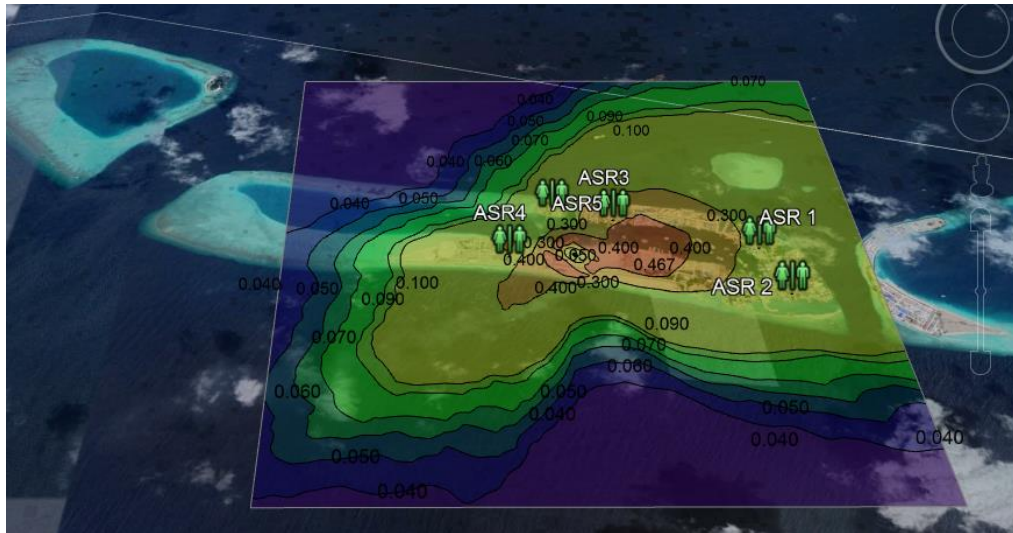


## DISPERSION MODEL REPORT AERMOD VALIDATION PROJECT

2 UNITS X 250 TON/DAY WTE GRATE TYPE INCINERATOR AND  
0.8 MW DIESEL GENRATORSET ENGINE



Greater Male' Waste to Energy Project  
Environmental Impact Assessment Waste to Energy

Draft as of 11 OCTOBER 2019

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## EXECUTIVE SUMMARY

AERMOD validation modeling was conducted in comparison with the Austal2000 German Lagrangian model. In said report, it was highly acknowledged that AERMOD is a “Stronger model” compared to Austal2000 in complex and urban terrain. It was also noted that Austal2000 was used as an alternative only because of the complexity of the meteorological data requirement of AERMOD. For the AERMOD validation run, the meteorological (metdata) provides a strong advantage because it accounts land use data, surface and upper air and its influence mechanical and convective mixing among other Planetary Boundary Layer (PBL) Parameters included met data set.

AERMOD meteorological data utilize surface characteristics in the form of albedo, surface roughness and Bowen ratio, plus standard meteorological observations such as wind speed, wind direction, temperature, and cloud cover. Using the AERMOD metdata processor AERMET, it calculates the PBL parameters such as: friction velocity, Monin-Obukhov length, convective velocity scale, temperature scale, mixing height, and surface heat flux . These parameters are then passed to the Interface within AERMOD where similarity expressions in conjunction with measurements are used to calculate vertical profiles of wind speed, lateral and vertical turbulent fluctuations, potential temperature gradient, and potential temperature. The AERMOD processes the MM5 formatted data to generate \*.SFC and \*.PFL met data files. See snapshot of the generated \*.SFC met data file and \*.PFL met data file. Figure below also shows the AERMOD treatment of boundaries parameters.

In the same way as the Austal2000 model, AERMOD validation run has considered the effects of building downwash. Waste to Energy (WTE) dimensions: Approx. Length x width x height [m]: 100 x 70 x 30. Surrounding building location have been considered according to land use plan, topographical survey and Google Earth maps. The height of the buildings has been considered to maximum 10m. This is another strong feature in AERMOD that the aerodynamic turbulence induced by nearby buildings cause a pollutant emitted from an elevated source to be mixed rapidly toward the ground (downwash), resulting in higher ground-level concentrations.

Terrain effects, such as elevations, were also incorporated which have impact on the air dispersion, deposition modeling results and potential risk to human health and the environment. Terrain elevation is the elevation relative to the facility base elevation. Complex Terrain are those elevations defined as anywhere within 50 km from the stack, are above the top of the stack being evaluated in the air modelling analysis. Terrain consideration was determined using SRTM3 terrain data processed by AERMAP terrain processor and has noted that highest elevations in the project area is at 7 meters only above sea level. Nevertheless, this AERMOD validated executed terrain situations using SRTM3 terrain data processed by AERMAP terrain processor where model considers terrain height exceeds stack base elevation, model receptors are also assumed on elevated terrain. Terrain elevations for receptors in the receptor Pathway are also considered.

Output of model run includes: one (1) hour, twenty-four (24) hour, and one (1) year averaging time plot files, isopleths diagrams, and table of worst-case scenarios. Meteorological data used is based on TIER 4 meteorological data, NCAR MM5 (5th-generation Mesoscale Model) prognostic meteorological model was the basis for meteorological background of the areas. Prognostic MM5 meteorological model are specified location and site domain. Once the MM5 preprocessing has been completed, the MM5 output file is converted into a format recognized by the **AERMET model** (meteorological preprocessor for the AERMOD model). The final output is generated by creating a pseudo met-station at the specified site location.

## AREA SENSITIVE RECEPTORS (ASRs)

Area Sensitive Receptors (ASRs) include, but are not limited to residential areas, hospitals, schools, daycare facilities, elderly housing and convalescent facilities. These are areas where the occupants are more susceptible to the adverse effects of exposure to air pollutants. Extra monitoring and abatement efforts must be taken when dealing with contaminants and pollutants in close proximity to areas recognized as ASRs. For the WTE project and for the purpose of assessing potential impacts, Thilafushi islands' industrial areas are considered as ASRs as there are identified facilities with workers quarters. ASRs are located in the following area and details are provided in the main text of this report: (1.) ASR1-ENE; (2.) ASR2-SSE; (3.) ASR3-NNE; (4.) ASR4-SSW; (5) ASR5-NNW 474 to 1273 meters upwind and downwind directions from the center of the domain at UTM coordinates Easting 326540 and Northing 462472. This AERMOD Report includes results of the dispersion model showing the highest predicted ground level concentrations (GLC) in the ASRs.

The results and outputs of the models are compared with TA Luft Standards as specified in the Austal2000 Report and applicable United States Environmental Protection Agency (USEPA) standards and World Health Organization (WHO) Air Quality Guidelines.

## TOTAL DUST (TD)

Predicted short term (1 hour) for controlled<sup>1</sup> total dust (TD) maximum ground level concentrations is 7.60 ug/m<sup>3</sup> located 280 meters ENE from the center of the domain. The 24 hour controlled total dust (TD) maximum ground level concentrations is 3.188 ug/m<sup>3</sup> located 608 meters ENE from the center of the domain. Simulated concentrations for maximum ground level concentration for 1 hour total dust (TD) are generally very low. There is no available the Ambient Air Quality Standards for total dust in the Austal2000 Report. For the total dust (TD) deposition, AERMOD results shows 0.00754 g/m<sup>2</sup> for 1 hour, 0.038505 g/m<sup>2</sup> for 24 hr, and 0.43394 g/m<sup>2</sup> for 1 year deposition. Deposition simulations are all below the TALuft precipitation limit of 0.35 g/m<sup>2</sup>-d. There are no applicable USEPA standards and WHO Air Quality Guideline Values. Reference center of the domain is the location of the Boiler Stack-1 at Universal Transverse Mercator (UTM) coordinates Easting 326540 and Northing 462472.

### Summary Maximum Ground Level Concentration using AERMOD

Parameters	Ave.Time	Results	German Standard (TA Luft)		USEPA	WHO Air Quality Guidelines	% of the Applicable Standards
		Conc (ug/Nm <sup>3</sup> )	Conc (ug/Nm <sup>3</sup> )	Deposition (g/m <sup>2</sup> )	Conc (ug/Nm <sup>3</sup> )	Conc (ug/Nm <sup>3</sup> )	%
Total Dust	1 hour	7.60628	-	-	-	-	-
Total Dust	24 hour	3.18863	-	-	-	-	-
Total Dust	1 year	0.34134	-	0.35	-	-	-

## PARTICULATE MATTER 10 (PM10)

Predicted short term (1 hour) for controlled particulate matter 10 (PM-10) maximum ground level concentrations is 0.102 ug/m<sup>3</sup> located 100 meters E from the center of the domain. The 24-hour controlled PM-10 maximum ground level concentrations is 0.02844 ug/m<sup>3</sup> located

<sup>1</sup> Controlled emission parameters refer to post-air pollution control devices. For the WtE, each stack will include baghouse and electrostatic precipitators.

100 meters E from the center of the domain. Simulated concentration for maximum ground level concentration for 24 hour PM<sub>10</sub> is below the 35 ug/m<sup>3</sup> TA Luft standards. There is no available Ambient Air Quality Standards for PM-10 in the Austal2000 report. For the PM-10 deposition, AERMOD results shows 0.00037 g/m<sup>2</sup> for 1 hour, 0.0007g/m<sup>2</sup> for 24 hour and 0.025 g/m<sup>2</sup> for 1 year deposition. There is no TALuft limit for PM<sub>10</sub> for 1-hour in the Austal2000 report. Results are below TA Luft and WHO Air Quality Guideline Values. There are no USEPA standards in ug/Nm<sup>3</sup> unit, the values used are converted from parts per billion by volume (ppbv). The results show insignificant increase of 0.51% for 1-hour, 0.06% for 24-hour, and 0.01% for 1-year. Reference center of the domain is the location of the Boiler Stack-1 at UTM coordinates Easting 326540 and Northing 462472.

#### Summary Maximum Ground Level Concentration using AERMOD

Parameters	Ave.Time	Results	German Standard (TA Luft)		USEPA	WHO Air Quality Guidelines	% of the Applicable Standards
		Conc (ug/Nm <sup>3</sup> )	Conc (ug/Nm <sup>3</sup> )	Deposition (g/m <sup>2</sup> )	Conc (ug/Nm <sup>3</sup> )	Conc (ug/Nm <sup>3</sup> )	%
PM <sub>10</sub>	1 hour	0.10288	-	-	-	20	0.51
PM <sub>10</sub>	24 hour	0.02844	50	-	150	50	0.06
PM <sub>10</sub>	1 year	0.0025	40	-	50	20	0.01

#### SULFUR DIOXIDE (SO<sub>2</sub>)

Predicted short term (1 hour) for controlled sulfur dioxide (SO<sub>2</sub>) maximum ground level concentrations is 10.34 ug/m<sup>3</sup> located 100 meters E from the center of the domain. The 24 hour controlled SO<sub>2</sub> maximum ground level concentrations is 2.85 ug/m<sup>3</sup> located 100 meters E from the center of the domain. For 1-year averaging time, results of maximum concentration is 0.25302 ug/m<sup>3</sup>. Results for maximum ground level concentration for 1 hour, 24 hour and 1 year SO<sub>2</sub> are all below the TA Luft standards of 350 ug/m<sup>3</sup> for 1 hour, 125 ug/m<sup>3</sup> for 24 hr and 50 ug/m<sup>3</sup> for 1 year respectively. There are no USEPA standards in ug/Nm<sup>3</sup> unit, the values used are converted from parts per billion by volume (ppbv). The results show insignificant increase of 4.88% for 1-hour, 14.29% for 24-hour, and 0.32% for 1-year. Reference center of the domain is the location of the Boiler Stack-1 at UTM coordinates Easting 326540 and Northing 462472.

#### Summary Maximum Ground Level Concentration using AERMOD

Parameters	Ave.Time	Results	German Standard (TA Luft)		USEPA	WHO Air Quality Guidelines	% of the Applicable Standards
		Conc (ug/Nm <sup>3</sup> )	Conc (ug/Nm <sup>3</sup> )	Deposition (g/m <sup>2</sup> )	Conc (ug/Nm <sup>3</sup> )	Conc (ug/Nm <sup>3</sup> )	%
SO <sub>2</sub>	1 hour	10.33980	350	-	212	-	4.88
SO <sub>2</sub>	24 hour	2.85793	125	-	365	20	14.29
SO <sub>2</sub>	1 year	0.25302	50	-	79	-	0.32

#### NITROGEN OXIDES (NO<sub>x</sub>)

Predicted short term (1 hour) for controlled NO<sub>2</sub> maximum ground level concentrations is 48.91 ug/m<sup>3</sup> located 100 meters E from the center of the domain. The 24 hour controlled NO<sub>2</sub> maximum ground level concentrations is 14.16 ug/m<sup>3</sup> located 100 meters E from the center of the domain. For 1 year averaging time, results of maximum NO<sub>2</sub> concentration is 2.1 ug/m<sup>3</sup>. Simulated concentration for maximum NO<sub>2</sub> ground level concentration for 1 year is below the TA



Luft standards of 40 ug/m3. There are no USEPA standards in parts per billion by volume (ppbv) therefore cannot be converted to ug/Nm3 unit. The results show increase of 24.46% for 1-hour, and 5.25% for 1-year if compared to WHO Air Quality Guidelines. Reference center of the domain is the location of the Boiler Stack-1 at UTM coordinates Easting 326540 and Northing 462472.

#### Summary Maximum Ground Level Concentration using AERMOD

Parameters	Ave. Time	Results	German Standard (TA Luft)		USEPA	WHO Air Quality Guidelines	% of the Applicable Standards
		Conc (ug/Nm3)	Conc (ug/Nm <sup>3</sup> )	Deposition (g/m2)	Conc (ug/Nm <sup>3</sup> )	Conc (ug/Nm <sup>3</sup> )	%
NO2(Nox)	1 hour	48.91013	200	-	100 ppb	200	24.46
NO2(Nox)	24 hour	14.16085	-	-	-	-	-
NO2(Nox)	1 year	2.10000	40	-	53 ppb	40	5.25

#### MERCURY (HG)

Predicted short term (1 hour) for controlled mercury (Hg) maximum ground level concentrations is 0.00643 ug/m3 located 100 meters E from the center of the domain. The 24 hour controlled Hg maximum ground level concentrations is 0.00178 ug/m3 located 100 meters E from the center of the domain. For 1 year averaging time, results of maximum concentration is 0.0057 ug/m3. There are no TA Luft, USEPA standards and WHO Air Quality Guideline Values. The results show insignificant increase of 0.18% for 24-hour and 3.14% for 1-year using TA Luft standards. Reference center of the domain is the location of the Boiler Stack-1 at UTM coordinates Easting 326540 and Northing 462472.

#### Summary Maximum Ground Level Concentration using AERMOD

Parameters	Ave. Time	Results	German Standard (TA Luft)		USEPA	WHO Air Quality Guidelines	% of the Applicable Standards
		Conc (ug/Nm3)	Conc (ug/Nm <sup>3</sup> )	Deposition (g/m2)	Conc (ug/Nm <sup>3</sup> )	Conc (ug/Nm <sup>3</sup> )	%
Hg	1 hour	0.00643	-	-	-	-	-
Hg	24 hour	0.00178	-	1	-	-	0.18
Hg	1 year	0.00157	-	0.05	-	-	3.14

#### AMMONIA (NH<sub>3</sub>)

Predicted short term (1 hour) for controlled ammonia (NH<sub>3</sub>) maximum ground level concentrations is 2.066 ug/m3 located 100 meters E from the center of the domain. The 24 hour controlled NH<sub>3</sub> maximum ground level concentrations is 0.57123 ug/m3 located 100 meters E from the center of the domain. There are no NH<sub>3</sub> TA Luft standards in the Austal2000 report. There are no USEPA standards and WHO Air Quality Guideline Values. Reference center of the domain is the location of the Boiler Stack-1 at UTM coordinates Easting 326540 and Northing 462472.

#### Summary Maximum Ground Level Concentration using AERMOD

Parameters	Ave. Time	Results	German Standard (TA Luft)		USEPA	WHO Air Quality Guidelines	% of the Applicable Standards
		Conc (ug/Nm3)	Conc (ug/Nm <sup>3</sup> )	Deposition (g/m2)	Conc (ug/Nm <sup>3</sup> )	Conc (ug/Nm <sup>3</sup> )	%

NH3	1 hour	2.06667	-	-	-	-	-
NH3	24 hour	0.57123	-	-	-	-	-
NH3	1 year	0.00147	-	-	-	-	-

### HYDROGEN CHLORIDE (HCL)

Predicted short term (1 hour) for controlled hydrogen chloride (HCl) maximum ground level concentrations is 2.066 ug/m<sup>3</sup> located 100 meters E from the center of the domain. The 24 hour controlled NH<sub>3</sub> maximum ground level concentrations is 0.57123 ug/m<sup>3</sup> located 100 meters E from the center of the domain. There are no HCl TA Luft standards in the Austal2000 report. There are no USEPA standards and WHO Air Quality Guideline Values. Reference center of the domain is the location of the Boiler Stack-1 at UTM coordinates Easting 326540 and Northing 462472.

Parameters	Ave. Time	Results	German Standard (TA Luft)		USEPA	WHO Air Quality Guidelines	% of the Applicable Standards
		Conc (ug/Nm <sup>3</sup> )	Conc (ug/Nm <sup>3</sup> )	Deposition (g/m <sup>2</sup> )	Conc (ug/Nm <sup>3</sup> )	Conc (ug/Nm <sup>3</sup> )	%
HCl	1 hour	2.06667	-	-	-	-	-
HCl	24 hour	0.57123	-	-	-	-	-
HCl	1 year	0.00147	-	-	-	-	-

### HYDROGEN FLOURIDE (HF)

Predicted short term (1 hour) for controlled hydrogen fluoride (HF) maximum ground level concentrations is 2.066 ug/m<sup>3</sup> located 100 meters E from the center of the domain. The 24 hour controlled HF maximum ground level concentrations is 0.57123 ug/m<sup>3</sup> located 100 meters E from the center of the domain. There are no HF TA Luft standards in the Austal2000 report. There are no USEPA standards and WHO Air Quality Guideline Values. Reference center of the domain is the location of the Boiler Stack-1 at UTM coordinates Easting 326540 and Northing 462472.

Parameters	Ave. Time	Results	German Standard (TA Luft)		USEPA	WHO Air Quality Guidelines	% of the Applicable Standards
		Conc (ug/Nm <sup>3</sup> )	Conc (ug/Nm <sup>3</sup> )	Deposition (g/m <sup>2</sup> )	Conc (ug/Nm <sup>3</sup> )	Conc (ug/Nm <sup>3</sup> )	%
Hf	1 hour	0.20705	-	-	-	-	-
Hf	24 hour	0.05723	-	-	-	-	-
Hf	1 year	0.00015	-	-	-	-	-

### DIOXINS AND FURANS (D/F)

Predicted short term (1 hour) for controlled Dioxins and Furans maximum ground level concentrations is 0.0258 ug/m<sup>3</sup> located 100 meters E from the center of the domain. The 24 hour controlled Dioxins and Furans maximum ground level concentrations is 0.00569 ug/m<sup>3</sup> located 100 meters E from the center of the domain. There are no Dioxins and Furans TA Luft standards in the Austal2000 report. There are no USEPA standards and WHO Air Quality Guideline Values. Reference center of the domain is the location of the Boiler Stack-1 at UTM coordinates Easting 326540 and Northing 462472.

Parameters	Ave.Time	Results	German Standard (TA Luft)		USEPA	WHO Air Quality Guidelines	% of the Applicable Standards
		Conc (ug/Nm <sup>3</sup> )	Conc (ug/Nm <sup>3</sup> )	Deposition (g/m <sup>2</sup> )	Conc (ug/Nm <sup>3</sup> )	Conc (ug/Nm <sup>3</sup> )	%
D/F	1 hour	0.02058	-	-	-	-	-
D/F	24 hour	0.00569	-	-	-	-	-
D/F	1 year	0.00002	-	-	-	-	-

### **SUM OF HEAVY METALS AND THEIR COMPONENTS: ANTIMONY, CHROMIUM, COPPER, MANGANESE, VANADIUM, TIN, LEAD, COBALT, NICKEL ( TA LUFT CLASS II AND III)**

Predicted short term (1 hour) for the Sum of heavy metals and their components: antimony, chromium, copper, manganese, vanadium, tin, lead, cobalt, nickel ( TA Luft class II and III) ground level concentrations is 1.3161 ug/m<sup>3</sup> located 316 meters NorthNorthEast (NNE) from the center of the domain. The 24 hour controlled total sum of metals maximum ground level concentrations is 0.4954 ug/m<sup>3</sup> located 141 meters NorthWest (NW) from the center of the domain. For 1 year averaging time, results of maximum concentration is 0.0982 ug/m<sup>3</sup>. Simulated concentrations for maximum ground level concentration for both 1, 24 hours & 1 Year averaging which are generally very low. Results are generally lower than US RSLs for combined 24 hr averaging for Cu, Vn, Cr and Mn of 0.152 ug/m<sup>3</sup> and the 3 month NAAQS for Lead of 0.15 ug/m<sup>3</sup>. There is no available the Ambient Air Quality Standards for said metals in the Austal2000 Report. Reference center of the domain is the location of the Boiler Stack-1 at UTM coordinates Easting 326540 and Northing 462472.

Parameters	Ave.Time	Results	German Standard (TA Luft)		USEPA	WHO Air Quality Guidelines	% of the Applicable Standards
		Conc (ug/Nm <sup>3</sup> )	Conc (ug/Nm <sup>3</sup> )	Deposition (g/m <sup>2</sup> )	Conc (ug/Nm <sup>3</sup> )	Conc (ug/Nm <sup>3</sup> )	%
Sum of Metals (Sb) <sup>1</sup>	1 hour	1.31607	-	-	-	-	-
Sum of Metals (Sb) <sup>1</sup>	24 hour	0.49540	-	-	-	-	-
Sum of Metals (Sb) <sup>1</sup>	1 year	0.09818	-	-	-	-	-

<sup>1</sup>Sum of metals: Antimony, Chromium, Copper, Manganese, Vanadium, in, Lead, Cobalt, Nickel

### **ARSENIC / CADMIUM AND ITS COMPOUNDS (EXPRESSED AS As AND Cd), BENZO (A) PYRENE, WATER-SOLUBLE COBALT COMPOUNDS (EXPRESSED AS CO), CHROMIUM (VI) COMPOUNDS (EXPRESSED AS CR) (TA LUFT CLASS I )**

Predicted short term (1 hour) for the Sum of heavy metals and their components: Arsenic / cadmium and its compounds (expressed as As and Cd), benzo (a) pyrene, water-soluble cobalt compounds (expressed as Co), chromium (VI) compounds (expressed as Cr) (TA Luft Class I ) ground level concentrations is 0.13161 ug/m<sup>3</sup> located 316 meters NorthNorthEast (NNE) from the center of the domain. The 24 hour controlled total sum of metals maximum ground level concentrations is 0.049 ug/m<sup>3</sup> located 141 meters NorthWest (NW) from the center of the domain. For 1 year averaging time, results of maximum concentration is 0.00982 ug/m<sup>3</sup>. Simulated

concentrations for maximum ground level concentration for both 1, 24 hours & 1 Year averaging which are generally very low. Results are generally lower than the available ESL for Arsenic of 3 ug/m<sup>3</sup> and 0.067 ug/m<sup>3</sup> for 1 year. There is no available the Ambient Air Quality Standards for said metals in the Austal2000 Report. Reference center of the domain is the location of the Boiler Stack-1 at UTM coordinates Easting 326540 and Northing 462472.

Parameters	Ave.Time	Results	German Standard (TA Luft)		USEPA	WHO Air Quality Guidelines	% of the Applicable Standards
		Conc (ug/Nm <sup>3</sup> )	Conc (ug/Nm <sup>3</sup> )	Deposition (g/m <sup>2</sup> )	Conc (ug/Nm <sup>3</sup> )	Conc (ug/Nm <sup>3</sup> )	%
Sum of Metals (As) <sup>1</sup>	1 hour	0.13161	-	-	-	-	-
Sum of Metals (As) <sup>1</sup>	24 hour	0.04954	-	-	-	-	-
Sum of Metals (As) <sup>1</sup>	1 year	0.00982	-	-	-	-	-

<sup>1</sup>Sum of metals: Arsenic / cadmium and its compounds (expressed as As and Cd), benzo (a) pyrene, water-soluble cobalt compounds (expressed as Co), chromium (VI) compounds (expressed as Cr)

## THALLIUM AND ITS COMPOUNDS ( TA LUFT CLASS I) CADMIUM

Predicted short term (1 hour) for the Sum of heavy metals and their components: Thallium and its compounds ( TA Luft class I) cadmium ground level concentrations is 0.13161 ug/m<sup>3</sup> located 316 meters NorthNorthEast (NNE) from the center of the domain. The 24 hour controlled total sum of metals maximum ground level concentrations is 0.049 ug/m<sup>3</sup> located 141 meters NorthWest (NW) from the center of the domain. For 1 year averaging time, results of maximum concentration is 0.00982 ug/m<sup>3</sup>. Simulated concentrations for maximum ground level concentration for both 1, 24 hours & 1 Year averaging which are generally very low. There is no available the Ambient Air Quality Standards for said metals in the Austal2000 Report and in the USEPA NAAQS, ESLs and RSLs. Reference center of the domain is the location of the Boiler Stack-1 at UTM coordinates Easting 326540 and Northing 462472.

Parameters	Ave.Time	Results	German Standard (TA Luft)		USEPA	WHO Air Quality Guidelines	% of the Applicable Standards
		Conc (ug/Nm <sup>3</sup> )	Conc (ug/Nm <sup>3</sup> )	Deposition (g/m <sup>2</sup> )	Conc (ug/Nm <sup>3</sup> )	Conc (ug/Nm <sup>3</sup> )	%
Sum of Metals (TI) <sup>1</sup>	1 hour	0.13161	-	-	-		
Sum of Metals (TI) <sup>1</sup>	24 hour	0.04954	-	-	-		
Sum of Metals (TI) <sup>1</sup>	1 year	0.00982	-	-	-		

<sup>1</sup>Sum of metals: Thallium and its compounds and cadmium

For all the above parameters, controlled emissions have been validated to be in compliance with the TA Luft Standards as provided in the Austal2000 Report and with the USEPA standards and the WHO Air Quality Guidelines.

## **RESULTS**

AERMOD validation of the Austal2000 model results shows slightly higher results than the Austal2000 report but still within TA Luft Standards and USEPA Standards. For the deposition results, Total Dust, SO<sub>2</sub>, NO<sub>2</sub> and Hg are confirmed to be way below the 1 year TA Luft precipitation standards. Toxic heavy metal parameters such Ni, Ti, As, Cd, and Pb was excluded in the validation model due to absence of design emission data.

Based on the design emission of the proposed WTE plant, proposed stack height of 50 meters in the Austal2000 report was found to be favorable considering all predicted ground level concentrations in the AERMOD validation model are below the TA Luft and USEPA standards.

## **RECOMMENDATIONS**

It recommended to (i) retain the four (4) ambient monitoring stations used in conducting ambient air quality in Thillafushi island for the EIA study; and (ii) put up additional ambient monitoring stations in ASR 2, ASR 3 and ASR 5 areas due to industrial facilities with workers quarters.

Background ambient air quality was not accounted in the modeling run. However given there are no potential significant sources of air pollution (such as mobile, area, line sources, community and other air-pollutant emitting industries) near the WTE plant, the results of both the Austal2000 and AERMOD models are generally acceptable and can be seen as below TA Luft and USEPA Standards. However, it is highly recommended to conduct a validation run after 1 to 3 months during operations stage using actual CEMS, stack testing, and ambient air monitoring results.

## 1. BACKGROUND INFORMATION

Atmospheric dispersion modeling is the mathematical simulation of how air pollutants disperse in the ambient atmosphere. The dispersion models are used to estimate the downwind ambient concentration of air pollutants emitted from sources. They can also be used to predict future concentrations under specific scenarios (i.e. changes in emission sources) and are most useful for pollutants that are dispersed over large distances and that may react in the atmosphere. advanced dispersion modeling programs include a pre-processor module for the input of meteorological and other data, and many also include a post-processor module for graphing the output data and/or plotting the area impacted by the air pollutants on maps. The plots of areas impacted may also include isopleths showing areas of minimal to high concentrations that define areas of the highest health risk. The isopleths plots are useful in determining protective actions for the public and responders.

### Objectives of This Study<sup>2</sup>

The objectives of this validation studies are: (i) evaluation of Austal2000 model conducted as part of the EIA study; (ii) compare results with relevant TA Luft and USEPA standards and guidelines; and (iii) identify and forecast levels of relevant pollutants at different area sensitive receptors (ASRs) in Thillafushi to assess effects of air quality with regards to human health, risks and environment.

### Component of the WTE Plant<sup>3</sup>

The WTE plant shall be designed and built as a conventional state-of-the-art grate type incinerator of two lines of 250 Mg/d each (total of 500 Mg/d), that shall consist of the following main set of process units and plant components:

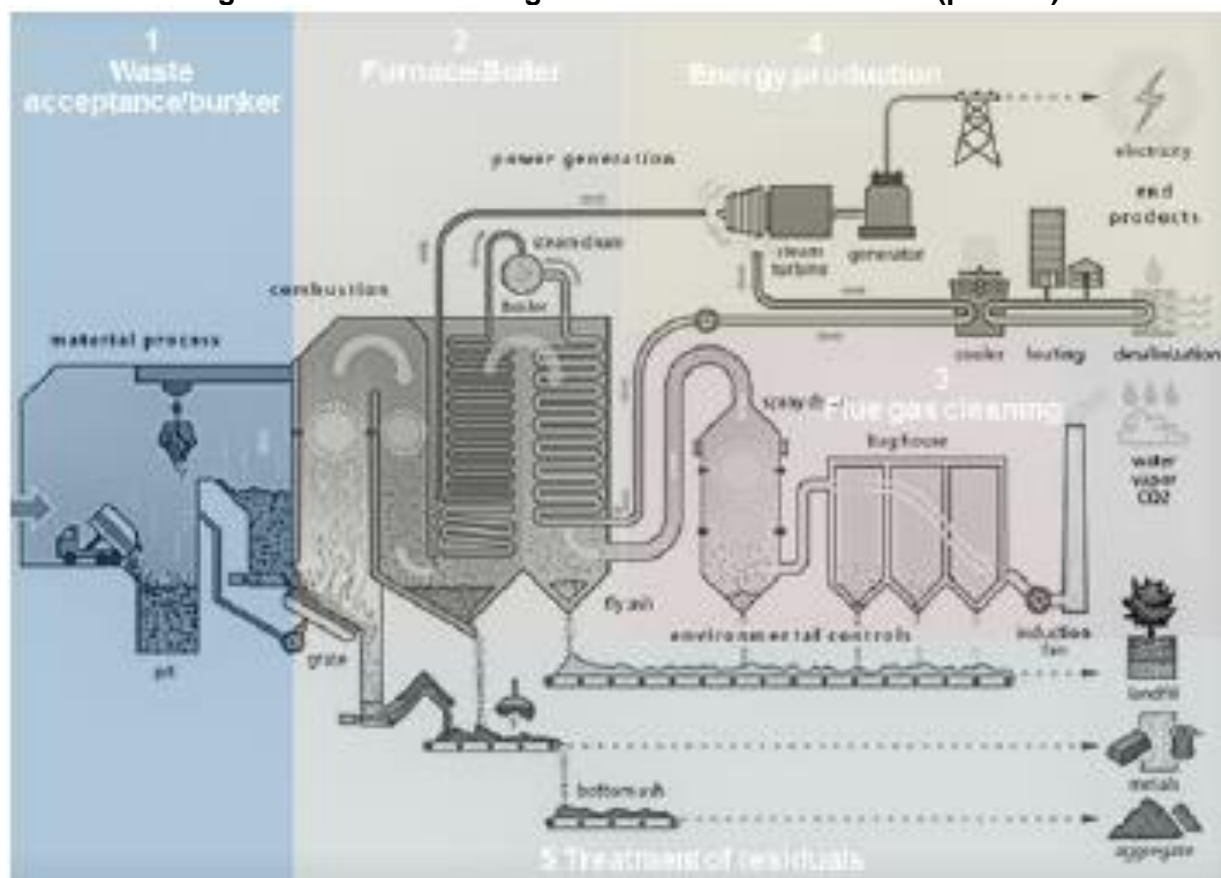
- a) Waste reception, storage and feeding consisting of a weigh bridge incl. guard house, tipping hall and waste bunker, a shredder and waste cranes;
- b) Thermal treatment consisting of combustion system; boiler and heat recovery system and boiler feed water and make-up water system;
- c) Air pollution control (APC) system and ID fan and stack and continuous emission monitoring system (CEMS);
- d) Turbine with generator and condenser, cooling water pre-treatment system and cooling water pumps;
- e) Other balance of plant components incl. fuel and chemicals supply and storage; fire-fighting water supply system; wastewater treatment plant for sewerage, water supply system;
- f) Bottom ash treatment plant incl. bottom ash bunker and conveying system;
- g) Residue sanitary landfill and leachate collection, management and treatment system;
- h) Electric system incl. connection to public network

All process units and the balance of plant components are to be equipped with necessary electrical and control components, with valves, fittings, piping, utility mains etc. and shall be combined to a fully functional system that is fit for purpose and that is operated and controlled by a **DCS** which shall facilitate monitoring and recording of operational data.

<sup>2</sup> Greater Male' Waste to Energy Project Environmental (EIA) Waste to Energy Facility in Thilafushi

<sup>3</sup> Greater Male' Waste to Energy Project Environmental (EIA) Waste to Energy Facility in Thilafushi

**Figure 1: Schematic Diagram of the WTE Plant Boiler (per line)**



## 2. The Study Area

The WTE plant will be located on a 27 hectares government-owned land, of which 15 hectares have been reclaimed from shallow lagoon in Thilafushi island. It is on the southern rim of North Malé atoll, and on the eastern line of atolls within the archipelago. Thilafushi is located 9.5 km from Malé. In terms of geographic coordinates, it is located at 04° 11' 00" N and 73° 26' 44" E. The nearest inhabited island is Villingili, approximately 7.1 km east of Thilafushi.

## 3. Air Pollutants of Concern

### Particulate Matter Emissions (PM)

Particulate matter (PM) can vary greatly in size with diameters ranging from less than 1 micrometer to hundreds of micrometers ( $\mu\text{m}$ ). Fine particulates, having diameters less than  $10\mu\text{m}$  (known as PM-10), are of increased concern because a greater potential for inhalation and passage into the pulmonary region exists. Further, acid gases, metals, and toxic organics may preferentially adsorb onto particulates in this size range. Particulate emissions may be categorized as either filterable or condensable. Filterable emissions are generally considered to be the particles that are trapped by the glass fiber filter in the front half of USEPA Reference Method 5 or Method 17. Vapors and particles less than 0.3 microns pass through the filter. Condensable particulate matter is material that is emitted in the vapor state which later condenses

to form homogeneous and/or heterogeneous aerosol particles. The condensable particulate emitted from boilers is primarily inorganic in nature.

The level of PM at the inlet of the APC SYSTEM will vary according to the combustor design, air distribution, waste characteristics, and the combustor's operation. Under normal combustion conditions, solid fly ash particulates formed from inorganic, noncombustible constituents in MSW are released into the flue gas. Most of this particulate is captured by the facility's APC system and are not emitted to the atmosphere.

### **Carbon Monoxide Emissions (CO)**

The presence of carbon monoxide (CO) in the exhaust gases of combustion systems results principally from incomplete fuel combustion. High levels of CO indicate that the combustion gases were not held at a sufficiently high temperature in the presence of oxygen (O<sub>2</sub>) for a long enough time to convert CO to carbon dioxide (CO<sub>2</sub>). Several conditions can lead to incomplete combustion, including insufficient oxygen (O<sub>2</sub>) availability; poor fuel/air mixing; cold-wall flame quenching; reduced combustion temperature; decreased combustion gas residence time; and load reduction (i.e., reduced combustion intensity).

By controlling the combustion process carefully, CO emissions can be minimized. Thus, if a unit is operated improperly or not well maintained, the resulting concentrations of CO (as well as organic compounds) may increase by several orders of magnitude. Smaller boilers, heaters, and furnaces tend to emit more of these pollutants than larger combustors. This is because smaller units usually have a higher ratio of heat transfer surface area to flame volume than larger combustors have; this leads to reduced flame temperature and combustion intensity and, therefore, lower combustion efficiency.

Since various combustion modifications for NO<sub>x</sub> reduction can produce one or more of the mentioned conditions, the possibility of increased CO emissions is a concern for environmental, energy efficiency, and operational reasons.

### **Nitrogen Oxides Emissions (NO<sub>x</sub>)**

Oxides of nitrogen (NO<sub>x</sub>) formed in combustion processes are due either to thermal fixation of atmospheric nitrogen in the combustion air ("thermal NO<sub>x</sub>"), or to the conversion of chemically-bound nitrogen in the fuel ("fuel NO<sub>x</sub>"). The term NO<sub>x</sub> refers to the composite of nitric oxide (NO) and nitrogen dioxide (NO<sub>2</sub>). Test data have shown that for most external fossil fuel combustion systems, over 95 percent of the emitted NO<sub>x</sub> is in the form of nitric oxide (NO). Nitrous oxide (N<sub>2</sub>O) is not included in NO<sub>x</sub> but has recently received increased interest because of atmospheric effects. The formation of thermal NO<sub>x</sub> is affected by four factors: (1) peak temperature, (2) fuel nitrogen concentration, (3) oxygen concentration, and (4) time of exposure at peak temperature. The emission trends due to changes in these factors are generally consistent for all types of boilers: an increase in flame temperature, oxygen availability, and/or residence time at high temperatures leads to an increase in NO<sub>x</sub> production.

Conversion of nitrogen in the waste occurs at relatively low temperatures (less than 109 °C), while fixation of atmospheric nitrogen occurs at higher temperatures. Because of the relatively low temperatures at which WTE plants operate, 70 to 80% of NO formed is associated with nitrogen in the waste.<sup>4</sup>

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<sup>4</sup> USEPA AP 42- Chapter 2.1 Refuse Combustion



## **Sulfur Oxides Emissions (SOX)**

Sulfur oxides (SOx) emissions are generated during combustion from the oxidation of sulfur contained in the fuel. The emissions of SOx are predominantly in the form of SO<sub>2</sub>. Uncontrolled SOx emissions are almost entirely dependent on the sulfur content of the fuel and are not affected by boiler size, burner design, or grade of fuel being fired. On average, more than 95% of the sulfur content in the municipal solid waste is converted to SO<sub>2</sub>, about 1% to 5% is further oxidized to sulfur trioxide (SO<sub>3</sub>), and 1% to 3% is emitted as sulfate particulate. SO<sub>3</sub> readily reacts with water vapor (both in the atmosphere and in flue gases) to form a sulfuric acid mist.

## **Metals Emissions and Acid Gases**

Metals are present in a variety of municipal solid waste streams are emitted from WTE plant in association with PM (e.g., arsenic [As], Cd, chromium [Cr], and Pb) and as vapors, such as Hg. Due to the variability in municipal solid waste composition, metal concentrations are highly variable and are essentially independent of combustor type. If the vapor pressure of a metal is such that condensation onto particulates in the flue gas is possible, the metal can be effectively removed by the PM control device. Except for mercury (Hg), most metals have sufficiently low vapor pressures which result in almost all of the metals being condensed. Therefore, removal in the PM control device for these metals is generally greater than 98%. Hg, on the other hand, has a high vapor pressure, but the level of carbon in the fly ash appears to affect the level of Hg control. A high level of carbon in the fly ash can enhance Hg adsorption onto particles. Hg can be removed in a typical APC system controlling the operating temperature and by the PM control device.<sup>5</sup>

The chief acid gases of concern from WTE plants are hydrochloric acid (HCl) and sulfuric acid (H<sub>2</sub>SO<sub>4</sub>) from SO<sub>2</sub>. Hydrogen fluoride (HF), hydrogen bromide (HBr), and sulfur trioxide (SO<sub>3</sub>) are also generally present, but at much lower concentrations. Concentrations of HCl and H<sub>2</sub>SO<sub>4</sub> in flue gases directly relate to the chlorine and sulfur content in the municipal solid waste the availability of alkali materials in combustion-generated fly ash that act as sorbents, and the type of APC system used. Acid gas concentrations are considered to be independent of combustion conditions.

## **Greenhouse Gases**

WTE plants involve generation of climate-relevant emissions such as CO<sub>2</sub> (carbon dioxide) as well as N<sub>2</sub>O (nitrous oxide), N<sub>2</sub>O, ammonia (NH<sub>3</sub>) and organic carbon, measured as total carbon. Methane (CH<sub>4</sub>) is not generated in a WTE plant during normal operation. It only arises, in exceptional cases and to a small extent (from waste remaining in the waste bunker), therefore that in quantitative terms CH<sub>4</sub> is not to be regarded as climate relevant.

CO<sub>2</sub> constitutes the chief climate-relevant emission of WTE plant. A WTE plant of 1 Mg of municipal solid waste is associated with the production/release of about 0.7 to 1.2 Mg of CO<sub>2</sub> output. The proportion of carbon of biogenic origin is usually in the range of 33% to 50%. The climate-relevant CO<sub>2</sub> emissions from WTE plants are determined by the proportion of waste whose carbon compounds are assumed to be of fossil origin. The allocation to fossil or biogenic carbon has a crucial influence on the calculated amounts of climate-relevant CO<sub>2</sub> emissions. An energy transformation efficiency equal to or greater than about 25% results in an allowable

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<sup>5</sup> USEPA AP 42- Chapter 2.1 Refuse Combustion

average substituted net energy potential that renders the emission of WTE plants (calculated as CO<sub>2</sub> equivalents) climate-neutral due to the emission credits from the power plant mix.<sup>6</sup>

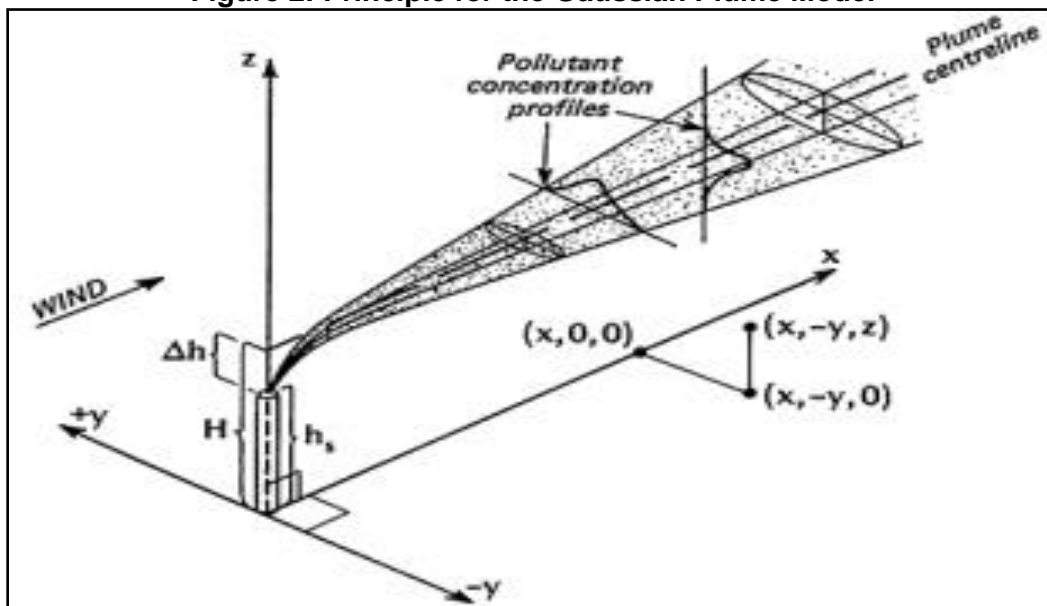
## The Air Dispersion Model

### Gaussian plume model

Gaussian plume model uses a realistic description of dispersion, where it represents an analytical solution to the diffusion equation for idealized circumstances. The model assumes that the atmospheric turbulence is both stationary and homogeneous. The model is the method of choice for many, especially for the prediction of yearly averaged concentration. It is the most widely used plume model and is the basis for most of the computer models distributed by the USEPA.

In the Gaussian plume dispersion model the concentration of pollution downwind from a source is treated as spreading outward from the centerline of the plume following a normal statistical distribution. The plume spreads in both the horizontal and vertical directions (Figure 2).

**Figure 2: Principle for the Gaussian Plume Model**



In the model, determining the pollutant concentrations at ground-level beneath an elevated plume involves two main steps:

- (i) first, the height to which the plume rises at a given downwind distance from the plume source is calculated. The calculated plume rise is added to the height of the plume's source point to obtain the so-called "effective stack height"
- (ii) second, the ground-level pollutant concentration beneath the plume at the given downwind distance is predicted using the Gaussian dispersion equation.

The Gaussian dispersion equation can be written as Figure 3:

<sup>6</sup> Good Practice Guidance and Uncertainty Management in National Greenhouse Gas Inventories, paper was written by Mr. Bernt Johnke (Germany) and reviewed by Robert Hoppaus (IPCC/OECD/IEA), Eugene Lee (US), Bill Irving (USEPA), T. Martinsen (IPCC/OECD/IEA), and K. Mareckova (IPCC/OECD/IEA).

**Figure 3: Gaussian Dispersion Equation**

$$C(x,y,z) = \frac{Q}{2\pi\sigma_y\sigma_z u} \exp\left(-\frac{y^2}{2\sigma_y^2}\right) \times \left\{ \exp\left(-\frac{(z-H)^2}{2\sigma_z^2}\right) + \exp\left(-\frac{(z+H)^2}{2\sigma_z^2}\right) \right\}$$

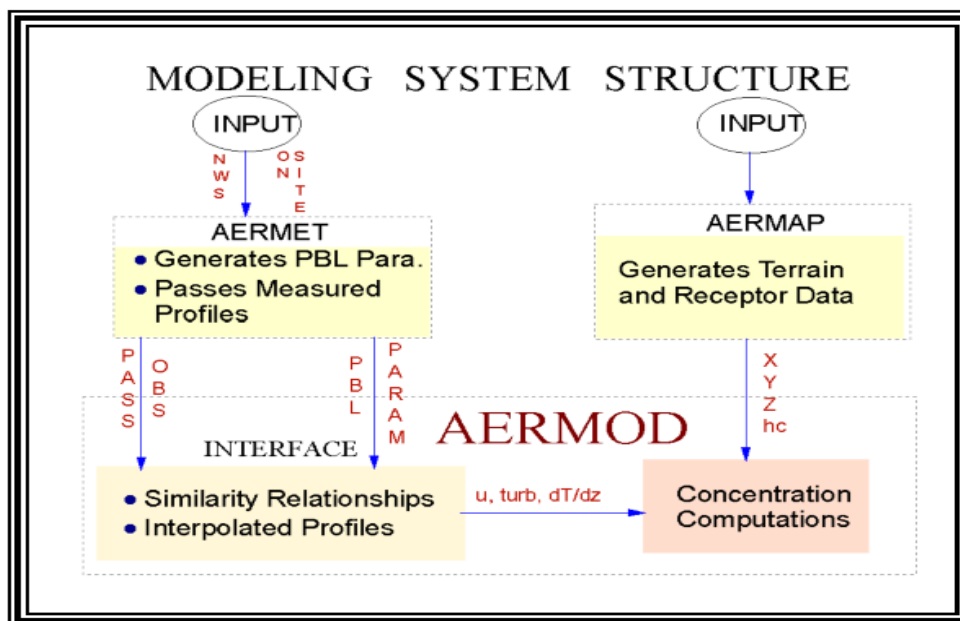
Where	C	=	concentration
	Q	=	emission rate of the pollutant from the source
	u	=	wind speed which defines the direction
	x, y	=	horizontal distance perpendicular to the wind direction
	z	=	vertical direction
	h <sub>s</sub>	=	Height of the source
	H	=	effective height of the plume (considering the additional height Δh to which the hot gases rise above the physical height of the source, h <sub>s</sub> ); i.e., H = h <sub>s</sub> + Δh
	σ <sub>y</sub> , σ <sub>z</sub>	=	parameters of the normal distributions in y and z directions, usually called the dispersion coefficients in y and z directions respectively

### **AERMOD Modeling System**

The American Meteorological Society/Environmental Protection Agency Regulatory Model Improvement Committee (AERMIC) was formed to introduce state-of-the-art modeling concepts into the USEPA's air quality models. Through AERMIC, a modeling system, AERMOD, was introduced that incorporated air dispersion based on planetary boundary layer turbulence structure and scaling concepts, including treatment of both surface and elevated sources, and both simple and complex terrain.

There are two input data processors that are regulatory components of the AERMOD modeling system: AERMET, a meteorological data pre-processor that incorporates air dispersion based on planetary boundary layer turbulence structure and scaling concepts, and AERMAP, a terrain data pre-processor that incorporates complex terrain using United States Geological Survey (USGS) Digital Elevation Data.

**Figure 4: Data flow in AERMOD Modeling System**



AERMOD is a steady-state plume model. In the stable boundary layer (SBL), it assumes the concentration distribution to be Gaussian in both the vertical and horizontal. In the convective boundary layer (CBL), the horizontal distribution is also assumed to be Gaussian, but the vertical distribution is described with a bi-Gaussian probability density function (pdf). This behavior of the concentration distributions in the CBL was demonstrated by Willis and Deardorff (1981) and Briggs (1993). Additionally, in the CBL, AERMOD treats "plume lofting," whereby a portion of plume mass, released from a buoyant source, rises to and remains near the top of the boundary layer before becoming mixed into the CBL.

AERMOD also tracks any plume mass that penetrates the elevated stable layer, and then allows it to re-enter the boundary layer when and if appropriate. Using a relatively simple approach, AERMOD incorporates current concepts about flow and dispersion in complex terrain. Where appropriate the plume is modeled as either impacting and/or following the terrain. This approach has been designed to be physically realistic and simple to implement while avoiding the need to distinguish among simple, intermediate and complex terrain, as required by other regulatory models. As a result, AERMOD removes the need for defining complex terrain regimes. All terrain is handled in a consistent and continuous manner while considering the dividing streamline concept (Snyder et al. 1985) in stably stratified conditions.

### **Meteorology in the Study Area - Wind Rose**

The prevailing wind over the Maldives represents typical Asian monsoonal characteristics. It follows the traditional definition of monsoon as seasonal reversal of wind direction by more than 120° between the months January and July. Looking at annual variations, westerly winds are predominant throughout the country, varying between west-southwest and west-northwest.<sup>7</sup>

<sup>7</sup> Consultancy Services for Feasibility Study for an Integrated Solid Waste Management System for Zone III and Prepare Engineering Design of the Regional Waste Management Facility at Thilafushi

The southwest monsoon, with winds predominantly between SW and NW, lasts from May to October. In May and June, winds are mainly from WSW to WNW, and in July to October, winds between W and NW predominate. The northeast monsoon, with winds predominantly from NE to E, lasts from December to February. During March and April, winds are variable. During November, winds are primarily from the west, becoming variable and can occasionally exceed 30 knots from the NE sector. However, yearly wind speed in the northeast and southwest monsoons are observed to be between 9-13 knots.

As part of the recent update to the USEPA Guideline on Air Quality Models (EPA,2017), the use of prognostic data is allowed for regulatory applications of AERMOD where it is cost-prohibitive or not feasible to collect site-specific data and there is no representative weather data or comparable station nearby. EPA developed the Mesoscale Model Interface Program, or MMIF for processing prognostic meteorological data for AERMOD (Environ, 2014).

For the study area, meteorological data was obtained from Lakes Environmental [https://www.weblakes.com/services/met\\_data.html](https://www.weblakes.com/services/met_data.html) which employs the Weather Research and Forecasting (WRF) model<sup>8</sup> to compute accurate wind fields and provide modeled meteorological data. The data is obtained by running the Fifth-Generation Penn State/NCAR Mesoscale Model (MM5)<sup>9</sup> prognostic meteorological model for a specified location and site domain. Once the MM5 pre-processing has been completed, the MM5 output file is converted into a format recognized by the AERMET model. The final output is generated by creating a pseudo met-station at the specified site location.

Below is the frequency distribution and wind rose of Maldives for 2018 based on MM5 AERMET processed prognostic meteorological data.

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<sup>8</sup> Weather Research and Forecasting (WRF) model is a numerical weather prediction (NWP) system designed to serve both atmospheric research and operational forecasting needs. NWP refers to the simulation and prediction of the atmosphere with a computer model, and WRF is a set of software for this. WRF features two dynamical (computational) cores (or solvers), a data assimilation system, and a software architecture allowing for parallel computation and system extensibility. The model serves a wide range of meteorological applications across scales ranging from meters to thousands of kilometres. WRF can produce simulations based on actual atmospheric conditions (i.e., from observations and analyses) or idealized conditions.

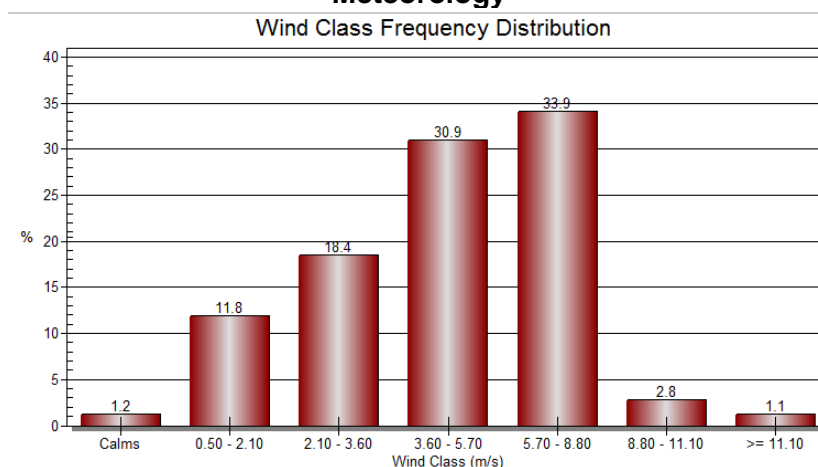
<sup>9</sup> It is a community model maintained by Penn State University and the National Center for Atmospheric Research. The MM5 is a limited-area, terrain-following sigma coordinate model that is used to replicate or forecast mesoscale and regional scale atmospheric circulation.

**Table 1: Wind Direction Frequency Diagram for Maldives, 2018**

	Directions / Wind Classes (m/s)	0.50 - 2.10	2.10 - 3.60	3.60 - 5.70	5.70 - 8.80	8.80 - 11.10	>= 11.10	Total
1	348.75 - 11.25	0.00502	0.00400	0.00731	0.00342	0.00000	0.00000	0.01975
2	11.25 - 33.75	0.00662	0.00628	0.01370	0.01199	0.00000	0.00000	0.03858
3	33.75 - 56.25	0.00765	0.01267	0.02500	0.01450	0.00137	0.00000	0.06119
4	56.25 - 78.75	0.00947	0.01267	0.02078	0.00970	0.00000	0.00000	0.05263
5	78.75 - 101.25	0.00811	0.01370	0.01290	0.00571	0.00000	0.00000	0.04041
6	101.25 - 123.75	0.00788	0.00993	0.00422	0.00285	0.00000	0.00011	0.02500
7	123.75 - 146.25	0.00639	0.00868	0.00685	0.00126	0.00000	0.00000	0.02317
8	146.25 - 168.75	0.00377	0.00742	0.01016	0.00354	0.00000	0.00000	0.02489
9	168.75 - 191.25	0.00491	0.00856	0.01587	0.00537	0.00000	0.00000	0.03470
10	191.25 - 213.75	0.00514	0.01438	0.02078	0.01769	0.00000	0.00000	0.05799
11	213.75 - 236.25	0.00913	0.01781	0.03185	0.05342	0.00148	0.00000	0.11370
12	236.25 - 258.75	0.00856	0.01747	0.04075	0.08950	0.01005	0.00616	0.17249
13	258.75 - 281.25	0.01005	0.01564	0.04669	0.06815	0.01107	0.00457	0.15616
14	281.25 - 303.75	0.00902	0.01450	0.02443	0.03779	0.00342	0.00034	0.08950
15	303.75 - 326.25	0.00970	0.01221	0.01975	0.00936	0.00011	0.00000	0.05114
16	326.25 - 348.75	0.00628	0.00788	0.00753	0.00502	0.00000	0.00000	0.02671
	Sub-Total	0.11769	0.18379	0.30856	0.33927	0.02751	0.01119	0.98801
	Calms							0.01199
	Missing/Incomplete							0.00000
	Total							1.00

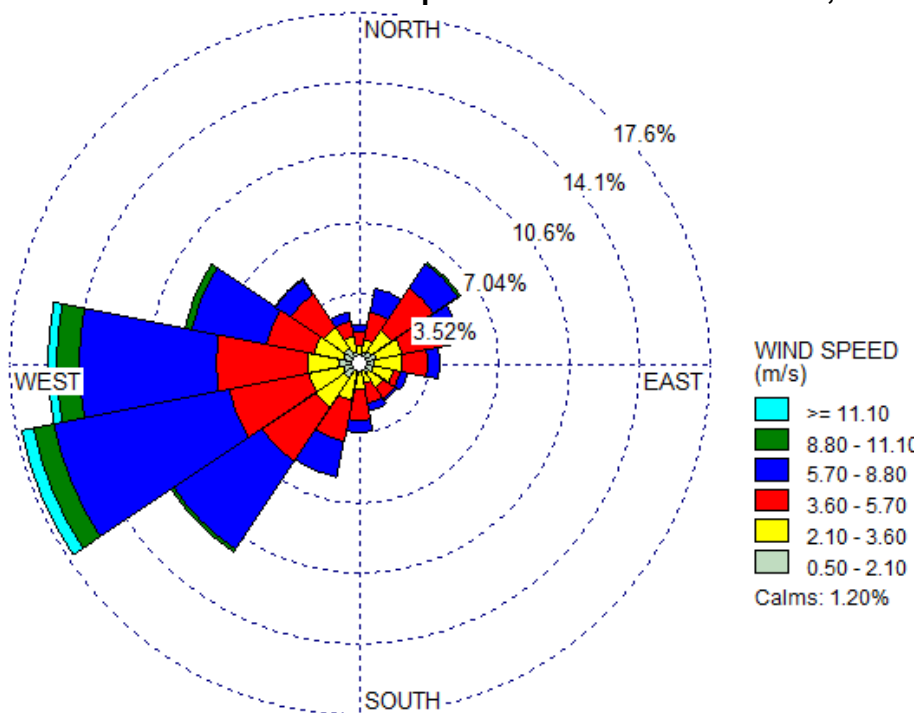
\* Reference bearing CW 90°

**Figure 5: MM5 Frequency Distribution of Wind Speed and Direction 2018 Maldives Meteorology**



Windrose diagram generated using WRPlot view Version 5.8 software which utilizes SCRAM (.DAT) files. Wind direction was oriented in "Blowing from" configuration. Figure 6 presents the annual wind rose diagram at Maldives Synoptic Station.

