturbance footprint

A3 scale: 1:3,200
0 25 50 75 100m

Future Freight
Integrating Community, Environment and Engineering

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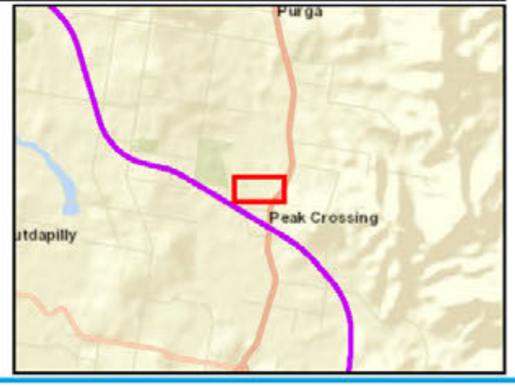
Coordinate System: GDA 1994 MGA Zone 56

Calvert to Kagaru
Figure G1ba:
Identified sensitive receptor locations

Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Map by: MF Z:\GIS\GIS_3400_C2H\Tasks\340_EAP-20190213\0639_Air_Quality_Figures\FIN_A3_Fig_01_part2_C2K_AirQualityReceptors_v2.mxd Date: 14/10/2019 12:36

Legend
- Sensitive receptors
- Minor roads



A3 scale: 1:3,200
0 25 50 75 100m

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Integrating Community, Environment and Engineering

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Coordinate System: GDA 1994 MGA Zone 56

Calvert to Kagaru
Figure G1bb:
Identified sensitive receptor locations

Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Map by: MF Z:\GIS\GIS_3400_C2K\Tasks\3400_EAP-20190213039_Air_Quality_Figures\FJV_A3_Fig_01_part2_C2K_AirQualityReceptors_v2.mxd Date: 14/10/2019 12:36

Legend

- Sensitive receptors
- Minor roads

A3 scale: 1:3,200

0 25 50 75 100m

Future Freight
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Coordinate System: GDA 1994 MGA Zone 56

Calvert to Kagaru
Figure G1bc:
Identified sensitive receptor locations

Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Legend
- Sensitive receptors
- Crossing loops
- C2K project alignment
- Minor roads
- EIS disturbance footprint

A3 scale: 1:3,200
0 25 50 75 100m

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Coordinate System: GDA 1994 MGA Zone 56

Calvert to Kagaru
Figure G1bd:
Identified sensitive receptor locations

Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Legend
- Sensitive receptors
- Crossing loops
- C2K project alignment
- Minor roads
- EIS disturbance footprint

A3 scale: 1:3,200
0 25 50 75 100m

Future Freight
Integrating Community, Environment and Engineering

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Coordinate System: GDA 1994 MGA Zone 56

Calvert to Kagaru
Figure G1be:
Identified sensitive receptor locations

Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Map by: MF Z:\GIS\GIS_3400_C2K\Tasks\3400_EAP-20190213\3539_Air_Quality_Figures\FFJV_A3_Fig_01_part2_C2K_AirQualityReceptors_v2.mxd Date: 14/03/2019 12:36

Legend
- Sensitive receptors
- Crossing loops
- C2K project alignment
- Minor roads
- EIS disturbance footprint

A3 scale: 1:3,200
0 25 50 75 100m

Future Freight
Integrating Community, Environment and Engineering

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Coordinate System: GDA 1994 MGA Zone 56

Calvert to Kagaru
Figure G1bf:
Identified sensitive receptor locations

Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Legend
- Sensitive receptors
- Minor roads

A3 scale: 1:3,200
0 25 50 75 100m

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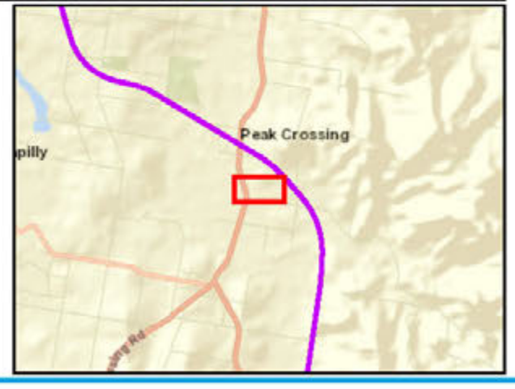
Coordinate System: GDA 1994 MGA Zone 56

Calvert to Kagaru
Figure G1bg:
Identified sensitive receptor locations

Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Legend
- Sensitive receptors
- Minor roads
- EIS disturbance footprint



A3 scale: 1:3,200
0 25 50 75 100m

Future Freight
Integrating Community, Environment and Engineering

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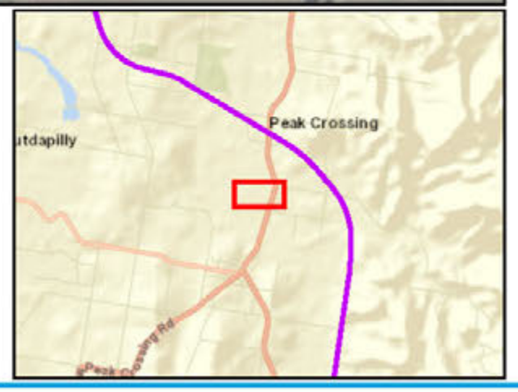
Coordinate System: GDA 1994 MGA Zone 56

Calvert to Kagaru
Figure G1bh:
Identified sensitive receptor locations

Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Legend
- Sensitive receptors
- Minor roads



A3 scale: 1:3,200
0 25 50 75 100m

Future Freight
Integrating Community, Environment and Engineering

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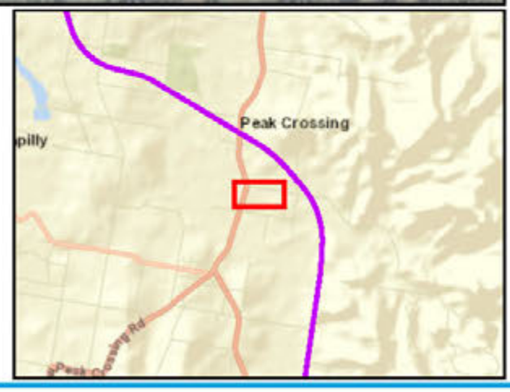
Coordinate System: GDA 1994 MGA Zone 56

Calvert to Kagaru
Figure G1bi:
Identified sensitive receptor locations

Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Legend
- Sensitive receptors
- Minor roads



A3 scale: 1:3,200
0 25 50 75 100m

Future Freight
Integrating Community, Environment and Engineering

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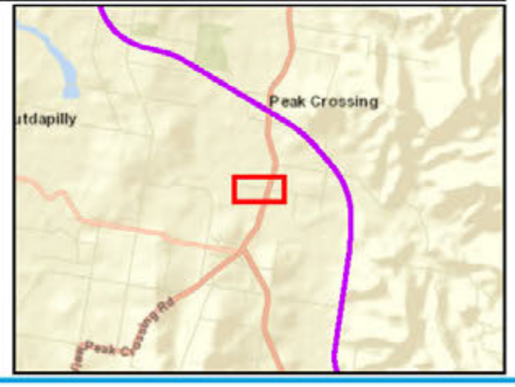
Coordinate System: GDA 1994 MGA Zone 56

Calvert to Kagaru
Figure G1bj:
Identified sensitive receptor locations

Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Legend
- Sensitive receptors
- Minor roads



A3 scale: 1:3,200
0 25 50 75 100m

Future Freight
Integrating Community, Environment and Engineering

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Coordinate System: GDA 1994 MGA Zone 56

Calvert to Kagaru
Figure G1bk:
Identified sensitive receptor locations

Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Legend

- Sensitive receptors
- Minor roads

A3 scale: 1:3,200

0 25 50 75 100m

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Coordinate System: GDA 1994 MGA Zone 56

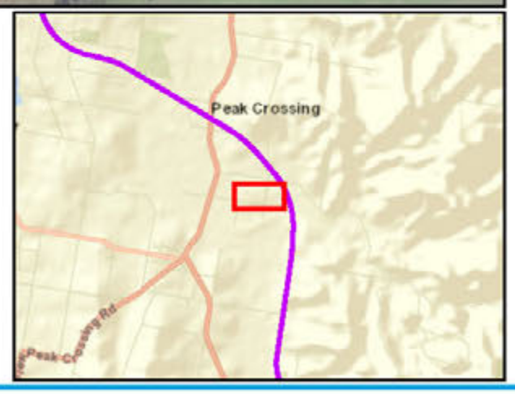
Calvert to Kagaru
Figure G1bl:
Identified sensitive receptor locations

Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Map by: MF Z:\GIS\GIS_3400_C2K\Tasks\340_EAR-20190213\0639_Air_Quality_Figures\FFJV_A3_Fig_G1_part2_C2K_AirQualityReceptors_v2.mxd Date: 14/03/2019 12:36

Legend

- Sensitive receptors
- C2K project alignment
- Minor roads
- EIS disturbance footprint



A3 scale: 1:3,200

0 25 50 75 100m

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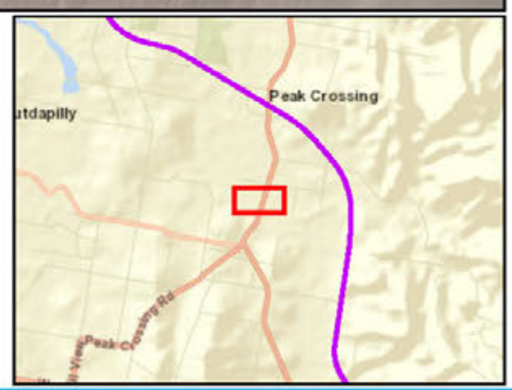
Coordinate System: GDA 1994 MGA Zone 56

Calvert to Kagaru
Figure G1bm:
Identified sensitive receptor locations

Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Map by: MF Z:\GIS\GIS_3400_C2K\Tasks\3400_EAP-20190213\3639_Air_Quality_Figures\FFJV_AQ_Fig_01_part2_C2K_AirQualityReceptors_v2.mxd Date: 14/03/2019 12:36

Legend
- Sensitive receptors
- Minor roads
- Watercourses



A3 scale: 1:3,200
0 25 50 75 100m

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Integrating Community, Environment and Engineering

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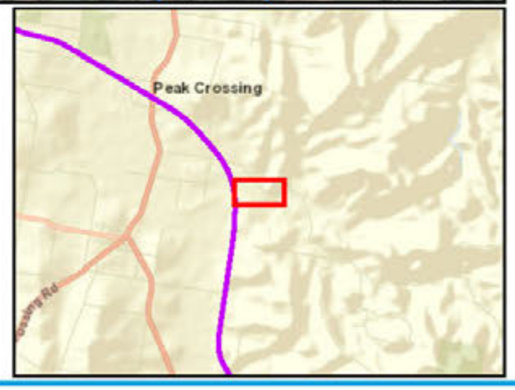
Coordinate System: GDA 1994 MGA Zone 56

Calvert to Kagaru
Figure G1bn:
Identified sensitive receptor locations

Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Map by: MF Z:\GIS\GIS_3400_C2K\Tasks\3340_EAP-20190213\3639_Air_Quality_Figures\FFJV_A3_Fig_01_part2_C2K_AirQualityReceptors_v2.mxd Date: 14/10/2019 12:36

Legend
- Sensitive receptors
- C2K project alignment
- Minor roads
- Watercourses
- EIS disturbance footprint



A3 scale: 1:3,200
0 25 50 75 100m

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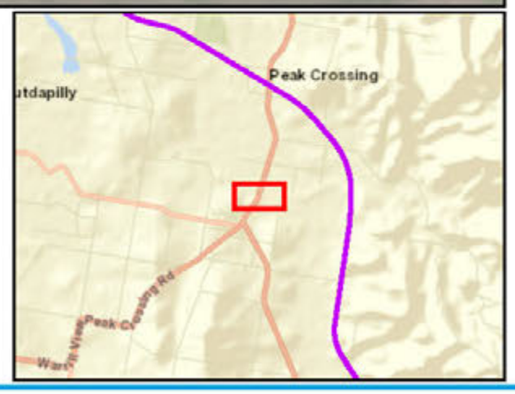
Coordinate System: GDA 1994 MGA Zone 56

Calvert to Kagaru
Figure G1bo:
Identified sensitive receptor locations

Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Map by: MF Z:\GIS\GIS_3400_C2K\Tasks\340_EAR-20190213839_Ala_Duaith_Figures\FFJV_A3_Fig_01_part2_C2K_AirQuality\Receptors_v2.mxd Date: 14/03/2019 12:36

Legend
- Sensitive receptors
- Minor roads
- Watercourses



A3 scale: 1:3,200
0 25 50 75 100m

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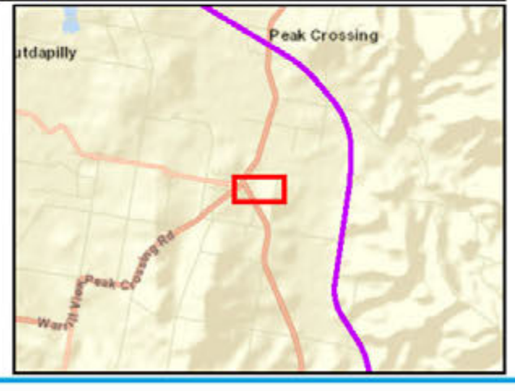
Coordinate System: GDA 1994 MGA Zone 56

Calvert to Kagaru
Figure G1bp:
Identified sensitive receptor locations

Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Legend
- Sensitive receptors
- Localities
- Minor roads



A3 scale: 1:3,200
0 25 50 75 100m

Future Freight
Integrating Community, Environment and Engineering

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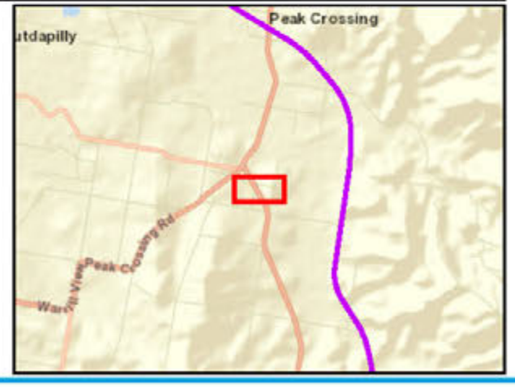
Coordinate System: GDA 1994 MGA Zone 56

Calvert to Kagaru
Figure G1bq:
Identified sensitive receptor locations

Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Legend
- Sensitive receptors
- Minor roads



A3 scale: 1:3,200
0 25 50 75 100m

Future Freight
Integrating Community, Environment and Engineering

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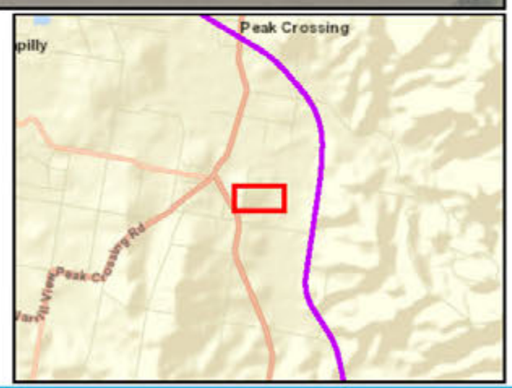
Coordinate System: GDA 1994 MGA Zone 56

Calvert to Kagaru
Figure G1br:
Identified sensitive receptor locations

Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Map by: MF Z:\GIS\GIS_3400_C2K\Tasks\3400_EAP_20190213\3939_Air_Quality_Figures\FJV_A3_Fig_G1_part2_C2K_AirQualityReceptors_v2.mxd Date: 14/03/2019 12:36

Legend
- Sensitive receptors
- Minor roads
- Watercourses



A3 scale: 1:3,200
0 25 50 75 100m

Future Freight
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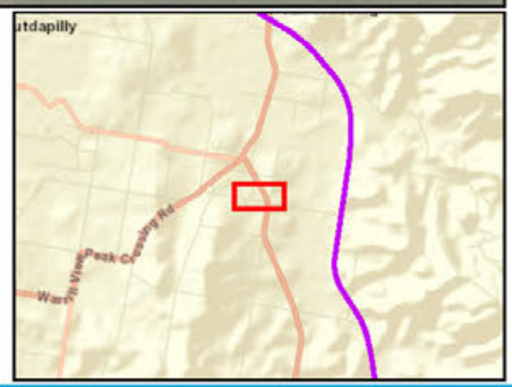
Coordinate System: GDA 1994 MGA Zone 56

Calvert to Kagaru
Figure G1bs:
Identified sensitive receptor locations

Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Legend
- Sensitive receptors
- Minor roads



A3 scale: 1:3,200
0 25 50 75 100m

Future Freight
Integrating Community, Environment and Engineering

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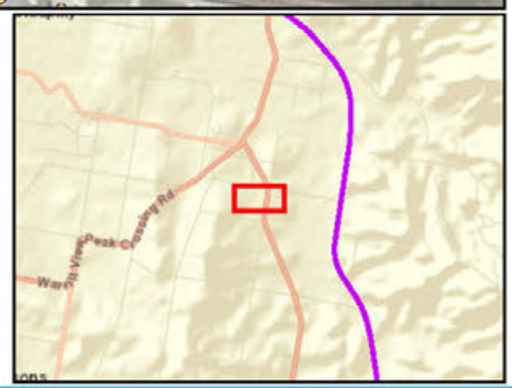
Coordinate System: GDA 1994 MGA Zone 56

Calvert to Kagaru
Figure G1bt:
Identified sensitive receptor locations

Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Map by: MF Z:\GIS\GIS_3400_C2K\Tasks\3402_EAP_20190218\3859_Air_Quality_Figures\FFW_A3_Fig_G1_part2_C2K_AirQualityReceptors_v2.mxd Date: 14/03/2019 12:36

Legend
- Sensitive receptors
- Minor roads



A3 scale: 1:3,200
0 25 50 75 100m

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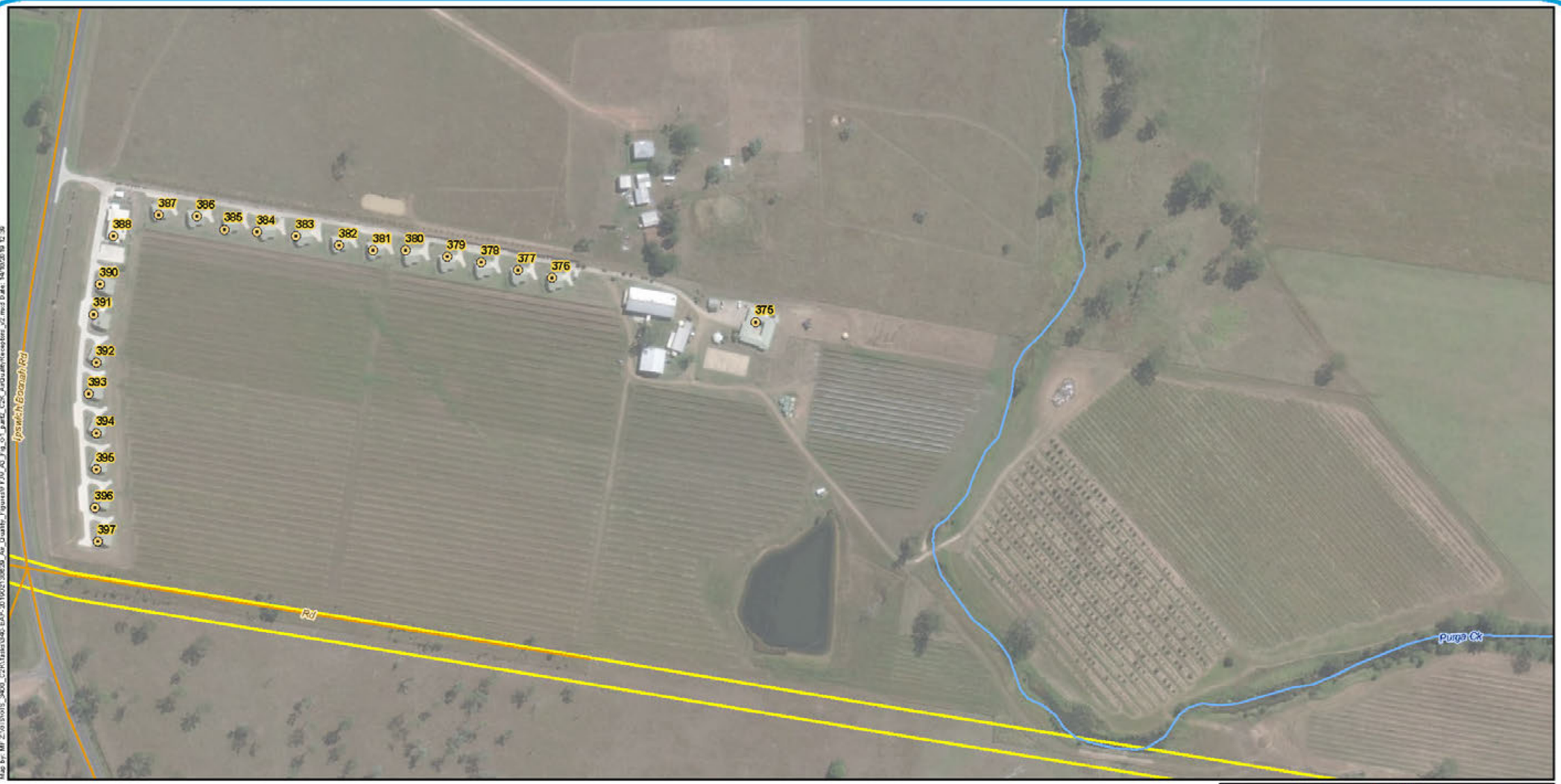
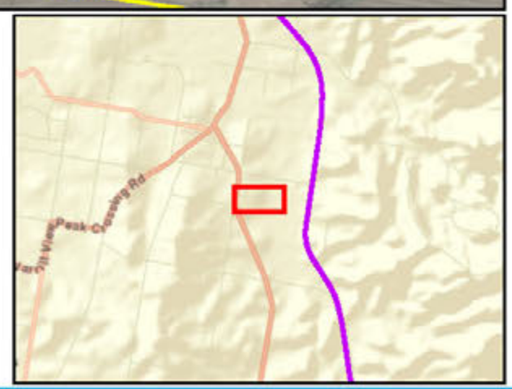
Coordinate System: GDA 1994 MGA Zone 56

Calvert to Kagaru
Figure G1bu:
Identified sensitive receptor locations

Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



Legend
- Sensitive receptors
- Minor roads
- Watercourses
- EIS disturbance footprint



A3 scale: 1:3,200
0 25 50 75 100m

Future Freight
Integrating Community, Environment and Engineering

Issue date: 04/10/2019 Version: 0
Coordinate System: GDA 1994 MGA Zone 56

Calvert to Kagaru
Figure G1bv:
Identified sensitive receptor locations

Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Map by: MF Z:\GIS\GIS_3400_C2H\Tasks\3340_EAR-20190213\3339_Air_Quality_Figures\FIN_A3_Fig_01_part2_C2K_AirQualityReceptors_v2.mxd Date: 14/03/2019 12:36

Legend
- Sensitive receptors
- Minor roads

A3 scale: 1:3,200
0 25 50 75 100m

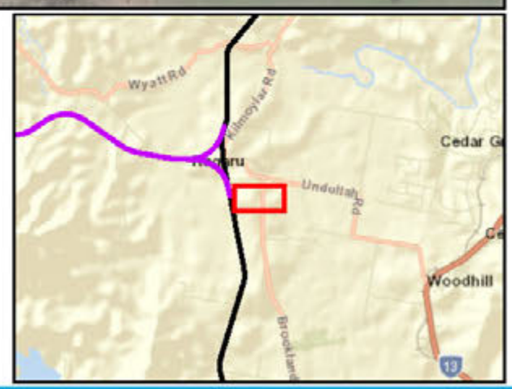
Future Freight
Integrating Community, Environment and Engineering

Issue date: 04/10/2019 Version: 0
Coordinate System: GDA 1994 MGA Zone 56

Calvert to Kagaru
Figure G1bw:
Identified sensitive receptor locations

Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Legend
- Sensitive receptors
- Minor roads



A3 scale: 1:3,200
0 25 50 75 100m

Future Freight
Integrating Community, Environment and Engineering

Issue date: 04/10/2019 Version: 0
Coordinate System: GDA 1994 MGA Zone 56

Calvert to Kagaru
Figure G1bx:
Identified sensitive receptor locations

Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Map by: MF Z:\61SVS\61SVS_3400_C2K\Tasks\340_EAR-20190213839_Air_Quality_Figures\FFJV_A3_Fig_01_part2_C2K_AirQualityReceptors_v2.mxd Date: 14/10/2019 12:36

Legend

- Sensitive receptors
- Existing rail
- K2ARB project alignment
- Minor roads

A3 scale: 1:3,200

0 25 50 75 100m

Future Freight
Integrating Community, Environment and Engineering

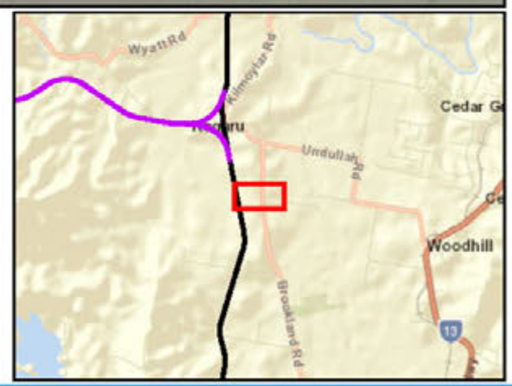
Issue date: 04/10/2019 Version: 0
Coordinate System: GDA 1994 MGA Zone 56

Calvert to Kagaru
Figure G1by:
Identified sensitive receptor locations

Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Legend

- Sensitive receptors
- Existing rail
- K2ARB project alignment
- Minor roads



A3 scale: 1:3,200
0 25 50 75 100m

Future Freight
Integrating Community, Environment and Engineering

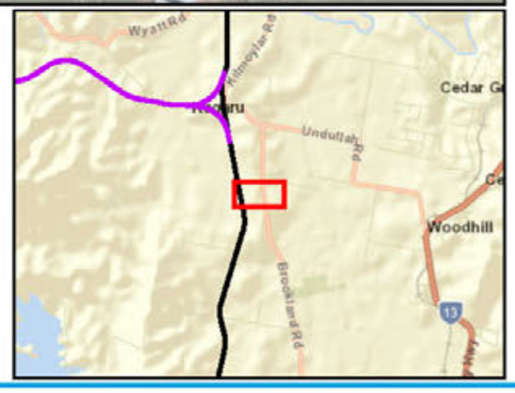
Issue date: 04/10/2019 Version: 0
Coordinate System: GDA 1994 MGA Zone 56

Calvert to Kagaru
Figure G1bz:
Identified sensitive receptor locations

Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Map by: MF Z:\GIS\GIS_3400_C2K\Tasks\040_EAP_20190213\3639_Air_Quality_Figures\FIN_A3_Fig_G1_part2_C2K_AirQualityReceptors_v2.mxd Date: 14/03/2019 12:36

Legend
- Sensitive receptors
- Existing rail
- K2ARB project alignment
- Minor roads



A3 scale: 1:3,200
0 25 50 75 100m

Future Freight
Integrating Community, Environment and Engineering

Issue date: 04/10/2019 Version: 0
Coordinate System: GDA 1994 MGA Zone 56

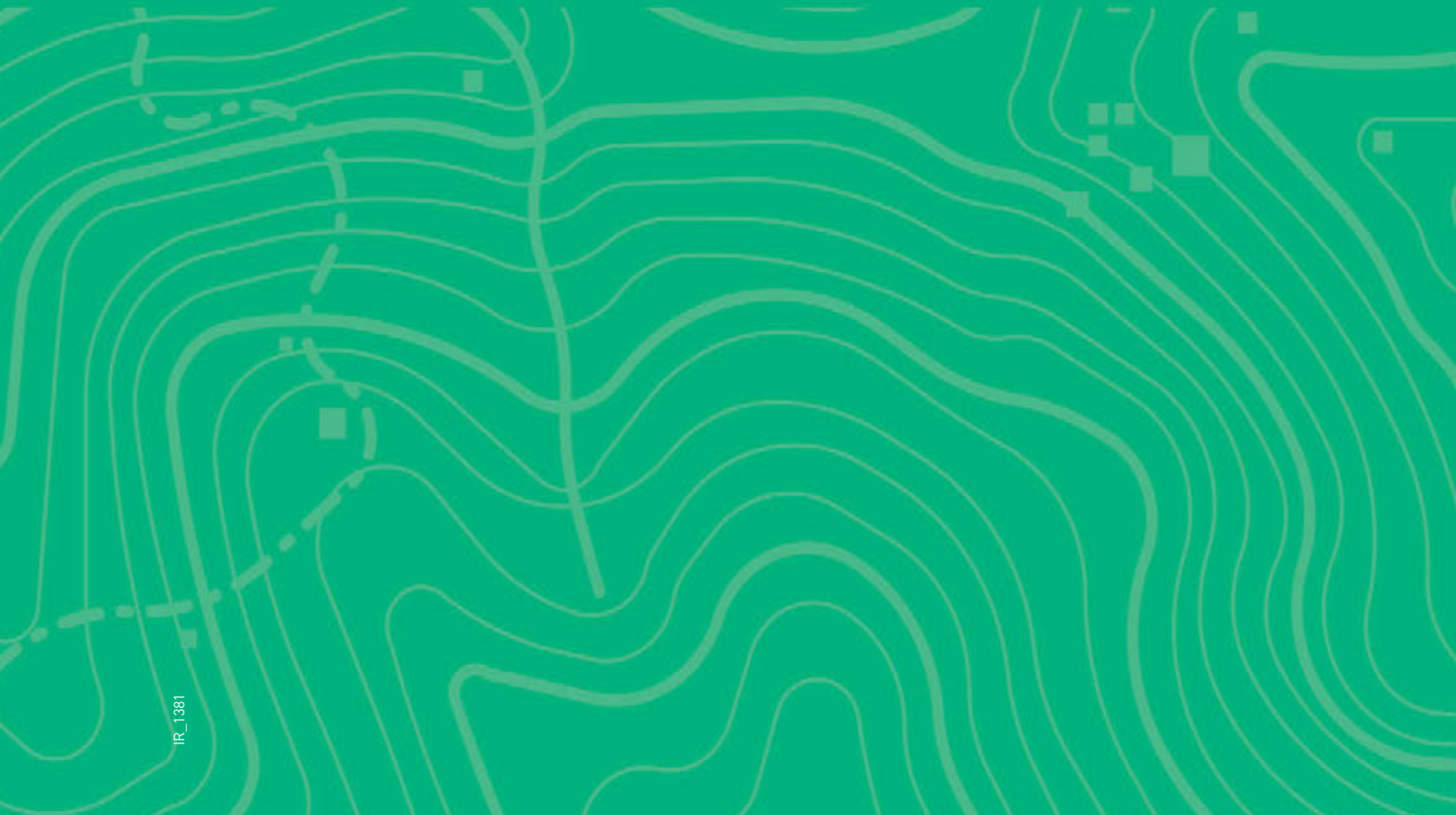
Calvert to Kagaru
Figure G1ca:
Identified sensitive receptor locations

APPENDIX L

Air Quality Technical Report

Appendix H Example CALPUFF Input File

CALVERT TO KAGARU ENVIRONMENTAL IMPACT STATEMENT



IR_1381

Appendix H
Example CALPUFF Input File

CALPUFF.INP 7.0 Generated by CALPUFF View 8.6.0 - 20/02/2019

```
---------- 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 = *
   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 = CALPUFF.LST !
CONC.DAT      output   ! CONDAT = CONC.DAT !
DFLX.DAT      output   ! DFDAT = DFLX.DAT !
WFLX.DAT      output   ! WFDAT = WFLX.DAT !

VISB.DAT      output   * VISDAT = *
TK2D.DAT      output   * T2DDAT = *
RHO2D.DAT     output   * RHODAT = *
RESTARTE.DAT  output   * RSTARTE = *
------------------------------------------------------------------------------
Other Files
-----------
OZONE.DAT     input    * OZDAT = *
VD.DAT        input    * VDDAT = *
CHEM.DAT      input    * CHEMDAT = *
AUX           input    * AUXEXT = *
(Extension added to METDAT filename(s) for files
 with auxiliary 2D and 3D data)
H2O2.DAT      input    * H2O2DAT = *
NH3Z.DAT      input    * NH3ZDAT = *
HILL.DAT      input    * HILDAT = *
HILLRCT.DAT   input    * RCTDAT = *
COASTLN.DAT   input    * CSTDAT = *
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 = *
PFTRAK.DAT    output   * TRKDAT = *
------------------------------------------------------------------------------
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 = F !
        F = UPPER CASE
NOTE: (1) file/path names can be up to 132 characters in length
```

```
Provision for multiple input files
----------------------------------
    Number of CALMET.DAT Domains (NMETDOM)
                        Default: 1      ! NMETDOM = 1 !

    Number of CALMET.DAT files (NMETDAT)
    (Total for ALL Domains)
                        Default: 1      ! NMETDAT = 36 !

    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 !

    Number of FLARE source files (FLEMARB.DAT)
    with time-varying data (NFLDAT)
                        Default: 0      ! NFLDAT = 0 !

    Number of ROAD source files (RDEMARB.DAT)
    with time-varying data (NRDDAT)
                        Default: 0      ! NRDDAT = 0 !

    Number of BUOYANT LINE source files (LNEMARB.DAT)
    with time-varying data (NLNDAT)
                        Default: 0      ! NLNDAT = 0 !
    Note:  Only 1 BUOYANT LINE source file is allowed
    -----

!END!

-------------
Subgroup (0a)
-------------
  Provide a name for each CALMET domain if NMETDOM > 1
  Enter NMETDOM lines.
                          a,b
Default Name          Domain Name
------------          ------------
* DOMAINLIST = *


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

  Enter NMETDAT lines, 1 line for each file name.

                          a,c,d
Default Name  Type         File Name
------------  ----         ---------
 none         input    ! METDAT= \CALMET_2013-09-02-00-0000-2013-09-12-00-0000.DAT    !  !END!
 none         input    ! METDAT= \CALMET_2013-08-23-00-0000-2013-09-02-00-0000.DAT    !  !END!
 none         input    ! METDAT= \CALMET_2013-09-22-00-0000-2013-10-02-00-0000.DAT    !  !END!
 none         input    ! METDAT= \CALMET_2013-09-12-00-0000-2013-09-22-00-0000.DAT    !  !END!
 none         input    ! METDAT= \CALMET_2013-08-12-00-0000-2013-08-23-00-0000.DAT    !  !END!
 none         input    ! METDAT= \CALMET_2013-07-13-00-0000-2013-07-23-00-0000.DAT    !  !END!
 none         input    ! METDAT= \CALMET_2013-07-03-00-0000-2013-07-13-00-0000.DAT    !  !END!
 none         input    ! METDAT= \CALMET_2013-08-02-00-0000-2013-08-12-00-0000.DAT    !  !END!
 none         input    ! METDAT= \CALMET_2013-07-23-00-0000-2013-08-02-00-0000.DAT    !  !END!
 none         input    ! METDAT= \CALMET_2013-12-02-00-0000-2013-12-12-00-0000.DAT    !  !END!
 none         input    ! METDAT= \CALMET_2013-11-22-00-0000-2013-12-02-00-0000.DAT    !  !END!
 none         input    ! METDAT= \CALMET_2013-12-22-00-0000-2013-12-31-23-0000.DAT    !  !END!
 none         input    ! METDAT= \CALMET_2013-12-12-00-0000-2013-12-22-00-0000.DAT    !  !END!
 none         input    ! METDAT= \CALMET_2013-11-11-00-0000-2013-11-22-00-0000.DAT    !  !END!
 none         input    ! METDAT= \CALMET_2013-10-12-00-0000-2013-10-22-00-0000.DAT    !  !END!
 none         input    ! METDAT= \CALMET_2013-10-02-00-0000-2013-10-12-00-0000.DAT    !  !END!
 none         input    ! METDAT= \CALMET_2013-11-01-00-0000-2013-11-11-00-0000.DAT    !  !END!
 none         input    ! METDAT= \CALMET_2013-10-22-00-0000-2013-11-01-00-0000.DAT    !  !END!
```

```
 none        input    ! METDAT= \CALMET_2013-03-04-00-0000-2013-03-14-00-0000.DAT    !  !END!
 none        input    ! METDAT= \CALMET_2013-02-22-00-0000-2013-03-04-00-0000.DAT    !  !END!
 none        input    ! METDAT= \CALMET_2013-03-24-00-0000-2013-04-03-00-0000.DAT    !  !END!
 none        input    ! METDAT= \CALMET_2013-03-14-00-0000-2013-03-24-00-0000.DAT    !  !END!
 none        input    ! METDAT= \CALMET_2013-02-11-00-0000-2013-02-22-00-0000.DAT    !  !END!
 none        input    ! METDAT= \CALMET_2013-01-12-00-0000-2013-01-22-00-0000.DAT    !  !END!
 none        input    ! METDAT= \CALMET_2013-01-01-01-0000-2013-01-12-00-0000.DAT    !  !END!
 none        input    ! METDAT= \CALMET_2013-02-01-00-0000-2013-02-11-00-0000.DAT    !  !END!
 none        input    ! METDAT= \CALMET_2013-01-22-00-0000-2013-02-01-00-0000.DAT    !  !END!
 none        input    ! METDAT= \CALMET_2013-06-03-00-0000-2013-06-13-00-0000.DAT    !  !END!
 none        input    ! METDAT= \CALMET_2013-05-24-00-0000-2013-06-03-00-0000.DAT    !  !END!
 none        input    ! METDAT= \CALMET_2013-06-23-00-0000-2013-07-03-00-0000.DAT    !  !END!
 none        input    ! METDAT= \CALMET_2013-06-13-00-0000-2013-06-23-00-0000.DAT    !  !END!
 none        input    ! METDAT= \CALMET_2013-05-13-00-0000-2013-05-24-00-0000.DAT    !  !END!
 none        input    ! METDAT= \CALMET_2013-04-13-00-0000-2013-04-23-00-0000.DAT    !  !END!
 none        input    ! METDAT= \CALMET_2013-04-03-00-0000-2013-04-13-00-0000.DAT    !  !END!
 none        input    ! METDAT= \CALMET_2013-05-03-00-0000-2013-05-13-00-0000.DAT    !  !END!
 none        input    ! METDAT= \CALMET_2013-04-23-00-0000-2013-05-03-00-0000.DAT    !  !END!
```

---

a

The name for each CALMET domain and each CALMET.DAT file is treated as a separate input subgroup and therefore must end with an input group terminator.

b

Use DOMAIN1= to assign the name for the outermost CALMET domain.
Use DOMAIN2= to assign the name for the next inner CALMET domain.
Use DOMAIN3= to assign the name for the next inner CALMET domain, etc.

When inner domains with equal resolution (grid-cell size) overlap, the data from the FIRST such domain in the list will be used if all other criteria for choosing the controlling grid domain are inconclusive.

c

Use METDAT1= to assign the file names for the outermost CALMET domain.
Use METDAT2= to assign the file names for the next inner CALMET domain.
Use METDAT3= to assign the file names for the next inner CALMET domain, etc.

d

The filenames for each domain must be provided in sequential order

---

Subgroup (0b) – PTEMARB.DAT files

POINT Source File Names
The following PTEMARB.DAT filenames are processed if NPTDAT>0
A total of NPTDAT lines is expected with one file name assigned per line
Each line is treated as an input group and must terminate with END
(surrounded by delimiters)
(Each file contains emissions parameters for the entire period modeled for 1 or more sources)

