

APPENDIX 4

Hazards Assessment Final Report

Hazards Assessment

Final Report

Orni 34 LLC Battery Energy Storage System

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List of Acronyms

Acronym	Definition
Ah	Amp hour
APCD	Air Pollution Control District
ARB	Air Resources Board
BMS	Battery Management System
BSS	Battery Storage System
CalARP	California Accidental Release Prevention Program
CAPCOA	California Air Pollution Control Officers Association
CFC	California Fire Code
CGA	Compressed Gas Association
CPUC	California Public Utilities Commission
EPA	Environmental Protection Agency
ERPG	Emergency Response Planning Guidelines: Developed by the American Industrial Hygiene Association. ERPG-2 is the maximum airborne concentration below which nearly all individuals could be exposed for up to 1 hour without experiencing or developing irreversible or other serious health effects or symptoms which could impair an individual's ability to take protective action. ERPG-3 is the maximum airborne concentration below which nearly all individuals could be exposed for up to 1 hour without experiencing or developing life-threatening health effects.
ESS	Energy Storage Systems
HVAC	Heating Ventilation and Air Conditioning
IDLH	Immediately Dangerous to Life and Health: developed by National Institute for Occupational Safety and Health (NIOSH)
IEEE	Institute of Electrical and Electronics Engineers
LFP	Lithium-Iron Phosphate
LMO	Lithium Manganese Oxide
LTO	Lithium Titanate Oxide
MWhr	Megawatt hour
NCA	Lithium Nickel Cobalt Aluminum
NMC	Lithium Nickel Manganese Cobalt
NFPA	National Fire Protection Association
NIOSH	National Institute for Occupational Safety and Health
OEHHA	Office of Environmental Health Hazard Assessment
PV	Photovoltaic
REL	Reference Exposure Level
TS	Toxic Score
UL	Underwriters Laboratory
UPS	Uninterruptable Power Supply
SBCAPCD	Santa Barbara County Air Pollution Control District
SOC	State of Charge
Whr	Watt hour

1.0 Introduction

Orni 34, LLC. proposes to install a battery storage system with an approximate capacity of 10 MW near the City of Carpinteria, CA. The Facility would be a battery storage system that is owned and operated by Orni 34, LLC. The Project would provide additional capacity to the electrical grid during periods when sources of electrical generation are not generating power. The Project would provide increased electrical reliability and stability to the local grid by storing electricity in the battery systems from grid-based electrical generation systems and then releasing the power into the grid during peak periods when electricity is needed, thereby reducing the need to operate fossil-fuel-powered power systems and reducing the consumption of fossil-fuels and the emissions of greenhouse gasses.

This report examines the potential upset and malfunction scenarios that could occur at the facility that could result in health risk and flammable gas production and potential resulting impacts on public receptors.

The facility would not have any health risk or flammable impacts during normal battery operations. Potential impacts to onsite personnel or emergency response personnel are outside the scope of this analysis.

2.0 Project Description

The Project site would be located at 5134 Foothill Road in Carpinteria, CA. The proposed Project would be located immediately north of Foothill Road with residential areas along Seacoast Way, Concord Place and Foothill Road on the immediate south side of Foothill Road; located south of agricultural space (Acquistapace Nursery); east of the Family Baptist Church located on the corner of Foothill Road and Linden Avenue as well as east of the Southern California Edison substation and the Carpinteria High School; and west of agricultural/nursery areas. Figure 1 shows the location of the proposed battery storage facility. The site is currently an empty area.

The Project would involve the installation of self-contained energy storage and management cabinets (called Megapacks), containing battery modules designed and manufactured by Tesla or equivalent. Each cabinet would hold 17 modules of batteries, with each module holding about 12,636 battery cells. An electrical switchgear and other electrical equipment as well as electrical connections to the existing overhead power lines, would also be installed at the Project site. The cabinets would be placed at the site outdoors. There will be no walk-in or habitable facilities in the proposed Project design.

The proposed battery cell type would be Lithium Nickel Manganese Cobalt (NMC) manufactured by Tesla. This analysis assumed an NMC-type battery.

The facility would be equipped with inverters to convert the DC electricity of the battery systems into AC current used by the electrical grid. There would also be a liquid thermal cooling system integrated into the cabinets to provide cooling to the batteries and power electronics.

Fire prevention systems would include proposed cabinets designed to limit or eliminate the threat of the spread of fire from one cabinet to another. The closest fire hydrants are located on Foothill Road immediately south of the site and at the corner of Concord Place and Seacoast Way.

The Battery Management System (BMS) incorporated into the cabinets would monitor all cell voltages, currents and temperatures and shut down equipment if unsafe conditions are detected.

Figure 1 Project Location



Source: Google Maps imagery date 8/2018

3.0 Environmental and Regulatory Setting

There are a number of different lithium battery types including the following:

- Lithium Nickel Cobalt Aluminum (NCA)
- Lithium Nickel Manganese Cobalt (NMC)
- Lithium Manganese Oxide (LMO)
- Lithium Titanate Oxide (LTO)
- Lithium-Iron Phosphate (LFP)

This study assumed the use of the Lithium Nickel Manganese Cobalt (NMC) battery type.

Battery Testing Requirements and Regulations

Batteries are subject to several codes and standards. Some of the relevant ones are discussed below.

UL9540A: Test Method for Evaluating Thermal Runaway Fire Propagation in Battery Energy Storage Systems – this test methodology evaluates the fire characteristics of a battery energy storage system that undergoes thermal runaway. The data generated can be used to determine the fire and explosion protection required for an installation of a battery energy storage system

UL1973: Standard for Batteries for Use in Stationary, Vehicle Auxiliary Power and Light Electric Rail (LER) Applications - These requirements cover battery systems as defined by this standard for use as energy storage for stationary applications such as for photovoltaic (PV), wind turbine storage or for uninterruptable power supply (UPS), and other applications. This standard evaluates the battery system's ability to safely withstand simulated abuse conditions. This standard evaluates the system based upon the manufacturer's specified charge and discharge parameters. Requires that an Energy Storage System (ESS) is not allowed to be an explosion hazard when exposed to an external fire source and that a single cell failure will not result in a cascading thermal runaway of cells.

IEEE C2: This Code covers basic provisions for safeguarding of persons from hazards arising from the installation, operation, or maintenance of (1) conductors and equipment in electric supply stations, and (2) overhead and underground electric supply and communication lines. It also includes work rules for the construction, maintenance, and operation of electric supply and communication lines and equipment. The Code is applicable to the systems and equipment operated by utilities, or similar systems and equipment, of an industrial establishment or complex under the control of qualified persons.

California Fire Code 608 and International Fire Code: Specifies minimum size requiring permits (Lithium, all types, 20 kWh), specifies maximum limits on sizing for battery systems (Lithium all type, 50 kWh each array), seismic and structural design, spacing (minimum 3 feet separation of arrays), vehicle impact protection, testing, maintenance and repairs, maximum quantities within a building (Lithium of 600 kWh), battery management systems (BMS),

shutdown and notification requirements, automatic smoke detector requirements, automatic fire sprinkler systems, ventilation specifications.

NFPA 1: The General NFPA Fire Code addressing extracts from other NFPA codes.

NFPA 13: Standard for the Installation of Sprinkler Systems, addresses sprinkler system design approaches, installation, and component options.

NFPA 70: National Electrical Code, addresses electrical design, installation, and inspection.

NFPA 550: Guide to Fire Safety Concepts Tree for Protecting Energy Systems - addresses issues such as utilizing BMS and compatible equipment, ventilation as needed, fire resistive separation, array spacing, signage.

NFPA 855: Standard for the Installation of Stationary Energy Storage Systems - establishes criteria for minimizing the hazards associated with ESS (under development, draft version published).

Health Protective Regulations

The California Air Pollution Control Officers Association (CAPCOA) in consultation with the California Air Resources Board (ARB) and Office of Environmental Health Hazard Assessment (OEHHA) implements the Air Toxics “Hot Spots” Information and Assessment Act of 1987 (Air Toxics “Hot Spot” Act, Health and Safety Code §44344.4(c).). The Hot Spots regulation requires the assessment of the potential acute, chronic and cancer health risks associated with facilities. OEHHA also publishes the reference exposure levels (REL) for a range of pollutants, which defines the concentration levels at which pollutants start to generate health effects. The SBCAPCD provides guidance and a spreadsheet tool associated with a facility prioritization protocol.

The National Institute for Occupational Safety and Health (NIOSH) defines the immediately dangerous to life and health (IDLH) standard for pollutants. The American Industrial Hygiene Association has defined Emergency Response Planning Guidelines (ERPGs) to define the levels at which toxic pollutants may cause harm.

The County of Santa Barbara has adopted CEQA thresholds that are used to assist the County in classifying the significance of impacts to public safety. The thresholds employ quantitative measures of risk. If a proposed project has the potential to expose the public to toxic or flammable pollutants, then a risk assessment must be undertaken. The thresholds are applicable to a number of industry types including the “use” of specified quantities of regulated substances pursuant to Title 19 of the CCR (the CalARP regulations), or materials that could vaporize or evaporate quickly upon release and could cause risk to the public. Although this project does not “use” any of the substances on the Title 19 list, a number of toxic and flammable substances on the Title 19 list could be emitted if the batteries were to experience a malfunction, including hydrogen chlorine, hydrogen fluoride, nitrogen oxide, phosphine and sulfur dioxide (see below). Therefore, if a battery malfunction could cause the release of these pollutants and the release could impact the public, a detailed risk analysis should be performed.

In 2016, a technical working group comprised of utility and industry representatives worked with the California Public Utilities Commission Safety & Enforcement Division's Risk Assessment and Safety Advisory (RASA) section to develop a set of guidelines for documentation and safe practices at ESS co-located at electric utility substations, power plants or other facilities (CPUC 2017). The guidelines require a safety plan and inspection procedures.