**Figure 6: MM5 Annual Wind Rose Wind Speed and Direction Windrose, 2018 Maldives**



Meteorological data such as stability classes and wind speeds, mixing height, cloud cover among other are considered this model run. TIER 3 meteorological data was used.

AERMET meteorological processor (EPA, 2018a) was applied to prepare the meteorological data for the AERMOD model (EPA, 2018b). Values for three surface characteristics: surface roughness length  $\{z_0\}$ ,<sup>10</sup> albedo  $\{r\}$ ,<sup>11</sup> and Bowen ratio  $\{Bo\}$ <sup>12</sup> were determined.

<sup>10</sup> The surface roughness length is related to the height of obstacles to the wind flow and is, in principle, the height at which the mean horizontal wind speed is zero based on a logarithmic profile. The surface roughness length influences the surface shear stress and is an important factor in determining the magnitude of mechanical turbulence and the stability of the boundary layer.

<sup>11</sup> The albedo is the fraction of total incident solar radiation reflected by the surface back to space without absorption.

<sup>12</sup> The daytime Bowen ratio, an indicator of surface moisture, is the ratio of sensible heat flux to latent heat flux and is used for determining planetary boundary layer parameters for convective conditions driven by the surface sensible heat flux.

**Figure 7: MM5 Surface Meteorology (SFC)**

File Header Data

Surface File Name: AER\_NAZZZ\_DAGUP.SFC

Station Latitude: 16.000N Upper Air Station ID: 1 Onsite Station ID: N/A

Station Longitude: 0.000W Surface Station ID: 1 Version: 14134 CCVR\_SUB TEMP\_SUB

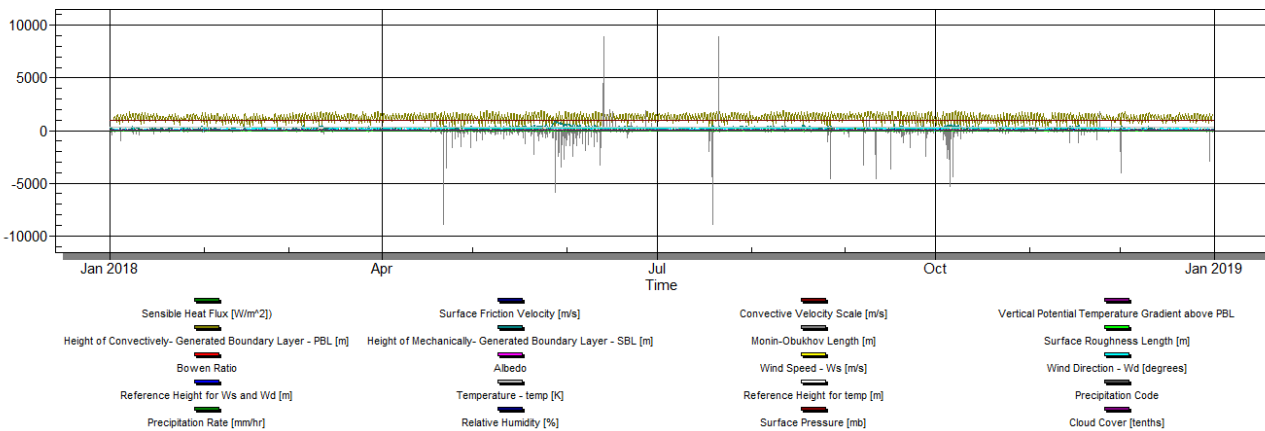
Filter: Year: 2004 Month: All Day: All Julian Day: All

Data Quality: Calms: 730 [hours] 8.31 [%] Missing: 24 [hours] 0.27 [%]

Table Graph

	Year	Month	Day	Julian Day	Hour	Sensible Heat Flux [W/m <sup>2</sup> ]	Surface Friction Velocity [m/s]	Convective Velocity Scale [m/s]	Vertical Potential Temperature Gradient above PBL	Height of Convectively-Generated Boundary Layer - PBL [m]	Height of Mechanically-Generated Boundary Layer - SBL [m]	Monin-Obukhov Length [m]	Surface Roughness Length [m]	Bowen Ratio	Albedo	Wind Speed - Ws [m/s]	Wind Direction - Wd [degrees]	Reference Height for Ws and Wd [m]	Temperature - temp [K]	Reference Height for temp [m]	Precipitation Code
Min.	2004	Jan	1	1	1	-999.0	-9.000	-9.000	-9.000	-999.0	-999.0	-99999.0	-9.000	-9.00	-9.00	0.00	0.0	-9.0	295.1	-9.0	0
Max.	2004	Dec	31	366	24	397.6	0.866	2.809	0.005	4000.0	1934.0	8888.0	1.000	2.00	1.00	999.00	999.0	10.0	999.0	2.0	0
Graph																					
1	2004	Jan	1	1	1	-999.0	-9.000	-9.000	-9.000	-999.0	-999.0	-99999.0	1.000	2.00	1.00	0.00	0.0	10.0	301.1	2.0	0
2	2004	Jan	1	1	2	-999.0	-9.000	-9.000	-9.000	-999.0	-999.0	-99999.0	1.000	2.00	1.00	0.00	0.0	10.0	301.1	2.0	0
3	2004	Jan	1	1	3	-25.5	0.294	-9.000	-9.000	-999.0	382.0	89.8	1.000	2.00	1.00	2.10	144.0	10.0	301.1	2.0	0
4	2004	Jan	1	1	4	-45.7	0.493	-9.000	-9.000	-999.0	832.0	237.3	1.000	2.00	1.00	3.10	143.0	10.0	301.1	2.0	0
5	2004	Jan	1	1	5	-36.3	0.504	-9.000	-9.000	-999.0	859.0	318.9	1.000	2.00	1.00	3.10	143.0	10.0	301.1	2.0	0
6	2004	Jan	1	1	6	-36.3	0.504	-9.000	-9.000	-999.0	859.0	318.9	1.000	2.00	1.00	3.10	142.0	10.0	301.1	2.0	0
7	2004	Jan	1	1	7	-39.9	0.500	-9.000	-9.000	-999.0	849.0	282.6	1.000	2.00	1.00	3.10	145.0	10.0	301.1	2.0	0
8	2004	Jan	1	1	8	39.4	0.558	0.380	0.005	50.0	999.0	-397.9	1.000	2.00	0.33	3.10	163.0	10.0	301.1	2.0	0
9	2004	Jan	1	1	9	129.1	0.587	1.272	0.005	576.0	1078.0	-141.2	1.000	2.00	0.21	3.10	157.0	10.0	301.1	2.0	0
10	2004	Jan	1	1	10	202.1	0.603	1.676	0.005	840.0	1124.0	-97.9	1.000	2.00	0.18	3.10	161.0	10.0	301.1	2.0	0
11	2004	Jan	1	1	11	214.2	0.606	1.861	0.005	1087.0	1131.0	-93.6	1.000	2.00	0.17	3.10	184.0	10.0	301.1	2.0	0
12	2004	Jan	1	1	12	197.8	0.603	1.935	0.005	1324.0	1123.0	-99.8	1.000	2.00	0.16	3.10	176.0	10.0	301.1	2.0	0
13	2004	Jan	1	1	13	237.2	0.611	2.162	0.005	1541.0	1145.0	-86.6	1.000	2.00	0.16	3.10	183.0	10.0	301.1	2.0	0

**Figure 8: MM5 Surface Meteorological Data MM5**





**Figure 9: MM5 Profile Meteorology (PFL)**

Filter

Year: 

All

Month: 

All

Day: 

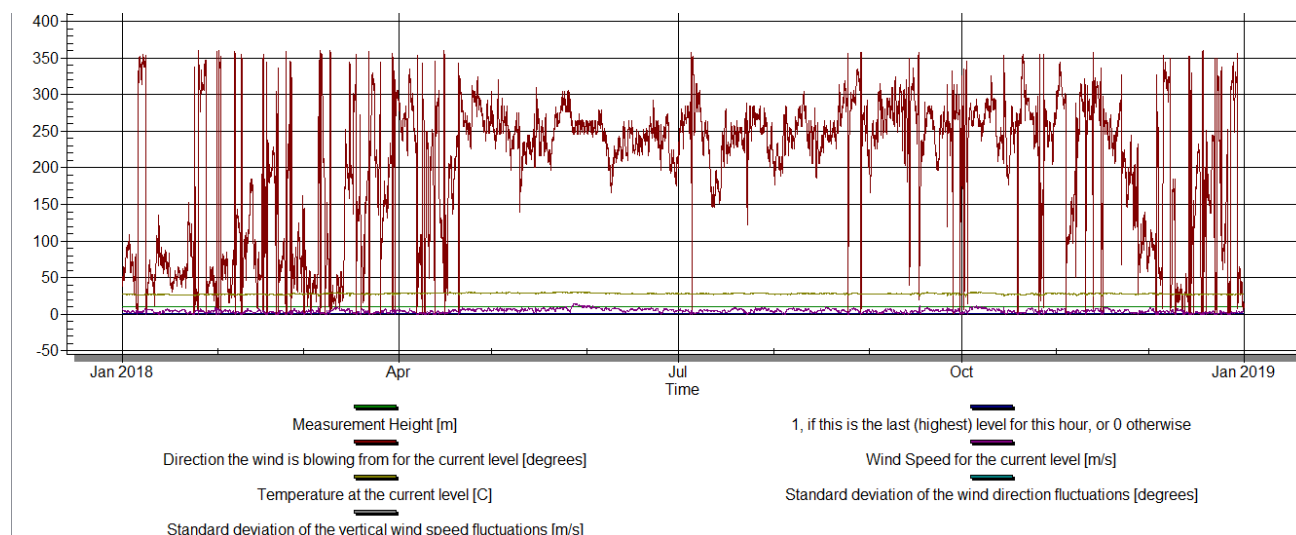
All

Table 

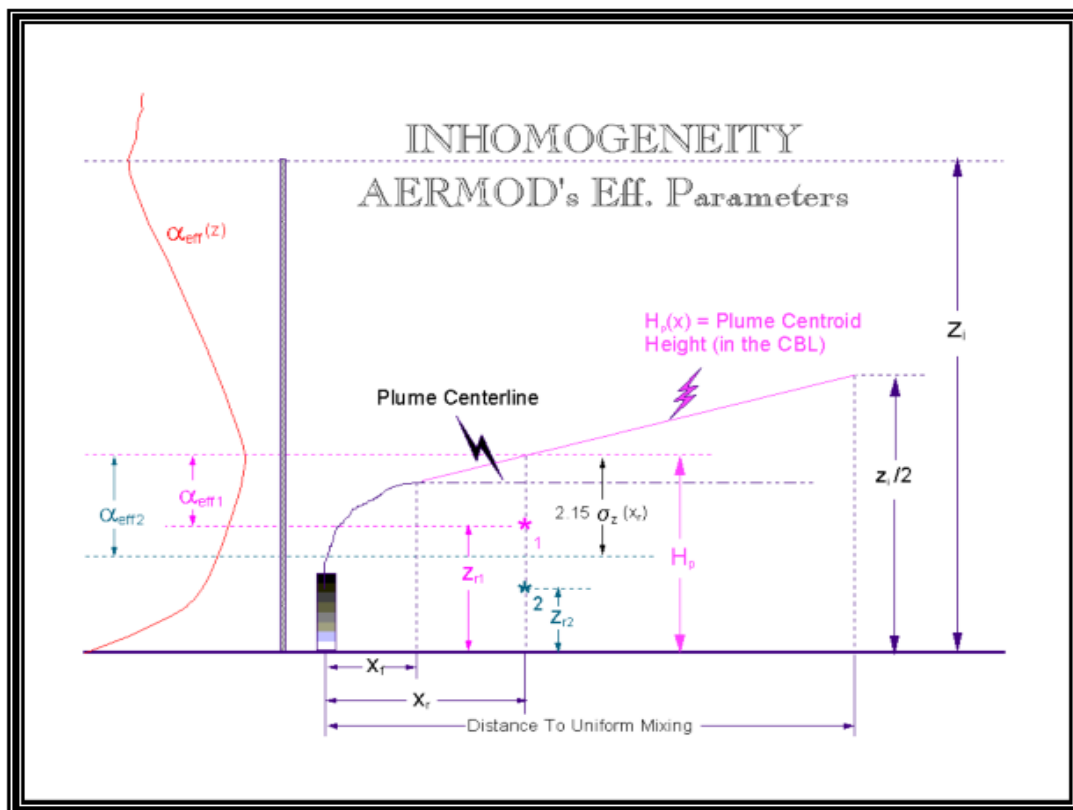
Graph

	Year	Month	Day	Hour	Measurement Height [m]	1, if this is the last (highest) level for this hour, or 0 otherwise	Direction the wind is blowing from for the current level [degrees]	Wind Speed for the current level [m/s]	Temperature at the current level [C]	Standard deviation of the wind direction fluctuations [degrees]	Standard deviation of the vertical wind speed fluctuations [m/s]
Min.	2004	Jan	1	1	10.0	1	0.0	0.00	22.0	99.0	99.00
Max.	2004	Dec	31	24	10.0	1	999.0	999.00	99.9	99.0	99.00
Graph					<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1	2004	Jan	1	1	10.0	1	0.0	0.00	28.0	99.0	99.00
2	2004	Jan	1	2	10.0	1	0.0	0.00	28.0	99.0	99.00
3	2004	Jan	1	3	10.0	1	144.0	2.10	28.0	99.0	99.00
4	2004	Jan	1	4	10.0	1	143.0	3.10	28.0	99.0	99.00
5	2004	Jan	1	5	10.0	1	143.0	3.10	28.0	99.0	99.00
6	2004	Jan	1	6	10.0	1	142.0	3.10	28.0	99.0	99.00
7	2004	Jan	1	7	10.0	1	145.0	3.10	28.0	99.0	99.00
8	2004	Jan	1	8	10.0	1	163.0	3.10	28.0	99.0	99.00
9	2004	Jan	1	9	10.0	1	157.0	3.10	28.0	99.0	99.00
10	2004	Jan	1	10	10.0	1	161.0	3.10	28.0	99.0	99.00
11	2004	Jan	1	11	10.0	1	184.0	3.10	28.0	99.0	99.00
12	2004	Jan	1	12	10.0	1	176.0	3.10	28.0	99.0	99.00
13	2004	Jan	1	13	10.0	1	183.0	3.10	28.0	99.0	99.00
14	2004	Jan	1	14	10.0	1	179.0	3.10	28.0	99.0	99.00
15	2004	Jan	1	15	10.0	1	322.0	3.10	28.0	99.0	99.00
16	2004	Jan	1	16	10.0	1	324.0	3.10	28.0	99.0	99.00
17	2004	Jan	1	17	10.0	1	321.0	3.10	28.0	99.0	99.00
18	2004	Jan	1	18	10.0	1	357.0	3.10	28.0	99.0	99.00
19	2004	Jan	1	19	10.0	1	4.0	3.10	28.0	99.0	99.00

**Figure 10: MM5 Profile Meteorological Data (PFL)**



**Figure 11: AERMOD Treatment of Boundary Parameters**



### Model Receptor Grid (Model Domain) and Grid Coordinates

The extent of the grid was chosen to include any regions of sensitive or important receptors such as residential areas and should also be sufficiently large to capture peak downwind pollutant predictions. For sources emitting pollutants close to ground level, the maximum ground-level concentration will be close to the source. However, for stack sources, the maximum ground-level concentration can be some distance away, and the model may have to be run more than once with increasing grid ranges to make sure the peak is captured.

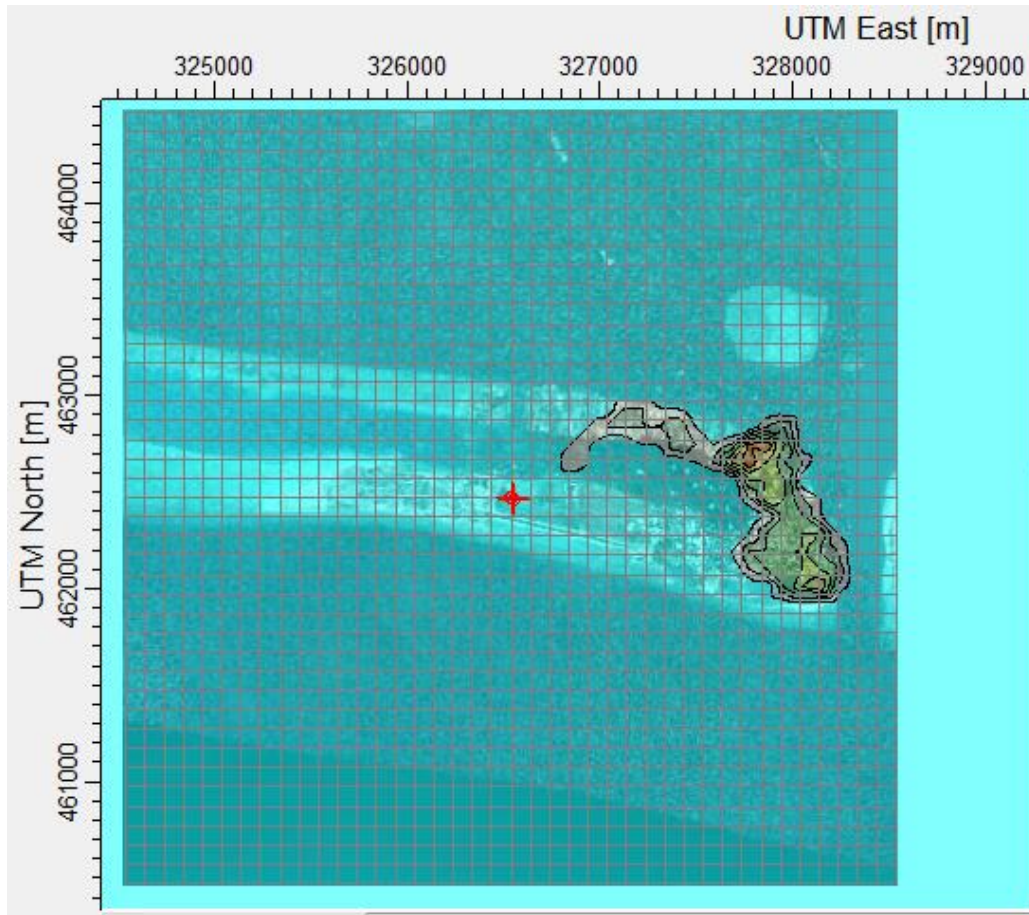
The WTE plan stack 1 (designated as origin) is assigned with coordinates 0,0 m and all site measurements can relate to this benchmark. All facility buildings and sources could then be related spatially to this origin.

Model domain covers 4,000 meters by 4,000 meters with 100 meter grid spacing. This is to cover area sensitive receptors (ASRs) near the WTE plant site and in Thilafushi. Center of the model domain is based on the location of the WTE plant's of 250 TPD boilers (2 units) and 0.8 mW diesel generator set. Figures 12 to 14 show the model domain.

**Figure 12: Domain of AERMOD Dispersion Modeling**



**Figure 13: 4 km X 4 km Model Domain (100 x 100 meters grid)**



**Figure 14: 4km X 4km Domain (100m X 100m Grid) Google Earth Overlay**

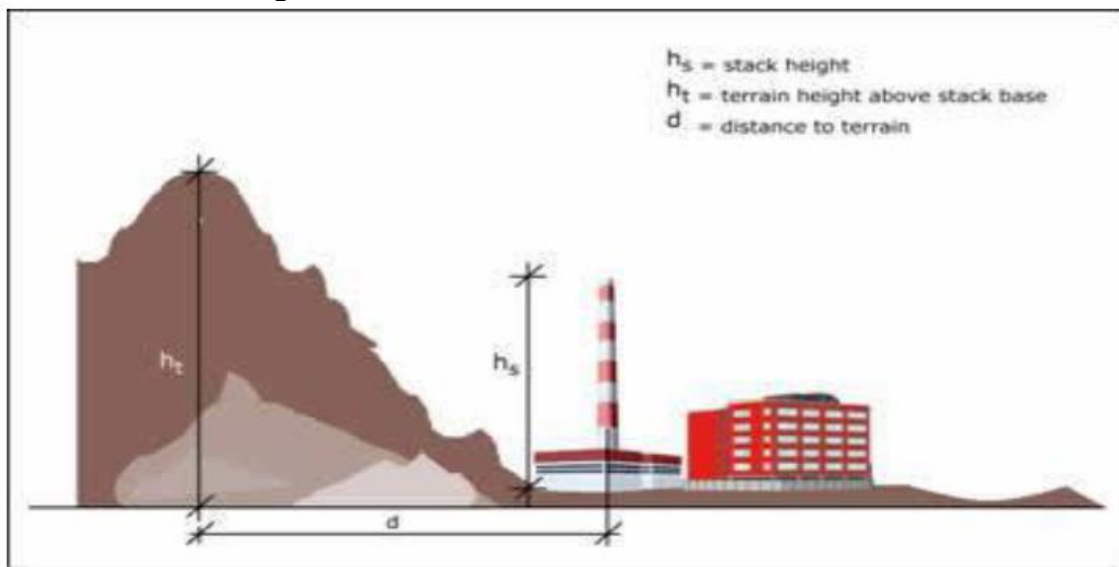




## Terrain Effects

Terrain elevations have a large impact on the air dispersion and deposition modelling results. Terrain elevation is the elevation relative to the facility base elevation (Figure XXX).

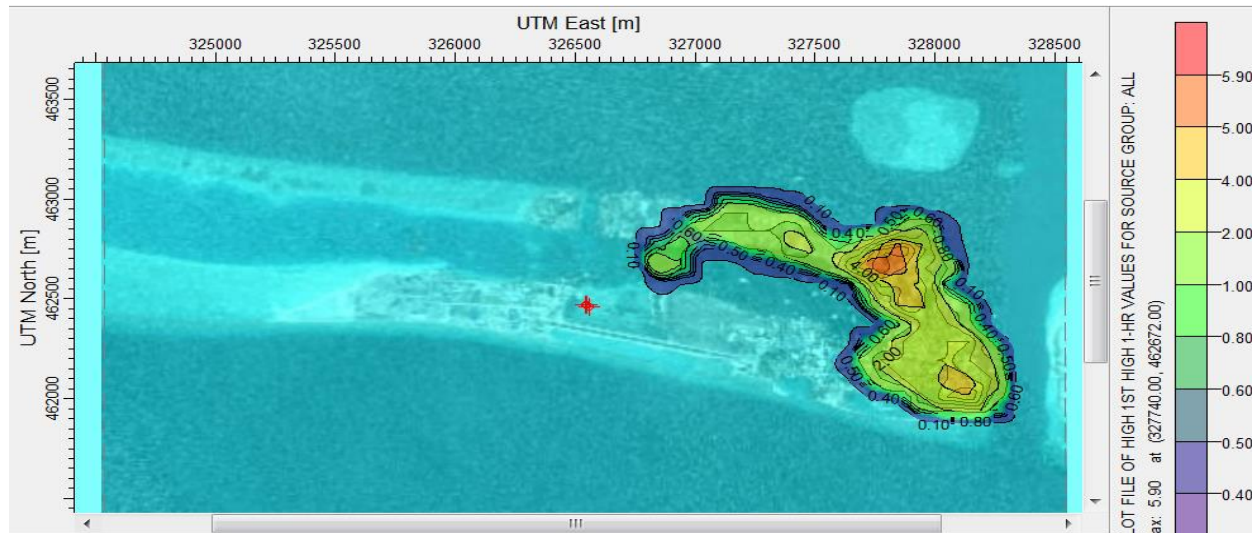
**Figure 15: Terrain effects in AERMOD SYSTEM**



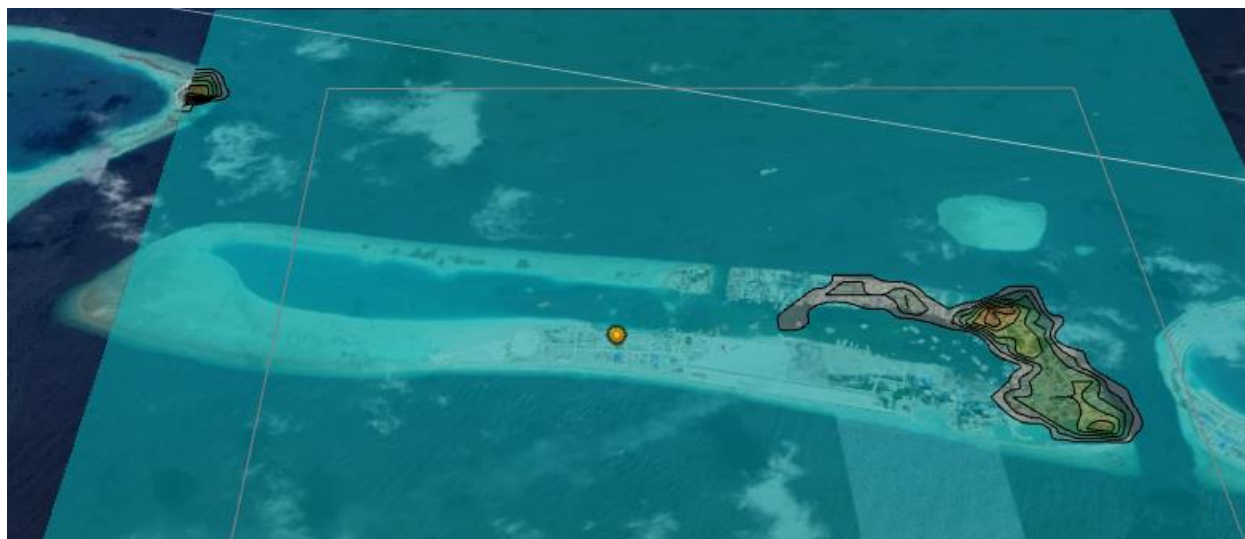
The AERMOD model utilized elected terrain using Shuttle Radar Topography Mission (SRTM3) terrain data processed by AEMAP terrain processor. This option assumes terrain height exceeds stack base elevation; model receptors are also assumed on elevated terrain. Terrain elevations for receptors in the receptor pathway are also considered. Elevated terrain is selected, and receptor heights are not specified, then it is assumed to have a value of 0.0 meters. Figures 16 to 17 provides the SRMT terrain elevation used in the modelling. Complex terrain illustrated in figures are those elevations defined as anywhere within 50 km from the stack, are above the top of the stack being evaluated in the air modelling analysis.

Surface characteristics at the measurement site influence boundary layer parameter estimates. These influences are quantified through the albedo, Bowen ratio, and surface roughness length. The surface roughness length is the height at which the mean horizontal wind speed approaches zero and is related to the surface roughness characteristics of the terrain. It is not equal to the physical dimensions of the obstacles to the wind flow but is generally proportional to them. The surface roughness length dialog provides empirically determined surface roughness length values (from Sheih et al., 1979) for various land use types for each season. In order to better quantify these characteristics, frequency that these characteristics change (annual, seasonal, or monthly) and the number of different sectors have been specified in the modelling.

**Figure 16: SRMT Terrain Elevation**



**Figure 17: SRMT Terrain Elevation Google Earth Overlay**



### **Area Sensitive Receptors (ASRs)**

Area Sensitive Receptors (ASRs) include, but are not limited to residential areas, hospitals, schools, daycare facilities, elderly housing and convalescent facilities. These are areas where the occupants are more susceptible to the adverse effects of exposure to air pollutants. Extra monitoring and abatement efforts must be taken when dealing with contaminants and pollutants in close proximity to areas recognized as ASRs.

For the WTE plant and for the purpose of assessing potential impacts, Thilafushi islands' industrial areas are considered as ASRs as there are identified facilities with workers quarters. ASRs are located in the following area and details are provided in the figure and table below: (1.) ASR1-ENE; (2.) ASR2-SSE; (3.) ASR3-NNE; (4.) ASR4- SSW; (5) ASR5-NNW 474 to 1273 meters upwind and downwind directions from the center of the domain at Universal Transverse

Mercator (UTM) coordinates Easting 326540 and Northing 462472. This AERMOD Report includes results of the dispersion model showing the highest predicted ground level concentrations (GLC) in the ASRs.

**Figure 18: Location of the ASRs and SRMT Terrain**



**Table 2: UTM Coordinates of Location of Area Sensitive Receptors (ASRs)**

	Long	Lat
ASR1	327811.66	462535.58
ASR2	327938.27	462105.3
ASR3	326838.73	462821.63
ASR4	326087.04	462454.99
ASR5	326415.56	462929

### Building Downwash

Building downwash occurs when the aerodynamic turbulence induced by nearby buildings cause a pollutant emitted from an elevated source to be mixed rapidly toward the ground (downwash), resulting in higher ground-level concentrations. Influence of buildings have been also considered in the model. The following building dimension and location (stack and Diesel genset) have been considered for the WTE plant. WTE dimensions: Approx. Length x width x height [m]: 100 x 70 x 30 Surrounded buildings location have been considered according land use plan, topographical survey and google earth maps. The height of the buildings have been considered to maximum 10 m<sup>13</sup>.

<sup>13</sup> Environmental and Social Impact Assessment (ESIA) Waste to Energy Facility Thilafushi



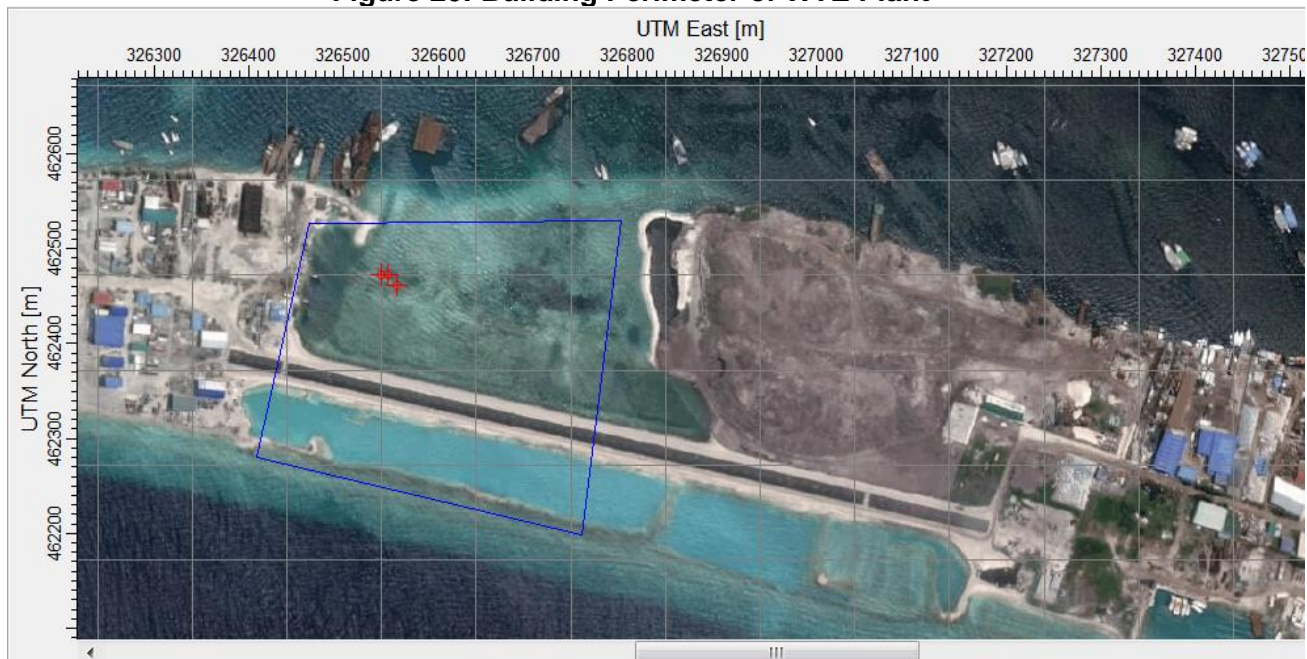
**Figure 19: Building Coordinates**

Coordinates	North West: 4°10'58.73"N, 73°26'11.51"E	Tier Corners		
	North East: 4°10'58.87"N, 73°26'22.20"E			
	South West: 4°10'50.71"N, 73°26'9.74"E			
	South East: 4°10'48.09"N, 73°26'20.87"E			

	#	X Coord [m]	Y Coord [m]
▶	1	326463.89	462526.01
	2	326793.57	462529.66
	3	326751.00	462198.00
	4	326408.81	462279.78

If stacks for new or existing major sources are found to be less than the height defined by EPA's refined formula for determining GEP height, then air quality impacts associated with cavity or wake effects due to the nearby building structures should be determined. (EPA 1986)

**Figure 20: Building Perimeter of WTE Plant**







**Figure 21: Building Area of WTE Plant**

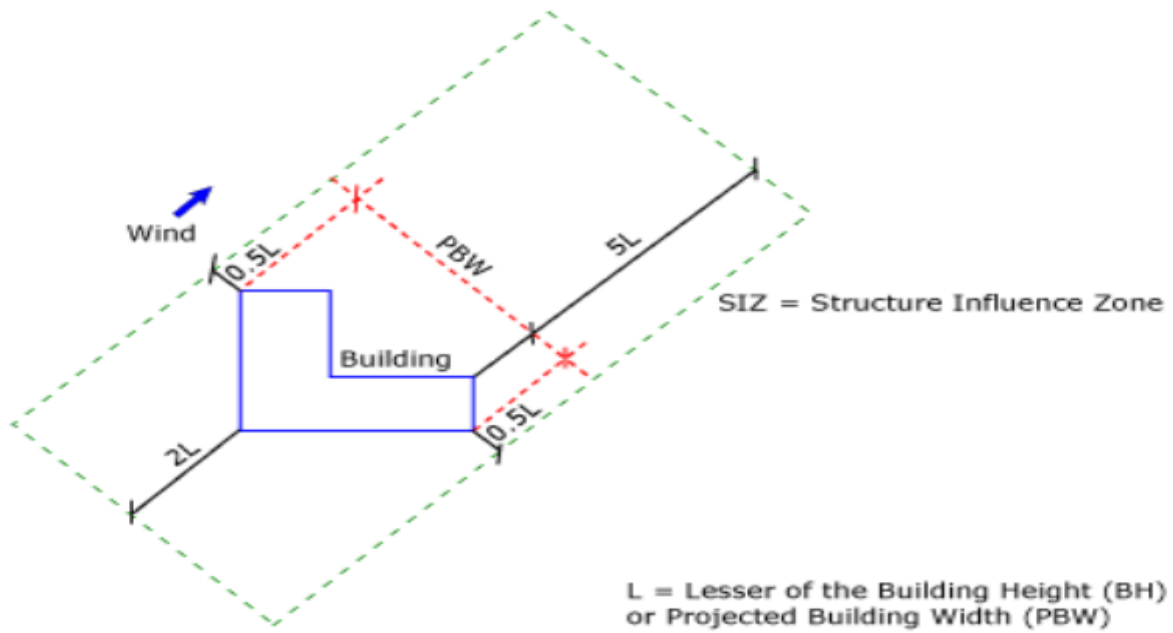
**GEP STACK HEIGHT =  $H + 1.5L$**

In EPA's refined formula for determining GEP stack height, consider Building Downwash for point sources that are within the GEP 5L Area of Influence of a building. For point sources within the GEP 5L Area of Influence, Building Downwash information (direction-specific building heights and widths) should be included in your ISC3 modeling project. Using AERMOD View, you can easily calculate these direction-specific building heights and widths. For regulatory applications, a building is considered sufficiently close to a stack to cause wake effects when the distance between the stack and the nearest part of the building is less than or equal to five (5) times the lesser of the building height or the projected width of the building.

**DISTANCE FROM STACK-BLDG  $\leq 5L$**

For building downwash analyses with direction-specific building dimensions, wake effects are assumed to occur if the stack is within a rectangle composed of two lines perpendicular to the wind direction, one at 5L downwind of the building and the other at 2L upwind of the building and by two lines parallel to the wind direction, each at 0.5L away from each side of the building, as shown below. L is the lesser of the height and projected width of the building for the particular direction sector. This rectangular area has been termed a **Structure Influence Zone (SIZ)**.

**Figure 22: AERMOD Source Influence Zones of buildings to plume dispersion**



**Figure 23: Building Source Influence Zones of buildings to plume dispersion**



Stack-Building      Preliminary\*  
 Stack    Stack    Base Elevation    GEP\*\*    GEP Stack  
 Name    Height    Differences    EQN1    Height Value

S1	50.00	0.00	0.00	75.00	75.00
S2	50.00	0.00	0.00	75.00	75.00
GSSTACK	10.20	0.00	0.00	75.00	75.00

Results are based on Determinants 1 & 2 on pages 1 & 2 of the GEP Technical Support Document. Determinant 3 may be investigated for additional stack height credit. Final values result after Determinant 3 has been taken into consideration. \*\* Results were derived from Equation 1 on page 6 of GEP Technical Support Document. Values have been adjusted for any stack-building base elevation differences. Note: Criteria for determining stack heights for modeling emission limitations for a source can be found in Table 3.1 of the GEP Technical Support Document.

**Table 3: AERMOD BPIP**

**Building Downwash Information**

BPIP output is in meters

SO BUILDHGT S1	30	30	30	30	30	30
SO BUILDHGT S1	30	30	30	30	30	30
SO BUILDHGT S1	30	30	30	30	30	30
SO BUILDHGT S1	30	30	30	30	30	30
SO BUILDHGT S1	30	30	30	30	30	30
SO BUILDHGT S1	30	30	30	30	30	30
SO BUILDWID S1	351.19	381.98	412.65	430.78	435.82	427.53
SO BUILDWID S1	406.15	372.43	331.04	333.25	366.41	408.78
SO BUILDWID S1	438.74	455.36	458.15	447.02	422.31	384.76
SO BUILDWID S1	351.19	381.98	412.65	430.78	435.82	427.53
SO BUILDWID S1	406.15	372.43	331.04	333.25	366.41	408.78
SO BUILDWID S1	438.74	455.36	458.15	447.02	422.31	384.76
SO BUILDLEN S1	334.01	366.41	408.78	438.74	455.36	458.15
SO BUILDLEN S1	447.02	422.31	384.76	351.97	381.98	412.65
SO BUILDLEN S1	430.78	435.82	427.62	406.43	372.88	331.66
SO BUILDLEN S1	334.01	366.41	408.78	438.74	455.36	458.15
SO BUILDLEN S1	447.02	422.31	384.76	351.97	381.98	412.65
SO BUILDLEN S1	430.78	435.82	427.62	406.43	372.88	331.66
SO XBADJ S1	-233.2	-225.5	-232.06	-231.58	-224.05	-209.72
SO XBADJ S1	-189.02	-162.58	-131.19	-95.82	-89.99	-92.92
SO XBADJ S1	-93.02	-90.3	-84.83	-76.78	-66.41	-57.66
SO XBADJ S1	-100.82	-140.91	-176.72	-207.16	-231.31	-248.43
SO XBADJ S1	-258	-259.73	-253.57	-256.15	-291.99	-319.73
SO XBADJ S1	-337.76	-345.52	-342.79	-329.64	-306.48	-274
SO YBADJ S1	-79.78	-101	-113.41	-122.37	-127.61	-128.94
SO YBADJ S1	-126.29	-119.81	-107.86	-65.81	-42.29	-27.67
SO YBADJ S1	-12.21	3.63	19.35	34.49	48.58	61.19

SO YBADJ S1	79.78	101	113.41	122.37	127.61	128.94
SO YBADJ S1	126.29	119.81	107.86	65.81	42.29	27.67
SO YBADJ S1	12.21	-3.63	-19.35	-34.49	-48.58	-61.19
SO BUILDHGT S2	30	30	30	30	30	30
SO BUILDHGT S2	30	30	30	30	30	30
SO BUILDHGT S2	30	30	30	30	30	30
SO BUILDHGT S2	30	30	30	30	30	30
SO BUILDHGT S2	30	30	30	30	30	30
SO BUILDHGT S2	30	30	30	30	30	30
SO BUILDWID S2	351.19	381.98	412.65	430.78	435.82	427.53
SO BUILDWID S2	406.15	372.43	331.04	333.25	366.41	408.78
SO BUILDWID S2	438.74	455.36	458.15	447.02	422.31	384.76
SO BUILDWID S2	351.19	381.98	412.65	430.78	435.82	427.53
SO BUILDWID S2	406.15	372.43	331.04	333.25	366.41	408.78
SO BUILDWID S2	438.74	455.36	458.15	447.02	422.31	384.76
SO BUILDLEN S2	334.01	366.41	408.78	438.74	455.36	458.15
SO BUILDLEN S2	447.02	422.31	384.76	351.97	381.98	412.65
SO BUILDLEN S2	430.78	435.82	427.62	406.43	372.88	331.66
SO BUILDLEN S2	334.01	366.41	408.78	438.74	455.36	458.15
SO BUILDLEN S2	447.02	422.31	384.76	351.97	381.98	412.65
SO BUILDLEN S2	430.78	435.82	427.62	406.43	372.88	331.66
SO XBADJ S2	-234.41	-227.89	-235.56	-236.08	-229.42	-215.79
SO XBADJ S2	-195.6	-169.47	-138.19	-102.71	-96.57	-98.98
SO XBADJ S2	-98.38	-94.8	-88.33	-79.18	-67.62	-57.66
SO XBADJ S2	-99.6	-138.51	-173.22	-202.66	-225.95	-242.37
SO XBADJ S2	-251.42	-252.84	-246.57	-249.26	-285.41	-313.67
SO XBADJ S2	-332.4	-341.02	-339.29	-327.25	-305.26	-274
SO YBADJ S2	-72.88	-94.42	-107.34	-117.01	-123.11	-125.44
SO YBADJ S2	-123.9	-118.59	-107.86	-67.02	-44.69	-31.17
SO YBADJ S2	-16.71	-1.73	13.29	27.91	41.68	54.19
SO YBADJ S2	72.88	94.42	107.34	117.01	123.11	125.44
SO YBADJ S2	123.9	118.59	107.86	67.02	44.69	31.17
SO YBADJ S2	16.71	1.73	-13.29	-27.91	-41.68	-54.19
SO BUILDHGT GSSTACK	30	30	30	30	30	30
SO BUILDHGT GSSTACK	30	30	30	30	30	30
SO BUILDHGT GSSTACK	30	30	30	30	30	30
SO BUILDHGT GSSTACK	30	30	30	30	30	30
SO BUILDHGT GSSTACK	30	30	30	30	30	30
SO BUILDHGT GSSTACK	30	30	30	30	30	30
SO BUILDWID GSSTACK	351.19	381.98	412.65	430.78	435.82	427.53
SO BUILDWID GSSTACK	406.15	372.43	331.04	333.25	366.41	408.78
SO BUILDWID GSSTACK	438.74	455.36	458.15	447.02	422.31	384.76
SO BUILDWID GSSTACK	351.19	381.98	412.65	430.78	435.82	427.53
SO BUILDWID GSSTACK	406.15	372.43	331.04	333.25	366.41	408.78
SO BUILDWID GSSTACK	438.74	455.36	458.15	447.02	422.31	384.76
SO BUILDLEN GSSTACK	334.01	366.41	408.78	438.74	455.36	458.15
SO BUILDLEN GSSTACK	447.02	422.31	384.76	351.97	381.98	412.65
SO BUILDLEN GSSTACK	430.78	435.82	427.62	406.43	372.88	331.66

SO BUILDLEN GSSTACK	334.01	366.41	408.78	438.74	455.36	458.15
SO BUILDLEN GSSTACK	447.02	422.31	384.76	351.97	381.98	412.65
SO BUILDLEN GSSTACK	430.78	435.82	427.62	406.43	372.88	331.66
SO XBADJ GSSTACK	-225.28	-220.93	-230.99	-234.03	-229.96	-218.9
SO XBADJ GSSTACK	-201.19	-177.36	-148.15	-114.44	-109.7	-113.12
SO XBADJ GSSTACK	-113.1	-109.65	-102.86	-92.95	-80.21	-68.69
SO XBADJ GSSTACK	-108.73	-145.47	-177.79	-204.71	-225.41	-239.26
SO XBADJ GSSTACK	-245.83	-244.94	-236.61	-237.54	-272.28	-299.53
SO XBADJ GSSTACK	-317.68	-326.17	-324.76	-313.48	-292.67	-262.97
SO YBADJ GSSTACK	-61.16	-81.29	-93.2	-102.29	-108.26	-110.91
SO YBADJ GSSTACK	-110.13	-106	-96.83	-57.89	-37.73	-26.6
SO YBADJ GSSTACK	-14.66	-2.27	10.18	22.32	33.79	44.23
SO YBADJ GSSTACK	61.16	81.29	93.2	102.29	108.26	110.91
SO YBADJ GSSTACK	110.13	106	96.83	57.89	37.73	26.6
SO YBADJ GSSTACK	14.66	2.27	-10.18	-22.32	-33.79	

#### 8.4 INPUT DATA IN THE DISPERSION MODEL (SOURCE PATHWAY)

The following parameters have been provided the ADM:

**Table 4: Input Data for AERMOD Model Run 2 X 250 T/YR MW WTE Boiler and 0.8 MW Diesel Generator set**

	Capacity	X	Y	Stack	Stack	VFR	Stack	Stack	Stack Ht.
APSE	T/day	Long	Lat	Temp. °C	Temp. (K)	(Ncm/sec)	Diam (m)	Area (m²)	(m)
Boiler 1	250	4.183004N;	73.437155 E	144	417	16.07	1.5	1.76715	50.00
Boiler 2	250			144	417	16.07	1.5	1.76715	50.00
Genset 1	0.8 MW	4.182394	73.43737	400	673	3.4638889	0.5	0.13	10.2

UTM Coordinates (Boiler): 326540.00 N 462472.00 E

UTM Coordinates (Generatorset): 326556.96N 462460.97 E

**Table 5: DESIGN EMISSION CONCENTRATION**

TD /TD	PM10	CO	NOx	SOx	Hg	HCl	Hf	NH3	DF
mg/Nm3									
5.00	0.50	50.00	150.00	50.00	0.03	10.00	1.00	10.00	0.10
5.00	0.50	50.00	150.00	50.00	0.03	10.00	1.00	10.00	0.10
79.95	nd	300	319.968	nd	nd	nd	nd	nd	nd

**Table 6: DESIGN EMISSION STRENGTH**

TD /TD	PM10	CO	NOx	SOx	Hg	HCL	Hf	NH3	DF
g/sec									
0.0804	0.0080	0.8036	2.4107	0.8036	0.0005	0.1607	0.0161	0.1607	0.0016
0.0804	0.0080	0.8036	2.4107	0.8036	0.0005	0.1607	0.0161	0.1607	0.0016
0.2769	nd	1.0392	1.1083	nd	nd	nd	nd	nd	nd

## **9. RESULTS OF DISPERSION MODEL RUN**

Dispersion model results are presented according to rankings of peak values of ground level concentrations. Below are summary of results for highest GLCs for the Particulates, Metals and Gaseous Emissions. Results are presented within the 4 km by 4 km dimension graphical presentation Distance (X axis) and Concentration ug/Ncm (Y Axis). Maximum straight line domain is 4000 m (4 km). Raw data of model results are in output files following Nomenclatures : (x=distance from source, km), conc=ground-level centerline concentration, ug/m<sup>3</sup>), (sigmay=dispersion coefficient in Y direction, dimensionless) , (sigmaz=dispersion coefficient in Z direction, dimensionless), (xf=distance to final plume rise, km) , (h=plume height, m). See Table 7 Figures 24 to 48.

**Table 7: Summary Maximum Ground Level Concentration - AERMOD**

MAXIMUM GROUND LEVEL CONCENTRATION						German Standards (TA Luft)		USEPA	WHO Air Quality Guidelines	% of the Applicable Standards
Parameters	Ave.Time	Conc (ug/Nm <sup>3</sup> )	Deposition (g/m <sup>2</sup> )	X	Y	Conc (ug/Nm <sup>3</sup> )	Deposition (g/m <sup>2</sup> )	Conc (ug/Nm <sup>3</sup> )	Conc (ug/Nm <sup>3</sup> )	%
Total Dust	1 hour	7.60628	0.00754	327040	462672	-	-	-	-	-
Total Dust	24 hour	3.18863	0.03805	327140	462572	-	-	-	-	-
Total Dust	1 year	0.34134	0.43994	326840	462572	-	0.35	-	-	-
PM10	1 hour	0.10288	0.00037	326640	462472	-	-	-	20	0.51
PM10	24 hour	0.02844	0.00078	326640	462472	50	-	150	50	0.06
PM10	1 year	0.0025	0.02508	327240	462572	40	-	50	20	0.01
SO2	1 hour	10.3398	-	326640	462472	350	-	212	-	4.88
SO2	24 hour	2.85793	-	326640	462472	125	-	365	20	14.29
SO2	1 year	0.25302	-	327240	462572	50	-	79	-	0.32
NO2(NOx)	1 hour	48.91013	-	326640	462472	200	-	100 ppb	200	24.46
NO2(NOx)	24 hour	14.16085	-	326640	462472	-	-	-	-	-
NO2(NOx)	1 year	2.1	-	324540	460472	40	-	53 ppb	40	5.25
Hg	1 hour	0.00643	-	326640	462472	-	-	-	-	-
Hg	24 hour	0.00178	-	326640	462472	-	1	-	-	-
Hg	1 year	0.00157	-	327240	462572	-	0.05	-	-	-
NH3	1 hour	2.06667	-	326640	462472	-	-	-	-	-
NH3	24 hour	0.57123	-	326640	462472	-	-	-	-	-
NH3	1 year	0.00147	-	326340	461872	-	-	-	-	-
HCl	1 hour	2.06667	-	326540	462472	-	-	-	-	-
HCl	24 hour	0.57123	-	326540	462472	-	-	-	-	-
HCl	1 year	0.00147	-	324540	460472	-	-	-	-	-
Hf	1 hour	0.20705	-	326640	462472	-	-	-	-	-
Hf	24 hour	0.05723	-	326640	462472	-	-	-	-	-

MAXIMUM GROUND LEVEL CONCENTRATION						German Standards (TA Luft)		USEPA	WHO Air Quality Guidelines	% of the Applicable Standards
Hf	1 year	0.00015	-	324540	460472	-	-	-	-	-
D/F	1 hour	0.02058	-	326640	462472	-	-	-	-	-
D/F	24 hour	0.00569	-	326640	462472	-	-	-	-	-
D/F	1 year	0.00002	-	324540	460472	-	-	-	-	-
Sum of Metals (Sb) <sup>1</sup>	1 hour	1.31607	-	326440	462172	-	-	-	-	-
Sum of Metals (Sb) <sup>1</sup>	24 hour	0.49540	-	326440	462572	-	-	-	-	-
Sum of Metals (Sb) <sup>1</sup>	1 year	0.09818	-	326440	462472	-	-	-	-	-
Sum of Metals (As) <sup>2</sup>	1 hour	0.13161	-	326440	462172	-	-	-	-	-
Sum of Metals (As) <sup>2</sup>	24 hour	0.04954	-	326440	462572	-	-	-	-	-
Sum of Metals (As) <sup>2</sup>	1 year	0.00982	-	326440	462472	-	-	-	-	-
Sum of Metals (Tl) <sup>3</sup>	1 hour	0.13161	-	326440	462172	-	-	-	-	-
Sum of Metals (Tl) <sup>3</sup>	24 hour	0.04954	-	326440	462572	-	-	-	-	-
Sum of Metals (Tl) <sup>3</sup>	1 year	0.00982	-	326440	462472	-	-	-	-	-

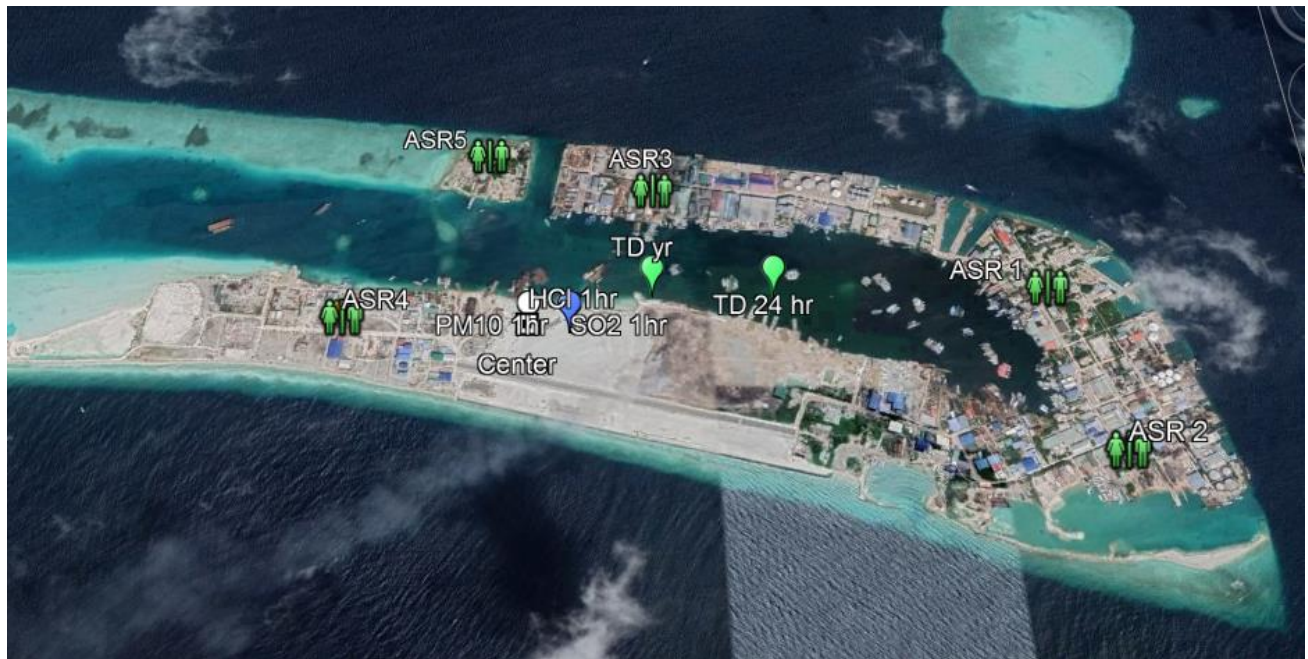
<sup>1</sup>Sum of metals: Antimony, Chromium, Copper, Manganese, Vanadium, in, Lead, Cobalt, Nickel

<sup>2</sup>Sum of metals: Arsenic / cadmium and its compounds (expressed as As and Cd), benzo (a) pyrene, water-soluble cobalt compounds (expressed as Co), chromium (VI) compounds (expressed as Cr)

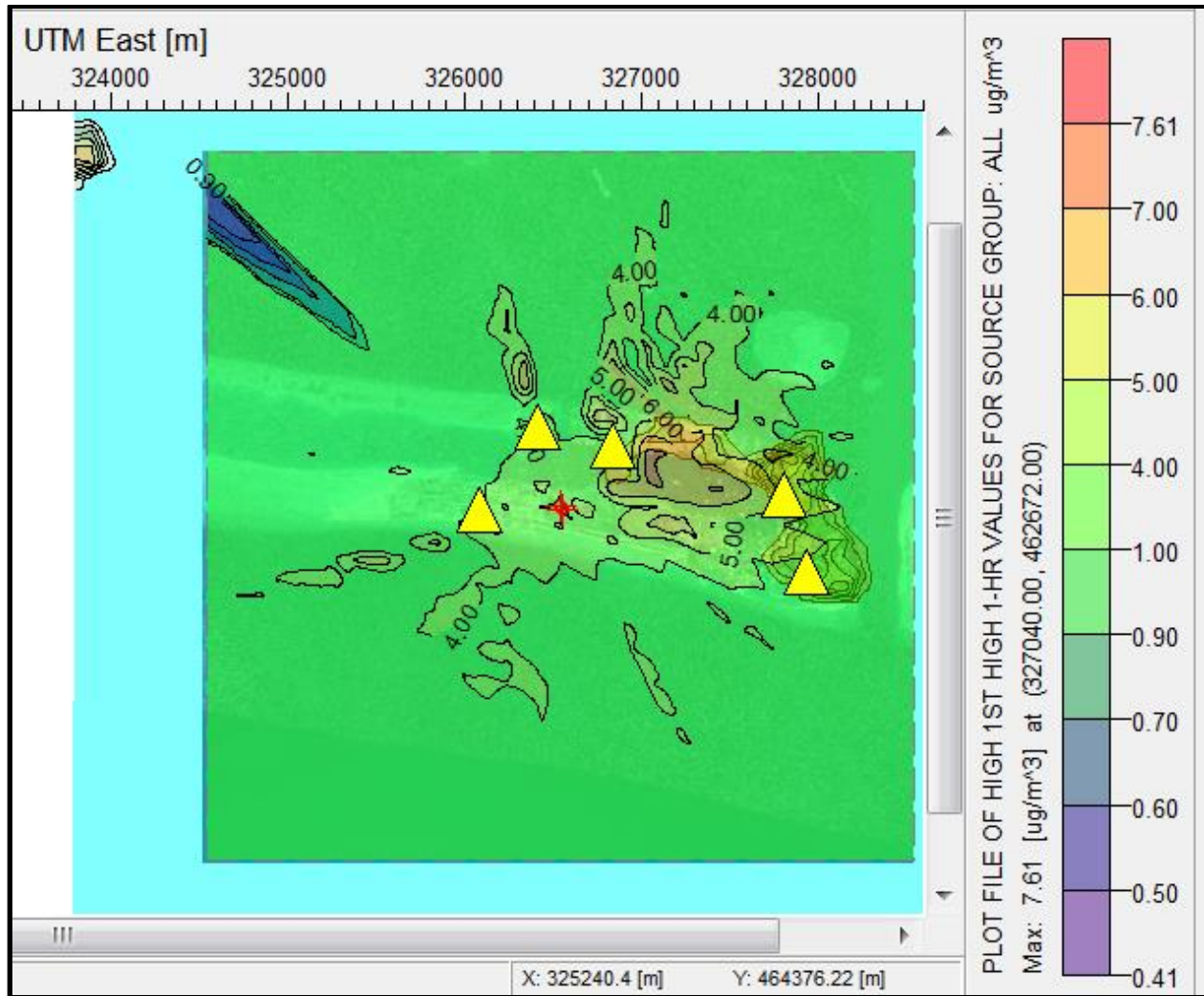
<sup>3</sup>Sum of metals: Thallium and its compounds and cadmium