Default Name	Type	File Name
* PTDATLIST = *		

Subgroup (0c) – BAEMARB.DAT files

BUOYANT AREA Source File Names
The following BAEMARB.DAT filenames are processed if NARDAT>0
A total of NARDAT lines is expected with one file name assigned per line
Each line is treated as an input group and must terminate with END
(surrounded by delimiters)
(Each file contains emissions parameters for the entire period modeled for 1 or more sources)

```
Default Name  Type          File Name
------------  ----          ---------
* ARDATLIST = *


-------------
Subgroup (0d) – VOLEMARB.DAT files
-------------

  VOLUME Source File Names
  The following VOLEMARB.DAT filenames are processed if NVOLDAT>0
  A total of NVOLDAT lines is expected with one file name assigned per line
  Each line is treated as an input group and must terminate with END
  (surrounded by delimiters)
  (Each file contains emissions parameters for the entire period modeled
   for 1 or more sources)

Default Name  Type          File Name
------------  ----          ---------
* VOLDATLIST = *

-------------
Subgroup (0e) – FLEMARB.DAT files
-------------

  FLARE Source File Names
  The following FLEMARB.DAT filenames are processed if NFLDAT>0
  A total of NFLDAT lines is expected with one file name assigned per line
  Each line is treated as an input group and must terminate with END
  (surrounded by delimiters)
  (Each file contains emissions parameters for the entire period modeled
   for 1 or more sources)

Default Name  Type          File Name
------------  ----          ---------
* FLEMARBLIST = *


-------------
Subgroup (0f) – RDEMARB.DAT files
-------------

  ROAD Source File Names
  The following RDEMARB.DAT filenames are processed if NRDDAT>0
  A total of NRDDAT lines is expected with one file name assigned per line
  Each line is treated as an input group and must terminate with END
  (surrounded by delimiters)
  (Each file contains emissions parameters for the entire period modeled
   for 1 or more sources)

Default Name  Type          File Name
------------  ----          ---------
* RDEMARBLIST = *


-------------
Subgroup (0g) – LNEMARB.DAT file
-------------

  BUOYANT LINE Source File Name  (not more than 1)
  The following LNEMARB.DAT filename is processed if NLNDAT>0
  The assignment is treated as an input group and must terminate with END
  (surrounded by delimiters)

Default Name  Type          File Name
------------  ----          ---------
* LNEMARBLIST = *

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

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 = 2013 !
Month (IBMO) -- No default ! IBMO = 1 !
Day (IBDY) -- No default ! IBDY = 1 !
Starting time: Hour (IBHR) -- No default ! IBHR = 1 !
Minute (IBMIN) -- No default ! IBMIN = 0 !
Second (IBSEC) -- No default ! IBSEC = 0 !

Ending date: Year (IEYR) -- No default ! IEYR = 2013 !
Month (IEMO) -- No default ! IEMO = 2 !
Day (IEDY) -- No default ! IEDY = 1 !
Ending time: Hour (IEHR) -- No default ! IEHR = 1 !
Minute (IEMIN) -- No default ! IEMIN = 0 !
Second (IESEC) -- No default ! IESEC = 0 !

(These are only used if METRUN = 0)

Base time zone: (ABTZ) -- No default ! ABTZ = UTC+1000 !
(character*8)
The modeling domain may span multiple time zones. ABTZ defines the
base time zone used for the entire simulation. This must match the
base time zone of the meteorological data.
Examples:
Greenwich Mean Time (GMT) = UTC+0000
EST = UTC-0500
CST = UTC-0600
MST = UTC-0700
PST = UTC-0800
Los Angeles, USA = UTC-0800
New York, USA = UTC-0500
Santiago, Chile = UTC-0400
UK = UTC+0000
Western Europe = UTC+0100
Rome, Italy = UTC+0100
Cape Town, S.Africa = UTC+0200
Sydney, Australia = UTC+1000

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 = 6 !

Number of chemical species
to be emitted (NSE) Default: 3 ! NSE = 6 !

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)

    Sigma-y is adjusted by the factor (AVET/PGTIME)**0.2 to either
    decrease it if the averaging time selected is less than the base
    averaging time, or increase it if the averaging time is greater.
    The base averaging time is denoted as PGTIME due to historical
    reasons as this adjustment was originally applied to the PG sigma
    option.  It is now applied to all dispersion options.
    The factor is applied to the ambient turbulence sigma-v (m/s) and
    does not alter buoyancy enhancement or far-field Heffter growth.

    Averaging Time (minutes) (AVET)
                          Default: 60.0    ! AVET = 60 !
    Base Averaging Time (minutes) (PGTIME)
                          Default: 60.0    ! PGTIME = 60 !

    Output units for binary concentration and flux files
    written in Dataset v2.2 or later formats
    (IOUTU)                    Default: 1       ! IOUTU = 1 !
       1 = mass      -  g/m3 (conc) or g/m2/s (dep)
       2 = odour     -  odour_units (conc)
       3 = radiation -  Bq/m3 (conc) or Bq/m2/s (dep)

!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

Apply stack-tip downwash to FLARE sources?
(MTIP_FL) Default: 0 ! MTIP_FL = 0 !
0 = no (no stack-tip downwash)
1 = yes (apply stack-tip downwash)

Plume rise module for FLARE sources
(MRISE_FL) Default: 2 ! MRISE_FL = 2 !
1 = Briggs module
2 = Numerical rise module

Method used to simulate building
downwash? (MBDW) Default: 1 ! MBDW = 1 !
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)
5 = user-specified half-life with or
without transfer to child species
6 = transformation rates computed
internally (Updated RIVAD scheme with
ISORROPIA equilibrium)
7 = transformation rates computed
internally (Updated RIVAD scheme with
ISORROPIA equilibrium and CalTech SOA)

Aqueous phase transformation flag (MAQCHEM)
(Used only if MCHEM = 6, or 7) Default: 0 ! MAQCHEM = 0 !
0 = aqueous phase transformation
not modeled
1 = transformation rates and wet
scavenging coefficients adjusted
for in-cloud aqueous phase reactions
(adapted from RADM cloud model
implementation in CMAQ/SCICHEM)

Liquid Water Content flag (MLWC)
(Used only if MAQCHEM = 1) Default: 1 ! MLWC = 1 !
0 = water content estimated from cloud cover
and presence of precipitation
1 = gridded cloud water data read from CALMET
water content output files (filenames are
the CALMET.DAT names PLUS the extension
AUXEXT provided in Input Group 0)

Wet removal modeled ? (MWET) Default: 1 ! MWET = 1 !
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 = 0 !
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 =        TSP !          !END!
! CSPEC =        NOX !          !END!
! CSPEC =       PM10 !          !END!
! CSPEC =      PM2.5 !          !END!
! CSPEC =         CO !         !END!
! CSPEC =       TVOC !          !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.)

!        TSP  =        1,            1,         2,             0   !
!        NOX  =        1,            1,         1,             0   !
!       PM10  =        1,            1,         2,             0   !
!      PM2.5  =        1,            1,         2,             0   !
!         CO  =       1,            1,         1,            0   !
!       TVOC  =        1,            1,         0,             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 = 0.0 !
(FNORTH) Default=0.0 ! FNORTH = 0.0 !

UTM zone (1 to 60)
(Used only if PMAP=UTM)
(IUTMZN) No Default ! IUTMZN = 56 !

Hemisphere for UTM projection?
(Used only if PMAP=UTM)
(UTMHEM) Default: N ! UTMHEM = S !
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 = 0.00N !
(RLON0) No Default ! RLON0 = 0.00E !

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 = 30S !
(XLAT2) No Default ! XLAT2 = 60S !

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 (outermost if nested CALMET grids are used):

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

No. X grid cells (NX) No default ! NX = 300 !
No. Y grid cells (NY) No default ! NY = 200 !
No. vertical layers (NZ) No default ! NZ = 10 !

Grid spacing (DGRIDKM) No default ! DGRIDKM = 0.2 !
Units: km

Cell face heights
(ZFACE(nz+1)) No defaults
Units: m
! ZFACE = 0.0, 20.0, 40.0, 80.0, 160.0, 320.0, 640.0, 1200.0, 2000.0, 3000.0, 4000.0 !

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

X coordinate (XORIGKM) No default ! XORIGKM = 442.8000 !
Y coordinate (YORIGKM) No default ! YORIGKM = 6906 !
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 = 47 !
(1 <= IBCOMP <= NX)

Y index of LL corner (JBCOMP) No default ! JBCOMP = 132 !
(1 <= JBCOMP <= NY)

X index of UR corner (IECOMP) No default ! IECOMP = 145 !
(1 <= IECOMP <= NX)

Y index of UR corner (JECOMP) No default ! JECOMP = 182 !
(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 = 1 !
(IBCOMP <= IBSAMP <= IECOMP)

Y index of LL corner (JBSAMP) No default ! JBSAMP = 1 !
(JBCOMP <= JBSAMP <= JECOMP)

X index of UR corner (IESAMP) No default ! IESAMP = 2 !
(IBCOMP <= IESAMP <= IECOMP)

Y index of UR corner (JESAMP) No default ! JESAMP = 2 !
(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 = 1 !
2D Temperature (IT2D)	0	! IT2D = 0 !
2D Density (IRHO)	0	! IRHO = 0 !
Relative Humidity (IVIS) (relative humidity file is required for visibility analysis)	1	! IVIS = 0 !

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 PUFF-TRACKING OUTPUT OPTION:

Puff locations and properties reported to
PFTRAK.DAT file for postprocessing?
(IPFTRAK) Default: 0 ! IPFTRAK = 0 !
0 = no
1 = yes, update puff output at end of each timestep
2 = yes, update puff output at end of each sampling step

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 = 3 !
                  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
       6 =      TBq/m**3       TBq/m**2/s    TBq=terabecquerel
       7 =      GBq/m**3       GBq/m**2/s    GBq=gigabecquerel
       8 =       Bq/m**3        Bq/m**2/s    Bq=becquerel (disintegrations/s)

    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?
  -------      ------------------------   ------------------------   ------------------------   ---------------
!       PM2.5 =     1,         1,         1,         1,         1,         1,         0   !
!        PM10 =     1,         1,         1,         1,         1,         1,         0   !
!         NOX =     1,         1,         1,         1,         1,         1,         0   !
!         TSP =     1,         1,         1,         1,         1,         1,         0   !
```

```
!         CO =    1,         1,         1,         1,         1,         1,         0   !
!       TVOC =    1,         1,         1,         1,         1,         1,         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 = 1000 !

      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 = 0.0 !
      CALPUFF coordinate system, in Kilometers (MHILL=1)

      Y-origin of CTDM system relative to      No Default     ! YCTDMKM = 0.0 !
      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)
----        ----     ----    ------  -----  ------    ------    ------    -------    -------    -----     -----


---------------
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)
      -------    -----------     ----------     ----------    --------------------    ----------------------
!        CO =     0.186,           1,           2,            61,                44 !
!        NOX =    0.1656,          1,           8,            5,                 3.5 !


!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 NAME	GEOMETRIC MASS MEAN DIAMETER (microns)	GEOMETRIC STANDARD DEVIATION (microns)	
!	PM10 =	0.48,	2	!
!	PM2.5 =	0.48,	1.5	!
!	TSP =	0.48,	2	!

!END!

INPUT GROUP: 9 -- Miscellaneous dry deposition parameters

Reference cuticle resistance (s/cm)
(RCUTR) Default: 30 ! RCUTR = 30 !
Reference ground resistance (s/cm)
(RGR) Default: 10 ! RGR = 10 !
Reference pollutant reactivity
(REACTR) Default: 8 ! REACTR = 8 !

Number of particle-size intervals used to
evaluate effective particle deposition velocity
(NINT) Default: 9 ! NINT = 9 !

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.
!	NOX =	0.00E00,	0.00E00 !
!	PM10 =	1.00E-04,	3.00E-05 !
!	PM2.5 =	1.00E-04,	3.00E-05 !
!	TSP =	0.00E00,	0.00E00 !

!END!

INPUT GROUP: 11a, 11b -- Chemistry Parameters

Subgroup (11a)

Several parameters are needed for one or more of the chemical transformation mechanisms. Those used for each mechanism are:

Mechanism (MCHEM)	M A	B A	R B	R R	R R	C V	H C	4 N	B N	S B	R M	O K	-	-	C O	D
	C	M	G	K	I	I	I	H	H	I	I	K	F	V	E	
	M	K	N	N	N	T	T	T	2	2	S	S	P	R	C	C
	O	O	H	H	H	E	E	E	O	O	R	R	M	A	N	A
	Z	3	3	3	3	1	2	3	2	2	P	P	F	C	X	Y
0 None	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
1 MESOPUFF II	X	X	.	.	X	X	X	X	.	.	.	.	.	.	.	.
2 User Rates	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
3 RIVAD	X	X	.	.	X	.	.	.	.	.	.	.	.	.	.	.
4 SOA	X	X	.	.	.	.	.	.	.	.	X	X	X	.		
5 Radioactive Decay	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	X
6 RIVAD/ISORRPIA	X	X	X	X	X	X	.	.	X	X	X	X	.	.	.	.
7 RIVAD/ISORRPIA/SOA	X	X	X	X	X	X	.	.	X	X	X	X	X	X	.	.

Ozone data input option (MOZ) Default: 1 ! MOZ = 1 !
(Used only if MCHEM = 1,3,4,6 or 7)
0 = use a monthly background ozone value
1 = read hourly ozone concentrations from
the OZONE.DAT data file

Monthly ozone concentrations in ppb (BCKO3)
(Used only if MCHEM = 1,3,4,6, or 7 and either
MOZ = 0, or
MOZ = 1 and all hourly O3 data missing)
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 !

Ammonia data option (MNH3) Default: 0 ! MNH3 = 0 !
(Used only if MCHEM = 6 or 7)
0 = use monthly background ammonia values (BCKNH3) - no vertical variation
1 = read monthly background ammonia values for each layer from
the NH3Z.DAT data file

Ammonia vertical averaging option (MAVGNH3)
(Used only if MCHEM = 6 or 7, and MNH3 = 1)
0 = use NH3 at puff center height (no averaging is done)
1 = average NH3 values over vertical extent of puff
Default: 1 ! MAVGNH3 = 1 !

Monthly ammonia concentrations in ppb (BCKNH3)
(Used only if MCHEM = 1 or 3, or
if MCHEM = 6 or 7, and MNH3 = 0)
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 in %/hour (RNITE1)
(Used only if MCHEM = 1, 6 or 7)
This rate is used only at night for MCHEM=1
and is added to the computed rate both day
and night for MCHEM=6,7 (heterogeneous reactions)
Default: 0.2 ! RNITE1 = 0.2 !

Nighttime NOx loss rate in %/hour (RNITE2)
(Used only if MCHEM = 1)
Default: 2.0 ! RNITE2 = 2 !

Nighttime HNO3 formation rate in %/hour (RNITE3)
(Used only if MCHEM = 1)
Default: 2.0 ! RNITE3 = 2 !

H2O2 data input option (MH2O2) Default: 1 ! MH2O2 = 1 !
(Used only if MCHEM = 6 or 7, and MAQCHEM = 1)
0 = use a monthly background H2O2 value
1 = read hourly H2O2 concentrations from

the H2O2.DAT data file

Monthly H2O2 concentrations in ppb (BCKH2O2)
(Used only if MQACHEM = 1 and either
MH2O2 = 0 or
MH2O2 = 1 and all hourly H2O2 data missing)
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 ISORROPIA Option
(used only if MCHEM = 6 or 7)

Minimum relative humidity used in ISORROPIA computations (RH_ISRP)
Default: 50. ! RH_ISRP = 50.0 !
Units: %

Minimum SO4 used in ISORROPIA computations (SO4_ISRP)
Default: 0.4 ! SO4_ISRP = 0.4 !
Units: ug/m3

--- Data for SECONDARY ORGANIC AEROSOL (SOA) Options
(used only if MCHEM = 4 or 7)

The MCHEM = 4 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)

The MCHEM = 7 SOA module uses monthly values of:
Fine particulate concentration in ug/m^3 (BCKPMF)
Organic fraction of fine particulate (OFRAC)

These characterize the air mass when computing
the formation of SOA from VOC emissions.
Typical values for several distinct air mass types are:

Month	1 Jan	2 Feb	3 Mar	4 Apr	5 May	6 Jun	7 Jul	8 Aug	9 Sep	10 Oct	11 Nov	12 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 Data for SECONDARY ORGANIC AEROSOL (SOA) Options

Number of half-life decay specification blocks provided in Subgroup 11b
(Used only if MCHEM = 5)
(NDECAY) Default: 0 ! NDECAY = 0 !

!END!

Subgroup (11b)

Each species modeled may be assigned a decay half-life (sec), and the associated mass lost may be assigned to one or more other modeled species using a mass yield factor. This information is used only for MCHEM=5.

Provide NDECAY blocks assigning the half-life for a parent species and mass yield factors for each child species (if any) produced by the decay.
Set HALF_LIFE=0.0 for NO decay (infinite half-life).

	a	b
SPECIES NAME	Half-Life (sec)	Mass Yield Factor
---	---	---

* SPECHLLIST = *

---
a
Specify a half life that is greater than or equal to zero for 1 parent species in each block, and set the yield factor for this species to -1
b
Specify a yield factor that is greater than or equal to zero for 1 or more child species in each block, and set the half-life for each of these species to -1

NOTE: Assignments in each block are treated as a separate input subgroup and therefore must end with an input group terminator.
If NDECAY=0, no assignments and input group terminators should appear.

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 = 550 !

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 = 0.01 !

Vertical dispersion constant for neutral/
unstable conditions (k2 in Eqn. 2.7-4)
(CONK2) Default: 0.1 ! CONK2 = 0.1 !

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 = 0.5 !
  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 !

Maximum travel distance of a puff/slug (in
grid units) during one sampling step
(XSAMLEN)                       Default: 1.0    ! XSAMLEN = 1 !

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 !
```

Minimum sigma z for a new puff/slug (m)
(SZMIN) Default: 1.0 ! SZMIN = 1 !

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 = 5000000 !

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 = 0.5, 0.5, 0.5, 0.5, 0.5, 0.5, 0.37, 0.37, 0.37, 0.37, 0.37, 0.37 !
! SWMIN = 0.2, 0.12, 0.08, 0.06, 0.03, 0.016, 0.2, 0.12, 0.08, 0.06, 0.03, 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 = 0.5 !

Maximum mixing height (m)
(XMAXZI) Default: 3000. ! XMAXZI = 3000 !

Minimum mixing height (m)
(XMINZI) Default: 50. ! XMINZI = 50 !

Temperatures (K) used for defining upper bound of
categories for emissions scale-factors
11 upper bounds (K) are entered; the 12th class has no upper limit
(TKCAT(11))
Default : 265., 270., 275., 280., 285., 290., 295., 300., 305., 310., 315. (315.+)
<< << << << << <Temperature Class : 1 2 3 4 5 6 7 8 9 10 11 (12)
---- ---- ---- ---- ---- ---- ---- ---- ---- ---- ----
! TKCAT = 265., 270., 275., 280., 285., 290., 295., 300., 305., 310., 315. !

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, 0.1, 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 = 0.02, 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 = 0.5, 0.5, 0.5, 0.5, 0.35, 0.35 !

Slug-to-puff transition criterion factor
equal to sigma-y/length of slug
(SL2PF) Default: 10. ! SL2PF = 10 !

Receptor-specific puff/slug properties (e.g., sigmas and height above
ground at the time when the trajectory is nearest the receptor) may be
extrapolated forward or backward in time along the current step using
the current dispersion, for receptors that lie upwind of the puff/slug
position at the start of a step, or downwind at the end of a step.
Specify the upwind/downwind extrapolation zone in sigma-y units.
Using FCLIP=1.0 clips the the upwind zone at one sigma-y at the start
of the step and the downwind zone at one sigma-y at the end of the step.
This is consistent with the sampling done in CALPUFF versions through
v6.42 prior to the introduction of the FCLIP option.
The default is No Extrapolation, FCLIP=0.0.
(FCLIP) Default: 0.0 ! FCLIP = 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 = 0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,1,0,0,0,0,0,0 !

Split is allowed only if last hour's mixing
height (m) exceeds a minimum value
(ZISPLIT) Default: 100. ! ZISPLIT = 100 !

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 !

Minimum puff elongation rate (SYSPLITH/hr) due to

```
      wind shear, before it may be split
      (SHSPLITH)                    Default:  2.       ! SHSPLITH = 2 !

      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 = 0 !

    Integration control variables ----------------------

      Fractional convergence criterion for numerical SLUG
      sampling integration
      (EPSSLUG)                     Default:   1.0e-04  ! EPSSLUG = 0.0001 !

      Fractional convergence criterion for numerical AREA
      source integration
      (EPSAREA)                     Default:   1.0e-06  ! EPSAREA = 1E-006 !

      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 !

      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 !

      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 = 0 !

    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
        8 =    Bq/s  (Bq = becquerel = disintegrations/s)
        9 =    GBq/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)
 ------   ---------- ---------- ------  ------   -------- ----- -------- ----- --------

--------

   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
```


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)

---

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: EMISSION-RATE SCALING FACTORS

Use this subgroup to identify temporal variations in the emission rates given in 13b. Factors assigned 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.

Sets of emission-rate scale factors are defined in Input Group 19, and are referenced by the FACTORNAME. Provide NSPT1 lines that identify the emission-rate scale factor table for each source-species combination that uses the scaling option. Note that a scale-factor table can be used with more than one source-species combination so a FACTORNAME can be repeated.

Source-Species No.	Source Name b (SRCNAM)	Species Name c (CSPEC)	Scale-factor table Name d (FACTORNAME)

---

a
Assignment for each source-specie is treated as a separate input subgroup and therefore must end with an input group terminator.
b
Source name must match one of the SRCNAM names defined in Input Group 13b
c
Species name must match one of the CSPEC names of emitted species defined in Input Group 3
d
Scale-factor name must match one of the FACTORNAME names defined in Input Group 19

INPUT GROUPS: 14a, 14b, 14c, 14d -- Area source parameters

Subgroup (14a)

Number of polygon area sources with parameters specified below (NAR1) No default ! NAR1 = 0 !

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

a

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
8 = Bq/m**2/s (Bq = becquerel = disintegrations/s)
9 = GBq/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 No.	Effect. Height (m)	Base Elevation (m)	Initial Sigma z (m)	Emission Rates
-------	------	------	--------	---------

---
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 No.	a Ordered list of X followed by list of Y, grouped by source
------	----------

---
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: EMISSION-RATE SCALING FACTORS

Use this subgroup to identify temporal variations in the emission rates given in 14b. Factors assigned 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.

a

Sets of emission-rate scale factors are defined in Input Group 19, and
are referenced by the FACTORNAME. Provide NSAR1 lines that identify the
emission-rate scale factor table for each source-species combination that
uses the scaling option. Note that a scale-factor table can be used with
more than one source-species combination so a FACTORNAME can be repeated.

Source-Species No.	Source Name b (SRCNAM)	Species Name c (CSPEC)	Scale-factor table Name d (FACTORNAME)

---

a
Data for each species are treated as a separate input subgroup
and therefore must end with an input group terminator.

b
Source name must match one of the SRCNAM names defined in Input Group 14b

c
Species name must match one of the CSPEC names of emitted species defined in Input Group 3

d
Scale-factor name must match one of the FACTORNAME names defined in Input Group 19

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
8 = Bq/s (Bq = becquerel = disintegrations/s)
9 = GBq/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 = *

a

(in meters)

Average building height (HBL) No default * HBL = *
(in meters)

Average building width (WBL) No default * WBL = *
(in meters)

Average line source width (WML) No default * WML = *
(in meters)

Average separation between buildings (DXL) No default * DXL = *
(in meters)

Average buoyancy parameter (FPRIMEL) No default * FPRIMEL = *
(in m**4/s**3)

!END!

Subgroup (15b)

BUOYANT LINE SOURCE: CONSTANT DATA

Source No.	Beg. X Coordinate (km)	Beg. Y Coordinate (km)	End. X Coordinate (km)	End. Y Coordinate (km)	Release Height[a] (m)	Base Elevation (m)	Emission Rates
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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)

BUOYANT LINE SOURCE: EMISSION-RATE SCALING FACTORS[a]

Use this subgroup to identify temporal variations in the emission
rates given in 15b. Factors assigned multiply the rates in 15b.
Skip sources here that have constant emissions. For more elaborate
variation in source parameters, use LNEMARB.DAT and NLN2 > 0.

Sets of emission-rate scale factors are defined in Input Group 19, and
are referenced by the FACTORNAME. Provide NSLN1 lines that identify the
emission-rate scale factor table for each source-species combination that
uses the scaling option. Note that a scale-factor table can be used with
more than one source-species combination so a FACTORNAME can be repeated.

Source-Species No.	Source Name[b] (SRCNAM)	Species Name[c] (CSPEC)	Scale-factor table Name[d] (FACTORNAME)
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a
Data for each species are treated as a separate input subgroup

and therefore must end with an input group terminator.
b
Source name must match one of the SRCNAM names defined in Input Group 15b
c
Species name must match one of the CSPEC names of emitted species defined in Input Group 3
d
Scale-factor name must match one of the FACTORNAME names defined in Input Group 19

INPUT GROUPS: 16a, 16b, 16c -- Volume source parameters

Subgroup (16a)

Number of volume sources with
parameters provided in 16b,c (NVL1) No default ! NVL1 = 394 !

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
8 = Bq/s (Bq = becquerel = disintegrations/s)
9 = GBq/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
Source X Y Effect. Base Initial Initial Emission
No. Coordinate Coordinate Height Elevation Sigma y Sigma z Rates
(km) (km) (m) (m) (m) (m)
--- --- --- --- --- --- --- ---

1 ! SRCNAM = C2K_1_1 !
1 ! X = 454.379, 6939.946, 3.31, 56.1, 18.59, 3.08, 0.0004028, 0.007799, 0.0003931,
0.0003774, 0.004041, 0.00119 !
!END!
2 ! SRCNAM = C2K_1_2 !
2 ! X = 454.415, 6939.963, 3.31, 56.25, 18.59, 3.08, 0.0004028, 0.007799, 0.0003931,
0.0003774, 0.004041, 0.00119 !
!END!
3 ! SRCNAM = C2K_1_3 !
3 ! X = 454.452, 6939.979, 3.31, 56.45, 18.59, 3.08, 0.0004028, 0.007799, 0.0003931,
0.0003774, 0.004041, 0.00119 !

```
!END!
  4 ! SRCNAM = C2K_1_4 !
  4 ! X =  454.488, 6939.995,   3.31,   56.64,    18.59,    3.08, 0.0004028, 0.007799, 0.0003931,
 0.0003774, 0.004041, 0.00119 !
!END!
  5 ! SRCNAM = C2K_1_5 !
  5 ! X =  454.525, 6940.010,   3.31,   56.82,    18.59,    3.08, 0.0004028, 0.007799, 0.0003931,
 0.0003774, 0.004041, 0.00119 !
!END!
  6 ! SRCNAM = C2K_1_6 !
  6 ! X =  454.563, 6940.024,   3.31,   57.02,    18.59,    3.08, 0.0004028, 0.007799, 0.0003931,
 0.0003774, 0.004041, 0.00119 !
!END!
  7 ! SRCNAM = C2K_1_7 !
  7 ! X =  454.601, 6940.035,   3.31,   57.19,    18.59,    3.08, 0.0004028, 0.007799, 0.0003931,
 0.0003774, 0.004041, 0.00119 !
!END!
  8 ! SRCNAM = C2K_1_8 !
  8 ! X =  454.639, 6940.046,   3.31,   54.15,    18.59,    3.08, 0.0004028, 0.007799, 0.0003931,
 0.0003774, 0.004041, 0.00119 !
!END!
  9 ! SRCNAM = C2K_1_9 !
  9 ! X =  454.678, 6940.054,   3.31,   54.24,    18.59,    3.08, 0.0004028, 0.007799, 0.0003931,
 0.0003774, 0.004041, 0.00119 !
!END!
  10 ! SRCNAM = C2K_1_10 !
  10 ! X =  454.717, 6940.061,   3.31,   54.33,    18.59,    3.08, 0.0004028, 0.007799, 0.0003931,
 0.0003774, 0.004041, 0.00119 !
!END!
  11 ! SRCNAM = C2K_1_11 !
  11 ! X =  454.757, 6940.067,   3.31,   54.42,    18.59,    3.08, 0.0004028, 0.007799, 0.0003931,
 0.0003774, 0.004041, 0.00119 !
!END!
  12 ! SRCNAM = C2K_1_12 !
  12 ! X =  454.796, 6940.071,   3.31,   54.51,    18.59,    3.08, 0.0004028, 0.007799, 0.0003931,
 0.0003774, 0.004041, 0.00119 !
!END!
  13 ! SRCNAM = C2K_1_13 !
  13 ! X =  454.836, 6940.073,   3.31,    54.6,    18.59,    3.08, 0.0004028, 0.007799, 0.0003931,
 0.0003774, 0.004041, 0.00119 !
!END!
  14 ! SRCNAM = C2K_1_14 !
  14 ! X =  454.876, 6940.074,   3.31,   54.68,    18.59,    3.08, 0.0004028, 0.007799, 0.0003931,
 0.0003774, 0.004041, 0.00119 !
!END!
  15 ! SRCNAM = C2K_1_15 !
  15 ! X =  454.916, 6940.073,   3.31,   54.77,    18.59,    3.08, 0.0004028, 0.007799, 0.0003931,
 0.0003774, 0.004041, 0.00119 !
!END!
  16 ! SRCNAM = C2K_1_16 !
  16 ! X =  454.956, 6940.071,   3.31,   54.86,    18.59,    3.08, 0.0004028, 0.007799, 0.0003931,
 0.0003774, 0.004041, 0.00119 !
!END!
  17 ! SRCNAM = C2K_1_17 !
  17 ! X =  454.995, 6940.067,   3.31,   54.95,    18.59,    3.08, 0.0004028, 0.007799, 0.0003931,
 0.0003774, 0.004041, 0.00119 !
!END!
  18 ! SRCNAM = C2K_1_18 !
  18 ! X =  455.035, 6940.062,   3.31,   55.05,    18.59,    3.08, 0.0004028, 0.007799, 0.0003931,
 0.0003774, 0.004041, 0.00119 !
!END!
  19 ! SRCNAM = C2K_1_19 !
  19 ! X =  455.074, 6940.055,   3.31,   55.14,    18.59,    3.08, 0.0004028, 0.007799, 0.0003931,
 0.0003774, 0.004041, 0.00119 !
!END!
  20 ! SRCNAM = C2K_1_20 !
  20 ! X =  455.113, 6940.046,   3.31,   55.23,    18.59,    3.08, 0.0004028, 0.007799, 0.0003931,
 0.0003774, 0.004041, 0.00119 !
!END!
  21 ! SRCNAM = C2K_1_21 !
  21 ! X =  455.151, 6940.036,   3.31,   55.31,    18.59,    3.08, 0.0004028, 0.007799, 0.0003931,
```