Public Receptors

There are a number of public receptors located near the proposed project site. These are listed below.

Table 1 Distance to Receptors

Receptor	Distance to Battery Cabinets, feet
Agricultural Areas to the North	145
Foothill Road	160
Family Baptist Church property line	175
Family Baptist Church property play structure	190
Family Baptist Church property building	210
Residences on Concord	220
Agricultural Areas to the East	360
Carpinteria High School	870

4.0 Assessment Methodology

There will be no pollutant emissions from the battery systems associated with the Project during normal operation.

However, in the unlikely event of a battery cell malfunction, such as a runaway reaction or external impact event, the Project could emit pollutants to the atmosphere. During a runaway reaction, if the temperature exceeds a critical level, thermal runaway can occur when the battery initiates an unstoppable chain reaction. The temperature rises rapidly, and the energy stored in the battery is suddenly released. For these types of battery cell malfunctions, pollutant emissions could be generated due to elevated temperatures within a single storage cell or group of storage cells caused by a runaway reaction. Pollutant emissions could include either toxic materials or flammable materials.

This analysis is limited to a reasonable worst-case event. A catastrophic event, such as an airplane impact, run-away vehicle impact, terrorist incident or nearby construction equipment collapse causing impact, could cause multiple megapacks to be destroyed, causing substantial emissions associated with a large-scale fire. A reasonable worst-case event is more limited in scope, defined as a control system failure or a puncture of a module, similar to that conducted as part of the UL 1973 testing, which could cause a runaway reaction in a group of cells. Generally, a reasonable worst-case scenario is more appropriate for a planning scenario as any development project could produce substantial fires and cause impacts to neighboring facilities under a catastrophic scenario.

The Battery Storage System (BSS) will be equipped with monitoring and control systems that will prevent and/or control battery cell malfunctions. However, to determine an unlikely, but reasonable worst-case public health impacts for this analysis, it is assumed that these control systems fail and do not control the battery cell malfunction. For this unlikely event, it is assumed that the battery cell malfunction continues until the Fire Department arrives onsite.

Different manufacturers have developed various studies examining the potential scenarios related to battery malfunctions, although most of these studies are proprietary. Some studies have been independently performed for agencies, including by Det Norske Veritas (DNVGL 2017) conducted for the New York State Energy Research & Development Authority (NYSERDA) and Consolidated Edison. Other studies include Anderson 2015, Blum 2016, Larsson 2017 and LG Chem (another battery manufacturer) where batteries were exposed to external heat sources and off gases were measured. In addition, the battery manufacturer Tesla, has conducted some testing by DNVGL (DNVGL 2019 proprietary) where external heat was added and forced a burn of the entire enclosure of a similar battery system (a PowerPack).

Different battery cell malfunctions could produce emissions. These include: (1) an elevated temperature situation due to a runaway reaction with no combustion (venting with no combustion); (2) combustion of the battery due to an elevated temperature situation from a runaway. Studies have shown (Rincon 2017 and proprietary UL9540A testing) that a localized runaway reaction with combustion produces the greatest emissions and is therefore the reasonable worst-case scenario and the scenario analyzed in this report.

The BSS will be enclosed in cabinets that have venting and temperature control. It is assumed that the emissions caused by these malfunction scenarios will be vented during the malfunction scenario. As per the DNVGL 2019 testing, emissions occurred over a period of a few hours. However, for all malfunction scenarios, it is assumed that the release of pollutants to the atmosphere would occur all within one hour as a reasonable worst case.

In addition, as part of the UL 1973 requirements, battery malfunctions and punctures are required to have limited cascading capabilities by designing the battery configurations to minimize the ability of a runaway reaction to propagate to other battery cells. It is highly unlikely that an entire module or groups of modules would be involved in a single event. Therefore, as a reasonable worst-case, it is assumed that only 10 percent of the cells in a single module would be involved in the battery malfunction. Tesla's historical experience with battery cell malfunctions indicate that this is a very conservative scenario that has not occurred to date with their batteries.

Battery malfunctions can result in the release of toxic materials and/or the release of a flammable gas mixture and subsequent flammable gas vapor cloud with subsequent fire or explosion.

Toxic Pollutants

Toxic pollutants emitted from battery malfunctions are partially dependent on the battery type. For lithium ion batteries, studies indicate that the primary toxic pollutants could be any of the following:

Table 2 Potential Toxic Pollutants from Battery Malfunctions

Pollutant	OEHHA Reference Exposure Level (REL), µg/m3 (ppm)	IDLH (Immediately Dangerous to Life and Health)	ERPG-3 (Emergency Response Planning Guidelines)	ERPG-2 (Emergency Response Planning Guidelines)
Carbon monoxide (CO)	23,000/26.7	1,200 ppm	500 ppm	350 ppm
Hydrogen Chloride (HCl)	2100/3.2	50 ppm	150 ppm	20 ppm
Hydrogen Cyanide (HCN)	340/0.4	50 ppm	25 ppm	10 ppm
Hydrogen Fluoride (HF)	240/0.2	30 ppm	50 ppm	20 ppm
Methanol (CH ₃ OH)	28,000/37	6,000 ppm	5,000 ppm	1,000 ppm
Nitrogen Oxide (NO _x)	470/0.9	13 ppm	30 ppm	15 ppm
Phosphine (PH ₃)**	400/0.6	50 ppm	5 ppm	0.5 ppm
Phosphorous Pentafluoride (PF ₅)	240/0.2*	50 ppm***	-	-
Phosphoryl Fluoride (POF ₃)	240/1.0*	50 ppm	-	-
Styrene	21,000/90	700 ppm	1000 ppm	250 ppm
Sulfur Dioxide (SO ₂)	660/1.8	100 ppm	25 ppm	3 ppm
Toluene	37,000/140	500 ppm	1,000 ppm	300 ppm

* Utilized the acute REL for hydrogen fluoride as per OEHHA REL tables for Fluorides chronic are very similar

** OEHHA does not have REL for acute PH3. Estimated based on NIOSH values.

*** The National Institute for Occupational Safety and Health (NIOSH) does not have a listing for PF₅. PF₅ and POF₃ estimated based on general fluorides.

Sources: See Table 3.

Generally, the battery cell will start to off gas if the temperature exceeds 120 °C (DNVGL 2017).

Several studies have examined the emissions of toxic pollutants from battery off gassing situations, with some studies examining only the concentration of toxic pollutants and others also examining emission rates. The relevant studies are listed in Table 3.

Table 3 Studies on Emissions from Battery Malfunctions

Study	Description	Results
Anderson 2015	Exposure of battery to heat source, off gasses tested. LFP battery, 1.2 kg, 35 Ah	HF: 30-50ppm peak POF ₃ : 1-2ppm peak HF Rate: 0.01 g/s
Blum 2016	Modules tested with heat exposure until thermal runaways. 100kwh unit by Tesla.	HF: 100 ppm peak
CATL	UL 9540A testing (proprietary)	Composition of off gassing: primary pollutants only. Up to 153.5 L off gas per cell

Table 3 Studies on Emissions from Battery Malfunctions

Study	Description	Results
Larsson 2017	External propane burner used to heat batteries, measured toxic gasses. Examined different battery types	HF: up to 145 ppm peak HF rate: 50 mg/s peak HF rate: 200mg/whr peak POF ₃ rate: 22 mg/whr peak
LG Chem	Proprietary data on LFP and NMC battery types.	HF-0.2ppm PH ₃ -1.0ppm HF rate: 4.7e-7 g/hr PH ₃ rate: 2.4e-4 g/hr Up to 244 L off gas per cell
DNVGL 2017	Measured characteristics of a wide range of battery types and failures	release rates per kg of battery weight: HF rate: 1.7e-7 kg/s-kg
DNVGL 2019	Measure characteristics of a Tesla powerpack thermal runaway scenario (proprietary)	Maximum Values: HCL: 538 ppm HF: 183 ppm HCN: 67 ppm
Tesla	Proprietary studies	HF: 500 ppm HCL: 1,000 ppm HCN: 1,600 ppm Methanol: 32 ppm Styrene: 1 ppm Toluene: 3,500 ppm

Some of the key findings from these studies include the following:

- HF was found to be produced by all battery types.
- For NMC batteries, HCL, HF and HCN are produced (DNVGL 2019).
- PH₃ was only identified by LG Chem for the NMC battery type at low levels.
- PF₅ rapidly decomposes to HF and was therefore generally not detected (Anderson 2013).

It was also found that the average emission rate of HF in a plastics fire can be higher than the average emission rate of a battery fire (DNVGL 2017), indicating that potentially a majority of the toxic emissions from a battery fire are a result of the combustion of the plastic components.

Flammable Components and Flammability

Flammable components are also emitted from a battery malfunction. Based upon the studies listed in Table 3, the flammable components could include the following:

Table 4 Potential Flammable Components from Battery Off Gassing

Component	Lower Flammability Limit (LFL), vol%
Acetylene (C ₂ H ₂)	2.5
Butanes (C ₄)	1.8
Carbon monoxide (CO)	12.5
Ethane (C ₂ H ₆)	3.0
Ethylene (C ₂ H ₄)	2.7
Hydrogen (H ₂)	4.0
Methane (CH ₄)	5.0
Pentanes (C ₅)	1.4
Propane (C ₃ H ₈)	2.1
Propene (C ₃ H ₆)	2.0

Sources: See Table 3

Depending on the combination of these flammable materials, the off gasses could have varying degrees of flammability.