**Figure 24: Location of Maximum Predicted Ground Level Concentration**



**Figure 25: Total Dust (TD) (1 HR) (Isopleth in microgram/m3)**

LEGEND: Yellow Triangles refer to identified ASRs  
 Area Sensitive Receptor (ASRs)

	Long	Lat
ASR1	327812	462536
ASR2	327938	462105
ASR3	326839	462822
ASR4	326087	462455
ASR5	326416	462929

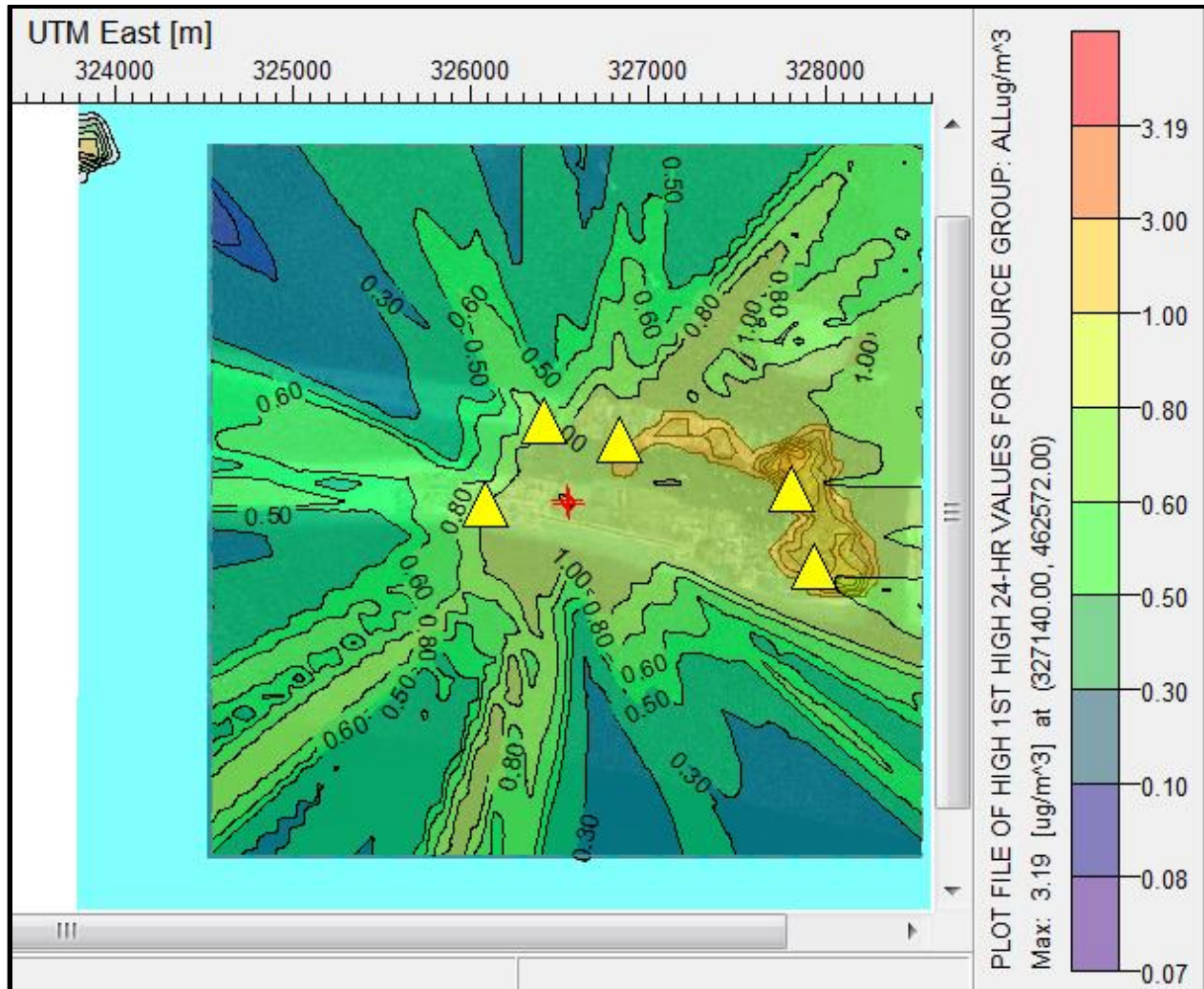


Figure 26: TD (24 HR) ( 1-HR RUN) (Isopleth in microgram/m3)

LEGEND: Yellow Triangles refer to identified ASRs  
 Area Sensitive Receptor (ASRs)

	Long	Lat
ASR1	327812	462536
ASR2	327938	462105
ASR3	326839	462822
ASR4	326087	462455
ASR5	326416	462929



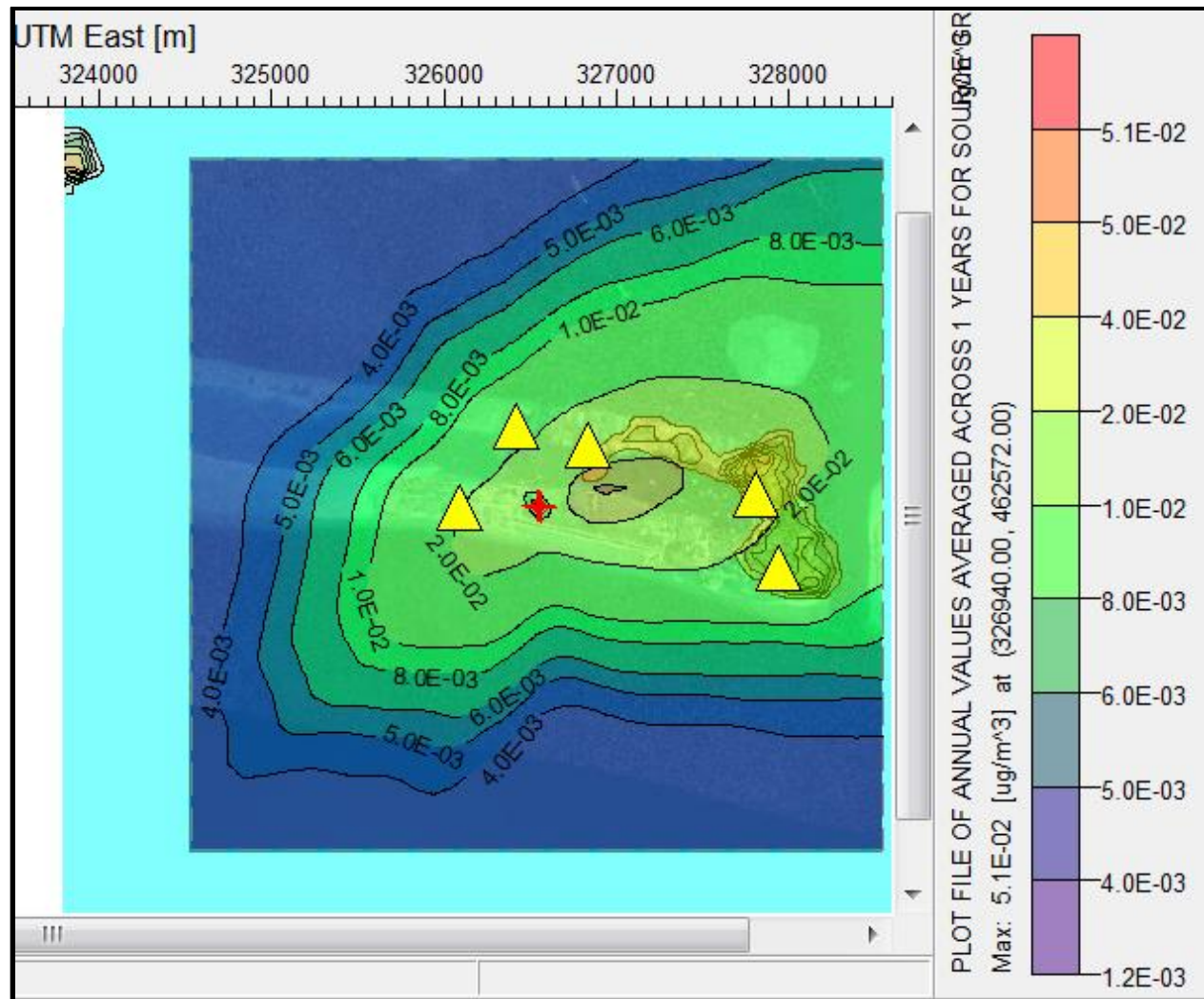


Figure 27: Total Dust 1YR (Isopleth in microgram/m3)

LEGEND: Yellow Triangles refer to identified ASRs  
 Area Sensitive Receptor (ASRs)

	Long	Lat
ASR1	327812	462536
ASR2	327938	462105
ASR3	326839	462822
ASR4	326087	462455
ASR5	326416	462929

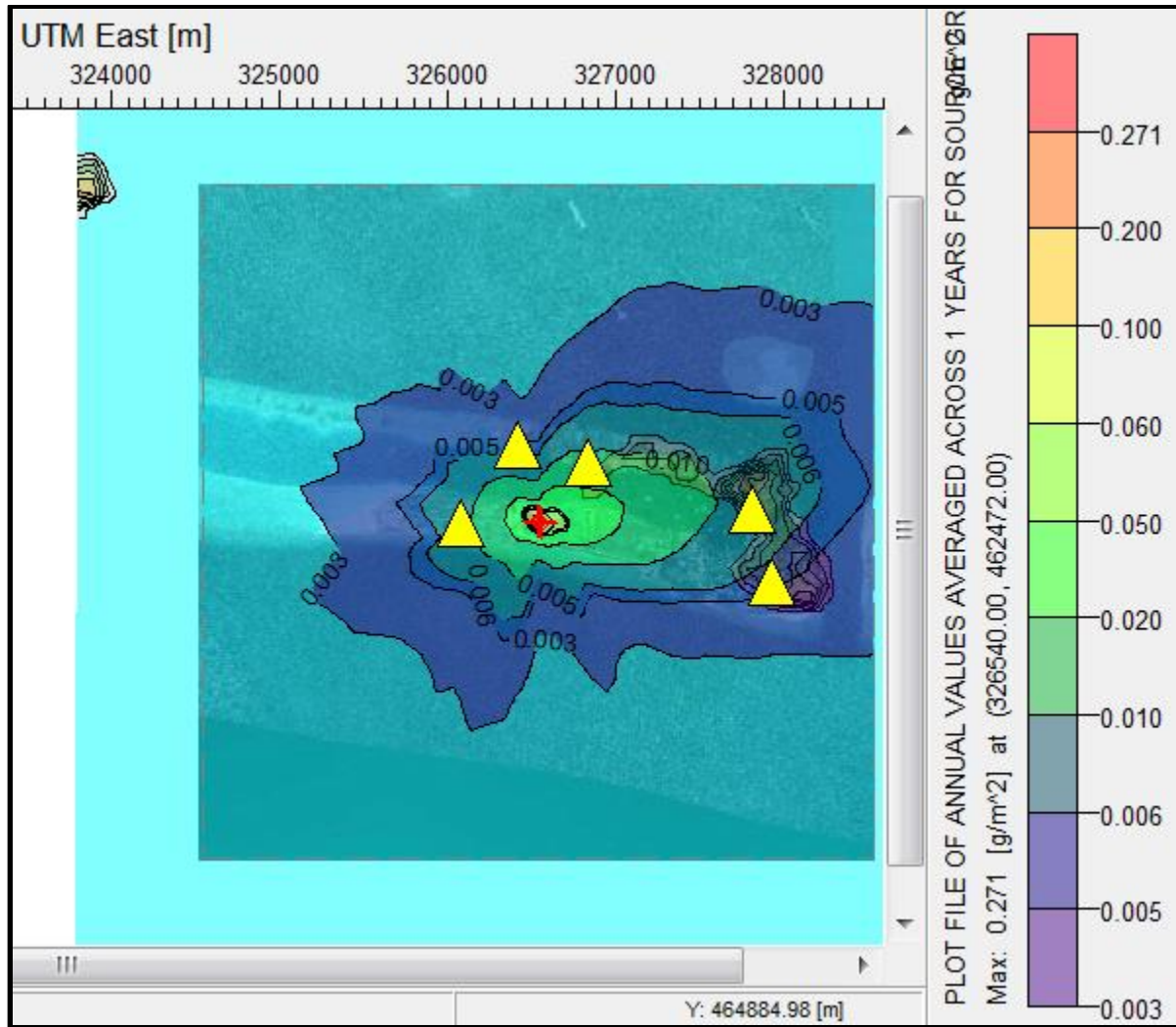


Figure 28: Total Dust 1YR Deposition (Isopleth in microgram/m3)

LEGEND: Yellow Triangles refer to identified ASRs  
 Area Sensitive Receptor (ASRs)

	Long	Lat
ASR1	327812	462536
ASR2	327938	462105
ASR3	326839	462822
ASR4	326087	462455
ASR5	326416	462929

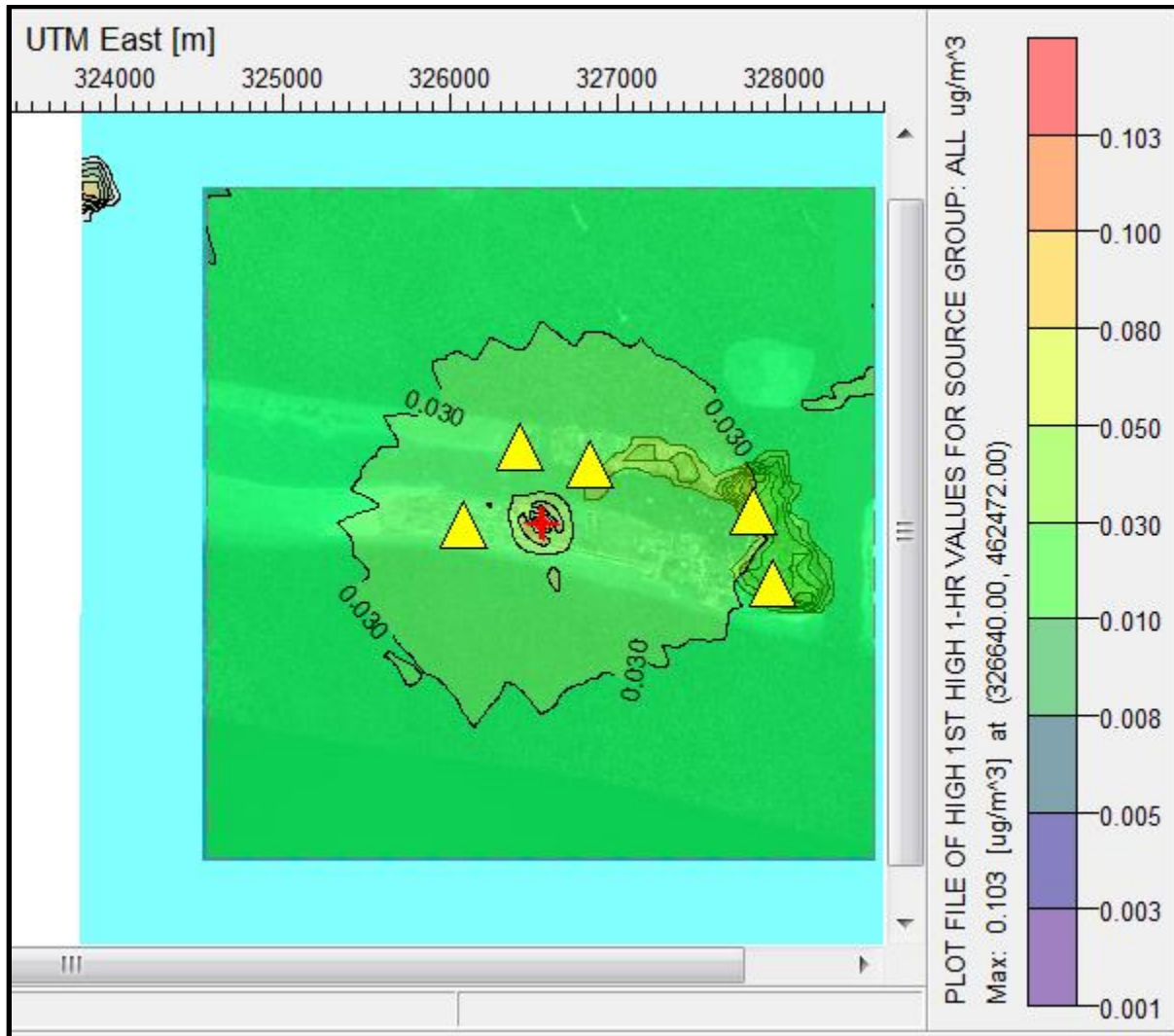


Figure 29: PM10 1 HR (Isopleth in microgram/m3)

LEGEND: Yellow Triangles refer to identified ASRs  
 Area Sensitive Receptor (ASRs)

	Long	Lat
ASR1	327812	462536
ASR2	327938	462105
ASR3	326839	462822
ASR4	326087	462455
ASR5	326416	462929

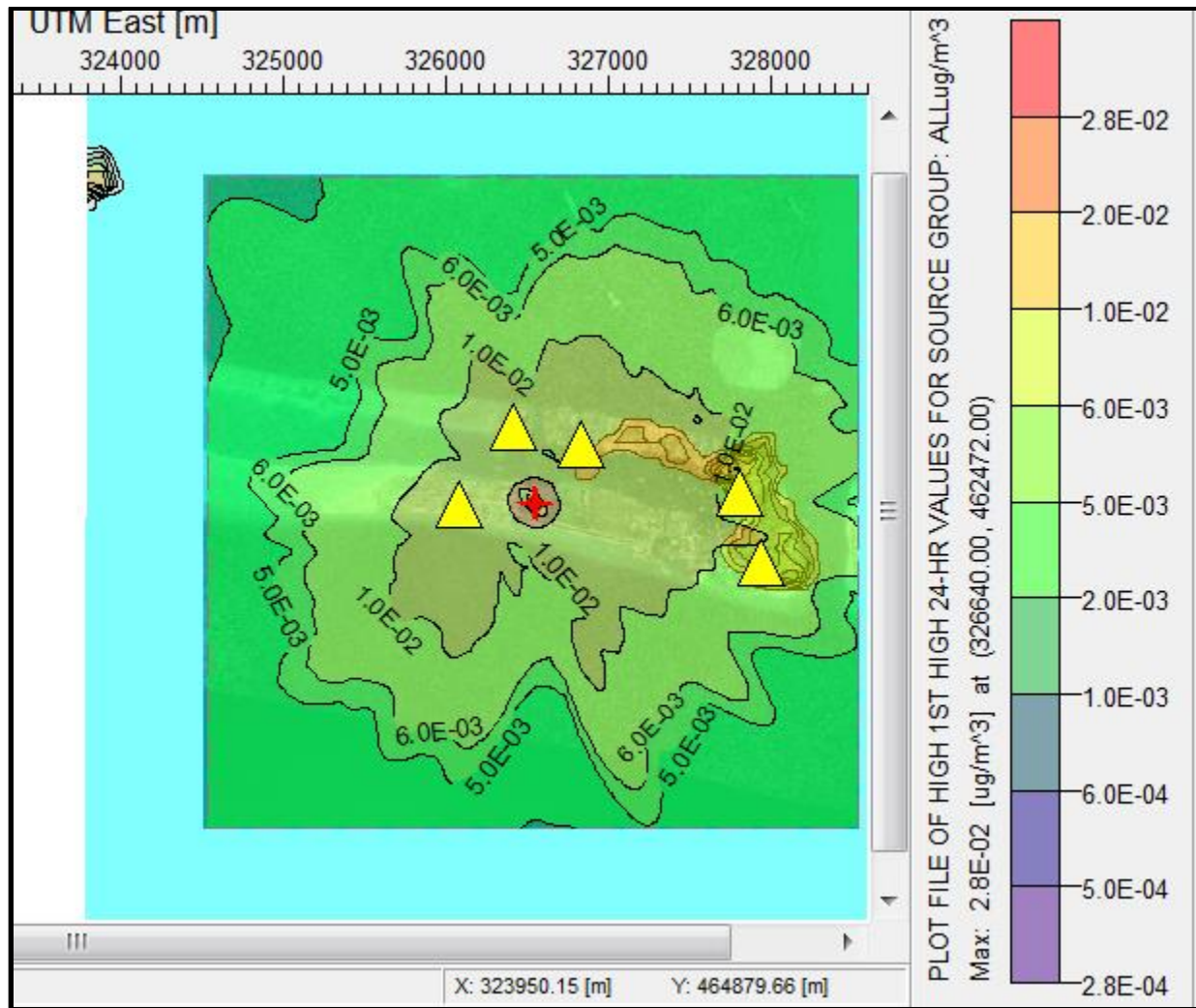


Figure 30: PM10 24 HR (Isopleth in microgram/m<sup>3</sup>)

LEGEND: Yellow Triangles refer to identified ASRs  
 Area Sensitive Receptor (ASRs)

	Long	Lat
ASR1	327812	462536
ASR2	327938	462105
ASR3	326839	462822
ASR4	326087	462455
ASR5	326416	462929



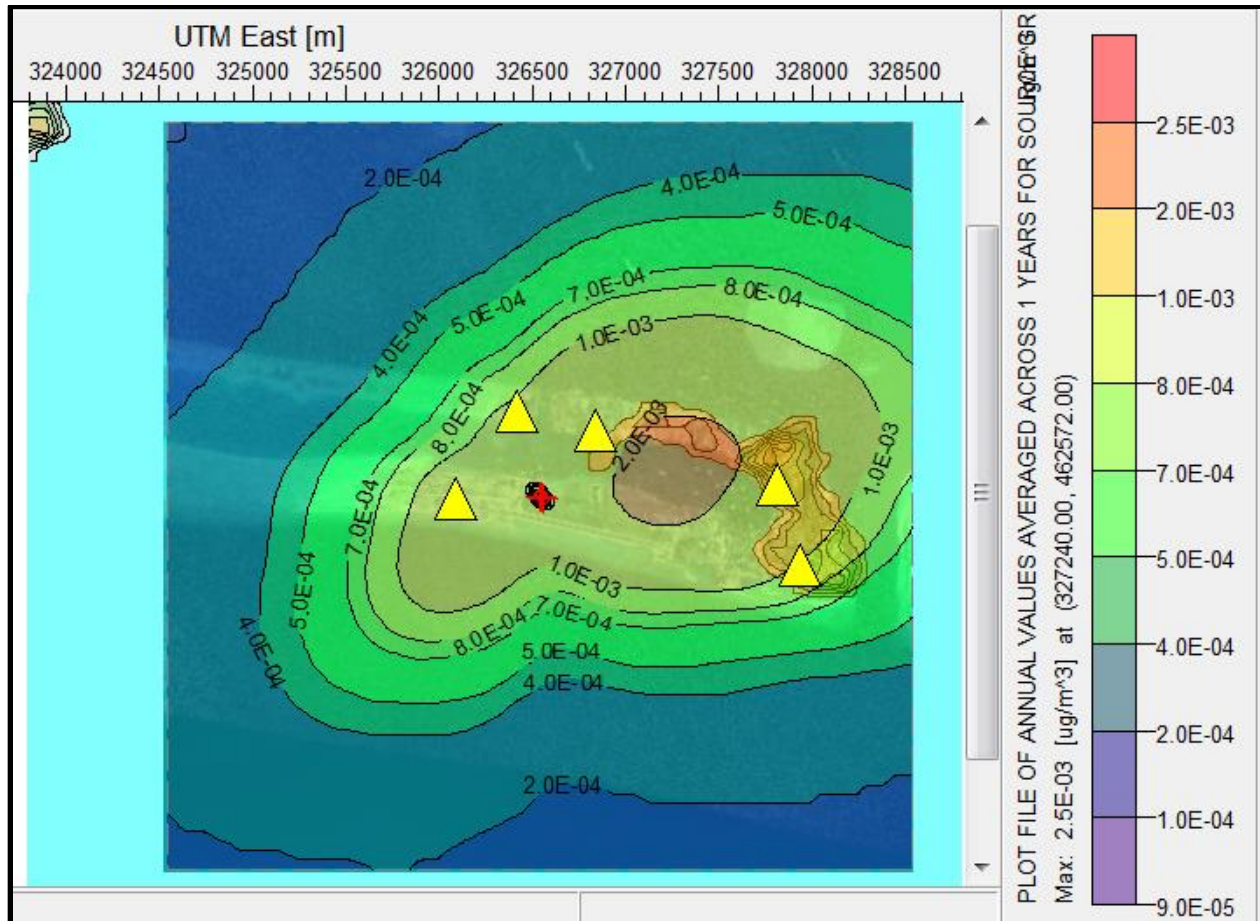


Figure 31: PM10 1 YR DEPOSITION (Isopleth in microgram/m3)

LEGEND: Yellow Triangles refer to identified ASRs  
 Area Sensitive Receptor (ASRs)

	Long	Lat
ASR1	327812	462536
ASR2	327938	462105
ASR3	326839	462822
ASR4	326087	462455
ASR5	326416	462929

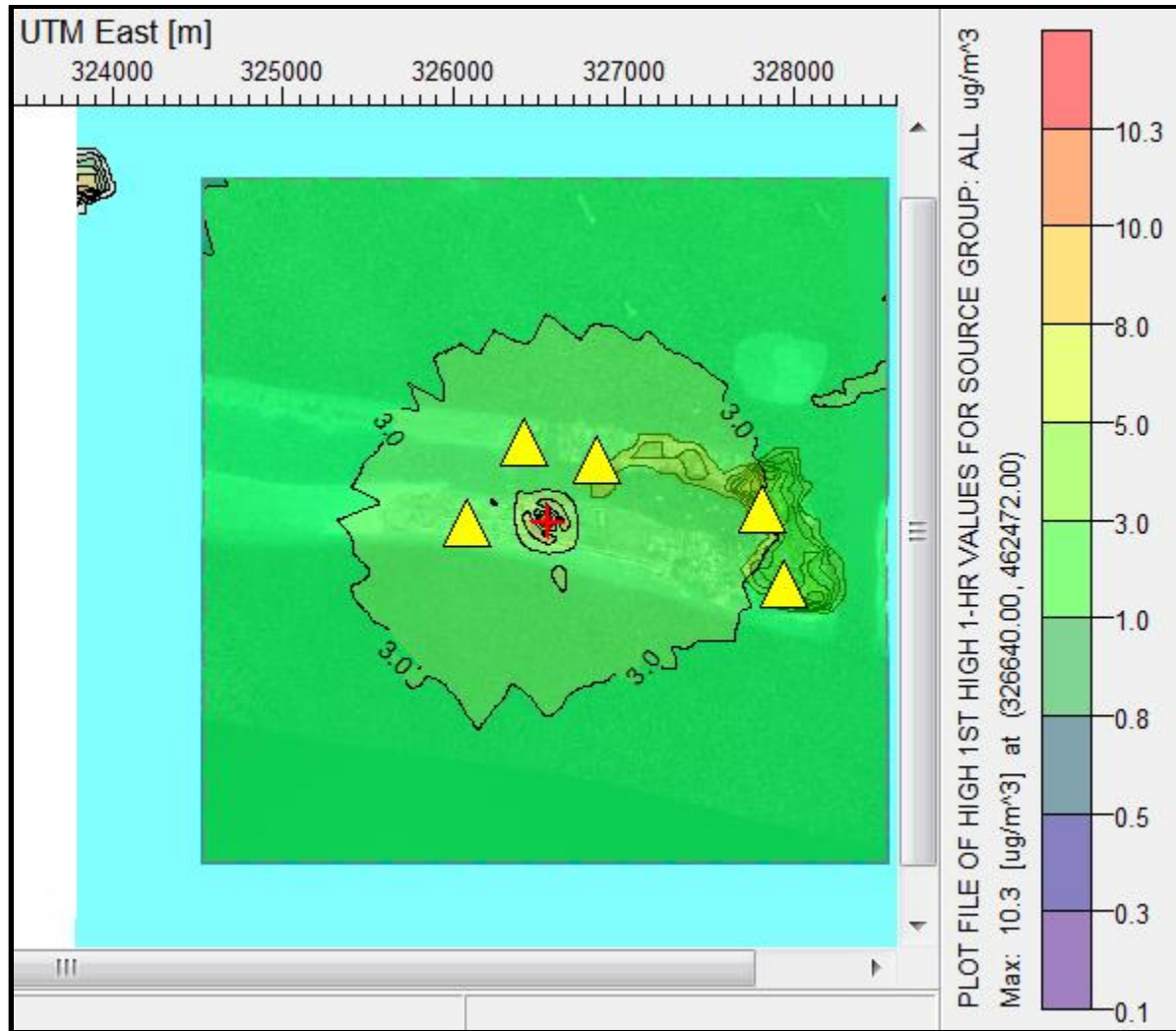
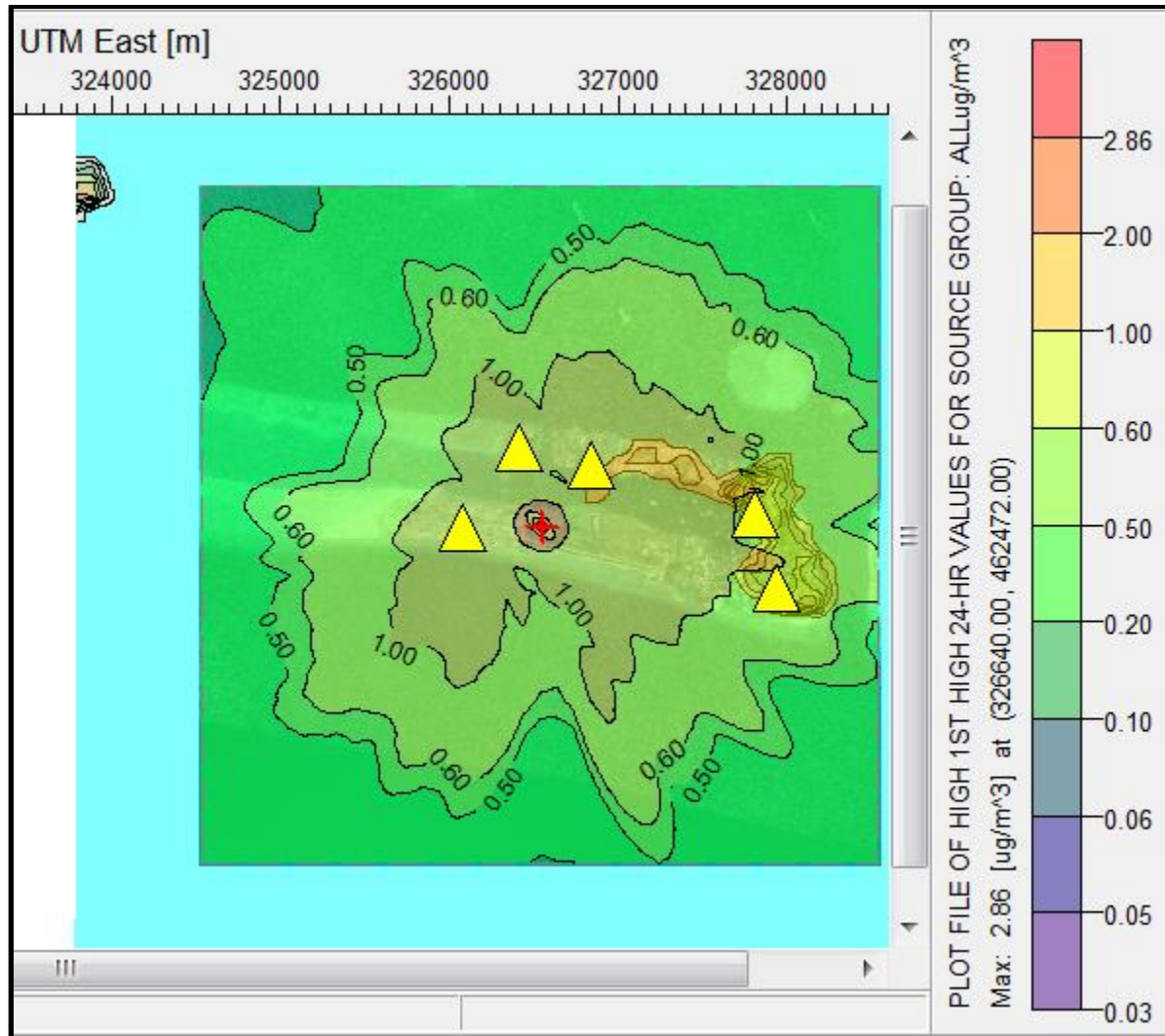


Figure 32: SO2 1 HR (Isopleth in microgram/m3)

LEGEND: Yellow Triangles refer to identified ASRs  
 Area Sensitive Receptor (ASRs)

	Long	Lat
ASR1	327812	462536
ASR2	327938	462105
ASR3	326839	462822
ASR4	326087	462455
ASR5	326416	462929

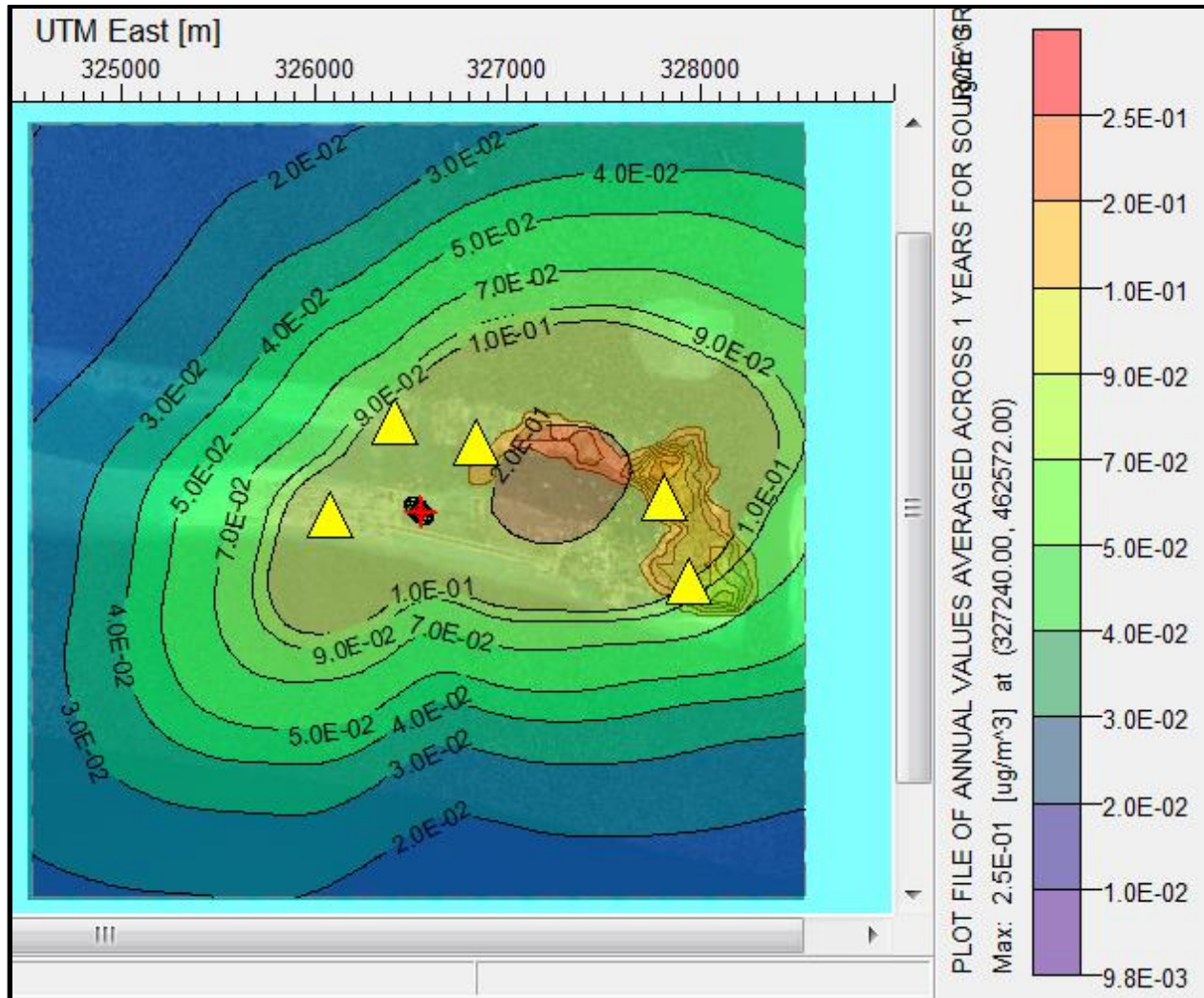


**Figure 33: SO2 24 HR (Isopleth in microgram/m3)**

LEGEND: Yellow Triangles refer to identified ASRs  
 Area Sensitive Receptor (ASRs)

	Long	Lat
ASR1	327812	462536
ASR2	327938	462105
ASR3	326839	462822
ASR4	326087	462455
ASR5	326416	462929





**Figure 34: SO2 1 YR (Isopleth in microgram/m3)**

LEGEND: Yellow Triangles refer to identified ASRs  
 Area Sensitive Receptor (ASRs)

	Long	Lat
ASR1	327812	462536
ASR2	327938	462105
ASR3	326839	462822
ASR4	326087	462455
ASR5	326416	462929

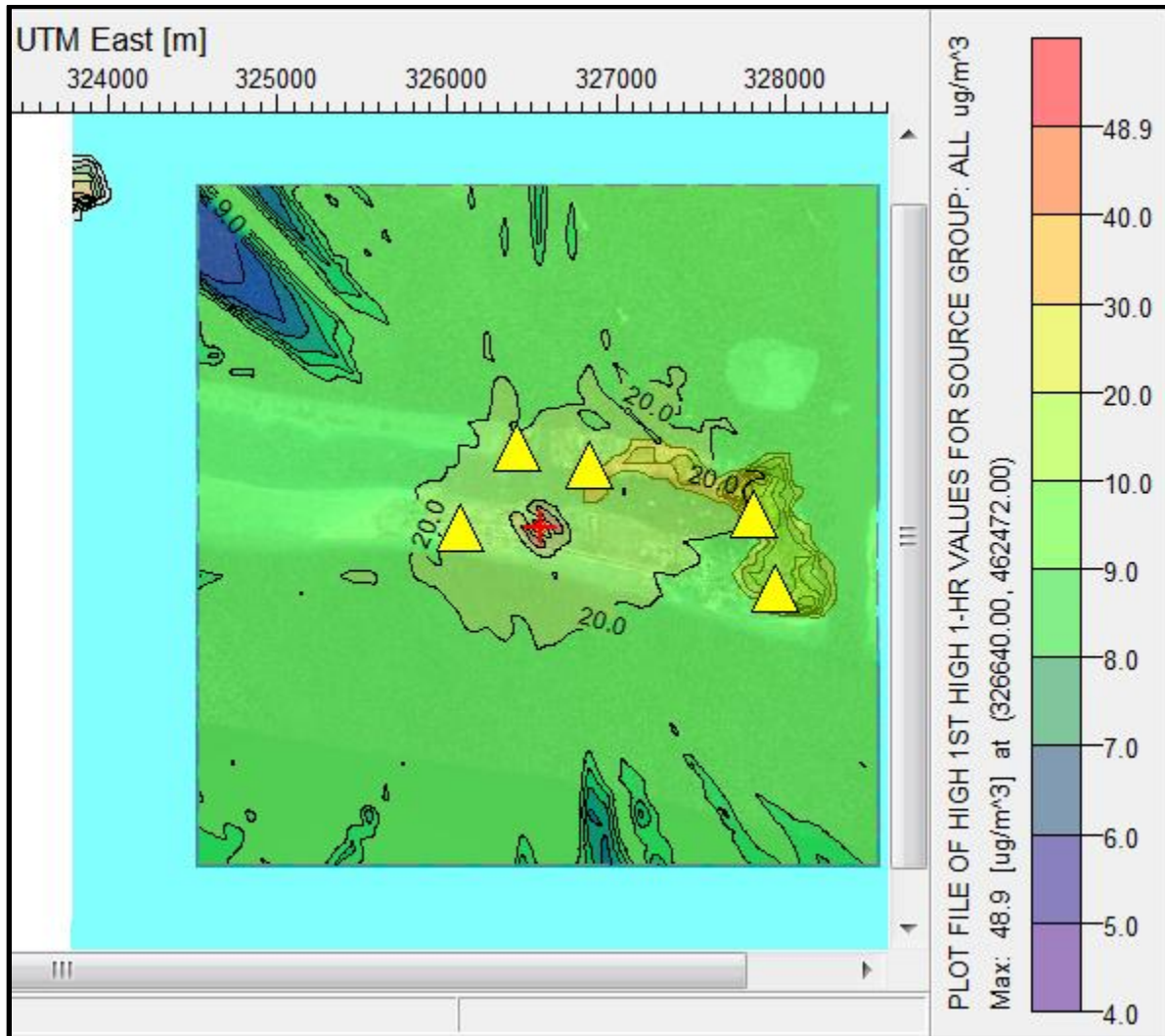


Figure 35: NO<sub>2</sub> 1 HR (Isopleth in microgram/m<sup>3</sup>)

LEGEND: Yellow Triangles refer to identified ASRs  
 Area Sensitive Receptor (ASRs)

	Long	Lat
ASR1	327812	462536
ASR2	327938	462105
ASR3	326839	462822
ASR4	326087	462455
ASR5	326416	462929

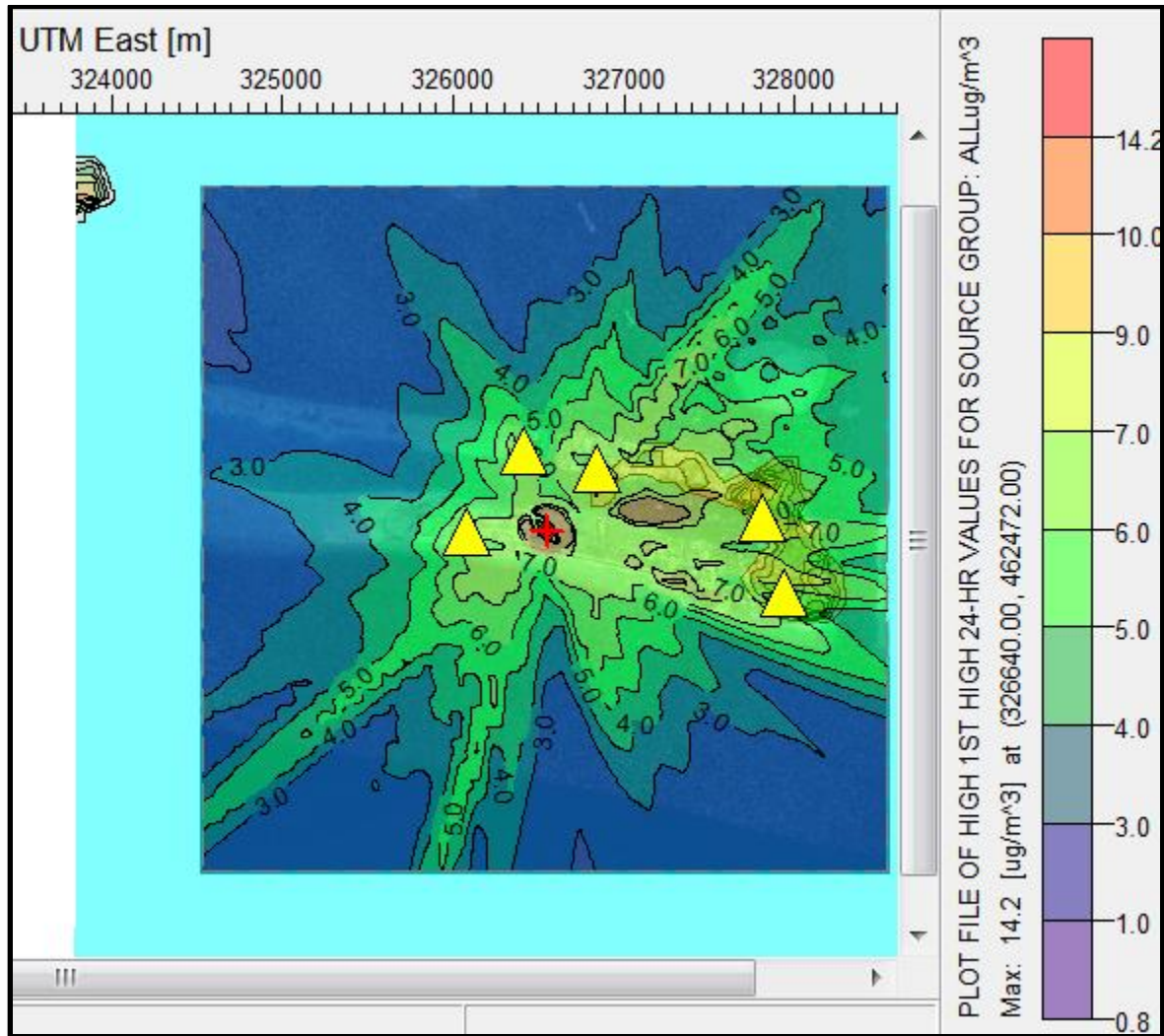
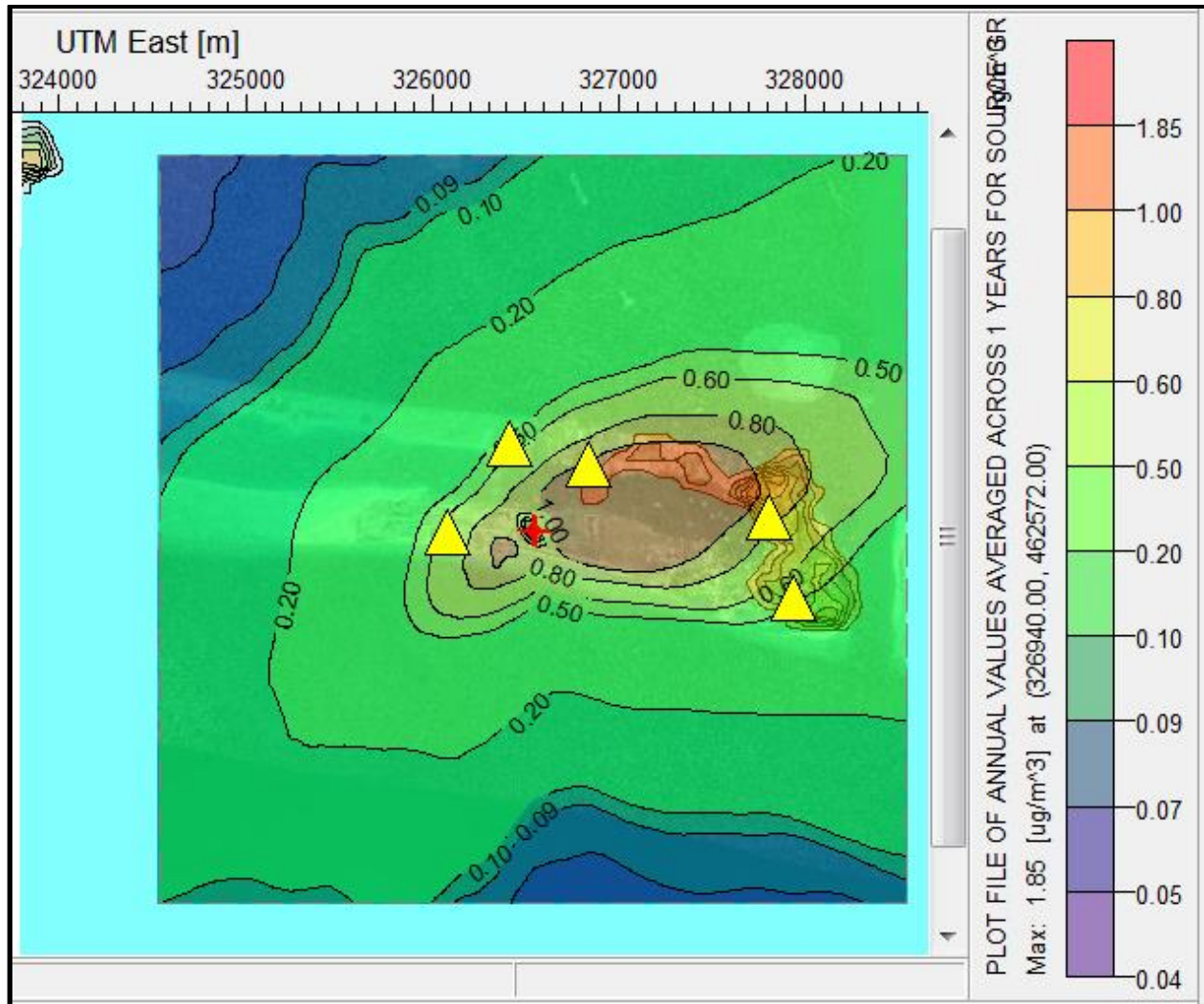


Figure 36: NO2 24 HR (Isopleth in microgram/m3)

LEGEND: Yellow Triangles refer to identified ASRs  
 Area Sensitive Receptor (ASRs)

	Long	Lat
ASR1	327812	462536
ASR2	327938	462105
ASR3	326839	462822
ASR4	326087	462455
ASR5	326416	462929





**Figure 37: NO2 1 YR HR (Isopleth in microgram/m3)**

LEGEND: Yellow Triangles refer to identified ASRs  
 Area Sensitive Receptor (ASRs)

	Long	Lat
ASR1	327812	462536
ASR2	327938	462105
ASR3	326839	462822
ASR4	326087	462455
ASR5	326416	462929

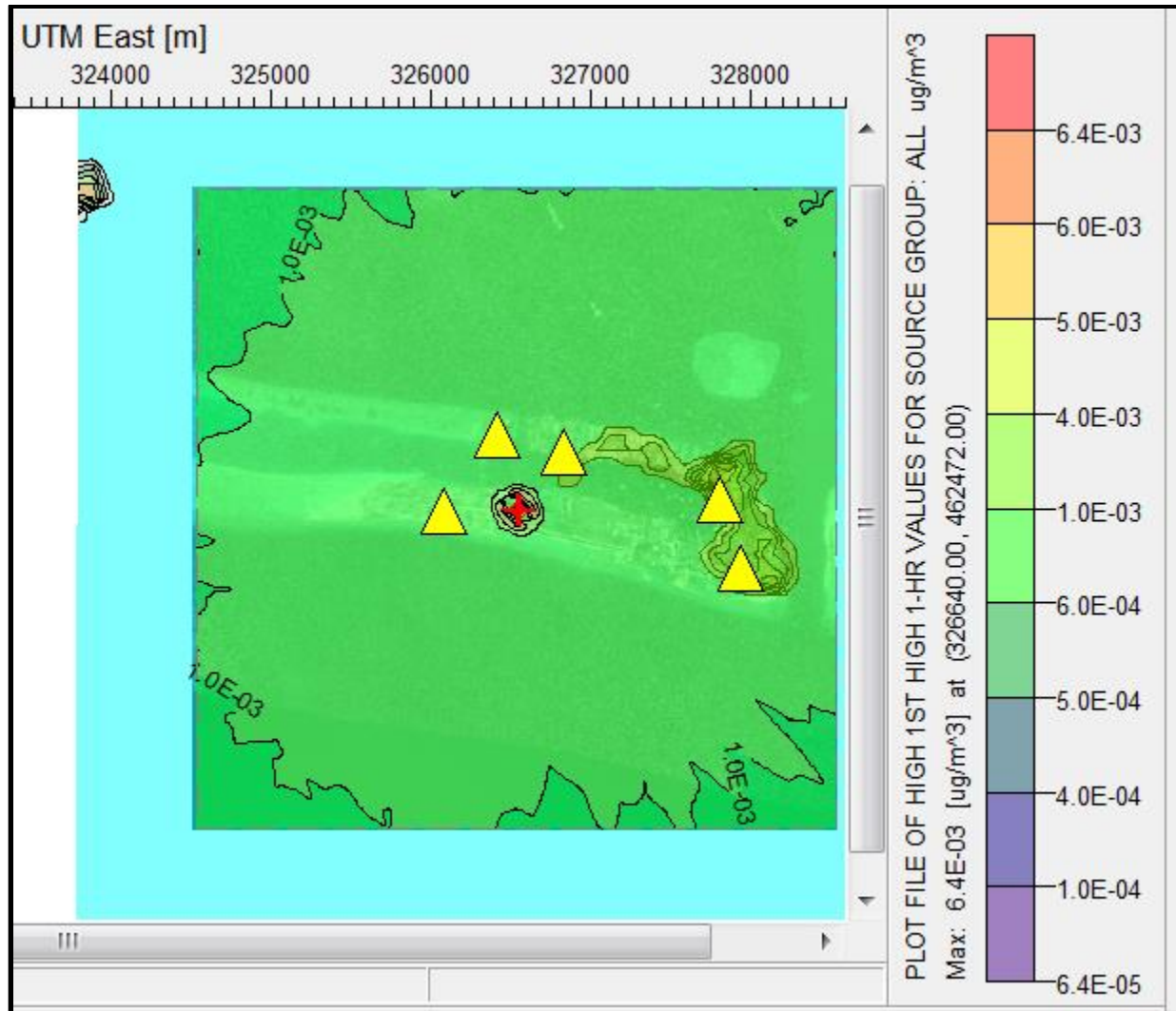
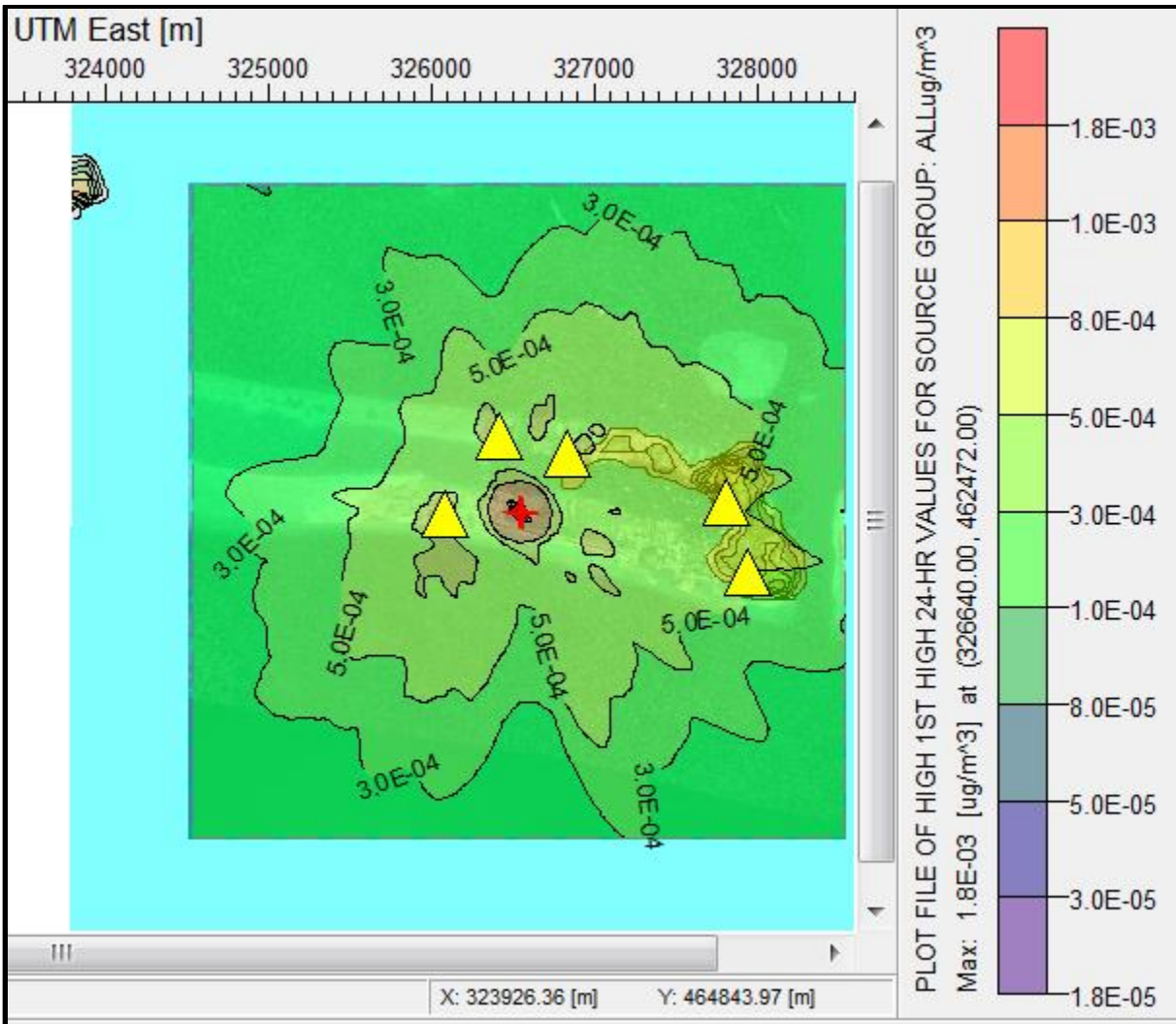