0.0003774, 0.004041, 0.00119 !
!END!
22 ! SRCNAM = C2K_1_22 !
22 ! X = 455.189, 6940.024, 3.31, 55.4, 18.59, 3.08, 0.0004028, 0.007799, 0.0003931,
0.0003774, 0.004041, 0.00119 !
!END!
23 ! SRCNAM = C2K_1_23 !
23 ! X = 455.227, 6940.011, 3.31, 55.49, 18.59, 3.08, 0.0004028, 0.007799, 0.0003931,
0.0003774, 0.004041, 0.00119 !
!END!
24 ! SRCNAM = C2K_1_24 !
24 ! X = 455.264, 6939.996, 3.31, 55.58, 18.59, 3.08, 0.0004028, 0.007799, 0.0003931,
0.0003774, 0.004041, 0.00119 !
!END!
25 ! SRCNAM = C2K_1_25 !
25 ! X = 455.301, 6939.980, 3.31, 55.67, 18.59, 3.08, 0.0004028, 0.007799, 0.0003931,
0.0003774, 0.004041, 0.00119 !
!END!
26 ! SRCNAM = C2K_1_26 !
26 ! X = 455.336, 6939.962, 3.31, 55.76, 18.59, 3.08, 0.0004028, 0.007799, 0.0003931,
0.0003774, 0.004041, 0.00119 !
!END!
27 ! SRCNAM = C2K_1_27 !
27 ! X = 455.371, 6939.943, 3.31, 55.84, 18.59, 3.08, 0.0004028, 0.007799, 0.0003931,
0.0003774, 0.004041, 0.00119 !
!END!
28 ! SRCNAM = C2K_1_28 !
28 ! X = 455.406, 6939.923, 3.31, 55.93, 18.59, 3.08, 0.0004028, 0.007799, 0.0003931,
0.0003774, 0.004041, 0.00119 !
!END!
29 ! SRCNAM = C2K_1_29 !
29 ! X = 455.439, 6939.902, 3.31, 56.02, 18.59, 3.08, 0.0004028, 0.007799, 0.0003931,
0.0003774, 0.004041, 0.00119 !
!END!
30 ! SRCNAM = C2K_1_30 !
30 ! X = 455.472, 6939.879, 3.31, 56.11, 18.59, 3.08, 0.0004028, 0.007799, 0.0003931,
0.0003774, 0.004041, 0.00119 !
!END!
31 ! SRCNAM = C2K_1_31 !
31 ! X = 455.504, 6939.855, 3.31, 56.16, 18.59, 3.08, 0.0004028, 0.007799, 0.0003931,
0.0003774, 0.004041, 0.00119 !
!END!
32 ! SRCNAM = C2K_1_32 !
32 ! X = 455.535, 6939.830, 3.31, 56.2, 18.59, 3.08, 0.0004028, 0.007799, 0.0003931,
0.0003774, 0.004041, 0.00119 !
!END!
33 ! SRCNAM = C2K_1_33 !
33 ! X = 455.567, 6939.806, 3.31, 56.04, 18.59, 3.08, 0.0004028, 0.007799, 0.0003931,
0.0003774, 0.004041, 0.00119 !
!END!
34 ! SRCNAM = C2K_1_34 !
34 ! X = 455.599, 6939.782, 3.31, 55.94, 18.59, 3.08, 0.0004028, 0.007799, 0.0003931,
0.0003774, 0.004041, 0.00119 !
!END!
35 ! SRCNAM = C2K_1_35 !
35 ! X = 455.631, 6939.758, 3.31, 55.91, 18.59, 3.08, 0.0004028, 0.007799, 0.0003931,
0.0003774, 0.004041, 0.00119 !
!END!
36 ! SRCNAM = C2K_1_36 !
36 ! X = 455.662, 6939.733, 3.31, 55.92, 18.59, 3.08, 0.0004028, 0.007799, 0.0003931,
0.0003774, 0.004041, 0.00119 !
!END!
37 ! SRCNAM = C2K_1_37 !
37 ! X = 455.694, 6939.709, 3.31, 55.91, 18.59, 3.08, 0.0004028, 0.007799, 0.0003931,
0.0003774, 0.004041, 0.00119 !
!END!
38 ! SRCNAM = C2K_1_38 !
38 ! X = 455.726, 6939.685, 3.31, 55.94, 18.59, 3.08, 0.0004028, 0.007799, 0.0003931,
0.0003774, 0.004041, 0.00119 !
!END!
39 ! SRCNAM = C2K_1_39 !

```
 39 ! X =  455.757, 6939.660,    3.31,    55.94,    18.59,    3.08, 0.0004028, 0.007799, 0.0003931,
 0.0003774, 0.004041, 0.00119 !
!END!
 40 ! SRCNAM = C2K_1_40 !
 40 ! X =  455.789, 6939.636,    3.31,    55.93,    18.59,    3.08, 0.0004028, 0.007799, 0.0003931,
 0.0003774, 0.004041, 0.00119 !
!END!
 41 ! SRCNAM = C2K_1_41 !
 41 ! X =  455.821, 6939.612,    3.31,    55.93,    18.59,    3.08, 0.0004028, 0.007799, 0.0003931,
 0.0003774, 0.004041, 0.00119 !
!END!
 42 ! SRCNAM = C2K_1_42 !
 42 ! X =  455.853, 6939.588,    3.31,    55.93,    18.59,    3.08, 0.0004028, 0.007799, 0.0003931,
 0.0003774, 0.004041, 0.00119 !
!END!
 43 ! SRCNAM = C2K_1_43 !
 43 ! X =  455.885, 6939.564,    3.31,    55.92,    18.59,    3.08, 0.0004028, 0.007799, 0.0003931,
 0.0003774, 0.004041, 0.00119 !
!END!
 44 ! SRCNAM = C2K_1_44 !
 44 ! X =  455.917, 6939.540,    3.31,    55.93,    18.59,    3.08, 0.0004028, 0.007799, 0.0003931,
 0.0003774, 0.004041, 0.00119 !
!END!
 45 ! SRCNAM = C2K_1_45 !
 45 ! X =  455.949, 6939.515,    3.31,    55.92,    18.59,    3.08, 0.0004028, 0.007799, 0.0003931,
 0.0003774, 0.004041, 0.00119 !
!END!
 46 ! SRCNAM = C2K_1_46 !
 46 ! X =  455.980, 6939.491,    3.31,    55.93,    18.59,    3.08, 0.0004028, 0.007799, 0.0003931,
 0.0003774, 0.004041, 0.00119 !
!END!
 47 ! SRCNAM = C2K_1_47 !
 47 ! X =  456.012, 6939.467,    3.31,    55.92,    18.59,    3.08, 0.0004028, 0.007799, 0.0003931,
 0.0003774, 0.004041, 0.00119 !
!END!
 48 ! SRCNAM = C2K_1_48 !
 48 ! X =  456.044, 6939.443,    3.31,    55.91,    18.59,    3.08, 0.0004028, 0.007799, 0.0003931,
 0.0003774, 0.004041, 0.00119 !
!END!
 49 ! SRCNAM = C2K_1_49 !
 49 ! X =  456.076, 6939.419,    3.31,    55.92,    18.59,    3.08, 0.0004028, 0.007799, 0.0003931,
 0.0003774, 0.004041, 0.00119 !
!END!
 50 ! SRCNAM = C2K_1_50 !
 50 ! X =  456.108, 6939.395,    3.31,    55.94,    18.59,    3.08, 0.0004028, 0.007799, 0.0003931,
 0.0003774, 0.004041, 0.00119 !
!END!
 51 ! SRCNAM = C2K_1_51 !
 51 ! X =  456.139, 6939.370,    3.31,    55.82,    18.59,    3.08, 0.0004028, 0.007799, 0.0003931,
 0.0003774, 0.004041, 0.00119 !
!END!
 52 ! SRCNAM = C2K_1_52 !
 52 ! X =  456.171, 6939.346,    3.31,    55.53,    18.59,    3.08, 0.0004028, 0.007799, 0.0003931,
 0.0003774, 0.004041, 0.00119 !
!END!
 53 ! SRCNAM = C2K_1_53 !
 53 ! X =  456.203, 6939.322,    3.31,    55.14,    18.59,    3.08, 0.0004028, 0.007799, 0.0003931,
 0.0003774, 0.004041, 0.00119 !
!END!
 54 ! SRCNAM = C2K_1_54 !
 54 ! X =  456.234, 6939.297,    3.31,    54.75,    18.59,    3.08, 0.0004028, 0.007799, 0.0003931,
 0.0003774, 0.004041, 0.00119 !
!END!
 55 ! SRCNAM = C2K_1_55 !
 55 ! X =  456.267, 6939.274,    3.31,    54.33,    18.59,    3.08, 0.0004028, 0.007799, 0.0003931,
 0.0003774, 0.004041, 0.00119 !
!END!
 56 ! SRCNAM = C2K_1_56 !
 56 ! X =  456.298, 6939.249,    3.31,    53.93,    18.59,    3.08, 0.0004028, 0.007799, 0.0003931,
 0.0003774, 0.004041, 0.00119 !
!END!
```

```
 57 ! SRCNAM = C2K_1_57 !
 57 ! X =  456.330, 6939.225,    3.31,    53.54,     18.59,     3.08, 0.0004028, 0.007799, 0.0003931,
0.0003774, 0.004041, 0.00119 !
!END!
 58 ! SRCNAM = C2K_1_58 !
 58 ! X =  456.362, 6939.201,    3.31,    53.15,     18.59,     3.08, 0.0004028, 0.007799, 0.0003931,
0.0003774, 0.004041, 0.00119 !
!END!
 59 ! SRCNAM = C2K_1_59 !
 59 ! X =  456.394, 6939.176,    3.31,    52.74,     18.59,     3.08, 0.0004028, 0.007799, 0.0003931,
0.0003774, 0.004041, 0.00119 !
!END!
 60 ! SRCNAM = C2K_1_60 !
 60 ! X =  456.425, 6939.152,    3.31,    52.35,     18.59,     3.08, 0.0004028, 0.007799, 0.0003931,
0.0003774, 0.004041, 0.00119 !
!END!
 61 ! SRCNAM = C2K_1_61 !
 61 ! X =  456.457, 6939.128,    3.31,    51.96,     18.59,     3.08, 0.0004028, 0.007799, 0.0003931,
0.0003774, 0.004041, 0.00119 !
!END!
 62 ! SRCNAM = C2K_1_62 !
 62 ! X =  456.489, 6939.104,    3.31,    51.52,     18.59,     3.08, 0.0004028, 0.007799, 0.0003931,
0.0003774, 0.004041, 0.00119 !
!END!
 63 ! SRCNAM = C2K_1_63 !
 63 ! X =  456.521, 6939.080,    3.31,    51.13,     18.59,     3.08, 0.0004028, 0.007799, 0.0003931,
0.0003774, 0.004041, 0.00119 !
!END!
 64 ! SRCNAM = C2K_1_64 !
 64 ! X =  456.553, 6939.055,    3.31,    50.74,     18.59,     3.08, 0.0004028, 0.007799, 0.0003931,
0.0003774, 0.004041, 0.00119 !
!END!
 65 ! SRCNAM = C2K_1_65 !
 65 ! X =  456.584, 6939.031,    3.31,    50.34,     18.59,     3.08, 0.0004028, 0.007799, 0.0003931,
0.0003774, 0.004041, 0.00119 !
!END!
 66 ! SRCNAM = C2K_1_66 !
 66 ! X =  456.616, 6939.007,    3.31,    49.95,     18.59,     3.08, 0.0004028, 0.007799, 0.0003931,
0.0003774, 0.004041, 0.00119 !
!END!
 67 ! SRCNAM = C2K_1_67 !
 67 ! X =  456.648, 6938.982,    3.31,    49.55,     18.59,     3.08, 0.0004028, 0.007799, 0.0003931,
0.0003774, 0.004041, 0.00119 !
!END!
 68 ! SRCNAM = C2K_1_68 !
 68 ! X =  456.680, 6938.959,    3.31,    49.14,     18.59,     3.08, 0.0004028, 0.007799, 0.0003931,
0.0003774, 0.004041, 0.00119 !
!END!
 69 ! SRCNAM = C2K_1_69 !
 69 ! X =  456.712, 6938.934,    3.31,    48.74,     18.59,     3.08, 0.0004028, 0.007799, 0.0003931,
0.0003774, 0.004041, 0.00119 !
!END!
 70 ! SRCNAM = C2K_1_70 !
 70 ! X =  456.743, 6938.910,    3.31,    48.34,     18.59,     3.08, 0.0004028, 0.007799, 0.0003931,
0.0003774, 0.004041, 0.00119 !
!END!
 71 ! SRCNAM = C2K_1_71 !
 71 ! X =  456.775, 6938.886,    3.31,    47.95,     18.59,     3.08, 0.0004028, 0.007799, 0.0003931,
0.0003774, 0.004041, 0.00119 !
!END!
 72 ! SRCNAM = C2K_1_72 !
 72 ! X =  456.807, 6938.862,    3.31,    47.55,     18.59,     3.08, 0.0004028, 0.007799, 0.0003931,
0.0003774, 0.004041, 0.00119 !
!END!
 73 ! SRCNAM = C2K_1_73 !
 73 ! X =  456.839, 6938.837,    3.31,    47.23,     18.59,     3.08, 0.0004028, 0.007799, 0.0003931,
0.0003774, 0.004041, 0.00119 !
!END!
 74 ! SRCNAM = C2K_1_74 !
 74 ! X =  456.871, 6938.813,    3.31,    47.06,     18.59,     3.08, 0.0004028, 0.007799, 0.0003931,
0.0003774, 0.004041, 0.00119 !
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!END!
 75 ! SRCNAM = C2K_1_75 !
 75 ! X =  456.902, 6938.789,    3.31,    46.97,     18.59,     3.08, 0.0004028, 0.007799, 0.0003931,
 0.0003774, 0.004041, 0.00119 !
!END!
 76 ! SRCNAM = C2K_1_76 !
 76 ! X =  456.934, 6938.765,    3.31,    47.03,     18.59,     3.08, 0.0004028, 0.007799, 0.0003931,
 0.0003774, 0.004041, 0.00119 !
!END!
 77 ! SRCNAM = C2K_1_77 !
 77 ! X =  456.966, 6938.741,    3.31,    47.17,     18.59,     3.08, 0.0004028, 0.007799, 0.0003931,
 0.0003774, 0.004041, 0.00119 !
!END!
 78 ! SRCNAM = C2K_1_78 !
 78 ! X =  456.998, 6938.716,    3.31,    47.37,     18.59,     3.08, 0.0004028, 0.007799, 0.0003931,
 0.0003774, 0.004041, 0.00119 !
!END!
 79 ! SRCNAM = C2K_1_79 !
 79 ! X =  457.030, 6938.692,    3.31,    47.55,     18.59,     3.08, 0.0004028, 0.007799, 0.0003931,
 0.0003774, 0.004041, 0.00119 !
!END!
 80 ! SRCNAM = C2K_1_80 !
 80 ! X =  457.061, 6938.668,    3.31,    47.75,     18.59,     3.08, 0.0004028, 0.007799, 0.0003931,
 0.0003774, 0.004041, 0.00119 !
!END!
 81 ! SRCNAM = C2K_1_81 !
 81 ! X =  457.093, 6938.643,    3.31,    47.95,     18.59,     3.08, 0.0004028, 0.007799, 0.0003931,
 0.0003774, 0.004041, 0.00119 !
!END!
 82 ! SRCNAM = C2K_1_82 !
 82 ! X =  457.125, 6938.619,    3.31,    48.14,     18.59,     3.08, 0.0004028, 0.007799, 0.0003931,
 0.0003774, 0.004041, 0.00119 !
!END!
 83 ! SRCNAM = C2K_1_83 !
 83 ! X =  457.157, 6938.595,    3.31,    48.32,     18.59,     3.08, 0.0004028, 0.007799, 0.0003931,
 0.0003774, 0.004041, 0.00119 !
!END!
 84 ! SRCNAM = C2K_1_84 !
 84 ! X =  457.188, 6938.571,    3.31,    48.51,     18.59,     3.08, 0.0004028, 0.007799, 0.0003931,
 0.0003774, 0.004041, 0.00119 !
!END!
 85 ! SRCNAM = C2K_1_85 !
 85 ! X =  457.220, 6938.547,    3.31,     48.7,     18.59,     3.08, 0.0004028, 0.007799, 0.0003931,
 0.0003774, 0.004041, 0.00119 !
!END!
 86 ! SRCNAM = C2K_1_86 !
 86 ! X =  457.252, 6938.523,    3.31,    48.88,     18.59,     3.08, 0.0004028, 0.007799, 0.0003931,
 0.0003774, 0.004041, 0.00119 !
!END!
 87 ! SRCNAM = C2K_1_87 !
 87 ! X =  457.284, 6938.499,    3.31,    49.06,     18.59,     3.08, 0.0004028, 0.007799, 0.0003931,
 0.0003774, 0.004041, 0.00119 !
!END!
 88 ! SRCNAM = C2K_1_88 !
 88 ! X =  457.315, 6938.474,    3.31,    49.28,     18.59,     3.08, 0.0004028, 0.007799, 0.0003931,
 0.0003774, 0.004041, 0.00119 !
!END!
 89 ! SRCNAM = C2K_1_89 !
 89 ! X =  457.347, 6938.450,    3.31,    49.46,     18.59,     3.08, 0.0004028, 0.007799, 0.0003931,
 0.0003774, 0.004041, 0.00119 !
!END!
 90 ! SRCNAM = C2K_1_90 !
 90 ! X =  457.379, 6938.426,    3.31,    49.64,     18.59,     3.08, 0.0004028, 0.007799, 0.0003931,
 0.0003774, 0.004041, 0.00119 !
!END!
 91 ! SRCNAM = C2K_1_91 !
 91 ! X =  457.411, 6938.401,    3.31,    49.84,     18.59,     3.08, 0.0004028, 0.007799, 0.0003931,
 0.0003774, 0.004041, 0.00119 !
!END!
 92 ! SRCNAM = C2K_1_92 !
 92 ! X =  457.443, 6938.377,    3.31,    50.02,     18.59,     3.08, 0.0004028, 0.007799, 0.0003931,
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 0.0003774, 0.004041, 0.00119 !
!END!
 93 ! SRCNAM = C2K_1_93 !
 93 ! X =  457.475, 6938.353,    3.31,    50.21,      18.59,      3.08, 0.0004028, 0.007799, 0.0003931,
 0.0003774, 0.004041, 0.00119 !
!END!
 94 ! SRCNAM = C2K_1_94 !
 94 ! X =  457.507, 6938.329,    3.31,     50.4,      18.59,      3.08, 0.0004028, 0.007799, 0.0003931,
 0.0003774, 0.004041, 0.00119 !
!END!
 95 ! SRCNAM = C2K_1_95 !
 95 ! X =  457.538, 6938.304,    3.31,    50.59,      18.59,      3.08, 0.0004028, 0.007799, 0.0003931,
 0.0003774, 0.004041, 0.00119 !
!END!
 96 ! SRCNAM = C2K_1_96 !
 96 ! X =  457.570, 6938.280,    3.31,    50.78,      18.59,      3.08, 0.0004028, 0.007799, 0.0003931,
 0.0003774, 0.004041, 0.00119 !
!END!
 97 ! SRCNAM = C2K_1_97 !
 97 ! X =  457.602, 6938.256,    3.31,    50.97,      18.59,      3.08, 0.0004028, 0.007799, 0.0003931,
 0.0003774, 0.004041, 0.00119 !
!END!
 98 ! SRCNAM = C2K_1_98 !
 98 ! X =  457.633, 6938.232,    3.31,    51.16,      18.59,      3.08, 0.0004028, 0.007799, 0.0003931,
 0.0003774, 0.004041, 0.00119 !
!END!
 99 ! SRCNAM = C2K_1_99 !
 99 ! X =  457.665, 6938.208,    3.31,    51.36,      18.59,      3.08, 0.0004028, 0.007799, 0.0003931,
 0.0003774, 0.004041, 0.00119 !
!END!
 100 ! SRCNAM = C2K_1_100 !
 100 ! X =  457.697, 6938.184,    3.31,    51.55,      18.59,      3.08, 0.0004028, 0.007799, 0.0003931,
 0.0003774, 0.004041, 0.00119 !
!END!
 101 ! SRCNAM = C2K_1_101 !
 101 ! X =  457.729, 6938.160,    3.31,    51.74,      18.59,      3.08, 0.0004028, 0.007799, 0.0003931,
 0.0003774, 0.004041, 0.00119 !
!END!
 102 ! SRCNAM = C2K_1_102 !
 102 ! X =  457.761, 6938.135,    3.31,    51.93,      18.59,      3.08, 0.0004028, 0.007799, 0.0003931,
 0.0003774, 0.004041, 0.00119 !
!END!
 103 ! SRCNAM = C2K_1_103 !
 103 ! X =  457.792, 6938.111,    3.31,    52.12,      18.59,      3.08, 0.0004028, 0.007799, 0.0003931,
 0.0003774, 0.004041, 0.00119 !
!END!
 104 ! SRCNAM = C2K_1_104 !
 104 ! X =  457.824, 6938.087,    3.31,    52.31,      18.59,      3.08, 0.0004028, 0.007799, 0.0003931,
 0.0003774, 0.004041, 0.00119 !
!END!
 105 ! SRCNAM = C2K_1_105 !
 105 ! X =  457.856, 6938.062,    3.31,     52.5,      18.59,      3.08, 0.0004028, 0.007799, 0.0003931,
 0.0003774, 0.004041, 0.00119 !
!END!
 106 ! SRCNAM = C2K_1_106 !
 106 ! X =  457.888, 6938.038,    3.31,     52.7,      18.59,      3.08, 0.0004028, 0.007799, 0.0003931,
 0.0003774, 0.004041, 0.00119 !
!END!
 107 ! SRCNAM = C2K_1_107 !
 107 ! X =  457.920, 6938.014,    3.31,    52.89,      18.59,      3.08, 0.0004028, 0.007799, 0.0003931,
 0.0003774, 0.004041, 0.00119 !
!END!
 108 ! SRCNAM = C2K_1_108 !
 108 ! X =  457.952, 6937.990,    3.31,    53.08,      18.59,      3.08, 0.0004028, 0.007799, 0.0003931,
 0.0003774, 0.004041, 0.00119 !
!END!
 109 ! SRCNAM = C2K_1_109 !
 109 ! X =  457.983, 6937.966,    3.31,    53.27,      18.59,      3.08, 0.0004028, 0.007799, 0.0003931,
 0.0003774, 0.004041, 0.00119 !
!END!
 110 ! SRCNAM = C2K_1_110 !
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 110 ! X =  458.015, 6937.941,    3.31,    53.46,      18.59,      3.08, 0.0004028, 0.007799, 0.0003931,
 0.0003774, 0.004041, 0.00119 !
!END!
 111 ! SRCNAM = C2K_1_111 !
 111 ! X =  458.047, 6937.917,    3.31,    53.64,      18.59,      3.08, 0.0004028, 0.007799, 0.0003931,
 0.0003774, 0.004041, 0.00119 !
!END!
 112 ! SRCNAM = C2K_1_112 !
 112 ! X =  458.079, 6937.893,    3.31,    53.82,      18.59,      3.08, 0.0004028, 0.007799, 0.0003931,
 0.0003774, 0.004041, 0.00119 !
!END!
 113 ! SRCNAM = C2K_1_113 !
 113 ! X =  458.110, 6937.869,    3.31,    54.02,      18.59,      3.08, 0.0004028, 0.007799, 0.0003931,
 0.0003774, 0.004041, 0.00119 !
!END!
 114 ! SRCNAM = C2K_1_114 !
 114 ! X =  458.142, 6937.844,    3.31,     54.2,      18.59,      3.08, 0.0004028, 0.007799, 0.0003931,
 0.0003774, 0.004041, 0.00119 !
!END!
 115 ! SRCNAM = C2K_1_115 !
 115 ! X =  458.174, 6937.821,    3.31,    54.39,      18.59,      3.08, 0.0004028, 0.007799, 0.0003931,
 0.0003774, 0.004041, 0.00119 !
!END!
 116 ! SRCNAM = C2K_1_116 !
 116 ! X =  458.207, 6937.797,    3.31,    54.58,      18.59,      3.08, 0.0004028, 0.007799, 0.0003931,
 0.0003774, 0.004041, 0.00119 !
!END!
 117 ! SRCNAM = C2K_1_117 !
 117 ! X =  458.239, 6937.775,    3.31,    54.77,      18.59,      3.08, 0.0004028, 0.007799, 0.0003931,
 0.0003774, 0.004041, 0.00119 !
!END!
 118 ! SRCNAM = C2K_1_118 !
 118 ! X =  458.273, 6937.752,    3.31,    54.98,      18.59,      3.08, 0.0004028, 0.007799, 0.0003931,
 0.0003774, 0.004041, 0.00119 !
!END!
 119 ! SRCNAM = C2K_1_119 !
 119 ! X =  458.306, 6937.731,    3.31,    55.14,      18.59,      3.08, 0.0004028, 0.007799, 0.0003931,
 0.0003774, 0.004041, 0.00119 !
!END!
 120 ! SRCNAM = C2K_1_120 !
 120 ! X =  458.340, 6937.709,    3.31,    55.35,      18.59,      3.08, 0.0004028, 0.007799, 0.0003931,
 0.0003774, 0.004041, 0.00119 !
!END!
 121 ! SRCNAM = C2K_1_121 !
 121 ! X =  458.374, 6937.689,    3.31,    55.52,      18.59,      3.08, 0.0004028, 0.007799, 0.0003931,
 0.0003774, 0.004041, 0.00119 !
!END!
 122 ! SRCNAM = C2K_1_122 !
 122 ! X =  458.408, 6937.668,    3.31,    55.73,      18.59,      3.08, 0.0004028, 0.007799, 0.0003931,
 0.0003774, 0.004041, 0.00119 !
!END!
 123 ! SRCNAM = C2K_1_123 !
 123 ! X =  458.443, 6937.649,    3.31,     55.9,      18.59,      3.08, 0.0004028, 0.007799, 0.0003931,
 0.0003774, 0.004041, 0.00119 !
!END!
 124 ! SRCNAM = C2K_1_124 !
 124 ! X =  458.479, 6937.630,    3.31,    56.09,      18.59,      3.08, 0.0004028, 0.007799, 0.0003931,
 0.0003774, 0.004041, 0.00119 !
!END!
 125 ! SRCNAM = C2K_1_125 !
 125 ! X =  458.514, 6937.611,    3.31,    56.29,      18.59,      3.08, 0.0004028, 0.007799, 0.0003931,
 0.0003774, 0.004041, 0.00119 !
!END!
 126 ! SRCNAM = C2K_1_126 !
 126 ! X =  458.549, 6937.593,    3.31,    56.48,      18.59,      3.08, 0.0004028, 0.007799, 0.0003931,
 0.0003774, 0.004041, 0.00119 !
!END!
 127 ! SRCNAM = C2K_1_127 !
 127 ! X =  458.586, 6937.576,    3.31,    56.67,      18.59,      3.08, 0.0004028, 0.007799, 0.0003931,
 0.0003774, 0.004041, 0.00119 !
!END!
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128 ! SRCNAM = C2K_1_128 !
128 ! X = 458.622, 6937.559, 3.31, 56.85, 18.59, 3.08, 0.0004028, 0.007799, 0.0003931, 0.0003774, 0.004041, 0.00119 !
!END!
129 ! SRCNAM = C2K_1_129 !
129 ! X = 458.658, 6937.543, 3.31, 57.04, 18.59, 3.08, 0.0004028, 0.007799, 0.0003931, 0.0003774, 0.004041, 0.00119 !
!END!
130 ! SRCNAM = C2K_1_130 !
130 ! X = 458.695, 6937.527, 3.31, 57.24, 18.59, 3.08, 0.0004028, 0.007799, 0.0003931, 0.0003774, 0.004041, 0.00119 !
!END!
131 ! SRCNAM = C2K_1_131 !
131 ! X = 458.732, 6937.512, 3.31, 57.43, 18.59, 3.08, 0.0004028, 0.007799, 0.0003931, 0.0003774, 0.004041, 0.00119 !
!END!
132 ! SRCNAM = C2K_1_132 !
132 ! X = 458.769, 6937.498, 3.31, 57.63, 18.59, 3.08, 0.0004028, 0.007799, 0.0003931, 0.0003774, 0.004041, 0.00119 !
!END!
133 ! SRCNAM = C2K_1_133 !
133 ! X = 458.807, 6937.484, 3.31, 57.8, 18.59, 3.08, 0.0004028, 0.007799, 0.0003931, 0.0003774, 0.004041, 0.00119 !
!END!
134 ! SRCNAM = C2K_1_134 !
134 ! X = 458.844, 6937.471, 3.31, 58.0, 18.59, 3.08, 0.0004028, 0.007799, 0.0003931, 0.0003774, 0.004041, 0.00119 !
!END!
135 ! SRCNAM = C2K_1_135 !
135 ! X = 458.882, 6937.459, 3.31, 58.17, 18.59, 3.08, 0.0004028, 0.007799, 0.0003931, 0.0003774, 0.004041, 0.00119 !
!END!
136 ! SRCNAM = C2K_1_136 !
136 ! X = 458.921, 6937.447, 3.31, 58.36, 18.59, 3.08, 0.0004028, 0.007799, 0.0003931, 0.0003774, 0.004041, 0.00119 !
!END!
137 ! SRCNAM = C2K_1_137 !
137 ! X = 458.959, 6937.435, 3.31, 58.57, 18.59, 3.08, 0.0004028, 0.007799, 0.0003931, 0.0003774, 0.004041, 0.00119 !
!END!
138 ! SRCNAM = C2K_1_138 !
138 ! X = 458.997, 6937.424, 3.31, 58.76, 18.59, 3.08, 0.0004028, 0.007799, 0.0003931, 0.0003774, 0.004041, 0.00119 !
!END!
139 ! SRCNAM = C2K_1_139 !
139 ! X = 459.036, 6937.414, 3.31, 58.95, 18.59, 3.08, 0.0004028, 0.007799, 0.0003931, 0.0003774, 0.004041, 0.00119 !
!END!
140 ! SRCNAM = C2K_1_140 !
140 ! X = 459.075, 6937.405, 3.31, 59.12, 18.59, 3.08, 0.0004028, 0.007799, 0.0003931, 0.0003774, 0.004041, 0.00119 !
!END!
141 ! SRCNAM = C2K_1_141 !
141 ! X = 459.114, 6937.396, 3.31, 59.31, 18.59, 3.08, 0.0004028, 0.007799, 0.0003931, 0.0003774, 0.004041, 0.00119 !
!END!
142 ! SRCNAM = C2K_1_142 !
142 ! X = 459.153, 6937.387, 3.31, 59.52, 18.59, 3.08, 0.0004028, 0.007799, 0.0003931, 0.0003774, 0.004041, 0.00119 !
!END!
143 ! SRCNAM = C2K_1_143 !
143 ! X = 459.192, 6937.380, 3.31, 59.69, 18.59, 3.08, 0.0004028, 0.007799, 0.0003931, 0.0003774, 0.004041, 0.00119 !
!END!
144 ! SRCNAM = C2K_1_144 !
144 ! X = 459.231, 6937.373, 3.31, 59.88, 18.59, 3.08, 0.0004028, 0.007799, 0.0003931, 0.0003774, 0.004041, 0.00119 !
!END!
145 ! SRCNAM = C2K_1_145 !
145 ! X = 459.270, 6937.366, 3.31, 60.08, 18.59, 3.08, 0.0004028, 0.007799, 0.0003931, 0.0003774, 0.004041, 0.00119 !

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!END!
 146 ! SRCNAM = C2K_1_146 !
 146 ! X =  459.310, 6937.360,    3.31,    60.26,     18.59,     3.08, 0.0004028, 0.007799, 0.0003931,
 0.0003774, 0.004041, 0.00119 !
!END!
 147 ! SRCNAM = C2K_1_147 !
 147 ! X =  459.349, 6937.354,    3.31,    60.44,     18.59,     3.08, 0.0004028, 0.007799, 0.0003931,
 0.0003774, 0.004041, 0.00119 !
!END!
 148 ! SRCNAM = C2K_1_148 !
 148 ! X =  459.389, 6937.347,    3.31,    60.66,     18.59,     3.08, 0.0004028, 0.007799, 0.0003931,
 0.0003774, 0.004041, 0.00119 !
!END!
 149 ! SRCNAM = C2K_1_149 !
 149 ! X =  459.428, 6937.341,    3.31,    60.84,     18.59,     3.08, 0.0004028, 0.007799, 0.0003931,
 0.0003774, 0.004041, 0.00119 !
!END!
 150 ! SRCNAM = C2K_1_150 !
 150 ! X =  459.468, 6937.335,    3.31,    61.02,     18.59,     3.08, 0.0004028, 0.007799, 0.0003931,
 0.0003774, 0.004041, 0.00119 !
!END!
 151 ! SRCNAM = C2K_1_151 !
 151 ! X =  459.507, 6937.328,    3.31,    61.23,     18.59,     3.08, 0.0004028, 0.007799, 0.0003931,
 0.0003774, 0.004041, 0.00119 !
!END!
 152 ! SRCNAM = C2K_1_152 !
 152 ! X =  459.547, 6937.322,    3.31,    61.41,     18.59,     3.08, 0.0004028, 0.007799, 0.0003931,
 0.0003774, 0.004041, 0.00119 !
!END!
 153 ! SRCNAM = C2K_1_153 !
 153 ! X =  459.586, 6937.316,    3.31,    61.59,     18.59,     3.08, 0.0004028, 0.007799, 0.0003931,
 0.0003774, 0.004041, 0.00119 !
!END!
 154 ! SRCNAM = C2K_1_154 !
 154 ! X =  459.626, 6937.310,    3.31,    61.77,     18.59,     3.08, 0.0004028, 0.007799, 0.0003931,
 0.0003774, 0.004041, 0.00119 !
!END!
 155 ! SRCNAM = C2K_1_155 !
 155 ! X =  459.665, 6937.303,    3.31,    61.98,     18.59,     3.08, 0.0004028, 0.007799, 0.0003931,
 0.0003774, 0.004041, 0.00119 !
!END!
 156 ! SRCNAM = C2K_1_156 !
 156 ! X =  459.705, 6937.297,    3.31,    62.16,     18.59,     3.08, 0.0004028, 0.007799, 0.0003931,
 0.0003774, 0.004041, 0.00119 !
!END!
 157 ! SRCNAM = C2K_1_157 !
 157 ! X =  459.744, 6937.291,    3.31,    62.35,     18.59,     3.08, 0.0004028, 0.007799, 0.0003931,
 0.0003774, 0.004041, 0.00119 !
!END!
 158 ! SRCNAM = C2K_1_158 !
 158 ! X =  459.783, 6937.284,    3.31,    62.56,     18.59,     3.08, 0.0004028, 0.007799, 0.0003931,
 0.0003774, 0.004041, 0.00119 !
!END!
 159 ! SRCNAM = C2K_1_159 !
 159 ! X =  459.823, 6937.278,    3.31,    62.74,     18.59,     3.08, 0.0004028, 0.007799, 0.0003931,
 0.0003774, 0.004041, 0.00119 !
!END!
 160 ! SRCNAM = C2K_1_160 !
 160 ! X =  459.862, 6937.272,    3.31,    62.92,     18.59,     3.08, 0.0004028, 0.007799, 0.0003931,
 0.0003774, 0.004041, 0.00119 !
!END!
 161 ! SRCNAM = C2K_1_161 !
 161 ! X =  459.902, 6937.266,    3.31,     63.1,     18.59,     3.08, 0.0004028, 0.007799, 0.0003931,
 0.0003774, 0.004041, 0.00119 !
!END!
 162 ! SRCNAM = C2K_1_162 !
 162 ! X =  459.941, 6937.259,    3.31,    63.31,     18.59,     3.08, 0.0004028, 0.007799, 0.0003931,
 0.0003774, 0.004041, 0.00119 !
!END!
 163 ! SRCNAM = C2K_1_163 !
 163 ! X =  459.981, 6937.253,    3.31,    63.49,     18.59,     3.08, 0.0004028, 0.007799, 0.0003931,
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0.0003774, 0.004041, 0.00119 !
!END!
164 ! SRCNAM = C2K_1_164 !
164 ! X = 460.020, 6937.247, 3.31, 63.67, 18.59, 3.08, 0.0004028, 0.007799, 0.0003931,
0.0003774, 0.004041, 0.00119 !
!END!
165 ! SRCNAM = C2K_1_165 !
165 ! X = 460.060, 6937.240, 3.31, 63.89, 18.59, 3.08, 0.0004028, 0.007799, 0.0003931,
0.0003774, 0.004041, 0.00119 !
!END!
166 ! SRCNAM = C2K_1_166 !
166 ! X = 460.099, 6937.234, 3.31, 64.07, 18.59, 3.08, 0.0004028, 0.007799, 0.0003931,
0.0003774, 0.004041, 0.00119 !
!END!
167 ! SRCNAM = C2K_1_167 !
167 ! X = 460.139, 6937.228, 3.31, 64.25, 18.59, 3.08, 0.0004028, 0.007799, 0.0003931,
0.0003774, 0.004041, 0.00119 !
!END!
168 ! SRCNAM = C2K_1_168 !
168 ! X = 460.178, 6937.221, 3.31, 64.43, 18.59, 3.08, 0.0004028, 0.007799, 0.0003931,
0.0003774, 0.004041, 0.00119 !
!END!
169 ! SRCNAM = C2K_1_169 !
169 ! X = 460.217, 6937.215, 3.31, 64.64, 18.59, 3.08, 0.0004028, 0.007799, 0.0003931,
0.0003774, 0.004041, 0.00119 !
!END!
170 ! SRCNAM = C2K_1_170 !
170 ! X = 460.257, 6937.209, 3.31, 64.82, 18.59, 3.08, 0.0004028, 0.007799, 0.0003931,
0.0003774, 0.004041, 0.00119 !
!END!
171 ! SRCNAM = C2K_1_171 !
171 ! X = 460.297, 6937.203, 3.31, 65.0, 18.59, 3.08, 0.0004028, 0.007799, 0.0003931,
0.0003774, 0.004041, 0.00119 !
!END!
172 ! SRCNAM = C2K_1_172 !
172 ! X = 460.336, 6937.196, 3.31, 65.22, 18.59, 3.08, 0.0004028, 0.007799, 0.0003931,
0.0003774, 0.004041, 0.00119 !
!END!
173 ! SRCNAM = C2K_1_173 !
173 ! X = 460.375, 6937.190, 3.31, 65.4, 18.59, 3.08, 0.0004028, 0.007799, 0.0003931,
0.0003774, 0.004041, 0.00119 !
!END!
174 ! SRCNAM = C2K_1_174 !
174 ! X = 460.415, 6937.184, 3.31, 65.58, 18.59, 3.08, 0.0004028, 0.007799, 0.0003931,
0.0003774, 0.004041, 0.00119 !
!END!
175 ! SRCNAM = C2K_1_175 !
175 ! X = 460.454, 6937.177, 3.31, 65.76, 18.59, 3.08, 0.0004028, 0.007799, 0.0003931,
0.0003774, 0.004041, 0.00119 !
!END!
176 ! SRCNAM = C2K_1_176 !
176 ! X = 460.494, 6937.171, 3.31, 65.97, 18.59, 3.08, 0.0004028, 0.007799, 0.0003931,
0.0003774, 0.004041, 0.00119 !
!END!
177 ! SRCNAM = C2K_1_177 !
177 ! X = 460.533, 6937.164, 3.31, 66.15, 18.59, 3.08, 0.0004028, 0.007799, 0.0003931,
0.0003774, 0.004041, 0.00119 !
!END!
178 ! SRCNAM = C2K_1_178 !
178 ! X = 460.573, 6937.158, 3.31, 66.33, 18.59, 3.08, 0.0004028, 0.007799, 0.0003931,
0.0003774, 0.004041, 0.00119 !
!END!
179 ! SRCNAM = C2K_1_179 !
179 ! X = 460.612, 6937.151, 3.31, 66.54, 18.59, 3.08, 0.0004028, 0.007799, 0.0003931,
0.0003774, 0.004041, 0.00119 !
!END!
180 ! SRCNAM = C2K_1_180 !
180 ! X = 460.652, 6937.145, 3.31, 66.72, 18.59, 3.08, 0.0004028, 0.007799, 0.0003931,
0.0003774, 0.004041, 0.00119 !
!END!
181 ! SRCNAM = C2K_1_181 !

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 181 ! X =  460.691, 6937.139,    3.31,     66.9,      18.59,      3.08, 0.0004028, 0.007799, 0.0003931,
 0.0003774, 0.004041, 0.00119 !
!END!
 182 ! SRCNAM = C2K_1_182 !
 182 ! X =  460.731, 6937.133,    3.31,    67.07,      18.59,      3.08, 0.0004028, 0.007799, 0.0003931,
 0.0003774, 0.004041, 0.00119 !
!END!
 183 ! SRCNAM = C2K_1_183 !
 183 ! X =  460.770, 6937.126,    3.31,    67.25,      18.59,      3.08, 0.0004028, 0.007799, 0.0003931,
 0.0003774, 0.004041, 0.00119 !
!END!
 184 ! SRCNAM = C2K_1_184 !
 184 ! X =  460.809, 6937.120,    3.31,    67.44,      18.59,      3.08, 0.0004028, 0.007799, 0.0003931,
 0.0003774, 0.004041, 0.00119 !
!END!
 185 ! SRCNAM = C2K_1_185 !
 185 ! X =  460.849, 6937.114,    3.31,    67.65,      18.59,      3.08, 0.0004028, 0.007799, 0.0003931,
 0.0003774, 0.004041, 0.00119 !
!END!
 186 ! SRCNAM = C2K_1_186 !
 186 ! X =  460.888, 6937.107,    3.31,    67.81,      18.59,      3.08, 0.0004028, 0.007799, 0.0003931,
 0.0003774, 0.004041, 0.00119 !
!END!
 187 ! SRCNAM = C2K_1_187 !
 187 ! X =  460.928, 6937.101,    3.31,    68.01,      18.59,      3.08, 0.0004028, 0.007799, 0.0003931,
 0.0003774, 0.004041, 0.00119 !
!END!
 188 ! SRCNAM = C2K_1_188 !
 188 ! X =  460.967, 6937.095,    3.31,    68.21,      18.59,      3.08, 0.0004028, 0.007799, 0.0003931,
 0.0003774, 0.004041, 0.00119 !
!END!
 189 ! SRCNAM = C2K_1_189 !
 189 ! X =  461.007, 6937.089,    3.31,     68.4,      18.59,      3.08, 0.0004028, 0.007799, 0.0003931,
 0.0003774, 0.004041, 0.00119 !
!END!
 190 ! SRCNAM = C2K_1_190 !
 190 ! X =  461.046, 6937.082,    3.31,    68.58,      18.59,      3.08, 0.0004028, 0.007799, 0.0003931,
 0.0003774, 0.004041, 0.00119 !
!END!
 191 ! SRCNAM = C2K_1_191 !
 191 ! X =  461.086, 6937.076,    3.31,    68.77,      18.59,      3.08, 0.0004028, 0.007799, 0.0003931,
 0.0003774, 0.004041, 0.00119 !
!END!
 192 ! SRCNAM = C2K_1_192 !
 192 ! X =  461.125, 6937.070,    3.31,    68.97,      18.59,      3.08, 0.0004028, 0.007799, 0.0003931,
 0.0003774, 0.004041, 0.00119 !
!END!
 193 ! SRCNAM = C2K_1_193 !
 193 ! X =  461.165, 6937.063,    3.31,    69.14,      18.59,      3.08, 0.0004028, 0.007799, 0.0003931,
 0.0003774, 0.004041, 0.00119 !
!END!
 194 ! SRCNAM = C2K_1_194 !
 194 ! X =  461.204, 6937.057,    3.31,    69.34,      18.59,      3.08, 0.0004028, 0.007799, 0.0003931,
 0.0003774, 0.004041, 0.00119 !
!END!
 195 ! SRCNAM = C2K_1_195 !
 195 ! X =  461.244, 6937.051,    3.31,    69.54,      18.59,      3.08, 0.0004028, 0.007799, 0.0003931,
 0.0003774, 0.004041, 0.00119 !
!END!
 196 ! SRCNAM = C2K_1_196 !
 196 ! X =  461.283, 6937.045,    3.31,    69.73,      18.59,      3.08, 0.0004028, 0.007799, 0.0003931,
 0.0003774, 0.004041, 0.00119 !
!END!
 197 ! SRCNAM = C2K_1_197 !
 197 ! X =  461.322, 6937.038,    3.31,    69.91,      18.59,      3.08, 0.0004028, 0.007799, 0.0003931,
 0.0003774, 0.004041, 0.00119 !
!END!
 198 ! SRCNAM = C2K_1_198 !
 198 ! X =  461.362, 6937.032,    3.31,     70.1,      18.59,      3.08, 0.0004028, 0.007799, 0.0003931,
 0.0003774, 0.004041, 0.00119 !
!END!
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199 ! SRCNAM = C2K_1_199 !
199 ! X = 461.401, 6937.026, 3.31, 70.3, 18.59, 3.08, 0.0004028, 0.007799, 0.0003931,
0.0003774, 0.004041, 0.00119 !
!END!
200 ! SRCNAM = C2K_1_200 !
200 ! X = 461.441, 6937.019, 3.31, 70.47, 18.59, 3.08, 0.0004028, 0.007799, 0.0003931,
0.0003774, 0.004041, 0.00119 !
!END!
201 ! SRCNAM = C2K_1_201 !
201 ! X = 461.480, 6937.013, 3.31, 70.67, 18.59, 3.08, 0.0004028, 0.007799, 0.0003931,
0.0003774, 0.004041, 0.00119 !
!END!
202 ! SRCNAM = C2K_1_202 !
202 ! X = 461.520, 6937.007, 3.31, 70.87, 18.59, 3.08, 0.0004028, 0.007799, 0.0003931,
0.0003774, 0.004041, 0.00119 !
!END!
203 ! SRCNAM = C2K_1_203 !
203 ! X = 461.559, 6937.001, 3.31, 70.95, 18.59, 3.08, 0.0004028, 0.007799, 0.0003931,
0.0003774, 0.004041, 0.00119 !
!END!
204 ! SRCNAM = C2K_1_204 !
204 ! X = 461.599, 6936.994, 3.31, 70.81, 18.59, 3.08, 0.0004028, 0.007799, 0.0003931,
0.0003774, 0.004041, 0.00119 !
!END!
205 ! SRCNAM = C2K_1_205 !
205 ! X = 461.638, 6936.988, 3.31, 70.63, 18.59, 3.08, 0.0004028, 0.007799, 0.0003931,
0.0003774, 0.004041, 0.00119 !
!END!
206 ! SRCNAM = C2K_1_206 !
206 ! X = 461.678, 6936.982, 3.31, 70.45, 18.59, 3.08, 0.0004028, 0.007799, 0.0003931,
0.0003774, 0.004041, 0.00119 !
!END!
207 ! SRCNAM = C2K_1_207 !
207 ! X = 461.717, 6936.975, 3.31, 70.23, 18.59, 3.08, 0.0004028, 0.007799, 0.0003931,
0.0003774, 0.004041, 0.00119 !
!END!
208 ! SRCNAM = C2K_1_208 !
208 ! X = 461.756, 6936.969, 3.31, 70.05, 18.59, 3.08, 0.0004028, 0.007799, 0.0003931,
0.0003774, 0.004041, 0.00119 !
!END!
209 ! SRCNAM = C2K_1_209 !
209 ! X = 461.796, 6936.963, 3.31, 69.86, 18.59, 3.08, 0.0004028, 0.007799, 0.0003931,
0.0003774, 0.004041, 0.00119 !
!END!
210 ! SRCNAM = C2K_1_210 !
210 ! X = 461.835, 6936.957, 3.31, 69.68, 18.59, 3.08, 0.0004028, 0.007799, 0.0003931,
0.0003774, 0.004041, 0.00119 !
!END!
211 ! SRCNAM = C2K_1_211 !
211 ! X = 461.875, 6936.950, 3.31, 69.46, 18.59, 3.08, 0.0004028, 0.007799, 0.0003931,
0.0003774, 0.004041, 0.00119 !
!END!
212 ! SRCNAM = C2K_1_212 !
212 ! X = 461.914, 6936.944, 3.31, 69.28, 18.59, 3.08, 0.0004028, 0.007799, 0.0003931,
0.0003774, 0.004041, 0.00119 !
!END!
213 ! SRCNAM = C2K_1_213 !
213 ! X = 461.954, 6936.938, 3.31, 69.1, 18.59, 3.08, 0.0004028, 0.007799, 0.0003931,
0.0003774, 0.004041, 0.00119 !
!END!
214 ! SRCNAM = C2K_1_214 !
214 ! X = 461.993, 6936.932, 3.31, 68.92, 18.59, 3.08, 0.0004028, 0.007799, 0.0003931,
0.0003774, 0.004041, 0.00119 !
!END!
215 ! SRCNAM = C2K_1_215 !
215 ! X = 462.033, 6936.925, 3.31, 68.7, 18.59, 3.08, 0.0004028, 0.007799, 0.0003931,
0.0003774, 0.004041, 0.00119 !
!END!
216 ! SRCNAM = C2K_1_216 !
216 ! X = 462.072, 6936.919, 3.31, 68.52, 18.59, 3.08, 0.0004028, 0.007799, 0.0003931,
0.0003774, 0.004041, 0.00119 !

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!END!
 217 ! SRCNAM = C2K_1_217 !
 217 ! X =  462.112, 6936.913,    3.31,    68.33,     18.59,     3.08, 0.0004028, 0.007799, 0.0003931,
 0.0003774, 0.004041, 0.00119 !
!END!
 218 ! SRCNAM = C2K_1_218 !
 218 ! X =  462.151, 6936.907,    3.31,    68.15,     18.59,     3.08, 0.0004028, 0.007799, 0.0003931,
 0.0003774, 0.004041, 0.00119 !
!END!
 219 ! SRCNAM = C2K_1_219 !
 219 ! X =  462.190, 6936.900,    3.31,    67.93,     18.59,     3.08, 0.0004028, 0.007799, 0.0003931,
 0.0003774, 0.004041, 0.00119 !
!END!
 220 ! SRCNAM = C2K_1_220 !
 220 ! X =  462.230, 6936.894,    3.31,    67.75,     18.59,     3.08, 0.0004028, 0.007799, 0.0003931,
 0.0003774, 0.004041, 0.00119 !
!END!
 221 ! SRCNAM = C2K_1_221 !
 221 ! X =  462.270, 6936.888,    3.31,    67.57,     18.59,     3.08, 0.0004028, 0.007799, 0.0003931,
 0.0003774, 0.004041, 0.00119 !
!END!
 222 ! SRCNAM = C2K_1_222 !
 222 ! X =  462.309, 6936.882,    3.31,    67.39,     18.59,     3.08, 0.0004028, 0.007799, 0.0003931,
 0.0003774, 0.004041, 0.00119 !
!END!
 223 ! SRCNAM = C2K_1_223 !
 223 ! X =  462.348, 6936.875,    3.31,    67.17,     18.59,     3.08, 0.0004028, 0.007799, 0.0003931,
 0.0003774, 0.004041, 0.00119 !
!END!
 224 ! SRCNAM = C2K_1_224 !
 224 ! X =  462.388, 6936.868,    3.31,    66.99,     18.59,     3.08, 0.0004028, 0.007799, 0.0003931,
 0.0003774, 0.004041, 0.00119 !
!END!
 225 ! SRCNAM = C2K_1_225 !
 225 ! X =  462.427, 6936.862,    3.31,     66.8,     18.59,     3.08, 0.0004028, 0.007799, 0.0003931,
 0.0003774, 0.004041, 0.00119 !
!END!
 226 ! SRCNAM = C2K_1_226 !
 226 ! X =  462.467, 6936.856,    3.31,    66.62,     18.59,     3.08, 0.0004028, 0.007799, 0.0003931,
 0.0003774, 0.004041, 0.00119 !
!END!
 227 ! SRCNAM = C2K_1_227 !
 227 ! X =  462.506, 6936.849,    3.31,     66.4,     18.59,     3.08, 0.0004028, 0.007799, 0.0003931,
 0.0003774, 0.004041, 0.00119 !
!END!
 228 ! SRCNAM = C2K_1_228 !
 228 ! X =  462.546, 6936.843,    3.31,    66.22,     18.59,     3.08, 0.0004028, 0.007799, 0.0003931,
 0.0003774, 0.004041, 0.00119 !
!END!
 229 ! SRCNAM = C2K_1_229 !
 229 ! X =  462.585, 6936.837,    3.31,    66.04,     18.59,     3.08, 0.0004028, 0.007799, 0.0003931,
 0.0003774, 0.004041, 0.00119 !
!END!
 230 ! SRCNAM = C2K_1_230 !
 230 ! X =  462.625, 6936.831,    3.31,    65.85,     18.59,     3.08, 0.0004028, 0.007799, 0.0003931,
 0.0003774, 0.004041, 0.00119 !
!END!
 231 ! SRCNAM = C2K_1_231 !
 231 ! X =  462.664, 6936.824,    3.31,    65.64,     18.59,     3.08, 0.0004028, 0.007799, 0.0003931,
 0.0003774, 0.004041, 0.00119 !
!END!
 232 ! SRCNAM = C2K_1_232 !
 232 ! X =  462.704, 6936.818,    3.31,    65.46,     18.59,     3.08, 0.0004028, 0.007799, 0.0003931,
 0.0003774, 0.004041, 0.00119 !
!END!
 233 ! SRCNAM = C2K_1_233 !
 233 ! X =  462.743, 6936.812,    3.31,    65.27,     18.59,     3.08, 0.0004028, 0.007799, 0.0003931,
 0.0003774, 0.004041, 0.00119 !
!END!
 234 ! SRCNAM = C2K_1_234 !
 234 ! X =  462.783, 6936.806,    3.31,    65.09,     18.59,     3.08, 0.0004028, 0.007799, 0.0003931,
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0.0003774, 0.004041, 0.00119 !
!END!
235 ! SRCNAM = C2K_1_235 !
235 ! X = 462.822, 6936.799, 3.31, 64.87, 18.59, 3.08, 0.0004028, 0.007799, 0.0003931,
0.0003774, 0.004041, 0.00119 !
!END!
236 ! SRCNAM = C2K_1_236 !
236 ! X = 462.861, 6936.793, 3.31, 64.69, 18.59, 3.08, 0.0004028, 0.007799, 0.0003931,
0.0003774, 0.004041, 0.00119 !
!END!
237 ! SRCNAM = C2K_1_237 !
237 ! X = 462.901, 6936.787, 3.31, 64.51, 18.59, 3.08, 0.0004028, 0.007799, 0.0003931,
0.0003774, 0.004041, 0.00119 !
!END!
238 ! SRCNAM = C2K_1_238 !
238 ! X = 462.940, 6936.781, 3.31, 64.33, 18.59, 3.08, 0.0004028, 0.007799, 0.0003931,
0.0003774, 0.004041, 0.00119 !
!END!
239 ! SRCNAM = C2K_1_239 !
239 ! X = 462.980, 6936.774, 3.31, 64.11, 18.59, 3.08, 0.0004028, 0.007799, 0.0003931,
0.0003774, 0.004041, 0.00119 !
!END!
240 ! SRCNAM = C2K_1_240 !
240 ! X = 463.019, 6936.768, 3.31, 63.93, 18.59, 3.08, 0.0004028, 0.007799, 0.0003931,
0.0003774, 0.004041, 0.00119 !
!END!
241 ! SRCNAM = C2K_1_241 !
241 ! X = 463.059, 6936.762, 3.31, 63.74, 18.59, 3.08, 0.0004028, 0.007799, 0.0003931,
0.0003774, 0.004041, 0.00119 !
!END!
242 ! SRCNAM = C2K_1_242 !
242 ! X = 463.098, 6936.756, 3.31, 63.56, 18.59, 3.08, 0.0004028, 0.007799, 0.0003931,
0.0003774, 0.004041, 0.00119 !
!END!
243 ! SRCNAM = C2K_1_243 !
243 ! X = 463.138, 6936.749, 3.31, 63.34, 18.59, 3.08, 0.0004028, 0.007799, 0.0003931,
0.0003774, 0.004041, 0.00119 !
!END!
244 ! SRCNAM = C2K_1_244 !
244 ! X = 463.177, 6936.743, 3.31, 63.16, 18.59, 3.08, 0.0004028, 0.007799, 0.0003931,
0.0003774, 0.004041, 0.00119 !
!END!
245 ! SRCNAM = C2K_1_245 !
245 ! X = 463.217, 6936.737, 3.31, 62.98, 18.59, 3.08, 0.0004028, 0.007799, 0.0003931,
0.0003774, 0.004041, 0.00119 !
!END!
246 ! SRCNAM = C2K_1_246 !
246 ! X = 463.256, 6936.731, 3.31, 62.77, 18.59, 3.08, 0.0004028, 0.007799, 0.0003931,
0.0003774, 0.004041, 0.00119 !
!END!
247 ! SRCNAM = C2K_1_247 !
247 ! X = 463.295, 6936.724, 3.31, 62.58, 18.59, 3.08, 0.0004028, 0.007799, 0.0003931,
0.0003774, 0.004041, 0.00119 !
!END!
248 ! SRCNAM = C2K_1_248 !
248 ! X = 463.335, 6936.717, 3.31, 62.4, 18.59, 3.08, 0.0004028, 0.007799, 0.0003931,
0.0003774, 0.004041, 0.00119 !
!END!
249 ! SRCNAM = C2K_1_249 !
249 ! X = 463.375, 6936.711, 3.31, 62.21, 18.59, 3.08, 0.0004028, 0.007799, 0.0003931,
0.0003774, 0.004041, 0.00119 !
!END!
250 ! SRCNAM = C2K_1_250 !
250 ! X = 463.414, 6936.705, 3.31, 62.0, 18.59, 3.08, 0.0004028, 0.007799, 0.0003931,
0.0003774, 0.004041, 0.00119 !
!END!
251 ! SRCNAM = C2K_1_251 !
251 ! X = 463.453, 6936.698, 3.31, 61.81, 18.59, 3.08, 0.0004028, 0.007799, 0.0003931,
0.0003774, 0.004041, 0.00119 !
!END!
252 ! SRCNAM = C2K_1_252 !

252 ! X = 463.493, 6936.692, 3.31, 61.63, 18.59, 3.08, 0.0004028, 0.007799, 0.0003931, 0.0003774, 0.004041, 0.00119 !
!END!
253 ! SRCNAM = C2K_1_253 !
253 ! X = 463.532, 6936.686, 3.31, 61.43, 18.59, 3.08, 0.0004028, 0.007799, 0.0003931, 0.0003774, 0.004041, 0.00119 !
!END!
254 ! SRCNAM = C2K_1_254 !
254 ! X = 463.572, 6936.679, 3.31, 61.24, 18.59, 3.08, 0.0004028, 0.007799, 0.0003931, 0.0003774, 0.004041, 0.00119 !
!END!
255 ! SRCNAM = C2K_1_255 !
255 ! X = 463.611, 6936.673, 3.31, 61.05, 18.59, 3.08, 0.0004028, 0.007799, 0.0003931, 0.0003774, 0.004041, 0.00119 !
!END!
256 ! SRCNAM = C2K_1_256 !
256 ! X = 463.651, 6936.667, 3.31, 60.87, 18.59, 3.08, 0.0004028, 0.007799, 0.0003931, 0.0003774, 0.004041, 0.00119 !
!END!
257 ! SRCNAM = C2K_1_257 !
257 ! X = 463.690, 6936.661, 3.31, 60.69, 18.59, 3.08, 0.0004028, 0.007799, 0.0003931, 0.0003774, 0.004041, 0.00119 !
!END!
258 ! SRCNAM = C2K_1_258 !
258 ! X = 463.729, 6936.654, 3.31, 60.47, 18.59, 3.08, 0.0004028, 0.007799, 0.0003931, 0.0003774, 0.004041, 0.00119 !
!END!
259 ! SRCNAM = C2K_1_259 !
259 ! X = 463.769, 6936.648, 3.31, 60.29, 18.59, 3.08, 0.0004028, 0.007799, 0.0003931, 0.0003774, 0.004041, 0.00119 !
!END!
260 ! SRCNAM = C2K_1_260 !
260 ! X = 463.808, 6936.642, 3.31, 60.11, 18.59, 3.08, 0.0004028, 0.007799, 0.0003931, 0.0003774, 0.004041, 0.00119 !
!END!
261 ! SRCNAM = C2K_1_261 !
261 ! X = 463.848, 6936.636, 3.31, 59.92, 18.59, 3.08, 0.0004028, 0.007799, 0.0003931, 0.0003774, 0.004041, 0.00119 !
!END!
262 ! SRCNAM = C2K_1_262 !
262 ! X = 463.887, 6936.629, 3.31, 59.71, 18.59, 3.08, 0.0004028, 0.007799, 0.0003931, 0.0003774, 0.004041, 0.00119 !
!END!
263 ! SRCNAM = C2K_1_263 !
263 ! X = 463.927, 6936.623, 3.31, 59.52, 18.59, 3.08, 0.0004028, 0.007799, 0.0003931, 0.0003774, 0.004041, 0.00119 !
!END!
264 ! SRCNAM = C2K_1_264 !
264 ! X = 463.966, 6936.617, 3.31, 59.34, 18.59, 3.08, 0.0004028, 0.007799, 0.0003931, 0.0003774, 0.004041, 0.00119 !
!END!
265 ! SRCNAM = C2K_1_265 !
265 ! X = 464.006, 6936.611, 3.31, 59.16, 18.59, 3.08, 0.0004028, 0.007799, 0.0003931, 0.0003774, 0.004041, 0.00119 !
!END!
266 ! SRCNAM = C2K_1_266 !
266 ! X = 464.045, 6936.604, 3.31, 58.94, 18.59, 3.08, 0.0004028, 0.007799, 0.0003931, 0.0003774, 0.004041, 0.00119 !
!END!
267 ! SRCNAM = C2K_1_267 !
267 ! X = 464.085, 6936.598, 3.31, 58.76, 18.59, 3.08, 0.0004028, 0.007799, 0.0003931, 0.0003774, 0.004041, 0.00119 !
!END!
268 ! SRCNAM = C2K_1_268 !
268 ! X = 464.124, 6936.592, 3.31, 58.57, 18.59, 3.08, 0.0004028, 0.007799, 0.0003931, 0.0003774, 0.004041, 0.00119 !
!END!
269 ! SRCNAM = C2K_1_269 !
269 ! X = 464.164, 6936.586, 3.31, 58.39, 18.59, 3.08, 0.0004028, 0.007799, 0.0003931, 0.0003774, 0.004041, 0.00119 !
!END!

270 ! SRCNAM = C2K_1_270 !
270 ! X = 464.203, 6936.579, 3.31, 58.18, 18.59, 3.08, 0.0004028, 0.007799, 0.0003931, 0.0003774, 0.004041, 0.00119 !
!END!
271 ! SRCNAM = C2K_1_271 !
271 ! X = 464.243, 6936.573, 3.31, 57.99, 18.59, 3.08, 0.0004028, 0.007799, 0.0003931, 0.0003774, 0.004041, 0.00119 !
!END!
272 ! SRCNAM = C2K_1_272 !
272 ! X = 464.282, 6936.567, 3.31, 57.81, 18.59, 3.08, 0.0004028, 0.007799, 0.0003931, 0.0003774, 0.004041, 0.00119 !
!END!
273 ! SRCNAM = C2K_1_273 !
273 ! X = 464.321, 6936.560, 3.31, 57.6, 18.59, 3.08, 0.0004028, 0.007799, 0.0003931, 0.0003774, 0.004041, 0.00119 !
!END!
274 ! SRCNAM = C2K_1_274 !
274 ! X = 464.361, 6936.554, 3.31, 57.43, 18.59, 3.08, 0.0004028, 0.007799, 0.0003931, 0.0003774, 0.004041, 0.00119 !
!END!
275 ! SRCNAM = C2K_1_275 !
275 ! X = 464.400, 6936.547, 3.31, 57.23, 18.59, 3.08, 0.0004028, 0.007799, 0.0003931, 0.0003774, 0.004041, 0.00119 !
!END!
276 ! SRCNAM = C2K_1_276 !
276 ! X = 464.439, 6936.540, 3.31, 57.03, 18.59, 3.08, 0.0004028, 0.007799, 0.0003931, 0.0003774, 0.004041, 0.00119 !
!END!
277 ! SRCNAM = C2K_1_277 !
277 ! X = 464.479, 6936.533, 3.31, 56.85, 18.59, 3.08, 0.0004028, 0.007799, 0.0003931, 0.0003774, 0.004041, 0.00119 !
!END!
278 ! SRCNAM = C2K_1_278 !
278 ! X = 464.518, 6936.525, 3.31, 56.65, 18.59, 3.08, 0.0004028, 0.007799, 0.0003931, 0.0003774, 0.004041, 0.00119 !
!END!
279 ! SRCNAM = C2K_1_279 !
279 ! X = 464.557, 6936.518, 3.31, 56.48, 18.59, 3.08, 0.0004028, 0.007799, 0.0003931, 0.0003774, 0.004041, 0.00119 !
!END!
280 ! SRCNAM = C2K_1_280 !
280 ! X = 464.596, 6936.509, 3.31, 56.27, 18.59, 3.08, 0.0004028, 0.007799, 0.0003931, 0.0003774, 0.004041, 0.00119 !
!END!
281 ! SRCNAM = C2K_1_281 !
281 ! X = 464.636, 6936.501, 3.31, 56.07, 18.59, 3.08, 0.0004028, 0.007799, 0.0003931, 0.0003774, 0.004041, 0.00119 !
!END!
282 ! SRCNAM = C2K_1_282 !
282 ! X = 464.675, 6936.494, 3.31, 55.89, 18.59, 3.08, 0.0004028, 0.007799, 0.0003931, 0.0003774, 0.004041, 0.00119 !
!END!
283 ! SRCNAM = C2K_1_283 !
283 ! X = 464.714, 6936.486, 3.31, 55.69, 18.59, 3.08, 0.0004028, 0.007799, 0.0003931, 0.0003774, 0.004041, 0.00119 !
!END!
284 ! SRCNAM = C2K_1_284 !
284 ! X = 464.753, 6936.479, 3.31, 55.51, 18.59, 3.08, 0.0004028, 0.007799, 0.0003931, 0.0003774, 0.004041, 0.00119 !
!END!
285 ! SRCNAM = C2K_1_285 !
285 ! X = 464.792, 6936.471, 3.31, 55.31, 18.59, 3.08, 0.0004028, 0.007799, 0.0003931, 0.0003774, 0.004041, 0.00119 !
!END!
286 ! SRCNAM = C2K_1_286 !
286 ! X = 464.831, 6936.463, 3.31, 55.11, 18.59, 3.08, 0.0004028, 0.007799, 0.0003931, 0.0003774, 0.004041, 0.00119 !
!END!
287 ! SRCNAM = C2K_1_287 !
287 ! X = 464.871, 6936.456, 3.31, 54.95, 18.59, 3.08, 0.0004028, 0.007799, 0.0003931, 0.0003774, 0.004041, 0.00119 !

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!END!
 288 ! SRCNAM = C2K_1_288 !
 288 ! X =  464.910, 6936.448,    3.31,    54.74,     18.59,     3.08, 0.0004028, 0.007799, 0.0003931,
 0.0003774, 0.004041, 0.00119 !
!END!
 289 ! SRCNAM = C2K_1_289 !
 289 ! X =  464.949, 6936.441,    3.31,    54.57,     18.59,     3.08, 0.0004028, 0.007799, 0.0003931,
 0.0003774, 0.004041, 0.00119 !
!END!
 290 ! SRCNAM = C2K_1_290 !
 290 ! X =  464.988, 6936.433,    3.31,    54.36,     18.59,     3.08, 0.0004028, 0.007799, 0.0003931,
 0.0003774, 0.004041, 0.00119 !
!END!
 291 ! SRCNAM = C2K_1_291 !
 291 ! X =  465.028, 6936.425,    3.31,    54.16,     18.59,     3.08, 0.0004028, 0.007799, 0.0003931,
 0.0003774, 0.004041, 0.00119 !
!END!
 292 ! SRCNAM = C2K_1_292 !
 292 ! X =  465.067, 6936.418,    3.31,    53.99,     18.59,     3.08, 0.0004028, 0.007799, 0.0003931,
 0.0003774, 0.004041, 0.00119 !
!END!
 293 ! SRCNAM = C2K_1_293 !
 293 ! X =  465.106, 6936.410,    3.31,    53.78,     18.59,     3.08, 0.0004028, 0.007799, 0.0003931,
 0.0003774, 0.004041, 0.00119 !
!END!
 294 ! SRCNAM = C2K_1_294 !
 294 ! X =  465.145, 6936.402,    3.31,    53.59,     18.59,     3.08, 0.0004028, 0.007799, 0.0003931,
 0.0003774, 0.004041, 0.00119 !
!END!
 295 ! SRCNAM = C2K_1_295 !
 295 ! X =  465.184, 6936.394,    3.31,    53.41,     18.59,     3.08, 0.0004028, 0.007799, 0.0003931,
 0.0003774, 0.004041, 0.00119 !
!END!
 296 ! SRCNAM = C2K_1_296 !
 296 ! X =  465.224, 6936.386,    3.31,    53.21,     18.59,     3.08, 0.0004028, 0.007799, 0.0003931,
 0.0003774, 0.004041, 0.00119 !
!END!
 297 ! SRCNAM = C2K_1_297 !
 297 ! X =  465.263, 6936.379,    3.31,    53.02,     18.59,     3.08, 0.0004028, 0.007799, 0.0003931,
 0.0003774, 0.004041, 0.00119 !
!END!
 298 ! SRCNAM = C2K_1_298 !
 298 ! X =  465.302, 6936.371,    3.31,    52.83,     18.59,     3.08, 0.0004028, 0.007799, 0.0003931,
 0.0003774, 0.004041, 0.00119 !
!END!
 299 ! SRCNAM = C2K_1_299 !
 299 ! X =  465.341, 6936.363,    3.31,    52.63,     18.59,     3.08, 0.0004028, 0.007799, 0.0003931,
 0.0003774, 0.004041, 0.00119 !
!END!
 300 ! SRCNAM = C2K_1_300 !
 300 ! X =  465.381, 6936.356,    3.31,    52.46,     18.59,     3.08, 0.0004028, 0.007799, 0.0003931,
 0.0003774, 0.004041, 0.00119 !
!END!
 301 ! SRCNAM = C2K_1_301 !
 301 ! X =  465.420, 6936.348,    3.31,    52.26,     18.59,     3.08, 0.0004028, 0.007799, 0.0003931,
 0.0003774, 0.004041, 0.00119 !
!END!
 302 ! SRCNAM = C2K_1_302 !
 302 ! X =  465.459, 6936.341,    3.31,    52.05,     18.59,     3.08, 0.0004028, 0.007799, 0.0003931,
 0.0003774, 0.004041, 0.00119 !
!END!
 303 ! SRCNAM = C2K_1_303 !
 303 ! X =  465.498, 6936.333,    3.31,    51.88,     18.59,     3.08, 0.0004028, 0.007799, 0.0003931,
 0.0003774, 0.004041, 0.00119 !
!END!
 304 ! SRCNAM = C2K_1_304 !
 304 ! X =  465.537, 6936.325,    3.31,    51.68,     18.59,     3.08, 0.0004028, 0.007799, 0.0003931,
 0.0003774, 0.004041, 0.00119 !
!END!
 305 ! SRCNAM = C2K_1_305 !
 305 ! X =  465.577, 6936.318,    3.31,    51.48,     18.59,     3.08, 0.0004028, 0.007799, 0.0003931,
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0.0003774, 0.004041, 0.00119 !
!END!
306 ! SRCNAM = C2K_1_306 !
306 ! X = 465.616, 6936.310, 3.31, 51.29, 18.59, 3.08, 0.0004028, 0.007799, 0.0003931,
0.0003774, 0.004041, 0.00119 !
!END!
307 ! SRCNAM = C2K_1_307 !
307 ! X = 465.655, 6936.302, 3.31, 51.1, 18.59, 3.08, 0.0004028, 0.007799, 0.0003931,
0.0003774, 0.004041, 0.00119 !
!END!
308 ! SRCNAM = C2K_1_308 !
308 ! X = 465.694, 6936.295, 3.31, 50.91, 18.59, 3.08, 0.0004028, 0.007799, 0.0003931,
0.0003774, 0.004041, 0.00119 !
!END!
309 ! SRCNAM = C2K_1_309 !
309 ! X = 465.733, 6936.287, 3.31, 50.71, 18.59, 3.08, 0.0004028, 0.007799, 0.0003931,
0.0003774, 0.004041, 0.00119 !
!END!
310 ! SRCNAM = C2K_1_310 !
310 ! X = 465.773, 6936.279, 3.31, 50.52, 18.59, 3.08, 0.0004028, 0.007799, 0.0003931,
0.0003774, 0.004041, 0.00119 !
!END!
311 ! SRCNAM = C2K_1_311 !
311 ! X = 465.812, 6936.272, 3.31, 50.35, 18.59, 3.08, 0.0004028, 0.007799, 0.0003931,
0.0003774, 0.004041, 0.00119 !
!END!
312 ! SRCNAM = C2K_1_312 !
312 ! X = 465.851, 6936.264, 3.31, 50.15, 18.59, 3.08, 0.0004028, 0.007799, 0.0003931,
0.0003774, 0.004041, 0.00119 !
!END!
313 ! SRCNAM = C2K_1_313 !
313 ! X = 465.890, 6936.256, 3.31, 49.95, 18.59, 3.08, 0.0004028, 0.007799, 0.0003931,
0.0003774, 0.004041, 0.00119 !
!END!
314 ! SRCNAM = C2K_1_314 !
314 ! X = 465.930, 6936.249, 3.31, 49.78, 18.59, 3.08, 0.0004028, 0.007799, 0.0003931,
0.0003774, 0.004041, 0.00119 !
!END!
315 ! SRCNAM = C2K_1_315 !
315 ! X = 465.969, 6936.241, 3.31, 49.57, 18.59, 3.08, 0.0004028, 0.007799, 0.0003931,
0.0003774, 0.004041, 0.00119 !
!END!
316 ! SRCNAM = C2K_1_316 !
316 ! X = 466.008, 6936.233, 3.31, 49.39, 18.59, 3.08, 0.0004028, 0.007799, 0.0003931,
0.0003774, 0.004041, 0.00119 !
!END!
317 ! SRCNAM = C2K_1_317 !
317 ! X = 466.047, 6936.225, 3.31, 49.2, 18.59, 3.08, 0.0004028, 0.007799, 0.0003931,
0.0003774, 0.004041, 0.00119 !
!END!
318 ! SRCNAM = C2K_1_318 !
318 ! X = 466.086, 6936.217, 3.31, 48.99, 18.59, 3.08, 0.0004028, 0.007799, 0.0003931,
0.0003774, 0.004041, 0.00119 !
!END!
319 ! SRCNAM = C2K_1_319 !
319 ! X = 466.126, 6936.210, 3.31, 48.81, 18.59, 3.08, 0.0004028, 0.007799, 0.0003931,
0.0003774, 0.004041, 0.00119 !
!END!
320 ! SRCNAM = C2K_1_320 !
320 ! X = 466.165, 6936.202, 3.31, 48.62, 18.59, 3.08, 0.0004028, 0.007799, 0.0003931,
0.0003774, 0.004041, 0.00119 !
!END!
321 ! SRCNAM = C2K_1_321 !
321 ! X = 466.204, 6936.194, 3.31, 48.42, 18.59, 3.08, 0.0004028, 0.007799, 0.0003931,
0.0003774, 0.004041, 0.00119 !
!END!
322 ! SRCNAM = C2K_1_322 !
322 ! X = 466.243, 6936.187, 3.31, 48.25, 18.59, 3.08, 0.0004028, 0.007799, 0.0003931,
0.0003774, 0.004041, 0.00119 !
!END!
323 ! SRCNAM = C2K_1_323 !

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 323 ! X =  466.282, 6936.179,    3.31,    48.05,     18.59,     3.08, 0.0004028, 0.007799, 0.0003931,
 0.0003774, 0.004041, 0.00119 !
!END!
 324 ! SRCNAM = C2K_1_324 !
 324 ! X =  466.322, 6936.171,    3.31,     47.9,     18.59,     3.08, 0.0004028, 0.007799, 0.0003931,
 0.0003774, 0.004041, 0.00119 !
!END!
 325 ! SRCNAM = C2K_1_325 !
 325 ! X =  466.361, 6936.164,    3.31,    47.68,     18.59,     3.08, 0.0004028, 0.007799, 0.0003931,
 0.0003774, 0.004041, 0.00119 !
!END!
 326 ! SRCNAM = C2K_1_326 !
 326 ! X =  466.400, 6936.156,    3.31,    47.49,     18.59,     3.08, 0.0004028, 0.007799, 0.0003931,
 0.0003774, 0.004041, 0.00119 !
!END!
 327 ! SRCNAM = C2K_1_327 !
 327 ! X =  466.439, 6936.149,    3.31,    47.28,     18.59,     3.08, 0.0004028, 0.007799, 0.0003931,
 0.0003774, 0.004041, 0.00119 !
!END!
 328 ! SRCNAM = C2K_1_328 !
 328 ! X =  466.478, 6936.141,    3.31,    47.09,     18.59,     3.08, 0.0004028, 0.007799, 0.0003931,
 0.0003774, 0.004041, 0.00119 !
!END!
 329 ! SRCNAM = C2K_1_329 !
 329 ! X =  466.518, 6936.133,    3.31,     46.9,     18.59,     3.08, 0.0004028, 0.007799, 0.0003931,
 0.0003774, 0.004041, 0.00119 !
!END!
 330 ! SRCNAM = C2K_1_330 !
 330 ! X =  466.557, 6936.126,    3.31,    46.68,     18.59,     3.08, 0.0004028, 0.007799, 0.0003931,
 0.0003774, 0.004041, 0.00119 !
!END!
 331 ! SRCNAM = C2K_1_331 !
 331 ! X =  466.596, 6936.118,    3.31,     46.5,     18.59,     3.08, 0.0004028, 0.007799, 0.0003931,
 0.0003774, 0.004041, 0.00119 !
!END!
 332 ! SRCNAM = C2K_1_332 !
 332 ! X =  466.635, 6936.110,    3.31,    46.28,     18.59,     3.08, 0.0004028, 0.007799, 0.0003931,
 0.0003774, 0.004041, 0.00119 !
!END!
 333 ! SRCNAM = C2K_1_333 !
 333 ! X =  466.675, 6936.103,    3.31,    46.09,     18.59,     3.08, 0.0004028, 0.007799, 0.0003931,
 0.0003774, 0.004041, 0.00119 !
!END!
 334 ! SRCNAM = C2K_1_334 !
 334 ! X =  466.714, 6936.094,    3.31,     45.9,     18.59,     3.08, 0.0004028, 0.007799, 0.0003931,
 0.0003774, 0.004041, 0.00119 !
!END!
 335 ! SRCNAM = C2K_1_335 !
 335 ! X =  466.753, 6936.087,    3.31,    45.69,     18.59,     3.08, 0.0004028, 0.007799, 0.0003931,
 0.0003774, 0.004041, 0.00119 !
!END!
 336 ! SRCNAM = C2K_1_336 !
 336 ! X =  466.792, 6936.079,    3.31,     45.5,     18.59,     3.08, 0.0004028, 0.007799, 0.0003931,
 0.0003774, 0.004041, 0.00119 !
!END!
 337 ! SRCNAM = C2K_1_337 !
 337 ! X =  466.831, 6936.072,    3.31,    45.28,     18.59,     3.08, 0.0004028, 0.007799, 0.0003931,
 0.0003774, 0.004041, 0.00119 !
!END!
 338 ! SRCNAM = C2K_1_338 !
 338 ! X =  466.871, 6936.064,    3.31,    45.09,     18.59,     3.08, 0.0004028, 0.007799, 0.0003931,
 0.0003774, 0.004041, 0.00119 !
!END!
 339 ! SRCNAM = C2K_1_339 !
 339 ! X =  466.910, 6936.056,    3.31,     44.9,     18.59,     3.08, 0.0004028, 0.007799, 0.0003931,
 0.0003774, 0.004041, 0.00119 !
!END!
 340 ! SRCNAM = C2K_1_340 !
 340 ! X =  466.949, 6936.049,    3.31,    44.68,     18.59,     3.08, 0.0004028, 0.007799, 0.0003931,
 0.0003774, 0.004041, 0.00119 !
!END!
```