The Tesla manufacturer provided information on the composition of battery off gassing as part of battery testing (DNVGL 2019). These are shown below:

Table 5 Tesla Manufacturer Battery Off Gassing Primary Flammable Components

Component	Mole Percent
Hydrogen (H ₂)	24
Carbon monoxide (CO)	34
Methane (CH ₄)	4
Ethylene (C ₂ H ₄)	5
Propane (C ₃ H ₈) +	< 1

Note: based on Tesla proprietary testing, worst-case level encountered (most flammable), for single cell level testing. Other components, such as nitrogen and carbon dioxide, are also produced but are not shown due to not being flammable.

The Compressed Gas Association (CGA) Publication P-23 provides algorithms for estimating the level of flammability of gas mixtures. The application of this technique to the off gassed materials as provided by the manufacturer as part of the testing (shown in Table 5) indicates that the released vapor/gas would be flammable, with a Q factor (a factor used in the CGA publication P-23 which defines the level of flammability of a mixture of gasses, or the total normalized flammable component concentration. A Q factor greater than 1.0 for a mixture of flammable gasses is defined as a flammable mixture) of over 6.6 and an estimated lower flammability limit of 5.6 percent. This exceeds the Q factor flammability limit of 1.0, established by the CGA, indicating the off gassed material is flammable. See Attachment A, page A-10 (CGA 2015).

Screening and Modeling

In order to estimate the impacts of the off gassing from toxic and flammable emissions, both a screening and a modeling approach were used. The Santa Barbara County APCD prioritization approach (SBCAPCD 1990) for health risks was used for the acute impact of toxic emissions. The screening approach uses the prioritization method developed by the California Air Pollution Control Officers Association (CAPCOA) in consultation with the California Air Resources Board (ARB) and Office of Environmental Health Hazard Assessment (OEHHA) as part of the implementation of the Air Toxics “Hot Spots” Information and Assessment Act of 1987 (Air Toxics “Hot Spot” Act, Health and Safety Code §44344.4(c).). The criteria used by the prioritization method are based on a Total Score (TS) for acute impacts. These score thresholds are as follows:

- High priority facilities with TS greater than 10.0
- Intermediate priority facilities with TS between 1.0 and 10.0
- Low priority facilities with TS less than 1.0

The criteria are based on the application of several conservative air dispersion modeling scenarios coupled with air pollutant toxicities as reported by OEHHA and the Environmental Protection Agency (EPA). For scores falling in the High or Intermediate Priority category, other factors that should be considered that could affect the results may include:

- Population density near the facility,
- Proximity of sensitive receptors to the facility,
- Receptor proximity less than 50 meters,
- Elevated receptors/complex terrain,
- Frequency of nuisance violations,
- Importance of non-inhalation pathway for substance(s) emitted by the facility,
- Presence of non-stack (fugitive) emissions, and
- Stack temperatures and release source terms.

The prioritization approach utilized guidelines developed by the SBCAPCD (SBCAPCD 1990). For intermediate and high priority facilities, additional analysis utilizing modeling with source and receptor specific factors may be required.

In addition, the Canary[®] model was run examining the downwind distance to the IDLH and the ERPG levels at 6 feet height (the “flagpole” height). The Canary[®] model is a computerized model developed by Quest Consulting to estimate the thermodynamic properties of gas mixtures and estimate impact distances of thermal exposure, explosions, vapor clouds and toxic effects.

The AERMOD modeling program was also run with 5 years of meteorological data from the SBCAPCD with the emission source as a point source, taking into account the thermal buoyancy due to elevated temperatures associated with a runaway release. The AERMOD modeling program allows an examination of a wide range of meteorological conditions in order to access a reasonable worst-case impact. This additional modeling was conducted in order to thoroughly access the potential for offsite toxic impacts.

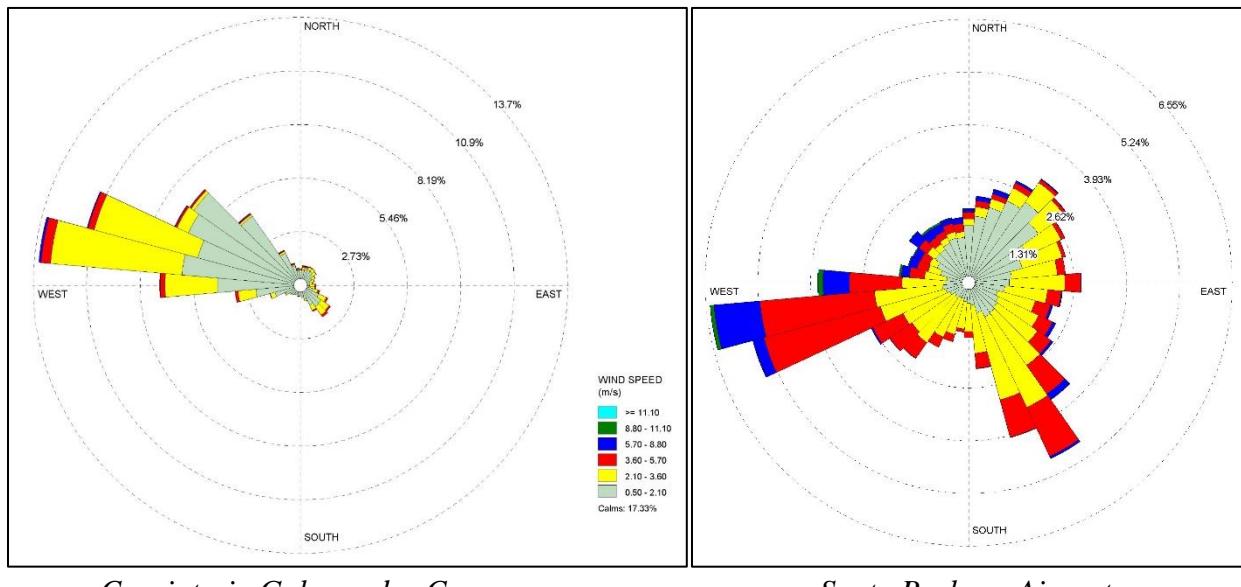
For flammable impacts, the Canary[®] model was used to determine the distances that flammable vapor clouds could travel with a resulting battery malfunction scenario under different meteorological conditions. The Canary[®] model was also used to examine explosion impacts to 1 psi overpressure.

For thermal impacts due to a fire, the DNVGL 2019 testing results were utilized.

Meteorological Data

The meteorological data shown in Figure 2 represent the meteorological conditions near the site and show the conditions at the APCD Carpinteria monitoring station located along Gobernador Canyon Road (about 3.1 miles to the east from the project site) for the years 2012-2016. The wind rose shows the predominant wind is from the west, which would generally be away from the nearby sensitive receptors. However, as this meteorological station is located within Gobernador Canyon, which runs west to east, wind flows may be channeled by the canyon. Also shown in Figure 2 is the wind rose from the Santa Barbara Airport, located along the coast without canyon influences, like the project site. The Santa Barbara Airport site indicates predominantly winds from the west, but also winds from the south/south-east as well with somewhat higher speeds. This location is also somewhat similar to the Santa Barbara Downtown (SB National Guard) meteorological station site as well, which sits inland although somewhat influenced by nearby, coastal topography. The winds at the project site would most likely be a combination of these two wind measurements, with the predominant wind direction being from the west with periods of winds from the south to southeast.

Figure 2 Meteorological Wind Rose



Carpinteria Gobernador Canyon

Santa Barbara Airport

Note: For the years 2012-2016. Wind Rose shows the wind based on the direction the wind is from.

5.0 Environmental Consequences

The consequences associated with battery malfunctions are discussed below based on the methodology presented above.

5.1 Exposure Assessment

Project emissions to the air would consist of combustion and vent products from the burning and/or venting of the battery cells due to a battery cell malfunction under the reasonable worst-case scenario. Inhalation is the main pathway by which toxic air pollutants could potentially cause public health impacts.

Flammable impacts could be produced by vapor cloud fires or explosions for the reasonable worst-case scenario, or from thermal exposure to fires.

5.2 Significance Criteria

A prioritization method was defined by the SBCAPCD guidelines (SBCAPCD 1990) and associated spreadsheet and used here to assess the potential impacts associated with toxic emissions based on Total Score (TS) for acute impacts. A TS of below 1.0 is considered less than significant, with a TS of above 1.0 requiring additional analysis in order to determine significance.

For Canary[®] and AERMOD modeling assessments, impacts offsite that could impact the public would require additional analysis for areas that have sensitive receptors in order to determine significance utilizing a quantitative risk assessment as discussed above for the CEQA thresholds.

Flammable impacts are determined to be less than significant if vapor cloud fires or explosions do not impact sensitive receptors or offsite areas, with additional analysis required to determine significance if flammable vapors could impact sensitive receptors. If impacts do affect receptors, a more detailed analysis should be implemented utilizing a quantitative risk assessment as discussed above for the CEQA thresholds.

5.3 Toxic Impacts

Potential human health impacts associated with the Project stem from exposure to air emissions from the battery cell malfunction reasonable worst-case scenario discussed above. The reasonable worst-case scenario would involve the battery malfunctions associated with off gassing and combustion. The battery manufacturer provided information on primary and toxic pollutants from the battery combustion malfunction, and that information was utilized for the analysis. It is assumed for a worst-case analysis that these emissions are released over a period of 1 hour.

Detailed calculations are provided in Attachment A. Included in Attachment B is a copy of the Emergency Response Guide provided by the battery vendor Tesla. The compounds and the associated mass emission rates were determined by proprietary testing performed by the battery vendor.