Figure 38: Hg 1 HR (Isopleth in microgram/m<sup>3</sup>)

LEGEND: Yellow Triangles refer to identified ASRs  
 Area Sensitive Receptor (ASRs)

	Long	Lat
ASR1	327812	462536
ASR2	327938	462105
ASR3	326839	462822
ASR4	326087	462455
ASR5	326416	462929





**Figure 39: Hg 24 HR (Isopleth in microgram/m3)**

LEGEND: Yellow Triangles refer to identified ASRs  
 Area Sensitive Receptor (ASRs)

	Long	Lat
ASR1	327812	462536
ASR2	327938	462105
ASR3	326839	462822
ASR4	326087	462455
ASR5	326416	462929

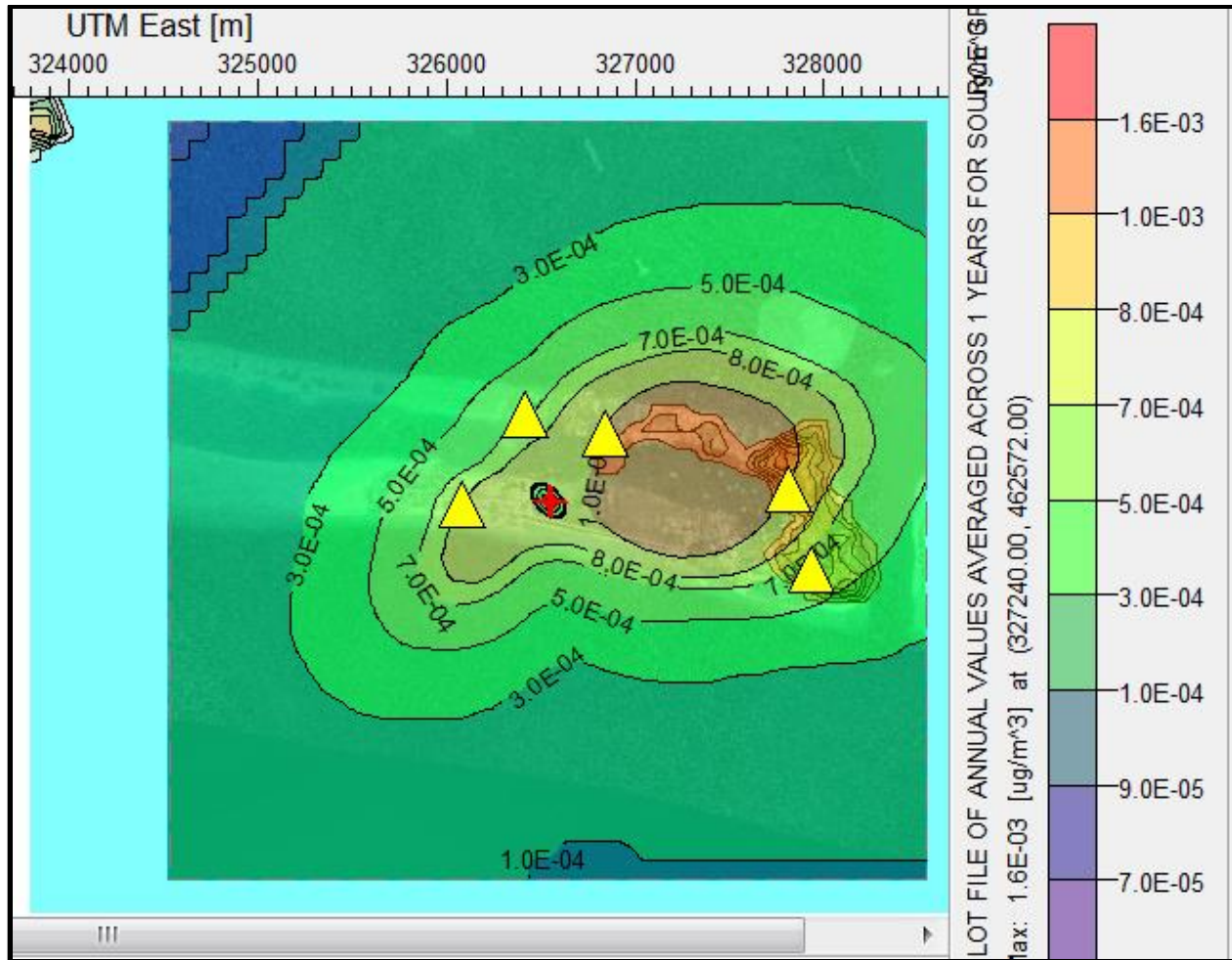
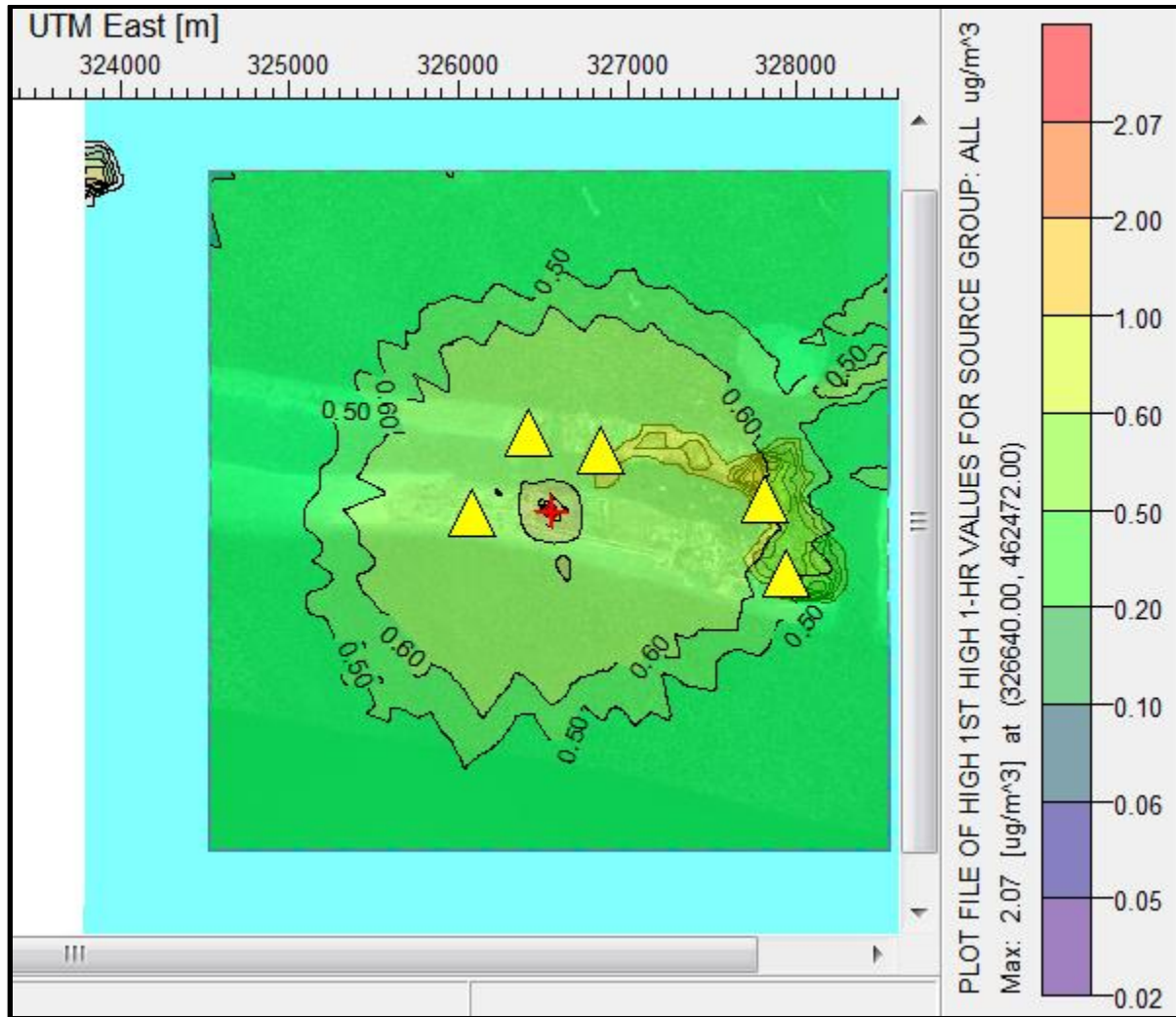


Figure 40: Hg 1 year (Isopleth in microgram/m3)

LEGEND: Yellow Triangles refer to identified ASRs  
 Area Sensitive Receptor (ASRs)

	Long	Lat
ASR1	327812	462536
ASR2	327938	462105
ASR3	326839	462822
ASR4	326087	462455
ASR5	326416	462929



**Figure 41: NH<sub>3</sub> 1 HR (Isopleth in microgram/m<sup>3</sup>)**

LEGEND: Yellow Triangles refer to identified ASRs  
 Area Sensitive Receptor (ASRs)

	Long	Lat
ASR1	327812	462536
ASR2	327938	462105
ASR3	326839	462822
ASR4	326087	462455
ASR5	326416	462929

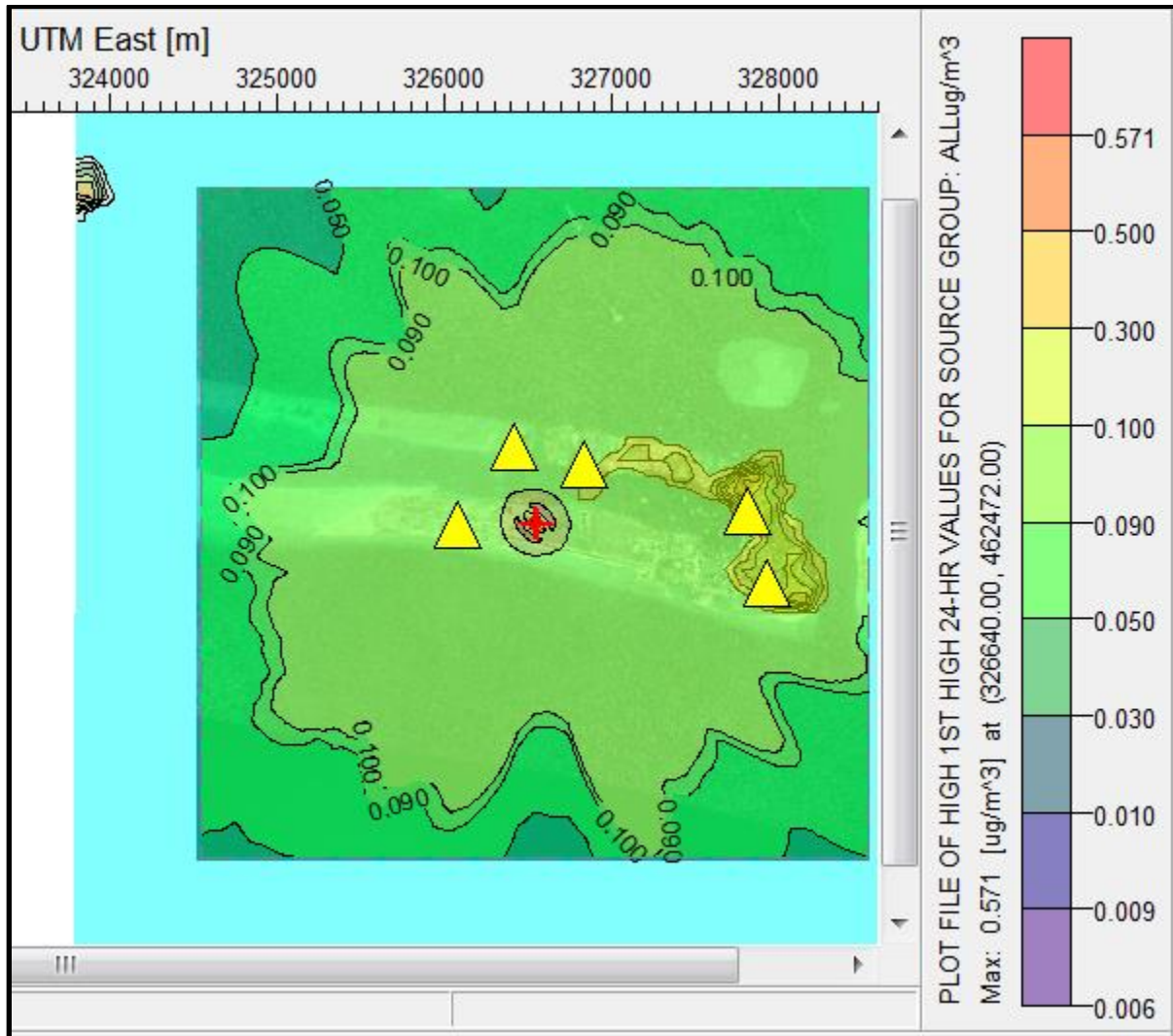
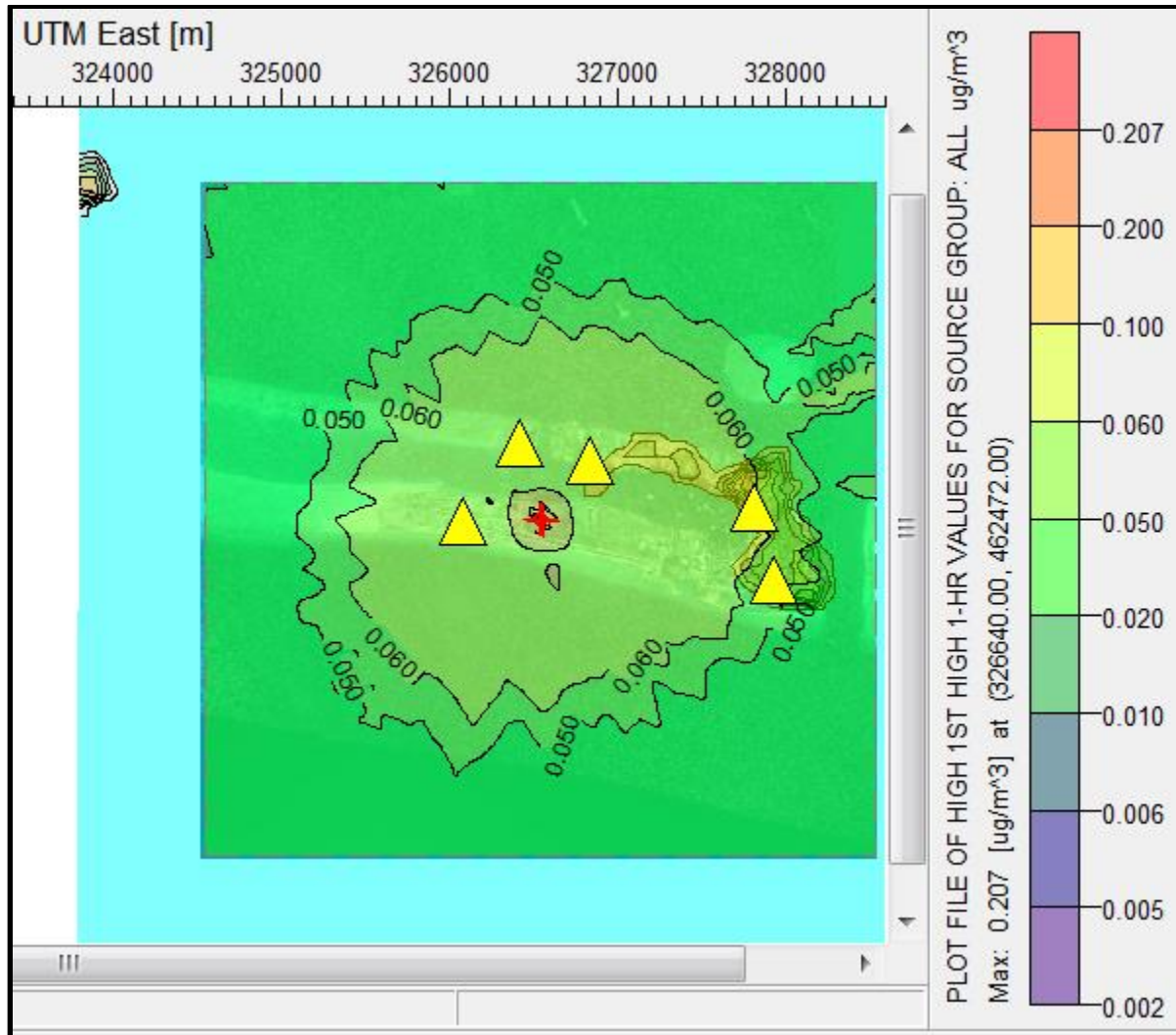


Figure 42: 5.19 NH<sub>3</sub> 24 HR (Isopleth in microgram/m<sup>3</sup>)

LEGEND: Yellow Triangles refer to identified ASRs  
 Area Sensitive Receptor (ASRs)

	Long	Lat
ASR1	327812	462536
ASR2	327938	462105
ASR3	326839	462822
ASR4	326087	462455
ASR5	326416	462929





**Figure 43: HF 1 HR (Isopleth in microgram/m3)**

LEGEND: Yellow Triangles refer to identified ASRs  
 Area Sensitive Receptor (ASRs)

	Long	Lat
ASR1	327812	462536
ASR2	327938	462105
ASR3	326839	462822
ASR4	326087	462455
ASR5	326416	462929

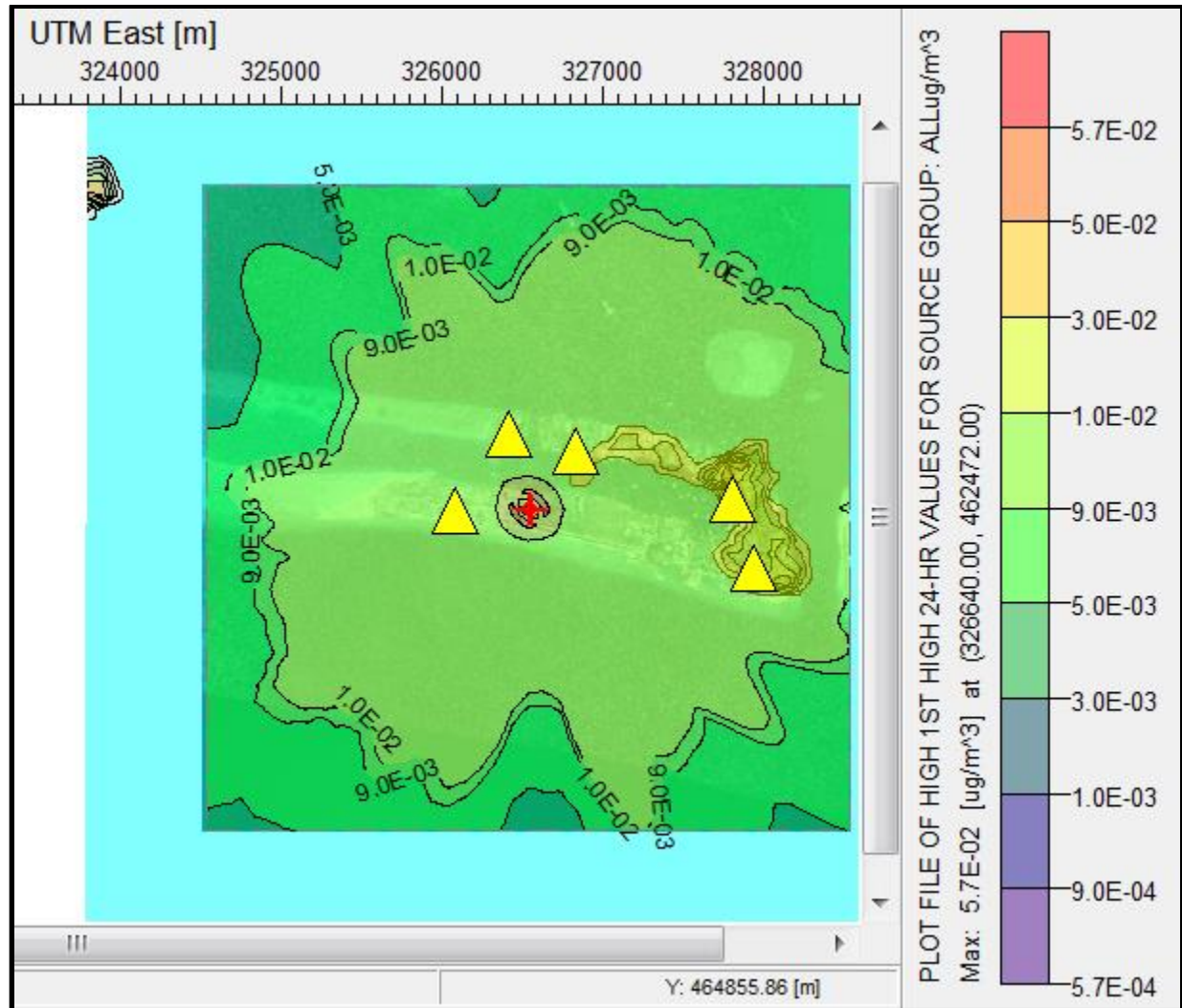


Figure 44: HF 24 HR (Isopleth in microgram/m3)

LEGEND: Yellow Triangles refer to identified ASRs  
 Area Sensitive Receptor (ASRs)

	Long	Lat
ASR1	327812	462536
ASR2	327938	462105
ASR3	326839	462822
ASR4	326087	462455
ASR5	326416	462929

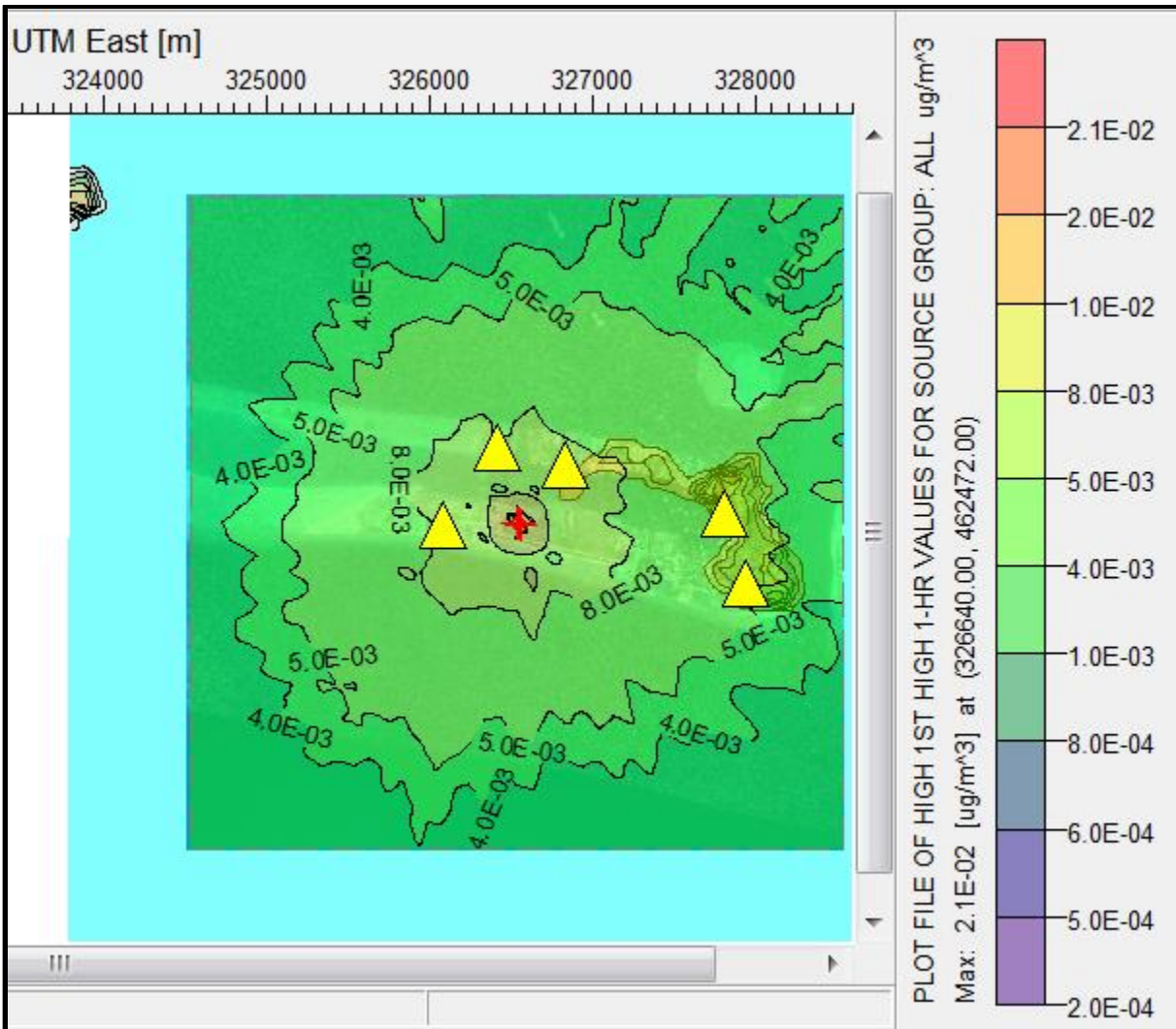


Figure 45: Dioxin and Furans 1 HR (Isopleth in microgram/m3)

LEGEND: Yellow Triangles refer to identified ASRs  
 Area Sensitive Receptor (ASRs)

	Long	Lat
ASR1	327812	462536
ASR2	327938	462105
ASR3	326839	462822
ASR4	326087	462455
ASR5	326416	462929



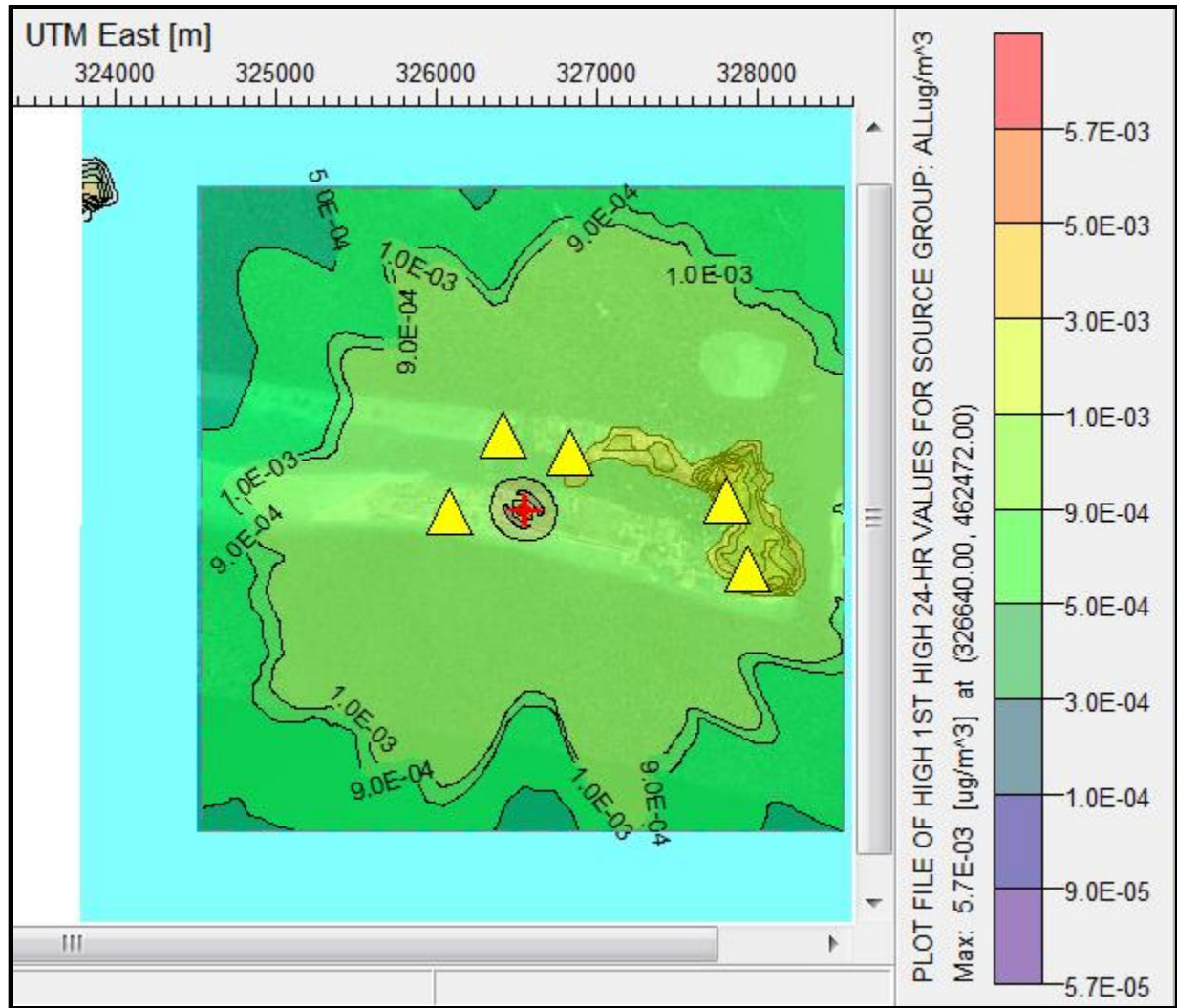
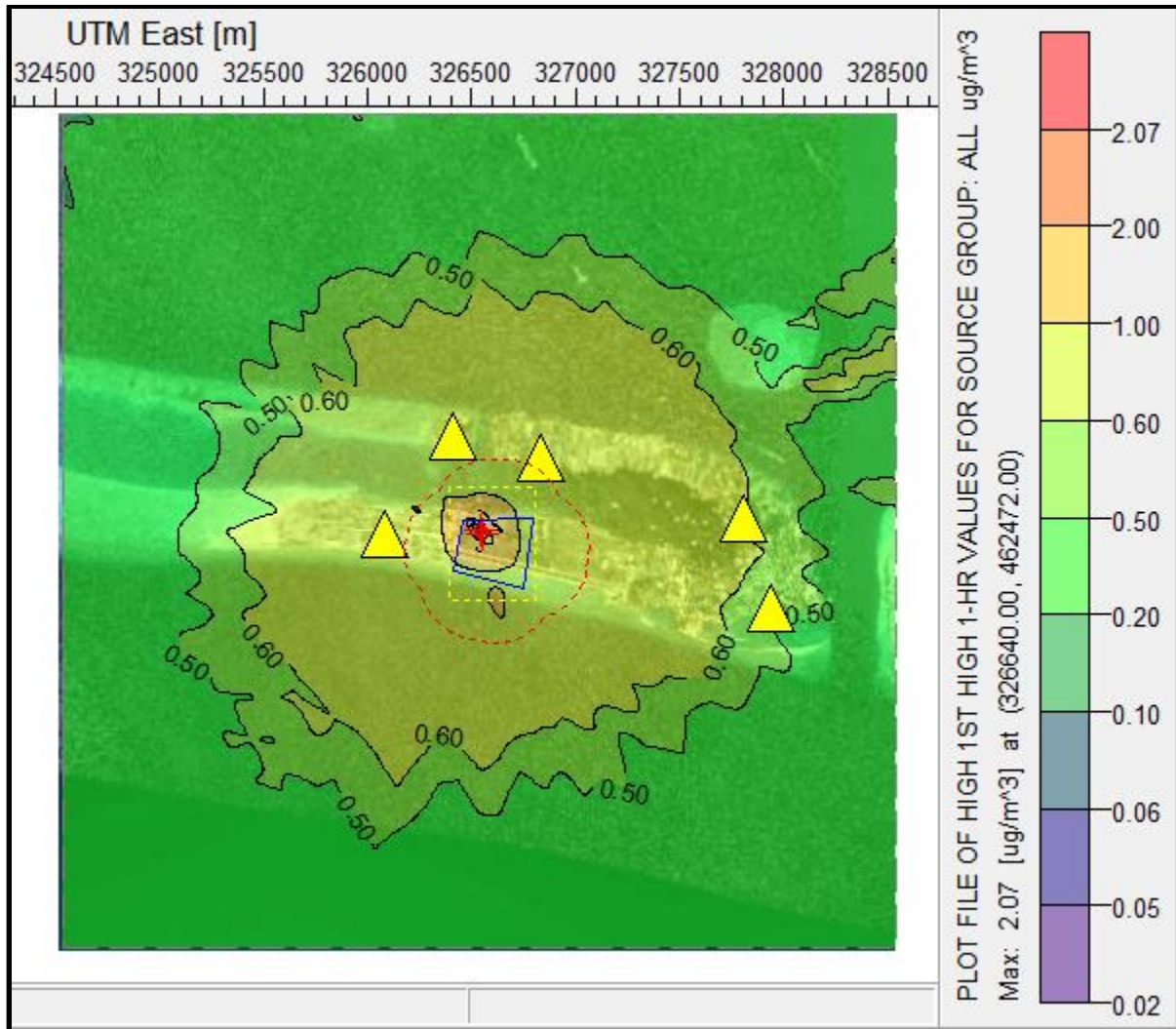


Figure 46: Dioxin and Furans 24 HR (Isopleth in microgram/m3)

LEGEND: Yellow Triangles refer to identified ASRs  
 Area Sensitive Receptor (ASRs)

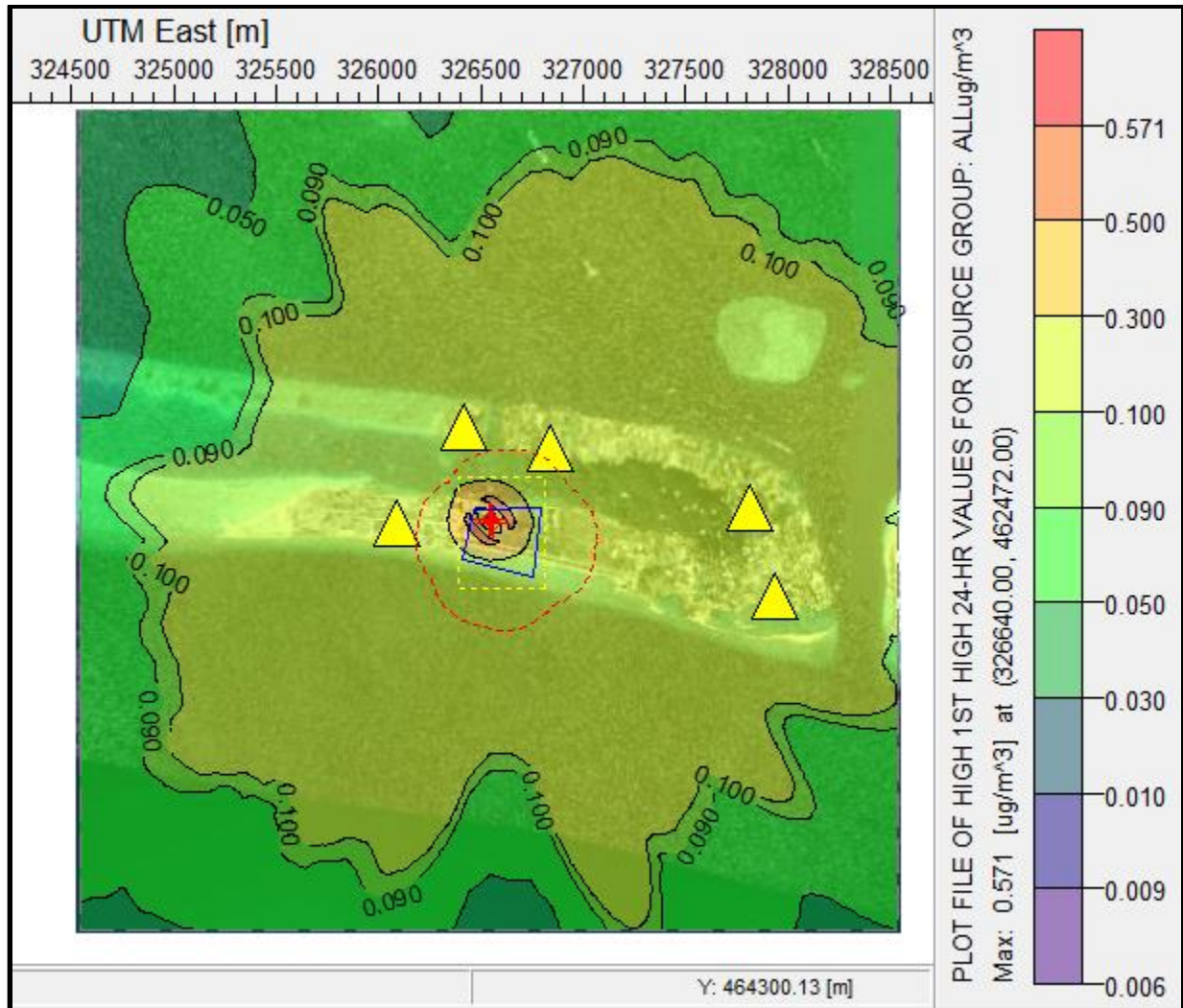
	Long	Lat
ASR1	327812	462536
ASR2	327938	462105
ASR3	326839	462822
ASR4	326087	462455
ASR5	326416	462929



**Figure 47: HCl 1 HR (Isopleth in microgram/m3)**

LEGEND: Yellow Triangles refer to identified ASRs  
 Area Sensitive Receptor (ASRs)

	Long	Lat
ASR1	327812	462536
ASR2	327938	462105
ASR3	326839	462822
ASR4	326087	462455
ASR5	326416	462929

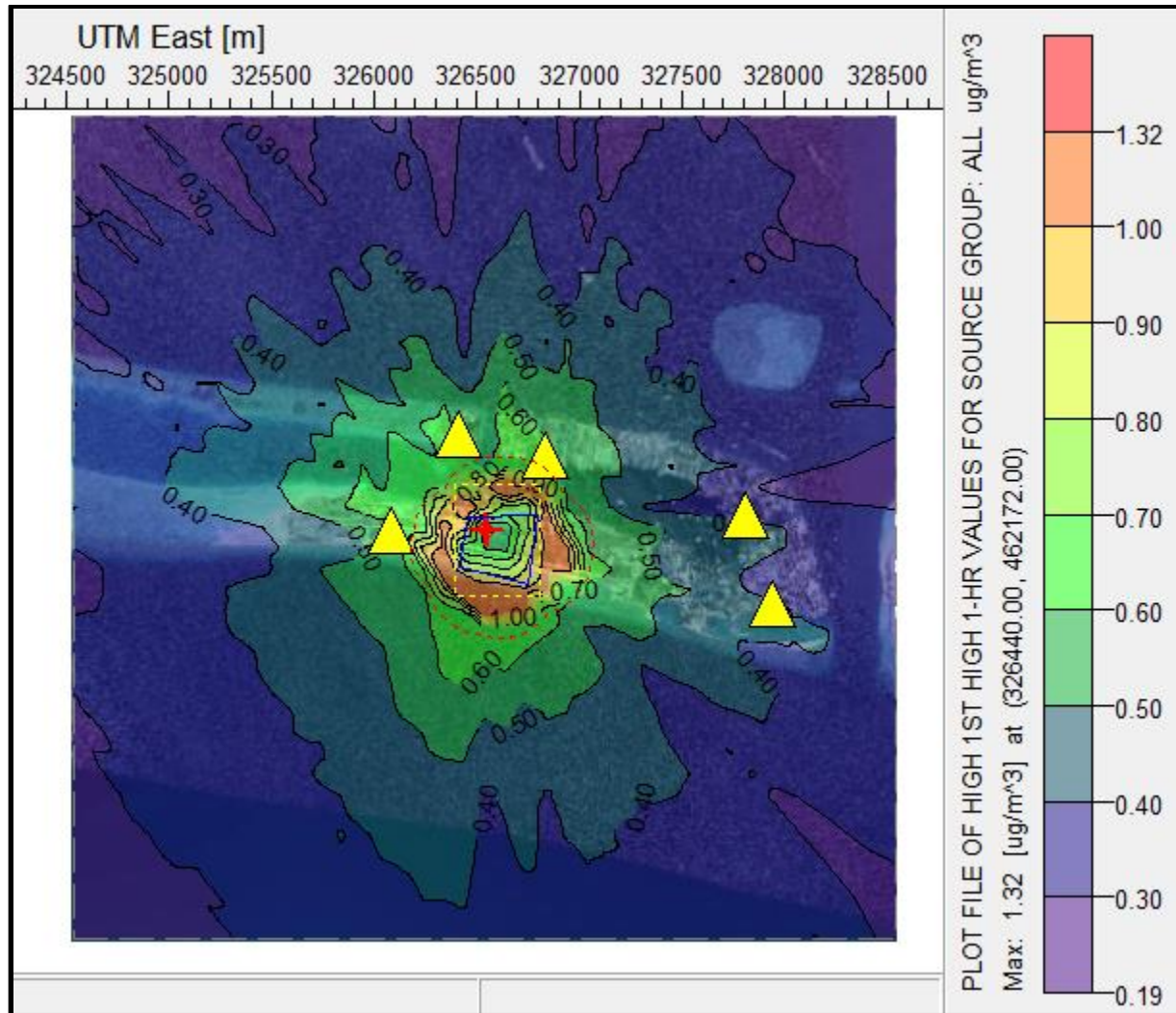


**Figure 48: HCl 24 HR (Isopleth in microgram/m<sup>3</sup>)**

LEGEND: Yellow Triangles refer to identified ASRs  
 Area Sensitive Receptor (ASRs)

	Long	Lat
ASR1	327812	462536
ASR2	327938	462105
ASR3	326839	462822
ASR4	326087	462455
ASR5	326416	462929

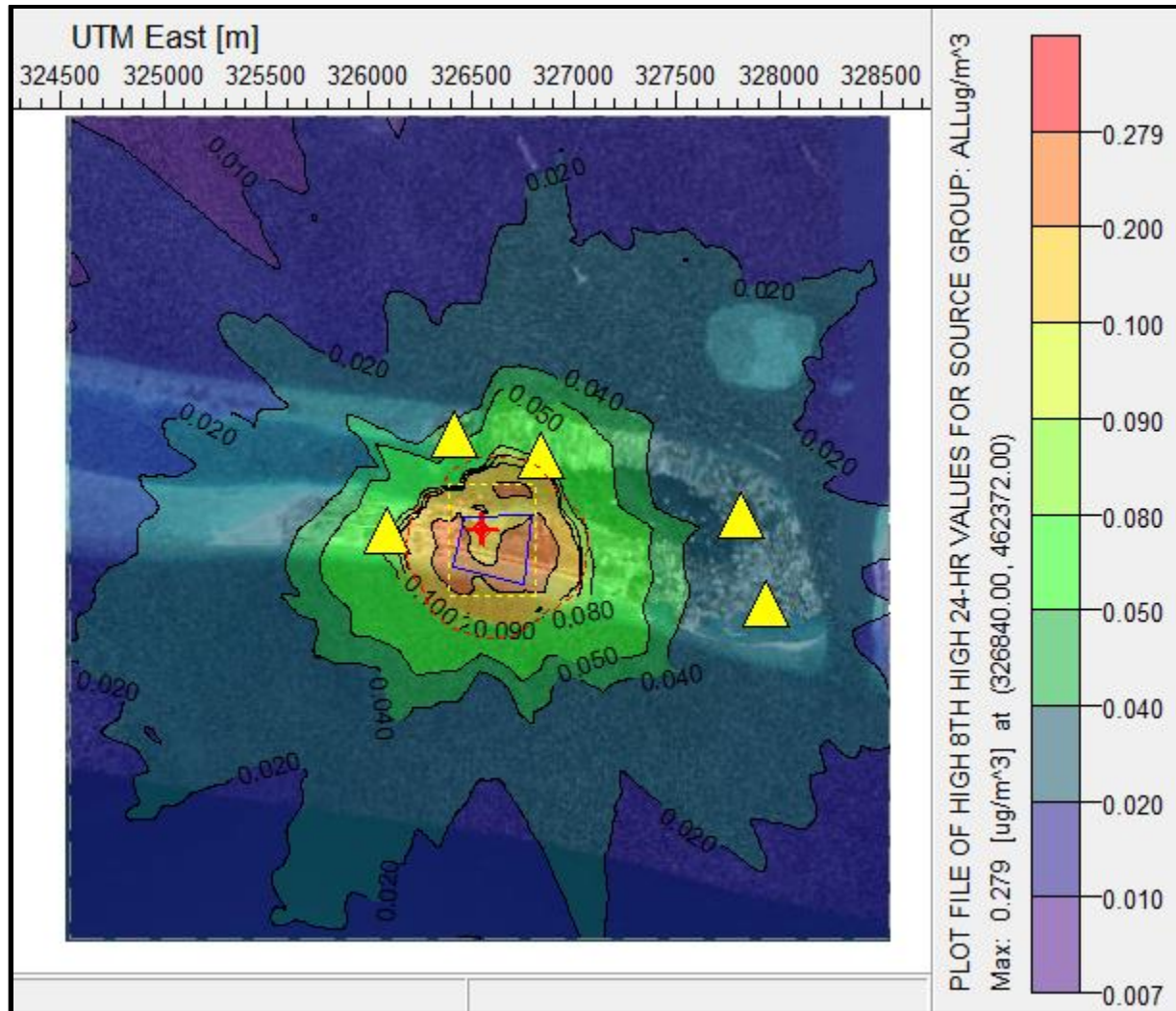




**Figure 49: Sb 1 HR (Isopleth in microgram/m3)**

LEGEND: Yellow Triangles refer to identified ASRs  
 Area Sensitive Receptor (ASRs)

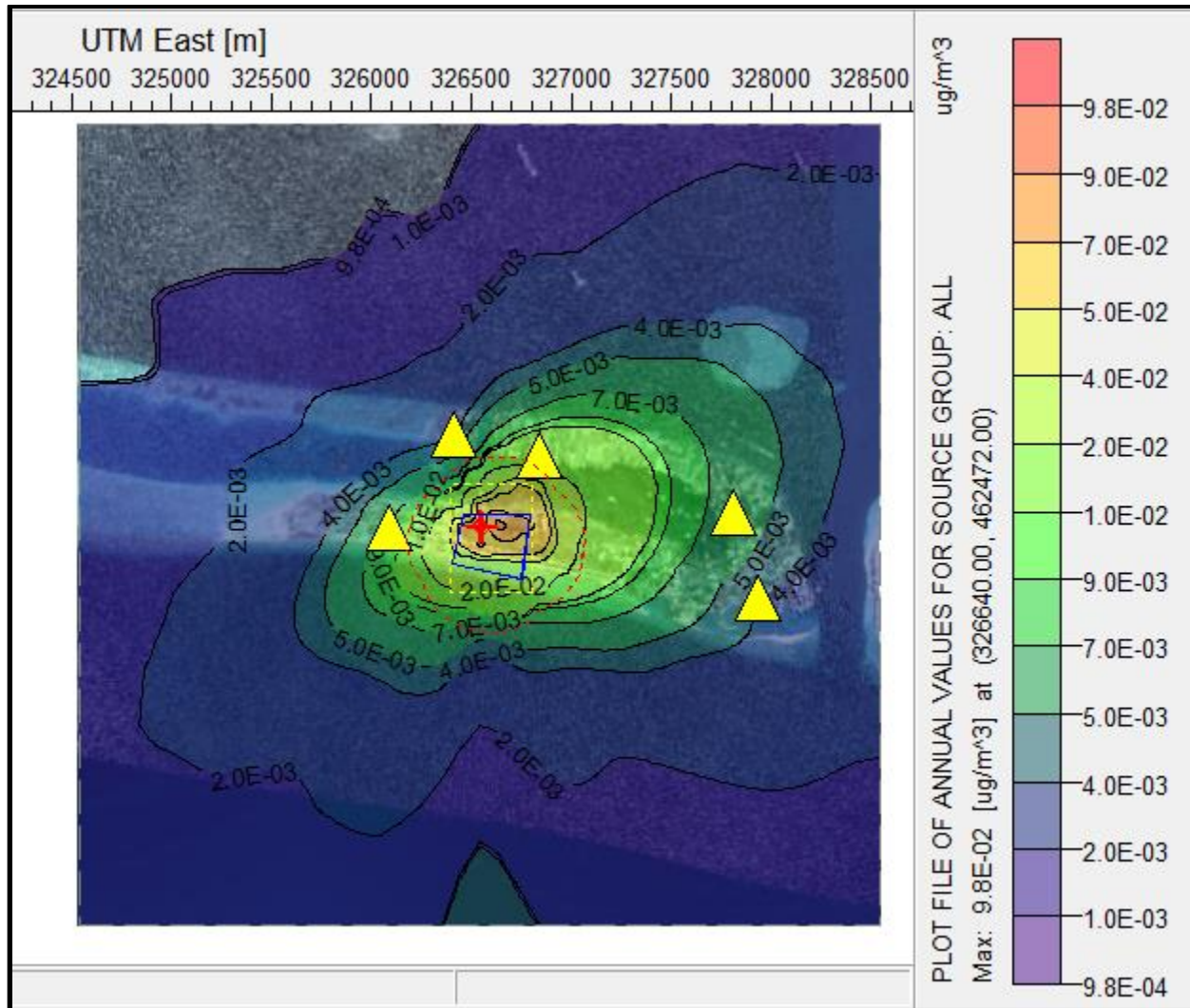
	Long	Lat
ASR1	327812	462536
ASR2	327938	462105
ASR3	326839	462822
ASR4	326087	462455
ASR5	326416	462929



**Figure 50: Sb 24 HR (Isopleth in microgram/m3)**

LEGEND: Yellow Triangles refer to identified ASRs  
 Area Sensitive Receptor (ASRs)

	Long	Lat
ASR1	327812	462536
ASR2	327938	462105
ASR3	326839	462822
ASR4	326087	462455
ASR5	326416	462929

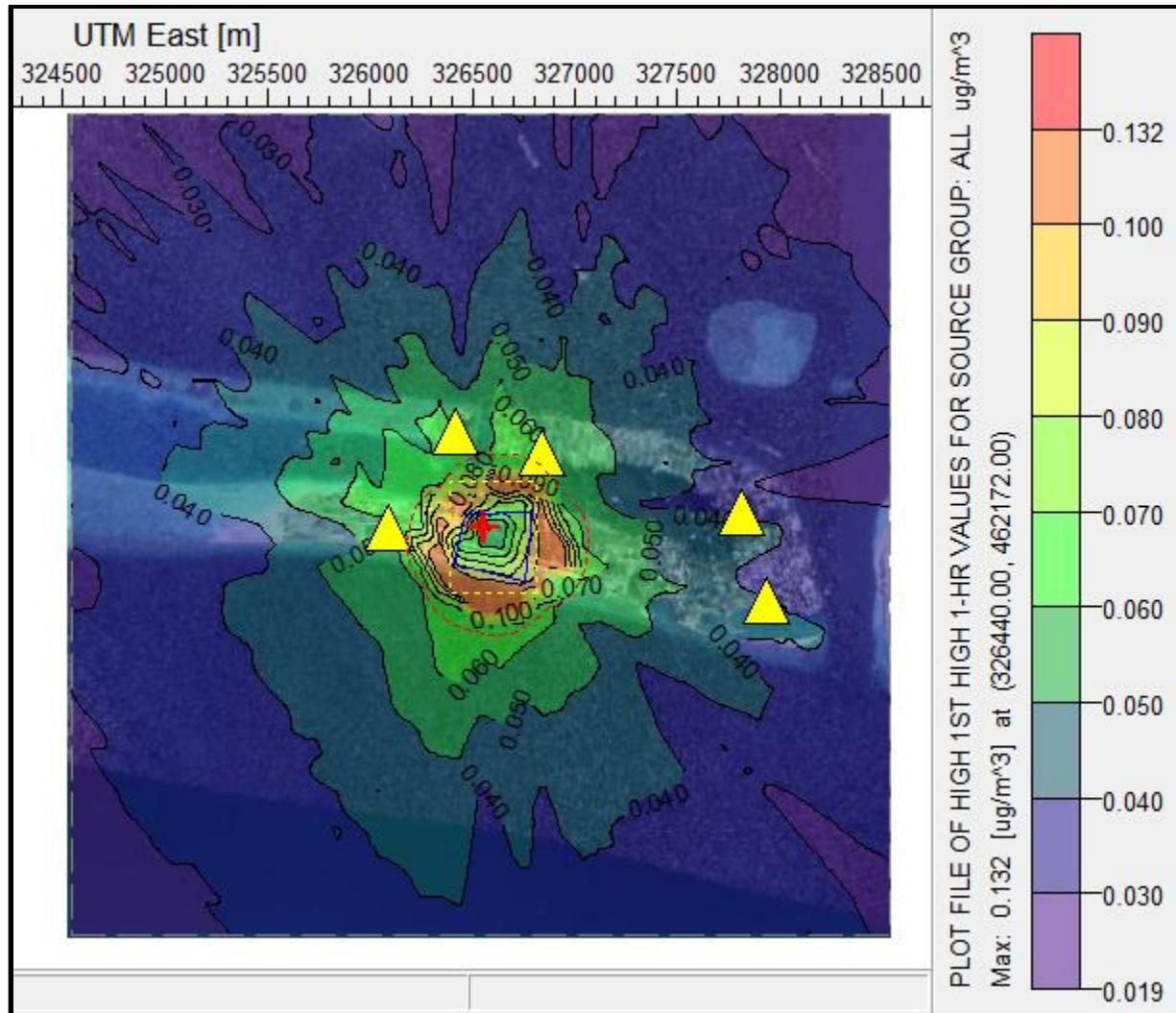


**Figure 51: Sb 1 YR (Isopleth in microgram/m3)**

LEGEND: Yellow Triangles refer to identified ASRs  
 Area Sensitive Receptor (ASRs)

	Long	Lat
ASR1	327812	462536
ASR2	327938	462105
ASR3	326839	462822
ASR4	326087	462455
ASR5	326416	462929



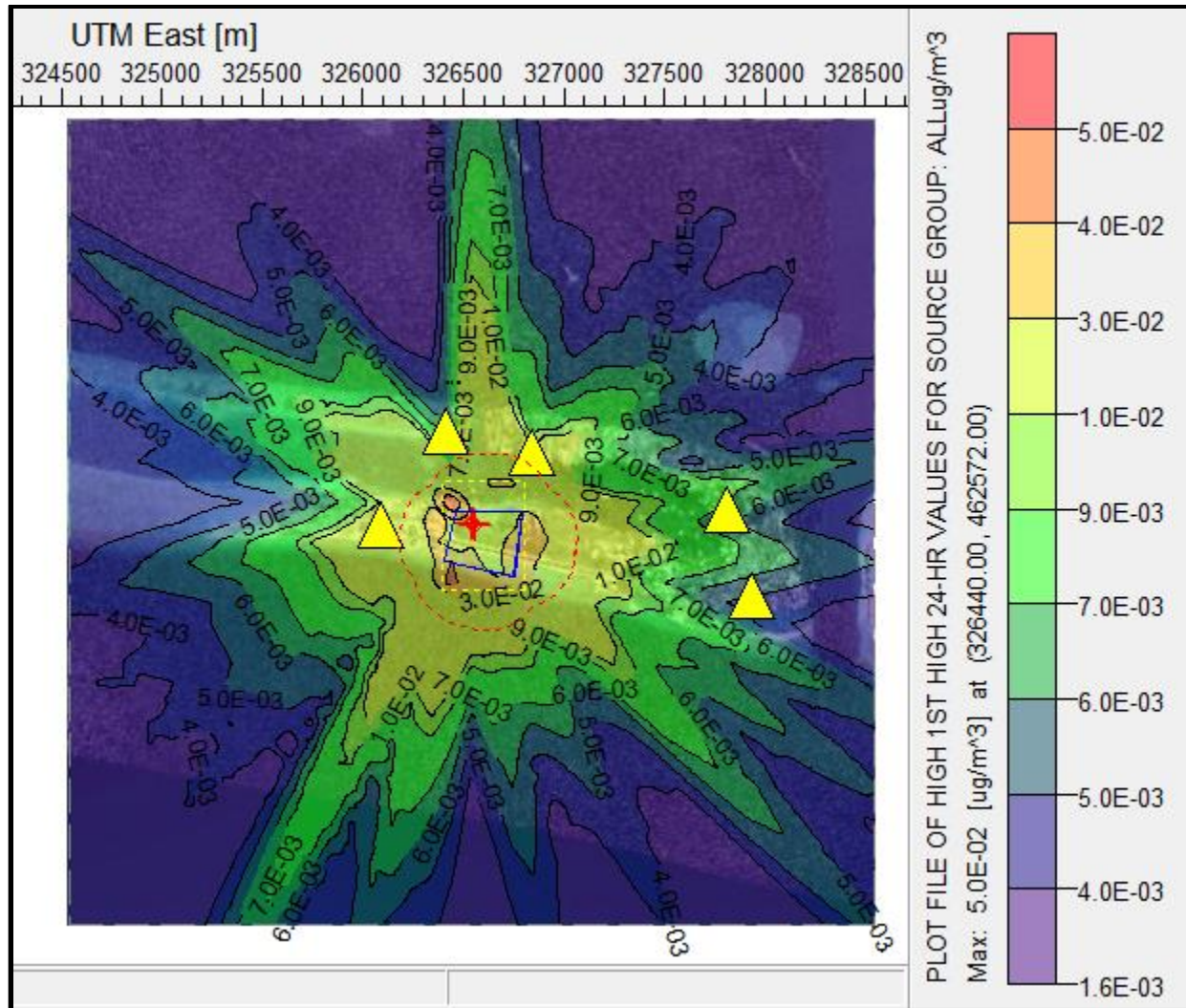


**Figure 52: As 1 HR (Isopleth in microgram/m3)**

LEGEND: Yellow Triangles refer to identified ASRs  
 Area Sensitive Receptor (ASRs)

	Long	Lat
ASR1	327812	462536
ASR2	327938	462105
ASR3	326839	462822
ASR4	326087	462455
ASR5	326416	462929