341 ! SRCNAM = C2K_1_341 !
341 ! X = 466.988, 6936.041, 3.31, 44.5, 18.59, 3.08, 0.0004028, 0.007799, 0.0003931, 0.0003774, 0.004041, 0.00119 !
!END!
342 ! SRCNAM = C2K_1_342 !
342 ! X = 467.028, 6936.034, 3.31, 44.31, 18.59, 3.08, 0.0004028, 0.007799, 0.0003931, 0.0003774, 0.004041, 0.00119 !
!END!
343 ! SRCNAM = C2K_1_343 !
343 ! X = 467.067, 6936.026, 3.31, 44.09, 18.59, 3.08, 0.0004028, 0.007799, 0.0003931, 0.0003774, 0.004041, 0.00119 !
!END!
344 ! SRCNAM = C2K_1_344 !
344 ! X = 467.106, 6936.018, 3.31, 43.9, 18.59, 3.08, 0.0004028, 0.007799, 0.0003931, 0.0003774, 0.004041, 0.00119 !
!END!
345 ! SRCNAM = C2K_1_345 !
345 ! X = 467.145, 6936.011, 3.31, 43.68, 18.59, 3.08, 0.0004028, 0.007799, 0.0003931, 0.0003774, 0.004041, 0.00119 !
!END!
346 ! SRCNAM = C2K_1_346 !
346 ! X = 467.184, 6936.003, 3.31, 43.49, 18.59, 3.08, 0.0004028, 0.007799, 0.0003931, 0.0003774, 0.004041, 0.00119 !
!END!
347 ! SRCNAM = C2K_1_347 !
347 ! X = 467.224, 6935.995, 3.31, 43.31, 18.59, 3.08, 0.0004028, 0.007799, 0.0003931, 0.0003774, 0.004041, 0.00119 !
!END!
348 ! SRCNAM = C2K_1_348 !
348 ! X = 467.263, 6935.988, 3.31, 43.03, 18.59, 3.08, 0.0004028, 0.007799, 0.0003931, 0.0003774, 0.004041, 0.00119 !
!END!
349 ! SRCNAM = C2K_1_349 !
349 ! X = 467.302, 6935.980, 3.31, 42.7, 18.59, 3.08, 0.0004028, 0.007799, 0.0003931, 0.0003774, 0.004041, 0.00119 !
!END!
350 ! SRCNAM = C2K_1_350 !
350 ! X = 467.341, 6935.972, 3.31, 42.32, 18.59, 3.08, 0.0004028, 0.007799, 0.0003931, 0.0003774, 0.004041, 0.00119 !
!END!
351 ! SRCNAM = C2K_1_351 !
351 ! X = 467.380, 6935.964, 3.31, 41.92, 18.59, 3.08, 0.0004028, 0.007799, 0.0003931, 0.0003774, 0.004041, 0.00119 !
!END!
352 ! SRCNAM = C2K_1_352 !
352 ! X = 467.420, 6935.957, 3.31, 41.53, 18.59, 3.08, 0.0004028, 0.007799, 0.0003931, 0.0003774, 0.004041, 0.00119 !
!END!
353 ! SRCNAM = C2K_1_353 !
353 ! X = 467.459, 6935.949, 3.31, 41.16, 18.59, 3.08, 0.0004028, 0.007799, 0.0003931, 0.0003774, 0.004041, 0.00119 !
!END!
354 ! SRCNAM = C2K_1_354 !
354 ! X = 467.498, 6935.941, 3.31, 40.75, 18.59, 3.08, 0.0004028, 0.007799, 0.0003931, 0.0003774, 0.004041, 0.00119 !
!END!
355 ! SRCNAM = C2K_1_355 !
355 ! X = 467.537, 6935.933, 3.31, 40.38, 18.59, 3.08, 0.0004028, 0.007799, 0.0003931, 0.0003774, 0.004041, 0.00119 !
!END!
356 ! SRCNAM = C2K_1_356 !
356 ! X = 467.576, 6935.926, 3.31, 40.01, 18.59, 3.08, 0.0004028, 0.007799, 0.0003931, 0.0003774, 0.004041, 0.00119 !
!END!
357 ! SRCNAM = C2K_1_357 !
357 ! X = 467.616, 6935.918, 3.31, 39.59, 18.59, 3.08, 0.0004028, 0.007799, 0.0003931, 0.0003774, 0.004041, 0.00119 !
!END!
358 ! SRCNAM = C2K_1_358 !
358 ! X = 467.655, 6935.910, 3.31, 39.21, 18.59, 3.08, 0.0004028, 0.007799, 0.0003931, 0.0003774, 0.004041, 0.00119 !

```
!END!
 359 ! SRCNAM = C2K_1_359 !
 359 ! X =  467.694, 6935.902,    3.31,    38.84,      18.59,      3.08, 0.0004028, 0.007799, 0.0003931,
 0.0003774, 0.004041, 0.00119 !
!END!
 360 ! SRCNAM = C2K_1_360 !
 360 ! X =  467.733, 6935.895,    3.31,    38.43,      18.59,      3.08, 0.0004028, 0.007799, 0.0003931,
 0.0003774, 0.004041, 0.00119 !
!END!
 361 ! SRCNAM = C2K_1_361 !
 361 ! X =  467.773, 6935.887,    3.31,    38.06,      18.59,      3.08, 0.0004028, 0.007799, 0.0003931,
 0.0003774, 0.004041, 0.00119 !
!END!
 362 ! SRCNAM = C2K_1_362 !
 362 ! X =  467.812, 6935.880,    3.31,    37.66,      18.59,      3.08, 0.0004028, 0.007799, 0.0003931,
 0.0003774, 0.004041, 0.00119 !
!END!
 363 ! SRCNAM = C2K_1_363 !
 363 ! X =  467.851, 6935.872,    3.31,    37.29,      18.59,      3.08, 0.0004028, 0.007799, 0.0003931,
 0.0003774, 0.004041, 0.00119 !
!END!
 364 ! SRCNAM = C2K_1_364 !
 364 ! X =  467.890, 6935.864,    3.31,     36.9,      18.59,      3.08, 0.0004028, 0.007799, 0.0003931,
 0.0003774, 0.004041, 0.00119 !
!END!
 365 ! SRCNAM = C2K_1_365 !
 365 ! X =  467.929, 6935.855,    3.31,    36.51,      18.59,      3.08, 0.0004028, 0.007799, 0.0003931,
 0.0003774, 0.004041, 0.00119 !
!END!
 366 ! SRCNAM = C2K_1_366 !
 366 ! X =  467.968, 6935.846,    3.31,    36.14,      18.59,      3.08, 0.0004028, 0.007799, 0.0003931,
 0.0003774, 0.004041, 0.00119 !
!END!
 367 ! SRCNAM = C2K_1_367 !
 367 ! X =  468.006, 6935.835,    3.31,     35.9,      18.59,      3.08, 0.0004028, 0.007799, 0.0003931,
 0.0003774, 0.004041, 0.00119 !
!END!
 368 ! SRCNAM = C2K_1_368 !
 368 ! X =  468.045, 6935.824,    3.31,    35.76,      18.59,      3.08, 0.0004028, 0.007799, 0.0003931,
 0.0003774, 0.004041, 0.00119 !
!END!
 369 ! SRCNAM = C2K_1_369 !
 369 ! X =  468.083, 6935.812,    3.31,    35.73,      18.59,      3.08, 0.0004028, 0.007799, 0.0003931,
 0.0003774, 0.004041, 0.00119 !
!END!
 370 ! SRCNAM = C2K_1_370 !
 370 ! X =  468.120, 6935.799,    3.31,    35.74,      18.59,      3.08, 0.0004028, 0.007799, 0.0003931,
 0.0003774, 0.004041, 0.00119 !
!END!
 371 ! SRCNAM = C2K_1_371 !
 371 ! X =  468.158, 6935.786,    3.31,    35.72,      18.59,      3.08, 0.0004028, 0.007799, 0.0003931,
 0.0003774, 0.004041, 0.00119 !
!END!
 372 ! SRCNAM = C2K_1_372 !
 372 ! X =  468.196, 6935.772,    3.31,    35.72,      18.59,      3.08, 0.0004028, 0.007799, 0.0003931,
 0.0003774, 0.004041, 0.00119 !
!END!
 373 ! SRCNAM = C2K_1_373 !
 373 ! X =  468.233, 6935.757,    3.31,    35.72,      18.59,      3.08, 0.0004028, 0.007799, 0.0003931,
 0.0003774, 0.004041, 0.00119 !
!END!
 374 ! SRCNAM = C2K_1_374 !
 374 ! X =  468.269, 6935.741,    3.31,    35.73,      18.59,      3.08, 0.0004028, 0.007799, 0.0003931,
 0.0003774, 0.004041, 0.00119 !
!END!
 375 ! SRCNAM = C2K_1_375 !
 375 ! X =  468.305, 6935.724,    3.31,    35.75,      18.59,      3.08, 0.0004028, 0.007799, 0.0003931,
 0.0003774, 0.004041, 0.00119 !
!END!
 376 ! SRCNAM = C2K_1_376 !
 376 ! X =  468.342, 6935.707,    3.31,    35.74,      18.59,      3.08, 0.0004028, 0.007799, 0.0003931,
```

0.0003774, 0.004041, 0.00119 !
!END!
377 ! SRCNAM = C2K_1_377 !
377 ! X = 468.377, 6935.689, 3.31, 35.74, 18.59, 3.08, 0.0004028, 0.007799, 0.0003931,
0.0003774, 0.004041, 0.00119 !
!END!
378 ! SRCNAM = C2K_1_378 !
378 ! X = 468.413, 6935.671, 3.31, 35.72, 18.59, 3.08, 0.0004028, 0.007799, 0.0003931,
0.0003774, 0.004041, 0.00119 !
!END!
379 ! SRCNAM = C2K_1_379 !
379 ! X = 468.447, 6935.651, 3.31, 35.74, 18.59, 3.08, 0.0004028, 0.007799, 0.0003931,
0.0003774, 0.004041, 0.00119 !
!END!
380 ! SRCNAM = C2K_1_380 !
380 ! X = 468.482, 6935.631, 3.31, 35.74, 18.59, 3.08, 0.0004028, 0.007799, 0.0003931,
0.0003774, 0.004041, 0.00119 !
!END!
381 ! SRCNAM = C2K_1_381 !
381 ! X = 468.517, 6935.611, 3.31, 35.74, 18.59, 3.08, 0.0004028, 0.007799, 0.0003931,
0.0003774, 0.004041, 0.00119 !
!END!
382 ! SRCNAM = C2K_1_382 !
382 ! X = 468.550, 6935.589, 3.31, 35.74, 18.59, 3.08, 0.0004028, 0.007799, 0.0003931,
0.0003774, 0.004041, 0.00119 !
!END!
383 ! SRCNAM = C2K_1_383 !
383 ! X = 468.583, 6935.567, 3.31, 35.74, 18.59, 3.08, 0.0004028, 0.007799, 0.0003931,
0.0003774, 0.004041, 0.00119 !
!END!
384 ! SRCNAM = C2K_1_384 !
384 ! X = 468.617, 6935.545, 3.31, 35.74, 18.59, 3.08, 0.0004028, 0.007799, 0.0003931,
0.0003774, 0.004041, 0.00119 !
!END!
385 ! SRCNAM = C2K_1_385 !
385 ! X = 468.649, 6935.521, 3.31, 35.74, 18.59, 3.08, 0.0004028, 0.007799, 0.0003931,
0.0003774, 0.004041, 0.00119 !
!END!
386 ! SRCNAM = C2K_1_386 !
386 ! X = 468.681, 6935.497, 3.31, 35.74, 18.59, 3.08, 0.0004028, 0.007799, 0.0003931,
0.0003774, 0.004041, 0.00119 !
!END!
387 ! SRCNAM = C2K_1_387 !
387 ! X = 468.712, 6935.473, 3.31, 35.74, 18.59, 3.08, 0.0004028, 0.007799, 0.0003931,
0.0003774, 0.004041, 0.00119 !
!END!
388 ! SRCNAM = C2K_1_388 !
388 ! X = 468.743, 6935.447, 3.31, 35.74, 18.59, 3.08, 0.0004028, 0.007799, 0.0003931,
0.0003774, 0.004041, 0.00119 !
!END!
389 ! SRCNAM = C2K_1_389 !
389 ! X = 468.773, 6935.421, 3.31, 35.74, 18.59, 3.08, 0.0004028, 0.007799, 0.0003931,
0.0003774, 0.004041, 0.00119 !
!END!
390 ! SRCNAM = C2K_1_390 !
390 ! X = 468.804, 6935.395, 3.31, 35.74, 18.59, 3.08, 0.0004028, 0.007799, 0.0003931,
0.0003774, 0.004041, 0.00119 !
!END!
391 ! SRCNAM = C2K_1_391 !
391 ! X = 468.833, 6935.368, 3.31, 35.74, 18.59, 3.08, 0.0004028, 0.007799, 0.0003931,
0.0003774, 0.004041, 0.00119 !
!END!
392 ! SRCNAM = C2K_1_392 !
392 ! X = 468.862, 6935.340, 3.31, 35.74, 18.59, 3.08, 0.0004028, 0.007799, 0.0003931,
0.0003774, 0.004041, 0.00119 !
!END!
393 ! SRCNAM = C2K_1_393 !
393 ! X = 468.890, 6935.312, 3.31, 35.75, 18.59, 3.08, 0.0004028, 0.007799, 0.0003931,
0.0003774, 0.004041, 0.00119 !
!END!
394 ! SRCNAM = C2K_1_394 !

394 ! X = 468.918, 6935.283, 3.31, 35.75, 18.59, 3.08, 0.0004028, 0.007799, 0.0003931, 0.0003774, 0.004041, 0.00119 !
!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: EMISSION-RATE SCALING FACTORS

Use this subgroup to identify temporal variations in the emission
rates given in 16b. Factors assigned 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.

Sets of emission-rate scale factors are defined in Input Group 19, and
are referenced by the FACTORNAME. Provide NSVL1 lines that identify the
emission-rate scale factor table for each source-species combination that
uses the scaling option. Note that a scale-factor table can be used with
more than one source-species combination so a FACTORNAME can be repeated.

Source-Species No.	Source Name b (SRCNAM)	Species Name c (CSPEC)	Scale-factor table Name d (FACTORNAME)
------	----------	----------	----------

---
a
Data for each species are treated as a separate input subgroup
and therefore must end with an input group terminator.
b
Source name must match one of the SRCNAM names defined in Input Group 16b
c
Species name must match one of the CSPEC names of emitted species defined in Input Group 3
d
Scale-factor name must match one of the FACTORNAME names defined in Input Group 19

INPUT GROUP: 17 -- FLARE source control parameters (variable emissions file)

Number of flare sources defined in FLEMARB.DAT file(s)
(NFL2) Default: 0 ! NFL2 = 0 !

(At least 1 FLEMARB.DAT file is needed if NFL2 > 0)

!END!

INPUT GROUPS: 18a, 18b, 18c -- Road Emissions parameters

Subgroup (18a)

Emissions from roads are generated from individual line segments defined by a sequence of coordinates provided for each road-link. Each link is entered as a discrete source and is defined as a section of the road for which emissions are uniform.

A long, winding isolated road might be characterized by a single link made up of many coordinate triples (x,y,z) that describe its pathway. These points should be sufficient to resolve curves, but need not have uniform spacing. For example, a straight flat segment can be defined by 2 points, regardless of the distance covered. Long line segments are automatically divided further within the model into segments that are limited by the grid-cell boundaries (no segment may extend across multiple cells). One emission rate (g/m/s) for each species is used for the entire road.

Near a congested intersection, many short links may be required to resolve the spatial and temporal distribution of emissions. Each is entered and modeled as a discrete source.

Number of road-links with emission parameters
provided in Subgroup 18b (NRD1) No default ! NRD1 = 0 !

Number of road-links with arbitrarily time-varying
emission parameters (NRD2) No default ! NRD2 = 0 !
(If NRD2 > 0, ALL variable road data
are read from the file: RDEMARB.DAT)

Emissions from one or more of the roads presented in Subgroup 18b may vary over time-based cycles or by meteorology. This variability is modeled by applying an emission-rate scale factor specified for particular road links and species in Subgroup 18c.

Number of road links and species combinations
with variable emission-rate scale-factors
(NSFRDS) Default: 0 ! NSFRDS = 0 !

!END!

Subgroup (18b)
---

a

DATA FOR ROADS WITH CONSTANT OR SCALED EMISSION PARAMETERS

---

b

Road No.	Effect. Height (mAGL)	Initial Sigma z (m)	Initial Sigma y (m)	Emission Rates (g/s/m)
-------	------	------	--------	---------

c

---

a
Data for each of the NRD1 roads are treated as a separate input subgroup and therefore must end with an input group terminator.

b
NSPEC Emission rates must be entered (one for every pollutant modeled). Enter emission rate of zero for secondary pollutants.

c
Road-source names are entered without spaces, and may be 16 characters long.

Subgroup (18c)
---

a

a
EMISSION-RATE SCALING FACTORS

Use this subgroup to identify temporal variations in the emission rates given in 18b. Factors assigned multiply the rates in 18b. Skip sources here that have constant emissions. For more elaborate variation in source parameters, use RDEMARB.DAT and NRD2 > 0.

Sets of emission-rate scale factors are defined in Input Group 19, and are referenced by the FACTORNAME. Provide NSFRDS lines that identify the emission-rate scale factor table for each source-species combination that uses the scaling option. Note that a scale-factor table can be used with more than one source-species combination so a FACTORNAME can be repeated.

Source-Species No.	Source Name b (SRCNAM)	Species Name c (CSPEC)	Scale-factor table Name d (FACTORNAME)

---
a
Assignment for each source-specie is treated as a separate input subgroup and therefore must end with an input group terminator.
b
Source name must match one of the SRCNAM names defined in Input Group 18b
c
Species name must match one of the CSPEC names of emitted species defined in Input Group 3
d
Scale-factor name must match one of the FACTORNAME names defined in Input Group 19

Subgroup (18d)
---
a
COORDINATES FOR EACH NAMED ROAD

Coordinate No.	X Coordinate (km)	Y Coordinate (km)	Ground Elevation (m)

---
a
Each line of coordinates is treated as a separate input subgroup and therefore must end with an input group terminator.

INPUT GROUPS: 19a, 19b -- Emission rate scale-factor tables

Use this group to enter variation factors applied to emission rates for any source-specie combinations that use this feature. The tables of emission-rate scale factors are referenced by the name assigned to FACTORNAME. These names do not need to include specific source or species names used in the simulation, particularly if one factor table is used for many types of sources and species, but should be descriptive. But if a factor table applies to just one source, the reference name for it should generally contain that source-name. FACTORNAME must NOT include spaces.

The FACTORTYPE for each table must be one of the following:

CONSTANT1	1 scaling factor
MONTH12	12 scaling factors: months 1-12

a

```
        DAY7              7   scaling factors: days 1-7
                        [SUNDAY,MONDAY, ... FRIDAY,SATURDAY]
        HOUR24            24  scaling factors: hours 1-24
        HOUR24_DAY7       168 scaling factors: hours 1-24,
                          repeated  7 times: SUNDAY, MONDAY, ... SATURDAY
        HOUR24_MONTH12    288 scaling factors: hours 1-24,
                          repeated 12 times: months 1-12
        WSP6              6   scaling factors: wind speed classes 1-6
                        [speed classes (WSCAT) defined in Group 12]
        WSP6_PGCLASS6     36  scaling factors: wind speed classes 1-6
                          repeated  6 times: PG classes A,B,C,D,E,F
                        [speed classes (WSCAT) defined in Group 12]
        TEMPERATURE12     12  scaling factors: temperature classes 1-12
                        [temperature classes (TKCAT) defined in Group 12]

    The number of tables defined may exceed the number of tables referenced in the
    input groups for each source type above (for convenience), but tables for all
    FACTORNAME names referenced must be present here.

---------------
Subgroup (19a)
---------------

    Number of Emission Scale-Factor
    tables                    (NSFTAB) Default: 0  ! NSFTAB = 0 !

    !END!


---------------
Subgroup (19b)
---------------
                                          a,b,c
    Enter factors for NSFTAB Emission Scale-Factor tables




--------
   a
    Assignments for each table are treated as a separate input subgroup
    and therefore must end with an input group terminator.
   b
    FACTORNAME must be no longer than 40 characters
   c
    Spaces are NOT allowed in any FACTORNAME or FACTORTYPE assignment,
    and the names are NOT case-sensitive



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

INPUT GROUPS: 20a, 20b, 20c -- Non-gridded (discrete) receptor information
----------------------

---------------
Subgroup (20a)
---------------

    Number of non-gridded receptors (NREC)  No default  ! NREC = 2266 !

    Group names can be used to assign receptor locations in
    Subgroup 17c and thereby provide an identification that
    can be referenced when postprocessing receptors.  The
    default assignment name X is used when NRGRP = 0.

    Number of receptor group names (NRGRP)  Default: 0  ! NRGRP = 0 !

!END!
```

Subgroup (20b)

Provide a name for each receptor group if NRGRP>0.
Enter NRGRP lines.
a,b
Group Name
---
* RGRPNAMLIST = *

---
a
Each group name provided is treated as a separate input subgroup
and therefore must end with an input group terminator.
b
Receptor group names must not include blanks.

Subgroup (20c)
---

a
NON-GRIDDED (DISCRETE) RECEPTOR DATA
---
c X Y Ground Height b
Receptor Group Coordinate Coordinate Elevation Above Ground
No. Name (km) (km) (m) (m)
---

1 ! X =	461.45200,	6939.21000,	51.9,	0.0 !	!END!
2 ! X =	462.45800,	6938.56700,	52.6,	0.0 !	!END!
3 ! X =	462.55900,	6938.52200,	56.6,	0.0 !	!END!
4 ! X =	462.66400,	6938.57600,	61.1,	0.0 !	!END!
5 ! X =	462.82300,	6938.48500,	64.1,	0.0 !	!END!
6 ! X =	462.14900,	6938.92500,	47.2,	0.0 !	!END!
7 ! X =	462.20500,	6938.82800,	47.7,	0.0 !	!END!
8 ! X =	462.29500,	6938.91400,	51.4,	0.0 !	!END!
9 ! X =	462.43100,	6938.83800,	55.5,	0.0 !	!END!
10 ! X =	461.35100,	6938.71400,	53.2,	0.0 !	!END!
11 ! X =	461.72400,	6938.69700,	45.9,	0.0 !	!END!
12 ! X =	461.93200,	6938.92800,	43.3,	0.0 !	!END!
13 ! X =	461.97000,	6938.65200,	46.2,	0.0 !	!END!
14 ! X =	460.50700,	6939.18600,	63.3,	0.0 !	!END!
15 ! X =	461.60500,	6938.92700,	43.6,	0.0 !	!END!
16 ! X =	461.65500,	6938.80600,	45.4,	0.0 !	!END!
17 ! X =	461.44200,	6938.79600,	50.7,	0.0 !	!END!
18 ! X =	460.89300,	6939.08400,	66.5,	0.0 !	!END!
19 ! X =	460.72100,	6939.04600,	71.1,	0.0 !	!END!
20 ! X =	460.65600,	6939.05300,	71.1,	0.0 !	!END!
21 ! X =	460.58500,	6939.12400,	67.7,	0.0 !	!END!
22 ! X =	461.04800,	6939.09700,	61.0,	0.0 !	!END!
23 ! X =	461.21400,	6939.07100,	56.7,	0.0 !	!END!
24 ! X =	461.30600,	6939.04700,	51.7,	0.0 !	!END!
25 ! X =	460.82000,	6939.11000,	67.4,	0.0 !	!END!
26 ! X =	461.21900,	6938.64600,	56.8,	0.0 !	!END!
27 ! X =	461.26600,	6938.74200,	52.9,	0.0 !	!END!
28 ! X =	461.28200,	6938.80500,	50.5,	0.0 !	!END!
29 ! X =	460.97600,	6939.07600,	64.2,	0.0 !	!END!
30 ! X =	460.29600,	6938.64100,	66.5,	0.0 !	!END!
31 ! X =	460.40200,	6938.61600,	66.5,	0.0 !	!END!
32 ! X =	461.00700,	6938.51300,	67.3,	0.0 !	!END!
33 ! X =	461.08800,	6938.52900,	63.9,	0.0 !	!END!
34 ! X =	460.90400,	6938.53700,	64.9,	0.0 !	!END!
35 ! X =	460.63500,	6938.59300,	68.1,	0.0 !	!END!
36 ! X =	460.47800,	6938.61600,	65.7,	0.0 !	!END!
37 ! X =	460.56800,	6938.62200,	68.1,	0.0 !	!END!
38 ! X =	455.85400,	6942.17500,	57.5,	0.0 !	!END!
39 ! X =	456.08400,	6941.79800,	51.2,	0.0 !	!END!
40 ! X =	456.03700,	6942.09300,	53.7,	0.0 !	!END!

41 ! X = 453.63600, 6941.55300, 80.2, 0.0 ! !END!
42 ! X = 457.81600, 6940.32000, 45.0, 0.0 ! !END!
43 ! X = 457.13900, 6940.32800, 47.1, 0.0 ! !END!
44 ! X = 453.41900, 6939.54800, 56.4, 0.0 ! !END!
45 ! X = 455.72900, 6942.29300, 60.9, 0.0 ! !END!
46 ! X = 467.44800, 6936.85100, 51.6, 0.0 ! !END!
47 ! X = 467.57700, 6937.75100, 48.1, 0.0 ! !END!
48 ! X = 457.89000, 6939.94400, 44.9, 0.0 ! !END!
49 ! X = 457.64400, 6940.15000, 45.6, 0.0 ! !END!
50 ! X = 471.10200, 6935.21800, 67.5, 0.0 ! !END!
51 ! X = 471.10200, 6935.16300, 67.2, 0.0 ! !END!
52 ! X = 471.19400, 6935.15300, 68.2, 0.0 ! !END!
53 ! X = 457.70000, 6939.48200, 42.2, 0.0 ! !END!
54 ! X = 455.47000, 6941.72700, 51.8, 0.0 ! !END!
55 ! X = 455.17400, 6941.57400, 53.5, 0.0 ! !END!
56 ! X = 470.56000, 6935.36900, 58.2, 0.0 ! !END!
57 ! X = 471.07600, 6935.32800, 67.9, 0.0 ! !END!
58 ! X = 452.11600, 6939.87800, 61.0, 0.0 ! !END!
59 ! X = 452.13400, 6939.79400, 61.1, 0.0 ! !END!
60 ! X = 470.29500, 6936.00500, 55.1, 0.0 ! !END!
61 ! X = 452.13900, 6939.98400, 60.7, 0.0 ! !END!
62 ! X = 452.48100, 6939.91000, 59.4, 0.0 ! !END!
63 ! X = 452.55300, 6939.91700, 59.0, 0.0 ! !END!
64 ! X = 452.47200, 6939.85100, 59.6, 0.0 ! !END!
65 ! X = 452.42200, 6939.92500, 59.8, 0.0 ! !END!
66 ! X = 452.61600, 6939.86900, 58.6, 0.0 ! !END!
67 ! X = 452.64600, 6939.88100, 58.4, 0.0 ! !END!
68 ! X = 452.62600, 6939.91900, 58.3, 0.0 ! !END!
69 ! X = 452.54000, 6939.81300, 59.3, 0.0 ! !END!
70 ! X = 452.48900, 6939.76300, 59.2, 0.0 ! !END!
71 ! X = 452.47400, 6939.77600, 59.4, 0.0 ! !END!
72 ! X = 452.41000, 6939.79600, 59.9, 0.0 ! !END!
73 ! X = 452.61100, 6939.80200, 58.5, 0.0 ! !END!
74 ! X = 452.54700, 6939.67300, 58.7, 0.0 ! !END!
75 ! X = 452.64200, 6939.83900, 58.3, 0.0 ! !END!
76 ! X = 452.54700, 6939.73400, 58.8, 0.0 ! !END!
77 ! X = 452.52600, 6939.74600, 59.2, 0.0 ! !END!
78 ! X = 452.74100, 6939.62300, 57.5, 0.0 ! !END!
79 ! X = 452.71600, 6939.61900, 57.6, 0.0 ! !END!
80 ! X = 452.70900, 6939.64600, 57.6, 0.0 ! !END!
81 ! X = 452.68700, 6939.64700, 57.8, 0.0 ! !END!
82 ! X = 452.68800, 6939.34500, 57.7, 0.0 ! !END!
83 ! X = 452.67900, 6939.50600, 57.7, 0.0 ! !END!
84 ! X = 452.74500, 6939.55600, 57.4, 0.0 ! !END!
85 ! X = 452.78100, 6939.61000, 57.5, 0.0 ! !END!
86 ! X = 452.84500, 6939.58200, 57.2, 0.0 ! !END!
87 ! X = 452.85800, 6939.79100, 57.6, 0.0 ! !END!
88 ! X = 452.76700, 6939.86700, 57.8, 0.0 ! !END!
89 ! X = 452.24100, 6939.33900, 61.0, 0.0 ! !END!
90 ! X = 452.92500, 6939.50300, 56.7, 0.0 ! !END!
91 ! X = 452.91300, 6939.53700, 56.9, 0.0 ! !END!
92 ! X = 452.87900, 6939.55300, 57.1, 0.0 ! !END!
93 ! X = 452.86700, 6939.57100, 57.2, 0.0 ! !END!
94 ! X = 453.01100, 6939.31100, 56.6, 0.0 ! !END!
95 ! X = 452.94300, 6939.33900, 56.9, 0.0 ! !END!
96 ! X = 452.94000, 6939.45600, 56.7, 0.0 ! !END!
97 ! X = 452.94800, 6939.51500, 56.7, 0.0 ! !END!
98 ! X = 454.55400, 6938.85800, 74.0, 0.0 ! !END!
99 ! X = 454.56600, 6938.41700, 80.9, 0.0 ! !END!
100 ! X = 453.97300, 6938.80800, 65.6, 0.0 ! !END!
101 ! X = 453.41000, 6938.21000, 69.6, 0.0 ! !END!
102 ! X = 456.54200, 6941.79300, 50.4, 0.0 ! !END!
103 ! X = 452.51000, 6940.48900, 59.6, 0.0 ! !END!
104 ! X = 453.24400, 6940.59600, 64.0, 0.0 ! !END!
105 ! X = 452.47400, 6940.57900, 58.8, 0.0 ! !END!
106 ! X = 453.00700, 6940.78300, 69.4, 0.0 ! !END!
107 ! X = 454.22900, 6942.10200, 63.3, 0.0 ! !END!
108 ! X = 453.43800, 6940.47700, 71.4, 0.0 ! !END!
109 ! X = 452.63100, 6940.40100, 57.2, 0.0 ! !END!
110 ! X = 452.29700, 6940.39000, 60.4, 0.0 ! !END!
111 ! X = 461.33770, 6937.60700, 65.5, 0.0 ! !END!