As per UL1973 tests, in the event of a single cell undergoing thermal runaway there was no propagation to surrounding cells. In addition, the tests showed that when an entire module was force-ignited, there was no propagation to surrounding modules. The entire BSS will be comprised of many modules (there are 17 modules per cabinet with 15 cabinets proposed at the site), and the malfunction events discussed above are unlikely to occur. If such an event does occur, it will only likely occur within a single or limited number of battery cells as demonstrated per UL1973. Therefore, this analysis conservatively assumed that only 10 percent of the cells within a module would be affected as a reasonable worst-case analysis (i.e. a multicell malfunction). Note that manufacturer testing as part of UL1973 involving external punctures indicated that propagation of thermal runaway involved substantially fewer than 10% of cells within a module. Therefore, a 10 percent rate of cell involvement in thermal runaway is considered a reasonable worst-case.

Because the emissions would occur over a short period of time, only the public health impacts associated with acute exposure to short term releases were analyzed for the reasonable worst-case battery cell malfunction. The acute impact prioritization scores for the reasonable worst-case battery cell malfunction scenario are provided in Table 6, and detailed calculations can be found in Attachment A. Each score is below a TS of 1.0, indicating that all of the modeled release scenarios receive a low priority classification.

Table 6 SBCAPCD Health Risk Screening Prioritization Results

Scenario	SBCAPCD Guidelines Total Score (TS)
Single Cell malfunction, reasonable worst case	0.0005
Multiple Cell malfunction (10% of cells), reasonable worst case	0.69

Modeling conducted utilizing the Canary[®] software indicated that the plume rapidly rises due to the elevated temperature of the off gassed materials, with ERPG and IDLH values remaining either onsite or elevated. Because the plume is elevated, higher concentrations of toxic materials would not be realized near the ground level where there is a potential to impact receptors. None of the receptors in the area are elevated (such as tall buildings or located uphill). AERMOD modeling indicated that the maximum exposed concentration offsite of toxic materials would remain below the ERPG-2 and the IDLH levels at receptor heights that would be experienced near ground level.

Therefore, the public health impacts from toxic pollutants associated with the reasonable worst-case battery cell malfunction would be less than significant.

Table 7 shows the results of the analysis for the elevated plume impacts, which are impacts that would not occur at receptor heights.

Table 7 Modeling Toxic Materials Results for Elevated Receptors

Pollutant	IDLH Downwind Distance, feet	ERPG-3 Downwind Distance, feet	ERPG-2 Downwind Distance, feet
Carbon monoxide (CO)	86	145	178
Hydrogen Chloride (HCl)	6	14	26
Hydrogen Cyanide (HCN)	20	32	60
Hydrogen Fluoride (HF)	8	12	16
Toluene	3	6	9

Notes: based on Canary modeling. See Attachment A. Plume centerline heights are 15 feet at the farthest distance. Based on Table 3 Tesla Studies, Styrene and Methanol are low concentrations and do not generate offsite impacts.

The closest receptor to the battery compartments is the Family Baptist Church, with the property line being located at ground level about 175 feet from the closest battery cabinet, the play structure 190 feet and the buildings on the Church site 210 feet from the closest battery cabinet. The agricultural areas to the north of the battery cabinets are located at ground level and have a low population density. Given that the plume would be elevated (by about 15 feet), and the Church facilities would be outside the distance to the injury levels of concern (ERPA-2) even of the elevated plume, impacts would be less than significant.

5.4 Flammable Impacts

The off gassed materials could generate a flammable vapor cloud and may produce a flammable gas mixture (see above). The Canary[®] computer model was utilized to estimate the distance that the flammable vapor cloud could reach (see Attachment A for the Canary[®] model outputs and assumptions). The lower flammability limit (LFL) and the ½ LFL are used as an estimate of the potential impacts from flammable vapors. Distances for the LFL and the ½ LFL are estimated to be 9 and 15 feet, respectively. Explosion distances to a 1 psi overpressure assumed a high level of material reactivity (due to the presence of hydrogen) and a high obstacle density (due to the location of multiple cabinets together), thereby increasing the potential for an explosion, under a conservative scenario. Vapor cloud explosion impacts are estimated to be less than the ½ LFL distance of 15 feet.

Thermal impacts of a fire could extend for a far as 20 feet based on the DNVGL 2019 testing (to thermal radiation levels for injury of 5 kw/m²). Thermal radiation levels that could produce fatalities therefore would not extend offsite.

Because the distances for flammable vapors would not extend outside of the Project site boundaries, the impacts would be less than significant.

6.0 Recommendations

Recommendations related to siting and megapack installation would help to ensure that the potential for significant events are minimized. These would include the following:

1. All batteries shall be discharged to below 30% state of charge (SOC) during the construction/installation phases.
2. Any replacement or maintenance of batteries requiring the use of heavy construction equipment, such as cranes or forklifts, shall be conducted only on batteries discharged to below 30% SOC and nearby batteries that could be affected shall also be discharged to below 30% SOC.
3. Vehicle impact bollards or equivalent shall be installed to reduce the potential for vehicle impacts to the battery cabinets (as per NFPA 855 section 4.3.7).
4. The facility shall be equipped with monitoring equipment to detect fires and off gassed materials and shall alarm to a central, manned location and initiate an audible and visual signal. Detection equipment should be placed between the battery cabinets and the closest sensitive receptor (the Church) and should include the use of a fire/flame detector, such as a Det-Tronics x3302 and a gas detector, such as a Det-Tronic CGS gas detector, as recommended by Det-Tronics for battery installations.

Studies have shown (Golubkov 2015) that the potential for thermal runaway is a strong function of the level of charge of the batteries, with batteries that are charged below 50% exhibiting a lower potential for runaway and lower levels of offgassed volume given an external accident scenario. Therefore, when construction equipment is operating onsite, batteries that could be affected should be discharged to less than 30% SOC in order to reduce the potential for thermal-runaway accidents.

In addition, ensuring all batteries are protected from vehicle impacts would reduce the potential for accident scenarios associated with vehicle impacts.

Although the impact zones as determined from modeling indicate that the closest sensitive receptors are located at or beyond the impact zones, the areas to the north and south of the proposed project site are located within the injury impact zones of the elevated plume. In addition, the site would not have personnel onsite, and a runaway scenario could extend for a long period of time before being noticed, particularly at night. Therefore, the installation of monitoring systems is appropriate. In addition, Tesla indicates that “*for jurisdictions that require it, Tesla recommends multispectral IR*” as a form of detection.

Although NFPA 855 detection and monitoring requirements may not apply to outdoor, cabinet installations, the NFPA does require detection and monitoring for a number of battery installation situations. NFPA 855 section 4.4.3 classifies the proposed project site as a “remote location” as it would be more than 100 feet from buildings, lot lines and public ways. NFPA 855 section 4.9.3 requires some systems be supervised by a central station or initiate an audible and visual signal at a constantly attended location and that cabinets be protected by an approved gas detection system. NFPA Section 4.9 may not apply to outdoor systems, as indicated in section 4.4.3, or to lithium-ion systems, as per section 9.2, but the use of fire and gas detection is

recommended for some battery installations as an additional means of upset protection based on NFPA 855.

7.0 Summary of Impacts and Conclusions

Results from the analysis indicate that the reasonable worst-case battery cell malfunction scenarios would result in impacts below the significant thresholds. Recommendations would help to ensure that the battery systems do not suffer malfunctions from external events and malfunction events at the un-occupied facility are detected in a timely manner. Therefore, the impacts for the battery facility are considered less than significant.

8.0 References

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- Larsson 2017, Toxic Fluoride Gas Emissions from Lithium-Ion Battery Fires
- LG Chem, Proprietary testing discussed in Rincon 2017 NRG Ellwood Battery Storage Project Final Initial Study – Mitigated Negative Declaration Case #15-145-CUP
- NFPA 2017, Technical Committee on Stationary Energy Storage Systems Minutes of Meeting
- NIOSH 2019, The National Institute for Occupational Safety and Health (NIOSH), Immediately Dangerous To Life or Health (IDLH) Values: Table of IDLH Values, <https://www.cdc.gov/niosh/idlh/intridl4.html>
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- Rincon 2017, NRG Ellwood Battery Storage Project Final Initial Study – Mitigated Negative Declaration Case #15-145-CUP (LG Chem batteries)
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- SBC 2008, Environmental Thresholds and Guidelines Manual, 2008

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Attachment A

Calculations

Tesla Battery System

Toxic Emission Calcs

Pollutant	Vol %	Volume (Liter)	MW (g/mol)	Single Cell Emissions (grams)	Single Cell Rate (g/s)	Single Cell Rate (lbs/hr)	Multicell Rate (g/s)	Multicell Rate (lbs/hr)
Primary Compounds								
H2	24	1.5	2.0	0.1	0.0000	0.0003	0.0419	0.3328
CO	34	2.1	28.0	2.6	0.0007	0.0057	0.9078	7.2047
CO2	28	1.7	44.0	3.3	0.0009	0.0074	1.1748	9.3237
CH4	4	0.2	16.0	0.2	0.0000	0.0004	0.0610	0.4843
C2H4	5	0.3	28.1	0.4	0.0001	0.0008	0.1340	1.0633
C2H6	0	0.0	30.1	0.0	0.0000	0.0000	0.0000	0.0000
C3H6	0.004	0.0	42.1	0.0	0.0000	0.0000	0.0002	0.0013
C3H8	0	0.0	44.1	0.0	0.0000	0.0000	0.0000	0.0000
C4	0	0.0	58.1	0.0	0.0000	0.0000	0.0000	0.0000
C5	0	0.0	72.2	0.0	0.0000	0.0000	0.0000	0.0000
Nitrogen	5	0.3	28.0	0.4	0.0001	0.0008	0.1335	1.0595
Total	100.0	6.1	25.8	7.0	0.0019	0.0154	2.4570	19.5000
Trace compounds								
	ppm	MW						
HF	500	20.0		2.7E-03	7.5E-07	6.0E-06	9.5E-04	7.6E-03
HCL	1,000	36.4		9.9E-03	2.7E-06	2.2E-05	3.5E-03	2.8E-02
HCN	1,600	27.0		1.2E-02	3.3E-06	2.6E-05	4.1E-03	3.3E-02
Methanol	32	27.0		2.3E-04	6.5E-08	5.2E-07	8.2E-05	6.5E-04
Styrene	1	104.0		2.8E-05	7.8E-09	6.2E-08	9.9E-06	7.9E-05
Toluene	3,500	92.0		8.7E-02	2.4E-05	1.9E-04	3.1E-02	2.4E-01

Assumes: Atmospheric Normal Temperature and Pressure (298.15K and 100.3 kpa)

Vol % and single cell emissions total provided by manufacturer

Standard temperature and pressure (STP) is defined as 0°C (273.15 K) and 1 atm of pressure

Number of cells in multicell event 1264

Time of event, minutes 60

Gas compositions based on Tesla and DNVGL studies, maximum values measured.