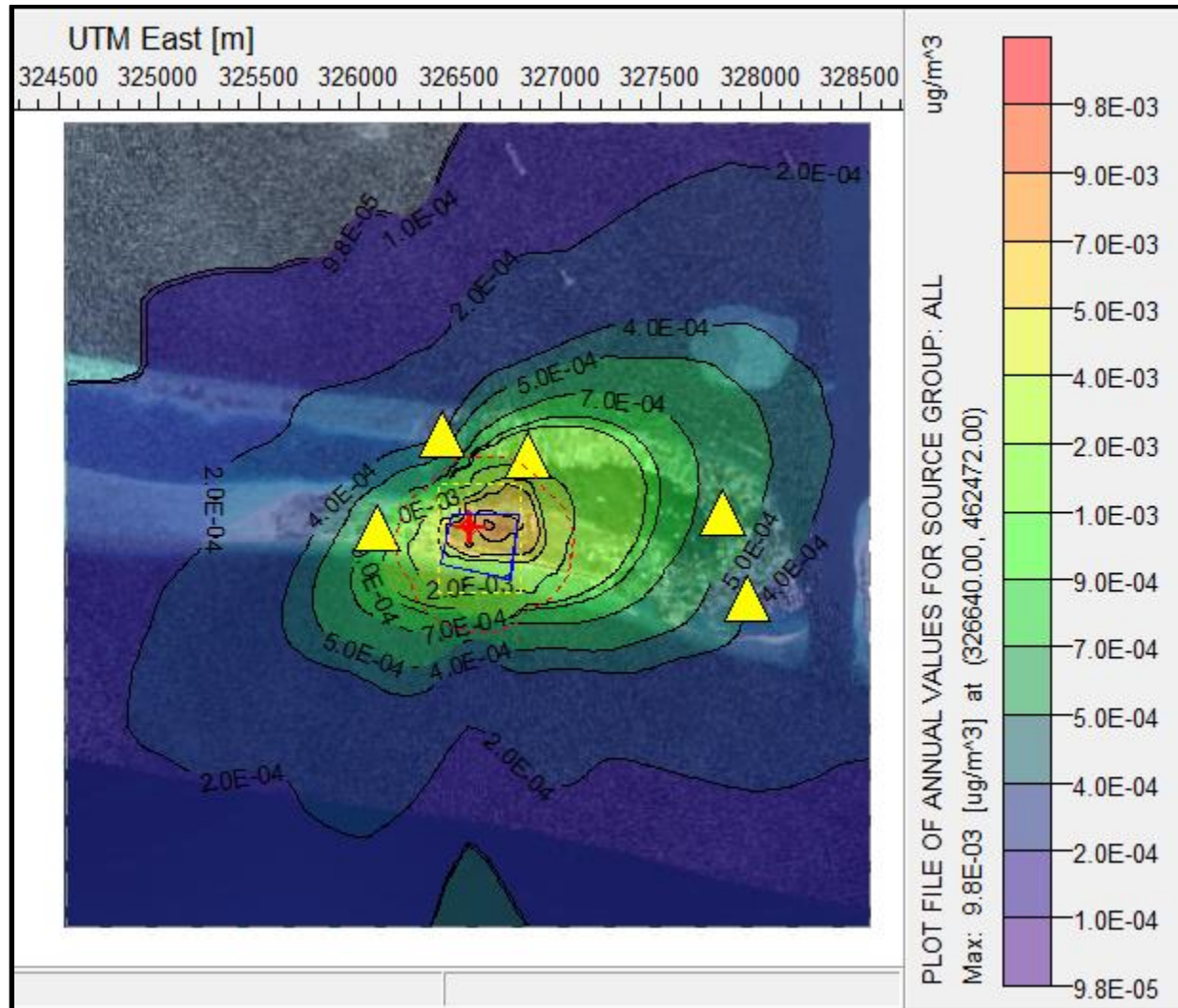




**Figure 53: As 24 HR (Isopleth in microgram/m3)**

LEGEND: Yellow Triangles refer to identified ASRs  
 Area Sensitive Receptor (ASRs)

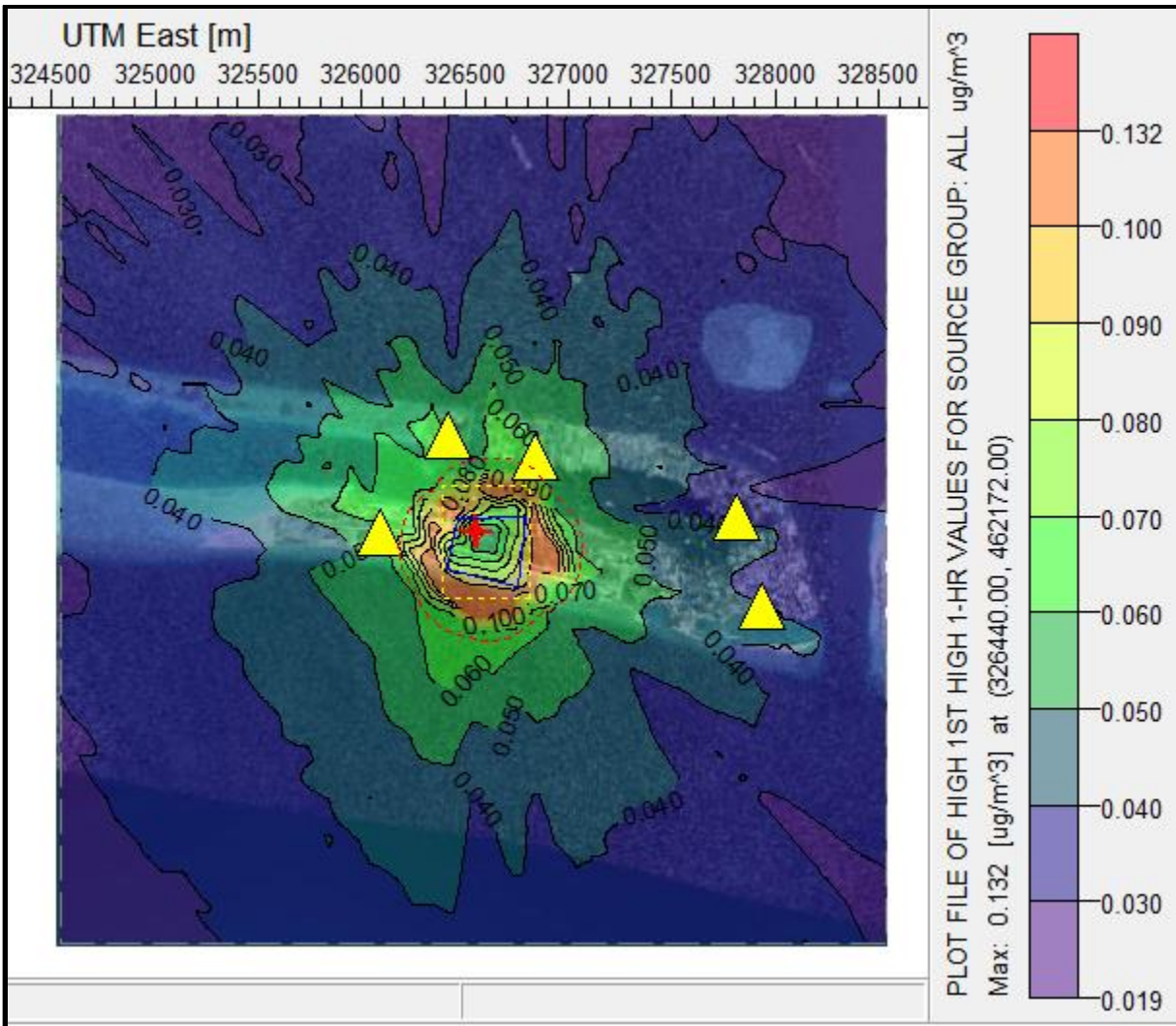
	Long	Lat
ASR1	327812	462536
ASR2	327938	462105
ASR3	326839	462822
ASR4	326087	462455
ASR5	326416	462929



**Figure 54: As 1 YR (Isopleth in microgram/m3)**

LEGEND: Yellow Triangles refer to identified ASRs  
 Area Sensitive Receptor (ASRs)

	Long	Lat
ASR1	327812	462536
ASR2	327938	462105
ASR3	326839	462822
ASR4	326087	462455
ASR5	326416	462929

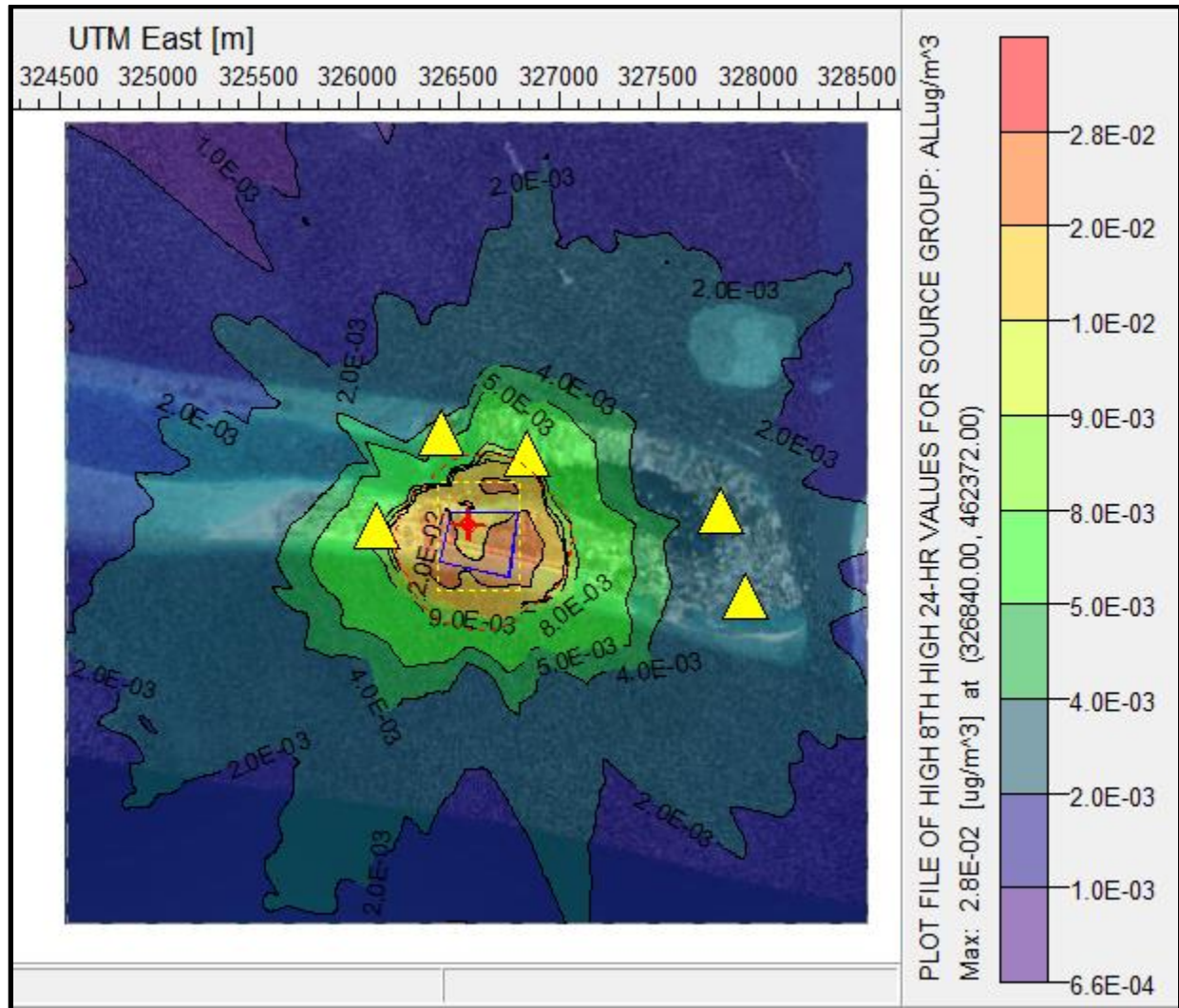


**Figure 55: TI 1 HR (Isopleth in microgram/m3)**

LEGEND: Yellow Triangles refer to identified ASRs  
 Area Sensitive Receptor (ASRs)

	Long	Lat
ASR1	327812	462536
ASR2	327938	462105
ASR3	326839	462822
ASR4	326087	462455
ASR5	326416	462929





**Figure 56: TI 24 HR (Isopleth in microgram/m3)**

LEGEND: Yellow Triangles refer to identified ASRs  
 Area Sensitive Receptor (ASRs)

	Long	Lat
ASR1	327812	462536
ASR2	327938	462105
ASR3	326839	462822
ASR4	326087	462455
ASR5	326416	462929

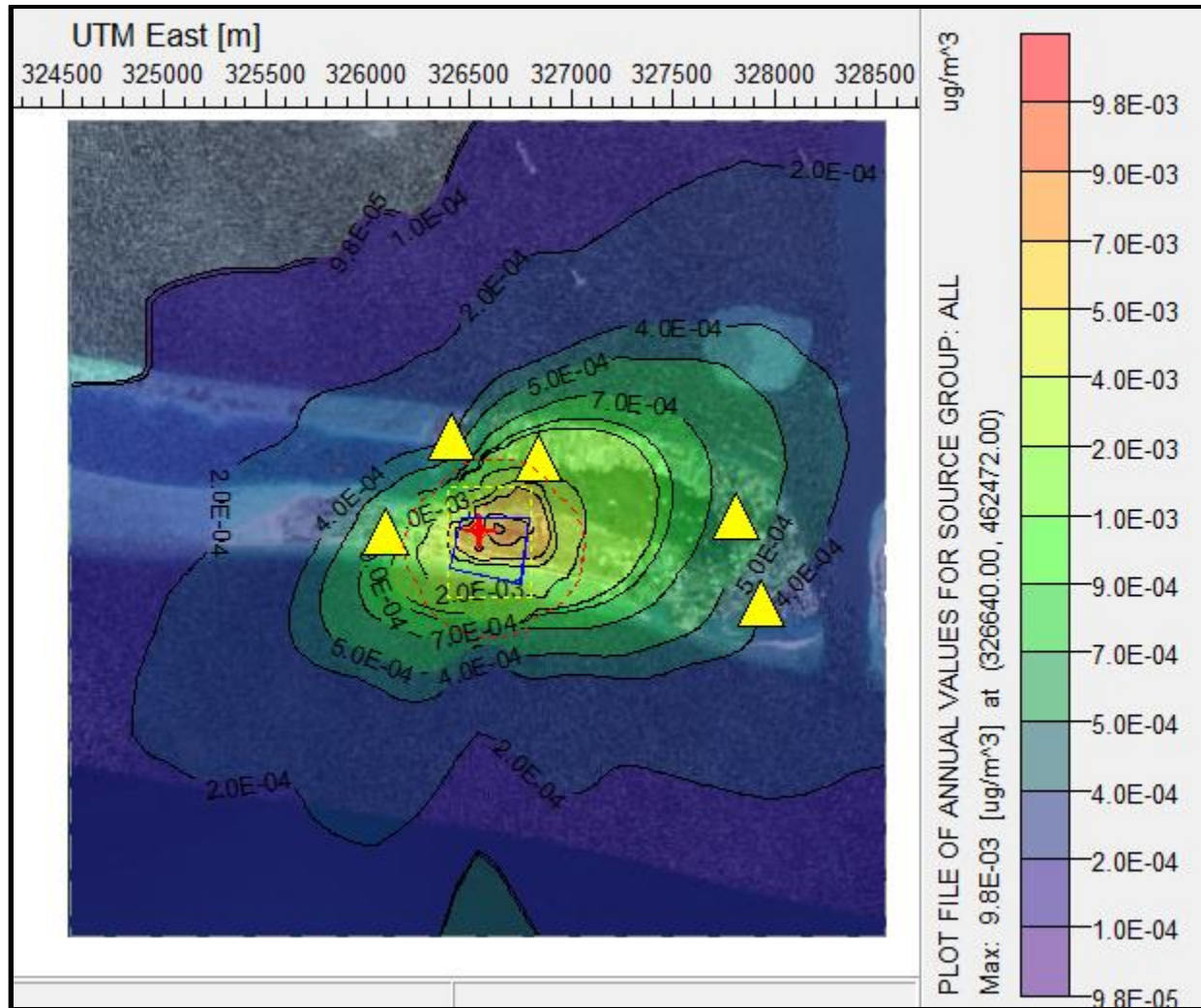


Figure 57: TI 1 YR (Isopleth in microgram/m<sup>3</sup>)

LEGEND: Yellow Triangles refer to identified ASRs  
 Area Sensitive Receptor (ASRs)

	Long	Lat
ASR1	327812	462536
ASR2	327938	462105
ASR3	326839	462822
ASR4	326087	462455
ASR5	326416	462929

## 10. DISCUSSION OF RESULTS

### 10.1 AERMOD VER.9.1 MODEL RUN USING TIER 3 MET DATA (MALDIVES METEOROLOGY)



Figures 24 to 48 are the results of the predictive peak values of emission dispersion modeling presented in 2 dimensional graphs: 4000 m (4km) X 4000 m (4 km). Dispersion model results are presented in 2-dimension graphical presentation Distance (X-axis) and Concentration ug/Ncm (Y-axis). Raw data of results are in output files presented in the following Nomenclature: (x=distance from source, km), conc=ground-level centerline concentration, ug/m3), (sigmay=dispersion coefficient in Y direction, dimensionless) , (sigmaz=dispersion coefficient in Z direction, dimensionless), (xf=distance to final plume rise, km) , (h=plume height, m).

## 10.2 TOTAL DUST (TD)

Predicted short term (1 hour) for controlled<sup>14</sup> total dust (TD) maximum ground level concentrations is 7.60 ug/m3 located 280 meters ENE from the center of the domain. The 24 hour controlled total dust (TD) maximum ground level concentrations is 3.188 ug/m3 located 608 meters ENE from the center of the domain. Simulated concentrations for maximum ground level concentration for 1 hour total dust (TD) are generally very low. There is no available the Ambient Air Quality Standards for total dust in the Austal2000 Report. For the total dust (TD) deposition, AERMOD results shows 0.00754 g/m2 for 1 hour, 0.038505 g/m2 for 24 hr, and 0.43394 g/m2 for 1 year deposition. Deposition simulations are all below the TALuft precipitation limit of 0.35 g/m2-d. There are no applicable USEPA standards and WHO Air Quality Guideline Values. Reference center of the domain is the location of the Boiler Stack-1 at Universal Transverse Mercator (UTM) coordinates Easting 326540 and Northing 462472.

## 10.3 PARTICULATE MATTER 10 (PM-10)

Predicted short term (1 hour) for controlled particulate matter 10 (PM-10) maximum ground level concentrations is 0.102 ug/m3 located 100 meters E from the center of the domain. The 24-hour controlled PM-10 maximum ground level concentrations is 0.02844 ug/m3 located 100 meters E from the center of the domain. Simulated concentration for maximum ground level concentration for 24 hour PM10 is below the 35 ug/m3 TA Luft standards. There is no available Ambient Air Quality Standards for PM-10 in the Austal2000 report. For the PM-10 deposition, AERMOD results shows 0.00037 g/m2 for 1 hour, 0.0007g/m2 for 24 hour and 0.025 g/m2 for 1 year deposition. There is no TALuft limit for PM10 for 1-hour in the Austal2000 report. Results are below TA Luft and WHO Air Quality Guideline Values. There are no USEPA standards in ug/Nm3 unit, the values used are converted from parts per billion by volume (ppbv). The results show insignificant increase of 0.51% for 1-hour, 0.06% for 24-hour, and 0.01% for 1-year. Reference center of the domain is the location of the Boiler Stack-1 at UTM coordinates Easting 326540 and Northing 462472.

## 10.4 SULFUR DIOXIDE (SO2)

Predicted short term (1 hour) for controlled sulfur dioxide (SO<sub>2</sub>) maximum ground level concentrations is 10.34 ug/m3 located 100 meters E from the center of the domain. The 24 hour controlled SO<sub>2</sub> maximum ground level concentrations is 2.85 ug/m3 located 100 meters E from the center of the domain. For 1-year averaging time, results of maximum concentration is 0.25302 ug/m3. Results for maximum ground level concentration for 1 hour, 24 hour and 1 year SO<sub>2</sub> are all below the TA Luft standards of 350 ug/m3 for 1 hour, 125 ug/m3 for 24 hr and 50 ug/m3 for 1 year respectively. There are no USEPA standards in ug/Nm3 unit, the values used are converted from parts per billion by volume (ppbv). The results show insignificant increase of 4.88% for 1-

<sup>14</sup> Controlled emission parameters refer to post-air pollution control devices. For the WtE, each stack will include baghouse and electrostatic precipitators.

hour, 14.29% for 24-hour, and 0.32% for 1-year. Reference center of the domain is the location of the Boiler Stack-1 at UTM coordinates Easting 326540 and Northing 462472.

### **10.5 NITROGEN OXIDES (NOX)**

Predicted short term (1 hour) for controlled NO<sub>2</sub> maximum ground level concentrations is 48.91 ug/m<sup>3</sup> located 100 meters E from the center of the domain. The 24 hour controlled NO<sub>2</sub> maximum ground level concentrations is 14.16 ug/m<sup>3</sup> located 100 meters E from the center of the domain. For 1 year averaging time, results of maximum NO<sub>2</sub> concentration is 2.1 ug/m<sup>3</sup>. Simulated concentration for maximum NO<sub>2</sub> ground level concentration for 1 year is below the TA Luft standards of 40 ug/m<sup>3</sup>. There are no USEPA standards in parts per billion by volume (ppbv) therefore cannot be converted to ug/Nm<sup>3</sup> unit. The results show increase of 24.46% for 1-hour, and 5.25% for 1-year if compared to WHO Air Quality Guidelines. Reference center of the domain is the location of the Boiler Stack-1 at UTM coordinates Easting 326540 and Northing 462472.

### **10.6 MERCURY (HG)**

Predicted short term (1 hour) for controlled mercury (Hg) maximum ground level concentrations is 0.00643 ug/m<sup>3</sup> located 100 meters E from the center of the domain. The 24 hour controlled Hg maximum ground level concentrations is 0.00178 ug/m<sup>3</sup> located 100 meters E from the center of the domain. For 1 year averaging time, results of maximum concentration is 0.0057 ug/m<sup>3</sup>. There are no TA Luft, USEPA standards and WHO Air Quality Guideline Values. The results show insignificant increase of 0.18% for 24-hour and 3.14% for 1-year using TA Luft standards. Reference center of the domain is the location of the Boiler Stack-1 at UTM coordinates Easting 326540 and Northing 462472.

### **10.7 AMMONIA (NH<sub>3</sub>)**

Predicted short term (1 hour) for controlled ammonia (NH<sub>3</sub>) maximum ground level concentrations is 2.066 ug/m<sup>3</sup> located 100 meters E from the center of the domain. The 24 hour controlled NH<sub>3</sub> maximum ground level concentrations is 0.57123 ug/m<sup>3</sup> located 100 meters E from the center of the domain. There are no NH<sub>3</sub> TA Luft standards in the Austal2000 report. There are no USEPA standards and WHO Air Quality Guideline Values. Reference center of the domain is the location of the Boiler Stack-1 at UTM coordinates Easting 326540 and Northing 462472.

### **10.8 HYDROGEN CHLORIDE (HCL)**

Predicted short term (1 hour) for controlled hydrogen chloride (HCl) maximum ground level concentrations is 2.066 ug/m<sup>3</sup> located 100 meters E from the center of the domain. The 24 hour controlled NH<sub>3</sub> maximum ground level concentrations is 0.57123 ug/m<sup>3</sup> located 100 meters E from the center of the domain. There are no HCl TA Luft standards in the Austal2000 report. There are no USEPA standards and WHO Air Quality Guideline Values. Reference center of the domain is the location of the Boiler Stack-1 at UTM coordinates Easting 326540 and Northing 462472.

### **10.9 HYDROGEN FLOURIDE (HFL)**

Predicted short term (1 hour) for controlled hydrogen fluoride (HF) maximum ground level concentrations is 2.066 ug/m<sup>3</sup> located 100 meters E from the center of the domain. The 24 hour

controlled HFI maximum ground level concentrations is 0.57123 ug/m<sup>3</sup> located 100 meters E from the center of the domain. There are no HFI TA Luft standards in the Austal2000 report. There are no USEPA standards and WHO Air Quality Guideline Values. Reference center of the domain is the location of the Boiler Stack-1 at UTM coordinates Easting 326540 and Northing 462472.

#### **10.11 DIOXINS AND FURANS (D/F)**

Predicted short term (1 hour) for controlled Dioxins and Furans maximum ground level concentrations is 0.0258 ug/m<sup>3</sup> located 100 meters E from the center of the domain. The 24 hour controlled Dioxins and Furans maximum ground level concentrations is 0.00569 ug/m<sup>3</sup> located 100 meters E from the center of the domain. There are no Dioxins and Furans TA Luft standards in the Austal2000 report. There are no USEPA standards and WHO Air Quality Guideline Values. Reference center of the domain is the location of the Boiler Stack-1 at UTM coordinates Easting 326540 and Northing 462472.

#### **10.12 SUM OF HEAVY METALS AND THEIR COMPONENTS: ANTIMONY, CHROMIUM, COPPER, MANGANESE, VANADIUM, TIN, LEAD, COBALT, NICKEL (TA LUFT CLASS II AND III)**

Predicted short term (1 hour) for the Sum of heavy metals and their components: antimony, chromium, copper, manganese, vanadium, tin, lead, cobalt, nickel (TA Luft class II and III) ground level concentrations is 1.3161 ug/m<sup>3</sup> located 316 meters NorthNorthEast (NNE) from the center of the domain. The 24 hour controlled total sum of metals maximum ground level concentrations is 0.4954 ug/m<sup>3</sup> located 141 meters NorthWest (NW) from the center of the domain. For 1 year averaging time, results of maximum concentration is 0.0982 ug/m<sup>3</sup>. Simulated concentrations for maximum ground level concentration for both 1, 24 hours & 1 Year averaging which are generally very low. Results are generally lower than US RSLs for combined 24 hr averaging for Cu, Vn, Cr and Mn of 0.152 ug/m<sup>3</sup> and the 3 month NAAQS for Lead of 0.15 ug/m<sup>3</sup>. There is no available the Ambient Air Quality Standards for said metals in the Austal2000 Report. Reference center of the domain is the location of the Boiler Stack-1 at UTM coordinates Easting 326540 and Northing 462472.

#### **10.13 ARSENIC / CADMIUM AND ITS COMPOUNDS (EXPRESSED AS AS AND CD), BENZO (A) PYRENE, WATER-SOLUBLE COBALT COMPOUNDS (EXPRESSED AS CO), CHROMIUM (VI) COMPOUNDS (EXPRESSED AS CR) (TA LUFT CLASS I)**

Predicted short term (1 hour) for the Sum of heavy metals and their components: Arsenic / cadmium and its compounds (expressed as As and Cd), benzo (a) pyrene, water-soluble cobalt compounds (expressed as Co), chromium (VI) compounds (expressed as Cr) (TA Luft Class I) ground level concentrations is 0.13161 ug/m<sup>3</sup> located 316 meters NorthNorthEast (NNE) from the center of the domain. The 24 hour controlled total sum of metals maximum ground level concentrations is 0.049 ug/m<sup>3</sup> located 141 meters NorthWest (NW) from the center of the domain. For 1 year averaging time, results of maximum concentration is 0.00982 ug/m<sup>3</sup>. Simulated concentrations for maximum ground level concentration for both 1, 24 hours & 1 Year averaging which are generally very low. Results are generally lower than the available ESL for Arsenic of 3 ug/m<sup>3</sup> and 0.067 ug/m<sup>3</sup> for 1 year. There is no available the Ambient Air Quality Standards for said metals in the Austal2000 Report. Reference center of the domain is the location of the Boiler Stack-1 at UTM coordinates Easting 326540 and Northing 462472.

#### **10.14 THALLIUM AND ITS COMPOUNDS ( TA LUFT CLASS I) CADMIUM**

Predicted short term (1 hour) for the Sum of heavy metals and their components: Thallium and its compounds ( TA Luft class I) cadmium ground level concentrations is 0.13161 ug/m<sup>3</sup> located 316 meters NorthNorthEast (NNE) from the center of the domain. The 24 hour controlled total sum of metals maximum ground level concentrations is 0.049 ug/m<sup>3</sup> located 141 meters NorthWest (NW) from the center of the domain. For 1 year averaging time, results of maximum concentration is 0.00982 ug/m<sup>3</sup>. Simulated concentrations for maximum ground level concentration for both 1, 24 hours & 1 Year averaging which are generally very low. There is no available the Ambient Air Quality Standards for said metals in the Austal2000 Report and in the USEPA NAAQS, ESLs and RSLs. Reference center of the domain is the location of the Boiler Stack-1 at UTM coordinates Easting 326540 and Northing 462472.

#### **10.15 OVERALL RESULTS**

AERMOD validation of the Austal2000 model results shows slightly higher results than the Austal2000 report but still within TA Luft Standards, USEPA Standards and WHO Air Quality Guideline Values. For the deposition results, Total Dust, SO<sub>2</sub>, NO<sub>2</sub> and Hg are confirmed to be way below the 1 year TA Luft precipitation standards. Toxic heavy metal parameters such Ni, Ti, As, Cd, and Pb was excluded in the validation model due to absence of design emission data. For all the above parameters, controlled emissions have been validated to be in compliance with the TA Luft Standards as provided in the Austal2000 Report and with the USEPA standards.

Based on the design emission of the proposed WTE plant, proposed stack height of 50 meters in the Austal2000 report was found to be favorable considering all predicted ground level concentrations in the AERMOD validation model are below the TA Luft and USEPA standards.

## 10.16 AERMOD VER.9.1 MODEL MAXIMUM GROUND LEVEL CONCENTRATIONS IN AREA SENSITIVE RECEPTORS (ASR-GLCMAX)

Results of the dispersion model in Table 8 shows highest predicted ground level concentrations (GLC) in ASRs for TSP, CO SO2 and NO2 for 1-hour and 24-hour period. Predicted peak values for 1 year are below 0.00000 ug/Ncm and considered not significant. GLCs for 1-hour and 24-hour period are all below applicable ambient air quality standards.

**Table 8: TABLE OF NOTEABLE PEAK VALUES IN AREA SENSITIVE RECEPTORS AREAS (ASRs)**

Receptor ID	Receptor Description	UTM Coordinates			PARAMETERS (ug/Ncm)											
		Direction	Easting (m)	Northing (m)	TD 1 hour	TD 24 hour	PM10 1 hour	PM10 24 hour	NO2 1 hour	NO2 24 hour	SO2 1 hour	SO2 24 hour	Hg 1 hour	Hg 24 hour	D/F 1 hour	D/F 24 hour
Applicable Standards					-	-	20	50	200	-	212	20	-	-	-	-
ASR 1	Industrial	1273.25	327812	462536	0.444	0.188	0.031	0.009	16.672	6.623	3.111	0.922	0.019	0.006	0.023	0.007
ASR 2	Industrial	1445.55	327938	462105	0.395	0.159	0.027	0.008	14.967	5.577	2.712	0.790	0.017	0.005	0.020	0.006
ASR 3	Industrial	459.87	326839	462822	0.656	0.213	0.045	0.014	23.098	7.466	4.537	1.379	0.028	0.009	0.034	0.010
ASR 4	Industrial	453.28	326087	462455	0.634	0.217	0.041	0.014	22.492	7.298	4.144	1.370	0.026	0.009	0.031	0.010
ASR 4	Industrial	473.64	326416	462929	0.713	0.216	0.043	0.012	24.549	7.393	4.351	1.206	0.027	0.008	0.032	0.009



## 11. RECOMMENDATIONS

The WTE Boilers should be regularly maintained and structure of the stack, ducts should be regularly checked up to avoid fugitive dusts sources and particulate accumulation. Biomass and municipal fuel should have an acceptance criteria such as moisture content and toxic characterization. Waste should be dried to eliminate moisture which is a precursor to incomplete combustion which is among major contributors to Particulate Matter (PM) and Carbon Monoxide (CO) emission. Control device such as the Dry scrubber and Baghouse is also recommended for regular check-up and maintenance.

Other control measures outside the facility are also recommended which include, periodic watering of roads for, minimizing generation and resuspension of dust particles. Forestation and plantation in perimeter-buffer areas are other effective controls. These areas will be protected by vegetation walls from dispersion of air pollutants. Other cleaner production measures are recommended.

Regular Ambient Air quality monitoring should be conducted in hot spots and impacts areas based on the results of this modelling report. Actual ambient monitoring may be treated as validation of model results. Every modification and installation of new sources should be considered by proponent as additional contribution to emission of the Power plant, hence modelling updates should also be conducted to determine assimilative carrying capacity of the area based on the impacts of the plant to the environment. These efforts will contribute to recommendations of the plant's overall management efforts to abate air pollution thus performing corporate responsibility to the environment and natural resources. It recommended to (i) retain the four (4) ambient monitoring stations used in conducting ambient air quality in Thillafushi island for the EIA study; and (ii) put up additional ambient monitoring stations in ASR 2, ASR 3 and ASR 5 areas due to industrial facilities with workers quarters.

According to WHO best practices in WTE plant, proper combustion design is among the important factor in reduction of emission. Proper design and operation of incinerators should achieve desired temperatures, residence times, and other conditions necessary to destroy pathogens, minimize emissions, avoid clinker formation and slagging of the ash (in the primary chamber), avoid refractory damage destruction, and minimize fuel consumption. Good combustion practice (GCP) elements also should be followed to control dioxin and furan emissions (Brna and Kilgroe 1989)<sup>15</sup>. Regardless of how well equipment is designed, wear and tear during normal use and poor operation and maintenance practices will lead to the deterioration of components, a resultant decrease in both combustion quality, an increase in emissions, and potential risks to the operator and public. Operation and maintenance also affect reliability, effectiveness and life of the equipment. Essentially all components of small-scale incinerators are prone to failure and require maintenance. Maintenance on an hourly to semi-annual schedule is required (EPA 1990). See Annex 1 and 2.

Background ambient air quality was not accounted in the modeling run. However given there are no potential significant sources of air pollution (such as mobile, area, line sources, community and other air-pollutant emitting industries) near the WTE plant, the results of both the Austal2000 and AERMOD models are generally acceptable and can be seen as below TA Luft and USEPA Standards. However, it is highly recommended to conduct a validation run after 1 to 3 months during operations stage using actual CEMS, stack testing, and ambient air monitoring results.

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<sup>15</sup> WHO Best Practices in Incineration, EPA (1990), UNDP (2003), and De Montfort literature.

## 12. RECOMMENDED AMBIENT AIR QUALITY MONITORING STATIONS

Recommended to put up addition Monitoring stations in the ASR 2, ASR 3 and ASR 5 areas. Below is the receptor map of with identified Area Sensitive Receptor primary impact areas and location of Existing Ambient Air Quality Monitoring Stations . In cases of exceedance, these areas are likely to be affected.



Figure 58: Recommended monitoring sites.

## ANNEXES

### ANNEX-1: WHO Best Practice in WTE plant - Recommended Operating Parameters

Table 2 Recommendations of key design/operating parameters for small-scale intermittent incinerators.

Derived in part from EPA (1990), UNDP (2003), and De Montfort literature.

Type	Parameter	Recommendation
Capacity	Destruction rate, safety boxes capacity	District/subdistricts in Taylor (2003) that regularly used incinerators destroyed an average of 58 safety boxes per month, about 14 per week, equivalent to ~12 kg/week. Remote areas may only generate 1 kg per month. Proper sizing is important. Ideally, unit should burn for long periods (~4 hrs) to save fuel. (De Montfort units are not suitable for short sharp burns without a warm up period, though this appears to be common practice).
Temperatures	Primary chamber Secondary chamber	540 to 980 C 980 to 1200 C (EPA 1990 recommendations) >850/1100* C (S. African and EU standards) >1000/1100* C (Indian and Thai standards) * more than 1% chlorinated organic matter in waste
	Gas entering air pollution control devices, if any	<230 C
Residence times	Gas (secondary chamber)	>1 s
Air flows	Total combustion air	140 – 200% excess
	Supply and distribution of air in the incinerator	Adequate
	Mixing of combustion gas and air in all zones	Good mixing
	Particulate matter entrainment into flue gas leaving the incinerator	Minimize by keeping moderate air velocity to avoid fluidization of the waste, especially if high (>2%) ash waste is burned.
Controls & Monitoring	Temperature and many other parameters	Continuous for some, periodic for others
Waste	Waste destruction efficiency	>90% by weight
	Uniform waste feed	Uniform waste feed, and avoid overloading the incinerator
	Minimizing emissions of HCl, D/F, metals, other pollutants	Avoid plastics that contain chlorine (polyvinyl chloride products, e.g., blood bags, IV bags, IV tubes, etc. Avoid heavy metals, e.g., mercury from broken thermometers etc. Pre-heat incinerator and ensure temperatures above 800 C. Avoid overheating.
Enclosure	Roof	A roof may be fitted to protect the operator from rain, but only minimum walls.
Chimney	Height	At least 4 – 5 m high, needed for both adequate dispersion plus draft for proper air flow
Pollution control equipment	Installing air pollution control devices (APCD)	Most frequently used controls include packed bed, venturi or other wet scrubbers, fabric filter typically used with a dry injection system, and infrequently electrostatic precipitator (ESP). Modern emission limits cannot be met without APCD.

## ANNEX-2: WHO Best Practice in WTE plant - Typical Maintenance Schedule for Incinerators

Table 4. Typical maintenance schedule for incinerators (derived in part from EPA 1990).

<i>Activity Frequency</i>	<i>Component</i>	<i>Procedure</i>
Hourly	Ash removal	Inspect and clean as required
Daily	Temperature, pollution monitors, if any	Check operation
	Underfire air ports	Inspect and clean as required
	Door seals	Inspect for wear, closeness of fit, air leakage
	Ash pit	Clean after each shift
Weekly	Latches, hinges, wheels, etc.	Lubricate if applicable
Monthly	External surfaces of incinerator and chimney (stack)	Inspect external hot surfaces. White spots or discoloration may indicate loss of refractory
	Refractory	Inspect and repair minor wear with refractory cement
	Upper/secondary combustion chamber	Inspect and remove particulate matter accumulated on chamber floor
Semi-annually	Hot external surfaces	Inspect and paint with high temperature paint as required
	Ambient external surfaces	Inspect and paint as required

### ANNEX 3: MALDIVES MM5 2018 METEROLOGICAL DATA SCREENSHOT PROFILE MET DATA

	Year	Month	Day	Hour	Measurement Height [m]	1, if this is the last (highest) level for this hour, or 0 otherwise	Direction the wind is blowing from for the current level [degrees]	Wind Speed for the current level [m/s]	Temperature at the current level [C]	Standard deviation of the wind direction fluctuations [degrees]	Standard deviation of the vertical wind speed fluctuations [m/s]
Min.	2018	Jan	1	1	10.0	1	0.0	0.00	24.4	99.0	99.00
Max.	2018	Dec	31	24	10.0	1	360.0	14.90	30.6	99.0	99.00
Graph					<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1	2018	Jan	1	1	10.0	1	41.0	7.20	28.1	99.0	99.00
2	2018	Jan	1	2	10.0	1	38.0	6.70	27.9	99.0	99.00
3	2018	Jan	1	3	10.0	1	44.0	6.20	27.9	99.0	99.00
4	2018	Jan	1	4	10.0	1	43.0	6.70	28.0	99.0	99.00
5	2018	Jan	1	5	10.0	1	63.0	4.60	27.4	99.0	99.00
6	2018	Jan	1	6	10.0	1	62.0	4.60	27.2	99.0	99.00
7	2018	Jan	1	7	10.0	1	65.0	5.10	27.2	99.0	99.00
8	2018	Jan	1	8	10.0	1	63.0	5.10	27.4	99.0	99.00
9	2018	Jan	1	9	10.0	1	47.0	5.10	27.5	99.0	99.00
10	2018	Jan	1	10	10.0	1	51.0	4.60	27.5	99.0	99.00
11	2018	Jan	1	11	10.0	1	54.0	4.60	27.6	99.0	99.00
12	2018	Jan	1	12	10.0	1	46.0	4.60	27.6	99.0	99.00
13	2018	Jan	1	13	10.0	1	53.0	4.10	27.6	99.0	99.00
14	2018	Jan	1	14	10.0	1	49.0	4.10	27.6	99.0	99.00
15	2018	Jan	1	15	10.0	1	52.0	4.10	27.6	99.0	99.00
16	2018	Jan	1	16	10.0	1	54.0	4.10	27.6	99.0	99.00
17	2018	Jan	1	17	10.0	1	61.0	4.10	27.6	99.0	99.00
18	2018	Jan	1	18	10.0	1	57.0	4.10	27.5	99.0	99.00



#### ANNEX 4: MALDIVES MM5 2018 METEROLOGICAL DATA SCREENSHOT SURFACE MET DATA)

	Year	Month	Day	Julian Day	Hour	Surface Roughness Length [m]	Bowen Ratio	Albedo	Wind Speed - Ws [m/s]	Wind Direction - Wd [degrees]	Reference Height for Ws and Wd [m]	Temperature - temp [K]	Reference Height for temp [m]	Precipitation Code	Precipitation Rate [mm/hr]	Relative Humidity [%]	Surface Pressure [mb]	Cloud Cover [tenths]	Data Flag
Min.	2018	Jan	1	1	1	0.000	0.45	0.14	0.00	0.0	10.0	297.5	2.0	0	0.00	57.0	1004.0	2	
Max.	2018	Dec	31	365	24	0.000	0.45	1.00	14.90	360.0	10.0	303.8	2.0	11	48.01	98.0	1015.0	10	
Graph						<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
1	2018	Jan	1	1	1	0.000	0.45	1.00	7.20	41.0	10.0	301.2	2.0	0	0.00	76.0	1007.0	3	NAD-SFC NoSubs
2	2018	Jan	1	1	2	0.000	0.45	0.58	6.70	38.0	10.0	301.0	2.0	11	0.51	76.0	1007.0	4	NAD-SFC NoSubs
3	2018	Jan	1	1	3	0.000	0.45	0.25	6.20	44.0	10.0	301.0	2.0	11	1.52	76.0	1007.0	10	NAD-SFC NoSubs
4	2018	Jan	1	1	4	0.000	0.45	0.17	6.70	43.0	10.0	301.1	2.0	11	2.54	75.0	1006.0	10	NAD-SFC NoSubs
5	2018	Jan	1	1	5	0.000	0.45	0.15	4.60	63.0	10.0	300.5	2.0	0	0.00	74.0	1007.0	6	NAD-SFC NoSubs
6	2018	Jan	1	1	6	0.000	0.45	0.14	4.60	62.0	10.0	300.4	2.0	0	0.00	74.0	1006.0	6	NAD-SFC NoSubs
7	2018	Jan	1	1	7	0.000	0.45	0.14	5.10	65.0	10.0	300.4	2.0	11	0.51	74.0	1007.0	5	NAD-SFC NoSubs
8	2018	Jan	1	1	8	0.000	0.45	0.14	5.10	63.0	10.0	300.5	2.0	11	0.51	73.0	1008.0	4	NAD-SFC NoSubs
9	2018	Jan	1	1	9	0.000	0.45	0.14	5.10	47.0	10.0	300.6	2.0	0	0.00	73.0	1008.0	4	NAD-SFC NoSubs
10	2018	Jan	1	1	10	0.000	0.45	0.15	4.60	51.0	10.0	300.6	2.0	0	0.00	72.0	1008.0	3	NAD-SFC NoSubs
11	2018	Jan	1	1	11	0.000	0.45	0.16	4.60	54.0	10.0	300.8	2.0	0	0.00	72.0	1009.0	3	NAD-SFC NoSubs
12	2018	Jan	1	1	12	0.000	0.45	0.21	4.60	46.0	10.0	300.8	2.0	0	0.00	72.0	1009.0	3	NAD-SFC NoSubs

### ANNEX 5: AERMOD VER. 9.7 SAMPLE PLOT FILES

AERMOD (180											
AERMET (180	81):										
MODELING OPT	IONS USED: R	egDFAULT CONC	DEPOS ELEV	DRYDPL T	WETDPL T	RURAL					
PLOT	FILE OF HIGH	1ST HIGH 1-HR	VALUES FOR	SOURCE GR	OUP: ALL						
FOR	A TOTAL OF 16	81 RECEPTORS.									
FORM	AT: (2(1X,F13	.5),2(1X,F13.6 )	,3(1X,F8.2),3	X,A6,2X,A	8,2X,A5,5	X,A8,2X,I8)					
X	Y	AVERAGE CONC	TOTAL DEPO	ZELEV	ZHILL	ZFLA G	AVE	GRP	RANK	NET ID	DATE(CO NC)
_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____
324540	460472	2.374824	0.000061	0	0	0	1-HR	ALL	1ST	UCAR T1	18021517
324640	460472	2.413572	0.000074	0	0	0	1-HR	ALL	1ST	UCAR T1	18021517
324740	460472	2.535744	0.000076	0	0	0	1-HR	ALL	1ST	UCAR T1	18031323
324840	460472	2.589547	0.000065	0	0	0	1-HR	ALL	1ST	UCAR T1	18111222
324940	460472	2.466475	0.000078	0	0	0	1-HR	ALL	1ST	UCAR T1	18031324
325040	460472	2.622971	0.000079	0	0	0	1-HR	ALL	1ST	UCAR T1	18112713
325140	460472	2.901938	0.000083	0	0	0	1-HR	ALL	1ST	UCAR T1	18021524
325240	460472	2.66411	0.000101	0	0	0	1-HR	ALL	1ST	UCAR T1	18021524

325340	460472	2.219997	0.00015	0	0	0	1-HR	ALL	1ST	UCAR T1	18102613
325440	460472	2.410293	0.00017	0	0	0	1-HR	ALL	1ST	UCAR T1	18102613
325540	460472	2.662954	0.000126	0	0	0	1-HR	ALL	1ST	UCAR T1	18012416
325640	460472	2.867137	0.000093	0	0	0	1-HR	ALL	1ST	UCAR T1	18031218
325740	460472	3.040216	0.000094	0	0	0	1-HR	ALL	1ST	UCAR T1	18031217
325840	460472	2.76666	0.000223	0	0	0	1-HR	ALL	1ST	UCAR T1	18102616
325940	460472	2.807048	0.000162	0	0	0	1-HR	ALL	1ST	UCAR T1	18102616
326040	460472	2.668708	0.000167	0	0	0	1-HR	ALL	1ST	UCAR T1	18012415
326140	460472	2.95032	0.000173	0	0	0	1-HR	ALL	1ST	UCAR T1	18012415
326240	460472	3.06731	0.000149	0	0	0	1-HR	ALL	1ST	UCAR T1	18111219
326340	460472	3.149194	0.000123	0	0	0	1-HR	ALL	1ST	UCAR T1	18111219
326440	460472	2.075674	0.000085	0	0	0	1-HR	ALL	1ST	UCAR T1	18032922
326540	460472	2.448601	0.000051	0	0	0	1-HR	ALL	1ST	UCAR T1	18111224
326640	460472	2.860178	0.000142	0	0	0	1-HR	ALL	1ST	UCAR T1	18032921
326740	460472	2.584067	0.000191	0	0	0	1-HR	ALL	1ST	UCAR T1	18102614
326840	460472	2.123774	0.000092	0	0	0	1-HR	ALL	1ST	UCAR T1	18102614
326940	460472	0.969399	0.000063	0	0	0	1-HR	ALL	1ST	UCAR T1	18022415

327040	460472	2.054241	0.000155	0	0	0	1-HR	ALL	1ST	UCAR T1	18100221
327140	460472	2.794409	0.000186	0	0	0	1-HR	ALL	1ST	UCAR T1	18031523
327240	460472	1.988173	0.000189	0	0	0	1-HR	ALL	1ST	UCAR T1	18031601
327340	460472	2.513959	0.00022	0	0	0	1-HR	ALL	1ST	UCAR T1	18031524
327440	460472	2.689533	0.000178	0	0	0	1-HR	ALL	1ST	UCAR T1	18031522
327540	460472	2.526455	0.000121	0	0	0	1-HR	ALL	1ST	UCAR T1	18031522
327640	460472	3.289062	0.000072	0	0	0	1-HR	ALL	1ST	UCAR T1	18120613
327740	460472	2.698515	0.000119	0	0	0	1-HR	ALL	1ST	UCAR T1	18112124
327840	460472	2.282734	0.00014	0	0	0	1-HR	ALL	1ST	UCAR T1	18112124
327940	460472	2.398733	0.000118	0	0	0	1-HR	ALL	1ST	UCAR T1	18112124
328040	460472	2.661739	0.000073	0	0	0	1-HR	ALL	1ST	UCAR T1	18112124
328140	460472	2.28584	0.000087	0	0	0	1-HR	ALL	1ST	UCAR T1	18120315
328240	460472	2.167104	0.000098	0	0	0	1-HR	ALL	1ST	UCAR T1	18111218
328340	460472	2.358745	0.000126	0	0	0	1-HR	ALL	1ST	UCAR T1	18111218
328440	460472	2.439526	0.000125	0	0	0	1-HR	ALL	1ST	UCAR T1	18120316
328540	460472	2.830803	0.000116	0	0	0	1-HR	ALL	1ST	UCAR T1	18120316
324540	460572	2.476907	0.000044	0	0	0	1-HR	ALL	1ST	UCAR T1	18032015

324640	460572	2.411789	0.000064	0	0	0	1-HR	ALL	1ST	UCAR T1	18021517
324740	460572	2.473296	0.000078	0	0	0	1-HR	ALL	1ST	UCAR T1	18031323
324840	460572	2.536927	0.000079	0	0	0	1-HR	ALL	1ST	UCAR T1	18031323
324940	460572	2.675003	0.00007	0	0	0	1-HR	ALL	1ST	UCAR T1	18112713
325040	460572	2.611885	0.000084	0	0	0	1-HR	ALL	1ST	UCAR T1	18112713
325140	460572	2.544284	0.000085	0	0	0	1-HR	ALL	1ST	UCAR T1	18112713
325240	460572	3.066763	0.000102	0	0	0	1-HR	ALL	1ST	UCAR T1	18021524
325340	460572	2.490947	0.000105	0	0	0	1-HR	ALL	1ST	UCAR T1	18021402
325440	460572	2.170551	0.000188	0	0	0	1-HR	ALL	1ST	UCAR T1	18102613
325540	460572	2.697089	0.000145	0	0	0	1-HR	ALL	1ST	UCAR T1	18012416
325640	460572	2.774787	0.0001	0	0	0	1-HR	ALL	1ST	UCAR T1	18012416
325740	460572	2.751654	0.000089	0	0	0	1-HR	ALL	1ST	UCAR T1	18031217
325840	460572	2.843775	0.000191	0	0	0	1-HR	ALL	1ST	UCAR T1	18102616
325940	460572	3.012101	0.000225	0	0	0	1-HR	ALL	1ST	UCAR T1	18102616
326040	460572	2.968065	0.000143	0	0	0	1-HR	ALL	1ST	UCAR T1	18012415
326140	460572	3.113224	0.000206	0	0	0	1-HR	ALL	1ST	UCAR T1	18012415
326240	460572	3.126203	0.000149	0	0	0	1-HR	ALL	1ST	UCAR T1	18111219



326340	460572	3.323759	0.000141	0	0	0	1-HR	ALL	1ST	UCAR T1	18111219
326440	460572	2.277121	0.000095	0	0	0	1-HR	ALL	1ST	UCAR T1	18032922
326540	460572	2.570275	0.000053	0	0	0	1-HR	ALL	1ST	UCAR T1	18111224
326640	460572	2.979753	0.000158	0	0	0	1-HR	ALL	1ST	UCAR T1	18032921
326740	460572	2.753826	0.0002	0	0	0	1-HR	ALL	1ST	UCAR T1	18102614
326840	460572	2.027717	0.000081	0	0	0	1-HR	ALL	1ST	UCAR T1	18102614
326940	460572	1.169945	0.000089	0	0	0	1-HR	ALL	1ST	UCAR T1	18100221
327040	460572	2.460832	0.00018	0	0	0	1-HR	ALL	1ST	UCAR T1	18031523
327140	460572	2.654439	0.000192	0	0	0	1-HR	ALL	1ST	UCAR T1	18102615
327240	460572	2.327265	0.000193	0	0	0	1-HR	ALL	1ST	UCAR T1	18031601
327340	460572	2.500134	0.000232	0	0	0	1-HR	ALL	1ST	UCAR T1	18031524
327440	460572	2.615254	0.000175	0	0	0	1-HR	ALL	1ST	UCAR T1	18031522
327540	460572	3.02735	0.000084	0	0	0	1-HR	ALL	1ST	UCAR T1	18031522
327640	460572	3.252858	0.000108	0	0	0	1-HR	ALL	1ST	UCAR T1	18112124
327740	460572	2.325895	0.000148	0	0	0	1-HR	ALL	1ST	UCAR T1	18112124
327840	460572	2.51069	0.000139	0	0	0	1-HR	ALL	1ST	UCAR T1	18112124
327940	460572	2.685712	0.000093	0	0	0	1-HR	ALL	1ST	UCAR T1	18112124

328040	460572	2.535751	0.000087	0	0	0	1-HR	ALL	1ST	UCAR T1	18120315
328140	460572	2.19849	0.000096	0	0	0	1-HR	ALL	1ST	UCAR T1	18111218
328240	460572	2.320417	0.000134	0	0	0	1-HR	ALL	1ST	UCAR T1	18111218
328340	460572	2.483393	0.000133	0	0	0	1-HR	ALL	1ST	UCAR T1	18120316
328440	460572	2.867275	0.000125	0	0	0	1-HR	ALL	1ST	UCAR T1	18120316
328540	460572	3.013515	0.000089	0	0	0	1-HR	ALL	1ST	UCAR T1	18120316
324540	460672	2.480257	0.000076	0	0	0	1-HR	ALL	1ST	UCAR T1	18111220
324640	460672	2.544249	0.000049	0	0	0	1-HR	ALL	1ST	UCAR T1	18032015
324740	460672	2.441197	0.000067	0	0	0	1-HR	ALL	1ST	UCAR T1	18021517
324840	460672	2.525983	0.000083	0	0	0	1-HR	ALL	1ST	UCAR T1	18031323
324940	460672	2.567781	0.000082	0	0	0	1-HR	ALL	1ST	UCAR T1	18031323
325040	460672	2.736948	0.00008	0	0	0	1-HR	ALL	1ST	UCAR T1	18112713
325140	460672	2.777259	0.000093	0	0	0	1-HR	ALL	1ST	UCAR T1	18112713
325240	460672	2.819911	0.00009	0	0	0	1-HR	ALL	1ST	UCAR T1	18112713
325340	460672	3.089893	0.000115	0	0	0	1-HR	ALL	1ST	UCAR T1	18021524
325440	460672	2.320247	0.000151	0	0	0	1-HR	ALL	1ST	UCAR T1	18102613
325540	460672	2.249166	0.000204	0	0	0	1-HR	ALL	1ST	UCAR T1	18102613

325640	460672	2.850349	0.000144	0	0	0	1-HR	ALL	1ST	UCAR T1	18012416
325740	460672	2.921606	0.000101	0	0	0	1-HR	ALL	1ST	UCAR T1	18031218
325840	460672	3.140232	0.000134	0	0	0	1-HR	ALL	1ST	UCAR T1	18102616
325940	460672	2.997056	0.00027	0	0	0	1-HR	ALL	1ST	UCAR T1	18102616
326040	460672	3.068161	0.000134	0	0	0	1-HR	ALL	1ST	UCAR T1	18120801
326140	460672	3.236382	0.000229	0	0	0	1-HR	ALL	1ST	UCAR T1	18012415
326240	460672	3.094962	0.000143	0	0	0	1-HR	ALL	1ST	UCAR T1	18111219
326340	460672	3.462126	0.00016	0	0	0	1-HR	ALL	1ST	UCAR T1	18111219
326440	460672	2.497472	0.000106	0	0	0	1-HR	ALL	1ST	UCAR T1	18032922
326540	460672	2.699874	0.000056	0	0	0	1-HR	ALL	1ST	UCAR T1	18092804
326640	460672	3.09835	0.000176	0	0	0	1-HR	ALL	1ST	UCAR T1	18032921
326740	460672	2.914469	0.000207	0	0	0	1-HR	ALL	1ST	UCAR T1	18102614
326840	460672	1.882312	0.000074	0	0	0	1-HR	ALL	1ST	UCAR T1	18021521
326940	460672	1.358637	0.000125	0	0	0	1-HR	ALL	1ST	UCAR T1	18100221
327040	460672	2.794293	0.000216	0	0	0	1-HR	ALL	1ST	UCAR T1	18031523
327140	460672	2.29268	0.000214	0	0	0	1-HR	ALL	1ST	UCAR T1	18031601
327240	460672	2.497904	0.000243	0	0	0	1-HR	ALL	1ST	UCAR T1	18031524

327340	460672	2.896369	0.000217	0	0	0	1-HR	ALL	1ST	UCAR T1	18012414
327440	460672	2.792391	0.000145	0	0	0	1-HR	ALL	1ST	UCAR T1	18031522
327540	460672	3.491811	0.000092	0	0	0	1-HR	ALL	1ST	UCAR T1	18112124
327640	460672	2.561642	0.000149	0	0	0	1-HR	ALL	1ST	UCAR T1	18112124
327740	460672	2.455956	0.00016	0	0	0	1-HR	ALL	1ST	UCAR T1	18112124
327840	460672	2.704715	0.000117	0	0	0	1-HR	ALL	1ST	UCAR T1	18112124
327940	460672	2.768546	0.000083	0	0	0	1-HR	ALL	1ST	UCAR T1	18120315
328040	460672	2.241863	0.000092	0	0	0	1-HR	ALL	1ST	UCAR T1	18111218
328140	460672	2.367794	0.000142	0	0	0	1-HR	ALL	1ST	UCAR T1	18111218
328240	460672	2.516468	0.000143	0	0	0	1-HR	ALL	1ST	UCAR T1	18120316
328340	460672	2.982914	0.000135	0	0	0	1-HR	ALL	1ST	UCAR T1	18120316
328440	460672	3.119754	0.000095	0	0	0	1-HR	ALL	1ST	UCAR T1	18120316
328540	460672	2.553128	0.000084	0	0	0	1-HR	ALL	1ST	UCAR T1	18042417
324540	460772	2.539268	0.000095	0	0	0	1-HR	ALL	1ST	UCAR T1	18111220
324640	460772	2.562768	0.000084	0	0	0	1-HR	ALL	1ST	UCAR T1	18111220
324740	460772	2.603724	0.000055	0	0	0	1-HR	ALL	1ST	UCAR T1	18111220
324840	460772	2.460538	0.000071	0	0	0	1-HR	ALL	1ST	UCAR T1	18021517