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112 ! X =    461.39290,  6937.77100,    61.3,      0.0 !  !END!
113 ! X =    461.60400,  6937.80400,    54.0,      0.0 !  !END!
114 ! X =    461.62930,  6937.88300,    53.6,      0.0 !  !END!
115 ! X =    471.00500,  6933.76700,    66.9,      0.0 !  !END!
116 ! X =    461.66350,  6937.32000,    77.0,      0.0 !  !END!
117 ! X =    470.87300,  6933.77100,    63.5,      0.0 !  !END!
118 ! X =    461.63920,  6936.93400,    83.9,      0.0 !  !END!
119 ! X =    471.09500,  6933.51900,    64.5,      0.0 !  !END!
120 ! X =    461.32410,  6937.51700,    68.4,      0.0 !  !END!
121 ! X =    470.95600,  6933.27400,    58.1,      0.0 !  !END!
122 ! X =    461.13410,  6937.40300,    69.3,      0.0 !  !END!
123 ! X =    471.16700,  6934.24200,    65.7,      0.0 !  !END!
124 ! X =    471.43400,  6934.03100,    74.6,      0.0 !  !END!
125 ! X =    461.14150,  6937.27200,    73.4,      0.0 !  !END!
126 ! X =    461.41580,  6937.13900,    81.9,      0.0 !  !END!
127 ! X =    471.32500,  6933.83500,    75.1,      0.0 !  !END!
128 ! X =    461.42430,  6937.37900,    74.4,      0.0 !  !END!
129 ! X =    470.79400,  6933.55400,    57.7,      0.0 !  !END!
130 ! X =    461.56850,  6937.29200,    81.0,      0.0 !  !END!
131 ! X =    471.03800,  6934.83100,    64.0,      0.0 !  !END!
132 ! X =    471.18400,  6934.81200,    66.8,      0.0 !  !END!
133 ! X =    458.54120,  6937.83400,    50.7,      0.0 !  !END!
134 ! X =    470.89700,  6934.37000,    56.2,      0.0 !  !END!
135 ! X =    458.62260,  6938.60300,    42.3,      0.0 !  !END!
136 ! X =    471.23700,  6934.55100,    64.3,      0.0 !  !END!
137 ! X =    460.31620,  6938.11700,    90.3,      0.0 !  !END!
138 ! X =    470.79600,  6935.04300,    59.6,      0.0 !  !END!
139 ! X =    461.18160,  6937.04800,    85.4,      0.0 !  !END!
140 ! X =    470.89000,  6934.65700,    57.2,      0.0 !  !END!
141 ! X =    457.68780,  6939.34300,    43.4,      0.0 !  !END!
142 ! X =    470.81200,  6934.82100,    58.5,      0.0 !  !END!
143 ! X =    458.19150,  6938.04000,    49.8,      0.0 !  !END!
144 ! X =    471.02600,  6934.77000,    62.4,      0.0 !  !END!
145 ! X =    458.21690,  6938.35600,    46.4,      0.0 !  !END!
146 ! X =    457.83140,  6937.41900,    57.0,      0.0 !  !END!
147 ! X =    456.62460,  6940.13000,    50.9,      0.0 !  !END!
148 ! X =    456.06620,  6939.36800,    64.0,      0.0 !  !END!
149 ! X =    456.08520,  6938.99500,    65.2,      0.0 !  !END!
150 ! X =    456.75770,  6938.72900,    46.5,      0.0 !  !END!
151 ! X =    455.83750,  6941.44600,    50.5,      0.0 !  !END!
152 ! X =    455.35500,  6939.25500,    58.2,      0.0 !  !END!
153 ! X =    455.94490,  6941.05500,    48.9,      0.0 !  !END!
154 ! X =    456.20840,  6941.51300,    48.1,      0.0 !  !END!
155 ! X =    453.58270,  6939.39800,    56.0,      0.0 !  !END!
156 ! X =    455.18400,  6941.31100,    52.5,      0.0 !  !END!
157 ! X =    454.64010,  6939.01900,    69.7,      0.0 !  !END!
158 ! X =    455.02270,  6939.49100,    65.9,      0.0 !  !END!
159 ! X =    454.46920,  6941.01400,    69.5,      0.0 !  !END!
160 ! X =    454.49590,  6940.96200,    70.3,      0.0 !  !END!
161 ! X =    454.30190,  6940.85100,    78.8,      0.0 !  !END!
162 ! X =    453.60630,  6940.16300,    76.8,      0.0 !  !END!
163 ! X =    470.12050,  6934.46100,    44.6,      0.0 !  !END!
164 ! X =    470.13960,  6933.54100,    49.6,      0.0 !  !END!
165 ! X =    470.00520,  6933.50800,    44.3,      0.0 !  !END!
166 ! X =    470.88660,  6933.98600,    66.7,      0.0 !  !END!
167 ! X =    467.71310,  6935.65100,    43.2,      0.0 !  !END!
168 ! X =    470.63600,  6933.35900,    53.2,      0.0 !  !END!
169 ! X =    470.54340,  6933.38300,    51.7,      0.0 !  !END!
170 ! X =    470.11230,  6934.35200,    43.9,      0.0 !  !END!
171 ! X =    467.19920,  6936.06700,    61.6,      0.0 !  !END!
172 ! X =    467.01460,  6935.94200,    68.7,      0.0 !  !END!
173 ! X =    467.20880,  6935.61600,    59.2,      0.0 !  !END!
174 ! X =    467.10860,  6935.35600,    56.7,      0.0 !  !END!
175 ! X =    463.63950,  6937.17000,    73.7,      0.0 !  !END!
176 ! X =    463.95240,  6936.56900,    58.8,      0.0 !  !END!
177 ! X =    468.29690,  6937.47500,    40.1,      0.0 !  !END!
178 ! X =    467.21430,  6936.72800,    55.6,      0.0 !  !END!
179 ! X =    463.02690,  6936.77500,    56.6,      0.0 !  !END!
180 ! X =    463.31290,  6936.72600,    56.4,      0.0 !  !END!
181 ! X =    463.60750,  6936.64300,    65.8,      0.0 !  !END!
182 ! X =    463.45410,  6937.31100,    72.4,      0.0 !  !END!
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183 ! X =    461.76810,   6937.25500,     73.7,       0.0 !  !END!
184 ! X =    461.89090,   6937.07200,     76.8,       0.0 !  !END!
185 ! X =    461.89640,   6937.98400,     56.0,       0.0 !  !END!
186 ! X =    462.88390,   6936.78300,     59.8,       0.0 !  !END!
187 ! X =    462.72600,   6937.93000,     61.1,       0.0 !  !END!
188 ! X =    461.38200,   6937.82400,     60.5,       0.0 !  !END!
189 ! X =    460.79700,   6936.77400,     92.3,       0.0 !  !END!
190 ! X =    463.22700,   6935.52800,     55.6,       0.0 !  !END!
191 ! X =    459.74100,   6935.84900,     71.2,       0.0 !  !END!
192 ! X =    469.83300,   6935.06200,     36.2,       0.0 !  !END!
193 ! X =    468.90800,   6938.04300,     31.5,       0.0 !  !END!
194 ! X =    462.21600,   6935.16100,     58.3,       0.0 !  !END!
195 ! X =    462.03000,   6935.76200,     71.0,       0.0 !  !END!
196 ! X =    462.59600,   6938.40000,     56.3,       0.0 !  !END!
197 ! X =    462.66800,   6938.45500,     59.7,       0.0 !  !END!
198 ! X =    462.62700,   6938.30500,     53.4,       0.0 !  !END!
199 ! X =    461.29800,   6938.51500,     55.3,       0.0 !  !END!
200 ! X =    461.34500,   6938.61000,     52.8,       0.0 !  !END!
201 ! X =    460.29700,   6935.74300,     77.5,       0.0 !  !END!
202 ! X =    462.36100,   6935.02400,     57.8,       0.0 !  !END!
203 ! X =    460.59200,   6936.08200,     76.8,       0.0 !  !END!
204 ! X =    461.40400,   6938.04700,     57.3,       0.0 !  !END!
205 ! X =    461.26800,   6938.33600,     54.5,       0.0 !  !END!
206 ! X =    461.28000,   6938.39900,     54.2,       0.0 !  !END!
207 ! X =    470.91800,   6936.02400,     61.1,       0.0 !  !END!
208 ! X =    463.28300,   6936.14700,     60.5,       0.0 !  !END!
209 ! X =    463.71000,   6938.70900,     89.7,       0.0 !  !END!
210 ! X =    463.37400,   6938.50300,     76.5,       0.0 !  !END!
211 ! X =    471.28400,   6935.60000,     78.7,       0.0 !  !END!
212 ! X =    471.30800,   6935.40900,     70.8,       0.0 !  !END!
213 ! X =    471.11800,   6935.40100,     68.8,       0.0 !  !END!
214 ! X =    470.87600,   6936.18500,     56.2,       0.0 !  !END!
215 ! X =    471.37600,   6933.75700,     75.1,       0.0 !  !END!
216 ! X =    470.86500,   6933.85300,     66.1,       0.0 !  !END!
217 ! X =    459.63900,   6938.62500,     69.6,       0.0 !  !END!
218 ! X =    459.95400,   6938.85900,     54.7,       0.0 !  !END!
219 ! X =    460.73600,   6938.56900,     66.7,       0.0 !  !END!
220 ! X =    460.80700,   6938.54500,     63.2,       0.0 !  !END!
221 ! X =    459.47000,   6935.80500,     63.6,       0.0 !  !END!
222 ! X =    458.85900,   6935.65900,     57.6,       0.0 !  !END!
223 ! X =    460.50600,   6938.28400,     85.2,       0.0 !  !END!
224 ! X =    460.17600,   6938.51500,     74.2,       0.0 !  !END!
225 ! X =    459.97800,   6935.26500,     78.2,       0.0 !  !END!
226 ! X =    459.67100,   6935.24300,     64.0,       0.0 !  !END!
227 ! X =    459.68200,   6935.65400,     69.3,       0.0 !  !END!
228 ! X =    459.73900,   6935.72000,     74.1,       0.0 !  !END!
229 ! X =    460.86700,   6935.23500,     78.3,       0.0 !  !END!
230 ! X =    460.80100,   6936.28000,     88.6,       0.0 !  !END!
231 ! X =    459.09600,   6935.16900,     64.6,       0.0 !  !END!
232 ! X =    460.04200,   6935.09700,     79.4,       0.0 !  !END!
233 ! X =    452.62200,   6939.67900,     58.3,       0.0 !  !END!
234 ! X =    461.06000,   6936.74600,     95.4,       0.0 !  !END!
235 ! X =    460.92900,   6935.88900,     81.1,       0.0 !  !END!
236 ! X =    460.87200,   6935.17600,     78.1,       0.0 !  !END!
237 ! X =    468.44100,   6937.69200,     41.7,       0.0 !  !END!
238 ! X =    468.48100,   6937.63100,     43.7,       0.0 !  !END!
239 ! X =    468.57900,   6937.64900,     42.6,       0.0 !  !END!
240 ! X =    468.50000,   6937.84400,     40.1,       0.0 !  !END!
241 ! X =    462.98600,   6934.95800,     58.9,       0.0 !  !END!
242 ! X =    462.84500,   6934.76300,     61.8,       0.0 !  !END!
243 ! X =    468.67800,   6937.30300,     38.4,       0.0 !  !END!
244 ! X =    468.36300,   6937.63900,     44.1,       0.0 !  !END!
245 ! X =    462.12500,   6935.90500,     73.5,       0.0 !  !END!
246 ! X =    462.38600,   6935.78500,     73.3,       0.0 !  !END!
247 ! X =    461.99500,   6934.92100,     64.9,       0.0 !  !END!
248 ! X =    463.25900,   6934.70200,     61.1,       0.0 !  !END!
249 ! X =    463.69300,   6934.84900,     60.9,       0.0 !  !END!
250 ! X =    463.05300,   6935.55000,     61.5,       0.0 !  !END!
251 ! X =    462.93300,   6935.66400,     66.4,       0.0 !  !END!
252 ! X =    463.27800,   6935.74300,     59.7,       0.0 !  !END!
253 ! X =    468.28600,   6934.09200,     34.0,       0.0 !  !END!
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254 ! X =    464.19400,  6934.64900,    51.9,       0.0 !  !END!
255 ! X =    463.92000,  6934.75600,    58.4,       0.0 !  !END!
256 ! X =    457.78500,  6936.58900,    67.6,       0.0 !  !END!
257 ! X =    457.77600,  6936.21300,    63.6,       0.0 !  !END!
258 ! X =    455.34500,  6937.18500,    52.0,       0.0 !  !END!
259 ! X =    455.42100,  6937.51300,    53.7,       0.0 !  !END!
260 ! X =    457.91700,  6939.67300,    42.5,       0.0 !  !END!
261 ! X =    457.01900,  6937.60000,    44.7,       0.0 !  !END!
262 ! X =    456.78900,  6937.09000,    46.4,       0.0 !  !END!
263 ! X =    457.51200,  6936.96100,    55.4,       0.0 !  !END!
264 ! X =    459.33200,  6938.94600,    45.5,       0.0 !  !END!
265 ! X =    458.87500,  6938.78700,    41.7,       0.0 !  !END!
266 ! X =    459.64700,  6939.28400,    47.3,       0.0 !  !END!
267 ! X =    459.67900,  6939.31800,    44.2,       0.0 !  !END!
268 ! X =    459.61800,  6939.18000,    49.8,       0.0 !  !END!
269 ! X =    459.53000,  6939.18000,    47.0,       0.0 !  !END!
270 ! X =    459.51600,  6939.14700,    46.8,       0.0 !  !END!
271 ! X =    459.38600,  6939.02400,    47.1,       0.0 !  !END!
272 ! X =    460.55500,  6939.30500,    62.1,       0.0 !  !END!
273 ! X =    460.48200,  6939.31700,    58.8,       0.0 !  !END!
274 ! X =    460.35200,  6939.38000,    50.1,       0.0 !  !END!
275 ! X =    460.04000,  6939.41700,    46.9,       0.0 !  !END!
276 ! X =    460.87200,  6939.22400,    61.6,       0.0 !  !END!
277 ! X =    460.78800,  6939.23900,    63.3,       0.0 !  !END!
278 ! X =    460.69300,  6939.24900,    64.3,       0.0 !  !END!
279 ! X =    460.65900,  6939.45400,    60.2,       0.0 !  !END!
280 ! X =    463.16900,  6938.55400,    75.4,       0.0 !  !END!
281 ! X =    462.92600,  6938.84900,    70.0,       0.0 !  !END!
282 ! X =    462.59900,  6939.00300,    66.9,       0.0 !  !END!
283 ! X =    454.38040,  6942.02400,    60.6,       0.0 !  !END!
284 ! X =    454.58040,  6942.02400,    59.6,       0.0 !  !END!
285 ! X =    454.78040,  6942.02400,    58.0,       0.0 !  !END!
286 ! X =    454.98040,  6942.02400,    56.7,       0.0 !  !END!
287 ! X =    455.18040,  6942.02400,    55.3,       0.0 !  !END!
288 ! X =    455.38040,  6942.02400,    54.1,       0.0 !  !END!
289 ! X =    453.78040,  6941.82400,    68.4,       0.0 !  !END!
290 ! X =    453.98040,  6941.82400,    66.5,       0.0 !  !END!
291 ! X =    454.18040,  6941.82400,    63.7,       0.0 !  !END!
292 ! X =    454.38040,  6941.82400,    62.4,       0.0 !  !END!
293 ! X =    454.58040,  6941.82400,    59.8,       0.0 !  !END!
294 ! X =    454.78040,  6941.82400,    56.4,       0.0 !  !END!
295 ! X =    454.98040,  6941.82400,    54.3,       0.0 !  !END!
296 ! X =    455.18040,  6941.82400,    52.5,       0.0 !  !END!
297 ! X =    455.38040,  6941.82400,    52.6,       0.0 !  !END!
298 ! X =    455.58040,  6941.82400,    50.4,       0.0 !  !END!
299 ! X =    455.78040,  6941.82400,    50.2,       0.0 !  !END!
300 ! X =    455.98040,  6941.82400,    51.2,       0.0 !  !END!
301 ! X =    453.38040,  6941.62400,    85.2,       0.0 !  !END!
302 ! X =    453.58040,  6941.62400,    80.1,       0.0 !  !END!
303 ! X =    453.78040,  6941.62400,    69.2,       0.0 !  !END!
304 ! X =    453.98040,  6941.62400,    64.6,       0.0 !  !END!
305 ! X =    454.18040,  6941.62400,    62.7,       0.0 !  !END!
306 ! X =    454.38040,  6941.62400,    61.5,       0.0 !  !END!
307 ! X =    454.58040,  6941.62400,    59.0,       0.0 !  !END!
308 ! X =    454.78040,  6941.62400,    54.7,       0.0 !  !END!
309 ! X =    454.98040,  6941.62400,    53.7,       0.0 !  !END!
310 ! X =    455.18040,  6941.62400,    53.3,       0.0 !  !END!
311 ! X =    455.38040,  6941.62400,    51.7,       0.0 !  !END!
312 ! X =    455.58040,  6941.62400,    50.8,       0.0 !  !END!
313 ! X =    455.78040,  6941.62400,    50.3,       0.0 !  !END!
314 ! X =    455.98040,  6941.62400,    48.7,       0.0 !  !END!
315 ! X =    456.18040,  6941.62400,    48.6,       0.0 !  !END!
316 ! X =    456.38040,  6941.62400,    47.3,       0.0 !  !END!
317 ! X =    453.18040,  6941.42400,   100.8,       0.0 !  !END!
318 ! X =    453.38040,  6941.42400,    92.5,       0.0 !  !END!
319 ! X =    453.58040,  6941.42400,    84.0,       0.0 !  !END!
320 ! X =    453.78040,  6941.42400,    73.9,       0.0 !  !END!
321 ! X =    453.98040,  6941.42400,    66.8,       0.0 !  !END!
322 ! X =    454.18040,  6941.42400,    61.5,       0.0 !  !END!
323 ! X =    454.38040,  6941.42400,    61.4,       0.0 !  !END!
324 ! X =    454.58040,  6941.42400,    57.2,       0.0 !  !END!
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325 ! X =    454.78040,   6941.42400,     53.4,        0.0 !  !END!
326 ! X =    454.98040,   6941.42400,     52.4,        0.0 !  !END!
327 ! X =    455.18040,   6941.42400,     52.7,        0.0 !  !END!
328 ! X =    455.38040,   6941.42400,     51.5,        0.0 !  !END!
329 ! X =    455.58040,   6941.42400,     50.7,        0.0 !  !END!
330 ! X =    455.78040,   6941.42400,     50.6,        0.0 !  !END!
331 ! X =    455.98040,   6941.42400,     48.3,        0.0 !  !END!
332 ! X =    456.18040,   6941.42400,     47.8,        0.0 !  !END!
333 ! X =    456.38040,   6941.42400,     47.4,        0.0 !  !END!
334 ! X =    456.58040,   6941.42400,     47.2,        0.0 !  !END!
335 ! X =    452.98040,   6941.22400,    107.5,        0.0 !  !END!
336 ! X =    453.18040,   6941.22400,    107.0,        0.0 !  !END!
337 ! X =    453.38040,   6941.22400,    103.6,        0.0 !  !END!
338 ! X =    453.58040,   6941.22400,     97.5,        0.0 !  !END!
339 ! X =    453.78040,   6941.22400,     87.3,        0.0 !  !END!
340 ! X =    453.98040,   6941.22400,     78.9,        0.0 !  !END!
341 ! X =    454.18040,   6941.22400,     68.9,        0.0 !  !END!
342 ! X =    454.38040,   6941.22400,     67.1,        0.0 !  !END!
343 ! X =    454.58040,   6941.22400,     59.9,        0.0 !  !END!
344 ! X =    454.78040,   6941.22400,     55.6,        0.0 !  !END!
345 ! X =    454.98040,   6941.22400,     53.7,        0.0 !  !END!
346 ! X =    455.18040,   6941.22400,     52.9,        0.0 !  !END!
347 ! X =    455.38040,   6941.22400,     51.4,        0.0 !  !END!
348 ! X =    455.58040,   6941.22400,     50.2,        0.0 !  !END!
349 ! X =    455.78040,   6941.22400,     48.7,        0.0 !  !END!
350 ! X =    455.98040,   6941.22400,     48.5,        0.0 !  !END!
351 ! X =    456.18040,   6941.22400,     48.1,        0.0 !  !END!
352 ! X =    456.38040,   6941.22400,     48.1,        0.0 !  !END!
353 ! X =    456.58040,   6941.22400,     47.7,        0.0 !  !END!
354 ! X =    456.78040,   6941.22400,     47.3,        0.0 !  !END!
355 ! X =    456.98040,   6941.22400,     46.8,        0.0 !  !END!
356 ! X =    452.78040,   6941.02400,     79.5,        0.0 !  !END!
357 ! X =    452.98040,   6941.02400,     90.9,        0.0 !  !END!
358 ! X =    453.18040,   6941.02400,     82.6,        0.0 !  !END!
359 ! X =    453.38040,   6941.02400,     90.7,        0.0 !  !END!
360 ! X =    453.58040,   6941.02400,     91.8,        0.0 !  !END!
361 ! X =    453.78040,   6941.02400,     89.3,        0.0 !  !END!
362 ! X =    453.98040,   6941.02400,     85.3,        0.0 !  !END!
363 ! X =    454.18040,   6941.02400,     79.7,        0.0 !  !END!
364 ! X =    454.38040,   6941.02400,     74.1,        0.0 !  !END!
365 ! X =    454.58040,   6941.02400,     63.1,        0.0 !  !END!
366 ! X =    454.78040,   6941.02400,     59.7,        0.0 !  !END!
367 ! X =    454.98040,   6941.02400,     54.9,        0.0 !  !END!
368 ! X =    455.18040,   6941.02400,     52.3,        0.0 !  !END!
369 ! X =    455.38040,   6941.02400,     51.3,        0.0 !  !END!
370 ! X =    455.58040,   6941.02400,     49.8,        0.0 !  !END!
371 ! X =    455.78040,   6941.02400,     49.3,        0.0 !  !END!
372 ! X =    455.98040,   6941.02400,     48.5,        0.0 !  !END!
373 ! X =    456.18040,   6941.02400,     48.0,        0.0 !  !END!
374 ! X =    456.38040,   6941.02400,     48.4,        0.0 !  !END!
375 ! X =    456.58040,   6941.02400,     48.9,        0.0 !  !END!
376 ! X =    456.78040,   6941.02400,     48.0,        0.0 !  !END!
377 ! X =    456.98040,   6941.02400,     47.1,        0.0 !  !END!
378 ! X =    457.18040,   6941.02400,     46.1,        0.0 !  !END!
379 ! X =    452.58040,   6940.82400,     59.7,        0.0 !  !END!
380 ! X =    452.78040,   6940.82400,     66.0,        0.0 !  !END!
381 ! X =    452.98040,   6940.82400,     69.7,        0.0 !  !END!
382 ! X =    453.18040,   6940.82400,     72.5,        0.0 !  !END!
383 ! X =    453.38040,   6940.82400,     76.7,        0.0 !  !END!
384 ! X =    453.58040,   6940.82400,     75.2,        0.0 !  !END!
385 ! X =    453.78040,   6940.82400,     83.0,        0.0 !  !END!
386 ! X =    453.98040,   6940.82400,     83.3,        0.0 !  !END!
387 ! X =    454.18040,   6940.82400,     80.6,        0.0 !  !END!
388 ! X =    454.38040,   6940.82400,     78.2,        0.0 !  !END!
389 ! X =    454.58040,   6940.82400,     69.2,        0.0 !  !END!
390 ! X =    454.78040,   6940.82400,     56.5,        0.0 !  !END!
391 ! X =    454.98040,   6940.82400,     53.6,        0.0 !  !END!
392 ! X =    455.18040,   6940.82400,     52.8,        0.0 !  !END!
393 ! X =    455.38040,   6940.82400,     50.8,        0.0 !  !END!
394 ! X =    455.58040,   6940.82400,     49.5,        0.0 !  !END!
395 ! X =    455.78040,   6940.82400,     49.1,        0.0 !  !END!
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396 ! X =    455.98040,  6940.82400,    48.5,      0.0 !  !END!
397 ! X =    456.18040,  6940.82400,    48.0,      0.0 !  !END!
398 ! X =    456.38040,  6940.82400,    48.4,      0.0 !  !END!
399 ! X =    456.58040,  6940.82400,    48.9,      0.0 !  !END!
400 ! X =    456.78040,  6940.82400,    48.7,      0.0 !  !END!
401 ! X =    456.98040,  6940.82400,    47.7,      0.0 !  !END!
402 ! X =    457.18040,  6940.82400,    46.8,      0.0 !  !END!
403 ! X =    457.38040,  6940.82400,    46.2,      0.0 !  !END!
404 ! X =    452.58040,  6940.62400,    58.7,      0.0 !  !END!
405 ! X =    452.78040,  6940.62400,    57.7,      0.0 !  !END!
406 ! X =    452.98040,  6940.62400,    57.2,      0.0 !  !END!
407 ! X =    453.18040,  6940.62400,    60.4,      0.0 !  !END!
408 ! X =    453.38040,  6940.62400,    69.4,      0.0 !  !END!
409 ! X =    453.58040,  6940.62400,    66.2,      0.0 !  !END!
410 ! X =    453.78040,  6940.62400,    68.1,      0.0 !  !END!
411 ! X =    453.98040,  6940.62400,    73.5,      0.0 !  !END!
412 ! X =    454.18040,  6940.62400,    70.6,      0.0 !  !END!
413 ! X =    454.38040,  6940.62400,    65.1,      0.0 !  !END!
414 ! X =    454.58040,  6940.62400,    64.9,      0.0 !  !END!
415 ! X =    454.78040,  6940.62400,    56.7,      0.0 !  !END!
416 ! X =    454.98040,  6940.62400,    53.9,      0.0 !  !END!
417 ! X =    455.18040,  6940.62400,    52.2,      0.0 !  !END!
418 ! X =    455.38040,  6940.62400,    50.4,      0.0 !  !END!
419 ! X =    455.58040,  6940.62400,    48.3,      0.0 !  !END!
420 ! X =    455.78040,  6940.62400,    48.9,      0.0 !  !END!
421 ! X =    455.98040,  6940.62400,    48.6,      0.0 !  !END!
422 ! X =    456.18040,  6940.62400,    48.1,      0.0 !  !END!
423 ! X =    456.38040,  6940.62400,    48.1,      0.0 !  !END!
424 ! X =    456.58040,  6940.62400,    48.1,      0.0 !  !END!
425 ! X =    456.78040,  6940.62400,    49.0,      0.0 !  !END!
426 ! X =    456.98040,  6940.62400,    48.7,      0.0 !  !END!
427 ! X =    457.18040,  6940.62400,    47.8,      0.0 !  !END!
428 ! X =    457.38040,  6940.62400,    46.8,      0.0 !  !END!
429 ! X =    457.58040,  6940.62400,    45.5,      0.0 !  !END!
430 ! X =    457.78040,  6940.62400,    45.0,      0.0 !  !END!
431 ! X =    452.58040,  6940.42400,    58.4,      0.0 !  !END!
432 ! X =    452.78040,  6940.42400,    56.3,      0.0 !  !END!
433 ! X =    452.98040,  6940.42400,    56.0,      0.0 !  !END!
434 ! X =    453.18040,  6940.42400,    57.5,      0.0 !  !END!
435 ! X =    453.38040,  6940.42400,    64.6,      0.0 !  !END!
436 ! X =    453.58040,  6940.42400,    72.2,      0.0 !  !END!
437 ! X =    453.78040,  6940.42400,    60.8,      0.0 !  !END!
438 ! X =    453.98040,  6940.42400,    59.8,      0.0 !  !END!
439 ! X =    454.18040,  6940.42400,    59.1,      0.0 !  !END!
440 ! X =    454.38040,  6940.42400,    58.0,      0.0 !  !END!
441 ! X =    454.58040,  6940.42400,    55.1,      0.0 !  !END!
442 ! X =    454.78040,  6940.42400,    52.8,      0.0 !  !END!
443 ! X =    454.98040,  6940.42400,    52.8,      0.0 !  !END!
444 ! X =    455.18040,  6940.42400,    52.2,      0.0 !  !END!
445 ! X =    455.38040,  6940.42400,    51.4,      0.0 !  !END!
446 ! X =    455.58040,  6940.42400,    50.2,      0.0 !  !END!
447 ! X =    455.78040,  6940.42400,    49.4,      0.0 !  !END!
448 ! X =    455.98040,  6940.42400,    49.3,      0.0 !  !END!
449 ! X =    456.18040,  6940.42400,    48.7,      0.0 !  !END!
450 ! X =    456.38040,  6940.42400,    47.8,      0.0 !  !END!
451 ! X =    456.58040,  6940.42400,    47.7,      0.0 !  !END!
452 ! X =    456.78040,  6940.42400,    50.1,      0.0 !  !END!
453 ! X =    456.98040,  6940.42400,    49.4,      0.0 !  !END!
454 ! X =    457.18040,  6940.42400,    47.4,      0.0 !  !END!
455 ! X =    457.38040,  6940.42400,    46.8,      0.0 !  !END!
456 ! X =    457.58040,  6940.42400,    46.1,      0.0 !  !END!
457 ! X =    457.78040,  6940.42400,    45.3,      0.0 !  !END!
458 ! X =    457.98040,  6940.42400,    47.4,      0.0 !  !END!
459 ! X =    452.58040,  6940.22400,    57.3,      0.0 !  !END!
460 ! X =    452.78040,  6940.22400,    56.8,      0.0 !  !END!
461 ! X =    452.98040,  6940.22400,    56.5,      0.0 !  !END!
462 ! X =    453.18040,  6940.22400,    57.1,      0.0 !  !END!
463 ! X =    453.38040,  6940.22400,    57.6,      0.0 !  !END!
464 ! X =    453.58040,  6940.22400,    74.9,      0.0 !  !END!
465 ! X =    453.78040,  6940.22400,    67.3,      0.0 !  !END!
466 ! X =    453.98040,  6940.22400,    57.9,      0.0 !  !END!
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467 ! X =    454.18040,  6940.22400,    58.1,      0.0 !  !END!
468 ! X =    454.38040,  6940.22400,    57.0,      0.0 !  !END!
469 ! X =    454.58040,  6940.22400,    55.1,      0.0 !  !END!
470 ! X =    454.78040,  6940.22400,    53.1,      0.0 !  !END!
471 ! X =    454.98040,  6940.22400,    52.4,      0.0 !  !END!
472 ! X =    455.18040,  6940.22400,    51.9,      0.0 !  !END!
473 ! X =    455.38040,  6940.22400,    51.9,      0.0 !  !END!
474 ! X =    455.58040,  6940.22400,    51.0,      0.0 !  !END!
475 ! X =    455.78040,  6940.22400,    50.4,      0.0 !  !END!
476 ! X =    455.98040,  6940.22400,    49.4,      0.0 !  !END!
477 ! X =    456.18040,  6940.22400,    48.7,      0.0 !  !END!
478 ! X =    456.38040,  6940.22400,    48.1,      0.0 !  !END!
479 ! X =    456.58040,  6940.22400,    48.4,      0.0 !  !END!
480 ! X =    456.78040,  6940.22400,    51.8,      0.0 !  !END!
481 ! X =    456.98040,  6940.22400,    51.1,      0.0 !  !END!
482 ! X =    457.18040,  6940.22400,    45.5,      0.0 !  !END!
483 ! X =    457.38040,  6940.22400,    45.5,      0.0 !  !END!
484 ! X =    457.58040,  6940.22400,    45.6,      0.0 !  !END!
485 ! X =    457.78040,  6940.22400,    45.4,      0.0 !  !END!
486 ! X =    457.98040,  6940.22400,    45.0,      0.0 !  !END!
487 ! X =    458.18040,  6940.22400,    46.6,      0.0 !  !END!
488 ! X =    452.38040,  6940.02400,    59.7,      0.0 !  !END!
489 ! X =    452.58040,  6940.02400,    58.5,      0.0 !  !END!
490 ! X =    452.78040,  6940.02400,    57.5,      0.0 !  !END!
491 ! X =    452.98040,  6940.02400,    56.7,      0.0 !  !END!
492 ! X =    453.18040,  6940.02400,    55.8,      0.0 !  !END!
493 ! X =    453.38040,  6940.02400,    55.7,      0.0 !  !END!
494 ! X =    453.58040,  6940.02400,    69.9,      0.0 !  !END!
495 ! X =    453.78040,  6940.02400,    70.9,      0.0 !  !END!
496 ! X =    453.98040,  6940.02400,    59.5,      0.0 !  !END!
497 ! X =    454.18040,  6940.02400,    56.6,      0.0 !  !END!
498 ! X =    454.38040,  6940.02400,    56.0,      0.0 !  !END!
499 ! X =    454.58040,  6940.02400,    56.5,      0.0 !  !END!
500 ! X =    454.78040,  6940.02400,    53.6,      0.0 !  !END!
501 ! X =    454.98040,  6940.02400,    51.4,      0.0 !  !END!
502 ! X =    455.18040,  6940.02400,    51.4,      0.0 !  !END!
503 ! X =    455.38040,  6940.02400,    51.7,      0.0 !  !END!
504 ! X =    455.58040,  6940.02400,    52.0,      0.0 !  !END!
505 ! X =    455.78040,  6940.02400,    51.9,      0.0 !  !END!
506 ! X =    455.98040,  6940.02400,    50.4,      0.0 !  !END!
507 ! X =    456.18040,  6940.02400,    48.8,      0.0 !  !END!
508 ! X =    456.38040,  6940.02400,    48.4,      0.0 !  !END!
509 ! X =    456.58040,  6940.02400,    52.2,      0.0 !  !END!
510 ! X =    456.78040,  6940.02400,    52.0,      0.0 !  !END!
511 ! X =    456.98040,  6940.02400,    48.4,      0.0 !  !END!
512 ! X =    457.18040,  6940.02400,    45.4,      0.0 !  !END!
513 ! X =    457.38040,  6940.02400,    44.5,      0.0 !  !END!
514 ! X =    457.58040,  6940.02400,    45.4,      0.0 !  !END!
515 ! X =    457.78040,  6940.02400,    45.4,      0.0 !  !END!
516 ! X =    457.98040,  6940.02400,    44.9,      0.0 !  !END!
517 ! X =    458.18040,  6940.02400,    44.6,      0.0 !  !END!
518 ! X =    458.38040,  6940.02400,    43.8,      0.0 !  !END!
519 ! X =    458.58040,  6940.02400,    41.1,      0.0 !  !END!
520 ! X =    452.38040,  6939.82400,    60.1,      0.0 !  !END!
521 ! X =    452.58040,  6939.82400,    58.8,      0.0 !  !END!
522 ! X =    452.78040,  6939.82400,    57.8,      0.0 !  !END!
523 ! X =    452.98040,  6939.82400,    57.0,      0.0 !  !END!
524 ! X =    453.18040,  6939.82400,    56.7,      0.0 !  !END!
525 ! X =    453.38040,  6939.82400,    56.7,      0.0 !  !END!
526 ! X =    453.58040,  6939.82400,    56.8,      0.0 !  !END!
527 ! X =    453.78040,  6939.82400,    60.1,      0.0 !  !END!
528 ! X =    453.98040,  6939.82400,    55.7,      0.0 !  !END!
529 ! X =    454.18040,  6939.82400,    55.5,      0.0 !  !END!
530 ! X =    454.38040,  6939.82400,    54.1,      0.0 !  !END!
531 ! X =    454.58040,  6939.82400,    54.7,      0.0 !  !END!
532 ! X =    454.78040,  6939.82400,    54.2,      0.0 !  !END!
533 ! X =    454.98040,  6939.82400,    51.4,      0.0 !  !END!
534 ! X =    455.18040,  6939.82400,    51.1,      0.0 !  !END!
535 ! X =    455.38040,  6939.82400,    51.6,      0.0 !  !END!
536 ! X =    455.58040,  6939.82400,    55.9,      0.0 !  !END!
537 ! X =    455.78040,  6939.82400,    54.3,      0.0 !  !END!
```