Instructions: Enter source-specific data in the highlighted cells below. The resulting prioritization scores are calculated in bold at the bottom of the table.

Stationary Source Name: Battery Storage- Single Cell

RP = 1

Shortest distance from an emitting source to the fenceline: 44 meters

Pollutant Name	Pollutant ID	Multipathway?	Multipathway multiplier	Annual Emissions lb/yr	Unit Risk ($\mu\text{g}/\text{m}^3$) ¹	Cancer Score	Annual Emissions lb/hr	Chronic REL $\mu\text{g}/\text{m}^3$	Chronic Score	Max Emissions lb/hr	Acute REL $\mu\text{g}/\text{m}^3$	Acute Score	Non-Cancer Score
Acetaldehyde	75070	No	1		2.7E-06	0.0E+00	0	1.4E+02	0.0E+00		4.7E+02	0.0E+00	0.0E+00
Acetamide	60355	No	1		2.0E-05	0.0E+00	0	0	0		0	0	0.0E+00
Acrolein	107028	No	1		0	0.0E+00	0	3.5E-01	0.0E+00		2.5E+00	0.0E+00	0.0E+00
Acrylamide	79061	No	1		1.3E-03	0.0E+00	0	0	0		0	0	0.0E+00
Acrylic acid	79107	No	1		0	0.0E+00	0	0	0		6.0E+03	0.0E+00	0.0E+00
Acrylonitrile	107131	No	1		2.9E-04	0.0E+00	0	5.0E+00	0.0E+00		0	0	0.0E+00
Allyl chloride	107051	No	1		6.0E-06	0.0E+00	0	0	0		0	0	0.0E+00
2-aminoanthraquinone	117793	No	1		9.4E-06	0.0E+00	0	0	0		0	0	0.0E+00
Ammonia	7664417	No	1		0	0.0E+00	0	2.0E+02	0.0E+00		3.2E+03	0.0E+00	0.0E+00
Aniline	62533	No	1		1.6E-06	0.0E+00	0	0	0		0	0	0.0E+00
Arsenic and compounds (inorganic)	7440382	Yes	10		3.3E-03	0.0E+00	0	1.5E-02	0.0E+00		2.0E-01	0.0E+00	0.0E+00
Arsine	7784421	No	1		0	0.0E+00	0	1.5E-02	0.0E+00		2.0E-01	0.0E+00	0.0E+00
Asbestos	1332214	No	1		1.9E-04	0.0E+00	0	0	0		0	0	0.0E+00
Benzene	71432	No	1		2.9E-05	0.0E+00	0	3.0E+00	0.0E+00		2.7E+01	0.0E+00	0.0E+00
Benzidine (and its salts)	92875	No	1		1.4E-01	0.0E+00	0	0	0		0	0	0.0E+00
Benzyl chloride	100447	No	1		4.9E-05	0.0E+00	0	0	0		2.4E+02	0.0E+00	0.0E+00
Beryllium and compounds	7440417	Yes	10		2.4E-03	0.0E+00	0	7.0E-03	0.0E+00		0	0	0.0E+00
Bis(2-chloroethyl)ether (Dichloroethyl ether)	111444	No	1		7.1E-04	0.0E+00	0	0	0		0	0	0.0E+00
Bis(chloromethyl)ether	542881	No	1		1.3E-02	0.0E+00	0	0	0		0	0	0.0E+00
Potassium bromate	7758012	No	1		1.4E-04	0.0E+00	0	0	0		0	0	0.0E+00
1,3-butadiene	106990	No	1		1.7E-04	0.0E+00	0	2.0E+00	0.0E+00		6.6E+02	0.0E+00	0.0E+00
Cadmium and compounds	7440439	Yes	10		4.2E-03	0.0E+00	0	2.0E-02	0.0E+00		0	0	0.0E+00
Caprolactam	105602	No	1		0	0.0E+00	0	2.2E+00	0.0E+00		5.0E+01	0.0E+00	0.0E+00
Carbon disulfide	75150	No	1		0	0.0E+00	0	8.0E+02	0.0E+00		6.2E+03	0.0E+00	0.0E+00
Carbon monoxide	630080	No	1		0	0.0E+00	0	0	0	0	0.005701688	2.3E+04	3.7E-04
Carbon tetrachloride (Tetrachloromethane)	56235	No	1		4.2E-05	0.0E+00	0	4.0E+01	0.0E+00		1.9E+03	0.0E+00	0.0E+00
Carbonyl sulfide	463581	No	1		0	0.0E+00	0	1.0E+01	0.0E+00		6.6E+02	0.0E+00	0.0E+00
Chlorinated paraffins	108171262	No	1		2.5E-05	0.0E+00	0	0	0		0	0	0.0E+00
Chlorine	7782505	No	1		0	0.0E+00	0	2.0E-01	0.0E+00		2.1E+02	0.0E+00	0.0E+00
Chlorine dioxide	10049044	No	1		0	0.0E+00	0	6.0E-01	0.0E+00		0	0	0.0E+00
4-chloro-o-phenylenediamine	95830	No	1		4.6E-06	0.0E+00	0	0	0		0	0	0.0E+00
Chlorobenzene	108907	No	1		0	0.0E+00	0	1.0E+03	0.0E+00		0	0	0.0E+00
Chloroform	67663	No	1		5.3E-06	0.0E+00	0	3.0E+02	0.0E+00		1.5E+02	0.0E+00	0.0E+00
Pentachlorophenol	87865	No	1		5.1E-06	0.0E+00	0	0	0		0	0	0.0E+00
2,4,6-trichlorophenol	88062	No	1		2.0E-05	0.0E+00	0	0	0		0	0	0.0E+00
Chloropicrin	76062	No	1		0	0.0E+00	0	4.0E-01	0.0E+00		2.9E+01	0.0E+00	0.0E+00
p-chloro-o-toluidine	95692	No	1		7.7E-05	0.0E+00	0	0	0		0	0	0.0E+00
Chromium 6+	18540299	Yes	10		1.5E-01	0.0E+00	0	2.0E-01	0.0E+00		0	0	0.0E+00
Chromium trioxide	1333820	Yes	10		1.5E-01	0.0E+00	0	2.0E-03	0.0E+00		0	0	0.0E+00
Copper and compounds	7440508	No	1		0	0.0E+00	0	0	0		1.0E+02	0.0E+00	0.0E+00
p-cresidine	120718	No	1		4.3E-05	0.0E+00	0	0	0		0	0	0.0E+00
Cresols	1319773	No	1		0	0.0E+00	0	6.0E+02	0.0E+00		0	0	0.0E+00
Cupferron	135206	No	1		6.3E-05	0.0E+00	0	0	0		0	0	0.0E+00
Cyanide compounds (inorganic)	57125	No	1		0	0.0E+00	0	9.0E+00	0.0E+00	2.58732E-05	3.4E+02	1.1E-04	1.1E-04
2,4-diaminoanisole	615054	No	1		6.6E-06	0.0E+00	0	0	0		0	0	0.0E+00
2,4-diaminotoluene	95807	No	1		1.1E-03	0.0E+00	0	0	0		0	0	0.0E+00
1,2-dibromo-3-chloropropane (DBCP)	96128	No	1		2.0E-03	0.0E+00	0	0	0		0	0	0.0E+00
p-dichlorobenzene	106467	No	1		1.1E-05	0.0E+00	0	8.0E+02	0.0E+00		0	0	0.0E+00
3,3-dichlorobenzidine	91941	No	1		3.4E-04	0.0E+00	0	0	0		0	0	0.0E+00
1,1-dichloroethane (Ethylidene dichloride)	75343	No	1		1.6E-06	0.0E+00	0	0	0		0	0	0.0E+00
Di(2-ethylhexyl)phthalate (DEHP)	117817	Yes	10		2.4E-06	0.0E+00	0	0	0		0	0	0.0E+00
Diesel PM	9901	No	1		3.0E-04	0.0E+00	0	5.0E+00	0.0E+00		0	0	0.0E+00
Diethanolamine	111422	No	1		0	0.0E+00	0	3.0E+00	0.0E+00		0	0	0.0E+00
p-dimethylaminoazobenzene	60117	No	1		1.3E-03	0.0E+00	0	0	0		0	0	0.0E+00
n,n-dimethyl formamide	68122	No	1		0	0.0E+00	0	8.0E+01	0.0E+00		0	0	0.0E+00