324940	460772	2.568544	0.000089	0	0	0	1-HR	ALL	1ST	UCAR T1	18031323
325040	460772	2.736606	0.000084	0	0	0	1-HR	ALL	1ST	UCAR T1	18031323
325140	460772	2.764052	0.00009	0	0	0	1-HR	ALL	1ST	UCAR T1	18112713
325240	460772	2.891013	0.000102	0	0	0	1-HR	ALL	1ST	UCAR T1	18112713
325340	460772	3.16679	0.000094	0	0	0	1-HR	ALL	1ST	UCAR T1	18112713
325440	460772	2.915477	0.000117	0	0	0	1-HR	ALL	1ST	UCAR T1	18021524
325540	460772	2.032895	0.000207	0	0	0	1-HR	ALL	1ST	UCAR T1	18102613
325640	460772	2.624634	0.000179	0	0	0	1-HR	ALL	1ST	UCAR T1	18102613
325740	460772	2.862059	0.00011	0	0	0	1-HR	ALL	1ST	UCAR T1	18012416
325840	460772	2.980309	0.000106	0	0	0	1-HR	ALL	1ST	UCAR T1	18031217
325940	460772	2.843978	0.000269	0	0	0	1-HR	ALL	1ST	UCAR T1	18102616
326040	460772	3.147629	0.000188	0	0	0	1-HR	ALL	1ST	UCAR T1	18102616
326140	460772	3.167473	0.000236	0	0	0	1-HR	ALL	1ST	UCAR T1	18012415
326240	460772	3.264755	0.000144	0	0	0	1-HR	ALL	1ST	UCAR T1	18012415
326340	460772	3.543019	0.000181	0	0	0	1-HR	ALL	1ST	UCAR T1	18111219
326440	460772	2.735695	0.000118	0	0	0	1-HR	ALL	1ST	UCAR T1	18032922
326540	460772	2.83701	0.000061	0	0	0	1-HR	ALL	1ST	UCAR T1	18092804



326640	460772	3.212116	0.000196	0	0	0	1-HR	ALL	1ST	UCAR T1	18032921
326740	460772	3.05429	0.00021	0	0	0	1-HR	ALL	1ST	UCAR T1	18102614
326840	460772	1.684929	0.000075	0	0	0	1-HR	ALL	1ST	UCAR T1	18021521
326940	460772	1.663129	0.000163	0	0	0	1-HR	ALL	1ST	UCAR T1	18100221
327040	460772	2.955724	0.000241	0	0	0	1-HR	ALL	1ST	UCAR T1	18031523
327140	460772	1.901688	0.000239	0	0	0	1-HR	ALL	1ST	UCAR T1	18031601
327240	460772	2.474966	0.000287	0	0	0	1-HR	ALL	1ST	UCAR T1	18031524
327340	460772	2.890422	0.000215	0	0	0	1-HR	ALL	1ST	UCAR T1	18031522
327440	460772	3.374517	0.000096	0	0	0	1-HR	ALL	1ST	UCAR T1	18031522
327540	460772	3.260158	0.00014	0	0	0	1-HR	ALL	1ST	UCAR T1	18112124
327640	460772	2.19033	0.000177	0	0	0	1-HR	ALL	1ST	UCAR T1	18112124
327740	460772	2.685471	0.000146	0	0	0	1-HR	ALL	1ST	UCAR T1	18112124
327840	460772	2.954873	0.000083	0	0	0	1-HR	ALL	1ST	UCAR T1	18112124
327940	460772	2.25429	0.000102	0	0	0	1-HR	ALL	1ST	UCAR T1	18120315
328040	460772	2.532223	0.00015	0	0	0	1-HR	ALL	1ST	UCAR T1	18111218
328140	460772	2.54737	0.000153	0	0	0	1-HR	ALL	1ST	UCAR T1	18120316
328240	460772	3.101918	0.000146	0	0	0	1-HR	ALL	1ST	UCAR T1	18120316

328340	460772	3.225295	0.000101	0	0	0	1-HR	ALL	1ST	UCAR T1	18120316
328440	460772	2.66197	0.000088	0	0	0	1-HR	ALL	1ST	UCAR T1	18042417
328540	460772	3.033928	0.000093	0	0	0	1-HR	ALL	1ST	UCAR T1	18092815
324540	460872	2.47522	0.000083	0	0	0	1-HR	ALL	1ST	UCAR T1	18111220
324640	460872	2.631176	0.000102	0	0	0	1-HR	ALL	1ST	UCAR T1	18111220
324740	460872	2.645015	0.000094	0	0	0	1-HR	ALL	1ST	UCAR T1	18111220
324840	460872	2.6514	0.000062	0	0	0	1-HR	ALL	1ST	UCAR T1	18111220
324940	460872	2.495426	0.000075	0	0	0	1-HR	ALL	1ST	UCAR T1	18021517
325040	460872	2.59702	0.000096	0	0	0	1-HR	ALL	1ST	UCAR T1	18031323
325140	460872	2.904373	0.000086	0	0	0	1-HR	ALL	1ST	UCAR T1	18031323
325240	460872	2.742096	0.000103	0	0	0	1-HR	ALL	1ST	UCAR T1	18112713
325340	460872	2.921093	0.000112	0	0	0	1-HR	ALL	1ST	UCAR T1	18112713
325440	460872	3.408148	0.000116	0	0	0	1-HR	ALL	1ST	UCAR T1	18021524
325540	460872	2.835267	0.000141	0	0	0	1-HR	ALL	1ST	UCAR T1	18102613
325640	460872	2.31975	0.000243	0	0	0	1-HR	ALL	1ST	UCAR T1	18102613
325740	460872	3.026894	0.000165	0	0	0	1-HR	ALL	1ST	UCAR T1	18012416
325840	460872	2.897978	0.000111	0	0	0	1-HR	ALL	1ST	UCAR T1	18031218

325940	460872	3.060215	0.000214	0	0	0	1-HR	ALL	1ST	UCAR T1	18102616
326040	460872	3.435097	0.000279	0	0	0	1-HR	ALL	1ST	UCAR T1	18102616
326140	460872	2.950693	0.000219	0	0	0	1-HR	ALL	1ST	UCAR T1	18012415
326240	460872	3.322787	0.000198	0	0	0	1-HR	ALL	1ST	UCAR T1	18012415
326340	460872	3.540337	0.000201	0	0	0	1-HR	ALL	1ST	UCAR T1	18111219
326440	460872	2.988556	0.000132	0	0	0	1-HR	ALL	1ST	UCAR T1	18032922
326540	460872	2.980708	0.000065	0	0	0	1-HR	ALL	1ST	UCAR T1	18092804
326640	460872	3.31546	0.000218	0	0	0	1-HR	ALL	1ST	UCAR T1	18032921
326740	460872	3.156816	0.00021	0	0	0	1-HR	ALL	1ST	UCAR T1	18102614
326840	460872	1.438362	0.000072	0	0	0	1-HR	ALL	1ST	UCAR T1	18021521
326940	460872	2.146125	0.000197	0	0	0	1-HR	ALL	1ST	UCAR T1	18031523
327040	460872	2.845	0.000244	0	0	0	1-HR	ALL	1ST	UCAR T1	18031523
327140	460872	2.262851	0.000247	0	0	0	1-HR	ALL	1ST	UCAR T1	18031524
327240	460872	3.056728	0.000267	0	0	0	1-HR	ALL	1ST	UCAR T1	18012414
327340	460872	3.09869	0.000177	0	0	0	1-HR	ALL	1ST	UCAR T1	18031522
327440	460872	3.645706	0.000121	0	0	0	1-HR	ALL	1ST	UCAR T1	18112124
327540	460872	2.323518	0.000185	0	0	0	1-HR	ALL	1ST	UCAR T1	18112124

327640	460872	2.504975	0.000176	0	0	0	1-HR	ALL	1ST	UCAR T1	18112124
327740	460872	3.05333	0.000109	0	0	0	1-HR	ALL	1ST	UCAR T1	18112124
327840	460872	2.452437	0.000109	0	0	0	1-HR	ALL	1ST	UCAR T1	18120315
327940	460872	2.697457	0.000156	0	0	0	1-HR	ALL	1ST	UCAR T1	18111218
328040	460872	2.641707	0.000165	0	0	0	1-HR	ALL	1ST	UCAR T1	18120316
328140	460872	3.222615	0.000159	0	0	0	1-HR	ALL	1ST	UCAR T1	18120316
328240	460872	3.327254	0.000107	0	0	0	1-HR	ALL	1ST	UCAR T1	18120316
328340	460872	2.763912	0.000092	0	0	0	1-HR	ALL	1ST	UCAR T1	18042417
328440	460872	3.1449	0.000104	0	0	0	1-HR	ALL	1ST	UCAR T1	18092815
328540	460872	2.764726	0.000108	0	0	0	1-HR	ALL	1ST	UCAR T1	18092815
324540	460972	2.560175	0.0001	0	0	0	1-HR	ALL	1ST	UCAR T1	18030514
324640	460972	2.494151	0.000081	0	0	0	1-HR	ALL	1ST	UCAR T1	18111220
324740	460972	2.691251	0.000107	0	0	0	1-HR	ALL	1ST	UCAR T1	18111220
324840	460972	2.704401	0.000104	0	0	0	1-HR	ALL	1ST	UCAR T1	18111220
324940	460972	2.682114	0.000071	0	0	0	1-HR	ALL	1ST	UCAR T1	18111220
325040	460972	2.626936	0.00008	0	0	0	1-HR	ALL	1ST	UCAR T1	18021517
325140	460972	2.6064	0.000103	0	0	0	1-HR	ALL	1ST	UCAR T1	18031323

325240	460972	3.062609	0.00009	0	0	0	1-HR	ALL	1ST	UCAR T1	18112713
325340	460972	2.749911	0.000117	0	0	0	1-HR	ALL	1ST	UCAR T1	18112713
325440	460972	2.857044	0.000121	0	0	0	1-HR	ALL	1ST	UCAR T1	18112713
325540	460972	3.447838	0.000136	0	0	0	1-HR	ALL	1ST	UCAR T1	18021524
325640	460972	2.489146	0.000218	0	0	0	1-HR	ALL	1ST	UCAR T1	18102613
325740	460972	2.938728	0.000225	0	0	0	1-HR	ALL	1ST	UCAR T1	18102613
325840	460972	2.888626	0.000122	0	0	0	1-HR	ALL	1ST	UCAR T1	18012416
325940	460972	3.264591	0.000129	0	0	0	1-HR	ALL	1ST	UCAR T1	18102616
326040	460972	3.34226	0.000342	0	0	0	1-HR	ALL	1ST	UCAR T1	18102616
326140	460972	3.271353	0.000176	0	0	0	1-HR	ALL	1ST	UCAR T1	18012415
326240	460972	3.31234	0.000258	0	0	0	1-HR	ALL	1ST	UCAR T1	18012415
326340	460972	3.542907	0.000219	0	0	0	1-HR	ALL	1ST	UCAR T1	18111219
326440	460972	3.249185	0.000147	0	0	0	1-HR	ALL	1ST	UCAR T1	18032922
326540	460972	3.129085	0.00007	0	0	0	1-HR	ALL	1ST	UCAR T1	18092804
326640	460972	3.400422	0.000242	0	0	0	1-HR	ALL	1ST	UCAR T1	18032921
326740	460972	3.19997	0.000203	0	0	0	1-HR	ALL	1ST	UCAR T1	18102614
326840	460972	1.153428	0.000092	0	0	0	1-HR	ALL	1ST	UCAR T1	18022415



326940	460972	2.625634	0.00026	0	0	0	1-HR	ALL	1ST	UCAR T1	18031523
327040	460972	2.426231	0.000276	0	0	0	1-HR	ALL	1ST	UCAR T1	18031601
327140	460972	2.294318	0.000343	0	0	0	1-HR	ALL	1ST	UCAR T1	18031524
327240	460972	3.166153	0.000267	0	0	0	1-HR	ALL	1ST	UCAR T1	18031522
327340	460972	3.774293	0.000111	0	0	0	1-HR	ALL	1ST	UCAR T1	18031522
327440	460972	3.125776	0.000181	0	0	0	1-HR	ALL	1ST	UCAR T1	18112124
327540	460972	2.309048	0.000206	0	0	0	1-HR	ALL	1ST	UCAR T1	18112124
327640	460972	3.012108	0.000143	0	0	0	1-HR	ALL	1ST	UCAR T1	18112124
327740	460972	2.775257	0.000114	0	0	0	1-HR	ALL	1ST	UCAR T1	18120315
327840	460972	2.854705	0.000161	0	0	0	1-HR	ALL	1ST	UCAR T1	18111218
327940	460972	2.727822	0.000178	0	0	0	1-HR	ALL	1ST	UCAR T1	18120316
328040	460972	3.342406	0.000173	0	0	0	1-HR	ALL	1ST	UCAR T1	18120316
328140	460972	3.421477	0.000115	0	0	0	1-HR	ALL	1ST	UCAR T1	18120316
328240	460972	2.852763	0.000097	0	0	0	1-HR	ALL	1ST	UCAR T1	18042417
328340	460972	3.218742	0.000115	0	0	0	1-HR	ALL	1ST	UCAR T1	18092815
328440	460972	2.688098	0.000113	0	0	0	1-HR	ALL	1ST	UCAR T1	18092815
328540	460972	2.513606	0.0001	0	0	0	1-HR	ALL	1ST	UCAR T1	18091622

324540	461072	2.583947	0.000088	0	0	0	1-HR	ALL	1ST	UCAR T1	18030514
324640	461072	2.645089	0.000109	0	0	0	1-HR	ALL	1ST	UCAR T1	18030514
324740	461072	2.472379	0.00009	0	0	0	1-HR	ALL	1ST	UCAR T1	18030514
324840	461072	2.704681	0.000112	0	0	0	1-HR	ALL	1ST	UCAR T1	18111220
324940	461072	2.866955	0.000116	0	0	0	1-HR	ALL	1ST	UCAR T1	18111220
325040	461072	2.689177	0.000081	0	0	0	1-HR	ALL	1ST	UCAR T1	18111220
325140	461072	2.76288	0.000085	0	0	0	1-HR	ALL	1ST	UCAR T1	18021517
325240	461072	2.590451	0.000111	0	0	0	1-HR	ALL	1ST	UCAR T1	18031323
325340	461072	3.198165	0.000104	0	0	0	1-HR	ALL	1ST	UCAR T1	18112713
325440	461072	2.962379	0.000132	0	0	0	1-HR	ALL	1ST	UCAR T1	18112713
325540	461072	3.321823	0.000129	0	0	0	1-HR	ALL	1ST	UCAR T1	18112713
325640	461072	3.365326	0.000138	0	0	0	1-HR	ALL	1ST	UCAR T1	18021524
325740	461072	2.411346	0.000286	0	0	0	1-HR	ALL	1ST	UCAR T1	18102613
325840	461072	3.197154	0.000193	0	0	0	1-HR	ALL	1ST	UCAR T1	18012416
325940	461072	3.328123	0.00012	0	0	0	1-HR	ALL	1ST	UCAR T1	18031218
326040	461072	3.366931	0.000328	0	0	0	1-HR	ALL	1ST	UCAR T1	18102616
326140	461072	3.444148	0.000216	0	0	0	1-HR	ALL	1ST	UCAR T1	18102616

326240	461072	3.644026	0.000309	0	0	0	1-HR	ALL	1ST	UCAR T1	18012415
326340	461072	3.643019	0.000232	0	0	0	1-HR	ALL	1ST	UCAR T1	18111219
326440	461072	3.516124	0.000161	0	0	0	1-HR	ALL	1ST	UCAR T1	18032922
326540	461072	3.27887	0.000077	0	0	0	1-HR	ALL	1ST	UCAR T1	18092804
326640	461072	3.455873	0.000271	0	0	0	1-HR	ALL	1ST	UCAR T1	18102614
326740	461072	3.156096	0.000187	0	0	0	1-HR	ALL	1ST	UCAR T1	18102614
326840	461072	1.152107	0.000136	0	0	0	1-HR	ALL	1ST	UCAR T1	18100221
326940	461072	2.950105	0.000316	0	0	0	1-HR	ALL	1ST	UCAR T1	18031523
327040	461072	1.755145	0.00031	0	0	0	1-HR	ALL	1ST	UCAR T1	18031601
327140	461072	3.101262	0.000357	0	0	0	1-HR	ALL	1ST	UCAR T1	18031524
327240	461072	3.440199	0.00022	0	0	0	1-HR	ALL	1ST	UCAR T1	18031522
327340	461072	3.693376	0.000162	0	0	0	1-HR	ALL	1ST	UCAR T1	18112124
327440	461072	1.965361	0.000229	0	0	0	1-HR	ALL	1ST	UCAR T1	18112124
327540	461072	3.014321	0.000184	0	0	0	1-HR	ALL	1ST	UCAR T1	18112124
327640	461072	3.070119	0.000112	0	0	0	1-HR	ALL	1ST	UCAR T1	18120315
327740	461072	2.989758	0.000162	0	0	0	1-HR	ALL	1ST	UCAR T1	18111218
327840	461072	2.798973	0.000191	0	0	0	1-HR	ALL	1ST	UCAR T1	18120316

327940	461072	3.457357	0.00019	0	0	0	1-HR	ALL	1ST	UCAR T1	18120316
328040	461072	3.50206	0.000123	0	0	0	1-HR	ALL	1ST	UCAR T1	18120316
328140	461072	2.985164	0.0001	0	0	0	1-HR	ALL	1ST	UCAR T1	18042417
328240	461072	3.238437	0.000126	0	0	0	1-HR	ALL	1ST	UCAR T1	18092815
328340	461072	2.719699	0.000115	0	0	0	1-HR	ALL	1ST	UCAR T1	18092815
328440	461072	2.489054	0.000114	0	0	0	1-HR	ALL	1ST	UCAR T1	18091622
328540	461072	2.692771	0.000101	0	0	0	1-HR	ALL	1ST	UCAR T1	18091622
324540	461172	2.794312	0.000103	0	0	0	1-HR	ALL	1ST	UCAR T1	18022724
324640	461172	2.721636	0.000092	0	0	0	1-HR	ALL	1ST	UCAR T1	18022724
324740	461172	2.674596	0.000113	0	0	0	1-HR	ALL	1ST	UCAR T1	18030514
324840	461172	2.57506	0.000108	0	0	0	1-HR	ALL	1ST	UCAR T1	18030514
324940	461172	2.653719	0.000115	0	0	0	1-HR	ALL	1ST	UCAR T1	18111220
325040	461172	3.031578	0.000129	0	0	0	1-HR	ALL	1ST	UCAR T1	18111220
325140	461172	2.721107	0.000093	0	0	0	1-HR	ALL	1ST	UCAR T1	18111220
325240	461172	2.900208	0.000091	0	0	0	1-HR	ALL	1ST	UCAR T1	18021517
325340	461172	2.638842	0.00012	0	0	0	1-HR	ALL	1ST	UCAR T1	18031323
325440	461172	3.29132	0.000122	0	0	0	1-HR	ALL	1ST	UCAR T1	18112713

325540	461172	3.093714	0.000149	0	0	0	1-HR	ALL	1ST	UCAR T1	18112713
325640	461172	3.662158	0.000135	0	0	0	1-HR	ALL	1ST	UCAR T1	18112713
325740	461172	3.161389	0.000213	0	0	0	1-HR	ALL	1ST	UCAR T1	18102613
325840	461172	3.272087	0.000288	0	0	0	1-HR	ALL	1ST	UCAR T1	18102613
325940	461172	2.914746	0.000141	0	0	0	1-HR	ALL	1ST	UCAR T1	18031218
326040	461172	3.503338	0.000229	0	0	0	1-HR	ALL	1ST	UCAR T1	18102616
326140	461172	3.847743	0.000355	0	0	0	1-HR	ALL	1ST	UCAR T1	18102616
326240	461172	3.722878	0.000331	0	0	0	1-HR	ALL	1ST	UCAR T1	18012415
326340	461172	3.633456	0.000234	0	0	0	1-HR	ALL	1ST	UCAR T1	18111219
326440	461172	3.789207	0.000175	0	0	0	1-HR	ALL	1ST	UCAR T1	18032922
326540	461172	3.424681	0.000084	0	0	0	1-HR	ALL	1ST	UCAR T1	18092804
326640	461172	3.466598	0.00031	0	0	0	1-HR	ALL	1ST	UCAR T1	18102614
326740	461172	2.994152	0.000163	0	0	0	1-HR	ALL	1ST	UCAR T1	18102614
326840	461172	1.502837	0.000197	0	0	0	1-HR	ALL	1ST	UCAR T1	18100221
326940	461172	2.934707	0.000338	0	0	0	1-HR	ALL	1ST	UCAR T1	18031523
327040	461172	1.886292	0.000378	0	0	0	1-HR	ALL	1ST	UCAR T1	18031524
327140	461172	3.395402	0.000337	0	0	0	1-HR	ALL	1ST	UCAR T1	18031522

327240	461172	4.213359	0.000128	0	0	0	1-HR	ALL	1ST	UCAR T1	18031522
327340	461172	2.776202	0.000236	0	0	0	1-HR	ALL	1ST	UCAR T1	18112124
327440	461172	2.778081	0.00023	0	0	0	1-HR	ALL	1ST	UCAR T1	18112124
327540	461172	3.277369	0.000127	0	0	0	1-HR	ALL	1ST	UCAR T1	18112124
327640	461172	3.080646	0.00016	0	0	0	1-HR	ALL	1ST	UCAR T1	18111218
327740	461172	2.845496	0.000206	0	0	0	1-HR	ALL	1ST	UCAR T1	18120316
327840	461172	3.561634	0.000209	0	0	0	1-HR	ALL	1ST	UCAR T1	18120316
327940	461172	3.560719	0.000131	0	0	0	1-HR	ALL	1ST	UCAR T1	18120316
328040	461172	3.147541	0.000115	0	0	0	1-HR	ALL	1ST	UCAR T1	18092815
328140	461172	3.183592	0.000137	0	0	0	1-HR	ALL	1ST	UCAR T1	18092815
328240	461172	2.747014	0.000115	0	0	0	1-HR	ALL	1ST	UCAR T1	18092815
328340	461172	2.624304	0.000124	0	0	0	1-HR	ALL	1ST	UCAR T1	18091622
328440	461172	2.964987	0.000089	0	0	0	1-HR	ALL	1ST	UCAR T1	18091622
328540	461172	2.988114	0.000108	0	0	0	1-HR	ALL	1ST	UCAR T1	18052614
324540	461272	2.663327	0.000125	0	0	0	1-HR	ALL	1ST	UCAR T1	18022802
324640	461272	2.686706	0.000119	0	0	0	1-HR	ALL	1ST	UCAR T1	18022802
324740	461272	2.936069	0.000113	0	0	0	1-HR	ALL	1ST	UCAR T1	18022724



324840	461272	2.714649	0.000109	0	0	0	1-HR	ALL	1ST	UCAR T1	18030514
324940	461272	2.713992	0.000126	0	0	0	1-HR	ALL	1ST	UCAR T1	18030514
325040	461272	2.51912	0.000115	0	0	0	1-HR	ALL	1ST	UCAR T1	18111220
325140	461272	3.157534	0.000142	0	0	0	1-HR	ALL	1ST	UCAR T1	18111220
325240	461272	2.716982	0.000107	0	0	0	1-HR	ALL	1ST	UCAR T1	18111220
325340	461272	3.033793	0.000097	0	0	0	1-HR	ALL	1ST	UCAR T1	18021517
325440	461272	2.702049	0.00013	0	0	0	1-HR	ALL	1ST	UCAR T1	18031323
325540	461272	3.313683	0.000144	0	0	0	1-HR	ALL	1ST	UCAR T1	18112713
325640	461272	3.079727	0.000167	0	0	0	1-HR	ALL	1ST	UCAR T1	18112713
325740	461272	3.709397	0.000165	0	0	0	1-HR	ALL	1ST	UCAR T1	18021524
325840	461272	2.51044	0.000327	0	0	0	1-HR	ALL	1ST	UCAR T1	18102613
325940	461272	3.689148	0.00023	0	0	0	1-HR	ALL	1ST	UCAR T1	18012416
326040	461272	3.852586	0.000142	0	0	0	1-HR	ALL	1ST	UCAR T1	18031217
326140	461272	3.639492	0.000449	0	0	0	1-HR	ALL	1ST	UCAR T1	18102616
326240	461272	3.410879	0.000301	0	0	0	1-HR	ALL	1ST	UCAR T1	18012415
326340	461272	3.386047	0.000221	0	0	0	1-HR	ALL	1ST	UCAR T1	18111219
326440	461272	4.015753	0.000187	0	0	0	1-HR	ALL	1ST	UCAR T1	18032922

326540	461272	3.557938	0.000092	0	0	0	1-HR	ALL	1ST	UCAR T1	18092804
326640	461272	3.41245	0.000353	0	0	0	1-HR	ALL	1ST	UCAR T1	18102614
326740	461272	2.686232	0.000131	0	0	0	1-HR	ALL	1ST	UCAR T1	18102614
326840	461272	2.046977	0.000289	0	0	0	1-HR	ALL	1ST	UCAR T1	18031523
326940	461272	2.449942	0.000368	0	0	0	1-HR	ALL	1ST	UCAR T1	18031601
327040	461272	2.910581	0.000479	0	0	0	1-HR	ALL	1ST	UCAR T1	18031524
327140	461272	3.790621	0.00028	0	0	0	1-HR	ALL	1ST	UCAR T1	18031522
327240	461272	3.709466	0.00022	0	0	0	1-HR	ALL	1ST	UCAR T1	18112124
327340	461272	2.247166	0.000274	0	0	0	1-HR	ALL	1ST	UCAR T1	18112124
327440	461272	3.307734	0.000175	0	0	0	1-HR	ALL	1ST	UCAR T1	18112124
327540	461272	3.095057	0.000151	0	0	0	1-HR	ALL	1ST	UCAR T1	18111218
327640	461272	3.049309	0.000227	0	0	0	1-HR	ALL	1ST	UCAR T1	18111218
327740	461272	3.646716	0.00023	0	0	0	1-HR	ALL	1ST	UCAR T1	18120316
327840	461272	3.585992	0.00014	0	0	0	1-HR	ALL	1ST	UCAR T1	18120316
327940	461272	3.271646	0.000132	0	0	0	1-HR	ALL	1ST	UCAR T1	18092815
328040	461272	3.031948	0.000147	0	0	0	1-HR	ALL	1ST	UCAR T1	18092815
328140	461272	2.706537	0.000125	0	0	0	1-HR	ALL	1ST	UCAR T1	18091622

328240	461272	2.943103	0.000124	0	0	0	1-HR	ALL	1ST	UCAR T1	18091622
328340	461272	3.155661	0.000101	0	0	0	1-HR	ALL	1ST	UCAR T1	18052614
328440	461272	3.049507	0.000127	0	0	0	1-HR	ALL	1ST	UCAR T1	18052614
328540	461272	2.68805	0.000138	0	0	0	1-HR	ALL	1ST	UCAR T1	18091621
324540	461372	2.848412	0.000154	0	0	0	1-HR	ALL	1ST	UCAR T1	18102617
324640	461372	2.901839	0.00012	0	0	0	1-HR	ALL	1ST	UCAR T1	18030515
324740	461372	2.719045	0.00014	0	0	0	1-HR	ALL	1ST	UCAR T1	18022802
324840	461372	2.933886	0.000119	0	0	0	1-HR	ALL	1ST	UCAR T1	18022723
324940	461372	2.866593	0.000107	0	0	0	1-HR	ALL	1ST	UCAR T1	18022724
325040	461372	2.839334	0.000138	0	0	0	1-HR	ALL	1ST	UCAR T1	18030514
325140	461372	2.626143	0.000111	0	0	0	1-HR	ALL	1ST	UCAR T1	18030514
325240	461372	3.215836	0.000155	0	0	0	1-HR	ALL	1ST	UCAR T1	18111220
325340	461372	2.965529	0.000125	0	0	0	1-HR	ALL	1ST	UCAR T1	18111220
325440	461372	3.155288	0.000105	0	0	0	1-HR	ALL	1ST	UCAR T1	18021517
325540	461372	2.791993	0.000141	0	0	0	1-HR	ALL	1ST	UCAR T1	18031323
325640	461372	3.22678	0.000169	0	0	0	1-HR	ALL	1ST	UCAR T1	18112713
325740	461372	3.138116	0.000184	0	0	0	1-HR	ALL	1ST	UCAR T1	18112713

325840	461372	3.78388	0.00018	0	0	0	1-HR	ALL	1ST	UCAR T1	18102613
325940	461372	3.561635	0.000375	0	0	0	1-HR	ALL	1ST	UCAR T1	18102613
326040	461372	3.15762	0.000166	0	0	0	1-HR	ALL	1ST	UCAR T1	18031218
326140	461372	3.94921	0.000398	0	0	0	1-HR	ALL	1ST	UCAR T1	18102616
326240	461372	3.519882	0.00024	0	0	0	1-HR	ALL	1ST	UCAR T1	18102616
326340	461372	3.713269	0.000308	0	0	0	1-HR	ALL	1ST	UCAR T1	18012415
326440	461372	4.144018	0.000233	0	0	0	1-HR	ALL	1ST	UCAR T1	18111219
326540	461372	3.665267	0.000101	0	0	0	1-HR	ALL	1ST	UCAR T1	18092804
326640	461372	3.446556	0.000402	0	0	0	1-HR	ALL	1ST	UCAR T1	18102614
326740	461372	2.221158	0.00011	0	0	0	1-HR	ALL	1ST	UCAR T1	18021521
326840	461372	2.515742	0.000409	0	0	0	1-HR	ALL	1ST	UCAR T1	18031523
326940	461372	1.584086	0.000417	0	0	0	1-HR	ALL	1ST	UCAR T1	18031601
327040	461372	3.474876	0.000434	0	0	0	1-HR	ALL	1ST	UCAR T1	18031522
327140	461372	4.637367	0.000177	0	0	0	1-HR	ALL	1ST	UCAR T1	18112124
327240	461372	2.146378	0.000306	0	0	0	1-HR	ALL	1ST	UCAR T1	18112124
327340	461372	3.184012	0.000237	0	0	0	1-HR	ALL	1ST	UCAR T1	18112124
327440	461372	2.988932	0.000153	0	0	0	1-HR	ALL	1ST	UCAR T1	18120315

327540	461372	3.317478	0.000254	0	0	0	1-HR	ALL	1ST	UCAR T1	18111218
327640	461372	3.700332	0.000256	0	0	0	1-HR	ALL	1ST	UCAR T1	18120316
327740	461372	3.562322	0.000149	0	0	0	1-HR	ALL	1ST	UCAR T1	18120316
327840	461372	3.330477	0.000152	0	0	0	1-HR	ALL	1ST	UCAR T1	18092815
327940	461372	3.031525	0.000154	0	0	0	1-HR	ALL	1ST	UCAR T1	18092815
328040	461372	2.735686	0.000146	0	0	0	1-HR	ALL	1ST	UCAR T1	18091622
328140	461372	3.297636	0.000112	0	0	0	1-HR	ALL	1ST	UCAR T1	18091622
328240	461372	3.41236	0.000132	0	0	0	1-HR	ALL	1ST	UCAR T1	18052614
328340	461372	2.87434	0.000148	0	0	0	1-HR	ALL	1ST	UCAR T1	18091621
328440	461372	2.798098	0.000173	0	0	0	1-HR	ALL	1ST	UCAR T1	18032920
328540	461372	2.708064	0.000174	0	0	0	1-HR	ALL	1ST	UCAR T1	18032920
324540	461472	2.684232	0.000108	0	0	0	1-HR	ALL	1ST	UCAR T1	18102617
324640	461472	2.787034	0.000163	0	0	0	1-HR	ALL	1ST	UCAR T1	18102617
324740	461472	2.995289	0.000166	0	0	0	1-HR	ALL	1ST	UCAR T1	18102617
324840	461472	2.902575	0.000138	0	0	0	1-HR	ALL	1ST	UCAR T1	18022802
324940	461472	2.708144	0.00015	0	0	0	1-HR	ALL	1ST	UCAR T1	18022802
325040	461472	3.06109	0.000134	0	0	0	1-HR	ALL	1ST	UCAR T1	18022724

325140	461472	2.856639	0.000139	0	0	0	1-HR	ALL	1ST	UCAR T1	18030514
325240	461472	3.006451	0.000141	0	0	0	1-HR	ALL	1ST	UCAR T1	18030514
325340	461472	3.167422	0.000167	0	0	0	1-HR	ALL	1ST	UCAR T1	18111220
325440	461472	3.233434	0.000147	0	0	0	1-HR	ALL	1ST	UCAR T1	18111220
325540	461472	3.346395	0.000114	0	0	0	1-HR	ALL	1ST	UCAR T1	18021517
325640	461472	2.988235	0.000154	0	0	0	1-HR	ALL	1ST	UCAR T1	18031323
325740	461472	3.272253	0.000199	0	0	0	1-HR	ALL	1ST	UCAR T1	18112713
325840	461472	3.566615	0.000199	0	0	0	1-HR	ALL	1ST	UCAR T1	18112713
325940	461472	3.260438	0.000347	0	0	0	1-HR	ALL	1ST	UCAR T1	18102613
326040	461472	4.226637	0.000282	0	0	0	1-HR	ALL	1ST	UCAR T1	18012416
326140	461472	4.284941	0.00022	0	0	0	1-HR	ALL	1ST	UCAR T1	18102616
326240	461472	4.027754	0.000465	0	0	0	1-HR	ALL	1ST	UCAR T1	18102616
326340	461472	4.295935	0.000434	0	0	0	1-HR	ALL	1ST	UCAR T1	18012415
326440	461472	4.098524	0.000292	0	0	0	1-HR	ALL	1ST	UCAR T1	18111219
326540	461472	3.726227	0.000113	0	0	0	1-HR	ALL	1ST	UCAR T1	18092804
326640	461472	3.686826	0.000451	0	0	0	1-HR	ALL	1ST	UCAR T1	18102614
326740	461472	1.625956	0.000148	0	0	0	1-HR	ALL	1ST	UCAR T1	18022415



326840	461472	2.61544	0.000492	0	0	0	1-HR	ALL	1ST	UCAR T1	18031523
326940	461472	2.322212	0.000604	0	0	0	1-HR	ALL	1ST	UCAR T1	18031524
327040	461472	4.070664	0.000367	0	0	0	1-HR	ALL	1ST	UCAR T1	18031522
327140	461472	3.576185	0.000305	0	0	0	1-HR	ALL	1ST	UCAR T1	18112124
327240	461472	2.853878	0.000311	0	0	0	1-HR	ALL	1ST	UCAR T1	18112124
327340	461472	2.983339	0.000163	0	0	0	1-HR	ALL	1ST	UCAR T1	18120315
327440	461472	3.57084	0.000283	0	0	0	1-HR	ALL	1ST	UCAR T1	18111218
327540	461472	3.7051	0.000286	0	0	0	1-HR	ALL	1ST	UCAR T1	18120316
327640	461472	3.469197	0.000159	0	0	0	1-HR	ALL	1ST	UCAR T1	18120316
327740	461472	3.287827	0.000174	0	0	0	1-HR	ALL	1ST	UCAR T1	18092815
327840	461472	3.088521	0.000157	0	0	0	1-HR	ALL	1ST	UCAR T1	18092815
327940	461472	3.116235	0.000155	0	0	0	1-HR	ALL	1ST	UCAR T1	18091622
328040	461472	3.605968	0.000124	0	0	0	1-HR	ALL	1ST	UCAR T1	18052614
328140	461472	3.3999	0.000154	0	0	0	1-HR	ALL	1ST	UCAR T1	18052614
328240	461472	2.897364	0.000189	0	0	0	1-HR	ALL	1ST	UCAR T1	18032920
328340	461472	2.833632	0.000201	0	0	0	1-HR	ALL	1ST	UCAR T1	18032920
328440	461472	2.759771	0.000173	0	0	0	1-HR	ALL	1ST	UCAR T1	18032920

328540	461472	2.77564	0.000126	0	0	0	1-HR	ALL	1ST	UCAR T1	18032920
324540	461572	2.690535	0.000154	0	0	0	1-HR	ALL	1ST	UCAR T1	18032016
324640	461572	2.718339	0.000139	0	0	0	1-HR	ALL	1ST	UCAR T1	18032016
324740	461572	2.734883	0.000121	0	0	0	1-HR	ALL	1ST	UCAR T1	18102617
324840	461572	2.846963	0.000186	0	0	0	1-HR	ALL	1ST	UCAR T1	18102617
324940	461572	3.094227	0.000177	0	0	0	1-HR	ALL	1ST	UCAR T1	18102617
325040	461572	2.916759	0.000165	0	0	0	1-HR	ALL	1ST	UCAR T1	18022802
325140	461572	2.924023	0.000149	0	0	0	1-HR	ALL	1ST	UCAR T1	18022802
325240	461572	2.927548	0.000127	0	0	0	1-HR	ALL	1ST	UCAR T1	18022724
325340	461572	3.297885	0.00017	0	0	0	1-HR	ALL	1ST	UCAR T1	18030514
325440	461572	3.076447	0.000174	0	0	0	1-HR	ALL	1ST	UCAR T1	18111220
325540	461572	3.48404	0.000175	0	0	0	1-HR	ALL	1ST	UCAR T1	18111220
325640	461572	3.561589	0.000124	0	0	0	1-HR	ALL	1ST	UCAR T1	18021517
325740	461572	3.330626	0.000166	0	0	0	1-HR	ALL	1ST	UCAR T1	18031323
325840	461572	3.150491	0.000234	0	0	0	1-HR	ALL	1ST	UCAR T1	18112713
325940	461572	3.8707	0.00021	0	0	0	1-HR	ALL	1ST	UCAR T1	18021524
326040	461572	3.637961	0.00049	0	0	0	1-HR	ALL	1ST	UCAR T1	18102613

326140	461572	3.62532	0.0002	0	0	0	1-HR	ALL	1ST	UCAR T1	18031218
326240	461572	3.847577	0.000618	0	0	0	1-HR	ALL	1ST	UCAR T1	18102616
326340	461572	4.350426	0.000512	0	0	0	1-HR	ALL	1ST	UCAR T1	18012415
326440	461572	3.78429	0.000361	0	0	0	1-HR	ALL	1ST	UCAR T1	18111219
326540	461572	3.710363	0.000127	0	0	0	1-HR	ALL	1ST	UCAR T1	18092804
326640	461572	3.817105	0.000494	0	0	0	1-HR	ALL	1ST	UCAR T1	18102614
326740	461572	1.773742	0.000239	0	0	0	1-HR	ALL	1ST	UCAR T1	18100221
326840	461572	1.997952	0.000516	0	0	0	1-HR	ALL	1ST	UCAR T1	18031601
326940	461572	3.201877	0.00059	0	0	0	1-HR	ALL	1ST	UCAR T1	18031524
327040	461572	4.887821	0.000257	0	0	0	1-HR	ALL	1ST	UCAR T1	18112124
327140	461572	2.058375	0.000385	0	0	0	1-HR	ALL	1ST	UCAR T1	18112124
327240	461572	3.09199	0.00021	0	0	0	1-HR	ALL	1ST	UCAR T1	18112124
327340	461572	3.766795	0.000312	0	0	0	1-HR	ALL	1ST	UCAR T1	18111218
327440	461572	3.63704	0.000323	0	0	0	1-HR	ALL	1ST	UCAR T1	18120316
327540	461572	3.39112	0.000169	0	0	0	1-HR	ALL	1ST	UCAR T1	18120316
327640	461572	3.140613	0.000196	0	0	0	1-HR	ALL	1ST	UCAR T1	18092815
327740	461572	2.968089	0.000172	0	0	0	1-HR	ALL	1ST	UCAR T1	18100207

327840	461572	3.568068	0.000146	0	0	0	1-HR	ALL	1ST	UCAR T1	18091622
327940	461572	3.865658	0.000167	0	0	0	1-HR	ALL	1ST	UCAR T1	18052614
328040	461572	3.009704	0.000204	0	0	0	1-HR	ALL	1ST	UCAR T1	18032920
328140	461572	2.916022	0.000232	0	0	0	1-HR	ALL	1ST	UCAR T1	18032920
328240	461572	2.968505	0.000205	0	0	0	1-HR	ALL	1ST	UCAR T1	18032920
328340	461572	2.883295	0.000148	0	0	0	1-HR	ALL	1ST	UCAR T1	18032920
328440	461572	2.843538	0.000131	0	0	0	1-HR	ALL	1ST	UCAR T1	18092816
328540	461572	3.061829	0.000149	0	0	0	1-HR	ALL	1ST	UCAR T1	18052617
324540	461672	2.830783	0.000165	0	0	0	1-HR	ALL	1ST	UCAR T1	18112201
324640	461672	2.954643	0.000174	0	0	0	1-HR	ALL	1ST	UCAR T1	18112201
324740	461672	2.708458	0.000169	0	0	0	1-HR	ALL	1ST	UCAR T1	18032016
324840	461672	2.724666	0.000164	0	0	0	1-HR	ALL	1ST	UCAR T1	18032016
324940	461672	2.732386	0.000137	0	0	0	1-HR	ALL	1ST	UCAR T1	18102617
325040	461672	2.845549	0.000214	0	0	0	1-HR	ALL	1ST	UCAR T1	18102617
325140	461672	3.09979	0.000185	0	0	0	1-HR	ALL	1ST	UCAR T1	18102617
325240	461672	2.816048	0.000191	0	0	0	1-HR	ALL	1ST	UCAR T1	18022802
325340	461672	2.979961	0.000165	0	0	0	1-HR	ALL	1ST	UCAR T1	18022724

325440	461672	3.41964	0.000184	0	0	0	1-HR	ALL	1ST	UCAR T1	18030514
325540	461672	3.405598	0.000173	0	0	0	1-HR	ALL	1ST	UCAR T1	18111220
325640	461672	3.671114	0.000208	0	0	0	1-HR	ALL	1ST	UCAR T1	18111220
325740	461672	3.78706	0.000137	0	0	0	1-HR	ALL	1ST	UCAR T1	18021517
325840	461672	3.670762	0.000202	0	0	0	1-HR	ALL	1ST	UCAR T1	18112713
325940	461672	2.751283	0.000273	0	0	0	1-HR	ALL	1ST	UCAR T1	18112713
326040	461672	3.788665	0.000307	0	0	0	1-HR	ALL	1ST	UCAR T1	18102613
326140	461672	4.66472	0.000364	0	0	0	1-HR	ALL	1ST	UCAR T1	18102613
326240	461672	4.217489	0.000465	0	0	0	1-HR	ALL	1ST	UCAR T1	18102616
326340	461672	3.493022	0.000448	0	0	0	1-HR	ALL	1ST	UCAR T1	18012415
326440	461672	3.117609	0.000427	0	0	0	1-HR	ALL	1ST	UCAR T1	18111219
326540	461672	3.574249	0.000145	0	0	0	1-HR	ALL	1ST	UCAR T1	18092804
326640	461672	3.732817	0.000515	0	0	0	1-HR	ALL	1ST	UCAR T1	18102614
326740	461672	2.099989	0.000457	0	0	0	1-HR	ALL	1ST	UCAR T1	18031523
326840	461672	2.118608	0.000627	0	0	0	1-HR	ALL	1ST	UCAR T1	18031524
326940	461672	4.075929	0.000505	0	0	0	1-HR	ALL	1ST	UCAR T1	18031522
327040	461672	2.913743	0.000428	0	0	0	1-HR	ALL	1ST	UCAR T1	18112124

327140	461672	2.821286	0.000311	0	0	0	1-HR	ALL	1ST	UCAR T1	18112124
327240	461672	3.82797	0.000337	0	0	0	1-HR	ALL	1ST	UCAR T1	18111218
327340	461672	3.464609	0.000367	0	0	0	1-HR	ALL	1ST	UCAR T1	18120316
327440	461672	3.344396	0.000183	0	0	0	1-HR	ALL	1ST	UCAR T1	18042417
327540	461672	3.02298	0.000217	0	0	0	1-HR	ALL	1ST	UCAR T1	18092815
327640	461672	3.356402	0.000196	0	0	0	1-HR	ALL	1ST	UCAR T1	18091622
327740	461672	4.038115	0.000159	0	0	0	1-HR	ALL	1ST	UCAR T1	18052614
327840	461672	3.654976	0.000212	0	0	0	1-HR	ALL	1ST	UCAR T1	18032920
327940	461672	3.033879	0.000267	0	0	0	1-HR	ALL	1ST	UCAR T1	18032920
328040	461672	3.157748	0.000245	0	0	0	1-HR	ALL	1ST	UCAR T1	18032920
328140	461672	3.069765	0.000176	0	0	0	1-HR	ALL	1ST	UCAR T1	18032920
328240	461672	2.984938	0.000154	0	0	0	1-HR	ALL	1ST	UCAR T1	18052617
328340	461672	3.38978	0.000168	0	0	0	1-HR	ALL	1ST	UCAR T1	18052617
328440	461672	3.433354	0.000136	0	0	0	1-HR	ALL	1ST	UCAR T1	18052617
328540	461672	3.095964	0.000123	0	0	0	1-HR	ALL	1ST	UCAR T1	18111217
324540	461772	2.713112	0.000116	0	0	0	1-HR	ALL	1ST	UCAR T1	18021602
324640	461772	2.634636	0.000144	0	0	0	1-HR	ALL	1ST	UCAR T1	18112201



324740	461772	2.83799	0.00018	0	0	0	1-HR	ALL	1ST	UCAR T1	18112201
324840	461772	3.161442	0.000203	0	0	0	1-HR	ALL	1ST	UCAR T1	18112201
324940	461772	3.037539	0.0002	0	0	0	1-HR	ALL	1ST	UCAR T1	18112201
325040	461772	2.663762	0.000194	0	0	0	1-HR	ALL	1ST	UCAR T1	18032016
325140	461772	2.66893	0.000157	0	0	0	1-HR	ALL	1ST	UCAR T1	18102617
325240	461772	2.742472	0.000248	0	0	0	1-HR	ALL	1ST	UCAR T1	18102617
325340	461772	2.941234	0.00019	0	0	0	1-HR	ALL	1ST	UCAR T1	18030515
325440	461772	2.583555	0.000205	0	0	0	1-HR	ALL	1ST	UCAR T1	18022802
325540	461772	3.539024	0.00017	0	0	0	1-HR	ALL	1ST	UCAR T1	18030514
325640	461772	3.795032	0.000199	0	0	0	1-HR	ALL	1ST	UCAR T1	18030514
325740	461772	4.021125	0.000247	0	0	0	1-HR	ALL	1ST	UCAR T1	18111220
325840	461772	4.198095	0.000153	0	0	0	1-HR	ALL	1ST	UCAR T1	18021517
325940	461772	3.940774	0.000253	0	0	0	1-HR	ALL	1ST	UCAR T1	18112713
326040	461772	2.590769	0.000313	0	0	0	1-HR	ALL	1ST	UCAR T1	18112713
326140	461772	3.121989	0.000619	0	0	0	1-HR	ALL	1ST	UCAR T1	18102613
326240	461772	3.839298	0.000245	0	0	0	1-HR	ALL	1ST	UCAR T1	18031218
326340	461772	3.321372	0.000632	0	0	0	1-HR	ALL	1ST	UCAR T1	18102616

326440	461772	2.61677	0.000458	0	0	0	1-HR	ALL	1ST	UCAR T1	18111219
326540	461772	3.261298	0.000169	0	0	0	1-HR	ALL	1ST	UCAR T1	18022018
326640	461772	3.296334	0.00049	0	0	0	1-HR	ALL	1ST	UCAR T1	18102614
326740	461772	2.518481	0.000742	0	0	0	1-HR	ALL	1ST	UCAR T1	18031523
326840	461772	2.4835	0.000946	0	0	0	1-HR	ALL	1ST	UCAR T1	18031524
326940	461772	4.56848	0.000391	0	0	0	1-HR	ALL	1ST	UCAR T1	18112124
327040	461772	2.162464	0.000447	0	0	0	1-HR	ALL	1ST	UCAR T1	18112124
327140	461772	3.627039	0.000347	0	0	0	1-HR	ALL	1ST	UCAR T1	18111218
327240	461772	3.149864	0.000423	0	0	0	1-HR	ALL	1ST	UCAR T1	18120316
327340	461772	3.182683	0.000209	0	0	0	1-HR	ALL	1ST	UCAR T1	18092815
327440	461772	2.973755	0.00025	0	0	0	1-HR	ALL	1ST	UCAR T1	18100207
327540	461772	3.912761	0.000217	0	0	0	1-HR	ALL	1ST	UCAR T1	18100207
327640	461772	4.193425	0.000222	0	0	0	1-HR	ALL	1ST	UCAR T1	18052614
327740	461772	2.989057	0.000305	0	0	0	1-HR	ALL	1ST	UCAR T1	18032920
327840	461772	3.284084	0.000297	0	0	0	1-HR	ALL	1ST	UCAR T1	18032920
327940	461772	3.230536	0.000212	0	0	0	1-HR	ALL	1ST	UCAR T1	18032920
328040	461772	3.167109	0.000185	0	0	0	1-HR	ALL	1ST	UCAR T1	18052617

328140	461772	3.700119	0.000188	0	0	0	1-HR	ALL	1ST	UCAR T1	18052617
328240	461772	3.55947	0.000136	0	0	0	1-HR	ALL	1ST	UCAR T1	18052617
328340	461772	3.259976	0.000144	0	0	0	1-HR	ALL	1ST	UCAR T1	18111217
328440	461772	3.097177	0.000129	0	0	0	1-HR	ALL	1ST	UCAR T1	18111217
328540	461772	3.114778	0.000113	0	0	0	1-HR	ALL	1ST	UCAR T1	18091620
324540	461872	3.344624	0.000121	0	0	0	1-HR	ALL	1ST	UCAR T1	18093014
324640	461872	3.002905	0.000106	0	0	0	1-HR	ALL	1ST	UCAR T1	18093014
324740	461872	2.821874	0.000118	0	0	0	1-HR	ALL	1ST	UCAR T1	18021602
324840	461872	2.733716	0.000138	0	0	0	1-HR	ALL	1ST	UCAR T1	18112201
324940	461872	2.636164	0.000188	0	0	0	1-HR	ALL	1ST	UCAR T1	18112201
325040	461872	3.214793	0.000231	0	0	0	1-HR	ALL	1ST	UCAR T1	18112201
325140	461872	3.310118	0.000244	0	0	0	1-HR	ALL	1ST	UCAR T1	18112201
325240	461872	2.70474	0.000231	0	0	0	1-HR	ALL	1ST	UCAR T1	18032016
325340	461872	2.487811	0.000182	0	0	0	1-HR	ALL	1ST	UCAR T1	18102617
325440	461872	2.6163	0.000291	0	0	0	1-HR	ALL	1ST	UCAR T1	18102617
325540	461872	2.667243	0.000236	0	0	0	1-HR	ALL	1ST	UCAR T1	18022802
325640	461872	3.090224	0.000212	0	0	0	1-HR	ALL	1ST	UCAR T1	18022724

325740	461872	3.855019	0.000253	0	0	0	1-HR	ALL	1ST	UCAR T1	18030514
325840	461872	4.272326	0.00029	0	0	0	1-HR	ALL	1ST	UCAR T1	18111220
325940	461872	4.629821	0.000171	0	0	0	1-HR	ALL	1ST	UCAR T1	18021517
326040	461872	3.992485	0.000322	0	0	0	1-HR	ALL	1ST	UCAR T1	18112713
326140	461872	3.003901	0.000344	0	0	0	1-HR	ALL	1ST	UCAR T1	18112713
326240	461872	4.519109	0.000562	0	0	0	1-HR	ALL	1ST	UCAR T1	18102613
326340	461872	3.923413	0.000917	0	0	0	1-HR	ALL	1ST	UCAR T1	18102616
326440	461872	3.238281	0.000573	0	0	0	1-HR	ALL	1ST	UCAR T1	18012415
326540	461872	3.142279	0.000205	0	0	0	1-HR	ALL	1ST	UCAR T1	18022018
326640	461872	2.860914	0.000388	0	0	0	1-HR	ALL	1ST	UCAR T1	18102614
326740	461872	2.780521	0.000791	0	0	0	1-HR	ALL	1ST	UCAR T1	18031601
326840	461872	3.361482	0.000745	0	0	0	1-HR	ALL	1ST	UCAR T1	18031522
326940	461872	2.632181	0.000591	0	0	0	1-HR	ALL	1ST	UCAR T1	18112124
327040	461872	2.996062	0.000323	0	0	0	1-HR	ALL	1ST	UCAR T1	18111218
327140	461872	2.849766	0.000496	0	0	0	1-HR	ALL	1ST	UCAR T1	18120316
327240	461872	2.786772	0.000272	0	0	0	1-HR	ALL	1ST	UCAR T1	18100207
327340	461872	3.147803	0.000304	0	0	0	1-HR	ALL	1ST	UCAR T1	18100207

327440	461872	4.224723	0.000231	0	0	0	1-HR	ALL	1ST	UCAR T1	18100207
327540	461872	3.490216	0.000341	0	0	0	1-HR	ALL	1ST	UCAR T1	18032920
327640	461872	3.264186	0.000365	0	0	0	1-HR	ALL	1ST	UCAR T1	18032920
327740	461872	3.518529	0.00026	0	0	0	1-HR	ALL	1ST	UCAR T1	18032920
327840	461872	3.489378	0.000225	0	0	0	1-HR	ALL	1ST	UCAR T1	18052617
327940	461872	3.92017	0.000206	0	0	0	1-HR	ALL	1ST	UCAR T1	18052617
328040	461872	3.54847	0.000166	0	0	0	1-HR	ALL	1ST	UCAR T1	18111217
328140	461872	3.396024	0.00016	0	0	0	1-HR	ALL	1ST	UCAR T1	18111217
328240	461872	3.386578	0.000136	0	0	0	1-HR	ALL	1ST	UCAR T1	18091620
328340	461872	3.226554	0.000143	0	0	0	1-HR	ALL	1ST	UCAR T1	18112123
328440	461872	2.984058	0.000161	0	0	0	1-HR	ALL	1ST	UCAR T1	18112123
328540	461872	2.793527	0.000154	0	0	0	1-HR	ALL	1ST	UCAR T1	18112123
324540	461972	3.340764	0.000158	0	0	0	1-HR	ALL	1ST	UCAR T1	18093014
324640	461972	3.805896	0.000167	0	0	0	1-HR	ALL	1ST	UCAR T1	18093014
324740	461972	4.10357	0.000168	0	0	0	1-HR	ALL	1ST	UCAR T1	18093014
324840	461972	4.118979	0.00016	0	0	0	1-HR	ALL	1ST	UCAR T1	18093014
324940	461972	3.765362	0.000142	0	0	0	1-HR	ALL	1ST	UCAR T1	18093014

325040	461972	3.043534	0.000138	0	0	0	1-HR	ALL	1ST	UCAR T1	18021602
325140	461972	2.5881	0.000185	0	0	0	1-HR	ALL	1ST	UCAR T1	18112201
325240	461972	2.965706	0.000253	0	0	0	1-HR	ALL	1ST	UCAR T1	18112201
325340	461972	3.392681	0.000297	0	0	0	1-HR	ALL	1ST	UCAR T1	18112201
325440	461972	2.929884	0.000279	0	0	0	1-HR	ALL	1ST	UCAR T1	18112201
325540	461972	2.045483	0.000215	0	0	0	1-HR	ALL	1ST	UCAR T1	18102617
325640	461972	2.2378	0.000344	0	0	0	1-HR	ALL	1ST	UCAR T1	18102617
325740	461972	2.114096	0.000293	0	0	0	1-HR	ALL	1ST	UCAR T1	18022802
325840	461972	3.924663	0.000257	0	0	0	1-HR	ALL	1ST	UCAR T1	18030514
325940	461972	4.086389	0.000323	0	0	0	1-HR	ALL	1ST	UCAR T1	18111220
326040	461972	4.910912	0.000201	0	0	0	1-HR	ALL	1ST	UCAR T1	18021313
326140	461972	3.549144	0.000416	0	0	0	1-HR	ALL	1ST	UCAR T1	18112713
326240	461972	3.231884	0.000644	0	0	0	1-HR	ALL	1ST	UCAR T1	18102613
326340	461972	3.684668	0.00044	0	0	0	1-HR	ALL	1ST	UCAR T1	18102616
326440	461972	3.378798	0.000941	0	0	0	1-HR	ALL	1ST	UCAR T1	18012415
326540	461972	3.553858	0.000254	0	0	0	1-HR	ALL	1ST	UCAR T1	18022018
326640	461972	3.427309	0.00029	0	0	0	1-HR	ALL	1ST	UCAR T1	18022415



326740	461972	3.341483	0.001349	0	0	0	1-HR	ALL	1ST	UCAR T1	18031524
326840	461972	3.329937	0.000637	0	0	0	1-HR	ALL	1ST	UCAR T1	18112124
326940	461972	2.933391	0.000406	0	0	0	1-HR	ALL	1ST	UCAR T1	18112124
327040	461972	3.290567	0.000594	0	0	0	1-HR	ALL	1ST	UCAR T1	18120316
327140	461972	2.561495	0.000366	0	0	0	1-HR	ALL	1ST	UCAR T1	18100207
327240	461972	3.734697	0.00036	0	0	0	1-HR	ALL	1ST	UCAR T1	18100207
327340	461972	3.949731	0.000361	0	0	0	1-HR	ALL	1ST	UCAR T1	18032920
327440	461972	2.952322	0.000455	0	0	0	1-HR	ALL	1ST	UCAR T1	18032920
327540	461972	3.832369	0.000327	0	0	0	1-HR	ALL	1ST	UCAR T1	18032920
327640	461972	3.818492	0.000278	0	0	0	1-HR	ALL	1ST	UCAR T1	18052617
327740	461972	3.905491	0.000215	0	0	0	1-HR	ALL	1ST	UCAR T1	18052617
327840	461972	3.839175	0.000201	0	0	0	1-HR	ALL	1ST	UCAR T1	18111217
327940	461972	3.564249	0.000167	1.4	1.4	0	1-HR	ALL	1ST	UCAR T1	18091620
328040	461972	3.406662	0.000175	2.9	2.9	0	1-HR	ALL	1ST	UCAR T1	18112123
328140	461972	3.129019	0.000195	3.6	3.6	0	1-HR	ALL	1ST	UCAR T1	18112123
328240	461972	3.068521	0.000176	1.1	1.1	0	1-HR	ALL	1ST	UCAR T1	18112123
328340	461972	2.992918	0.000182	0	0	0	1-HR	ALL	1ST	UCAR T1	18111214