```
538 ! X =    455.98040,  6939.82400,    54.4,      0.0 !  !END!
539 ! X =    456.18040,  6939.82400,    54.2,      0.0 !  !END!
540 ! X =    456.38040,  6939.82400,    57.0,      0.0 !  !END!
541 ! X =    456.58040,  6939.82400,    57.1,      0.0 !  !END!
542 ! X =    456.78040,  6939.82400,    50.2,      0.0 !  !END!
543 ! X =    456.98040,  6939.82400,    45.5,      0.0 !  !END!
544 ! X =    457.18040,  6939.82400,    45.3,      0.0 !  !END!
545 ! X =    457.38040,  6939.82400,    45.4,      0.0 !  !END!
546 ! X =    457.58040,  6939.82400,    45.3,      0.0 !  !END!
547 ! X =    457.78040,  6939.82400,    44.4,      0.0 !  !END!
548 ! X =    457.98040,  6939.82400,    43.8,      0.0 !  !END!
549 ! X =    458.18040,  6939.82400,    43.1,      0.0 !  !END!
550 ! X =    458.38040,  6939.82400,    42.3,      0.0 !  !END!
551 ! X =    458.58040,  6939.82400,    40.7,      0.0 !  !END!
552 ! X =    458.78040,  6939.82400,    41.0,      0.0 !  !END!
553 ! X =    452.58040,  6939.62400,    58.4,      0.0 !  !END!
554 ! X =    452.78040,  6939.62400,    57.5,      0.0 !  !END!
555 ! X =    452.98040,  6939.62400,    56.3,      0.0 !  !END!
556 ! X =    453.18040,  6939.62400,    55.7,      0.0 !  !END!
557 ! X =    453.38040,  6939.62400,    56.4,      0.0 !  !END!
558 ! X =    453.58040,  6939.62400,    57.7,      0.0 !  !END!
559 ! X =    453.78040,  6939.62400,    55.9,      0.0 !  !END!
560 ! X =    453.98040,  6939.62400,    56.5,      0.0 !  !END!
561 ! X =    454.18040,  6939.62400,    54.7,      0.0 !  !END!
562 ! X =    454.38040,  6939.62400,    54.4,      0.0 !  !END!
563 ! X =    454.58040,  6939.62400,    54.6,      0.0 !  !END!
564 ! X =    454.78040,  6939.62400,    55.1,      0.0 !  !END!
565 ! X =    454.98040,  6939.62400,    58.9,      0.0 !  !END!
566 ! X =    455.18040,  6939.62400,    59.2,      0.0 !  !END!
567 ! X =    455.38040,  6939.62400,    54.0,      0.0 !  !END!
568 ! X =    455.58040,  6939.62400,    56.2,      0.0 !  !END!
569 ! X =    455.78040,  6939.62400,    55.6,      0.0 !  !END!
570 ! X =    455.98040,  6939.62400,    57.1,      0.0 !  !END!
571 ! X =    456.18040,  6939.62400,    60.0,      0.0 !  !END!
572 ! X =    456.38040,  6939.62400,    63.0,      0.0 !  !END!
573 ! X =    456.58040,  6939.62400,    59.0,      0.0 !  !END!
574 ! X =    456.78040,  6939.62400,    52.1,      0.0 !  !END!
575 ! X =    456.98040,  6939.62400,    47.3,      0.0 !  !END!
576 ! X =    457.18040,  6939.62400,    44.6,      0.0 !  !END!
577 ! X =    457.38040,  6939.62400,    44.2,      0.0 !  !END!
578 ! X =    457.58040,  6939.62400,    42.5,      0.0 !  !END!
579 ! X =    457.78040,  6939.62400,    42.0,      0.0 !  !END!
580 ! X =    457.98040,  6939.62400,    41.8,      0.0 !  !END!
581 ! X =    458.18040,  6939.62400,    41.1,      0.0 !  !END!
582 ! X =    458.38040,  6939.62400,    41.1,      0.0 !  !END!
583 ! X =    458.58040,  6939.62400,    41.2,      0.0 !  !END!
584 ! X =    458.78040,  6939.62400,    41.4,      0.0 !  !END!
585 ! X =    458.98040,  6939.62400,    41.2,      0.0 !  !END!
586 ! X =    452.58040,  6939.42400,    58.2,      0.0 !  !END!
587 ! X =    452.78040,  6939.42400,    57.3,      0.0 !  !END!
588 ! X =    452.98040,  6939.42400,    56.2,      0.0 !  !END!
589 ! X =    453.18040,  6939.42400,    55.6,      0.0 !  !END!
590 ! X =    453.38040,  6939.42400,    56.2,      0.0 !  !END!
591 ! X =    453.58040,  6939.42400,    56.0,      0.0 !  !END!
592 ! X =    453.78040,  6939.42400,    55.9,      0.0 !  !END!
593 ! X =    453.98040,  6939.42400,    56.0,      0.0 !  !END!
594 ! X =    454.18040,  6939.42400,    54.2,      0.0 !  !END!
595 ! X =    454.38040,  6939.42400,    55.1,      0.0 !  !END!
596 ! X =    454.58040,  6939.42400,    54.3,      0.0 !  !END!
597 ! X =    454.78040,  6939.42400,    60.0,      0.0 !  !END!
598 ! X =    454.98040,  6939.42400,    66.9,      0.0 !  !END!
599 ! X =    455.18040,  6939.42400,    61.2,      0.0 !  !END!
600 ! X =    455.38040,  6939.42400,    56.2,      0.0 !  !END!
601 ! X =    455.58040,  6939.42400,    54.9,      0.0 !  !END!
602 ! X =    455.78040,  6939.42400,    57.1,      0.0 !  !END!
603 ! X =    455.98040,  6939.42400,    62.3,      0.0 !  !END!
604 ! X =    456.18040,  6939.42400,    62.5,      0.0 !  !END!
605 ! X =    456.38040,  6939.42400,    63.1,      0.0 !  !END!
606 ! X =    456.58040,  6939.42400,    57.8,      0.0 !  !END!
607 ! X =    456.78040,  6939.42400,    50.1,      0.0 !  !END!
608 ! X =    456.98040,  6939.42400,    46.4,      0.0 !  !END!
```

609 ! X = 457.18040, 6939.42400, 44.6, 0.0 ! !END!
610 ! X = 457.38040, 6939.42400, 44.3, 0.0 ! !END!
611 ! X = 457.58040, 6939.42400, 43.2, 0.0 ! !END!
612 ! X = 457.78040, 6939.42400, 42.2, 0.0 ! !END!
613 ! X = 457.98040, 6939.42400, 41.5, 0.0 ! !END!
614 ! X = 458.18040, 6939.42400, 40.3, 0.0 ! !END!
615 ! X = 458.38040, 6939.42400, 40.8, 0.0 ! !END!
616 ! X = 458.58040, 6939.42400, 41.2, 0.0 ! !END!
617 ! X = 458.78040, 6939.42400, 41.8, 0.0 ! !END!
618 ! X = 458.98040, 6939.42400, 41.2, 0.0 ! !END!
619 ! X = 459.18040, 6939.42400, 40.4, 0.0 ! !END!
620 ! X = 452.58040, 6939.22400, 58.1, 0.0 ! !END!
621 ! X = 452.78040, 6939.22400, 57.3, 0.0 ! !END!
622 ! X = 452.98040, 6939.22400, 56.6, 0.0 ! !END!
623 ! X = 453.18040, 6939.22400, 56.1, 0.0 ! !END!
624 ! X = 453.38040, 6939.22400, 56.3, 0.0 ! !END!
625 ! X = 453.58040, 6939.22400, 55.8, 0.0 ! !END!
626 ! X = 453.78040, 6939.22400, 56.5, 0.0 ! !END!
627 ! X = 453.98040, 6939.22400, 56.8, 0.0 ! !END!
628 ! X = 454.18040, 6939.22400, 58.3, 0.0 ! !END!
629 ! X = 454.38040, 6939.22400, 58.5, 0.0 ! !END!
630 ! X = 454.58040, 6939.22400, 59.9, 0.0 ! !END!
631 ! X = 454.78040, 6939.22400, 65.0, 0.0 ! !END!
632 ! X = 454.98040, 6939.22400, 66.7, 0.0 ! !END!
633 ! X = 455.18040, 6939.22400, 60.1, 0.0 ! !END!
634 ! X = 455.38040, 6939.22400, 58.2, 0.0 ! !END!
635 ! X = 455.58040, 6939.22400, 62.5, 0.0 ! !END!
636 ! X = 455.78040, 6939.22400, 63.7, 0.0 ! !END!
637 ! X = 455.98040, 6939.22400, 65.5, 0.0 ! !END!
638 ! X = 456.18040, 6939.22400, 58.6, 0.0 ! !END!
639 ! X = 456.38040, 6939.22400, 53.4, 0.0 ! !END!
640 ! X = 456.58040, 6939.22400, 51.0, 0.0 ! !END!
641 ! X = 456.78040, 6939.22400, 46.9, 0.0 ! !END!
642 ! X = 456.98040, 6939.22400, 45.8, 0.0 ! !END!
643 ! X = 457.18040, 6939.22400, 45.1, 0.0 ! !END!
644 ! X = 457.38040, 6939.22400, 44.5, 0.0 ! !END!
645 ! X = 457.58040, 6939.22400, 43.8, 0.0 ! !END!
646 ! X = 457.78040, 6939.22400, 42.8, 0.0 ! !END!
647 ! X = 457.98040, 6939.22400, 42.1, 0.0 ! !END!
648 ! X = 458.18040, 6939.22400, 40.5, 0.0 ! !END!
649 ! X = 458.38040, 6939.22400, 41.4, 0.0 ! !END!
650 ! X = 458.58040, 6939.22400, 40.5, 0.0 ! !END!
651 ! X = 458.78040, 6939.22400, 41.9, 0.0 ! !END!
652 ! X = 458.98040, 6939.22400, 41.4, 0.0 ! !END!
653 ! X = 459.18040, 6939.22400, 40.4, 0.0 ! !END!
654 ! X = 459.38040, 6939.22400, 44.3, 0.0 ! !END!
655 ! X = 459.58040, 6939.22400, 47.3, 0.0 ! !END!
656 ! X = 459.78040, 6939.22400, 46.1, 0.0 ! !END!
657 ! X = 459.98040, 6939.22400, 43.8, 0.0 ! !END!
658 ! X = 460.18040, 6939.22400, 49.3, 0.0 ! !END!
659 ! X = 452.78040, 6939.02400, 57.3, 0.0 ! !END!
660 ! X = 452.98040, 6939.02400, 57.0, 0.0 ! !END!
661 ! X = 453.18040, 6939.02400, 56.4, 0.0 ! !END!
662 ! X = 453.38040, 6939.02400, 56.3, 0.0 ! !END!
663 ! X = 453.58040, 6939.02400, 56.0, 0.0 ! !END!
664 ! X = 453.78040, 6939.02400, 55.8, 0.0 ! !END!
665 ! X = 453.98040, 6939.02400, 59.0, 0.0 ! !END!
666 ! X = 454.18040, 6939.02400, 61.8, 0.0 ! !END!
667 ! X = 454.38040, 6939.02400, 68.4, 0.0 ! !END!
668 ! X = 454.58040, 6939.02400, 70.0, 0.0 ! !END!
669 ! X = 454.78040, 6939.02400, 70.4, 0.0 ! !END!
670 ! X = 454.98040, 6939.02400, 66.8, 0.0 ! !END!
671 ! X = 455.18040, 6939.02400, 62.7, 0.0 ! !END!
672 ! X = 455.38040, 6939.02400, 64.4, 0.0 ! !END!
673 ! X = 455.58040, 6939.02400, 69.5, 0.0 ! !END!
674 ! X = 455.78040, 6939.02400, 68.8, 0.0 ! !END!
675 ! X = 455.98040, 6939.02400, 68.7, 0.0 ! !END!
676 ! X = 456.18040, 6939.02400, 58.0, 0.0 ! !END!
677 ! X = 456.38040, 6939.02400, 51.1, 0.0 ! !END!
678 ! X = 456.58040, 6939.02400, 47.7, 0.0 ! !END!
679 ! X = 456.78040, 6939.02400, 46.3, 0.0 ! !END!

680 ! X = 456.98040, 6939.02400, 45.8, 0.0 ! !END!
681 ! X = 457.18040, 6939.02400, 45.1, 0.0 ! !END!
682 ! X = 457.38040, 6939.02400, 44.3, 0.0 ! !END!
683 ! X = 457.58040, 6939.02400, 44.0, 0.0 ! !END!
684 ! X = 457.78040, 6939.02400, 43.8, 0.0 ! !END!
685 ! X = 457.98040, 6939.02400, 42.3, 0.0 ! !END!
686 ! X = 458.18040, 6939.02400, 41.8, 0.0 ! !END!
687 ! X = 458.38040, 6939.02400, 42.1, 0.0 ! !END!
688 ! X = 458.58040, 6939.02400, 41.8, 0.0 ! !END!
689 ! X = 458.78040, 6939.02400, 41.7, 0.0 ! !END!
690 ! X = 458.98040, 6939.02400, 41.3, 0.0 ! !END!
691 ! X = 459.18040, 6939.02400, 40.9, 0.0 ! !END!
692 ! X = 459.38040, 6939.02400, 47.1, 0.0 ! !END!
693 ! X = 459.58040, 6939.02400, 54.7, 0.0 ! !END!
694 ! X = 459.78040, 6939.02400, 49.2, 0.0 ! !END!
695 ! X = 459.98040, 6939.02400, 48.5, 0.0 ! !END!
696 ! X = 460.18040, 6939.02400, 49.4, 0.0 ! !END!
697 ! X = 460.38040, 6939.02400, 57.7, 0.0 ! !END!
698 ! X = 460.58040, 6939.02400, 68.6, 0.0 ! !END!
699 ! X = 460.78040, 6939.02400, 70.9, 0.0 ! !END!
700 ! X = 460.98040, 6939.02400, 62.3, 0.0 ! !END!
701 ! X = 461.18040, 6939.02400, 54.0, 0.0 ! !END!
702 ! X = 461.38040, 6939.02400, 50.3, 0.0 ! !END!
703 ! X = 452.78040, 6938.82400, 57.1, 0.0 ! !END!
704 ! X = 452.98040, 6938.82400, 57.5, 0.0 ! !END!
705 ! X = 453.18040, 6938.82400, 56.3, 0.0 ! !END!
706 ! X = 453.38040, 6938.82400, 56.0, 0.0 ! !END!
707 ! X = 453.58040, 6938.82400, 56.1, 0.0 ! !END!
708 ! X = 453.78040, 6938.82400, 59.1, 0.0 ! !END!
709 ! X = 453.98040, 6938.82400, 64.6, 0.0 ! !END!
710 ! X = 454.18040, 6938.82400, 63.4, 0.0 ! !END!
711 ! X = 454.38040, 6938.82400, 71.2, 0.0 ! !END!
712 ! X = 454.58040, 6938.82400, 73.8, 0.0 ! !END!
713 ! X = 454.78040, 6938.82400, 69.6, 0.0 ! !END!
714 ! X = 454.98040, 6938.82400, 68.1, 0.0 ! !END!
715 ! X = 455.18040, 6938.82400, 67.4, 0.0 ! !END!
716 ! X = 455.38040, 6938.82400, 71.5, 0.0 ! !END!
717 ! X = 455.58040, 6938.82400, 68.2, 0.0 ! !END!
718 ! X = 455.78040, 6938.82400, 68.3, 0.0 ! !END!
719 ! X = 455.98040, 6938.82400, 65.3, 0.0 ! !END!
720 ! X = 456.18040, 6938.82400, 54.8, 0.0 ! !END!
721 ! X = 456.38040, 6938.82400, 49.2, 0.0 ! !END!
722 ! X = 456.58040, 6938.82400, 47.3, 0.0 ! !END!
723 ! X = 456.78040, 6938.82400, 46.2, 0.0 ! !END!
724 ! X = 456.98040, 6938.82400, 44.9, 0.0 ! !END!
725 ! X = 457.18040, 6938.82400, 44.7, 0.0 ! !END!
726 ! X = 457.38040, 6938.82400, 44.4, 0.0 ! !END!
727 ! X = 457.58040, 6938.82400, 43.7, 0.0 ! !END!
728 ! X = 457.78040, 6938.82400, 43.2, 0.0 ! !END!
729 ! X = 457.98040, 6938.82400, 42.5, 0.0 ! !END!
730 ! X = 458.18040, 6938.82400, 41.4, 0.0 ! !END!
731 ! X = 458.38040, 6938.82400, 42.8, 0.0 ! !END!
732 ! X = 458.58040, 6938.82400, 41.7, 0.0 ! !END!
733 ! X = 458.78040, 6938.82400, 41.8, 0.0 ! !END!
734 ! X = 458.98040, 6938.82400, 41.4, 0.0 ! !END!
735 ! X = 459.18040, 6938.82400, 42.2, 0.0 ! !END!
736 ! X = 459.38040, 6938.82400, 50.4, 0.0 ! !END!
737 ! X = 459.58040, 6938.82400, 59.9, 0.0 ! !END!
738 ! X = 459.78040, 6938.82400, 53.2, 0.0 ! !END!
739 ! X = 459.98040, 6938.82400, 56.6, 0.0 ! !END!
740 ! X = 460.18040, 6938.82400, 53.9, 0.0 ! !END!
741 ! X = 460.38040, 6938.82400, 56.9, 0.0 ! !END!
742 ! X = 460.58040, 6938.82400, 62.7, 0.0 ! !END!
743 ! X = 460.78040, 6938.82400, 63.8, 0.0 ! !END!
744 ! X = 460.98040, 6938.82400, 56.6, 0.0 ! !END!
745 ! X = 461.18040, 6938.82400, 50.5, 0.0 ! !END!
746 ! X = 461.38040, 6938.82400, 50.6, 0.0 ! !END!
747 ! X = 461.58040, 6938.82400, 47.1, 0.0 ! !END!
748 ! X = 461.78040, 6938.82400, 44.2, 0.0 ! !END!
749 ! X = 461.98040, 6938.82400, 43.0, 0.0 ! !END!
750 ! X = 462.18040, 6938.82400, 47.7, 0.0 ! !END!

751 ! X = 462.38040, 6938.82400, 53.9, 0.0 ! !END!
752 ! X = 462.58040, 6938.82400, 58.1, 0.0 ! !END!
753 ! X = 462.78040, 6938.82400, 64.1, 0.0 ! !END!
754 ! X = 452.98040, 6938.62400, 57.4, 0.0 ! !END!
755 ! X = 453.18040, 6938.62400, 56.2, 0.0 ! !END!
756 ! X = 453.38040, 6938.62400, 56.0, 0.0 ! !END!
757 ! X = 453.58040, 6938.62400, 56.4, 0.0 ! !END!
758 ! X = 453.78040, 6938.62400, 59.2, 0.0 ! !END!
759 ! X = 453.98040, 6938.62400, 64.6, 0.0 ! !END!
760 ! X = 454.18040, 6938.62400, 69.3, 0.0 ! !END!
761 ! X = 454.38040, 6938.62400, 75.3, 0.0 ! !END!
762 ! X = 454.58040, 6938.62400, 76.6, 0.0 ! !END!
763 ! X = 454.78040, 6938.62400, 77.7, 0.0 ! !END!
764 ! X = 454.98040, 6938.62400, 78.7, 0.0 ! !END!
765 ! X = 455.18040, 6938.62400, 75.9, 0.0 ! !END!
766 ! X = 455.38040, 6938.62400, 72.8, 0.0 ! !END!
767 ! X = 455.58040, 6938.62400, 66.7, 0.0 ! !END!
768 ! X = 455.78040, 6938.62400, 57.7, 0.0 ! !END!
769 ! X = 455.98040, 6938.62400, 56.8, 0.0 ! !END!
770 ! X = 456.18040, 6938.62400, 54.4, 0.0 ! !END!
771 ! X = 456.38040, 6938.62400, 48.9, 0.0 ! !END!
772 ! X = 456.58040, 6938.62400, 46.5, 0.0 ! !END!
773 ! X = 456.78040, 6938.62400, 45.3, 0.0 ! !END!
774 ! X = 456.98040, 6938.62400, 43.3, 0.0 ! !END!
775 ! X = 457.18040, 6938.62400, 44.0, 0.0 ! !END!
776 ! X = 457.38040, 6938.62400, 44.4, 0.0 ! !END!
777 ! X = 457.58040, 6938.62400, 44.7, 0.0 ! !END!
778 ! X = 457.78040, 6938.62400, 43.3, 0.0 ! !END!
779 ! X = 457.98040, 6938.62400, 42.2, 0.0 ! !END!
780 ! X = 458.18040, 6938.62400, 42.1, 0.0 ! !END!
781 ! X = 458.38040, 6938.62400, 43.6, 0.0 ! !END!
782 ! X = 458.58040, 6938.62400, 42.4, 0.0 ! !END!
783 ! X = 458.78040, 6938.62400, 42.1, 0.0 ! !END!
784 ! X = 458.98040, 6938.62400, 41.9, 0.0 ! !END!
785 ! X = 459.18040, 6938.62400, 42.4, 0.0 ! !END!
786 ! X = 459.38040, 6938.62400, 52.6, 0.0 ! !END!
787 ! X = 459.58040, 6938.62400, 67.9, 0.0 ! !END!
788 ! X = 459.78040, 6938.62400, 63.2, 0.0 ! !END!
789 ! X = 459.98040, 6938.62400, 66.7, 0.0 ! !END!
790 ! X = 460.18040, 6938.62400, 69.6, 0.0 ! !END!
791 ! X = 460.38040, 6938.62400, 67.0, 0.0 ! !END!
792 ! X = 460.58040, 6938.62400, 68.1, 0.0 ! !END!
793 ! X = 460.78040, 6938.62400, 64.3, 0.0 ! !END!
794 ! X = 460.98040, 6938.62400, 60.6, 0.0 ! !END!
795 ! X = 461.18040, 6938.62400, 58.2, 0.0 ! !END!
796 ! X = 461.38040, 6938.62400, 52.5, 0.0 ! !END!
797 ! X = 461.58040, 6938.62400, 50.4, 0.0 ! !END!
798 ! X = 461.78040, 6938.62400, 45.2, 0.0 ! !END!
799 ! X = 461.98040, 6938.62400, 47.0, 0.0 ! !END!
800 ! X = 462.18040, 6938.62400, 45.1, 0.0 ! !END!
801 ! X = 462.38040, 6938.62400, 48.5, 0.0 ! !END!
802 ! X = 462.58040, 6938.62400, 56.2, 0.0 ! !END!
803 ! X = 462.78040, 6938.62400, 62.5, 0.0 ! !END!
804 ! X = 462.98040, 6938.62400, 68.5, 0.0 ! !END!
805 ! X = 463.18040, 6938.62400, 75.2, 0.0 ! !END!
806 ! X = 463.38040, 6938.62400, 77.0, 0.0 ! !END!
807 ! X = 463.58040, 6938.62400, 83.5, 0.0 ! !END!
808 ! X = 463.78040, 6938.62400, 88.8, 0.0 ! !END!
809 ! X = 463.98040, 6938.62400, 81.3, 0.0 ! !END!
810 ! X = 453.18040, 6938.42400, 56.6, 0.0 ! !END!
811 ! X = 453.38040, 6938.42400, 60.2, 0.0 ! !END!
812 ! X = 453.58040, 6938.42400, 62.4, 0.0 ! !END!
813 ! X = 453.78040, 6938.42400, 62.6, 0.0 ! !END!
814 ! X = 453.98040, 6938.42400, 61.8, 0.0 ! !END!
815 ! X = 454.18040, 6938.42400, 69.2, 0.0 ! !END!
816 ! X = 454.38040, 6938.42400, 77.4, 0.0 ! !END!
817 ! X = 454.58040, 6938.42400, 81.0, 0.0 ! !END!
818 ! X = 454.78040, 6938.42400, 81.1, 0.0 ! !END!
819 ! X = 454.98040, 6938.42400, 79.2, 0.0 ! !END!
820 ! X = 455.18040, 6938.42400, 74.9, 0.0 ! !END!
821 ! X = 455.38040, 6938.42400, 67.3, 0.0 ! !END!

822 ! X = 455.58040, 6938.42400, 63.6, 0.0 ! !END!
823 ! X = 455.78040, 6938.42400, 56.3, 0.0 ! !END!
824 ! X = 455.98040, 6938.42400, 47.9, 0.0 ! !END!
825 ! X = 456.18040, 6938.42400, 46.3, 0.0 ! !END!
826 ! X = 456.38040, 6938.42400, 49.0, 0.0 ! !END!
827 ! X = 456.58040, 6938.42400, 44.0, 0.0 ! !END!
828 ! X = 456.78040, 6938.42400, 44.8, 0.0 ! !END!
829 ! X = 456.98040, 6938.42400, 43.5, 0.0 ! !END!
830 ! X = 457.18040, 6938.42400, 44.0, 0.0 ! !END!
831 ! X = 457.38040, 6938.42400, 49.7, 0.0 ! !END!
832 ! X = 457.58040, 6938.42400, 44.0, 0.0 ! !END!
833 ! X = 457.78040, 6938.42400, 41.7, 0.0 ! !END!
834 ! X = 457.98040, 6938.42400, 42.1, 0.0 ! !END!
835 ! X = 458.18040, 6938.42400, 45.8, 0.0 ! !END!
836 ! X = 458.38040, 6938.42400, 44.3, 0.0 ! !END!
837 ! X = 458.58040, 6938.42400, 42.5, 0.0 ! !END!
838 ! X = 458.78040, 6938.42400, 42.3, 0.0 ! !END!
839 ! X = 458.98040, 6938.42400, 41.8, 0.0 ! !END!
840 ! X = 459.18040, 6938.42400, 43.6, 0.0 ! !END!
841 ! X = 459.38040, 6938.42400, 47.3, 0.0 ! !END!
842 ! X = 459.58040, 6938.42400, 58.8, 0.0 ! !END!
843 ! X = 459.78040, 6938.42400, 68.1, 0.0 ! !END!
844 ! X = 459.98040, 6938.42400, 72.9, 0.0 ! !END!
845 ! X = 460.18040, 6938.42400, 82.0, 0.0 ! !END!
846 ! X = 460.38040, 6938.42400, 76.6, 0.0 ! !END!
847 ! X = 460.58040, 6938.42400, 78.6, 0.0 ! !END!
848 ! X = 460.78040, 6938.42400, 72.7, 0.0 ! !END!
849 ! X = 460.98040, 6938.42400, 72.6, 0.0 ! !END!
850 ! X = 461.18040, 6938.42400, 61.6, 0.0 ! !END!
851 ! X = 461.38040, 6938.42400, 49.4, 0.0 ! !END!
852 ! X = 461.58040, 6938.42400, 47.9, 0.0 ! !END!
853 ! X = 461.78040, 6938.42400, 47.7, 0.0 ! !END!
854 ! X = 461.98040, 6938.42400, 51.8, 0.0 ! !END!
855 ! X = 462.18040, 6938.42400, 47.2, 0.0 ! !END!
856 ! X = 462.38040, 6938.42400, 47.8, 0.0 ! !END!
857 ! X = 462.58040, 6938.42400, 53.9, 0.0 ! !END!
858 ! X = 462.78040, 6938.42400, 63.6, 0.0 ! !END!
859 ! X = 462.98040, 6938.42400, 69.7, 0.0 ! !END!
860 ! X = 463.18040, 6938.42400, 73.5, 0.0 ! !END!
861 ! X = 463.38040, 6938.42400, 74.6, 0.0 ! !END!
862 ! X = 463.58040, 6938.42400, 75.1, 0.0 ! !END!
863 ! X = 463.78040, 6938.42400, 74.3, 0.0 ! !END!
864 ! X = 463.98040, 6938.42400, 69.1, 0.0 ! !END!
865 ! X = 464.18040, 6938.42400, 62.7, 0.0 ! !END!
866 ! X = 464.38040, 6938.42400, 60.1, 0.0 ! !END!
867 ! X = 464.58040, 6938.42400, 37.0, 0.0 ! !END!
868 ! X = 464.78040, 6938.42400, 43.0, 0.0 ! !END!
869 ! X = 464.98040, 6938.42400, 39.6, 0.0 ! !END!
870 ! X = 465.18040, 6938.42400, 34.5, 0.0 ! !END!
871 ! X = 453.38040, 6938.22400, 69.0, 0.0 ! !END!
872 ! X = 453.58040, 6938.22400, 68.8, 0.0 ! !END!
873 ! X = 453.78040, 6938.22400, 63.5, 0.0 ! !END!
874 ! X = 453.98040, 6938.22400, 65.6, 0.0 ! !END!
875 ! X = 454.18040, 6938.22400, 72.5, 0.0 ! !END!
876 ! X = 454.38040, 6938.22400, 77.1, 0.0 ! !END!
877 ! X = 454.58040, 6938.22400, 72.1, 0.0 ! !END!
878 ! X = 454.78040, 6938.22400, 72.1, 0.0 ! !END!
879 ! X = 454.98040, 6938.22400, 70.8, 0.0 ! !END!
880 ! X = 455.18040, 6938.22400, 61.2, 0.0 ! !END!
881 ! X = 455.38040, 6938.22400, 56.0, 0.0 ! !END!
882 ! X = 455.58040, 6938.22400, 51.3, 0.0 ! !END!
883 ! X = 455.78040, 6938.22400, 45.8, 0.0 ! !END!
884 ! X = 455.98040, 6938.22400, 44.1, 0.0 ! !END!
885 ! X = 456.18040, 6938.22400, 43.8, 0.0 ! !END!
886 ! X = 456.38040, 6938.22400, 42.9, 0.0 ! !END!
887 ! X = 456.58040, 6938.22400, 41.2, 0.0 ! !END!
888 ! X = 456.78040, 6938.22400, 42.6, 0.0 ! !END!
889 ! X = 456.98040, 6938.22400, 43.4, 0.0 ! !END!
890 ! X = 457.18040, 6938.22400, 43.4, 0.0 ! !END!
891 ! X = 457.38040, 6938.22400, 43.6, 0.0 ! !END!
892 ! X = 457.58040, 6938.22400, 42.9, 0.0 ! !END!

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893 ! X =    457.78040,  6938.22400,    42.9,      0.0 !  !END!
894 ! X =    457.98040,  6938.22400,    44.8,      0.0 !  !END!
895 ! X =    458.18040,  6938.22400,    47.8,      0.0 !  !END!
896 ! X =    458.38040,  6938.22400,    45.9,      0.0 !  !END!
897 ! X =    458.58040,  6938.22400,    44.5,      0.0 !  !END!
898 ! X =    458.78040,  6938.22400,    42.4,      0.0 !  !END!
899 ! X =    458.98040,  6938.22400,    41.4,      0.0 !  !END!
900 ! X =    459.18040,  6938.22400,    42.7,      0.0 !  !END!
901 ! X =    459.38040,  6938.22400,    47.6,      0.0 !  !END!
902 ! X =    459.58040,  6938.22400,    52.4,      0.0 !  !END!
903 ! X =    459.78040,  6938.22400,    65.0,      0.0 !  !END!
904 ! X =    459.98040,  6938.22400,    79.7,      0.0 !  !END!
905 ! X =    460.18040,  6938.22400,    87.7,      0.0 !  !END!
906 ! X =    460.38040,  6938.22400,    86.1,      0.0 !  !END!
907 ! X =    460.58040,  6938.22400,    84.6,      0.0 !  !END!
908 ! X =    460.78040,  6938.22400,    78.6,      0.0 !  !END!
909 ! X =    460.98040,  6938.22400,    68.5,      0.0 !  !END!
910 ! X =    461.18040,  6938.22400,    52.3,      0.0 !  !END!
911 ! X =    461.38040,  6938.22400,    48.3,      0.0 !  !END!
912 ! X =    461.58040,  6938.22400,    45.1,      0.0 !  !END!
913 ! X =    461.78040,  6938.22400,    47.9,      0.0 !  !END!
914 ! X =    461.98040,  6938.22400,    57.1,      0.0 !  !END!
915 ! X =    462.18040,  6938.22400,    56.1,      0.0 !  !END!
916 ! X =    462.38040,  6938.22400,    50.6,      0.0 !  !END!
917 ! X =    462.58040,  6938.22400,    51.3,      0.0 !  !END!
918 ! X =    462.78040,  6938.22400,    57.5,      0.0 !  !END!
919 ! X =    462.98040,  6938.22400,    62.7,      0.0 !  !END!
920 ! X =    463.18040,  6938.22400,    65.1,      0.0 !  !END!
921 ! X =    463.38040,  6938.22400,    66.2,      0.0 !  !END!
922 ! X =    463.58040,  6938.22400,    69.9,      0.0 !  !END!
923 ! X =    463.78040,  6938.22400,    67.2,      0.0 !  !END!
924 ! X =    463.98040,  6938.22400,    58.7,      0.0 !  !END!
925 ! X =    464.18040,  6938.22400,    55.3,      0.0 !  !END!
926 ! X =    464.38040,  6938.22400,    54.4,      0.0 !  !END!
927 ! X =    464.58040,  6938.22400,    26.2,      0.0 !  !END!
928 ! X =    464.78040,  6938.22400,    68.8,      0.0 !  !END!
929 ! X =    464.98040,  6938.22400,    86.5,      0.0 !  !END!
930 ! X =    465.18040,  6938.22400,    72.5,      0.0 !  !END!
931 ! X =    465.38040,  6938.22400,    61.3,      0.0 !  !END!
932 ! X =    465.58040,  6938.22400,    43.7,      0.0 !  !END!
933 ! X =    465.78040,  6938.22400,    36.1,      0.0 !  !END!
934 ! X =    465.98040,  6938.22400,    37.8,      0.0 !  !END!
935 ! X =    466.18040,  6938.22400,    49.8,      0.0 !  !END!
936 ! X =    453.98040,  6938.02400,    65.3,      0.0 !  !END!
937 ! X =    454.18040,  6938.02400,    75.5,      0.0 !  !END!
938 ! X =    454.38040,  6938.02400,    71.8,      0.0 !  !END!
939 ! X =    454.58040,  6938.02400,    66.1,      0.0 !  !END!
940 ! X =    454.78040,  6938.02400,    62.4,      0.0 !  !END!
941 ! X =    454.98040,  6938.02400,    62.6,      0.0 !  !END!
942 ! X =    455.18040,  6938.02400,    58.6,      0.0 !  !END!
943 ! X =    455.38040,  6938.02400,    52.5,      0.0 !  !END!
944 ! X =    455.58040,  6938.02400,    46.5,      0.0 !  !END!
945 ! X =    455.78040,  6938.02400,    44.1,      0.0 !  !END!
946 ! X =    455.98040,  6938.02400,    45.3,      0.0 !  !END!
947 ! X =    456.18040,  6938.02400,    45.7,      0.0 !  !END!
948 ! X =    456.38040,  6938.02400,    44.5,      0.0 !  !END!
949 ! X =    456.58040,  6938.02400,    44.1,      0.0 !  !END!
950 ! X =    456.78040,  6938.02400,    43.6,      0.0 !  !END!
951 ! X =    456.98040,  6938.02400,    43.5,      0.0 !  !END!
952 ! X =    457.18040,  6938.02400,    43.4,      0.0 !  !END!
953 ! X =    457.38040,  6938.02400,    43.1,      0.0 !  !END!
954 ! X =    457.58040,  6938.02400,    43.0,      0.0 !  !END!
955 ! X =    457.78040,  6938.02400,    42.5,      0.0 !  !END!
956 ! X =    457.98040,  6938.02400,    44.1,      0.0 !  !END!
957 ! X =    458.18040,  6938.02400,    49.8,      0.0 !  !END!
958 ! X =    458.38040,  6938.02400,    48.2,      0.0 !  !END!
959 ! X =    458.58040,  6938.02400,    45.7,      0.0 !  !END!
960 ! X =    458.78040,  6938.02400,    41.5,      0.0 !  !END!
961 ! X =    458.98040,  6938.02400,    40.2,      0.0 !  !END!
962 ! X =    459.18040,  6938.02400,    43.1,      0.0 !  !END!
963 ! X =    459.38040,  6938.02400,    50.1,      0.0 !  !END!
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964 ! X = 459.58040, 6938.02400, 55.3, 0.0 ! !END!
965 ! X = 459.78040, 6938.02400, 59.9, 0.0 ! !END!
966 ! X = 459.98040, 6938.02400, 68.0, 0.0 ! !END!
967 ! X = 460.18040, 6938.02400, 80.8, 0.0 ! !END!
968 ! X = 460.38040, 6938.02400, 88.3, 0.0 ! !END!
969 ! X = 460.58040, 6938.02400, 77.1, 0.0 ! !END!
970 ! X = 460.78040, 6938.02400, 69.3, 0.0 ! !END!
971 ! X = 460.98040, 6938.02400, 61.2, 0.0 ! !END!
972 ! X = 461.18040, 6938.02400, 52.6, 0.0 ! !END!
973 ! X = 461.38040, 6938.02400, 57.6, 0.0 ! !END!
974 ! X = 461.58040, 6938.02400, 53.2, 0.0 ! !END!
975 ! X = 461.78040, 6938.02400, 51.8, 0.0 ! !END!
976 ! X = 461.98040, 6938.02400, 60.0, 0.0 ! !END!
977 ! X = 462.18040, 6938.02400, 66.4, 0.0 ! !END!
978 ! X = 462.38040, 6938.02400, 63.3, 0.0 ! !END!
979 ! X = 462.58040, 6938.02400, 63.4, 0.0 ! !END!
980 ! X = 462.78040, 6938.02400, 58.6, 0.0 ! !END!
981 ! X = 462.98040, 6938.02400, 61.1, 0.0 ! !END!
982 ! X = 463.18040, 6938.02400, 64.5, 0.0 ! !END!
983 ! X = 463.38040, 6938.02400, 69.5, 0.0 ! !END!
984 ! X = 463.58040, 6938.02400, 72.8, 0.0 ! !END!
985 ! X = 463.78040, 6938.02400, 68.3, 0.0 ! !END!
986 ! X = 463.98040, 6938.02400, 62.4, 0.0 ! !END!
987 ! X = 464.18040, 6938.02400, 54.2, 0.0 ! !END!
988 ! X = 464.38040, 6938.02400, 50.9, 0.0 ! !END!
989 ! X = 464.58040, 6938.02400, 20.8, 0.0 ! !END!
990 ! X = 464.78040, 6938.02400, 78.8, 0.0 ! !END!
991 ! X = 464.98040, 6938.02400, 88.5, 0.0 ! !END!
992 ! X = 465.18040, 6938.02400, 74.2, 0.0 ! !END!
993 ! X = 465.38040, 6938.02400, 60.9, 0.0 ! !END!
994 ! X = 465.58040, 6938.02400, 40.7, 0.0 ! !END!
995 ! X = 465.78040, 6938.02400, 33.9, 0.0 ! !END!
996 ! X = 465.98040, 6938.02400, 40.3, 0.0 ! !END!
997 ! X = 466.18040, 6938.02400, 49.7, 0.0 ! !END!
998 ! X = 466.38040, 6938.02400, 39.5, 0.0 ! !END!
999 ! X = 466.58040, 6938.02400, 14.1, 0.0 ! !END!
1000 ! X = 466.78040, 6938.02400, 32.0, 0.0 ! !END!
1001 ! X = 466.98040, 6938.02400, 33.4, 0.0 ! !END!
1002 ! X = 467.18040, 6938.02400, 32.1, 0.0 ! !END!
1003 ! X = 454.98040, 6937.82400, 58.6, 0.0 ! !END!
1004 ! X = 455.18040, 6937.82400, 54.8, 0.0 ! !END!
1005 ! X = 455.38040, 6937.82400, 51.0, 0.0 ! !END!
1006 ! X = 455.58040, 6937.82400, 47.0, 0.0 ! !END!
1007 ! X = 455.78040, 6937.82400, 45.2, 0.0 ! !END!
1008 ! X = 455.98040, 6937.82400, 46.7, 0.0 ! !END!
1009 ! X = 456.18040, 6937.82400, 49.0, 0.0 ! !END!
1010 ! X = 456.38040, 6937.82400, 48.6, 0.0 ! !END!
1011 ! X = 456.58040, 6937.82400, 46.9, 0.0 ! !END!
1012 ! X = 456.78040, 6937.82400, 44.2, 0.0 ! !END!
1013 ! X = 456.98040, 6937.82400, 44.1, 0.0 ! !END!
1014 ! X = 457.18040, 6937.82400, 44.0, 0.0 ! !END!
1015 ! X = 457.38040, 6937.82400, 43.8, 0.0 ! !END!
1016 ! X = 457.58040, 6937.82400, 43.0, 0.0 ! !END!
1017 ! X = 457.78040, 6937.82400, 44.8, 0.0 ! !END!
1018 ! X = 457.98040, 6937.82400, 51.0, 0.0 ! !END!
1019 ! X = 458.18040, 6937.82400, 53.2, 0.0 ! !END!
1020 ! X = 458.38040, 6937.82400, 51.4, 0.0 ! !END!
1021 ! X = 458.58040, 6937.82400, 48.8, 0.0 ! !END!
1022 ! X = 458.78040, 6937.82400, 43.9, 0.0 ! !END!
1023 ! X = 458.98040, 6937.82400, 45.6, 0.0 ! !END!
1024 ! X = 459.18040, 6937.82400, 44.0, 0.0 ! !END!
1025 ! X = 459.38040, 6937.82400, 52.9, 0.0 ! !END!
1026 ! X = 459.58040, 6937.82400, 60.5, 0.0 ! !END!
1027 ! X = 459.78040, 6937.82400, 65.8, 0.0 ! !END!
1028 ! X = 459.98040, 6937.82400, 68.9, 0.0 ! !END!
1029 ! X = 460.18040, 6937.82400, 88.2, 0.0 ! !END!
1030 ! X = 460.38040, 6937.82400, 86.4, 0.0 ! !END!
1031 ! X = 460.58040, 6937.82400, 72.5, 0.0 ! !END!
1032 ! X = 460.78040, 6937.82400, 66.9, 0.0 ! !END!
1033 ! X = 460.98040, 6937.82400, 57.4, 0.0 ! !END!
1034 ! X = 461.18040, 6937.82400, 57.2, 0.0 ! !END!

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1035 ! X =   461.38040,  6937.82400,    61.0,      0.0 !  !END!
1036 ! X =   461.58040,  6937.82400,    54.5,      0.0 !  !END!
1037 ! X =   461.78040,  6937.82400,    52.4,      0.0 !  !END!
1038 ! X =   461.98040,  6937.82400,    56.7,      0.0 !  !END!
1039 ! X =   462.18040,  6937.82400,    63.1,      0.0 !  !END!
1040 ! X =   462.38040,  6937.82400,    65.5,      0.0 !  !END!
1041 ! X =   462.58040,  6937.82400,    64.7,      0.0 !  !END!
1042 ! X =   462.78040,  6937.82400,    64.5,      0.0 !  !END!
1043 ! X =   462.98040,  6937.82400,    64.8,      0.0 !  !END!
1044 ! X =   463.18040,  6937.82400,    67.9,      0.0 !  !END!
1045 ! X =   463.38040,  6937.82400,    69.9,      0.0 !  !END!
1046 ! X =   463.58040,  6937.82400,    69.2,      0.0 !  !END!
1047 ! X =   463.78040,  6937.82400,    63.5,      0.0 !  !END!
1048 ! X =   463.98040,  6937.82400,    56.7,      0.0 !  !END!
1049 ! X =   464.18040,  6937.82400,    54.5,      0.0 !  !END!
1050 ! X =   464.38040,  6937.82400,    49.3,      0.0 !  !END!
1051 ! X =   464.58040,  6937.82400,    14.4,      0.0 !  !END!
1052 ! X =   464.78040,  6937.82400,    84.5,      0.0 !  !END!
1053 ! X =   464.98040,  6937.82400,    87.8,      0.0 !  !END!
1054 ! X =   465.18040,  6937.82400,    72.1,      0.0 !  !END!
1055 ! X =   465.38040,  6937.82400,    59.1,      0.0 !  !END!
1056 ! X =   465.58040,  6937.82400,    39.8,      0.0 !  !END!
1057 ! X =   465.78040,  6937.82400,    34.4,      0.0 !  !END!
1058 ! X =   465.98040,  6937.82400,    37.6,      0.0 !  !END!
1059 ! X =   466.18040,  6937.82400,    30.6,      0.0 !  !END!
1060 ! X =   466.38040,  6937.82400,    12.1,      0.0 !  !END!
1061 ! X =   466.58040,  6937.82400,    25.0,      0.0 !  !END!
1062 ! X =   466.78040,  6937.82400,    34.3,      0.0 !  !END!
1063 ! X =   466.98040,  6937.82400,    38.2,      0.0 !  !END!
1064 ! X =   467.18040,  6937.82400,    41.7,      0.0 !  !END!
1065 ! X =   467.38040,  6937.82400,    48.5,      0.0 !  !END!
1066 ! X =   467.58040,  6937.82400,    47.4,      0.0 !  !END!
1067 ! X =   467.78040,  6937.82400,    44.8,      0.0 !  !END!
1068 ! X =   467.98040,  6937.82400,    41.3,      0.0 !  !END!
1069 ! X =   468.18040,  6937.82400,    36.6,      0.0 !  !END!
1070 ! X =   455.18040,  6937.62400,    55.7,      0.0 !  !END!
1071 ! X =   455.38040,  6937.62400,    51.8,      0.0 !  !END!
1072 ! X =   455.58040,  6937.62400,    48.4,      0.0 !  !END!
1073 ! X =   455.78040,  6937.62400,    47.7,      0.0 !  !END!
1074 ! X =   455.98040,  6937.62400,    47.4,      0.0 !  !END!
1075 ! X =   456.18040,  6937.62400,    48.4,      0.0 !  !END!
1076 ! X =   456.38040,  6937.62400,    48.1,      0.0 !  !END!
1077 ! X =   456.58040,  6937.62400,    46.9,      0.0 !  !END!
1078 ! X =   456.78040,  6937.62400,    44.4,      0.0 !  !END!
1079 ! X =   456.98040,  6937.62400,    44.7,      0.0 !  !END!
1080 ! X =   457.18040,  6937.62400,    44.4,      0.0 !  !END!
1081 ! X =   457.38040,  6937.62400,    44.2,      0.0 !  !END!
1082 ! X =   457.58040,  6937.62400,    42.8,      0.0 !  !END!
1083 ! X =   457.78040,  6937.62400,    51.3,      0.0 !  !END!
1084 ! X =   457.98040,  6937.62400,    54.9,      0.0 !  !END!
1085 ! X =   458.18040,  6937.62400,    53.1,      0.0 !  !END!
1086 ! X =   458.38040,  6937.62400,    48.9,      0.0 !  !END!
1087 ! X =   458.58040,  6937.62400,    43.9,      0.0 !  !END!
1088 ! X =   458.78040,  6937.62400,    44.9,      0.0 !  !END!
1089 ! X =   458.98040,  6937.62400,    45.3,      0.0 !  !END!
1090 ! X =   459.18040,  6937.62400,    44.1,      0.0 !  !END!
1091 ! X =   459.38040,  6937.62400,    49.0,      0.0 !  !END!
1092 ! X =   459.58040,  6937.62400,    60.5,      0.0 !  !END!
1093 ! X =   459.78040,  6937.62400,    68.3,      0.0 !  !END!
1094 ! X =   459.98040,  6937.62400,    74.7,      0.0 !  !END!
1095 ! X =   460.18040,  6937.62400,    79.7,      0.0 !  !END!
1096 ! X =   460.38040,  6937.62400,    84.6,      0.0 !  !END!
1097 ! X =   460.58040,  6937.62400,    72.9,      0.0 !  !END!
1098 ! X =   460.78040,  6937.62400,    66.2,      0.0 !  !END!
1099 ! X =   460.98040,  6937.62400,    58.6,      0.0 !  !END!
1100 ! X =   461.18040,  6937.62400,    59.0,      0.0 !  !END!
1101 ! X =   461.38040,  6937.62400,    64.2,      0.0 !  !END!
1102 ! X =   461.58040,  6937.62400,    59.6,      0.0 !  !END!
1103 ! X =   461.78040,  6937.62400,    56.8,      0.0 !  !END!
1104 ! X =   461.98040,  6937.62400,    57.7,      0.0 !  !END!
1105 ! X =   462.18040,  6937.62400,    64.3,      0.0 !  !END!
```

```
1106 ! X =   462.38040,  6937.62400,    73.0,      0.0 !  !END!
1107 ! X =   462.58040,  6937.62400,    69.2,      0.0 !  !END!
1108 ! X =   462.78040,  6937.62400,    71.9,      0.0 !  !END!
1109 ! X =   462.98040,  6937.62400,    69.6,      0.0 !  !END!
1110 ! X =   463.18040,  6937.62400,    71.9,      0.0 !  !END!
1111 ! X =   463.38040,  6937.62400,    68.9,      0.0 !  !END!
1112 ! X =   463.58040,  6937.62400,    64.1,      0.0 !  !END!
1113 ! X =   463.78040,  6937.62400,    59.6,      0.0 !  !END!
1114 ! X =   463.98040,  6937.62400,    53.5,      0.0 !  !END!
1115 ! X =   464.18040,  6937.62400,    50.3,      0.0 !  !END!
1116 ! X =   464.38040,  6937.62400,    48.3,      0.0 !  !END!
1117 ! X =   464.58040,  6937.62400,    28.1,      0.0 !  !END!
1118 ! X =   464.78040,  6937.62400,    85.6,      0.0 !  !END!
1119 ! X =   464.98040,  6937.62400,    86.1,      0.0 !  !END!
1120 ! X =   465.18040,  6937.62400,    71.4,      0.0 !  !END!
1121 ! X =   465.38040,  6937.62400,    54.8,      0.0 !  !END!
1122 ! X =   465.58040,  6937.62400,    37.3,      0.0 !  !END!
1123 ! X =   465.78040,  6937.62400,    37.6,      0.0 !  !END!
1124 ! X =   465.98040,  6937.62400,    41.2,      0.0 !  !END!
1125 ! X =   466.18040,  6937.62400,    29.2,      0.0 !  !END!
1126 ! X =   466.38040,  6937.62400,   -14.1,      0.0 !  !END!
1127 ! X =   466.58040,  6937.62400,    11.4,      0.0 !  !END!
1128 ! X =   466.78040,  6937.62400,    37.9,      0.0 !  !END!
1129 ! X =   466.98040,  6937.62400,    41.5,      0.0 !  !END!
1130 ! X =   467.18040,  6937.62400,    46.2,      0.0 !  !END!
1131 ! X =   467.38040,  6937.62400,    50.7,      0.0 !  !END!
1132 ! X =   467.58040,  6937.62400,    53.0,      0.0 !  !END!
1133 ! X =   467.78040,  6937.62400,    48.6,      0.0 !  !END!
1134 ! X =   467.98040,  6937.62400,    48.0,      0.0 !  !END!
1135 ! X =   468.18040,  6937.62400,    46.2,      0.0 !  !END!
1136 ! X =   468.38040,  6937.62400,    44.1,      0.0 !  !END!
1137 ! X =   468.58040,  6937.62400,    42.8,      0.0 !  !END!
1138 ! X =   468.78040,  6937.62400,    41.0,      0.0 !  !END!
1139 ! X =   455.58040,  6937.42400,    51.3,      0.0 !  !END!
1140 ! X =   455.78040,  6937.42400,    47.5,      0.0 !  !END!
1141 ! X =   455.98040,  6937.42400,    48.3,      0.0 !  !END!
1142 ! X =   456.18040,  6937.42400,    48.6,      0.0 !  !END!
1143 ! X =   456.38040,  6937.42400,    48.1,      0.0 !  !END!
1144 ! X =   456.58040,  6937.42400,    47.6,      0.0 !  !END!
1145 ! X =   456.78040,  6937.42400,    45.7,      0.0 !  !END!
1146 ! X =   456.98040,  6937.42400,    45.3,      0.0 !  !END!
1147 ! X =   457.18040,  6937.42400,    44.9,      0.0 !  !END!
1148 ! X =   457.38040,  6937.42400,    45.9,      0.0 !  !END!
1149 ! X =   457.58040,  6937.42400,    44.0,      0.0 !  !END!
1150 ! X =   457.78040,  6937.42400,    55.1,      0.0 !  !END!
1151 ! X =   457.98040,  6937.42400,    59.7,      0.0 !  !END!
1152 ! X =   458.18040,  6937.42400,    54.6,      0.0 !  !END!
1153 ! X =   458.38040,  6937.42400,    48.0,      0.0 !  !END!
1154 ! X =   458.58040,  6937.42400,    44.3,      0.0 !  !END!
1155 ! X =   458.78040,  6937.42400,    43.4,      0.0 !  !END!
1156 ! X =   458.98040,  6937.42400,    57.8,      0.0 !  !END!
1157 ! X =   459.18040,  6937.42400,    44.6,      0.0 !  !END!
1158 ! X =   459.38040,  6937.42400,    47.7,      0.0 !  !END!
1159 ! X =   459.58040,  6937.42400,    54.9,      0.0 !  !END!
1160 ! X =   459.78040,  6937.42400,    62.1,      0.0 !  !END!
1161 ! X =   459.98040,  6937.42400,    61.3,      0.0 !  !END!
1162 ! X =   460.18040,  6937.42400,    69.2,      0.0 !  !END!
1163 ! X =   460.38040,  6937.42400,    70.5,      0.0 !  !END!
1164 ! X =   460.58040,  6937.42400,    73.5,      0.0 !  !END!
1165 ! X =   460.78040,  6937.42400,    68.2,      0.0 !  !END!
1166 ! X =   460.98040,  6937.42400,    69.4,      0.0 !  !END!
1167 ! X =   461.18040,  6937.42400,    68.9,      0.0 !  !END!
1168 ! X =   461.38040,  6937.42400,    71.8,      0.0 !  !END!
1169 ! X =   461.58040,  6937.42400,    74.8,      0.0 !  !END!
1170 ! X =   461.78040,  6937.42400,    69.8,      0.0 !  !END!
1171 ! X =   461.98040,  6937.42400,    61.6,      0.0 !  !END!
1172 ! X =   462.18040,  6937.42400,    72.5,      0.0 !  !END!
1173 ! X =   462.38040,  6937.42400,    80.5,      0.0 !  !END!
1174 ! X =   462.58040,  6937.42400,    81.7,      0.0 !  !END!
1175 ! X =   462.78040,  6937.42400,    76.6,      0.0 !  !END!
1176 ! X =   462.98040,  6937.42400,    73.8,      0.0 !  !END!
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1177 ! X = 463.18040, 6937.42400, 69.7, 0.0 ! !END!
1178 ! X = 463.38040, 6937.42400, 72.1, 0.0 ! !END!
1179 ! X = 463.58040, 6937.42400, 65.7, 0.0 ! !END!
1180 ! X = 463.78040, 6937.42400, 59.6, 0.0 ! !END!
1181 ! X = 463.98040, 6937.42400, 58.9, 0.0 ! !END!
1182 ! X = 464.18040, 6937.42400, 54.5, 0.0 ! !END!
1183 ! X = 464.38040, 6937.42400, 49.7, 0.0 ! !END!
1184 ! X = 464.58040, 6937.42400, 44.5, 0.0 ! !END!
1185 ! X = 464.78040, 6937.42400, 56.1, 0.0 ! !END!
1186 ! X = 464.98040, 6937.42400, 60.5, 0.0 ! !END!
1187 ! X = 465.18040, 6937.42400, 59.6, 0.0 ! !END!
1188 ! X = 465.38040, 6937.42400, 46.9, 0.0 ! !END!
1189 ! X = 465.58040, 6937.42400, 39.1, 0.0 ! !END!
1190 ! X = 465.78040, 6937.42400, 37.2, 0.0 ! !END!
1191 ! X = 465.98040, 6937.42400, 38.3, 0.0 ! !END!
1192 ! X = 466.18040, 6937.42400, 11.9, 0.0 ! !END!
1193 ! X = 466.38040, 6937.42400, -4.9, 0.0 ! !END!
1194 ! X = 466.58040, 6937.42400, 33.0, 0.0 ! !END!
1195 ! X = 466.78040, 6937.42400, 39.3, 0.0 ! !END!
1196 ! X = 466.98040, 6937.42400, 44.9, 0.0 ! !END!
1197 ! X = 467.18040, 6937.42400, 54.4, 0.0 ! !END!
1198 ! X = 467.38040, 6937.42400, 56.7, 0.0 ! !END!
1199 ! X = 467.58040, 6937.42400, 56.3, 0.0 ! !END!
1200 ! X = 467.78040, 6937.42400, 52.6, 0.0 ! !END!
1201 ! X = 467.98040, 6937.42400, 47.2, 0.0 ! !END!
1202 ! X = 468.18040, 6937.42400, 40.2, 0.0 ! !END!
1203 ! X = 468.38040, 6937.42400, 39.7, 0.0 ! !END!
1204 ! X = 468.58040, 6937.42400, 40.2, 0.0 ! !END!
1205 ! X = 468.78040, 6937.42400, 39.1, 0.0 ! !END!
1206 ! X = 468.98040, 6937.42400, 35.6, 0.0 ! !END!
1207 ! X = 469.18040, 6937.42400, 34.5, 0.0 ! !END!
1208 ! X = 455.78040, 6937.22400, 47.8, 0.0 ! !END!
1209 ! X = 455.98040, 6937.22400, 48.9, 0.0 ! !END!
1210 ! X = 456.18040, 6937.22400, 48.9, 0.0 ! !END!
1211 ! X = 456.38040, 6937.22400, 47.6, 0.0 ! !END!
1212 ! X = 456.58040, 6937.22400, 47.0, 0.0 ! !END!
1213 ! X = 456.78040, 6937.22400, 46.6, 0.0 ! !END!
1214 ! X = 456.98040, 6937.22400, 45.8, 0.0 ! !END!
1215 ! X = 457.18040, 6937.22400, 44.9, 0.0 ! !END!
1216 ! X = 457.38040, 6937.22400, 45.1, 0.0 ! !END!
1217 ! X = 457.58040, 6937.22400, 47.4, 0.0 ! !END!
1218 ! X = 457.78040, 6937.22400, 53.5, 0.0 ! !END!
1219 ! X = 457.98040, 6937.22400, 60.1, 0.0 ! !END!
1220 ! X = 458.18040, 6937.22400, 59.1, 0.0 ! !END!
1221 ! X = 458.38040, 6937.22400, 49.4, 0.0 ! !END!
1222 ! X = 458.58040, 6937.22400, 46.4, 0.0 ! !END!
1223 ! X = 458.78040, 6937.22400, 45.6, 0.0 ! !END!
1224 ! X = 458.98040, 6937.22400, 44.2, 0.0 ! !END!
1225 ! X = 459.18040, 6937.22400, 44.6, 0.0 ! !END!
1226 ! X = 459.38040, 6937.22400, 44.8, 0.0 ! !END!
1227 ! X = 459.58040, 6937.22400, 48.0, 0.0 ! !END!
1228 ! X = 459.78040, 6937.22400, 51.8, 0.0 ! !END!
1229 ! X = 459.98040, 6937.22400, 55.8, 0.0 ! !END!
1230 ! X = 460.18040, 6937.22400, 64.3, 0.0 ! !END!
1231 ! X = 460.38040, 6937.22400, 65.7, 0.0 ! !END!
1232 ! X = 460.58040, 6937.22400, 69.8, 0.0 ! !END!
1233 ! X = 460.78040, 6937.22400, 70.7, 0.0 ! !END!
1234 ! X = 460.98040, 6937.22400, 76.3, 0.0 ! !END!
1235 ! X = 461.18040, 6937.22400, 74.7, 0.0 ! !END!
1236 ! X = 461.38040, 6937.22400, 78.6, 0.0 ! !END!
1237 ! X = 461.58040, 6937.22400, 79.5, 0.0 ! !END!
1238 ! X = 461.78040, 6937.22400, 74.0, 0.0 ! !END!
1239 ! X = 461.98040, 6937.22400, 71.9, 0.0 ! !END!
1240 ! X = 462.18040, 6937.22400, 76.9, 0.0 ! !END!
1241 ! X = 462.38040, 6937.22400, 75.3, 0.0 ! !END!
1242 ! X = 462.58040, 6937.22400, 76.2, 0.0 ! !END!
1243 ! X = 462.78040, 6937.22400, 71.4, 0.0 ! !END!
1244 ! X = 462.98040, 6937.22400, 70.9, 0.0 ! !END!
1245 ! X = 463.18040, 6937.22400, 67.3, 0.0 ! !END!
1246 ! X = 463.38040, 6937.22400, 74.3, 0.0 ! !END!
1247 ! X = 463.58040, 6937.22400, 72.4, 0.0 ! !END!

1248 ! X = 463.78040, 6937.22400, 72.0, 0.0 ! !END!
1249 ! X = 463.98040, 6937.22400, 73.6, 0.0 ! !END!
1250 ! X = 464.18040, 6937.22400, 72.6, 0.0 ! !END!
1251 ! X = 464.38040, 6937.22400, 60.9, 0.0 ! !END!
1252 ! X = 464.58040, 6937.22400, 47.6, 0.0 ! !END!
1253 ! X = 464.78040, 6937.22400, 50.6, 0.0 ! !END!
1254 ! X = 464.98040, 6937.22400, 53.5, 0.0 ! !END!
1255 ! X = 465.18040, 6937.22400, 48.4, 0.0 ! !END!
1256 ! X = 465.38040, 6937.22400, 41.2, 0.0 ! !END!
1257 ! X = 465.58040, 6937.22400, 38.6, 0.0 ! !END!
1258 ! X = 465.78040, 6937.22400, 36.6, 0.0 ! !END!
1259 ! X = 465.98040, 6937.22400, 37.8, 0.0 ! !END!
1260 ! X = 466.18040, 6937.22400, 35.2, 0.0 ! !END!
1261 ! X = 466.38040, 6937.22400, 25.1, 0.0 ! !END!
1262 ! X = 466.58040, 6937.22400, 36.8, 0.0 ! !END!
1263 ! X = 466.78040, 6937.22400, 42.0, 0.0 ! !END!
1264 ! X = 466.98040, 6937.22400, 52.0, 0.0 ! !END!
1265 ! X = 467.18040, 6937.22400, 60.3, 0.0 ! !END!
1266 ! X = 467.38040, 6937.22400, 57.4, 0.0 ! !END!
1267 ! X = 467.58040, 6937.22400, 52.0, 0.0 ! !END!
1268 ! X = 467.78040, 6937.22400, 44.1, 0.0 ! !END!
1269 ! X = 467.98040, 6937.22400, 38.7, 0.0 ! !END!
1270 ! X = 468.18040, 6937.22400, 32.8, 0.0 ! !END!
1271 ! X = 468.38040, 6937.22400, 33.1, 0.0 ! !END!
1272 ! X = 468.58040, 6937.22400, 34.2, 0.0 ! !END!
1273 ! X = 468.78040, 6937.22400, 34.9, 0.0 ! !END!
1274 ! X = 468.98040, 6937.22400, 32.4, 0.0 ! !END!
1275 ! X = 469.18040, 6937.22400, 32.7, 0.0 ! !END!
1276 ! X = 469.38040, 6937.22400, 31.9, 0.0 ! !END!
1277 ! X = 469.58040, 6937.22400, 30.4, 0.0 ! !END!
1278 ! X = 455.98040, 6937.02400, 49.4, 0.0 ! !END!
1279 ! X = 456.18040, 6937.02400, 48.5, 0.0 ! !END!
1280 ! X = 456.38040, 6937.02400, 47.2, 0.0 ! !END!
1281 ! X = 456.58040, 6937.02400, 46.9, 0.0 ! !END!
1282 ! X = 456.78040, 6937.02400, 46.4, 0.0 ! !END!
1283 ! X = 456.98040, 6937.02400, 45.9, 0.0 ! !END!
1284 ! X = 457.18040, 6937.02400, 44.9, 0.0 ! !END!
1285 ! X = 457.38040, 6937.02400, 47.9, 0.0 ! !END!
1286 ! X = 457.58040, 6937.02400, 55.5, 0.0 ! !END!
1287 ! X = 457.78040, 6937.02400, 54.0, 0.0 ! !END!
1288 ! X = 457.98040, 6937.02400, 60.3, 0.0 ! !END!
1289 ! X = 458.18040, 6937.02400, 60.1, 0.0 ! !END!
1290 ! X = 458.38040, 6937.02400, 52.7, 0.0 ! !END!
1291 ! X = 458.58040, 6937.02400, 50.0, 0.0 ! !END!
1292 ! X = 458.78040, 6937.02400, 45.5, 0.0 ! !END!
1293 ! X = 458.98040, 6937.02400, 45.5, 0.0 ! !END!
1294 ! X = 459.18040, 6937.02400, 45.6, 0.0 ! !END!
1295 ! X = 459.38040, 6937.02400, 47.4, 0.0 ! !END!
1296 ! X = 459.58040, 6937.02400, 53.3, 0.0 ! !END!
1297 ! X = 459.78040, 6937.02400, 57.3, 0.0 ! !END!
1298 ! X = 459.98040, 6937.02400, 60.7, 0.0 ! !END!
1299 ! X = 460.18040, 6937.02400, 65.0, 0.0 ! !END!
1300 ! X = 460.38040, 6937.02400, 72.2, 0.0 ! !END!
1301 ! X = 460.58040, 6937.02400, 77.1, 0.0 ! !END!
1302 ! X = 460.78040, 6937.02400, 80.9, 0.0 ! !END!
1303 ! X = 460.98040, 6937.02400, 81.7, 0.0 ! !END!
1304 ! X = 461.18040, 6937.02400, 81.6, 0.0 ! !END!
1305 ! X = 461.38040, 6937.02400, 69.0, 0.0 ! !END!
1306 ! X = 461.58040, 6937.02400, 75.8, 0.0 ! !END!
1307 ! X = 461.78040, 6937.02400, 80.9, 0.0 ! !END!
1308 ! X = 461.98040, 6937.02400, 77.1, 0.0 ! !END!
1309 ! X = 462.18040, 6937.02400, 69.7, 0.0 ! !END!
1310 ! X = 462.38040, 6937.02400, 64.9, 0.0 ! !END!
1311 ! X = 462.58040, 6937.02400, 65.3, 0.0 ! !END!
1312 ! X = 462.78040, 6937.02400, 65.5, 0.0 ! !END!
1313 ! X = 462.98040, 6937.02400, 66.1, 0.0 ! !END!
1314 ! X = 463.18040, 6937.02400, 64.0, 0.0 ! !END!
1315 ! X = 463.38040, 6937.02400, 68.6, 0.0 ! !END!
1316 ! X = 463.58040, 6937.02400, 73.1, 0.0 ! !END!
1317 ! X = 463.78040, 6937.02400, 71.2, 0.0 ! !END!
1318 ! X = 463.98040, 6937.02400, 76.9, 0.0 ! !END!

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1319 ! X =   464.18040,  6937.02400,    74.5,      0.0 !  !END!
1320 ! X =   464.38040,  6937.02400,    72.6,      0.0 !  !END!
1321 ! X =   464.58040,  6937.02400,    53.8,      0.0 !  !END!
1322 ! X =   464.78040,  6937.02400,    43.8,      0.0 !  !END!
1323 ! X =   464.98040,  6937.02400,    40.2,      0.0 !  !END!
1324 ! X =   465.18040,  6937.02400,    39.4,      0.0 !  !END!
1325 ! X =   465.38040,  6937.02400,    39.0,      0.0 !  !END!
1326 ! X =   465.58040,  6937.02400,    38.8,      0.0 !  !END!
1327 ! X =   465.78040,  6937.02400,    37.2,      0.0 !  !END!
1328 ! X =   465.98040,  6937.02400,    39.0,      0.0 !  !END!
1329 ! X =   466.18040,  6937.02400,    40.2,      0.0 !  !END!
1330 ! X =   466.38040,  6937.02400,    40.2,      0.0 !  !END!
1331 ! X =   466.58040,  6937.02400,    43.1,      0.0 !  !END!
1332 ! X =   466.78040,  6937.02400,    46.4,      0.0 !  !END!
1333 ! X =   466.98040,  6937.02400,    51.9,      0.0 !  !END!
1334 ! X =   467.18040,  6937.02400,    57.3,      0.0 !  !END!
1335 ! X =   467.38040,  6937.02400,    57.7,      0.0 !  !END!
1336 ! X =   467.58040,  6937.02400,    48.2,      0.0 !  !END!
1337 ! X =   467.78040,  6937.02400,    41.0,      0.0 !  !END!
1338 ! X =   467.98040,  6937.02400,    35.4,      0.0 !  !END!
1339 ! X =   468.18040,  6937.02400,    31.9,      0.0 !  !END!
1340 ! X =   468.38040,  6937.02400,    32.1,      0.0 !  !END!
1341 ! X =   468.58040,  6937.02400,    31.2,      0.0 !  !END!
1342 ! X =   468.78040,  6937.02400,    31.3,      0.0 !  !END!
1343 ! X =   468.98040,  6937.02400,    28.9,      0.0 !  !END!
1344 ! X =   469.18040,  6937.02400,    30.0,      0.0 !  !END!
1345 ! X =   469.38040,  6937.02400,    31.2,      0.0 !  !END!
1346 ! X =   469.58040,  6937.02400,    31.1,      0.0 !  !END!
1347 ! X =   469.78040,  6937.02400,    30.7,      0.0 !  !END!
1348 ! X =   456.38040,  6936.82400,    47.3,      0.0 !  !END!
1349 ! X =   456.58040,  6936.82400,    46.6,      0.0 !  !END!
1350 ! X =   456.78040,  6936.82400,    46.4,      0.0 !  !END!
1351 ! X =   456.98040,  6936.82400,    46.1,      0.0 !  !END!
1352 ! X =   457.18040,  6936.82400,    44.9,      0.0 !  !END!
1353 ! X =   457.38040,  6936.82400,    50.8,      0.0 !  !END!
1354 ! X =   457.58040,  6936.82400,    60.1,      0.0 !  !END!
1355 ! X =   457.78040,  6936.82400,    59.5,      0.0 !  !END!
1356 ! X =   457.98040,  6936.82400,    63.2,      0.0 !  !END!
1357 ! X =   458.18040,  6936.82400,    62.4,      0.0 !  !END!
1358 ! X =   458.38040,  6936.82400,    55.6,      0.0 !  !END!
1359 ! X =   458.58040,  6936.82400,    50.9,      0.0 !  !END!
1360 ! X =   458.78040,  6936.82400,    47.3,      0.0 !  !END!
1361 ! X =   458.98040,  6936.82400,    46.8,      0.0 !  !END!
1362 ! X =   459.18040,  6936.82400,    45.5,      0.0 !  !END!
1363 ! X =   459.38040,  6936.82400,    48.8,      0.0 !  !END!
1364 ! X =   459.58040,  6936.82400,    58.3,      0.0 !  !END!
1365 ! X =   459.78040,  6936.82400,    61.6,      0.0 !  !END!
1366 ! X =   459.98040,  6936.82400,    63.4,      0.0 !  !END!
1367 ! X =   460.18040,  6936.82400,    66.5,      0.0 !  !END!
1368 ! X =   460.38040,  6936.82400,    74.5,      0.0 !  !END!
1369 ! X =   460.58040,  6936.82400,    82.7,      0.0 !  !END!
1370 ! X =   460.78040,  6936.82400,    88.2,      0.0 !  !END!
1371 ! X =   460.98040,  6936.82400,    92.2,      0.0 !  !END!
1372 ! X =   461.18040,  6936.82400,    93.4,      0.0 !  !END!
1373 ! X =   461.38040,  6936.82400,    87.6,      0.0 !  !END!
1374 ! X =   461.58040,  6936.82400,    84.7,      0.0 !  !END!
1375 ! X =   461.78040,  6936.82400,    82.0,      0.0 !  !END!
1376 ! X =   461.98040,  6936.82400,    75.8,      0.0 !  !END!
1377 ! X =   462.18040,  6936.82400,    76.1,      0.0 !  !END!
1378 ! X =   462.38040,  6936.82400,    67.6,      0.0 !  !END!
1379 ! X =   462.58040,  6936.82400,    60.6,      0.0 !  !END!
1380 ! X =   462.78040,  6936.82400,    64.5,      0.0 !  !END!
1381 ! X =   462.98040,  6936.82400,    59.5,      0.0 !  !END!
1382 ! X =   463.18040,  6936.82400,    58.3,      0.0 !  !END!
1383 ! X =   463.38040,  6936.82400,    69.1,      0.0 !  !END!
1384 ! X =   463.58040,  6936.82400,    71.6,      0.0 !  !END!
1385 ! X =   463.78040,  6936.82400,    68.0,      0.0 !  !END!
1386 ! X =   463.98040,  6936.82400,    73.4,      0.0 !  !END!
1387 ! X =   464.18040,  6936.82400,    72.7,      0.0 !  !END!
1388 ! X =   464.38040,  6936.82400,    70.5,      0.0 !  !END!
1389 ! X =   464.58040,  6936.82400,    61.9,      0.0 !  !END!
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1390 ! X = 464.78040, 6936.82400, 43.1, 0.0 ! !END!
1391 ! X = 464.98040, 6936.82400, 40.9, 0.0 ! !END!
1392 ! X = 465.18040, 6936.82400, 39.2, 0.0 ! !END!
1393 ! X = 465.38040, 6936.82400, 38.9, 0.0 ! !END!
1394 ! X = 465.58040, 6936.82400, 38.5, 0.0 ! !END!
1395 ! X = 465.78040, 6936.82400, 36.5, 0.0 ! !END!
1396 ! X = 465.98040, 6936.82400, 39.0, 0.0 ! !END!
1397 ! X = 466.18040, 6936.82400, 42.5, 0.0 ! !END!
1398 ! X = 466.38040, 6936.82400, 42.2, 0.0 ! !END!
1399 ! X = 466.58040, 6936.82400, 46.8, 0.0 ! !END!
1400 ! X = 466.78040, 6936.82400, 47.9, 0.0 ! !END!
1401 ! X = 466.98040, 6936.82400, 52.3, 0.0 ! !END!
1402 ! X = 467.18040, 6936.82400, 55.9, 0.0 ! !END!
1403 ! X = 467.38040, 6936.82400, 55.8, 0.0 ! !END!
1404 ! X = 467.58040, 6936.82400, 47.6, 0.0 ! !END!
1405 ! X = 467.78040, 6936.82400, 40.1, 0.0 ! !END!
1406 ! X = 467.98040, 6936.82400, 34.8, 0.0 ! !END!
1407 ! X = 468.18040, 6936.82400, 31.7, 0.0 ! !END!
1408 ! X = 468.38040, 6936.82400, 31.4, 0.0 ! !END!
1409 ! X = 468.58040, 6936.82400, 30.6, 0.0 ! !END!
1410 ! X = 468.78040, 6936.82400, 29.9, 0.0 ! !END!
1411 ! X = 468.98040, 6936.82400, 29.9, 0.0 ! !END!
1412 ! X = 469.18040, 6936.82400, 30.2, 0.0 ! !END!
1413 ! X = 469.38040, 6936.82400, 31.3, 0.0 ! !END!
1414 ! X = 469.58040, 6936.82400, 30.7, 0.0 ! !END!
1415 ! X = 469.78040, 6936.82400, 30.8, 0.0 ! !END!
1416 ! X = 469.98040, 6936.82400, 30.2, 0.0 ! !END!
1417 ! X = 470.18040, 6936.82400, 29.3, 0.0 ! !END!
1418 ! X = 456.58040, 6936.62400, 47.8, 0.0 ! !END!
1419 ! X = 456.78040, 6936.62400, 46.3, 0.0 ! !END!
1420 ! X = 456.98040, 6936.62400, 45.7, 0.0 ! !END!
1421 ! X = 457.18040, 6936.62400, 45.0, 0.0 ! !END!
1422 ! X = 457.38040, 6936.62400, 48.3, 0.0 ! !END!
1423 ! X = 457.58040, 6936.62400, 61.1, 0.0 ! !END!
1424 ! X = 457.78040, 6936.62400, 67.6, 0.0 ! !END!
1425 ! X = 457.98040, 6936.62400, 69.1, 0.0 ! !END!
1426 ! X = 458.18040, 6936.62400, 64.8, 0.0 ! !END!
1427 ! X = 458.38040, 6936.62400, 58.8, 0.0 ! !END!
1428 ! X = 458.58040, 6936.62400, 52.0, 0.0 ! !END!
1429 ! X = 458.78040, 6936.62400, 48.9, 0.0 ! !END!
1430 ! X = 458.98040, 6936.62400, 50.9, 0.0 ! !END!
1431 ! X = 459.18040, 6936.62400, 48.4, 0.0 ! !END!
1432 ! X = 459.38040, 6936.62400, 51.4, 0.0 ! !END!
1433 ! X = 459.58040, 6936.62400, 56.0, 0.0 ! !END!
1434 ! X = 459.78040, 6936.62400, 58.4, 0.0 ! !END!
1435 ! X = 459.98040, 6936.62400, 62.2, 0.0 ! !END!
1436 ! X = 460.18040, 6936.62400, 70.7, 0.0 ! !END!
1437 ! X = 460.38040, 6936.62400, 75.5, 0.0 ! !END!
1438 ! X = 460.58040, 6936.62400, 80.0, 0.0 ! !END!
1439 ! X = 460.78040, 6936.62400, 87.0, 0.0 ! !END!
1440 ! X = 460.98040, 6936.62400, 95.4, 0.0 ! !END!
1441 ! X = 461.18040, 6936.62400, 90.9, 0.0 ! !END!
1442 ! X = 461.38040, 6936.62400, 82.0, 0.0 ! !END!
1443 ! X = 461.58040, 6936.62400, 78.4, 0.0 ! !END!
1444 ! X = 461.78040, 6936.62400, 76.7, 0.0 ! !END!
1445 ! X = 461.98040, 6936.62400, 75.3, 0.0 ! !END!
1446 ! X = 462.18040, 6936.62400, 73.5, 0.0 ! !END!
1447 ! X = 462.38040, 6936.62400, 67.8, 0.0 ! !END!
1448 ! X = 462.58040, 6936.62400, 66.0, 0.0 ! !END!
1449 ! X = 462.78040, 6936.62400, 59.3, 0.0 ! !END!
1450 ! X = 462.98040, 6936.62400, 56.6, 0.0 ! !END!
1451 ! X = 463.18040, 6936.62400, 56.0, 0.0 ! !END!
1452 ! X = 463.38040, 6936.62400, 58.7, 0.0 ! !END!
1453 ! X = 463.58040, 6936.62400, 64.2, 0.0 ! !END!
1454 ! X = 463.78040, 6936.62400, 58.3, 0.0 ! !END!
1455 ! X = 463.98040, 6936.62400, 59.2, 0.0 ! !END!
1456 ! X = 464.18040, 6936.62400, 56.8, 0.0 ! !END!
1457 ! X = 464.38040, 6936.62400, 49.3, 0.0 ! !END!
1458 ! X = 464.58040, 6936.62400, 45.7, 0.0 ! !END!
1459 ! X = 464.78040, 6936.62400, 41.1, 0.0 ! !END!
1460 ! X = 464.98040, 6936.62400, 42.4, 0.0 ! !END!

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1461 ! X =   465.18040,  6936.62400,    40.7,      0.0 !  !END!
1462 ! X =   465.38040,  6936.62400,    39.9,      0.0 !  !END!
1463 ! X =   465.58040,  6936.62400,    39.5,      0.0 !  !END!
1464 ! X =   465.78040,  6936.62400,    37.1,      0.0 !  !END!
1465 ! X =   465.98040,  6936.62400,    42.4,      0.0 !  !END!
1466 ! X =   466.18040,  6936.62400,    41.6,      0.0 !  !END!
1467 ! X =   466.38040,  6936.62400,    44.2,      0.0 !  !END!
1468 ! X =   466.58040,  6936.62400,    47.9,      0.0 !  !END!
1469 ! X =   466.78040,  6936.62400,    52.6,      0.0 !  !END!
1470 ! X =   466.98040,  6936.62400,    55.1,      0.0 !  !END!
1471 ! X =   467.18040,  6936.62400,    55.4,      0.0 !  !END!
1472 ! X =   467.38040,  6936.62400,    53.6,      0.0 !  !END!
1473 ! X =   467.58040,  6936.62400,    47.3,      0.0 !  !END!
1474 ! X =   467.78040,  6936.62400,    39.7,      0.0 !  !END!
1475 ! X =   467.98040,  6936.62400,    35.4,      0.0 !  !END!
1476 ! X =   468.18040,  6936.62400,    29.8,      0.0 !  !END!
1477 ! X =   468.38040,  6936.62400,    29.5,      0.0 !  !END!
1478 ! X =   468.58040,  6936.62400,    30.8,      0.0 !  !END!
1479 ! X =   468.78040,  6936.62400,    31.4,      0.0 !  !END!
1480 ! X =   468.98040,  6936.62400,    30.7,      0.0 !  !END!
1481 ! X =   469.18040,  6936.62400,    30.9,      0.0 !  !END!
1482 ! X =   469.38040,  6936.62400,    32.0,      0.0 !  !END!
1483 ! X =   469.58040,  6936.62400,    27.6,      0.0 !  !END!
1484 ! X =   469.78040,  6936.62400,    30.5,      0.0 !  !END!
1485 ! X =   469.98040,  6936.62400,    31.6,      0.0 !  !END!
1486 ! X =   470.18040,  6936.62400,    32.2,      0.0 !  !END!
1487 ! X =   470.38040,  6936.62400,    35.4,      0.0 !  !END!
1488 ! X =   456.78040,  6936.42400,    45.4,      0.0 !  !END!
1489 ! X =   456.98040,  6936.42400,    45.3,      0.0 !  !END!
1490 ! X =   457.18040,  6936.42400,    43.7,      0.0 !  !END!
1491 ! X =   457.38040,  6936.42400,    43.6,      0.0 !  !END!
1492 ! X =   457.58040,  6936.42400,    54.8,      0.0 !  !END!
1493 ! X =   457.78040,  6936.42400,    65.9,      0.0 !  !END!
1494 ! X =   457.98040,  6936.42400,    69.4,      0.0 !  !END!
1495 ! X =   458.18040,  6936.42400,    65.8,      0.0 !  !END!
1496 ! X =   458.38040,  6936.42400,    58.1,      0.0 !  !END!
1497 ! X =   458.58040,  6936.42400,    53.0,      0.0 !  !END!
1498 ! X =   458.78040,  6936.42400,    50.5,      0.0 !  !END!
1499 ! X =   458.98040,  6936.42400,    51.4,      0.0 !  !END!
1500 ! X =   459.18040,  6936.42400,    49.2,      0.0 !  !END!
1501 ! X =   459.38040,  6936.42400,    51.5,      0.0 !  !END!
1502 ! X =   459.58040,  6936.42400,    54.6,      0.0 !  !END!
1503 ! X =   459.78040,  6936.42400,    63.0,      0.0 !  !END!
1504 ! X =   459.98040,  6936.42400,    76.6,      0.0 !  !END!
1505 ! X =   460.18040,  6936.42400,    82.2,      0.0 !  !END!
1506 ! X =   460.38040,  6936.42400,    84.9,      0.0 !  !END!
1507 ! X =   460.58040,  6936.42400,    85.5,      0.0 !  !END!
1508 ! X =   460.78040,  6936.42400,    89.7,      0.0 !  !END!
1509 ! X =   460.98040,  6936.42400,    87.5,      0.0 !  !END!
1510 ! X =   461.18040,  6936.42400,    82.7,      0.0 !  !END!
1511 ! X =   461.38040,  6936.42400,    76.6,      0.0 !  !END!
1512 ! X =   461.58040,  6936.42400,    73.7,      0.0 !  !END!
1513 ! X =   461.78040,  6936.42400,    71.2,      0.0 !  !END!
1514 ! X =   461.98040,  6936.42400,    68.6,      0.0 !  !END!
1515 ! X =   462.18040,  6936.42400,    68.2,      0.0 !  !END!
1516 ! X =   462.38040,  6936.42400,    65.8,      0.0 !  !END!
1517 ! X =   462.58040,  6936.42400,    62.8,      0.0 !  !END!
1518 ! X =   462.78040,  6936.42400,    58.0,      0.0 !  !END!
1519 ! X =   462.98040,  6936.42400,    58.6,      0.0 !  !END!
1520 ! X =   463.18040,  6936.42400,    56.9,      0.0 !  !END!
1521 ! X =   463.38040,  6936.42400,    51.7,      0.0 !  !END!
1522 ! X =   463.58040,  6936.42400,    57.0,      0.0 !  !END!
1523 ! X =   463.78040,  6936.42400,    56.2,      0.0 !  !END!
1524 ! X =   463.98040,  6936.42400,    53.4,      0.0 !  !END!
1525 ! X =   464.18040,  6936.42400,    55.2,      0.0 !  !END!
1526 ! X =   464.38040,  6936.42400,    42.9,      0.0 !  !END!
1527 ! X =   464.58040,  6936.42400,    41.8,      0.0 !  !END!
1528 ! X =   464.78040,  6936.42400,    43.3,      0.0 !  !END!
1529 ! X =   464.98040,  6936.42400,    50.7,      0.0 !  !END!
1530 ! X =   465.18040,  6936.42400,    49.8,      0.0 !  !END!
1531 ! X =   465.38040,  6936.42400,    42.0,      0.0 !  !END!
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1532 ! X = 465.58040, 6936.42400, 41.8, 0.0 ! !END!
1533 ! X = 465.78040, 6936.42400, 39.4, 0.0 ! !END!
1534 ! X = 465.98040, 6936.42400, 42.5, 0.0 ! !END!
1535 ! X = 466.18040, 6936.42400, 44.7, 0.0 ! !END!
1536 ! X = 466.38040, 6936.42400, 47.3, 0.0 ! !END!
1537 ! X = 466.58040, 6936.42400, 49.4, 0.0 ! !END!
1538 ! X = 466.78040, 6936.42400, 54.0, 0.0 ! !END!
1539 ! X = 466.98040, 6936.42400, 54.1, 0.0 ! !END!
1540 ! X = 467.18040, 6936.42400, 55.6, 0.0 ! !END!
1541 ! X = 467.38040, 6936.42400, 52.6, 0.0 ! !END!
1542 ! X = 467.58040, 6936.42400, 48.5, 0.0 ! !END!
1543 ! X = 467.78040, 6936.42400, 40.5, 0.0 ! !END!
1544 ! X = 467.98040, 6936.42400, 36.9, 0.0 ! !END!
1545 ! X = 468.18040, 6936.42400, 29.1, 0.0 ! !END!
1546 ! X = 468.38040, 6936.42400, 30.2, 0.0 ! !END!
1547 ! X = 468.58040, 6936.42400, 31.5, 0.0 ! !END!
1548 ! X = 468.78040, 6936.42400, 32.4, 0.0 ! !END!
1549 ! X = 468.98040, 6936.42400, 32.0, 0.0 ! !END!
1550 ! X = 469.18040, 6936.42400, 31.8, 0.0 ! !END!
1551 ! X = 469.38040, 6936.42400, 31.6, 0.0 ! !END!
1552 ! X = 469.58040, 6936.42400, 31.4, 0.0 ! !END!
1553 ! X = 469.78040, 6936.42400, 32.6, 0.0 ! !END!
1554 ! X = 469.98040, 6936.42400, 32.4, 0.0 ! !END!
1555 ! X = 470.18040, 6936.42400, 35.8, 0.0 ! !END!
1556 ! X = 470.38040, 6936.42400, 38.8, 0.0 ! !END!
1557 ! X = 456.98040, 6936.22400, 45.9, 0.0 ! !END!
1558 ! X = 457.18040, 6936.22400, 44.3, 0.0 ! !END!
1559 ! X = 457.38040, 6936.22400, 45.0, 0.0 ! !END!
1560 ! X = 457.58040, 6936.22400, 53.3, 0.0 ! !END!
1561 ! X = 457.78040, 6936.22400, 64.3, 0.0 ! !END!
1562 ! X = 457.98040, 6936.22400, 67.1, 0.0 ! !END!
1563 ! X = 458.18040, 6936.22400, 65.4, 0.0 ! !END!
1564 ! X = 458.38040, 6936.22400, 59.8, 0.0 ! !END!
1565 ! X = 458.58040, 6936.22400, 56.1, 0.0 ! !END!
1566 ! X = 458.78040, 6936.22400, 49.9, 0.0 ! !END!
1567 ! X = 458.98040, 6936.22400, 52.5, 0.0 ! !END!
1568 ! X = 459.18040, 6936.22400, 50.6, 0.0 ! !END!
1569 ! X = 459.38040, 6936.22400, 53.8, 0.0 ! !END!
1570 ! X = 459.58040, 6936.22400, 55.4, 0.0 ! !END!
1571 ! X = 459.78040, 6936.22400, 60.9, 0.0 ! !END!
1572 ! X = 459.98040, 6936.22400, 69.0, 0.0 ! !END!
1573 ! X = 460.18040, 6936.22400, 74.1, 0.0 ! !END!
1574 ! X = 460.38040, 6936.22400, 76.9, 0.0 ! !END!
1575 ! X = 460.58040, 6936.22400, 78.9, 0.0 ! !END!
1576 ! X = 460.78040, 6936.22400, 86.6, 0.0 ! !END!
1577 ! X = 460.98040, 6936.22400, 84.2, 0.0 ! !END!
1578 ! X = 461.18040, 6936.22400, 79.2, 0.0 ! !END!
1579 ! X = 461.38040, 6936.22400, 77.0, 0.0 ! !END!
1580 ! X = 461.58040, 6936.22400, 72.8, 0.0 ! !END!
1581 ! X = 461.78040, 6936.22400, 68.6, 0.0 ! !END!
1582 ! X = 461.98040, 6936.22400, 65.2, 0.0 ! !END!
1583 ! X = 462.18040, 6936.22400, 66.2, 0.0 ! !END!
1584 ! X = 462.38040, 6936.22400, 61.8, 0.0 ! !END!
1585 ! X = 462.58040, 6936.22400, 63.5, 0.0 ! !END!
1586 ! X = 462.78040, 6936.22400, 68.5, 0.0 ! !END!
1587 ! X = 462.98040, 6936.22400, 66.5, 0.0 ! !END!
1588 ! X = 463.18040, 6936.22400, 63.9, 0.0 ! !END!
1589 ! X = 463.38040, 6936.22400, 53.1, 0.0 ! !END!
1590 ! X = 463.58040, 6936.22400, 50.4, 0.0 ! !END!
1591 ! X = 463.78040, 6936.22400, 51.2, 0.0 ! !END!
1592 ! X = 463.98040, 6936.22400, 49.4, 0.0 ! !END!
1593 ! X = 464.18040, 6936.22400, 51.2, 0.0 ! !END!
1594 ! X = 464.38040, 6936.22400, 43.4, 0.0 ! !END!
1595 ! X = 464.58040, 6936.22400, 44.2, 0.0 ! !END!
1596 ! X = 464.78040, 6936.22400, 42.6, 0.0 ! !END!
1597 ! X = 464.98040, 6936.22400, 48.0, 0.0 ! !END!
1598 ! X = 465.18040, 6936.22400, 45.7, 0.0 ! !END!
1599 ! X = 465.38040, 6936.22400, 44.3, 0.0 ! !END!
1600 ! X = 465.58040, 6936.22400, 42.9, 0.0 ! !END!
1601 ! X = 465.78040, 6936.22400, 40.3, 0.0 ! !END!
1602 ! X = 465.98040, 6936.22400, 45.8, 0.0 ! !END!