2,4-dinitrotoluene	121142	No	1	8.9E-05	0.0E+00	0	0	0	0	0	0.0E+00
1,4-dioxane (1,4-diethylene dioxide)	123911	No	1	7.7E-06	0.0E+00	0	3.0E+03	0.0E+00	3.0E+03	0.0E+00	0.0E+00
Epichlorohydrin (1-chloro-2,3-expoxypropane)	106898	No	1	2.3E-05	0.0E+00	0	3.0E+00	0.0E+00	1.3E+03	0.0E+00	0.0E+00
1,2-epoxybutane	106887	No	1	0.0E+00	0	0	2.0E+01	0.0E+00	0	0	0.0E+00
Ethyl benzene	100414	No	1	2.5E-06	0.0E+00	0	2.0E+03	0.0E+00	0	0	0.0E+00
Ethyl chloride (Chloroethane)	75003	No	1	0.0E+00	0	0	3.0E+04	0.0E+00	0	0	0.0E+00
Ethylene dibromide (1,2-dibromoethane)	106934	No	1	7.1E-05	0.0E+00	0	8.0E-01	0.0E+00	0	0	0.0E+00
Ethylene dichloride (1,2-dichloroethane)	107062	No	1	2.1E-05	0.0E+00	0	4.0E+02	0.0E+00	0	0	0.0E+00
Ethylene glycol	107211	No	1	0.0E+00	0	0	4.0E+02	0.0E+00	0	0	0.0E+00
Ethylene oxide (1,2-epoxyethane)	75218	No	1	8.8E-05	0.0E+00	0	3.0E+01	0.0E+00	0	0	0.0E+00
Ethylene thiourea	96457	No	1	1.3E-05	0.0E+00	0	0	0	0	0	0.0E+00
Fluorides	1101	Yes	10	0.0E+00	0	0	1.3E+01	0.0E+00	2.4E+02	0.0E+00	0.0E+00
Hydrogen fluoride (Hydrofluoric acid)	7664393	Yes	10	0.0E+00	0	0	1.4E+01	0.0E+00	5.98917E-06	2.4E+02	3.7E-05
Formaldehyde	50000	No	1	6.0E-06	0.0E+00	0	9.0E+00	0.0E+00	5.5E+01	0.0E+00	0.0E+00
Glutaraldehyde	111308	No	1	0.0E+00	0	0	8.0E-02	0.0E+00	0	0	0.0E+00
Ethylene glycol butyl ether (EGBE)	111762	No	1	0.0E+00	0	0	8.2E+01	0.0E+00	4.7E+03	0.0E+00	0.0E+00
Ethylene glycol ethyl ether (EGEE)	110805	No	1	0.0E+00	0	0	7.0E+01	0.0E+00	3.7E+02	0.0E+00	0.0E+00
Ethylene glycol ethyl ether acetate (EGEEA)	111159	No	1	0.0E+00	0	0	3.0E+02	0.0E+00	1.4E+02	0.0E+00	0.0E+00
Ethylene glycol methyl ether (EGME)	109864	No	1	0.0E+00	0	0	6.0E+01	0.0E+00	9.3E+01	0.0E+00	0.0E+00
Ethylene glycol methyl ether acetate (EGMEA)	110496	No	1	0.0E+00	0	0	9.0E+01	0.0E+00	0	0	0.0E+00
Hexachlorobenzene	118741	No	1	5.1E-04	0.0E+00	0	0	0	0	0	0.0E+00
Hexachlorocyclohexanes	608731	Yes	10	1.0E-03	0.0E+00	0	0	0	0	0	0.0E+00
alpha-hexachlorocyclohexane	319846	Yes	10	1.1E-03	0.0E+00	0	0	0	0	0	0.0E+00
beta-hexachlorocyclohexane	319857	Yes	10	1.1E-03	0.0E+00	0	0	0	0	0	0.0E+00
gamma-hexachlorocyclohexane (Lindane)	58899	Yes	10	3.1E-04	0.0E+00	0	0	0	0	0	0.0E+00
n-hexane	110543	No	1	0.0E+00	0	0	7.0E+03	0.0E+00	0	0	0.0E+00
Hydrazine	302012	No	1	4.9E-03	0.0E+00	0	2.0E-01	0.0E+00	0	0	0.0E+00
Hydrochloric acid (Hydrogen chloride)	764701	No	1	0.0E+00	0	0	9.0E+00	0.0E+00	2.18006E-05	2.1E+03	1.6E-05
Hydrogen sulfide	7783064	No	1	0.0E+00	0	0	1.0E+01	0.0E+00	4.2E+01	0.0E+00	0.0E+00
Isophorone	78591	No	1	0.0E+00	0	0	2.0E+03	0.0E+00	0	0	0.0E+00
Isopropyl alcohol (Isopropanol)	67630	No	1	0.0E+00	0	0	7.0E+03	0.0E+00	3.2E+03	0.0E+00	0.0E+00
Lead and compounds	7439921	Yes	10	1.2E-05	0.0E+00	0	0	0	0	0	0.0E+00
Maleic anhydride	108316	No	1	0.0E+00	0	0	7.0E-01	0.0E+00	0	0	0.0E+00
Manganese and compounds	7439965	No	1	0.0E+00	0	0	9.0E-02	0.0E+00	0	0	0.0E+00
Mercury and compounds	7439976	Yes	10	0.0E+00	0	0	3.0E-02	0.0E+00	6.0E-01	0.0E+00	0.0E+00
Methanol	67561	No	1	0.0E+00	0	0	4.0E+03	0.0E+00	5.17464E-07	2.8E+04	2.8E-08
Methyl bromide (Bromomethane)	74839	No	1	0.0E+00	0	0	5.0E+00	0.0E+00	3.9E+03	0.0E+00	0.0E+00
Methyl tert-butyl ether	1634044	No	1	2.6E-07	0.0E+00	0	8.0E+03	0.0E+00	0	0	0.0E+00
Methyl chloroform (1,1,1-trichloroethane)	71556	No	1	0.0E+00	0	0	1.0E+03	0.0E+00	6.8E+04	0.0E+00	0.0E+00
Methyl ethyl ketone (2-butanone)	78933	No	1	0.0E+00	0	0	0	0	1.3E+04	0.0E+00	0.0E+00
Methyl isocyanate	624839	No	1	0.0E+00	0	0	1.0E+00	0.0E+00	0	0	0.0E+00
4,4'-methylene bis(2-chloroaniline) (MOCA)	101144	No	1	4.3E-04	0.0E+00	0	0	0	0	0	0.0E+00
Methylene chloride (Dichloromethane)	75092	No	1	1.0E-06	0.0E+00	0	4.0E+02	0.0E+00	1.4E+04	0.0E+00	0.0E+00
4,4'-methylene dianiline (and its dichloride)	101779	Yes	10	4.6E-04	0.0E+00	0	2.0E+01	0.0E+00	0	0	0.0E+00
Methylene diphenyl diisocyanate	101688	No	1	0.0E+00	0	0	8.0E-02	0.0E+00	1.2E+01	0.0E+00	0.0E+00
Michler's ketone (4,4'-bis(dimethylamino)benzophenone)	90948	No	1	2.5E-04	0.0E+00	0	0	0	0	0	0.0E+00
n-nitrosodi-n-butylamine	924163	No	1	3.1E-03	0.0E+00	0	0	0	0	0	0.0E+00
n-nitrosodi-n-propylamine	621647	No	1	2.0E-03	0.0E+00	0	0	0	0	0	0.0E+00
n-nitrosodiethylamine	55185	No	1	1.0E-02	0.0E+00	0	0	0	0	0	0.0E+00
n-nitrosodimethylamine	62759	No	1	4.6E-03	0.0E+00	0	0	0	0	0	0.0E+00
n-nitrosodiphenylamine	86306	No	1	2.6E-06	0.0E+00	0	0	0	0	0	0.0E+00
n-nitroso-n-methylethylamine	10595956	No	1	6.3E-03	0.0E+00	0	0	0	0	0	0.0E+00
n-nitrosomorpholine	59892	No	1	1.9E-03	0.0E+00	0	0	0	0	0	0.0E+00
n-nitropiperidine	100754	No	1	2.7E-03	0.0E+00	0	0	0	0	0	0.0E+00
n-nitrosopyrrolidine	930552	No	1	6.0E-04	0.0E+00	0	0	0	0	0	0.0E+00
Nickel and compounds	7440020	Yes	10	2.6E-04	0.0E+00	0	1.4E-02	0.0E+00	2.0E-01	0.0E+00	0.0E+00
Nitric acid	7697372	No	1	0.0E+00	0	0	0	0	8.6E+01	0.0E+00	0.0E+00
Nitrogen dioxide	10102440	No	1	0.0E+00	0	0	0	0	4.7E+02	0.0E+00	0.0E+00
p-nitrosodiphenylamine	156105	No	1	6.3E-06	0.0E+00	0	0	0	0	0	0.0E+00
Ozone	10028156	No	1	0.0E+00	0	0	0	0	1.8E+02	0.0E+00	0.0E+00
Perchloroethylene (Tetrachloroethylene)	127184	No	1	5.9E-06	0.0E+00	0	3.5E+01	0.0E+00	2.0E+04	0.0E+00	0.0E+00
Phenol	108952	No	1	0.0E+00	0	0	2.0E+02	0.0E+00	5.8E+00	0.0E+00	0.0E+00