328440	461972	3.092727	0.000173	0	0	0	1-HR	ALL	1ST	UCAR T1	18111214
328540	461972	3.047072	0.000145	0	0	0	1-HR	ALL	1ST	UCAR T1	18072401
324540	462072	2.636984	0.000117	0	0	0	1-HR	ALL	1ST	UCAR T1	18021217
324640	462072	2.823361	0.000133	0	0	0	1-HR	ALL	1ST	UCAR T1	18093014
324740	462072	2.903968	0.000159	0	0	0	1-HR	ALL	1ST	UCAR T1	18093014
324840	462072	3.304621	0.000183	0	0	0	1-HR	ALL	1ST	UCAR T1	18093014
324940	462072	4.069228	0.000204	0	0	0	1-HR	ALL	1ST	UCAR T1	18093014
325040	462072	4.711291	0.000217	0	0	0	1-HR	ALL	1ST	UCAR T1	18093014
325140	462072	5.00717	0.000216	0	0	0	1-HR	ALL	1ST	UCAR T1	18093014
325240	462072	4.721908	0.000198	0	0	0	1-HR	ALL	1ST	UCAR T1	18093014
325340	462072	3.762135	0.000167	0	0	0	1-HR	ALL	1ST	UCAR T1	18021602
325440	462072	2.356123	0.000258	0	0	0	1-HR	ALL	1ST	UCAR T1	18112201
325540	462072	3.041605	0.000351	0	0	0	1-HR	ALL	1ST	UCAR T1	18112201
325640	462072	2.907461	0.000371	0	0	0	1-HR	ALL	1ST	UCAR T1	18112201
325740	462072	2.169478	0.000269	0	0	0	1-HR	ALL	1ST	UCAR T1	18112201
325840	462072	2.495052	0.000403	0	0	0	1-HR	ALL	1ST	UCAR T1	18102617
325940	462072	2.786724	0.000302	0	0	0	1-HR	ALL	1ST	UCAR T1	18022802

326040	462072	4.061162	0.000328	0	0	0	1-HR	ALL	1ST	UCAR T1	18030514
326140	462072	4.713165	0.000279	0	0	0	1-HR	ALL	1ST	UCAR T1	18110706
326240	462072	4.17751	0.000543	0	0	0	1-HR	ALL	1ST	UCAR T1	18112713
326340	462072	3.517662	0.000989	0	0	0	1-HR	ALL	1ST	UCAR T1	18102613
326440	462072	4.204208	0.000861	0	0	0	1-HR	ALL	1ST	UCAR T1	18102616
326540	462072	3.804537	0.000325	0	0	0	1-HR	ALL	1ST	UCAR T1	18022018
326640	462072	3.805752	0.000841	0	0	0	1-HR	ALL	1ST	UCAR T1	18031523
326740	462072	4.080314	0.001265	0	0	0	1-HR	ALL	1ST	UCAR T1	18031522
326840	462072	3.243478	0.000712	0	0	0	1-HR	ALL	1ST	UCAR T1	18112124
326940	462072	3.684804	0.000733	0	0	0	1-HR	ALL	1ST	UCAR T1	18120316
327040	462072	3.302907	0.000509	0	0	0	1-HR	ALL	1ST	UCAR T1	18100207
327140	462072	3.865585	0.000396	0	0	0	1-HR	ALL	1ST	UCAR T1	18100207
327240	462072	3.092219	0.000576	0	0	0	1-HR	ALL	1ST	UCAR T1	18032920
327340	462072	3.922883	0.000425	0	0	0	1-HR	ALL	1ST	UCAR T1	18032920
327440	462072	4.415851	0.000346	0	0	0	1-HR	ALL	1ST	UCAR T1	18052617
327540	462072	4.171352	0.000252	0	0	0	1-HR	ALL	1ST	UCAR T1	18111217
327640	462072	4.204324	0.000217	0	0	0	1-HR	ALL	1ST	UCAR T1	18111217

327740	462072	3.628047	0.000224	0.9	0.9	0	1-HR	ALL	1ST	UCAR T1	18052616
327840	462072	3.405902	0.000242	1.8	1.8	0	1-HR	ALL	1ST	UCAR T1	18052616
327940	462072	3.412619	0.000222	2.8	2.8	0	1-HR	ALL	1ST	UCAR T1	18111214
328040	462072	3.424001	0.000223	4.2	4.2	0	1-HR	ALL	1ST	UCAR T1	18111214
328140	462072	3.425182	0.000183	4.6	4.6	0	1-HR	ALL	1ST	UCAR T1	18072401
328240	462072	3.339065	0.000143	2.6	2.6	0	1-HR	ALL	1ST	UCAR T1	18072401
328340	462072	3.382671	0.000148	0	0	0	1-HR	ALL	1ST	UCAR T1	18111215
328440	462072	3.243653	0.000163	0	0	0	1-HR	ALL	1ST	UCAR T1	18111215
328540	462072	2.999015	0.000165	0	0	0	1-HR	ALL	1ST	UCAR T1	18111215
324540	462172	2.214796	0.000124	0	0	0	1-HR	ALL	1ST	UCAR T1	18112716
324640	462172	2.42424	0.000119	0	0	0	1-HR	ALL	1ST	UCAR T1	18112716
324740	462172	2.594191	0.000111	0	0	0	1-HR	ALL	1ST	UCAR T1	18112716
324840	462172	2.693795	0.00011	0	0	0	1-HR	ALL	1ST	UCAR T1	18021217
324940	462172	2.687041	0.000132	0	0	0	1-HR	ALL	1ST	UCAR T1	18021217
325040	462172	2.698836	0.000158	0	0	0	1-HR	ALL	1ST	UCAR T1	18093014
325140	462172	2.856463	0.000198	0	0	0	1-HR	ALL	1ST	UCAR T1	18093014
325240	462172	3.736187	0.000239	0	0	0	1-HR	ALL	1ST	UCAR T1	18093014

325340	462172	4.836926	0.000275	0	0	0	1-HR	ALL	1ST	UCAR T1	18093014
325440	462172	5.657038	0.000296	0	0	0	1-HR	ALL	1ST	UCAR T1	18093014
325540	462172	5.647141	0.000287	0	0	0	1-HR	ALL	1ST	UCAR T1	18093014
325640	462172	4.391776	0.000241	0	0	0	1-HR	ALL	1ST	UCAR T1	18093014
325740	462172	2.500739	0.000386	0	0	0	1-HR	ALL	1ST	UCAR T1	18112201
325840	462172	2.899909	0.000497	0	0	0	1-HR	ALL	1ST	UCAR T1	18112201
325940	462172	2.920056	0.000395	0	0	0	1-HR	ALL	1ST	UCAR T1	18112201
326040	462172	3.253273	0.000443	0	0	0	1-HR	ALL	1ST	UCAR T1	18102617
326140	462172	3.709492	0.000455	0	0	0	1-HR	ALL	1ST	UCAR T1	18030514
326240	462172	4.44481	0.000421	0	0	0	1-HR	ALL	1ST	UCAR T1	18110706
326340	462172	4.574135	0.000699	0	0	0	1-HR	ALL	1ST	UCAR T1	18112713
326440	462172	4.851716	0.001499	0	0	0	1-HR	ALL	1ST	UCAR T1	18102616
326540	462172	4.045455	0.000462	0	0	0	1-HR	ALL	1ST	UCAR T1	18032922
326640	462172	4.418003	0.001804	0	0	0	1-HR	ALL	1ST	UCAR T1	18031523
326740	462172	4.063817	0.001113	0	0	0	1-HR	ALL	1ST	UCAR T1	18112124
326840	462172	3.943677	0.000952	0	0	0	1-HR	ALL	1ST	UCAR T1	18120316
326940	462172	4.161894	0.000717	0	0	0	1-HR	ALL	1ST	UCAR T1	18100207

327040	462172	4.466715	0.000721	0	0	0	1-HR	ALL	1ST	UCAR T1	18032920
327140	462172	4.004594	0.000582	0	0	0	1-HR	ALL	1ST	UCAR T1	18032920
327240	462172	4.728301	0.000417	0	0	0	1-HR	ALL	1ST	UCAR T1	18052617
327340	462172	4.469405	0.00032	0	0	0	1-HR	ALL	1ST	UCAR T1	18111217
327440	462172	4.440748	0.000305	0	0	0	1-HR	ALL	1ST	UCAR T1	18052616
327540	462172	4.09277	0.00031	0	0	0	1-HR	ALL	1ST	UCAR T1	18052616
327640	462172	3.967098	0.000303	0.4	0.4	0	1-HR	ALL	1ST	UCAR T1	18111214
327740	462172	4.115429	0.000243	2	2	0	1-HR	ALL	1ST	UCAR T1	18111214
327840	462172	3.98929	0.000191	2.9	2.9	0	1-HR	ALL	1ST	UCAR T1	18052619
327940	462172	3.954134	0.00022	3.6	3.6	0	1-HR	ALL	1ST	UCAR T1	18111215
328040	462172	3.644489	0.000223	4	4	0	1-HR	ALL	1ST	UCAR T1	18111215
328140	462172	3.36928	0.000203	3.3	3.3	0	1-HR	ALL	1ST	UCAR T1	18111215
328240	462172	3.405078	0.000181	2.1	2.1	0	1-HR	ALL	1ST	UCAR T1	18072324
328340	462172	3.476626	0.000165	0	0	0	1-HR	ALL	1ST	UCAR T1	18072324
328440	462172	3.398694	0.000145	0	0	0	1-HR	ALL	1ST	UCAR T1	18072324
328540	462172	3.304466	0.000127	0	0	0	1-HR	ALL	1ST	UCAR T1	18072402
324540	462272	3.043054	0.000161	0	0	0	1-HR	ALL	1ST	UCAR T1	18112716

324640	462272	2.922095	0.000172	0	0	0	1-HR	ALL	1ST	UCAR T1	18112716
324740	462272	2.911094	0.000183	0	0	0	1-HR	ALL	1ST	UCAR T1	18112716
324840	462272	2.918863	0.000193	0	0	0	1-HR	ALL	1ST	UCAR T1	18112716
324940	462272	2.86446	0.000201	0	0	0	1-HR	ALL	1ST	UCAR T1	18112716
325040	462272	2.731706	0.000207	0	0	0	1-HR	ALL	1ST	UCAR T1	18112716
325140	462272	2.506535	0.000208	0	0	0	1-HR	ALL	1ST	UCAR T1	18112716
325240	462272	2.182028	0.000204	0	0	0	1-HR	ALL	1ST	UCAR T1	18112716
325340	462272	2.039593	0.000193	0	0	0	1-HR	ALL	1ST	UCAR T1	18112716
325440	462272	2.196988	0.000181	0	0	0	1-HR	ALL	1ST	UCAR T1	18093014
325540	462272	2.236686	0.000248	0	0	0	1-HR	ALL	1ST	UCAR T1	18093014
325640	462272	3.461634	0.000326	0	0	0	1-HR	ALL	1ST	UCAR T1	18093014
325740	462272	4.789024	0.000402	0	0	0	1-HR	ALL	1ST	UCAR T1	18093014
325840	462272	5.33593	0.000441	0	0	0	1-HR	ALL	1ST	UCAR T1	18093014
325940	462272	3.907814	0.000396	0	0	0	1-HR	ALL	1ST	UCAR T1	18093014
326040	462272	3.854292	0.000643	0	0	0	1-HR	ALL	1ST	UCAR T1	18112201
326140	462272	4.18353	0.000642	0	0	0	1-HR	ALL	1ST	UCAR T1	18112201
326240	462272	4.055788	0.000606	0	0	0	1-HR	ALL	1ST	UCAR T1	18022802



326340	462272	4.870343	0.000712	0	0	0	1-HR	ALL	1ST	UCAR T1	18110706
326440	462272	4.577863	0.001839	0	0	0	1-HR	ALL	1ST	UCAR T1	18102613
326540	462272	4.583194	0.000782	0	0	0	1-HR	ALL	1ST	UCAR T1	18032922
326640	462272	4.416533	0.002891	0	0	0	1-HR	ALL	1ST	UCAR T1	18031522
326740	462272	4.758894	0.001348	0	0	0	1-HR	ALL	1ST	UCAR T1	18120316
326840	462272	5.080186	0.00091	0	0	0	1-HR	ALL	1ST	UCAR T1	18100207
326940	462272	4.773983	0.000876	0	0	0	1-HR	ALL	1ST	UCAR T1	18032920
327040	462272	4.77884	0.000514	0	0	0	1-HR	ALL	1ST	UCAR T1	18110707
327140	462272	4.561237	0.000464	0	0	0	1-HR	ALL	1ST	UCAR T1	18052616
327240	462272	5.087409	0.000447	0	0	0	1-HR	ALL	1ST	UCAR T1	18111214
327340	462272	5.985767	0.000359	0	0	0	1-HR	ALL	1ST	UCAR T1	18111214
327440	462272	5.408536	0.000323	0	0	0	1-HR	ALL	1ST	UCAR T1	18111215
327540	462272	4.642225	0.000336	0	0	0	1-HR	ALL	1ST	UCAR T1	18111215
327640	462272	4.723612	0.000282	0.1	0.1	0	1-HR	ALL	1ST	UCAR T1	18111215
327740	462272	4.494041	0.000243	0.9	0.9	0	1-HR	ALL	1ST	UCAR T1	18072324
327840	462272	4.503998	0.000202	2.5	2.5	0	1-HR	ALL	1ST	UCAR T1	18072324
327940	462272	4.325898	0.000175	3.1	3.1	0	1-HR	ALL	1ST	UCAR T1	18072402

328040	462272	4.023371	0.00015	3.9	3.9	0	1-HR	ALL	1ST	UCAR T1	18072402
328140	462272	3.66432	0.000131	3.9	3.9	0	1-HR	ALL	1ST	UCAR T1	18111213
328240	462272	3.36074	0.000128	1.1	1.1	0	1-HR	ALL	1ST	UCAR T1	18103113
328340	462272	3.299287	0.000131	0	0	0	1-HR	ALL	1ST	UCAR T1	18103113
328440	462272	3.181022	0.00013	0	0	0	1-HR	ALL	1ST	UCAR T1	18103113
328540	462272	3.071959	0.000129	0	0	0	1-HR	ALL	1ST	UCAR T1	18091618
324540	462372	2.982954	0.000122	0	0	0	1-HR	ALL	1ST	UCAR T1	18112717
324640	462372	3.088388	0.000126	0	0	0	1-HR	ALL	1ST	UCAR T1	18112717
324740	462372	3.18814	0.000128	0	0	0	1-HR	ALL	1ST	UCAR T1	18112717
324840	462372	3.272281	0.000132	0	0	0	1-HR	ALL	1ST	UCAR T1	18112716
324940	462372	3.33335	0.00015	0	0	0	1-HR	ALL	1ST	UCAR T1	18112716
325040	462372	3.361783	0.00017	0	0	0	1-HR	ALL	1ST	UCAR T1	18112716
325140	462372	3.345641	0.000193	0	0	0	1-HR	ALL	1ST	UCAR T1	18112716
325240	462372	3.270585	0.00022	0	0	0	1-HR	ALL	1ST	UCAR T1	18112716
325340	462372	3.1203	0.00025	0	0	0	1-HR	ALL	1ST	UCAR T1	18112716
325440	462372	2.872859	0.000285	0	0	0	1-HR	ALL	1ST	UCAR T1	18112716
325540	462372	2.474883	0.000322	0	0	0	1-HR	ALL	1ST	UCAR T1	18112716

325640	462372	2.005443	0.000361	0	0	0	1-HR	ALL	1ST	UCAR T1	18112716
325740	462372	2.307391	0.000398	0	0	0	1-HR	ALL	1ST	UCAR T1	18112716
325840	462372	3.018657	0.000425	0	0	0	1-HR	ALL	1ST	UCAR T1	18112716
325940	462372	3.938256	0.000427	0	0	0	1-HR	ALL	1ST	UCAR T1	18112716
326040	462372	4.482422	0.000469	0	0	0	1-HR	ALL	1ST	UCAR T1	18093014
326140	462372	3.884885	0.0007	0	0	0	1-HR	ALL	1ST	UCAR T1	18093014
326240	462372	4.219656	0.000808	0	0	0	1-HR	ALL	1ST	UCAR T1	18093014
326340	462372	4.582338	0.001266	0	0	0	1-HR	ALL	1ST	UCAR T1	18112201
326440	462372	4.842688	0.001564	0	0	0	1-HR	ALL	1ST	UCAR T1	18110706
326540	462372	5.131419	0.002332	0	0	0	1-HR	ALL	1ST	UCAR T1	18012415
326640	462372	4.035594	0.002342	0	0	0	1-HR	ALL	1ST	UCAR T1	18111218
326740	462372	4.835029	0.001715	0	0	0	1-HR	ALL	1ST	UCAR T1	18012413
326840	462372	4.858757	0.000997	0	0	0	1-HR	ALL	1ST	UCAR T1	18110707
326940	462372	5.546797	0.000662	0	0	0	1-HR	ALL	1ST	UCAR T1	18111214
327040	462372	6.081552	0.000647	0	0	0	1-HR	ALL	1ST	UCAR T1	18111215
327140	462372	7.069239	0.000445	0	0	0	1-HR	ALL	1ST	UCAR T1	18072324
327240	462372	6.315023	0.000332	0	0	0	1-HR	ALL	1ST	UCAR T1	18072402

327340	462372	5.068295	0.000266	0	0	0	1-HR	ALL	1ST	UCAR T1	18103113
327440	462372	4.868949	0.000273	0	0	0	1-HR	ALL	1ST	UCAR T1	18103113
327540	462372	4.734964	0.000282	0	0	0	1-HR	ALL	1ST	UCAR T1	18091618
327640	462372	4.448644	0.000281	0	0	0	1-HR	ALL	1ST	UCAR T1	18091618
327740	462372	4.155166	0.000272	0	0	0	1-HR	ALL	1ST	UCAR T1	18091618
327840	462372	3.870409	0.000256	0.8	0.8	0	1-HR	ALL	1ST	UCAR T1	18091618
327940	462372	3.584017	0.000239	2.6	2.6	0	1-HR	ALL	1ST	UCAR T1	18091618
328040	462372	3.355362	0.00022	3.1	3.1	0	1-HR	ALL	1ST	UCAR T1	18091618
328140	462372	3.279608	0.000205	1.3	1.3	0	1-HR	ALL	1ST	UCAR T1	18072323
328240	462372	3.17442	0.000194	0.1	0.1	0	1-HR	ALL	1ST	UCAR T1	18072323
328340	462372	3.077933	0.000184	0	0	0	1-HR	ALL	1ST	UCAR T1	18072323
328440	462372	2.974815	0.000173	0	0	0	1-HR	ALL	1ST	UCAR T1	18072323
328540	462372	2.973436	0.000164	0	0	0	1-HR	ALL	1ST	UCAR T1	18072323
324540	462472	2.764179	0.000134	0	0	0	1-HR	ALL	1ST	UCAR T1	18112815
324640	462472	2.808682	0.000141	0	0	0	1-HR	ALL	1ST	UCAR T1	18112815
324740	462472	2.844216	0.000148	0	0	0	1-HR	ALL	1ST	UCAR T1	18112815
324840	462472	2.867735	0.000156	0	0	0	1-HR	ALL	1ST	UCAR T1	18112815

324940	462472	2.875446	0.000165	0	0	0	1-HR	ALL	1ST	UCAR T1	18112815
325040	462472	2.862684	0.000174	0	0	0	1-HR	ALL	1ST	UCAR T1	18112815
325140	462472	2.823828	0.000185	0	0	0	1-HR	ALL	1ST	UCAR T1	18112815
325240	462472	2.752191	0.000198	0	0	0	1-HR	ALL	1ST	UCAR T1	18112815
325340	462472	2.640128	0.000212	0	0	0	1-HR	ALL	1ST	UCAR T1	18112815
325440	462472	2.449177	0.000229	0	0	0	1-HR	ALL	1ST	UCAR T1	18112815
325540	462472	2.169639	0.000248	0	0	0	1-HR	ALL	1ST	UCAR T1	18112815
325640	462472	2.406482	0.000271	0	0	0	1-HR	ALL	1ST	UCAR T1	18112815
325740	462472	2.676701	0.000298	0	0	0	1-HR	ALL	1ST	UCAR T1	18112815
325840	462472	2.977405	0.00034	0	0	0	1-HR	ALL	1ST	UCAR T1	18122415
325940	462472	3.264995	0.000408	0	0	0	1-HR	ALL	1ST	UCAR T1	18122415
326040	462472	3.723298	0.0005	0	0	0	1-HR	ALL	1ST	UCAR T1	18122415
326140	462472	4.100132	0.000631	0	0	0	1-HR	ALL	1ST	UCAR T1	18122415
326240	462472	3.946906	0.000829	0	0	0	1-HR	ALL	1ST	UCAR T1	18122415
326340	462472	4.559498	0.001161	0	0	0	1-HR	ALL	1ST	UCAR T1	18122415
326440	462472	3.921722	0.001818	0	0	0	1-HR	ALL	1ST	UCAR T1	18122415
326540	462472	3.732847	0.007539	0	0	0	1-HR	ALL	1ST	UCAR T1	18110713

326640	462472	5.528082	0.001625	0	0	0	1-HR	ALL	1ST	UCAR T1	18091617
326740	462472	5.000104	0.001283	0	0	0	1-HR	ALL	1ST	UCAR T1	18091617
326840	462472	4.444643	0.000983	0	0	0	1-HR	ALL	1ST	UCAR T1	18091617
326940	462472	4.939846	0.000785	0	0	0	1-HR	ALL	1ST	UCAR T1	18091617
327040	462472	4.814872	0.000651	0	0	0	1-HR	ALL	1ST	UCAR T1	18091617
327140	462472	5.130539	0.000556	0	0	0	1-HR	ALL	1ST	UCAR T1	18091617
327240	462472	5.755276	0.000484	0	0	0	1-HR	ALL	1ST	UCAR T1	18091617
327340	462472	5.962652	0.000428	0	0	0	1-HR	ALL	1ST	UCAR T1	18091617
327440	462472	5.909024	0.000383	0	0	0	1-HR	ALL	1ST	UCAR T1	18091617
327540	462472	5.708774	0.000346	0	0	0	1-HR	ALL	1ST	UCAR T1	18091617
327640	462472	5.435294	0.000315	0	0	0	1-HR	ALL	1ST	UCAR T1	18091617
327740	462472	5.122469	0.000289	1.3	1.3	0	1-HR	ALL	1ST	UCAR T1	18091617
327840	462472	4.808324	0.000267	4.1	4.1	0	1-HR	ALL	1ST	UCAR T1	18091617
327940	462472	4.520398	0.000247	4.2	4.2	0	1-HR	ALL	1ST	UCAR T1	18091617
328040	462472	4.251132	0.00023	2.2	2.2	0	1-HR	ALL	1ST	UCAR T1	18091617
328140	462472	3.995771	0.000215	1	1	0	1-HR	ALL	1ST	UCAR T1	18091617
328240	462472	3.758198	0.000201	0	0	0	1-HR	ALL	1ST	UCAR T1	18091617

328340	462472	3.541955	0.000189	0	0	0	1-HR	ALL	1ST	UCAR T1	18091617
328440	462472	3.377733	0.000178	0	0	0	1-HR	ALL	1ST	UCAR T1	18091617
328540	462472	3.270391	0.000168	0	0	0	1-HR	ALL	1ST	UCAR T1	18091617
324540	462572	2.705104	0.000131	0	0	0	1-HR	ALL	1ST	UCAR T1	18021216
324640	462572	2.693824	0.000143	0	0	0	1-HR	ALL	1ST	UCAR T1	18021614
324740	462572	2.658228	0.000157	0	0	0	1-HR	ALL	1ST	UCAR T1	18021614
324840	462572	2.656276	0.000172	0	0	0	1-HR	ALL	1ST	UCAR T1	18021614
324940	462572	2.622587	0.000188	0	0	0	1-HR	ALL	1ST	UCAR T1	18021614
325040	462572	2.547635	0.000207	0	0	0	1-HR	ALL	1ST	UCAR T1	18021614
325140	462572	2.42244	0.000226	0	0	0	1-HR	ALL	1ST	UCAR T1	18021614
325240	462572	2.204273	0.000246	0	0	0	1-HR	ALL	1ST	UCAR T1	18021614
325340	462572	1.895047	0.000266	0	0	0	1-HR	ALL	1ST	UCAR T1	18021614
325440	462572	1.867771	0.000286	0	0	0	1-HR	ALL	1ST	UCAR T1	18021614
325540	462572	1.983431	0.000328	0	0	0	1-HR	ALL	1ST	UCAR T1	18112814
325640	462572	2.088949	0.000372	0	0	0	1-HR	ALL	1ST	UCAR T1	18112814
325740	462572	2.258765	0.000421	0	0	0	1-HR	ALL	1ST	UCAR T1	18032017
325840	462572	2.686205	0.000472	0	0	0	1-HR	ALL	1ST	UCAR T1	18032017



325940	462572	3.090029	0.000437	0	0	0	1-HR	ALL	1ST	UCAR T1	18032017
326040	462572	3.295234	0.000469	0	0	0	1-HR	ALL	1ST	UCAR T1	18021214
326140	462572	4.263426	0.000639	0	0	0	1-HR	ALL	1ST	UCAR T1	18021615
326240	462572	4.649659	0.001356	0	0	0	1-HR	ALL	1ST	UCAR T1	18030516
326340	462572	4.516643	0.001195	0	0	0	1-HR	ALL	1ST	UCAR T1	18110713
326440	462572	5.24172	0.001484	0	0	0	1-HR	ALL	1ST	UCAR T1	18032618
326540	462572	4.070873	0.0015	0	0	0	1-HR	ALL	1ST	UCAR T1	18041701
326640	462572	4.469814	0.001948	0	0	0	1-HR	ALL	1ST	UCAR T1	18030518
326740	462572	4.892218	0.001869	0	0	0	1-HR	ALL	1ST	UCAR T1	18120317
326840	462572	6.697343	0.000908	0.2	0.2	0	1-HR	ALL	1ST	UCAR T1	18072321
326940	462572	6.780694	0.000593	0.1	0.1	0	1-HR	ALL	1ST	UCAR T1	18101322
327040	462572	6.768516	0.000413	0	0	0	1-HR	ALL	1ST	UCAR T1	18043016
327140	462572	6.966066	0.000368	0	0	0	1-HR	ALL	1ST	UCAR T1	18091616
327240	462572	6.595	0.000425	0	0	0	1-HR	ALL	1ST	UCAR T1	18091616
327340	462572	6.992382	0.000395	0	0	0	1-HR	ALL	1ST	UCAR T1	18091616
327440	462572	7.130035	0.000326	0	0	0	1-HR	ALL	1ST	UCAR T1	18091616
327540	462572	6.671031	0.000251	0.1	0.1	0	1-HR	ALL	1ST	UCAR T1	18091616

327640	462572	5.949005	0.00021	0.4	0.4	0	1-HR	ALL	1ST	UCAR T1	18092801
327740	462572	5.143089	0.000185	2.9	2.9	0	1-HR	ALL	1ST	UCAR T1	18092801
327840	462572	4.393305	0.000163	4.2	4.2	0	1-HR	ALL	1ST	UCAR T1	18092801
327940	462572	3.768736	0.000142	3.9	3.9	0	1-HR	ALL	1ST	UCAR T1	18092801
328040	462572	3.580367	0.000129	0.7	0.7	0	1-HR	ALL	1ST	UCAR T1	18090315
328140	462572	3.379588	0.000124	0	0	0	1-HR	ALL	1ST	UCAR T1	18091617
328240	462572	3.430662	0.000125	0	0	0	1-HR	ALL	1ST	UCAR T1	18091617
328340	462572	3.442945	0.000125	0	0	0	1-HR	ALL	1ST	UCAR T1	18091617
328440	462572	3.425516	0.000125	0	0	0	1-HR	ALL	1ST	UCAR T1	18091617
328540	462572	3.385836	0.000124	0	0	0	1-HR	ALL	1ST	UCAR T1	18091617
324540	462672	2.620288	0.000157	0	0	0	1-HR	ALL	1ST	UCAR T1	18112814
324640	462672	2.662515	0.000172	0	0	0	1-HR	ALL	1ST	UCAR T1	18112814
324740	462672	2.719931	0.000187	0	0	0	1-HR	ALL	1ST	UCAR T1	18112814
324840	462672	2.767451	0.0002	0	0	0	1-HR	ALL	1ST	UCAR T1	18112814
324940	462672	2.878866	0.000213	0	0	0	1-HR	ALL	1ST	UCAR T1	18032017
325040	462672	2.980989	0.000237	0	0	0	1-HR	ALL	1ST	UCAR T1	18032017
325140	462672	3.142298	0.000251	0	0	0	1-HR	ALL	1ST	UCAR T1	18032017

325240	462672	3.179576	0.000251	0	0	0	1-HR	ALL	1ST	UCAR T1	18032017
325340	462672	3.200913	0.000229	0	0	0	1-HR	ALL	1ST	UCAR T1	18032017
325440	462672	3.671011	0.000243	0	0	0	1-HR	ALL	1ST	UCAR T1	18021214
325540	462672	3.934884	0.000263	0	0	0	1-HR	ALL	1ST	UCAR T1	18021214
325640	462672	4.26626	0.000261	0	0	0	1-HR	ALL	1ST	UCAR T1	18021214
325740	462672	3.834303	0.000344	0	0	0	1-HR	ALL	1ST	UCAR T1	18021615
325840	462672	2.569514	0.00042	0	0	0	1-HR	ALL	1ST	UCAR T1	18021615
325940	462672	2.968015	0.000658	0	0	0	1-HR	ALL	1ST	UCAR T1	18030516
326040	462672	3.235082	0.000942	0	0	0	1-HR	ALL	1ST	UCAR T1	18030516
326140	462672	3.422061	0.000575	0	0	0	1-HR	ALL	1ST	UCAR T1	18110713
326240	462672	4.377388	0.000792	0	0	0	1-HR	ALL	1ST	UCAR T1	18032617
326340	462672	4.794134	0.000834	0	0	0	1-HR	ALL	1ST	UCAR T1	18032618
326440	462672	4.608256	0.001893	0	0	0	1-HR	ALL	1ST	UCAR T1	18030517
326540	462672	4.734972	0.000572	0	0	0	1-HR	ALL	1ST	UCAR T1	18021717
326640	462672	4.768121	0.001598	0	0	0	1-HR	ALL	1ST	UCAR T1	18120318
326740	462672	4.566768	0.001467	0	0	0	1-HR	ALL	1ST	UCAR T1	18030518
326840	462672	5.328331	0.001034	1.6	1.6	0	1-HR	ALL	1ST	UCAR T1	18120317

326940	462672	5.051786	0.000918	1	1	0	1-HR	ALL	1ST	UCAR T1	18120317
327040	462672	7.606278	0.000534	0	0	0	1-HR	ALL	1ST	UCAR T1	18072321
327140	462672	6.329495	0.000487	0	0	0	1-HR	ALL	1ST	UCAR T1	18072321
327240	462672	6.314084	0.000364	0.2	0.2	0	1-HR	ALL	1ST	UCAR T1	18101322
327340	462672	6.151892	0.000299	0.3	0.3	0	1-HR	ALL	1ST	UCAR T1	18051422
327440	462672	6.273721	0.000219	0.8	0.8	0	1-HR	ALL	1ST	UCAR T1	18043016
327540	462672	5.533336	0.000214	1.5	1.5	0	1-HR	ALL	1ST	UCAR T1	18043016
327640	462672	5.37529	0.000178	3.2	3.2	0	1-HR	ALL	1ST	UCAR T1	18072221
327740	462672	4.770198	0.000202	5.9	5.9	0	1-HR	ALL	1ST	UCAR T1	18091616
327840	462672	4.108427	0.000226	5.8	5.8	0	1-HR	ALL	1ST	UCAR T1	18091616
327940	462672	4.324084	0.000232	3.7	3.7	0	1-HR	ALL	1ST	UCAR T1	18091616
328040	462672	4.344884	0.000222	1.8	1.8	0	1-HR	ALL	1ST	UCAR T1	18091616
328140	462672	4.203992	0.000202	0.1	0.1	0	1-HR	ALL	1ST	UCAR T1	18091616
328240	462672	3.9879	0.000178	0	0	0	1-HR	ALL	1ST	UCAR T1	18091616
328340	462672	3.863561	0.000152	0	0	0	1-HR	ALL	1ST	UCAR T1	18091616
328440	462672	3.680959	0.000134	0	0	0	1-HR	ALL	1ST	UCAR T1	18051423
328540	462672	3.463791	0.00012	0	0	0	1-HR	ALL	1ST	UCAR T1	18051423

324540	462772	2.83874	0.000168	0	0	0	1-HR	ALL	1ST	UCAR T1	18032017
324640	462772	2.915943	0.000163	0	0	0	1-HR	ALL	1ST	UCAR T1	18032017
324740	462772	2.914341	0.00015	0	0	0	1-HR	ALL	1ST	UCAR T1	18032017
324840	462772	3.251727	0.000157	0	0	0	1-HR	ALL	1ST	UCAR T1	18021214
324940	462772	3.674378	0.000172	0	0	0	1-HR	ALL	1ST	UCAR T1	18021214
325040	462772	3.969907	0.000181	0	0	0	1-HR	ALL	1ST	UCAR T1	18021214
325140	462772	4.029493	0.000182	0	0	0	1-HR	ALL	1ST	UCAR T1	18021214
325240	462772	3.780485	0.000172	0	0	0	1-HR	ALL	1ST	UCAR T1	18021214
325340	462772	3.646984	0.000229	0	0	0	1-HR	ALL	1ST	UCAR T1	18021615
325440	462772	3.434293	0.000279	0	0	0	1-HR	ALL	1ST	UCAR T1	18021615
325540	462772	3.258582	0.000297	0	0	0	1-HR	ALL	1ST	UCAR T1	18021615
325640	462772	3.065706	0.000406	0	0	0	1-HR	ALL	1ST	UCAR T1	18030516
325740	462772	2.998624	0.00062	0	0	0	1-HR	ALL	1ST	UCAR T1	18030516
325840	462772	2.647702	0.000537	0	0	0	1-HR	ALL	1ST	UCAR T1	18030516
325940	462772	2.668368	0.000406	0	0	0	1-HR	ALL	1ST	UCAR T1	18112613
326040	462772	3.341947	0.000752	0	0	0	1-HR	ALL	1ST	UCAR T1	18110713
326140	462772	3.401801	0.000584	0	0	0	1-HR	ALL	1ST	UCAR T1	18032619

326240	462772	3.844637	0.000561	0	0	0	1-HR	ALL	1ST	UCAR T1	18032618
326340	462772	4.321843	0.001387	0	0	0	1-HR	ALL	1ST	UCAR T1	18041624
326440	462772	4.129967	0.000475	0	0	0	1-HR	ALL	1ST	UCAR T1	18110520
326540	462772	4.363102	0.000492	0	0	0	1-HR	ALL	1ST	UCAR T1	18021717
326640	462772	4.304239	0.000632	0	0	0	1-HR	ALL	1ST	UCAR T1	18032817
326740	462772	4.910583	0.001089	0	0	0	1-HR	ALL	1ST	UCAR T1	18032814
326840	462772	4.457739	0.001029	0.7	0.7	0	1-HR	ALL	1ST	UCAR T1	18030518
326940	462772	4.731296	0.000534	1	1	0	1-HR	ALL	1ST	UCAR T1	18120317
327040	462772	7.348092	0.000715	0.5	0.5	0	1-HR	ALL	1ST	UCAR T1	18120317
327140	462772	7.037253	0.000542	0.6	0.6	0	1-HR	ALL	1ST	UCAR T1	18120317
327240	462772	6.180103	0.000329	1.3	1.3	0	1-HR	ALL	1ST	UCAR T1	18072321
327340	462772	5.658435	0.000397	1.8	1.8	0	1-HR	ALL	1ST	UCAR T1	18072321
327440	462772	4.930556	0.00032	2.5	2.5	0	1-HR	ALL	1ST	UCAR T1	18072321
327540	462772	4.841935	0.000237	1.3	1.3	0	1-HR	ALL	1ST	UCAR T1	18101322
327640	462772	4.752861	0.000255	1.1	1.1	0	1-HR	ALL	1ST	UCAR T1	18101322
327740	462772	5.286693	0.000207	3.3	3.3	0	1-HR	ALL	1ST	UCAR T1	18051422
327840	462772	5.074227	0.000158	5.2	5.2	0	1-HR	ALL	1ST	UCAR T1	18051422

327940	462772	4.398714	0.000153	4.1	4.1	0	1-HR	ALL	1ST	UCAR T1	18043016
328040	462772	3.718727	0.000144	0.5	0.5	0	1-HR	ALL	1ST	UCAR T1	18043016
328140	462772	3.573819	0.000128	0	0	0	1-HR	ALL	1ST	UCAR T1	18072221
328240	462772	3.293692	0.000115	0	0	0	1-HR	ALL	1ST	UCAR T1	18072221
328340	462772	3.160141	0.000134	0	0	0	1-HR	ALL	1ST	UCAR T1	18091616
328440	462772	3.062901	0.000148	0	0	0	1-HR	ALL	1ST	UCAR T1	18091616
328540	462772	3.179717	0.000155	0	0	0	1-HR	ALL	1ST	UCAR T1	18091616
324540	462872	3.484017	0.000135	0	0	0	1-HR	ALL	1ST	UCAR T1	18021214
324640	462872	3.631587	0.000137	0	0	0	1-HR	ALL	1ST	UCAR T1	18021214
324740	462872	3.616401	0.000134	0	0	0	1-HR	ALL	1ST	UCAR T1	18112913
324840	462872	3.394235	0.000131	0	0	0	1-HR	ALL	1ST	UCAR T1	18021615
324940	462872	3.028842	0.000167	0	0	0	1-HR	ALL	1ST	UCAR T1	18021615
325040	462872	3.153281	0.000201	0	0	0	1-HR	ALL	1ST	UCAR T1	18021615
325140	462872	3.342402	0.000223	0	0	0	1-HR	ALL	1ST	UCAR T1	18021615
325240	462872	3.131801	0.000223	0	0	0	1-HR	ALL	1ST	UCAR T1	18021615
325340	462872	3.173938	0.000277	0	0	0	1-HR	ALL	1ST	UCAR T1	18030516
325440	462872	3.463619	0.000421	0	0	0	1-HR	ALL	1ST	UCAR T1	18030516



325540	462872	3.112601	0.000463	0	0	0	1-HR	ALL	1ST	UCAR T1	18030516
325640	462872	3.163269	0.00032	0	0	0	1-HR	ALL	1ST	UCAR T1	18030516
325740	462872	2.718532	0.000313	0	0	0	1-HR	ALL	1ST	UCAR T1	18112613
325840	462872	3.675658	0.000551	0	0	0	1-HR	ALL	1ST	UCAR T1	18110713
325940	462872	2.668498	0.000434	0	0	0	1-HR	ALL	1ST	UCAR T1	18021619
326040	462872	2.624941	0.000503	0	0	0	1-HR	ALL	1ST	UCAR T1	18032619
326140	462872	3.241848	0.000416	0	0	0	1-HR	ALL	1ST	UCAR T1	18032618
326240	462872	3.200604	0.000635	0	0	0	1-HR	ALL	1ST	UCAR T1	18110712
326340	462872	3.587123	0.000662	0	0	0	1-HR	ALL	1ST	UCAR T1	18030517
326440	462872	5.285625	0.001295	0	0	0	1-HR	ALL	1ST	UCAR T1	18031521
326540	462872	3.879393	0.00043	0	0	0	1-HR	ALL	1ST	UCAR T1	18110715
326640	462872	3.989401	0.000596	0	0	0	1-HR	ALL	1ST	UCAR T1	18032821
326740	462872	3.8848	0.000886	0	0	0	1-HR	ALL	1ST	UCAR T1	18120318
326840	462872	3.90233	0.000557	0	0	0	1-HR	ALL	1ST	UCAR T1	18032814
326940	462872	4.609087	0.000759	0.6	0.6	0	1-HR	ALL	1ST	UCAR T1	18030518
327040	462872	6.039223	0.000333	1.4	1.4	0	1-HR	ALL	1ST	UCAR T1	18102414
327140	462872	5.76784	0.000475	2	2	0	1-HR	ALL	1ST	UCAR T1	18120317

327240	462872	6.653485	0.000482	1.9	1.9	0	1-HR	ALL	1ST	UCAR T1	18120317
327340	462872	6.20069	0.000352	1.8	1.8	0	1-HR	ALL	1ST	UCAR T1	18120317
327440	462872	4.465077	0.000268	1.7	1.7	0	1-HR	ALL	1ST	UCAR T1	18050523
327540	462872	4.66869	0.000298	0.3	0.3	0	1-HR	ALL	1ST	UCAR T1	18072321
327640	462872	4.300627	0.000295	0	0	0	1-HR	ALL	1ST	UCAR T1	18072321
327740	462872	4.028771	0.000232	0	0	0	1-HR	ALL	1ST	UCAR T1	18072321
327840	462872	3.639904	0.000168	0.9	0.9	0	1-HR	ALL	1ST	UCAR T1	18101322
327940	462872	3.853117	0.000202	1.8	1.8	0	1-HR	ALL	1ST	UCAR T1	18101322
328040	462872	3.995473	0.000182	0.3	0.3	0	1-HR	ALL	1ST	UCAR T1	18101322
328140	462872	4.139007	0.000157	0	0	0	1-HR	ALL	1ST	UCAR T1	18051422
328240	462872	3.947754	0.000125	0	0	0	1-HR	ALL	1ST	UCAR T1	18051422
328340	462872	3.543496	0.000115	0	0	0	1-HR	ALL	1ST	UCAR T1	18043016
328440	462872	3.041234	0.000114	0	0	0	1-HR	ALL	1ST	UCAR T1	18043016
328540	462872	2.850847	0.000107	0	0	0	1-HR	ALL	1ST	UCAR T1	18043016
324540	462972	2.800273	0.000129	0	0	0	1-HR	ALL	1ST	UCAR T1	18021615
324640	462972	2.85087	0.000153	0	0	0	1-HR	ALL	1ST	UCAR T1	18021615
324740	462972	2.9381	0.000172	0	0	0	1-HR	ALL	1ST	UCAR T1	18021615

324840	462972	2.999025	0.000181	0	0	0	1-HR	ALL	1ST	UCAR T1	18021615
324940	462972	2.79215	0.000178	0	0	0	1-HR	ALL	1ST	UCAR T1	18111513
325040	462972	3.12734	0.000204	0	0	0	1-HR	ALL	1ST	UCAR T1	18112813
325140	462972	3.317945	0.0003	0	0	0	1-HR	ALL	1ST	UCAR T1	18030516
325240	462972	3.160193	0.000361	0	0	0	1-HR	ALL	1ST	UCAR T1	18030516
325340	462972	3.163609	0.000326	0	0	0	1-HR	ALL	1ST	UCAR T1	18030516
325440	462972	3.385327	0.000201	0	0	0	1-HR	ALL	1ST	UCAR T1	18030516
325540	462972	2.971607	0.000254	0	0	0	1-HR	ALL	1ST	UCAR T1	18112613
325640	462972	3.845212	0.000399	0	0	0	1-HR	ALL	1ST	UCAR T1	18110713
325740	462972	3.261572	0.000378	0	0	0	1-HR	ALL	1ST	UCAR T1	18110713
325840	462972	2.259384	0.000287	0	0	0	1-HR	ALL	1ST	UCAR T1	18021619
325940	462972	2.002552	0.000391	0	0	0	1-HR	ALL	1ST	UCAR T1	18021618
326040	462972	2.769148	0.000326	0	0	0	1-HR	ALL	1ST	UCAR T1	18032618
326140	462972	3.060572	0.000466	0	0	0	1-HR	ALL	1ST	UCAR T1	18110714
326240	462972	3.283	0.00103	0	0	0	1-HR	ALL	1ST	UCAR T1	18030517
326340	462972	3.228098	0.000281	0	0	0	1-HR	ALL	1ST	UCAR T1	18110520
326440	462972	4.662418	0.000996	0	0	0	1-HR	ALL	1ST	UCAR T1	18031521

326540	462972	3.521352	0.000376	0	0	0	1-HR	ALL	1ST	UCAR T1	18110715
326640	462972	3.380281	0.000433	0	0	0	1-HR	ALL	1ST	UCAR T1	18041702
326740	462972	6.340668	0.000682	0	0	0	1-HR	ALL	1ST	UCAR T1	18120319
326840	462972	6.514128	0.000585	0	0	0	1-HR	ALL	1ST	UCAR T1	18032814
326940	462972	4.519163	0.000357	0	0	0	1-HR	ALL	1ST	UCAR T1	18041719
327040	462972	4.874419	0.000587	0.1	0.1	0	1-HR	ALL	1ST	UCAR T1	18030518
327140	462972	6.263561	0.000306	1.1	1.1	0	1-HR	ALL	1ST	UCAR T1	18111013
327240	462972	4.581934	0.000303	1	1	0	1-HR	ALL	1ST	UCAR T1	18120317
327340	462972	5.721847	0.000385	0.6	0.6	0	1-HR	ALL	1ST	UCAR T1	18032919
327440	462972	5.742213	0.000335	0.3	0.3	0	1-HR	ALL	1ST	UCAR T1	18120317
327540	462972	5.043265	0.000284	0	0	0	1-HR	ALL	1ST	UCAR T1	18111014
327640	462972	3.975188	0.000231	0	0	0	1-HR	ALL	1ST	UCAR T1	18050523
327740	462972	4.013742	0.000227	0	0	0	1-HR	ALL	1ST	UCAR T1	18102413
327840	462972	4.183594	0.000248	0	0	0	1-HR	ALL	1ST	UCAR T1	18072321
327940	462972	3.489359	0.000226	0	0	0	1-HR	ALL	1ST	UCAR T1	18072321
328040	462972	3.430425	0.000177	0	0	0	1-HR	ALL	1ST	UCAR T1	18072321
328140	462972	3.245382	0.00013	0	0	0	1-HR	ALL	1ST	UCAR T1	18091615

328240	462972	3.120135	0.000159	0	0	0	1-HR	ALL	1ST	UCAR T1	18101322
328340	462972	3.441542	0.000161	0	0	0	1-HR	ALL	1ST	UCAR T1	18101322
328440	462972	3.505242	0.000138	0	0	0	1-HR	ALL	1ST	UCAR T1	18051422
328540	462972	3.335783	0.000125	0	0	0	1-HR	ALL	1ST	UCAR T1	18051422
324540	463072	2.622995	0.000148	0	0	0	1-HR	ALL	1ST	UCAR T1	18021615
324640	463072	2.613109	0.000146	0	0	0	1-HR	ALL	1ST	UCAR T1	18111513
324740	463072	2.922508	0.000167	0	0	0	1-HR	ALL	1ST	UCAR T1	18112813
324840	463072	2.992191	0.000222	0	0	0	1-HR	ALL	1ST	UCAR T1	18030516
324940	463072	3.037474	0.000278	0	0	0	1-HR	ALL	1ST	UCAR T1	18030516
325040	463072	3.168619	0.000285	0	0	0	1-HR	ALL	1ST	UCAR T1	18030516
325140	463072	2.939618	0.000228	0	0	0	1-HR	ALL	1ST	UCAR T1	18030516
325240	463072	3.326894	0.000164	0	0	0	1-HR	ALL	1ST	UCAR T1	18111514
325340	463072	2.957077	0.000212	0	0	0	1-HR	ALL	1ST	UCAR T1	18112613
325440	463072	3.570324	0.000298	0	0	0	1-HR	ALL	1ST	UCAR T1	18110713
325540	463072	3.766563	0.000346	0	0	0	1-HR	ALL	1ST	UCAR T1	18110713
325640	463072	2.119431	0.000293	0	0	0	1-HR	ALL	1ST	UCAR T1	18021619
325740	463072	1.804758	0.000314	0	0	0	1-HR	ALL	1ST	UCAR T1	18032619

325840	463072	1.804363	0.000322	0	0	0	1-HR	ALL	1ST	UCAR T1	18032620
325940	463072	2.319717	0.000265	0	0	0	1-HR	ALL	1ST	UCAR T1	18032618
326040	463072	2.644109	0.000463	0	0	0	1-HR	ALL	1ST	UCAR T1	18110714
326140	463072	2.99647	0.000743	0	0	0	1-HR	ALL	1ST	UCAR T1	18041624
326240	463072	2.826538	0.000367	0	0	0	1-HR	ALL	1ST	UCAR T1	18041623
326340	463072	4.432144	0.000238	0	0	0	1-HR	ALL	1ST	UCAR T1	18110520
326440	463072	2.833606	0.000664	0	0	0	1-HR	ALL	1ST	UCAR T1	18041701
326540	463072	3.177652	0.000331	0	0	0	1-HR	ALL	1ST	UCAR T1	18110715
326640	463072	3.111261	0.000427	0	0	0	1-HR	ALL	1ST	UCAR T1	18032820
326740	463072	5.597975	0.000425	0	0	0	1-HR	ALL	1ST	UCAR T1	18032817
326840	463072	3.370147	0.000569	0	0	0	1-HR	ALL	1ST	UCAR T1	18120318
326940	463072	4.541458	0.000605	0	0	0	1-HR	ALL	1ST	UCAR T1	18032814
327040	463072	6.250316	0.000267	0	0	0	1-HR	ALL	1ST	UCAR T1	18030518
327140	463072	4.920527	0.000471	0	0	0	1-HR	ALL	1ST	UCAR T1	18030518
327240	463072	5.801478	0.000284	0	0	0	1-HR	ALL	1ST	UCAR T1	18111013
327340	463072	4.693434	0.000222	0	0	0	1-HR	ALL	1ST	UCAR T1	18102414
327440	463072	4.421281	0.000304	0	0	0	1-HR	ALL	1ST	UCAR T1	18032919

327540	463072	5.009512	0.000281	0	0	0	1-HR	ALL	1ST	UCAR T1	18120317
327640	463072	4.944077	0.000246	0	0	0	1-HR	ALL	1ST	UCAR T1	18111014
327740	463072	4.419031	0.000236	0	0	0	1-HR	ALL	1ST	UCAR T1	18111014
327840	463072	3.680368	0.0002	0	0	0	1-HR	ALL	1ST	UCAR T1	18050523
327940	463072	3.459225	0.000176	0	0	0	1-HR	ALL	1ST	UCAR T1	18102413
328040	463072	3.746309	0.0002	0	0	0	1-HR	ALL	1ST	UCAR T1	18072321
328140	463072	3.465995	0.000203	0	0	0	1-HR	ALL	1ST	UCAR T1	18072321
328240	463072	3.090565	0.000178	0	0	0	1-HR	ALL	1ST	UCAR T1	18072321
328340	463072	3.088404	0.000141	0	0	0	1-HR	ALL	1ST	UCAR T1	18091615
328440	463072	2.912207	0.000113	0	0	0	1-HR	ALL	1ST	UCAR T1	18091615
328540	463072	2.880422	0.000127	0	0	0	1-HR	ALL	1ST	UCAR T1	18101322
324540	463172	2.748526	0.000169	0	0	0	1-HR	ALL	1ST	UCAR T1	18030516
324640	463172	2.771706	0.000216	0	0	0	1-HR	ALL	1ST	UCAR T1	18030516
324740	463172	2.874673	0.000238	0	0	0	1-HR	ALL	1ST	UCAR T1	18030516
324840	463172	2.972185	0.000218	0	0	0	1-HR	ALL	1ST	UCAR T1	18030516
324940	463172	2.819499	0.000161	0	0	0	1-HR	ALL	1ST	UCAR T1	18030516
325040	463172	3.143402	0.000136	0	0	0	1-HR	ALL	1ST	UCAR T1	18111514

325140	463172	2.81753	0.000181	0	0	0	1-HR	ALL	1ST	UCAR T1	18112613
325240	463172	3.170968	0.00023	0	0	0	1-HR	ALL	1ST	UCAR T1	18110713
325340	463172	3.714616	0.000292	0	0	0	1-HR	ALL	1ST	UCAR T1	18110713
325440	463172	2.846632	0.000274	0	0	0	1-HR	ALL	1ST	UCAR T1	18032617
325540	463172	1.589434	0.000213	0	0	0	1-HR	ALL	1ST	UCAR T1	18021619
325640	463172	1.412912	0.000302	0	0	0	1-HR	ALL	1ST	UCAR T1	18032619
325740	463172	1.579487	0.000306	0	0	0	1-HR	ALL	1ST	UCAR T1	18032618
325840	463172	1.934004	0.000221	0	0	0	1-HR	ALL	1ST	UCAR T1	18032618
325940	463172	2.216997	0.00041	0	0	0	1-HR	ALL	1ST	UCAR T1	18110714
326040	463172	2.347696	0.000423	0	0	0	1-HR	ALL	1ST	UCAR T1	18041624
326140	463172	2.486252	0.000699	0	0	0	1-HR	ALL	1ST	UCAR T1	18030517
326240	463172	3.686641	0.000195	0	0	0	1-HR	ALL	1ST	UCAR T1	18110615
326340	463172	6.872467	0.000502	0	0	0	1-HR	ALL	1ST	UCAR T1	18031521
326440	463172	2.587147	0.000436	0	0	0	1-HR	ALL	1ST	UCAR T1	18041701
326540	463172	2.80381	0.000294	0	0	0	1-HR	ALL	1ST	UCAR T1	18110715
326640	463172	2.867415	0.000392	0	0	0	1-HR	ALL	1ST	UCAR T1	18032820
326740	463172	3.717619	0.000369	0	0	0	1-HR	ALL	1ST	UCAR T1	18021714



326840	463172	5.07278	0.000571	0	0	0	1-HR	ALL	1ST	UCAR T1	18120318
326940	463172	6.309609	0.000332	0	0	0	1-HR	ALL	1ST	UCAR T1	18032814
327040	463172	3.740504	0.000366	0	0	0	1-HR	ALL	1ST	UCAR T1	18032814
327140	463172	6.570182	0.000298	0	0	0	1-HR	ALL	1ST	UCAR T1	18030518
327240	463172	5.095736	0.000388	0	0	0	1-HR	ALL	1ST	UCAR T1	18030518
327340	463172	5.139282	0.000261	0	0	0	1-HR	ALL	1ST	UCAR T1	18111013
327440	463172	4.361402	0.00021	0	0	0	1-HR	ALL	1ST	UCAR T1	18102414
327540	463172	4.081452	0.000222	0	0	0	1-HR	ALL	1ST	UCAR T1	18101324
327640	463172	4.015899	0.000284	0	0	0	1-HR	ALL	1ST	UCAR T1	18032919
327740	463172	4.335238	0.000214	0	0	0	1-HR	ALL	1ST	UCAR T1	18120317
327840	463172	4.208372	0.000216	0	0	0	1-HR	ALL	1ST	UCAR T1	18111014
327940	463172	4.207438	0.000201	0	0	0	1-HR	ALL	1ST	UCAR T1	18111014
328040	463172	3.526779	0.000175	0	0	0	1-HR	ALL	1ST	UCAR T1	18050523
328140	463172	3.371492	0.000137	0	0	0	1-HR	ALL	1ST	UCAR T1	18102413
328240	463172	3.248516	0.000167	0	0	0	1-HR	ALL	1ST	UCAR T1	18102413
328340	463172	3.224178	0.000174	0	0	0	1-HR	ALL	1ST	UCAR T1	18072321
328440	463172	2.851392	0.000167	0	0	0	1-HR	ALL	1ST	UCAR T1	18072320

328540	463172	2.821646	0.000144	0	0	0	1-HR	ALL	1ST	UCAR T1	18072321
324540	463272	2.748662	0.000194	0	0	0	1-HR	ALL	1ST	UCAR T1	18030516
324640	463272	2.695969	0.000165	0	0	0	1-HR	ALL	1ST	UCAR T1	18030516
324740	463272	2.790213	0.000127	0	0	0	1-HR	ALL	1ST	UCAR T1	18111514
324840	463272	2.915623	0.000115	0	0	0	1-HR	ALL	1ST	UCAR T1	18111514
324940	463272	2.629481	0.000156	0	0	0	1-HR	ALL	1ST	UCAR T1	18112613
325040	463272	2.772722	0.000182	0	0	0	1-HR	ALL	1ST	UCAR T1	18110713
325140	463272	3.42672	0.000241	0	0	0	1-HR	ALL	1ST	UCAR T1	18110713
325240	463272	3.113964	0.000235	0	0	0	1-HR	ALL	1ST	UCAR T1	18032617
325340	463272	2.367011	0.000216	0	0	0	1-HR	ALL	1ST	UCAR T1	18021619
325440	463272	1.296932	0.000194	0	0	0	1-HR	ALL	1ST	UCAR T1	18032619
325540	463272	1.15153	0.000265	0	0	0	1-HR	ALL	1ST	UCAR T1	18032619
325640	463272	1.368743	0.000283	0	0	0	1-HR	ALL	1ST	UCAR T1	18032618
325740	463272	1.616795	0.000188	0	0	0	1-HR	ALL	1ST	UCAR T1	18032618
325840	463272	1.848456	0.000348	0	0	0	1-HR	ALL	1ST	UCAR T1	18110714
325940	463272	1.808622	0.000282	0	0	0	1-HR	ALL	1ST	UCAR T1	18110712
326040	463272	2.191164	0.000587	0	0	0	1-HR	ALL	1ST	UCAR T1	18041624