```
1603 ! X =   466.18040,  6936.22400,   47.3,    0.0 !  !END!
1604 ! X =   466.38040,  6936.22400,   49.3,    0.0 !  !END!
1605 ! X =   466.58040,  6936.22400,   53.3,    0.0 !  !END!
1606 ! X =   466.78040,  6936.22400,   58.0,    0.0 !  !END!
1607 ! X =   466.98040,  6936.22400,   60.2,    0.0 !  !END!
1608 ! X =   467.18040,  6936.22400,   58.9,    0.0 !  !END!
1609 ! X =   467.38040,  6936.22400,   55.0,    0.0 !  !END!
1610 ! X =   467.58040,  6936.22400,   49.9,    0.0 !  !END!
1611 ! X =   467.78040,  6936.22400,   42.5,    0.0 !  !END!
1612 ! X =   467.98040,  6936.22400,   38.8,    0.0 !  !END!
1613 ! X =   468.18040,  6936.22400,   32.5,    0.0 !  !END!
1614 ! X =   468.38040,  6936.22400,   31.6,    0.0 !  !END!
1615 ! X =   468.58040,  6936.22400,   32.5,    0.0 !  !END!
1616 ! X =   468.78040,  6936.22400,   33.1,    0.0 !  !END!
1617 ! X =   468.98040,  6936.22400,   32.4,    0.0 !  !END!
1618 ! X =   469.18040,  6936.22400,   31.9,    0.0 !  !END!
1619 ! X =   469.38040,  6936.22400,   31.7,    0.0 !  !END!
1620 ! X =   469.58040,  6936.22400,   31.2,    0.0 !  !END!
1621 ! X =   469.78040,  6936.22400,   33.0,    0.0 !  !END!
1622 ! X =   469.98040,  6936.22400,   35.4,    0.0 !  !END!
1623 ! X =   470.18040,  6936.22400,   38.2,    0.0 !  !END!
1624 ! X =   470.38040,  6936.22400,   42.6,    0.0 !  !END!
1625 ! X =   470.58040,  6936.22400,   45.2,    0.0 !  !END!
1626 ! X =   457.38040,  6936.02400,   43.9,    0.0 !  !END!
1627 ! X =   457.58040,  6936.02400,   49.0,    0.0 !  !END!
1628 ! X =   457.78040,  6936.02400,   59.4,    0.0 !  !END!
1629 ! X =   457.98040,  6936.02400,   63.1,    0.0 !  !END!
1630 ! X =   458.18040,  6936.02400,   67.3,    0.0 !  !END!
1631 ! X =   458.38040,  6936.02400,   65.5,    0.0 !  !END!
1632 ! X =   458.58040,  6936.02400,   61.1,    0.0 !  !END!
1633 ! X =   458.78040,  6936.02400,   55.0,    0.0 !  !END!
1634 ! X =   458.98040,  6936.02400,   53.3,    0.0 !  !END!
1635 ! X =   459.18040,  6936.02400,   54.4,    0.0 !  !END!
1636 ! X =   459.38040,  6936.02400,   61.3,    0.0 !  !END!
1637 ! X =   459.58040,  6936.02400,   59.9,    0.0 !  !END!
1638 ! X =   459.78040,  6936.02400,   62.4,    0.0 !  !END!
1639 ! X =   459.98040,  6936.02400,   62.1,    0.0 !  !END!
1640 ! X =   460.18040,  6936.02400,   66.6,    0.0 !  !END!
1641 ! X =   460.38040,  6936.02400,   69.8,    0.0 !  !END!
1642 ! X =   460.58040,  6936.02400,   74.1,    0.0 !  !END!
1643 ! X =   460.78040,  6936.02400,   76.6,    0.0 !  !END!
1644 ! X =   460.98040,  6936.02400,   81.9,    0.0 !  !END!
1645 ! X =   461.18040,  6936.02400,   77.8,    0.0 !  !END!
1646 ! X =   461.38040,  6936.02400,   83.5,    0.0 !  !END!
1647 ! X =   461.58040,  6936.02400,   80.7,    0.0 !  !END!
1648 ! X =   461.78040,  6936.02400,   73.3,    0.0 !  !END!
1649 ! X =   461.98040,  6936.02400,   70.5,    0.0 !  !END!
1650 ! X =   462.18040,  6936.02400,   69.9,    0.0 !  !END!
1651 ! X =   462.38040,  6936.02400,   69.1,    0.0 !  !END!
1652 ! X =   462.58040,  6936.02400,   72.3,    0.0 !  !END!
1653 ! X =   462.78040,  6936.02400,   74.1,    0.0 !  !END!
1654 ! X =   462.98040,  6936.02400,   70.6,    0.0 !  !END!
1655 ! X =   463.18040,  6936.02400,   66.4,    0.0 !  !END!
1656 ! X =   463.38040,  6936.02400,   59.4,    0.0 !  !END!
1657 ! X =   463.58040,  6936.02400,   49.1,    0.0 !  !END!
1658 ! X =   463.78040,  6936.02400,   47.1,    0.0 !  !END!
1659 ! X =   463.98040,  6936.02400,   45.1,    0.0 !  !END!
1660 ! X =   464.18040,  6936.02400,   46.4,    0.0 !  !END!
1661 ! X =   464.38040,  6936.02400,   46.9,    0.0 !  !END!
1662 ! X =   464.58040,  6936.02400,   45.3,    0.0 !  !END!
1663 ! X =   464.78040,  6936.02400,   43.6,    0.0 !  !END!
1664 ! X =   464.98040,  6936.02400,   42.8,    0.0 !  !END!
1665 ! X =   465.18040,  6936.02400,   45.3,    0.0 !  !END!
1666 ! X =   465.38040,  6936.02400,   45.0,    0.0 !  !END!
1667 ! X =   465.58040,  6936.02400,   45.2,    0.0 !  !END!
1668 ! X =   465.78040,  6936.02400,   47.9,    0.0 !  !END!
1669 ! X =   465.98040,  6936.02400,   54.8,    0.0 !  !END!
1670 ! X =   466.18040,  6936.02400,   52.5,    0.0 !  !END!
1671 ! X =   466.38040,  6936.02400,   53.8,    0.0 !  !END!
1672 ! X =   466.58040,  6936.02400,   59.6,    0.0 !  !END!
1673 ! X =   466.78040,  6936.02400,   67.0,    0.0 !  !END!
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1674 ! X =   466.98040,  6936.02400,   50.3,    0.0 !  !END!
1675 ! X =   467.18040,  6936.02400,   49.2,    0.0 !  !END!
1676 ! X =   467.38040,  6936.02400,   57.3,    0.0 !  !END!
1677 ! X =   467.58040,  6936.02400,   49.3,    0.0 !  !END!
1678 ! X =   467.78040,  6936.02400,   43.2,    0.0 !  !END!
1679 ! X =   467.98040,  6936.02400,   40.6,    0.0 !  !END!
1680 ! X =   468.18040,  6936.02400,   35.8,    0.0 !  !END!
1681 ! X =   468.38040,  6936.02400,   33.8,    0.0 !  !END!
1682 ! X =   468.58040,  6936.02400,   33.6,    0.0 !  !END!
1683 ! X =   468.78040,  6936.02400,   32.0,    0.0 !  !END!
1684 ! X =   468.98040,  6936.02400,   31.2,    0.0 !  !END!
1685 ! X =   469.18040,  6936.02400,   31.3,    0.0 !  !END!
1686 ! X =   469.38040,  6936.02400,   30.9,    0.0 !  !END!
1687 ! X =   469.58040,  6936.02400,   31.0,    0.0 !  !END!
1688 ! X =   469.78040,  6936.02400,   32.6,    0.0 !  !END!
1689 ! X =   469.98040,  6936.02400,   42.2,    0.0 !  !END!
1690 ! X =   470.18040,  6936.02400,   49.4,    0.0 !  !END!
1691 ! X =   470.38040,  6936.02400,   54.1,    0.0 !  !END!
1692 ! X =   470.58040,  6936.02400,   51.5,    0.0 !  !END!
1693 ! X =   470.78040,  6936.02400,   56.8,    0.0 !  !END!
1694 ! X =   457.78040,  6935.82400,   53.9,    0.0 !  !END!
1695 ! X =   457.98040,  6935.82400,   61.1,    0.0 !  !END!
1696 ! X =   458.18040,  6935.82400,   66.6,    0.0 !  !END!
1697 ! X =   458.38040,  6935.82400,   65.8,    0.0 !  !END!
1698 ! X =   458.58040,  6935.82400,   58.7,    0.0 !  !END!
1699 ! X =   458.78040,  6935.82400,   59.2,    0.0 !  !END!
1700 ! X =   458.98040,  6935.82400,   56.0,    0.0 !  !END!
1701 ! X =   459.18040,  6935.82400,   56.6,    0.0 !  !END!
1702 ! X =   459.38040,  6935.82400,   61.0,    0.0 !  !END!
1703 ! X =   459.58040,  6935.82400,   68.5,    0.0 !  !END!
1704 ! X =   459.78040,  6935.82400,   75.0,    0.0 !  !END!
1705 ! X =   459.98040,  6935.82400,   76.4,    0.0 !  !END!
1706 ! X =   460.18040,  6935.82400,   77.8,    0.0 !  !END!
1707 ! X =   460.38040,  6935.82400,   76.5,    0.0 !  !END!
1708 ! X =   460.58040,  6935.82400,   75.9,    0.0 !  !END!
1709 ! X =   460.78040,  6935.82400,   81.0,    0.0 !  !END!
1710 ! X =   460.98040,  6935.82400,   80.6,    0.0 !  !END!
1711 ! X =   461.18040,  6935.82400,   77.9,    0.0 !  !END!
1712 ! X =   461.38040,  6935.82400,   78.8,    0.0 !  !END!
1713 ! X =   461.58040,  6935.82400,   84.1,    0.0 !  !END!
1714 ! X =   461.78040,  6935.82400,   84.5,    0.0 !  !END!
1715 ! X =   461.98040,  6935.82400,   74.2,    0.0 !  !END!
1716 ! X =   462.18040,  6935.82400,   74.8,    0.0 !  !END!
1717 ! X =   462.38040,  6935.82400,   72.9,    0.0 !  !END!
1718 ! X =   462.58040,  6935.82400,   75.1,    0.0 !  !END!
1719 ! X =   462.78040,  6935.82400,   71.4,    0.0 !  !END!
1720 ! X =   462.98040,  6935.82400,   64.5,    0.0 !  !END!
1721 ! X =   463.18040,  6935.82400,   63.0,    0.0 !  !END!
1722 ! X =   463.38040,  6935.82400,   58.5,    0.0 !  !END!
1723 ! X =   463.58040,  6935.82400,   49.3,    0.0 !  !END!
1724 ! X =   463.78040,  6935.82400,   46.1,    0.0 !  !END!
1725 ! X =   463.98040,  6935.82400,   45.3,    0.0 !  !END!
1726 ! X =   464.18040,  6935.82400,   50.5,    0.0 !  !END!
1727 ! X =   464.38040,  6935.82400,   55.5,    0.0 !  !END!
1728 ! X =   464.58040,  6935.82400,   53.1,    0.0 !  !END!
1729 ! X =   464.78040,  6935.82400,   48.0,    0.0 !  !END!
1730 ! X =   464.98040,  6935.82400,   43.3,    0.0 !  !END!
1731 ! X =   465.18040,  6935.82400,   41.6,    0.0 !  !END!
1732 ! X =   465.38040,  6935.82400,   44.4,    0.0 !  !END!
1733 ! X =   465.58040,  6935.82400,   45.0,    0.0 !  !END!
1734 ! X =   465.78040,  6935.82400,   52.2,    0.0 !  !END!
1735 ! X =   465.98040,  6935.82400,   59.8,    0.0 !  !END!
1736 ! X =   466.18040,  6935.82400,   63.1,    0.0 !  !END!
1737 ! X =   466.38040,  6935.82400,   60.4,    0.0 !  !END!
1738 ! X =   466.58040,  6935.82400,   62.1,    0.0 !  !END!
1739 ! X =   466.78040,  6935.82400,   71.1,    0.0 !  !END!
1740 ! X =   466.98040,  6935.82400,   70.0,    0.0 !  !END!
1741 ! X =   467.18040,  6935.82400,   65.0,    0.0 !  !END!
1742 ! X =   467.38040,  6935.82400,   57.8,    0.0 !  !END!
1743 ! X =   467.58040,  6935.82400,   48.3,    0.0 !  !END!
1744 ! X =   467.78040,  6935.82400,   40.1,    0.0 !  !END!
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1745 ! X =   467.98040,  6935.82400,   35.0,    0.0 !  !END!
1746 ! X =   468.18040,  6935.82400,   34.7,    0.0 !  !END!
1747 ! X =   468.38040,  6935.82400,   36.3,    0.0 !  !END!
1748 ! X =   468.58040,  6935.82400,   34.5,    0.0 !  !END!
1749 ! X =   468.78040,  6935.82400,   31.9,    0.0 !  !END!
1750 ! X =   468.98040,  6935.82400,   31.9,    0.0 !  !END!
1751 ! X =   469.18040,  6935.82400,   32.0,    0.0 !  !END!
1752 ! X =   469.38040,  6935.82400,   31.3,    0.0 !  !END!
1753 ! X =   469.58040,  6935.82400,   30.8,    0.0 !  !END!
1754 ! X =   469.78040,  6935.82400,   35.9,    0.0 !  !END!
1755 ! X =   469.98040,  6935.82400,   46.8,    0.0 !  !END!
1756 ! X =   470.18040,  6935.82400,   57.0,    0.0 !  !END!
1757 ! X =   470.38040,  6935.82400,   64.0,    0.0 !  !END!
1758 ! X =   470.58040,  6935.82400,   59.2,    0.0 !  !END!
1759 ! X =   470.78040,  6935.82400,   61.4,    0.0 !  !END!
1760 ! X =   458.18040,  6935.62400,   68.9,    0.0 !  !END!
1761 ! X =   458.38040,  6935.62400,   66.9,    0.0 !  !END!
1762 ! X =   458.58040,  6935.62400,   62.2,    0.0 !  !END!
1763 ! X =   458.78040,  6935.62400,   58.4,    0.0 !  !END!
1764 ! X =   458.98040,  6935.62400,   56.5,    0.0 !  !END!
1765 ! X =   459.18040,  6935.62400,   57.1,    0.0 !  !END!
1766 ! X =   459.38040,  6935.62400,   58.2,    0.0 !  !END!
1767 ! X =   459.58040,  6935.62400,   66.2,    0.0 !  !END!
1768 ! X =   459.78040,  6935.62400,   73.1,    0.0 !  !END!
1769 ! X =   459.98040,  6935.62400,   73.4,    0.0 !  !END!
1770 ! X =   460.18040,  6935.62400,   72.4,    0.0 !  !END!
1771 ! X =   460.38040,  6935.62400,   76.2,    0.0 !  !END!
1772 ! X =   460.58040,  6935.62400,   81.0,    0.0 !  !END!
1773 ! X =   460.78040,  6935.62400,   81.9,    0.0 !  !END!
1774 ! X =   460.98040,  6935.62400,   79.1,    0.0 !  !END!
1775 ! X =   461.18040,  6935.62400,   80.3,    0.0 !  !END!
1776 ! X =   461.38040,  6935.62400,   72.5,    0.0 !  !END!
1777 ! X =   461.58040,  6935.62400,   80.1,    0.0 !  !END!
1778 ! X =   461.78040,  6935.62400,   82.1,    0.0 !  !END!
1779 ! X =   461.98040,  6935.62400,   71.5,    0.0 !  !END!
1780 ! X =   462.18040,  6935.62400,   71.5,    0.0 !  !END!
1781 ! X =   462.38040,  6935.62400,   70.5,    0.0 !  !END!
1782 ! X =   462.58040,  6935.62400,   69.4,    0.0 !  !END!
1783 ! X =   462.78040,  6935.62400,   65.5,    0.0 !  !END!
1784 ! X =   462.98040,  6935.62400,   66.2,    0.0 !  !END!
1785 ! X =   463.18040,  6935.62400,   58.9,    0.0 !  !END!
1786 ! X =   463.38040,  6935.62400,   55.0,    0.0 !  !END!
1787 ! X =   463.58040,  6935.62400,   50.4,    0.0 !  !END!
1788 ! X =   463.78040,  6935.62400,   48.5,    0.0 !  !END!
1789 ! X =   463.98040,  6935.62400,   50.2,    0.0 !  !END!
1790 ! X =   464.18040,  6935.62400,   55.9,    0.0 !  !END!
1791 ! X =   464.38040,  6935.62400,   57.7,    0.0 !  !END!
1792 ! X =   464.58040,  6935.62400,   55.8,    0.0 !  !END!
1793 ! X =   464.78040,  6935.62400,   53.4,    0.0 !  !END!
1794 ! X =   464.98040,  6935.62400,   46.2,    0.0 !  !END!
1795 ! X =   465.18040,  6935.62400,   43.6,    0.0 !  !END!
1796 ! X =   465.38040,  6935.62400,   44.7,    0.0 !  !END!
1797 ! X =   465.58040,  6935.62400,   46.6,    0.0 !  !END!
1798 ! X =   465.78040,  6935.62400,   53.2,    0.0 !  !END!
1799 ! X =   465.98040,  6935.62400,   61.7,    0.0 !  !END!
1800 ! X =   466.18040,  6935.62400,   68.3,    0.0 !  !END!
1801 ! X =   466.38040,  6935.62400,   65.2,    0.0 !  !END!
1802 ! X =   466.58040,  6935.62400,   66.5,    0.0 !  !END!
1803 ! X =   466.78040,  6935.62400,   66.2,    0.0 !  !END!
1804 ! X =   466.98040,  6935.62400,   63.2,    0.0 !  !END!
1805 ! X =   467.18040,  6935.62400,   59.5,    0.0 !  !END!
1806 ! X =   467.38040,  6935.62400,   52.1,    0.0 !  !END!
1807 ! X =   467.58040,  6935.62400,   43.7,    0.0 !  !END!
1808 ! X =   467.78040,  6935.62400,   41.7,    0.0 !  !END!
1809 ! X =   467.98040,  6935.62400,   33.5,    0.0 !  !END!
1810 ! X =   468.18040,  6935.62400,   33.1,    0.0 !  !END!
1811 ! X =   468.38040,  6935.62400,   33.2,    0.0 !  !END!
1812 ! X =   468.58040,  6935.62400,   32.4,    0.0 !  !END!
1813 ! X =   468.78040,  6935.62400,   32.0,    0.0 !  !END!
1814 ! X =   468.98040,  6935.62400,   32.0,    0.0 !  !END!
1815 ! X =   469.18040,  6935.62400,   32.5,    0.0 !  !END!
```

1816 ! X = 469.38040, 6935.62400, 31.8, 0.0 ! !END!
1817 ! X = 469.58040, 6935.62400, 32.0, 0.0 ! !END!
1818 ! X = 469.78040, 6935.62400, 36.2, 0.0 ! !END!
1819 ! X = 469.98040, 6935.62400, 44.1, 0.0 ! !END!
1820 ! X = 470.18040, 6935.62400, 49.2, 0.0 ! !END!
1821 ! X = 470.38040, 6935.62400, 57.6, 0.0 ! !END!
1822 ! X = 470.58040, 6935.62400, 60.4, 0.0 ! !END!
1823 ! X = 470.78040, 6935.62400, 68.4, 0.0 ! !END!
1824 ! X = 470.98040, 6935.62400, 73.3, 0.0 ! !END!
1825 ! X = 458.78040, 6935.42400, 59.6, 0.0 ! !END!
1826 ! X = 458.98040, 6935.42400, 56.6, 0.0 ! !END!
1827 ! X = 459.18040, 6935.42400, 55.1, 0.0 ! !END!
1828 ! X = 459.38040, 6935.42400, 57.3, 0.0 ! !END!
1829 ! X = 459.58040, 6935.42400, 59.8, 0.0 ! !END!
1830 ! X = 459.78040, 6935.42400, 64.4, 0.0 ! !END!
1831 ! X = 459.98040, 6935.42400, 70.2, 0.0 ! !END!
1832 ! X = 460.18040, 6935.42400, 71.0, 0.0 ! !END!
1833 ! X = 460.38040, 6935.42400, 77.4, 0.0 ! !END!
1834 ! X = 460.58040, 6935.42400, 82.6, 0.0 ! !END!
1835 ! X = 460.78040, 6935.42400, 78.8, 0.0 ! !END!
1836 ! X = 460.98040, 6935.42400, 77.7, 0.0 ! !END!
1837 ! X = 461.18040, 6935.42400, 72.5, 0.0 ! !END!
1838 ! X = 461.38040, 6935.42400, 70.2, 0.0 ! !END!
1839 ! X = 461.58040, 6935.42400, 69.0, 0.0 ! !END!
1840 ! X = 461.78040, 6935.42400, 68.9, 0.0 ! !END!
1841 ! X = 461.98040, 6935.42400, 66.6, 0.0 ! !END!
1842 ! X = 462.18040, 6935.42400, 64.8, 0.0 ! !END!
1843 ! X = 462.38040, 6935.42400, 64.4, 0.0 ! !END!
1844 ! X = 462.58040, 6935.42400, 62.8, 0.0 ! !END!
1845 ! X = 462.78040, 6935.42400, 58.9, 0.0 ! !END!
1846 ! X = 462.98040, 6935.42400, 59.7, 0.0 ! !END!
1847 ! X = 463.18040, 6935.42400, 54.0, 0.0 ! !END!
1848 ! X = 463.38040, 6935.42400, 51.6, 0.0 ! !END!
1849 ! X = 463.58040, 6935.42400, 49.5, 0.0 ! !END!
1850 ! X = 463.78040, 6935.42400, 50.7, 0.0 ! !END!
1851 ! X = 463.98040, 6935.42400, 58.2, 0.0 ! !END!
1852 ! X = 464.18040, 6935.42400, 62.6, 0.0 ! !END!
1853 ! X = 464.38040, 6935.42400, 62.9, 0.0 ! !END!
1854 ! X = 464.58040, 6935.42400, 60.5, 0.0 ! !END!
1855 ! X = 464.78040, 6935.42400, 58.1, 0.0 ! !END!
1856 ! X = 464.98040, 6935.42400, 48.5, 0.0 ! !END!
1857 ! X = 465.18040, 6935.42400, 46.5, 0.0 ! !END!
1858 ! X = 465.38040, 6935.42400, 45.0, 0.0 ! !END!
1859 ! X = 465.58040, 6935.42400, 45.3, 0.0 ! !END!
1860 ! X = 465.78040, 6935.42400, 55.4, 0.0 ! !END!
1861 ! X = 465.98040, 6935.42400, 61.4, 0.0 ! !END!
1862 ! X = 466.18040, 6935.42400, 68.2, 0.0 ! !END!
1863 ! X = 466.38040, 6935.42400, 69.5, 0.0 ! !END!
1864 ! X = 466.58040, 6935.42400, 65.7, 0.0 ! !END!
1865 ! X = 466.78040, 6935.42400, 57.8, 0.0 ! !END!
1866 ! X = 466.98040, 6935.42400, 59.9, 0.0 ! !END!
1867 ! X = 467.18040, 6935.42400, 49.7, 0.0 ! !END!
1868 ! X = 467.38040, 6935.42400, 42.3, 0.0 ! !END!
1869 ! X = 467.58040, 6935.42400, 36.9, 0.0 ! !END!
1870 ! X = 467.78040, 6935.42400, 35.4, 0.0 ! !END!
1871 ! X = 467.98040, 6935.42400, 34.6, 0.0 ! !END!
1872 ! X = 468.18040, 6935.42400, 33.2, 0.0 ! !END!
1873 ! X = 468.38040, 6935.42400, 32.5, 0.0 ! !END!
1874 ! X = 468.58040, 6935.42400, 32.2, 0.0 ! !END!
1875 ! X = 468.78040, 6935.42400, 31.8, 0.0 ! !END!
1876 ! X = 468.98040, 6935.42400, 31.4, 0.0 ! !END!
1877 ! X = 469.18040, 6935.42400, 32.3, 0.0 ! !END!
1878 ! X = 469.38040, 6935.42400, 32.3, 0.0 ! !END!
1879 ! X = 469.58040, 6935.42400, 33.5, 0.0 ! !END!
1880 ! X = 469.78040, 6935.42400, 36.1, 0.0 ! !END!
1881 ! X = 469.98040, 6935.42400, 39.9, 0.0 ! !END!
1882 ! X = 470.18040, 6935.42400, 46.1, 0.0 ! !END!
1883 ! X = 470.38040, 6935.42400, 52.5, 0.0 ! !END!
1884 ! X = 470.58040, 6935.42400, 59.0, 0.0 ! !END!
1885 ! X = 470.78040, 6935.42400, 62.0, 0.0 ! !END!
1886 ! X = 470.98040, 6935.42400, 64.1, 0.0 ! !END!

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1887 ! X =   460.18040,  6935.22400,   77.1,    0.0 !  !END!
1888 ! X =   460.38040,  6935.22400,   80.6,    0.0 !  !END!
1889 ! X =   460.58040,  6935.22400,   84.7,    0.0 !  !END!
1890 ! X =   460.78040,  6935.22400,   81.9,    0.0 !  !END!
1891 ! X =   460.98040,  6935.22400,   76.8,    0.0 !  !END!
1892 ! X =   461.18040,  6935.22400,   69.9,    0.0 !  !END!
1893 ! X =   461.38040,  6935.22400,   69.0,    0.0 !  !END!
1894 ! X =   461.58040,  6935.22400,   62.2,    0.0 !  !END!
1895 ! X =   461.78040,  6935.22400,   61.7,    0.0 !  !END!
1896 ! X =   461.98040,  6935.22400,   58.9,    0.0 !  !END!
1897 ! X =   462.18040,  6935.22400,   57.0,    0.0 !  !END!
1898 ! X =   462.38040,  6935.22400,   58.7,    0.0 !  !END!
1899 ! X =   462.58040,  6935.22400,   58.4,    0.0 !  !END!
1900 ! X =   462.78040,  6935.22400,   55.8,    0.0 !  !END!
1901 ! X =   462.98040,  6935.22400,   55.3,    0.0 !  !END!
1902 ! X =   463.18040,  6935.22400,   58.0,    0.0 !  !END!
1903 ! X =   463.38040,  6935.22400,   52.0,    0.0 !  !END!
1904 ! X =   463.58040,  6935.22400,   50.6,    0.0 !  !END!
1905 ! X =   463.78040,  6935.22400,   55.4,    0.0 !  !END!
1906 ! X =   463.98040,  6935.22400,   62.0,    0.0 !  !END!
1907 ! X =   464.18040,  6935.22400,   62.3,    0.0 !  !END!
1908 ! X =   464.38040,  6935.22400,   61.3,    0.0 !  !END!
1909 ! X =   464.58040,  6935.22400,   56.5,    0.0 !  !END!
1910 ! X =   464.78040,  6935.22400,   54.9,    0.0 !  !END!
1911 ! X =   464.98040,  6935.22400,   45.0,    0.0 !  !END!
1912 ! X =   465.18040,  6935.22400,   45.5,    0.0 !  !END!
1913 ! X =   465.38040,  6935.22400,   44.4,    0.0 !  !END!
1914 ! X =   465.58040,  6935.22400,   47.6,    0.0 !  !END!
1915 ! X =   465.78040,  6935.22400,   56.1,    0.0 !  !END!
1916 ! X =   465.98040,  6935.22400,   60.8,    0.0 !  !END!
1917 ! X =   466.18040,  6935.22400,   67.9,    0.0 !  !END!
1918 ! X =   466.38040,  6935.22400,   65.5,    0.0 !  !END!
1919 ! X =   466.58040,  6935.22400,   63.8,    0.0 !  !END!
1920 ! X =   466.78040,  6935.22400,   54.4,    0.0 !  !END!
1921 ! X =   466.98040,  6935.22400,   51.1,    0.0 !  !END!
1922 ! X =   467.18040,  6935.22400,   49.8,    0.0 !  !END!
1923 ! X =   467.38040,  6935.22400,   37.8,    0.0 !  !END!
1924 ! X =   467.58040,  6935.22400,   32.2,    0.0 !  !END!
1925 ! X =   467.78040,  6935.22400,   31.6,    0.0 !  !END!
1926 ! X =   467.98040,  6935.22400,   32.1,    0.0 !  !END!
1927 ! X =   468.18040,  6935.22400,   32.9,    0.0 !  !END!
1928 ! X =   468.38040,  6935.22400,   33.0,    0.0 !  !END!
1929 ! X =   468.58040,  6935.22400,   32.2,    0.0 !  !END!
1930 ! X =   468.78040,  6935.22400,   31.5,    0.0 !  !END!
1931 ! X =   468.98040,  6935.22400,   31.9,    0.0 !  !END!
1932 ! X =   469.18040,  6935.22400,   33.4,    0.0 !  !END!
1933 ! X =   469.38040,  6935.22400,   31.8,    0.0 !  !END!
1934 ! X =   469.58040,  6935.22400,   35.3,    0.0 !  !END!
1935 ! X =   469.78040,  6935.22400,   34.8,    0.0 !  !END!
1936 ! X =   469.98040,  6935.22400,   41.7,    0.0 !  !END!
1937 ! X =   470.18040,  6935.22400,   48.9,    0.0 !  !END!
1938 ! X =   470.38040,  6935.22400,   52.6,    0.0 !  !END!
1939 ! X =   470.58040,  6935.22400,   54.0,    0.0 !  !END!
1940 ! X =   470.78040,  6935.22400,   55.9,    0.0 !  !END!
1941 ! X =   470.98040,  6935.22400,   63.0,    0.0 !  !END!
1942 ! X =   471.18040,  6935.22400,   67.1,    0.0 !  !END!
1943 ! X =   461.38040,  6935.02400,   72.3,    0.0 !  !END!
1944 ! X =   461.58040,  6935.02400,   63.2,    0.0 !  !END!
1945 ! X =   461.78040,  6935.02400,   64.1,    0.0 !  !END!
1946 ! X =   461.98040,  6935.02400,   63.9,    0.0 !  !END!
1947 ! X =   462.18040,  6935.02400,   62.0,    0.0 !  !END!
1948 ! X =   462.38040,  6935.02400,   56.7,    0.0 !  !END!
1949 ! X =   462.58040,  6935.02400,   56.6,    0.0 !  !END!
1950 ! X =   462.78040,  6935.02400,   57.0,    0.0 !  !END!
1951 ! X =   462.98040,  6935.02400,   57.6,    0.0 !  !END!
1952 ! X =   463.18040,  6935.02400,   57.6,    0.0 !  !END!
1953 ! X =   463.38040,  6935.02400,   60.6,    0.0 !  !END!
1954 ! X =   463.58040,  6935.02400,   60.4,    0.0 !  !END!
1955 ! X =   463.78040,  6935.02400,   61.0,    0.0 !  !END!
1956 ! X =   463.98040,  6935.02400,   61.1,    0.0 !  !END!
1957 ! X =   464.18040,  6935.02400,   60.4,    0.0 !  !END!
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1958 ! X =   464.38040,  6935.02400,    60.1,      0.0 !  !END!
1959 ! X =   464.58040,  6935.02400,    51.8,      0.0 !  !END!
1960 ! X =   464.78040,  6935.02400,    47.6,      0.0 !  !END!
1961 ! X =   464.98040,  6935.02400,    45.0,      0.0 !  !END!
1962 ! X =   465.18040,  6935.02400,    45.3,      0.0 !  !END!
1963 ! X =   465.38040,  6935.02400,    44.1,      0.0 !  !END!
1964 ! X =   465.58040,  6935.02400,    48.3,      0.0 !  !END!
1965 ! X =   465.78040,  6935.02400,    55.4,      0.0 !  !END!
1966 ! X =   465.98040,  6935.02400,    58.1,      0.0 !  !END!
1967 ! X =   466.18040,  6935.02400,    61.6,      0.0 !  !END!
1968 ! X =   466.38040,  6935.02400,    59.9,      0.0 !  !END!
1969 ! X =   466.58040,  6935.02400,    58.1,      0.0 !  !END!
1970 ! X =   466.78040,  6935.02400,    55.8,      0.0 !  !END!
1971 ! X =   466.98040,  6935.02400,    42.7,      0.0 !  !END!
1972 ! X =   467.18040,  6935.02400,    41.8,      0.0 !  !END!
1973 ! X =   467.38040,  6935.02400,    32.8,      0.0 !  !END!
1974 ! X =   467.58040,  6935.02400,    31.0,      0.0 !  !END!
1975 ! X =   467.78040,  6935.02400,    30.7,      0.0 !  !END!
1976 ! X =   467.98040,  6935.02400,    31.0,      0.0 !  !END!
1977 ! X =   468.18040,  6935.02400,    32.6,      0.0 !  !END!
1978 ! X =   468.38040,  6935.02400,    32.7,      0.0 !  !END!
1979 ! X =   468.58040,  6935.02400,    32.0,      0.0 !  !END!
1980 ! X =   468.78040,  6935.02400,    31.7,      0.0 !  !END!
1981 ! X =   468.98040,  6935.02400,    32.6,      0.0 !  !END!
1982 ! X =   469.18040,  6935.02400,    33.7,      0.0 !  !END!
1983 ! X =   469.38040,  6935.02400,    34.0,      0.0 !  !END!
1984 ! X =   469.58040,  6935.02400,    35.8,      0.0 !  !END!
1985 ! X =   469.78040,  6935.02400,    35.6,      0.0 !  !END!
1986 ! X =   469.98040,  6935.02400,    38.7,      0.0 !  !END!
1987 ! X =   470.18040,  6935.02400,    42.5,      0.0 !  !END!
1988 ! X =   470.38040,  6935.02400,    47.4,      0.0 !  !END!
1989 ! X =   470.58040,  6935.02400,    51.9,      0.0 !  !END!
1990 ! X =   470.78040,  6935.02400,    58.9,      0.0 !  !END!
1991 ! X =   470.98040,  6935.02400,    64.2,      0.0 !  !END!
1992 ! X =   471.18040,  6935.02400,    69.6,      0.0 !  !END!
1993 ! X =   462.58040,  6934.82400,    62.8,      0.0 !  !END!
1994 ! X =   462.78040,  6934.82400,    60.3,      0.0 !  !END!
1995 ! X =   462.98040,  6934.82400,    60.7,      0.0 !  !END!
1996 ! X =   463.18040,  6934.82400,    62.2,      0.0 !  !END!
1997 ! X =   463.38040,  6934.82400,    60.4,      0.0 !  !END!
1998 ! X =   463.58040,  6934.82400,    59.3,      0.0 !  !END!
1999 ! X =   463.78040,  6934.82400,    59.2,      0.0 !  !END!
2000 ! X =   463.98040,  6934.82400,    58.7,      0.0 !  !END!
2001 ! X =   464.18040,  6934.82400,    55.7,      0.0 !  !END!
2002 ! X =   464.38040,  6934.82400,    53.1,      0.0 !  !END!
2003 ! X =   464.58040,  6934.82400,    48.2,      0.0 !  !END!
2004 ! X =   464.78040,  6934.82400,    46.5,      0.0 !  !END!
2005 ! X =   464.98040,  6934.82400,    45.5,      0.0 !  !END!
2006 ! X =   465.18040,  6934.82400,    44.3,      0.0 !  !END!
2007 ! X =   465.38040,  6934.82400,    44.3,      0.0 !  !END!
2008 ! X =   465.58040,  6934.82400,    47.9,      0.0 !  !END!
2009 ! X =   465.78040,  6934.82400,    55.9,      0.0 !  !END!
2010 ! X =   465.98040,  6934.82400,    58.9,      0.0 !  !END!
2011 ! X =   466.18040,  6934.82400,    54.9,      0.0 !  !END!
2012 ! X =   466.38040,  6934.82400,    55.8,      0.0 !  !END!
2013 ! X =   466.58040,  6934.82400,    53.0,      0.0 !  !END!
2014 ! X =   466.78040,  6934.82400,    50.8,      0.0 !  !END!
2015 ! X =   466.98040,  6934.82400,    44.5,      0.0 !  !END!
2016 ! X =   467.18040,  6934.82400,    38.2,      0.0 !  !END!
2017 ! X =   467.38040,  6934.82400,    32.9,      0.0 !  !END!
2018 ! X =   467.58040,  6934.82400,    30.8,      0.0 !  !END!
2019 ! X =   467.78040,  6934.82400,    30.4,      0.0 !  !END!
2020 ! X =   467.98040,  6934.82400,    31.0,      0.0 !  !END!
2021 ! X =   468.18040,  6934.82400,    32.3,      0.0 !  !END!
2022 ! X =   468.38040,  6934.82400,    32.1,      0.0 !  !END!
2023 ! X =   468.58040,  6934.82400,    31.8,      0.0 !  !END!
2024 ! X =   468.78040,  6934.82400,    31.9,      0.0 !  !END!
2025 ! X =   468.98040,  6934.82400,    33.2,      0.0 !  !END!
2026 ! X =   469.18040,  6934.82400,    34.6,      0.0 !  !END!
2027 ! X =   469.38040,  6934.82400,    35.3,      0.0 !  !END!
2028 ! X =   469.58040,  6934.82400,    34.7,      0.0 !  !END!
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2029 ! X = 469.78040, 6934.82400, 36.7, 0.0 ! !END!
2030 ! X = 469.98040, 6934.82400, 36.6, 0.0 ! !END!
2031 ! X = 470.18040, 6934.82400, 38.7, 0.0 ! !END!
2032 ! X = 470.38040, 6934.82400, 42.8, 0.0 ! !END!
2033 ! X = 470.58040, 6934.82400, 50.8, 0.0 ! !END!
2034 ! X = 470.78040, 6934.82400, 57.4, 0.0 ! !END!
2035 ! X = 470.98040, 6934.82400, 62.2, 0.0 ! !END!
2036 ! X = 471.18040, 6934.82400, 66.8, 0.0 ! !END!
2037 ! X = 463.78040, 6934.62400, 56.6, 0.0 ! !END!
2038 ! X = 463.98040, 6934.62400, 54.7, 0.0 ! !END!
2039 ! X = 464.18040, 6934.62400, 52.5, 0.0 ! !END!
2040 ! X = 464.38040, 6934.62400, 50.3, 0.0 ! !END!
2041 ! X = 464.58040, 6934.62400, 48.1, 0.0 ! !END!
2042 ! X = 464.78040, 6934.62400, 46.9, 0.0 ! !END!
2043 ! X = 464.98040, 6934.62400, 45.6, 0.0 ! !END!
2044 ! X = 465.18040, 6934.62400, 45.0, 0.0 ! !END!
2045 ! X = 465.38040, 6934.62400, 44.7, 0.0 ! !END!
2046 ! X = 465.58040, 6934.62400, 47.1, 0.0 ! !END!
2047 ! X = 465.78040, 6934.62400, 52.0, 0.0 ! !END!
2048 ! X = 465.98040, 6934.62400, 54.0, 0.0 ! !END!
2049 ! X = 466.18040, 6934.62400, 47.7, 0.0 ! !END!
2050 ! X = 466.38040, 6934.62400, 47.6, 0.0 ! !END!
2051 ! X = 466.58040, 6934.62400, 48.4, 0.0 ! !END!
2052 ! X = 466.78040, 6934.62400, 44.7, 0.0 ! !END!
2053 ! X = 466.98040, 6934.62400, 40.1, 0.0 ! !END!
2054 ! X = 467.18040, 6934.62400, 32.1, 0.0 ! !END!
2055 ! X = 467.38040, 6934.62400, 31.1, 0.0 ! !END!
2056 ! X = 467.58040, 6934.62400, 31.8, 0.0 ! !END!
2057 ! X = 467.78040, 6934.62400, 32.4, 0.0 ! !END!
2058 ! X = 467.98040, 6934.62400, 32.4, 0.0 ! !END!
2059 ! X = 468.18040, 6934.62400, 32.3, 0.0 ! !END!
2060 ! X = 468.38040, 6934.62400, 32.2, 0.0 ! !END!
2061 ! X = 468.58040, 6934.62400, 32.1, 0.0 ! !END!
2062 ! X = 468.78040, 6934.62400, 31.1, 0.0 ! !END!
2063 ! X = 468.98040, 6934.62400, 32.1, 0.0 ! !END!
2064 ! X = 469.18040, 6934.62400, 38.2, 0.0 ! !END!
2065 ! X = 469.38040, 6934.62400, 35.5, 0.0 ! !END!
2066 ! X = 469.58040, 6934.62400, 36.4, 0.0 ! !END!
2067 ! X = 469.78040, 6934.62400, 38.8, 0.0 ! !END!
2068 ! X = 469.98040, 6934.62400, 40.6, 0.0 ! !END!
2069 ! X = 470.18040, 6934.62400, 40.6, 0.0 ! !END!
2070 ! X = 470.38040, 6934.62400, 44.2, 0.0 ! !END!
2071 ! X = 470.58040, 6934.62400, 50.9, 0.0 ! !END!
2072 ! X = 470.78040, 6934.62400, 55.0, 0.0 ! !END!
2073 ! X = 470.98040, 6934.62400, 57.1, 0.0 ! !END!
2074 ! X = 471.18040, 6934.62400, 64.0, 0.0 ! !END!
2075 ! X = 471.38040, 6934.62400, 63.8, 0.0 ! !END!
2076 ! X = 464.98040, 6934.42400, 46.2, 0.0 ! !END!
2077 ! X = 465.18040, 6934.42400, 45.8, 0.0 ! !END!
2078 ! X = 465.38040, 6934.42400, 46.5, 0.0 ! !END!
2079 ! X = 465.58040, 6934.42400, 47.9, 0.0 ! !END!
2080 ! X = 465.78040, 6934.42400, 49.3, 0.0 ! !END!
2081 ! X = 465.98040, 6934.42400, 49.1, 0.0 ! !END!
2082 ! X = 466.18040, 6934.42400, 45.4, 0.0 ! !END!
2083 ! X = 466.38040, 6934.42400, 43.4, 0.0 ! !END!
2084 ! X = 466.58040, 6934.42400, 48.6, 0.0 ! !END!
2085 ! X = 466.78040, 6934.42400, 45.6, 0.0 ! !END!
2086 ! X = 466.98040, 6934.42400, 39.8, 0.0 ! !END!
2087 ! X = 467.18040, 6934.42400, 33.0, 0.0 ! !END!
2088 ! X = 467.38040, 6934.42400, 30.0, 0.0 ! !END!
2089 ! X = 467.58040, 6934.42400, 32.6, 0.0 ! !END!
2090 ! X = 467.78040, 6934.42400, 33.2, 0.0 ! !END!
2091 ! X = 467.98040, 6934.42400, 33.6, 0.0 ! !END!
2092 ! X = 468.18040, 6934.42400, 33.2, 0.0 ! !END!
2093 ! X = 468.38040, 6934.42400, 32.3, 0.0 ! !END!
2094 ! X = 468.58040, 6934.42400, 32.4, 0.0 ! !END!
2095 ! X = 468.78040, 6934.42400, 31.7, 0.0 ! !END!
2096 ! X = 468.98040, 6934.42400, 30.7, 0.0 ! !END!
2097 ! X = 469.18040, 6934.42400, 39.4, 0.0 ! !END!
2098 ! X = 469.38040, 6934.42400, 40.2, 0.0 ! !END!
2099 ! X = 469.58040, 6934.42400, 40.5, 0.0 ! !END!

2100 ! X = 469.78040, 6934.42400, 41.2, 0.0 ! !END!
2101 ! X = 469.98040, 6934.42400, 42.5, 0.0 ! !END!
2102 ! X = 470.18040, 6934.42400, 45.5, 0.0 ! !END!
2103 ! X = 470.38040, 6934.42400, 48.1, 0.0 ! !END!
2104 ! X = 470.58040, 6934.42400, 49.8, 0.0 ! !END!
2105 ! X = 470.78040, 6934.42400, 54.5, 0.0 ! !END!
2106 ! X = 470.98040, 6934.42400, 55.9, 0.0 ! !END!
2107 ! X = 471.18040, 6934.42400, 62.1, 0.0 ! !END!
2108 ! X = 471.38040, 6934.42400, 64.7, 0.0 ! !END!
2109 ! X = 465.98040, 6934.22400, 47.9, 0.0 ! !END!
2110 ! X = 466.18040, 6934.22400, 44.5, 0.0 ! !END!
2111 ! X = 466.38040, 6934.22400, 41.7, 0.0 ! !END!
2112 ! X = 466.58040, 6934.22400, 45.8, 0.0 ! !END!
2113 ! X = 466.78040, 6934.22400, 44.6, 0.0 ! !END!
2114 ! X = 466.98040, 6934.22400, 39.9, 0.0 ! !END!
2115 ! X = 467.18040, 6934.22400, 32.2, 0.0 ! !END!
2116 ! X = 467.38040, 6934.22400, 31.7, 0.0 ! !END!
2117 ! X = 467.58040, 6934.22400, 33.0, 0.0 ! !END!
2118 ! X = 467.78040, 6934.22400, 33.5, 0.0 ! !END!
2119 ! X = 467.98040, 6934.22400, 33.9, 0.0 ! !END!
2120 ! X = 468.18040, 6934.22400, 33.8, 0.0 ! !END!
2121 ! X = 468.38040, 6934.22400, 32.5, 0.0 ! !END!
2122 ! X = 468.58040, 6934.22400, 32.6, 0.0 ! !END!
2123 ! X = 468.78040, 6934.22400, 32.3, 0.0 ! !END!
2124 ! X = 468.98040, 6934.22400, 30.1, 0.0 ! !END!
2125 ! X = 469.18040, 6934.22400, 32.7, 0.0 ! !END!
2126 ! X = 469.38040, 6934.22400, 38.8, 0.0 ! !END!
2127 ! X = 469.58040, 6934.22400, 42.4, 0.0 ! !END!
2128 ! X = 469.78040, 6934.22400, 42.8, 0.0 ! !END!
2129 ! X = 469.98040, 6934.22400, 41.4, 0.0 ! !END!
2130 ! X = 470.18040, 6934.22400, 45.9, 0.0 ! !END!
2131 ! X = 470.38040, 6934.22400, 51.0, 0.0 ! !END!
2132 ! X = 470.58040, 6934.22400, 54.2, 0.0 ! !END!
2133 ! X = 470.78040, 6934.22400, 57.1, 0.0 ! !END!
2134 ! X = 470.98040, 6934.22400, 62.1, 0.0 ! !END!
2135 ! X = 471.18040, 6934.22400, 66.6, 0.0 ! !END!
2136 ! X = 471.38040, 6934.22400, 67.6, 0.0 ! !END!
2137 ! X = 466.98040, 6934.02400, 35.0, 0.0 ! !END!
2138 ! X = 467.18040, 6934.02400, 33.9, 0.0 ! !END!
2139 ! X = 467.38040, 6934.02400, 32.8, 0.0 ! !END!
2140 ! X = 467.58040, 6934.02400, 33.9, 0.0 ! !END!
2141 ! X = 467.78040, 6934.02400, 34.2, 0.0 ! !END!
2142 ! X = 467.98040, 6934.02400, 34.2, 0.0 ! !END!
2143 ! X = 468.18040, 6934.02400, 34.2, 0.0 ! !END!
2144 ! X = 468.38040, 6934.02400, 33.4, 0.0 ! !END!
2145 ! X = 468.58040, 6934.02400, 33.6, 0.0 ! !END!
2146 ! X = 468.78040, 6934.02400, 33.8, 0.0 ! !END!
2147 ! X = 468.98040, 6934.02400, 32.0, 0.0 ! !END!
2148 ! X = 469.18040, 6934.02400, 30.6, 0.0 ! !END!
2149 ! X = 469.38040, 6934.02400, 35.0, 0.0 ! !END!
2150 ! X = 469.58040, 6934.02400, 37.4, 0.0 ! !END!
2151 ! X = 469.78040, 6934.02400, 40.0, 0.0 ! !END!
2152 ! X = 469.98040, 6934.02400, 41.6, 0.0 ! !END!
2153 ! X = 470.18040, 6934.02400, 48.7, 0.0 ! !END!
2154 ! X = 470.38040, 6934.02400, 55.1, 0.0 ! !END!
2155 ! X = 470.58040, 6934.02400, 59.3, 0.0 ! !END!
2156 ! X = 470.78040, 6934.02400, 62.0, 0.0 ! !END!
2157 ! X = 470.98040, 6934.02400, 68.4, 0.0 ! !END!
2158 ! X = 471.18040, 6934.02400, 72.9, 0.0 ! !END!
2159 ! X = 467.58040, 6933.82400, 34.1, 0.0 ! !END!
2160 ! X = 467.78040, 6933.82400, 34.6, 0.0 ! !END!
2161 ! X = 467.98040, 6933.82400, 34.7, 0.0 ! !END!
2162 ! X = 468.18040, 6933.82400, 33.2, 0.0 ! !END!
2163 ! X = 468.38040, 6933.82400, 32.5, 0.0 ! !END!
2164 ! X = 468.58040, 6933.82400, 33.3, 0.0 ! !END!
2165 ! X = 468.78040, 6933.82400, 33.7, 0.0 ! !END!
2166 ! X = 468.98040, 6933.82400, 32.5, 0.0 ! !END!
2167 ! X = 469.18040, 6933.82400, 31.7, 0.0 ! !END!
2168 ! X = 469.38040, 6933.82400, 34.3, 0.0 ! !END!
2169 ! X = 469.58040, 6933.82400, 36.2, 0.0 ! !END!
2170 ! X = 469.78040, 6933.82400, 39.7, 0.0 ! !END!

2171 ! X = 469.98040, 6933.82400, 41.4, 0.0 ! !END!
2172 ! X = 470.18040, 6933.82400, 51.4, 0.0 ! !END!
2173 ! X = 470.38040, 6933.82400, 54.8, 0.0 ! !END!
2174 ! X = 470.58040, 6933.82400, 58.5, 0.0 ! !END!
2175 ! X = 470.78040, 6933.82400, 63.8, 0.0 ! !END!
2176 ! X = 470.98040, 6933.82400, 67.3, 0.0 ! !END!
2177 ! X = 471.18040, 6933.82400, 73.5, 0.0 ! !END!
2178 ! X = 467.58040, 6933.62400, 35.8, 0.0 ! !END!
2179 ! X = 467.78040, 6933.62400, 35.3, 0.0 ! !END!
2180 ! X = 467.98040, 6933.62400, 34.5, 0.0 ! !END!
2181 ! X = 468.18040, 6933.62400, 32.7, 0.0 ! !END!
2182 ! X = 468.38040, 6933.62400, 32.8, 0.0 ! !END!
2183 ! X = 468.58040, 6933.62400, 33.5, 0.0 ! !END!
2184 ! X = 468.78040, 6933.62400, 34.1, 0.0 ! !END!
2185 ! X = 468.98040, 6933.62400, 33.3, 0.0 ! !END!
2186 ! X = 469.18040, 6933.62400, 32.7, 0.0 ! !END!
2187 ! X = 469.38040, 6933.62400, 33.7, 0.0 ! !END!
2188 ! X = 469.58040, 6933.62400, 35.4, 0.0 ! !END!
2189 ! X = 469.78040, 6933.62400, 38.2, 0.0 ! !END!
2190 ! X = 469.98040, 6933.62400, 43.9, 0.0 ! !END!
2191 ! X = 470.18040, 6933.62400, 49.9, 0.0 ! !END!
2192 ! X = 470.38040, 6933.62400, 52.7, 0.0 ! !END!
2193 ! X = 470.58040, 6933.62400, 56.2, 0.0 ! !END!
2194 ! X = 470.78040, 6933.62400, 58.0, 0.0 ! !END!
2195 ! X = 470.98040, 6933.62400, 62.1, 0.0 ! !END!
2196 ! X = 471.18040, 6933.62400, 67.4, 0.0 ! !END!
2197 ! X = 467.78040, 6933.42400, 35.4, 0.0 ! !END!
2198 ! X = 467.98040, 6933.42400, 34.0, 0.0 ! !END!
2199 ! X = 468.18040, 6933.42400, 32.8, 0.0 ! !END!
2200 ! X = 468.38040, 6933.42400, 33.2, 0.0 ! !END!
2201 ! X = 468.58040, 6933.42400, 33.8, 0.0 ! !END!
2202 ! X = 468.78040, 6933.42400, 33.9, 0.0 ! !END!
2203 ! X = 468.98040, 6933.42400, 33.9, 0.0 ! !END!
2204 ! X = 469.18040, 6933.42400, 33.6, 0.0 ! !END!
2205 ! X = 469.38040, 6933.42400, 34.0, 0.0 ! !END!
2206 ! X = 469.58040, 6933.42400, 37.5, 0.0 ! !END!
2207 ! X = 469.78040, 6933.42400, 39.9, 0.0 ! !END!
2208 ! X = 469.98040, 6933.42400, 43.4, 0.0 ! !END!
2209 ! X = 470.18040, 6933.42400, 49.2, 0.0 ! !END!
2210 ! X = 470.38040, 6933.42400, 51.7, 0.0 ! !END!
2211 ! X = 470.58040, 6933.42400, 54.5, 0.0 ! !END!
2212 ! X = 470.78040, 6933.42400, 56.0, 0.0 ! !END!
2213 ! X = 470.98040, 6933.42400, 59.9, 0.0 ! !END!
2214 ! X = 467.98040, 6933.22400, 33.7, 0.0 ! !END!
2215 ! X = 468.18040, 6933.22400, 33.0, 0.0 ! !END!
2216 ! X = 468.38040, 6933.22400, 32.9, 0.0 ! !END!
2217 ! X = 468.58040, 6933.22400, 34.2, 0.0 ! !END!
2218 ! X = 468.78040, 6933.22400, 34.3, 0.0 ! !END!
2219 ! X = 468.98040, 6933.22400, 35.3, 0.0 ! !END!
2220 ! X = 469.18040, 6933.22400, 35.4, 0.0 ! !END!
2221 ! X = 469.38040, 6933.22400, 35.7, 0.0 ! !END!
2222 ! X = 469.58040, 6933.22400, 39.3, 0.0 ! !END!
2223 ! X = 469.78040, 6933.22400, 42.8, 0.0 ! !END!
2224 ! X = 469.98040, 6933.22400, 42.8, 0.0 ! !END!
2225 ! X = 470.18040, 6933.22400, 45.1, 0.0 ! !END!
2226 ! X = 470.38040, 6933.22400, 48.4, 0.0 ! !END!
2227 ! X = 470.58040, 6933.22400, 51.3, 0.0 ! !END!
2228 ! X = 470.78040, 6933.22400, 52.9, 0.0 ! !END!
2229 ! X = 470.98040, 6933.22400, 56.2, 0.0 ! !END!
2230 ! X = 467.98040, 6933.02400, 34.2, 0.0 ! !END!
2231 ! X = 468.18040, 6933.02400, 32.9, 0.0 ! !END!
2232 ! X = 468.38040, 6933.02400, 32.1, 0.0 ! !END!
2233 ! X = 468.58040, 6933.02400, 35.2, 0.0 ! !END!
2234 ! X = 468.78040, 6933.02400, 35.2, 0.0 ! !END!
2235 ! X = 468.98040, 6933.02400, 36.8, 0.0 ! !END!
2236 ! X = 469.18040, 6933.02400, 36.6, 0.0 ! !END!
2237 ! X = 469.38040, 6933.02400, 34.7, 0.0 ! !END!
2238 ! X = 469.58040, 6933.02400, 37.0, 0.0 ! !END!
2239 ! X = 469.78040, 6933.02400, 37.9, 0.0 ! !END!
2240 ! X = 469.98040, 6933.02400, 39.8, 0.0 ! !END!
2241 ! X = 470.18040, 6933.02400, 41.5, 0.0 ! !END!