Phosgene	75445	No	1	0.0E+00	0	0	0	4.0E+00	0.0E+00	0.0E+00	
Phosphine	7803512	No	1	0.0E+00	0	8.0E-01	0.0E+00	0	0	0.0E+00	
Phosphoric acid	7664382	No	1	0.0E+00	0	7.0E+00	0.0E+00	0	0	0.0E+00	
Phthalic anhydride	85449	No	1	0.0E+00	0	2.0E+01	0.0E+00	0	0	0.0E+00	
PCB (Polychlorinated biphenyls) (unspeciated mixture)	1336363	Yes	10	5.7E-04	0.0E+00	0	0	0	0	0.0E+00	
3,3',4,4'-tetrachlorobiphenyl (PCB 77)	32598133	Yes	10	3.8E-03	0.0E+00	0	4.0E-01	0.0E+00	0	0	0.0E+00
3,4,4',5-tetrachlorobiphenyl (PCB 81)	70362504	Yes	10	1.1E-02	0.0E+00	0	1.3E-01	0.0E+00	0	0	0.0E+00
2,3,3',4,4'-pentachlorobiphenyl (PCB 105)	32598144	Yes	10	1.1E-03	0.0E+00	0	1.3E+00	0.0E+00	0	0	0.0E+00
2,3,4,4',5-pentachlorobiphenyl (PCB 114)	74472370	Yes	10	1.1E-03	0.0E+00	0	1.3E+00	0.0E+00	0	0	0.0E+00
2,3',4,4',5-pentachlorobiphenyl (PCB 118)	31508006	Yes	10	1.1E-03	0.0E+00	0	1.3E+00	0.0E+00	0	0	0.0E+00
2,3',4,4',5-pentachlorobiphenyl (PCB 123)	65510443	Yes	10	1.1E-03	0.0E+00	0	1.3E+00	0.0E+00	0	0	0.0E+00
3,3',4,4',5-pentachlorobiphenyl (PCB 126)	57465288	Yes	10	3.8E+00	0.0E+00	0	4.0E-04	0.0E+00	0	0	0.0E+00
2,3,3',4,4',5-hexachlorobiphenyl (PCB 156)	38380084	Yes	10	1.1E-03	0.0E+00	0	1.3E+00	0.0E+00	0	0	0.0E+00
2,3,3',4,4',5-hexachlorobiphenyl (PCB 157)	69782907	Yes	10	1.1E-03	0.0E+00	0	1.3E+00	0.0E+00	0	0	0.0E+00
2,3',4,4',5,5'-hexachlorobiphenyl (PCB 167)	52663726	Yes	10	1.1E-03	0.0E+00	0	1.3E+00	0.0E+00	0	0	0.0E+00
3,3',4,4',5,5'-hexachlorobiphenyl (PCB 169)	32774166	Yes	10	1.1E+00	0.0E+00	0	1.3E-03	0.0E+00	0	0	0.0E+00
2,3,3',4,4',5,5'-heptachlorobiphenyl (PCB 189)	39635319	Yes	10	1.1E-03	0.0E+00	0	1.3E+00	0.0E+00	0	0	0.0E+00
Polychlorinated dibenzo-p-dioxins (PCDD) (Treated as 2,3,7,8-TCDD for HRA)	1086	Yes	10	3.8E+01	0.0E+00	0	4.0E-05	0.0E+00	0	0	0.0E+00
2,3,7,8-tetrachlorodibenzo-p-dioxin	1746016	Yes	10	3.8E+01	0.0E+00	0	4.0E-05	0.0E+00	0	0	0.0E+00
1,2,3,7,8-pentachlorodibenzo-p-dioxin	40321764	Yes	10	3.8E+01	0.0E+00	0	4.0E-05	0.0E+00	0	0	0.0E+00
1,2,3,4,7,8-hexachlorodibenzo-p-dioxin	39227286	Yes	10	3.8E+00	0.0E+00	0	4.0E-04	0.0E+00	0	0	0.0E+00
1,2,3,6,7,8-hexachlorodibenzo-p-dioxin	57653857	Yes	10	3.8E+00	0.0E+00	0	4.0E-04	0.0E+00	0	0	0.0E+00
1,2,3,7,8,9-hexachlorodibenzo-p-dioxin	19408743	Yes	10	3.8E+00	0.0E+00	0	4.0E-04	0.0E+00	0	0	0.0E+00
1,2,3,4,6,7,8-heptachlorodibenzo-p-dioxin	35822469	Yes	10	3.8E+01	0.0E+00	0	4.0E-03	0.0E+00	0	0	0.0E+00
1,2,3,4,6,7,8,9-octachlorodibenzo-p-dioxin	3268879	Yes	10	1.1E-02	0.0E+00	0	1.3E-01	0.0E+00	0	0	0.0E+00
Polychlorinated dibenzofurans (PCDF) (Treated as 2,3,7,8-TCDD for HRA)	1080	Yes	10	3.8E+01	0.0E+00	0	4.0E-05	0.0E+00	0	0	0.0E+00
2,3,7,8-tetrachlorodibenzofuran	51207319	Yes	10	3.8E+00	0.0E+00	0	4.0E-04	0.0E+00	0	0	0.0E+00
1,2,3,7,8-pentachlorodibenzofuran	57117416	Yes	10	1.1E+00	0.0E+00	0	1.3E-03	0.0E+00	0	0	0.0E+00
2,3,4,7,8-pentachlorodibenzofuran	57117314	Yes	10	1.1E+01	0.0E+00	0	1.3E-04	0.0E+00	0	0	0.0E+00
1,2,3,4,7,8-hexachlorodibenzofuran	70648269	Yes	10	3.8E+00	0.0E+00	0	4.0E-04	0.0E+00	0	0	0.0E+00
1,2,3,6,7,8-hexachlorodibenzofuran	57117449	Yes	10	3.8E+00	0.0E+00	0	4.0E-04	0.0E+00	0	0	0.0E+00
1,2,3,7,8,9-hexachlorodibenzofuran	72918219	Yes	10	3.8E+00	0.0E+00	0	4.0E-04	0.0E+00	0	0	0.0E+00
2,3,4,6,7,8-hexachlorodibenzofuran	60851345	Yes	10	3.8E+00	0.0E+00	0	4.0E-04	0.0E+00	0	0	0.0E+00
1,2,3,4,6,7,8-heptachlorodibenzofuran	67562394	Yes	10	3.8E-01	0.0E+00	0	4.0E-03	0.0E+00	0	0	0.0E+00
1,2,3,4,7,8,9-heptachlorodibenzofuran	55673897	Yes	10	3.8E-01	0.0E+00	0	4.0E-03	0.0E+00	0	0	0.0E+00
1,2,3,4,6,7,8,9-octachlorodibenzofuran	39001020	Yes	10	1.1E-02	0.0E+00	0	1.3E-01	0.0E+00	0	0	0.0E+00
Polycyclic aromatic hydrocarbons (PAH) (Treated as B(a)P for HRA)	1151	Yes	10	1.1E-03	0.0E+00	0	0	0	0	0	0.0E+00
Benz(a)anthracene	56553	Yes	10	1.1E-04	0.0E+00	0	0	0	0	0	0.0E+00
Benz(a)pyrene	50328	Yes	10	1.1E-03	0.0E+00	0	0	0	0	0	0.0E+00
Benz(b)fluoranthene	205992	Yes	10	1.1E-04	0.0E+00	0	0	0	0	0	0.0E+00
Benz(j)fluoranthene	205823	Yes	10	1.1E-04	0.0E+00	0	0	0	0	0	0.0E+00
Chrysene	207089	Yes	10	1.1E-04	0.0E+00	0	0	0	0	0	0.0E+00
Diben(a,h)acridine	226368	Yes	10	1.1E-04	0.0E+00	0	0	0	0	0	0.0E+00
Diben(a,h)anthracene	53703	Yes	10	1.2E-03	0.0E+00	0	0	0	0	0	0.0E+00
Diben(a,j)acridine	224420	Yes	10	1.1E-04	0.0E+00	0	0	0	0	0	0.0E+00
Diben(a,e)pyrene	192654	Yes	10	1.1E-03	0.0E+00	0	0	0	0	0	0.0E+00
Diben(a,h)pyrene	189640	Yes	10	1.1E-02	0.0E+00	0	0	0	0	0	0.0E+00
Diben(a,l)pyrene	189559	Yes	10	1.1E-02	0.0E+00	0	0	0	0	0	0.0E+00
Diben(a,l)pyrene	191300	Yes	10	1.1E-02	0.0E+00	0	0	0	0	0	0.0E+00
7H-dibenzo(c,g)carbazole	194592	Yes	10	1.1E-03	0.0E+00	0	0	0	0	0	0.0E+00
7,12-dimethylbenz(a)anthracene	57976	Yes	10	7.1E-02	0.0E+00	0	0	0	0	0	0.0E+00
1,6-dinitropyrene	42397648	Yes	10	1.1E-02	0.0E+00	0	0	0	0	0	0.0E+00
1,8-dinitropyrene	42397659	Yes	10	1.1E-03	0.0E+00	0	0	0	0	0	0.0E+00
Indeno(1,2,3-c,d)pyrene	193395	Yes	10	1.1E-04	0.0E+00	0	0	0	0	0	0.0E+00
3-methylcholanthrene	56495	Yes	10	6.3E-03	0.0E+00	0	0	0	0	0	0.0E+00
5-methylchrysene	3697243	Yes	10	1.1E-03	0.0E+00	0	0	0	0	0	0.0E+00
Naphthalene	91203	No	1	3.4E-05	0.0E+00	0	9.0E+00	0.0E+00	0	0	0.0E+00
5-nitroacenaphthene	602879	Yes	10	3.7E-05	0.0E+00	0	0	0	0	0	0.0E+00
6-nitrochrysene	7496028	Yes	10	1.1E-02	0.0E+00	0	0	0	0	0	0.0E+00
2-nitrofluorene	607578	Yes	10	1.1E-05	0.0E+00	0	0	0	0	0	0.0E+00
1-nitropyrene	5522430	Yes	10	1.1E-04	0.0E+00	0	0	0	0	0	0.0E+00