326140	463272	2.195239	0.000234	0	0	0	1-HR	ALL	1ST	UCAR T1	18041623
326240	463272	4.370981	0.000228	0	0	0	1-HR	ALL	1ST	UCAR T1	18110520
326340	463272	6.437573	0.000661	0	0	0	1-HR	ALL	1ST	UCAR T1	18031521
326440	463272	2.177906	0.000243	0	0	0	1-HR	ALL	1ST	UCAR T1	18041701
326540	463272	2.451812	0.000264	0	0	0	1-HR	ALL	1ST	UCAR T1	18110715
326640	463272	2.557082	0.000344	0	0	0	1-HR	ALL	1ST	UCAR T1	18032820
326740	463272	3.519031	0.000347	0	0	0	1-HR	ALL	1ST	UCAR T1	18032821
326840	463272	6.508812	0.000457	0	0	0	1-HR	ALL	1ST	UCAR T1	18120319
326940	463272	3.42066	0.0004	0	0	0	1-HR	ALL	1ST	UCAR T1	18120318
327040	463272	5.151383	0.000457	0	0	0	1-HR	ALL	1ST	UCAR T1	18032814
327140	463272	3.808623	0.000231	0	0	0	1-HR	ALL	1ST	UCAR T1	18041719
327240	463272	6.127557	0.000298	0	0	0	1-HR	ALL	1ST	UCAR T1	18030518
327340	463272	5.026819	0.000326	0	0	0	1-HR	ALL	1ST	UCAR T1	18030518
327440	463272	4.496284	0.000239	0	0	0	1-HR	ALL	1ST	UCAR T1	18111013
327540	463272	3.992538	0.00019	0	0	0	1-HR	ALL	1ST	UCAR T1	18102414
327640	463272	3.761142	0.000197	0	0	0	1-HR	ALL	1ST	UCAR T1	18101324
327740	463272	3.905352	0.000232	0	0	0	1-HR	ALL	1ST	UCAR T1	18032919

327840	463272	3.835587	0.000229	0	0	0	1-HR	ALL	1ST	UCAR T1	18032919
327940	463272	3.659571	0.000175	0	0	0	1-HR	ALL	1ST	UCAR T1	18101323
328040	463272	4.098421	0.00019	0	0	0	1-HR	ALL	1ST	UCAR T1	18111014
328140	463272	3.922772	0.000173	0	0	0	1-HR	ALL	1ST	UCAR T1	18111014
328240	463272	3.314957	0.000154	0	0	0	1-HR	ALL	1ST	UCAR T1	18050523
328340	463272	3.190192	0.000121	0	0	0	1-HR	ALL	1ST	UCAR T1	18051420
328440	463272	3.070742	0.000139	0	0	0	1-HR	ALL	1ST	UCAR T1	18102413
328540	463272	2.906966	0.000148	0	0	0	1-HR	ALL	1ST	UCAR T1	18102413
324540	463372	2.716166	0.000113	0	0	0	1-HR	ALL	1ST	UCAR T1	18111514
324640	463372	2.728413	0.000102	0	0	0	1-HR	ALL	1ST	UCAR T1	18112613
324740	463372	2.430573	0.000137	0	0	0	1-HR	ALL	1ST	UCAR T1	18112613
324840	463372	2.416681	0.000158	0	0	0	1-HR	ALL	1ST	UCAR T1	18112613
324940	463372	3.07132	0.000199	0	0	0	1-HR	ALL	1ST	UCAR T1	18110713
325040	463372	3.087878	0.000207	0	0	0	1-HR	ALL	1ST	UCAR T1	18110713
325140	463372	2.716777	0.000209	0	0	0	1-HR	ALL	1ST	UCAR T1	18032617
325240	463372	2.194169	0.000165	0	0	0	1-HR	ALL	1ST	UCAR T1	18021619
325340	463372	1.104496	0.00021	0	0	0	1-HR	ALL	1ST	UCAR T1	18032619

325440	463372	0.962217	0.000228	0	0	0	1-HR	ALL	1ST	UCAR T1	18021618
325540	463372	1.185492	0.000258	0	0	0	1-HR	ALL	1ST	UCAR T1	18032618
325640	463372	1.859467	0.000162	0	0	0	1-HR	ALL	1ST	UCAR T1	18032618
325740	463372	2.14944	0.000292	0	0	0	1-HR	ALL	1ST	UCAR T1	18110714
325840	463372	1.663027	0.000252	0	0	0	1-HR	ALL	1ST	UCAR T1	18112614
325940	463372	1.95339	0.000484	0	0	0	1-HR	ALL	1ST	UCAR T1	18041624
326040	463372	2.985632	0.000456	0	0	0	1-HR	ALL	1ST	UCAR T1	18030517
326140	463372	3.281823	0.000166	0	0	0	1-HR	ALL	1ST	UCAR T1	18110615
326240	463372	3.951998	0.000152	0	0	0	1-HR	ALL	1ST	UCAR T1	18110520
326340	463372	4.671931	0.000566	0	0	0	1-HR	ALL	1ST	UCAR T1	18031521
326440	463372	1.96151	0.000128	0	0	0	1-HR	ALL	1ST	UCAR T1	18041701
326540	463372	2.138482	0.000239	0	0	0	1-HR	ALL	1ST	UCAR T1	18110715
326640	463372	2.248924	0.000294	0	0	0	1-HR	ALL	1ST	UCAR T1	18032820
326740	463372	3.399348	0.000296	0	0	0	1-HR	ALL	1ST	UCAR T1	18032821
326840	463372	5.362215	0.000309	0	0	0	1-HR	ALL	1ST	UCAR T1	18032817
326940	463372	3.315381	0.000453	0	0	0	1-HR	ALL	1ST	UCAR T1	18120318
327040	463372	5.237955	0.000215	0	0	0	1-HR	ALL	1ST	UCAR T1	18101418

327140	463372	3.00516	0.000396	0	0	0	1-HR	ALL	1ST	UCAR T1	18032814
327240	463372	4.140754	0.000223	0	0	0	1-HR	ALL	1ST	UCAR T1	18041719
327340	463372	5.416532	0.000283	0	0	0	1-HR	ALL	1ST	UCAR T1	18030518
327440	463372	4.830872	0.000278	0	0	0	1-HR	ALL	1ST	UCAR T1	18030518
327540	463372	3.934637	0.00022	0	0	0	1-HR	ALL	1ST	UCAR T1	18111013
327640	463372	3.535508	0.000168	0	0	0	1-HR	ALL	1ST	UCAR T1	18102414
327740	463372	3.645557	0.000151	0	0	0	1-HR	ALL	1ST	UCAR T1	18101324
327840	463372	3.875309	0.000167	0	0	0	1-HR	ALL	1ST	UCAR T1	18032919
327940	463372	3.412618	0.000222	0	0	0	1-HR	ALL	1ST	UCAR T1	18032919
328040	463372	3.700708	0.000173	0	0	0	1-HR	ALL	1ST	UCAR T1	18032919
328140	463372	3.376016	0.000154	0	0	0	1-HR	ALL	1ST	UCAR T1	18101323
328240	463372	3.886147	0.000169	0	0	0	1-HR	ALL	1ST	UCAR T1	18111014
328340	463372	3.623851	0.000151	0	0	0	1-HR	ALL	1ST	UCAR T1	18111014
328440	463372	3.088747	0.000137	0	0	0	1-HR	ALL	1ST	UCAR T1	18050523
328540	463372	2.972389	0.000111	0	0	0	1-HR	ALL	1ST	UCAR T1	18051420
324540	463472	2.297945	0.000121	0	0	0	1-HR	ALL	1ST	UCAR T1	18112613
324640	463472	2.111389	0.00014	0	0	0	1-HR	ALL	1ST	UCAR T1	18112613

324740	463472	2.721708	0.000166	0	0	0	1-HR	ALL	1ST	UCAR T1	18110713
324840	463472	2.914498	0.000183	0	0	0	1-HR	ALL	1ST	UCAR T1	18110713
324940	463472	2.716284	0.000191	0	0	0	1-HR	ALL	1ST	UCAR T1	18032617
325040	463472	2.759609	0.000167	0	0	0	1-HR	ALL	1ST	UCAR T1	18021619
325140	463472	1.815683	0.00015	0	0	0	1-HR	ALL	1ST	UCAR T1	18032615
325240	463472	1.01024	0.000209	0	0	0	1-HR	ALL	1ST	UCAR T1	18032619
325340	463472	0.823558	0.000203	0	0	0	1-HR	ALL	1ST	UCAR T1	18021618
325440	463472	1.03056	0.000234	0	0	0	1-HR	ALL	1ST	UCAR T1	18032618
325540	463472	2.045753	0.000145	0	0	0	1-HR	ALL	1ST	UCAR T1	18041101
325640	463472	2.529513	0.000245	0	0	0	1-HR	ALL	1ST	UCAR T1	18110714
325740	463472	1.488257	0.000212	0	0	0	1-HR	ALL	1ST	UCAR T1	18112614
325840	463472	2.177307	0.000324	0	0	0	1-HR	ALL	1ST	UCAR T1	18041624
325940	463472	2.88356	0.000459	0	0	0	1-HR	ALL	1ST	UCAR T1	18030517
326040	463472	2.227718	0.00016	0	0	0	1-HR	ALL	1ST	UCAR T1	18041623
326140	463472	4.223961	0.000165	0	0	0	1-HR	ALL	1ST	UCAR T1	18110520
326240	463472	5.117894	0.000252	0	0	0	1-HR	ALL	1ST	UCAR T1	18031521
326340	463472	2.979505	0.000385	0	0	0	1-HR	ALL	1ST	UCAR T1	18041701

326440	463472	2.276574	0.000076	0	0	0	1-HR	ALL	1ST	UCAR T1	18032708
326540	463472	1.866492	0.000218	0	0	0	1-HR	ALL	1ST	UCAR T1	18110715
326640	463472	1.968912	0.000249	0	0	0	1-HR	ALL	1ST	UCAR T1	18032820
326740	463472	3.238748	0.00023	0	0	0	1-HR	ALL	1ST	UCAR T1	18032821
326840	463472	4.655139	0.000209	0	0	0	1-HR	ALL	1ST	UCAR T1	18021714
326940	463472	4.820625	0.00036	0	0	0	1-HR	ALL	1ST	UCAR T1	18120318
327040	463472	3.414291	0.000296	0	0	0	1-HR	ALL	1ST	UCAR T1	18120318
327140	463472	4.722643	0.000321	0	0	0	1-HR	ALL	1ST	UCAR T1	18032814
327240	463472	3.549029	0.000262	0	0	0	1-HR	ALL	1ST	UCAR T1	18032814
327340	463472	4.320853	0.00018	0	0	0	1-HR	ALL	1ST	UCAR T1	18041719
327440	463472	4.680309	0.000262	0	0	0	1-HR	ALL	1ST	UCAR T1	18030518
327540	463472	4.5776	0.000241	0	0	0	1-HR	ALL	1ST	UCAR T1	18030518
327640	463472	3.759856	0.000202	0	0	0	1-HR	ALL	1ST	UCAR T1	18111013
327740	463472	3.218236	0.000147	0	0	0	1-HR	ALL	1ST	UCAR T1	18102414
327840	463472	3.429535	0.000146	0	0	0	1-HR	ALL	1ST	UCAR T1	18102414
327940	463472	3.522215	0.000165	0	0	0	1-HR	ALL	1ST	UCAR T1	18101324
328040	463472	3.622374	0.000186	0	0	0	1-HR	ALL	1ST	UCAR T1	18032919



328140	463472	3.570751	0.000189	0	0	0	1-HR	ALL	1ST	UCAR T1	18032919
328240	463472	3.359861	0.000133	0	0	0	1-HR	ALL	1ST	UCAR T1	18101323
328340	463472	3.255895	0.000141	0	0	0	1-HR	ALL	1ST	UCAR T1	18111014
328440	463472	3.636773	0.00015	0	0	0	1-HR	ALL	1ST	UCAR T1	18111014
328540	463472	3.337322	0.000134	0	0	0	1-HR	ALL	1ST	UCAR T1	18111014
324540	463572	2.405147	0.000138	0	0	0	1-HR	ALL	1ST	UCAR T1	18110713
324640	463572	2.682704	0.00016	0	0	0	1-HR	ALL	1ST	UCAR T1	18110713
324740	463572	2.528436	0.000164	0	0	0	1-HR	ALL	1ST	UCAR T1	18032617
324840	463572	2.975423	0.000166	0	0	0	1-HR	ALL	1ST	UCAR T1	18032617
324940	463572	2.509155	0.000133	0	0	0	1-HR	ALL	1ST	UCAR T1	18032615
325040	463572	1.402745	0.000145	0	0	0	1-HR	ALL	1ST	UCAR T1	18032619
325140	463572	0.899006	0.000195	0	0	0	1-HR	ALL	1ST	UCAR T1	18032619
325240	463572	0.746062	0.000178	0	0	0	1-HR	ALL	1ST	UCAR T1	18021618
325340	463572	0.900784	0.000211	0	0	0	1-HR	ALL	1ST	UCAR T1	18032618
325440	463572	2.147473	0.000132	0	0	0	1-HR	ALL	1ST	UCAR T1	18041101
325540	463572	2.752828	0.000207	0	0	0	1-HR	ALL	1ST	UCAR T1	18110714
325640	463572	1.315505	0.000214	0	0	0	1-HR	ALL	1ST	UCAR T1	18110714

325740	463572	2.484053	0.000196	0	0	0	1-HR	ALL	1ST	UCAR T1	18041624
325840	463572	2.160347	0.000413	0	0	0	1-HR	ALL	1ST	UCAR T1	18041624
325940	463572	3.073478	0.00031	0	0	0	1-HR	ALL	1ST	UCAR T1	18030517
326040	463572	2.976604	0.000141	0	0	0	1-HR	ALL	1ST	UCAR T1	18110615
326140	463572	3.744847	0.00017	0	0	0	1-HR	ALL	1ST	UCAR T1	18110520
326240	463572	5.104329	0.00037	0	0	0	1-HR	ALL	1ST	UCAR T1	18031521
326340	463572	3.042754	0.000373	0	0	0	1-HR	ALL	1ST	UCAR T1	18041701
326440	463572	2.673897	0.000074	0	0	0	1-HR	ALL	1ST	UCAR T1	18031517
326540	463572	1.864376	0.000201	0	0	0	1-HR	ALL	1ST	UCAR T1	18110715
326640	463572	2.182082	0.000211	0	0	0	1-HR	ALL	1ST	UCAR T1	18032820
326740	463572	3.520645	0.000203	0	0	0	1-HR	ALL	1ST	UCAR T1	18032820
326840	463572	3.879529	0.000256	0	0	0	1-HR	ALL	1ST	UCAR T1	18021714
326940	463572	5.397342	0.00033	0	0	0	1-HR	ALL	1ST	UCAR T1	18120319
327040	463572	3.424153	0.000357	0	0	0	1-HR	ALL	1ST	UCAR T1	18120318
327140	463572	4.252809	0.000171	0	0	0	1-HR	ALL	1ST	UCAR T1	18101418
327240	463572	3.270177	0.000342	0	0	0	1-HR	ALL	1ST	UCAR T1	18032814
327340	463572	3.496904	0.00017	0	0	0	1-HR	ALL	1ST	UCAR T1	18081219

327440	463572	4.208072	0.000131	0	0	0	1-HR	ALL	1ST	UCAR T1	18041719
327540	463572	4.013932	0.000239	0	0	0	1-HR	ALL	1ST	UCAR T1	18030518
327640	463572	4.306151	0.000211	0	0	0	1-HR	ALL	1ST	UCAR T1	18030518
327740	463572	3.616307	0.000186	0	0	0	1-HR	ALL	1ST	UCAR T1	18111013
327840	463572	3.10486	0.000127	0	0	0	1-HR	ALL	1ST	UCAR T1	18102414
327940	463572	3.12224	0.00014	0	0	0	1-HR	ALL	1ST	UCAR T1	18102414
328040	463572	3.301659	0.000145	0	0	0	1-HR	ALL	1ST	UCAR T1	18101324
328140	463572	3.596	0.000141	0	0	0	1-HR	ALL	1ST	UCAR T1	18032919
328240	463572	3.117463	0.000179	0	0	0	1-HR	ALL	1ST	UCAR T1	18032919
328340	463572	3.444184	0.000152	0	0	0	1-HR	ALL	1ST	UCAR T1	18032919
328440	463572	3.053858	0.000128	0	0	0	1-HR	ALL	1ST	UCAR T1	18101323
328540	463572	3.163182	0.00013	0	0	0	1-HR	ALL	1ST	UCAR T1	18111014
324540	463672	2.479552	0.000138	0	0	0	1-HR	ALL	1ST	UCAR T1	18110713
324640	463672	2.926752	0.000157	0	0	0	1-HR	ALL	1ST	UCAR T1	18032617
324740	463672	2.921243	0.000133	0	0	0	1-HR	ALL	1ST	UCAR T1	18021619
324840	463672	2.112719	0.000127	0	0	0	1-HR	ALL	1ST	UCAR T1	18032615
324940	463672	1.036542	0.000154	0	0	0	1-HR	ALL	1ST	UCAR T1	18032619

325040	463672	0.786742	0.000175	0	0	0	1-HR	ALL	1ST	UCAR T1	18032619
325140	463672	0.673889	0.000169	0	0	0	1-HR	ALL	1ST	UCAR T1	18032620
325240	463672	0.854886	0.000191	0	0	0	1-HR	ALL	1ST	UCAR T1	18032618
325340	463672	2.208212	0.000122	0	0	0	1-HR	ALL	1ST	UCAR T1	18041101
325440	463672	2.899147	0.000176	0	0	0	1-HR	ALL	1ST	UCAR T1	18110714
325540	463672	1.651415	0.000212	0	0	0	1-HR	ALL	1ST	UCAR T1	18110714
325640	463672	2.447347	0.000181	0	0	0	1-HR	ALL	1ST	UCAR T1	18112614
325740	463672	2.498508	0.000345	0	0	0	1-HR	ALL	1ST	UCAR T1	18041624
325840	463672	3.161729	0.00036	0	0	0	1-HR	ALL	1ST	UCAR T1	18030517
325940	463672	2.517252	0.000116	0	0	0	1-HR	ALL	1ST	UCAR T1	18110518
326040	463672	3.642195	0.000112	0	0	0	1-HR	ALL	1ST	UCAR T1	18110520
326140	463672	3.416939	0.000108	0	0	0	1-HR	ALL	1ST	UCAR T1	18110520
326240	463672	4.326083	0.000404	0	0	0	1-HR	ALL	1ST	UCAR T1	18031521
326340	463672	3.290515	0.00031	0	0	0	1-HR	ALL	1ST	UCAR T1	18041701
326440	463672	2.909662	0.000071	0	0	0	1-HR	ALL	1ST	UCAR T1	18031517
326540	463672	1.986688	0.000186	0	0	0	1-HR	ALL	1ST	UCAR T1	18110715
326640	463672	2.459558	0.000178	0	0	0	1-HR	ALL	1ST	UCAR T1	18032820

326740	463672	3.513346	0.000214	0	0	0	1-HR	ALL	1ST	UCAR T1	18032820
326840	463672	4.246506	0.000241	0	0	0	1-HR	ALL	1ST	UCAR T1	18032821
326940	463672	4.721467	0.000241	0	0	0	1-HR	ALL	1ST	UCAR T1	18032817
327040	463672	3.54583	0.000323	0	0	0	1-HR	ALL	1ST	UCAR T1	18120318
327140	463672	3.416842	0.000228	0	0	0	1-HR	ALL	1ST	UCAR T1	18120318
327240	463672	4.085231	0.000224	0	0	0	1-HR	ALL	1ST	UCAR T1	18032814
327340	463672	3.052474	0.000283	0	0	0	1-HR	ALL	1ST	UCAR T1	18032814
327440	463672	3.446472	0.000167	0	0	0	1-HR	ALL	1ST	UCAR T1	18041719
327540	463672	4.074007	0.000126	0	0	0	1-HR	ALL	1ST	UCAR T1	18030518
327640	463672	3.819939	0.000217	0	0	0	1-HR	ALL	1ST	UCAR T1	18030518
327740	463672	4.037536	0.000186	0	0	0	1-HR	ALL	1ST	UCAR T1	18030518
327840	463672	3.453012	0.000172	0	0	0	1-HR	ALL	1ST	UCAR T1	18111013
327940	463672	2.996742	0.000119	0	0	0	1-HR	ALL	1ST	UCAR T1	18111013
328040	463672	3.061871	0.000132	0	0	0	1-HR	ALL	1ST	UCAR T1	18102414
328140	463672	3.172835	0.000117	0	0	0	1-HR	ALL	1ST	UCAR T1	18101324
328240	463672	3.34845	0.000135	0	0	0	1-HR	ALL	1ST	UCAR T1	18101324
328340	463672	3.242774	0.000153	0	0	0	1-HR	ALL	1ST	UCAR T1	18032919

328440	463672	3.20873	0.000159	0	0	0	1-HR	ALL	1ST	UCAR T1	18032919
328540	463672	3.173966	0.000118	0	0	0	1-HR	ALL	1ST	UCAR T1	18032919
324540	463772	3.056629	0.000134	0	0	0	1-HR	ALL	1ST	UCAR T1	18032617
324640	463772	2.647976	0.000111	0	0	0	1-HR	ALL	1ST	UCAR T1	18032615
324740	463772	1.685832	0.000113	0	0	0	1-HR	ALL	1ST	UCAR T1	18032615
324840	463772	0.785882	0.000155	0	0	0	1-HR	ALL	1ST	UCAR T1	18032619
324940	463772	0.681931	0.000156	0	0	0	1-HR	ALL	1ST	UCAR T1	18021618
325040	463772	0.60777	0.00016	0	0	0	1-HR	ALL	1ST	UCAR T1	18032620
325140	463772	0.928015	0.000173	0	0	0	1-HR	ALL	1ST	UCAR T1	18032618
325240	463772	2.236499	0.000113	0	0	0	1-HR	ALL	1ST	UCAR T1	18041101
325340	463772	2.982963	0.000151	0	0	0	1-HR	ALL	1ST	UCAR T1	18110714
325440	463772	1.941613	0.000203	0	0	0	1-HR	ALL	1ST	UCAR T1	18110714
325540	463772	2.24384	0.000179	0	0	0	1-HR	ALL	1ST	UCAR T1	18112614
325640	463772	2.527026	0.000251	0	0	0	1-HR	ALL	1ST	UCAR T1	18041624
325740	463772	2.626366	0.000311	0	0	0	1-HR	ALL	1ST	UCAR T1	18041624
325840	463772	2.926147	0.00022	0	0	0	1-HR	ALL	1ST	UCAR T1	18030517
325940	463772	3.212125	0.000122	0	0	0	1-HR	ALL	1ST	UCAR T1	18110615

326040	463772	3.633788	0.000148	0	0	0	1-HR	ALL	1ST	UCAR T1	18110520
326140	463772	3.734223	0.000148	0	0	0	1-HR	ALL	1ST	UCAR T1	18031521
326240	463772	3.31033	0.000361	0	0	0	1-HR	ALL	1ST	UCAR T1	18031521
326340	463772	3.269052	0.000234	0	0	0	1-HR	ALL	1ST	UCAR T1	18041701
326440	463772	3.032355	0.000067	0	0	0	1-HR	ALL	1ST	UCAR T1	18031517
326540	463772	2.07062	0.000172	0	0	0	1-HR	ALL	1ST	UCAR T1	18110715
326640	463772	2.66798	0.000151	0	0	0	1-HR	ALL	1ST	UCAR T1	18032820
326740	463772	3.318821	0.000215	0	0	0	1-HR	ALL	1ST	UCAR T1	18032820
326840	463772	4.094284	0.000222	0	0	0	1-HR	ALL	1ST	UCAR T1	18032821
326940	463772	4.340464	0.000186	0	0	0	1-HR	ALL	1ST	UCAR T1	18032817
327040	463772	4.627232	0.000284	0	0	0	1-HR	ALL	1ST	UCAR T1	18120319
327140	463772	3.220109	0.000284	0	0	0	1-HR	ALL	1ST	UCAR T1	18120318
327240	463772	3.495276	0.000139	0	0	0	1-HR	ALL	1ST	UCAR T1	18101418
327340	463772	3.244518	0.000272	0	0	0	1-HR	ALL	1ST	UCAR T1	18032814
327440	463772	3.197141	0.000198	0	0	0	1-HR	ALL	1ST	UCAR T1	18032814
327540	463772	3.641655	0.000162	0	0	0	1-HR	ALL	1ST	UCAR T1	18041719
327640	463772	3.824652	0.00013	0	0	0	1-HR	ALL	1ST	UCAR T1	18030518

327740	463772	3.626857	0.000196	0	0	0	1-HR	ALL	1ST	UCAR T1	18030518
327840	463772	3.782353	0.000165	0	0	0	1-HR	ALL	1ST	UCAR T1	18030518
327940	463772	3.284153	0.000159	0	0	0	1-HR	ALL	1ST	UCAR T1	18111013
328040	463772	2.853904	0.000115	0	0	0	1-HR	ALL	1ST	UCAR T1	18111013
328140	463772	2.949386	0.000121	0	0	0	1-HR	ALL	1ST	UCAR T1	18102414
328240	463772	2.945281	0.000109	0	0	0	1-HR	ALL	1ST	UCAR T1	18102414
328340	463772	2.98331	0.000129	0	0	0	1-HR	ALL	1ST	UCAR T1	18101324
328440	463772	3.230976	0.000121	0	0	0	1-HR	ALL	1ST	UCAR T1	18032919
328540	463772	2.791134	0.000149	0	0	0	1-HR	ALL	1ST	UCAR T1	18032919
324540	463872	2.263311	0.000109	0	0	0	1-HR	ALL	1ST	UCAR T1	18032615
324640	463872	1.295362	0.000113	0	0	0	1-HR	ALL	1ST	UCAR T1	18032619
324740	463872	0.719197	0.000149	0	0	0	1-HR	ALL	1ST	UCAR T1	18032619
324840	463872	0.588321	0.000144	0	0	0	1-HR	ALL	1ST	UCAR T1	18021618
324940	463872	0.547899	0.000151	0	0	0	1-HR	ALL	1ST	UCAR T1	18032618
325040	463872	0.98537	0.000156	0	0	0	1-HR	ALL	1ST	UCAR T1	18032618
325140	463872	2.239621	0.000105	0	0	0	1-HR	ALL	1ST	UCAR T1	18041101
325240	463872	3.017963	0.00013	0	0	0	1-HR	ALL	1ST	UCAR T1	18110714



325340	463872	2.177678	0.00019	0	0	0	1-HR	ALL	1ST	UCAR T1	18110714
325440	463872	1.967691	0.000165	0	0	0	1-HR	ALL	1ST	UCAR T1	18112614
325540	463872	2.737406	0.000168	0	0	0	1-HR	ALL	1ST	UCAR T1	18041624
325640	463872	2.507208	0.000306	0	0	0	1-HR	ALL	1ST	UCAR T1	18041624
325740	463872	3.133385	0.000277	0	0	0	1-HR	ALL	1ST	UCAR T1	18030517
325840	463872	2.636008	0.000102	0	0	0	1-HR	ALL	1ST	UCAR T1	18110518
325940	463872	3.035709	0.000096	0	0	0	1-HR	ALL	1ST	UCAR T1	18110615
326040	463872	3.122504	0.000129	0	0	0	1-HR	ALL	1ST	UCAR T1	18110520
326140	463872	3.865571	0.000221	0	0	0	1-HR	ALL	1ST	UCAR T1	18031521
326240	463872	2.450814	0.000283	0	0	0	1-HR	ALL	1ST	UCAR T1	18031521
326340	463872	3.0689	0.000166	0	0	0	1-HR	ALL	1ST	UCAR T1	18041701
326440	463872	3.066513	0.000062	0	0	0	1-HR	ALL	1ST	UCAR T1	18031517
326540	463872	2.122823	0.000161	0	0	0	1-HR	ALL	1ST	UCAR T1	18110715
326640	463872	2.814813	0.000147	0	0	0	1-HR	ALL	1ST	UCAR T1	18021716
326740	463872	3.025597	0.000209	0	0	0	1-HR	ALL	1ST	UCAR T1	18032820
326840	463872	3.625323	0.000192	0	0	0	1-HR	ALL	1ST	UCAR T1	18032821
326940	463872	3.618879	0.000175	0	0	0	1-HR	ALL	1ST	UCAR T1	18021714

327040	463872	4.800374	0.000252	0	0	0	1-HR	ALL	1ST	UCAR T1	18120319
327140	463872	3.25264	0.000279	0	0	0	1-HR	ALL	1ST	UCAR T1	18120318
327240	463872	3.262914	0.00018	0	0	0	1-HR	ALL	1ST	UCAR T1	18120318
327340	463872	3.500983	0.000159	0	0	0	1-HR	ALL	1ST	UCAR T1	18032814
327440	463872	2.986834	0.000261	0	0	0	1-HR	ALL	1ST	UCAR T1	18032814
327540	463872	3.136742	0.000128	0	0	0	1-HR	ALL	1ST	UCAR T1	18081219
327640	463872	3.650094	0.000141	0	0	0	1-HR	ALL	1ST	UCAR T1	18041719
327740	463872	3.527001	0.00013	0	0	0	1-HR	ALL	1ST	UCAR T1	18030518
327840	463872	3.416963	0.000178	0	0	0	1-HR	ALL	1ST	UCAR T1	18030518
327940	463872	3.648936	0.000148	0	0	0	1-HR	ALL	1ST	UCAR T1	18030518
328040	463872	3.117922	0.000148	0	0	0	1-HR	ALL	1ST	UCAR T1	18111013
328140	463872	2.796529	0.000111	0	0	0	1-HR	ALL	1ST	UCAR T1	18111013
328240	463872	2.785434	0.000111	0	0	0	1-HR	ALL	1ST	UCAR T1	18102414
328340	463872	2.841818	0.000107	0	0	0	1-HR	ALL	1ST	UCAR T1	18102414
328440	463872	3.05887	0.000114	0	0	0	1-HR	ALL	1ST	UCAR T1	18101324
328540	463872	3.064221	0.00011	0	0	0	1-HR	ALL	1ST	UCAR T1	18101324
324540	463972	0.969349	0.000119	0	0	0	1-HR	ALL	1ST	UCAR T1	18032619

324640	463972	0.650703	0.000139	0	0	0	1-HR	ALL	1ST	UCAR T1	18032619
324740	463972	0.506897	0.000131	0	0	0	1-HR	ALL	1ST	UCAR T1	18021618
324840	463972	0.496159	0.000145	0	0	0	1-HR	ALL	1ST	UCAR T1	18032618
324940	463972	1.028637	0.000142	0	0	0	1-HR	ALL	1ST	UCAR T1	18032618
325040	463972	2.22367	0.000098	0	0	0	1-HR	ALL	1ST	UCAR T1	18041101
325140	463972	3.015824	0.000113	0	0	0	1-HR	ALL	1ST	UCAR T1	18110714
325240	463972	2.359954	0.000175	0	0	0	1-HR	ALL	1ST	UCAR T1	18110714
325340	463972	1.678509	0.000144	0	0	0	1-HR	ALL	1ST	UCAR T1	18112614
325440	463972	2.727663	0.000123	0	0	0	1-HR	ALL	1ST	UCAR T1	18112614
325540	463972	2.699343	0.000259	0	0	0	1-HR	ALL	1ST	UCAR T1	18041624
325640	463972	2.799626	0.000265	0	0	0	1-HR	ALL	1ST	UCAR T1	18030517
325740	463972	2.688861	0.000162	0	0	0	1-HR	ALL	1ST	UCAR T1	18030517
325840	463972	3.26293	0.000106	0	0	0	1-HR	ALL	1ST	UCAR T1	18110615
325940	463972	3.251454	0.000117	0	0	0	1-HR	ALL	1ST	UCAR T1	18110520
326040	463972	3.254181	0.000087	0	0	0	1-HR	ALL	1ST	UCAR T1	18122014
326140	463972	3.567372	0.000266	0	0	0	1-HR	ALL	1ST	UCAR T1	18031521
326240	463972	2.756515	0.000254	0	0	0	1-HR	ALL	1ST	UCAR T1	18041701

326340	463972	2.773211	0.000113	0	0	0	1-HR	ALL	1ST	UCAR T1	18041701
326440	463972	3.082068	0.000057	0	0	0	1-HR	ALL	1ST	UCAR T1	18031517
326540	463972	2.149431	0.000151	0	0	0	1-HR	ALL	1ST	UCAR T1	18110715
326640	463972	2.909534	0.000147	0	0	0	1-HR	ALL	1ST	UCAR T1	18021716
326740	463972	2.695528	0.000199	0	0	0	1-HR	ALL	1ST	UCAR T1	18032820
326840	463972	3.192114	0.000158	0	0	0	1-HR	ALL	1ST	UCAR T1	18032821
326940	463972	3.778057	0.000195	0	0	0	1-HR	ALL	1ST	UCAR T1	18021714
327040	463972	4.227938	0.000197	0	0	0	1-HR	ALL	1ST	UCAR T1	18032817
327140	463972	3.58688	0.000243	0	0	0	1-HR	ALL	1ST	UCAR T1	18032815
327240	463972	2.912339	0.000229	0	0	0	1-HR	ALL	1ST	UCAR T1	18120318
327340	463972	3.135764	0.00012	0	0	0	1-HR	ALL	1ST	UCAR T1	18080117
327440	463972	3.014073	0.000209	0	0	0	1-HR	ALL	1ST	UCAR T1	18032814
327540	463972	2.90887	0.000213	0	0	0	1-HR	ALL	1ST	UCAR T1	18032814
327640	463972	3.257073	0.000132	0	0	0	1-HR	ALL	1ST	UCAR T1	18081219
327740	463972	3.500603	0.000114	0	0	0	1-HR	ALL	1ST	UCAR T1	18041719
327840	463972	3.219988	0.000127	0	0	0	1-HR	ALL	1ST	UCAR T1	18030518
327940	463972	3.205108	0.000161	0	0	0	1-HR	ALL	1ST	UCAR T1	18030518

328040	463972	3.570318	0.000133	0	0	0	1-HR	ALL	1ST	UCAR T1	18030518
328140	463972	2.958785	0.000137	0	0	0	1-HR	ALL	1ST	UCAR T1	18111013
328240	463972	2.726741	0.000107	0	0	0	1-HR	ALL	1ST	UCAR T1	18111013
328340	463972	2.638486	0.0001	0	0	0	1-HR	ALL	1ST	UCAR T1	18102414
328440	463972	2.827247	0.000104	0	0	0	1-HR	ALL	1ST	UCAR T1	18102414
328540	463972	3.01938	0.000094	0	0	0	1-HR	ALL	1ST	UCAR T1	18101324
324540	464072	0.584505	0.000127	0	0	0	1-HR	ALL	1ST	UCAR T1	18032619
324640	464072	0.437183	0.000122	0	0	0	1-HR	ALL	1ST	UCAR T1	18110515
324740	464072	0.450155	0.000139	0	0	0	1-HR	ALL	1ST	UCAR T1	18032618
324840	464072	1.059685	0.000129	0	0	0	1-HR	ALL	1ST	UCAR T1	18032618
324940	464072	2.193552	0.000092	0	0	0	1-HR	ALL	1ST	UCAR T1	18041101
325040	464072	2.986113	0.000104	0	0	0	1-HR	ALL	1ST	UCAR T1	18041101
325140	464072	2.493098	0.00016	0	0	0	1-HR	ALL	1ST	UCAR T1	18110714
325240	464072	1.407805	0.000127	0	0	0	1-HR	ALL	1ST	UCAR T1	18110714
325340	464072	2.568881	0.000134	0	0	0	1-HR	ALL	1ST	UCAR T1	18112614
325440	464072	2.622704	0.000198	0	0	0	1-HR	ALL	1ST	UCAR T1	18041624
325540	464072	2.456368	0.000246	0	0	0	1-HR	ALL	1ST	UCAR T1	18041624

325640	464072	2.955722	0.000213	0	0	0	1-HR	ALL	1ST	UCAR T1	18030517
325740	464072	2.644616	0.000091	0	0	0	1-HR	ALL	1ST	UCAR T1	18110518
325840	464072	3.092802	0.000092	0	0	0	1-HR	ALL	1ST	UCAR T1	18110615
325940	464072	2.943025	0.000126	0	0	0	1-HR	ALL	1ST	UCAR T1	18110520
326040	464072	2.945763	0.000096	0	0	0	1-HR	ALL	1ST	UCAR T1	18031521
326140	464072	3.036407	0.000273	0	0	0	1-HR	ALL	1ST	UCAR T1	18031521
326240	464072	3.029692	0.000248	0	0	0	1-HR	ALL	1ST	UCAR T1	18041701
326340	464072	2.442377	0.000075	0	0	0	1-HR	ALL	1ST	UCAR T1	18041701
326440	464072	3.09679	0.000058	0	0	0	1-HR	ALL	1ST	UCAR T1	18021717
326540	464072	2.155804	0.000142	0	0	0	1-HR	ALL	1ST	UCAR T1	18110715
326640	464072	2.961728	0.000145	0	0	0	1-HR	ALL	1ST	UCAR T1	18021716
326740	464072	2.36636	0.000186	0	0	0	1-HR	ALL	1ST	UCAR T1	18032820
326840	464072	3.214447	0.000129	0	0	0	1-HR	ALL	1ST	UCAR T1	18041702
326940	464072	3.97041	0.000184	0	0	0	1-HR	ALL	1ST	UCAR T1	18021714
327040	464072	3.770659	0.000164	0	0	0	1-HR	ALL	1ST	UCAR T1	18032817
327140	464072	4.161777	0.000234	0	0	0	1-HR	ALL	1ST	UCAR T1	18120319
327240	464072	3.096034	0.000237	0	0	0	1-HR	ALL	1ST	UCAR T1	18120318

327340	464072	3.048145	0.000145	0	0	0	1-HR	ALL	1ST	UCAR T1	18120318
327440	464072	3.019646	0.000131	0	0	0	1-HR	ALL	1ST	UCAR T1	18101418
327540	464072	2.951623	0.000223	0	0	0	1-HR	ALL	1ST	UCAR T1	18032814
327640	464072	2.942218	0.000155	0	0	0	1-HR	ALL	1ST	UCAR T1	18032814
327740	464072	3.164825	0.00013	0	0	0	1-HR	ALL	1ST	UCAR T1	18041719
327840	464072	3.260359	0.000088	0	0	0	1-HR	ALL	1ST	UCAR T1	18041719
327940	464072	2.924403	0.000123	0	0	0	1-HR	ALL	1ST	UCAR T1	18030518
328040	464072	3.150046	0.000146	0	0	0	1-HR	ALL	1ST	UCAR T1	18030518
328140	464072	3.478154	0.000123	0	0	0	1-HR	ALL	1ST	UCAR T1	18111013
328240	464072	2.808934	0.000128	0	0	0	1-HR	ALL	1ST	UCAR T1	18111013
328340	464072	2.671594	0.000102	0	0	0	1-HR	ALL	1ST	UCAR T1	18111013
328440	464072	2.582338	0.00009	0	0	0	1-HR	ALL	1ST	UCAR T1	18102414
328540	464072	2.754442	0.000099	0	0	0	1-HR	ALL	1ST	UCAR T1	18102414
324540	464172	0.428246	0.000114	0	0	0	1-HR	ALL	1ST	UCAR T1	18110515
324640	464172	0.409462	0.000131	0	0	0	1-HR	ALL	1ST	UCAR T1	18032618
324740	464172	1.080352	0.000117	0	0	0	1-HR	ALL	1ST	UCAR T1	18032618
324840	464172	2.153149	0.000087	0	0	0	1-HR	ALL	1ST	UCAR T1	18041101

324940	464172	2.936418	0.0001	0	0	0	1-HR	ALL	1ST	UCAR T1	18041101
325040	464172	2.583612	0.000146	0	0	0	1-HR	ALL	1ST	UCAR T1	18110714
325140	464172	1.369026	0.00013	0	0	0	1-HR	ALL	1ST	UCAR T1	18110714
325240	464172	2.327975	0.000136	0	0	0	1-HR	ALL	1ST	UCAR T1	18112614
325340	464172	2.686188	0.000142	0	0	0	1-HR	ALL	1ST	UCAR T1	18041624
325440	464172	2.583769	0.000235	0	0	0	1-HR	ALL	1ST	UCAR T1	18041624
325540	464172	2.782984	0.000221	0	0	0	1-HR	ALL	1ST	UCAR T1	18030517
325640	464172	2.431533	0.000124	0	0	0	1-HR	ALL	1ST	UCAR T1	18030517
325740	464172	3.203758	0.000094	0	0	0	1-HR	ALL	1ST	UCAR T1	18110615
325840	464172	2.818214	0.000089	0	0	0	1-HR	ALL	1ST	UCAR T1	18110520
325940	464172	2.95106	0.000101	0	0	0	1-HR	ALL	1ST	UCAR T1	18110520
326040	464172	3.018988	0.000141	0	0	0	1-HR	ALL	1ST	UCAR T1	18031521
326140	464172	2.81407	0.00025	0	0	0	1-HR	ALL	1ST	UCAR T1	18031521
326240	464172	3.135417	0.000223	0	0	0	1-HR	ALL	1ST	UCAR T1	18041701
326340	464172	2.316378	0.000049	0	0	0	1-HR	ALL	1ST	UCAR T1	18041701
326440	464172	3.069276	0.000061	0	0	0	1-HR	ALL	1ST	UCAR T1	18021717
326540	464172	2.146453	0.000134	0	0	0	1-HR	ALL	1ST	UCAR T1	18110715



326640	464172	2.980119	0.000142	0	0	0	1-HR	ALL	1ST	UCAR T1	18021716
326740	464172	2.222176	0.000171	0	0	0	1-HR	ALL	1ST	UCAR T1	18032820
326840	464172	3.365154	0.000126	0	0	0	1-HR	ALL	1ST	UCAR T1	18032820
326940	464172	3.866009	0.000173	0	0	0	1-HR	ALL	1ST	UCAR T1	18032821
327040	464172	3.342076	0.000122	0	0	0	1-HR	ALL	1ST	UCAR T1	18032823
327140	464172	4.154785	0.0002	0	0	0	1-HR	ALL	1ST	UCAR T1	18120319
327240	464172	2.788384	0.000222	0	0	0	1-HR	ALL	1ST	UCAR T1	18032815
327340	464172	2.667758	0.000186	0	0	0	1-HR	ALL	1ST	UCAR T1	18120318
327440	464172	2.960249	0.000106	0	0	0	1-HR	ALL	1ST	UCAR T1	18080117
327540	464172	2.797035	0.000159	0	0	0	1-HR	ALL	1ST	UCAR T1	18032814
327640	464172	3.005775	0.000204	0	0	0	1-HR	ALL	1ST	UCAR T1	18032814
327740	464172	2.808239	0.000104	0	0	0	1-HR	ALL	1ST	UCAR T1	18032814
327840	464172	2.987818	0.000126	0	0	0	1-HR	ALL	1ST	UCAR T1	18041719
327940	464172	2.978035	0.000075	0	0	0	1-HR	ALL	1ST	UCAR T1	18032219
328040	464172	2.79081	0.000117	0	0	0	1-HR	ALL	1ST	UCAR T1	18030518
328140	464172	3.143292	0.000133	0	0	0	1-HR	ALL	1ST	UCAR T1	18030518
328240	464172	3.377697	0.000114	0	0	0	1-HR	ALL	1ST	UCAR T1	18111013

328340	464172	2.6692	0.00012	0	0	0	1-HR	ALL	1ST	UCAR T1	18111013
328440	464172	2.61748	0.000098	0	0	0	1-HR	ALL	1ST	UCAR T1	18111013
328540	464172	2.547657	0.00008	0	0	0	1-HR	ALL	1ST	UCAR T1	18102414
324540	464272	0.437467	0.000124	0	0	0	1-HR	ALL	1ST	UCAR T1	18032618
324640	464272	1.092337	0.000107	0	0	0	1-HR	ALL	1ST	UCAR T1	18032618
324740	464272	2.105494	0.000082	0	0	0	1-HR	ALL	1ST	UCAR T1	18041101
324840	464272	2.872633	0.000096	0	0	0	1-HR	ALL	1ST	UCAR T1	18041101
324940	464272	2.638397	0.000133	0	0	0	1-HR	ALL	1ST	UCAR T1	18110714
325040	464272	1.53919	0.00013	0	0	0	1-HR	ALL	1ST	UCAR T1	18110714
325140	464272	2.054691	0.000131	0	0	0	1-HR	ALL	1ST	UCAR T1	18112614
325240	464272	2.70601	0.000097	0	0	0	1-HR	ALL	1ST	UCAR T1	18041624
325340	464272	2.683897	0.000201	0	0	0	1-HR	ALL	1ST	UCAR T1	18041624
325440	464272	2.621636	0.000197	0	0	0	1-HR	ALL	1ST	UCAR T1	18030517
325540	464272	2.720014	0.000166	0	0	0	1-HR	ALL	1ST	UCAR T1	18030517
325640	464272	2.587099	0.000083	0	0	0	1-HR	ALL	1ST	UCAR T1	18110518
325740	464272	3.122943	0.000087	0	0	0	1-HR	ALL	1ST	UCAR T1	18110615
325840	464272	2.734057	0.00011	0	0	0	1-HR	ALL	1ST	UCAR T1	18110520

325940	464272	2.962589	0.000075	0	0	0	1-HR	ALL	1ST	UCAR T1	18122014
326040	464272	2.92675	0.000177	0	0	0	1-HR	ALL	1ST	UCAR T1	18031521
326140	464272	2.652368	0.00021	0	0	0	1-HR	ALL	1ST	UCAR T1	18031521
326240	464272	3.102625	0.000188	0	0	0	1-HR	ALL	1ST	UCAR T1	18041701
326340	464272	2.485916	0.000043	0	0	0	1-HR	ALL	1ST	UCAR T1	18031517
326440	464272	3.011112	0.000064	0	0	0	1-HR	ALL	1ST	UCAR T1	18021717
326540	464272	2.125077	0.000127	0	0	0	1-HR	ALL	1ST	UCAR T1	18110715
326640	464272	2.972202	0.000138	0	0	0	1-HR	ALL	1ST	UCAR T1	18021716
326740	464272	2.372979	0.000157	0	0	0	1-HR	ALL	1ST	UCAR T1	18032820
326840	464272	3.377315	0.000134	0	0	0	1-HR	ALL	1ST	UCAR T1	18032820
326940	464272	3.557011	0.000157	0	0	0	1-HR	ALL	1ST	UCAR T1	18032821
327040	464272	3.044643	0.000146	0	0	0	1-HR	ALL	1ST	UCAR T1	18021714
327140	464272	3.700463	0.000165	0	0	0	1-HR	ALL	1ST	UCAR T1	18032817
327240	464272	3.358909	0.000191	0	0	0	1-HR	ALL	1ST	UCAR T1	18120319
327340	464272	2.897557	0.000201	0	0	0	1-HR	ALL	1ST	UCAR T1	18120318
327440	464272	2.819196	0.000119	0	0	0	1-HR	ALL	1ST	UCAR T1	18120318
327540	464272	2.804348	0.000115	0	0	0	1-HR	ALL	1ST	UCAR T1	18101418

327640	464272	2.78425	0.000183	0	0	0	1-HR	ALL	1ST	UCAR T1	18032814
327740	464272	2.765986	0.000166	0	0	0	1-HR	ALL	1ST	UCAR T1	18032814
327840	464272	2.922567	0.000109	0	0	0	1-HR	ALL	1ST	UCAR T1	18081219
327940	464272	2.972571	0.000115	0	0	0	1-HR	ALL	1ST	UCAR T1	18041719
328040	464272	2.71605	0.000072	0	0	0	1-HR	ALL	1ST	UCAR T1	18030518
328140	464272	2.710423	0.000111	0	0	0	1-HR	ALL	1ST	UCAR T1	18030518
328240	464272	3.114572	0.000122	0	0	0	1-HR	ALL	1ST	UCAR T1	18030518
328340	464272	3.272757	0.000107	0	0	0	1-HR	ALL	1ST	UCAR T1	18111013
328440	464272	2.539633	0.000112	0	0	0	1-HR	ALL	1ST	UCAR T1	18111013
328540	464272	2.549255	0.000094	0	0	0	1-HR	ALL	1ST	UCAR T1	18111013
324540	464372	1.097154	0.000098	0	0	0	1-HR	ALL	1ST	UCAR T1	18032618
324640	464372	2.052933	0.000078	0	0	0	1-HR	ALL	1ST	UCAR T1	18041101
324740	464372	2.799282	0.000092	0	0	0	1-HR	ALL	1ST	UCAR T1	18041101
324840	464372	2.663989	0.00012	0	0	0	1-HR	ALL	1ST	UCAR T1	18110714
324940	464372	1.683821	0.000127	0	0	0	1-HR	ALL	1ST	UCAR T1	18110714
325040	464372	1.781001	0.000121	0	0	0	1-HR	ALL	1ST	UCAR T1	18112614
325140	464372	2.604327	0.000097	0	0	0	1-HR	ALL	1ST	UCAR T1	18112614

325240	464372	2.592739	0.000159	0	0	0	1-HR	ALL	1ST	UCAR T1	18041624
325340	464372	2.464886	0.000198	0	0	0	1-HR	ALL	1ST	UCAR T1	18041624
325440	464372	2.661535	0.000182	0	0	0	1-HR	ALL	1ST	UCAR T1	18030517
325540	464372	2.454212	0.000097	0	0	0	1-HR	ALL	1ST	UCAR T1	18030517
325640	464372	3.084273	0.000084	0	0	0	1-HR	ALL	1ST	UCAR T1	18110615
325740	464372	2.565307	0.000066	0	0	0	1-HR	ALL	1ST	UCAR T1	18110520
325840	464372	2.495475	0.000105	0	0	0	1-HR	ALL	1ST	UCAR T1	18110520
325940	464372	2.879596	0.000076	0	0	0	1-HR	ALL	1ST	UCAR T1	18122014
326040	464372	2.702054	0.000196	0	0	0	1-HR	ALL	1ST	UCAR T1	18031521
326140	464372	2.365896	0.000175	0	0	0	1-HR	ALL	1ST	UCAR T1	18041701
326240	464372	2.968713	0.00015	0	0	0	1-HR	ALL	1ST	UCAR T1	18041701
326340	464372	2.600669	0.000043	0	0	0	1-HR	ALL	1ST	UCAR T1	18031517
326440	464372	2.931537	0.000065	0	0	0	1-HR	ALL	1ST	UCAR T1	18021717
326540	464372	2.094662	0.00012	0	0	0	1-HR	ALL	1ST	UCAR T1	18110715
326640	464372	2.944193	0.000134	0	0	0	1-HR	ALL	1ST	UCAR T1	18021716
326740	464372	2.476098	0.000142	0	0	0	1-HR	ALL	1ST	UCAR T1	18032820
326840	464372	3.282729	0.000138	0	0	0	1-HR	ALL	1ST	UCAR T1	18032820

326940	464372	3.137187	0.000138	0	0	0	1-HR	ALL	1ST	UCAR T1	18032821
327040	464372	3.36735	0.000156	0	0	0	1-HR	ALL	1ST	UCAR T1	18021714
327140	464372	3.236979	0.000145	0	0	0	1-HR	ALL	1ST	UCAR T1	18032817
327240	464372	3.66731	0.000195	0	0	0	1-HR	ALL	1ST	UCAR T1	18120319
327340	464372	2.763919	0.000191	0	0	0	1-HR	ALL	1ST	UCAR T1	18032815
327440	464372	2.598708	0.000153	0	0	0	1-HR	ALL	1ST	UCAR T1	18120318
327540	464372	2.76752	0.000094	0	0	0	1-HR	ALL	1ST	UCAR T1	18080117
327640	464372	2.685478	0.000121	0	0	0	1-HR	ALL	1ST	UCAR T1	18032814
327740	464372	3.011072	0.000183	0	0	0	1-HR	ALL	1ST	UCAR T1	18032814
327840	464372	2.702345	0.000124	0	0	0	1-HR	ALL	1ST	UCAR T1	18032814
327940	464372	2.888888	0.000107	0	0	0	1-HR	ALL	1ST	UCAR T1	18081219
328040	464372	2.876071	0.000098	0	0	0	1-HR	ALL	1ST	UCAR T1	18041719
328140	464372	2.702893	0.000073	0	0	0	1-HR	ALL	1ST	UCAR T1	18030518
328240	464372	2.615904	0.000105	0	0	0	1-HR	ALL	1ST	UCAR T1	18030518
328340	464372	3.069678	0.000111	0	0	0	1-HR	ALL	1ST	UCAR T1	18030518
328440	464372	3.166077	0.0001	0	0	0	1-HR	ALL	1ST	UCAR T1	18111013
328540	464372	2.489841	0.000105	0	0	0	1-HR	ALL	1ST	UCAR T1	18111013

324540	464472	1.997267	0.000074	0	0	0	1-HR	ALL	1ST	UCAR T1	18041101
324640	464472	2.7198	0.000088	0	0	0	1-HR	ALL	1ST	UCAR T1	18041101
324740	464472	2.666207	0.000109	0	0	0	1-HR	ALL	1ST	UCAR T1	18110714
324840	464472	1.802867	0.000122	0	0	0	1-HR	ALL	1ST	UCAR T1	18110714
324940	464472	1.524968	0.000108	0	0	0	1-HR	ALL	1ST	UCAR T1	18112614
325040	464472	2.424337	0.000105	0	0	0	1-HR	ALL	1ST	UCAR T1	18112614
325140	464472	2.512465	0.000119	0	0	0	1-HR	ALL	1ST	UCAR T1	18041624
325240	464472	2.518284	0.000186	0	0	0	1-HR	ALL	1ST	UCAR T1	18041624
325340	464472	2.633716	0.000173	0	0	0	1-HR	ALL	1ST	UCAR T1	18030517
325440	464472	2.472963	0.00013	0	0	0	1-HR	ALL	1ST	UCAR T1	18030517
325540	464472	2.564862	0.000075	0	0	0	1-HR	ALL	1ST	UCAR T1	18110518
325640	464472	3.067462	0.000081	0	0	0	1-HR	ALL	1ST	UCAR T1	18110615
325740	464472	2.463277	0.00009	0	0	0	1-HR	ALL	1ST	UCAR T1	18110520
325840	464472	2.755761	0.000081	0	0	0	1-HR	ALL	1ST	UCAR T1	18110520
325940	464472	3.04204	0.000095	0	0	0	1-HR	ALL	1ST	UCAR T1	18031521
326040	464472	2.748681	0.000196	0	0	0	1-HR	ALL	1ST	UCAR T1	18031521
326140	464472	2.485672	0.000184	0	0	0	1-HR	ALL	1ST	UCAR T1	18041701

326240	464472	2.769542	0.000116	0	0	0	1-HR	ALL	1ST	UCAR T1	18041701
326340	464472	2.667131	0.000043	0	0	0	1-HR	ALL	1ST	UCAR T1	18031517
326440	464472	2.837704	0.000067	0	0	0	1-HR	ALL	1ST	UCAR T1	18021717
326540	464472	2.057591	0.000115	0	0	0	1-HR	ALL	1ST	UCAR T1	18110715
326640	464472	2.901141	0.00013	0	0	0	1-HR	ALL	1ST	UCAR T1	18021716
326740	464472	2.537073	0.000128	0	0	0	1-HR	ALL	1ST	UCAR T1	18032820
326840	464472	3.113777	0.000138	0	0	0	1-HR	ALL	1ST	UCAR T1	18032820
326940	464472	2.847787	0.000117	0	0	0	1-HR	ALL	1ST	UCAR T1	18032821
327040	464472	3.48575	0.000148	0	0	0	1-HR	ALL	1ST	UCAR T1	18021714
327140	464472	2.98431	0.00011	0	0	0	1-HR	ALL	1ST	UCAR T1	18032817
327240	464472	3.596302	0.000163	0	0	0	1-HR	ALL	1ST	UCAR T1	18120319
327340	464472	2.628726	0.000179	0	0	0	1-HR	ALL	1ST	UCAR T1	18032815
327440	464472	2.657622	0.00017	0	0	0	1-HR	ALL	1ST	UCAR T1	18120318
327540	464472	2.728938	0.000105	0	0	0	1-HR	ALL	1ST	UCAR T1	18032819
327640	464472	2.696308	0.000102	0	0	0	1-HR	ALL	1ST	UCAR T1	18101418
327740	464472	2.6205	0.000147	0	0	0	1-HR	ALL	1ST	UCAR T1	18032814
327840	464472	2.937079	0.000163	0	0	0	1-HR	ALL	1ST	UCAR T1	18032814



327940	464472	2.60067	0.000087	0	0	0	1-HR	ALL	1ST	UCAR T1	18032814
328040	464472	2.749976	0.000106	0	0	0	1-HR	ALL	1ST	UCAR T1	18041719
328140	464472	2.726917	0.000081	0	0	0	1-HR	ALL	1ST	UCAR T1	18041719
328240	464472	2.648025	0.000073	0	0	0	1-HR	ALL	1ST	UCAR T1	18030518
328340	464472	2.522547	0.000099	0	0	0	1-HR	ALL	1ST	UCAR T1	18030518
328440	464472	3.013151	0.000102	0	0	0	1-HR	ALL	1ST	UCAR T1	18030518
328540	464472	3.059609	0.000093	0	0	0	1-HR	ALL	1ST	UCAR T1	18111013
*****	*****	*****									
Produced by:	AERMOD View V	er. 9.7.0									
*****	*****	*****									
Chemical Nam	e: TSP										
SRCEMISS S1	0.0804										
SRCEMISS S2	0.0804										
SRCEMISS GSS	TACK 0.2769										
*****	*****	*****									
CONCUNIT ug	/m^3										
DEPUNIT g/m	^2										

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