```
2242 ! X =    470.38040,   6933.02400,     43.4,        0.0 !  !END!
2243 ! X =    470.58040,   6933.02400,     45.0,        0.0 !  !END!
2244 ! X =    470.78040,   6933.02400,     47.6,        0.0 !  !END!
2245 ! X =    468.38040,   6932.82400,     38.5,        0.0 !  !END!
2246 ! X =    468.58040,   6932.82400,     41.9,        0.0 !  !END!
2247 ! X =    468.78040,   6932.82400,     39.7,        0.0 !  !END!
2248 ! X =    468.98040,   6932.82400,     37.2,        0.0 !  !END!
2249 ! X =    469.18040,   6932.82400,     38.7,        0.0 !  !END!
2250 ! X =    469.38040,   6932.82400,     38.5,        0.0 !  !END!
2251 ! X =    469.58040,   6932.82400,     37.7,        0.0 !  !END!
2252 ! X =    469.78040,   6932.82400,     37.4,        0.0 !  !END!
2253 ! X =    469.98040,   6932.82400,     40.6,        0.0 !  !END!
2254 ! X =    470.18040,   6932.82400,     43.8,        0.0 !  !END!
2255 ! X =    470.38040,   6932.82400,     41.7,        0.0 !  !END!
2256 ! X =    470.58040,   6932.82400,     43.0,        0.0 !  !END!
2257 ! X =    468.58040,   6932.62400,     45.6,        0.0 !  !END!
2258 ! X =    468.78040,   6932.62400,     39.9,        0.0 !  !END!
2259 ! X =    468.98040,   6932.62400,     38.1,        0.0 !  !END!
2260 ! X =    469.18040,   6932.62400,     39.8,        0.0 !  !END!
2261 ! X =    469.38040,   6932.62400,     39.3,        0.0 !  !END!
2262 ! X =    469.58040,   6932.62400,     39.4,        0.0 !  !END!
2263 ! X =    469.78040,   6932.62400,     39.6,        0.0 !  !END!
2264 ! X =    469.98040,   6932.62400,     43.4,        0.0 !  !END!
2265 ! X =    470.18040,   6932.62400,     44.5,        0.0 !  !END!
2266 ! X =    469.38040,   6932.42400,     37.4,        0.0 !  !END!
```

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a

Data for each receptor are treated as a separate input subgroup and therefore must end with an input group terminator.

b

Receptor height above ground is optional. If no value is entered, the receptor is placed on the ground.

c

Receptors can be assigned using group names provided in 17b. If no group names are used (NRGRP=0) then the default assignment name X must be used.