4-nitropyrene	57835924	Yes	10		1.1E-04	0.0E+00	0	0	0		0	0	0.0E+00
1,3-propane sultone	1120714	No	1		6.9E-04	0.0E+00	0	0	0		0	0	0.0E+00
Propylene (Propene)	115071	No	1		0	0.0E+00	0	3.0E+03	0.0E+00		0	0	0.0E+00
Propylene glycol monomethyl ether	107982	No	1		0	0.0E+00	0	7.0E+03	0.0E+00		0	0	0.0E+00
Propylene oxide	75569	No	1		3.7E-06	0.0E+00	0	3.0E+01	0.0E+00		3.1E+03	0.0E+00	0.0E+00
Selenium and compounds	7782492	Yes	10		0	0.0E+00	0	2.0E+01	0.0E+00		0	0	0.0E+00
Hydrogen selenide	7783075	No	1		0	0.0E+00	0	0	0		5.0E+00	0.0E+00	0.0E+00
Silica	1175	No	1		0	0.0E+00	0	3.0E+00	0.0E+00		0	0	0.0E+00
Sodium hydroxide	1310732	No	1		0	0.0E+00	0	0	0		8.0E+00	0.0E+00	0.0E+00
Styrene	100425	No	1		0	0.0E+00	0	9.0E+02	0.0E+00	6.22873E-08	2.1E+04	4.4E-09	4.4E-09
Sulfates	9960	No	1		0	0.0E+00	0	0	0		1.2E+02	0.0E+00	0.0E+00
Sulfur dioxide	7446095	No	1		0	0.0E+00	0	0	0		6.6E+02	0.0E+00	0.0E+00
Sulfuric acid	7664939	No	1		0	0.0E+00	0	1.0E+00	0.0E+00		1.2E+02	0.0E+00	0.0E+00
Oleum	8014957	No	1		0	0.0E+00	0	0	0		1.2E+02	0.0E+00	0.0E+00
Tertiary butyl-acetate	540885	Yes	10		5.8E-05	0.0E+00	0	0	0		0	0	0.0E+00
1,1,2,2-tetrachloroethane	79345	No	1		5.8E-05	0.0E+00	0	0	0		0	0	0.0E+00
Thioacetamide	62555	No	1		1.7E-03	0.0E+00	0	0	0		0	0	0.0E+00
Toluene	108883	No	1		0	0.0E+00	0	3.0E+02	0.0E+00	0.000192851	3.7E+04	7.8E-06	7.8E-06
Toluene diisocyanates	26471625	No	1		1.1E-05	0.0E+00	0	8.0E-03	0.0E+00		2.0E+00	0.0E+00	0.0E+00
1,1,2-trichloroethane (Vinyl trichloride)	79005	No	1		1.6E-05	0.0E+00	0	0	0		0	0	0.0E+00
Trichloroethylene	79016	No	1		2.0E-06	0.0E+00	0	6.0E+02	0.0E+00		0	0	0.0E+00
Triethylamine	121448	No	1		0	0.0E+00	0	2.0E+02	0.0E+00		2.8E+03	0.0E+00	0.0E+00
Urethane (Ethyl carbamate)	51796	No	1		2.9E-04	0.0E+00	0	0	0		0	0	0.0E+00
Vanadium	7440622	No	1		0	0.0E+00	0	0	0		3.0E+01	0.0E+00	0.0E+00
Vinyl acetate	108054	No	1		0	0.0E+00	0	2.0E+02	0.0E+00		0	0	0.0E+00
Vinyl chloride (Chloroethylene)	75014	No	1		7.8E-05	0.0E+00	0	0	0		1.8E+05	0.0E+00	0.0E+00
Vinylidene chloride (1,1-dichloroethylene)	75354	No	1		0	0.0E+00	0	7.0E+01	0.0E+00		0	0	0.0E+00
Xylenes	1330207	No	1		0	0.0E+00	0	7.0E+02	0.0E+00		2.2E+04	0.0E+00	0.0E+00

Last updated: 10/4/18

Cancer Score: 0.0E+00

Chronic Score: 0.0E+00

Acute Score: 5.5E-04

References:

<https://www.ourair.org/wp-content/uploads/FinalSBCAPCDPrioritizationProcedures.pdf>

<https://www.arb.ca.gov/toxics/healthval/contable.pdf>

Non-Cancer Score: 5.5E-04

Overall Source Prioritization Score: 0.0

Source Priority Designation: Low Priority

Instructions: Enter source-specific data in the highlighted cells below. The resulting prioritization scores are calculated in bold at the bottom of the table.

Stationary Source Name: Battery Storage- MultiCell

RP = 1

Shortest distance from an emitting source to the fenceline: 44 meters

Pollutant Name	Pollutant ID	Multipathway?	Multipathway multiplier	Annual Emissions lb/yr	Unit Risk ($\mu\text{g}/\text{m}^3$) ¹	Cancer Score	Annual Emissions lb/hr	Chronic REL $\mu\text{g}/\text{m}^3$	Chronic Score	Max Emissions lb/hr	Acute REL $\mu\text{g}/\text{m}^3$	Acute Score	Non-Cancer Score
Acetaldehyde	75070	No	1		2.7E-06	0.0E+00	0	1.4E+02	0.0E+00		4.7E+02	0.0E+00	0.0E+00
Acetamide	60355	No	1		2.0E-05	0.0E+00	0	0	0		0	0	0.0E+00
Acrolein	107028	No	1		0	0.0E+00	0	3.5E-01	0.0E+00		2.5E+00	0.0E+00	0.0E+00
Acrylamide	79061	No	1		1.3E-03	0.0E+00	0	0	0		0	0	0.0E+00
Acrylic acid	79107	No	1		0	0.0E+00	0	0	0		6.0E+03	0.0E+00	0.0E+00
Acrylonitrile	107131	No	1		2.9E-04	0.0E+00	0	5.0E+00	0.0E+00		0	0	0.0E+00
Allyl chloride	107051	No	1		6.0E-06	0.0E+00	0	0	0		0	0	0.0E+00
2-aminoanthraquinone	117793	No	1		9.4E-06	0.0E+00	0	0	0		0	0	0.0E+00
Ammonia	7664417	No	1		0	0.0E+00	0	2.0E+02	0.0E+00		3.2E+03	0.0E+00	0.0E+00
Aniline	62533	No	1		1.6E-06	0.0E+00	0	0	0		0	0	0.0E+00
Arsenic and compounds (inorganic)	7440382	Yes	10		3.3E-03	0.0E+00	0	1.5E-02	0.0E+00		2.0E-01	0.0E+00	0.0E+00
Arsine	7784421	No	1		0	0.0E+00	0	1.5E-02	0.0E+00		2.0E-01	0.0E+00	0.0E+00
Asbestos	1332214	No	1		1.9E-04	0.0E+00	0	0	0		0	0	0.0E+00
Benzene	71432	No	1		2.9E-05	0.0E+00	0	3.0E+00	0.0E+00		2.7E+01	0.0E+00	0.0E+00
Benzidine (and its salts)	92875	No	1		1.4E-01	0.0E+00	0	0	0		0	0	0.0E+00
Benzyl chloride	100447	No	1		4.9E-05	0.0E+00	0	0	0		2.4E+02	0.0E+00	0.0E+00
Beryllium and compounds	7440417	Yes	10		2.4E-03	0.0E+00	0	7.0E-03	0.0E+00		0	0	0.0E+00
Bis(2-chloroethyl)ether (Dichloroethyl ether)	111444	No	1		7.1E-04	0.0E+00	0	0	0		0	0	0.0E+00
Bis(chloromethyl)ether	542881	No	1		1.3E-02	0.0E+00	0	0	0		0	0	0.0E+00
Potassium bromate	7758012	No	1		1.4E-04	0.0E+00	0	0	0		0	0	0.0E+00
1,3-butadiene	106990	No	1		1.7E-04	0.0E+00	0	2.0E+00	0.0E+00		6.6E+02	0.0E+00	0.0E+00
Cadmium and compounds	7440439	Yes	10		4.2E-03	0.0E+00	0	2.0E-02	0.0E+00		0	0	0.0E+00
Caprolactam	105602	No	1		0	0.0E+00	0	2.2E+00	0.0E+00		5.0E+01	0.0E+00	0.0E+00
Carbon disulfide	75150	No	1		0	0.0E+00	0	8.0E+02	0.0E+00		6.2E+03	0.0E+00	0.0E+00
Carbon monoxide	630080	No	1		0	0.0E+00	0	0	0	7.204652333	2.3E+04	4.7E-01	4.7E-01
Carbon tetrachloride (Tetrachloromethane)	56235	No	1		4.2E-05	0.0E+00	0	4.0E+01	0.0E+00		1.9E+03	0.0E+00	0.0E+00
Carbonyl sulfide	463581	No	1		0	0.0E+00	0	1.0E+01	0.0E+00		6.6E+02	0.0E+00	0.0E+00
Chlorinated paraffins	108171262	No	1		2.5E-05	0.0E+00	0	0	0		0	0	0.0E+00
Chlorine	7782505	No	1		0	0.0E+00	0	2.0E-01	0.0E+00		2.1E+02	0.0E+00	0.0E+00
Chlorine dioxide	10049044	No	1		0	0.0E+00	0	6.0E-01	0.0E+00		0	0	0.0E+00
4-chloro-o-phenylenediamine	95830	No	1		4.6E-06	0.0E+00	0	0	0		0	0	0.0E+00
Chlorobenzene	108907	No	1		0	0.0E+00	0	1.0E+03	0.0E+00		0	0	0.0E+00
Chloroform	67663	No	1		5.3E-06	0.0E+00	0	3.0E+02	0.0E+00		1.5E+02	0.0E+00	0.0E+00
Pentachlorophenol	87865	No	1		5.1E-06	0.0E+00	0	0	0		0	0	0.0E+00
2,4,6-trichlorophenol	88062	No	1		2.0E-05	0.0E+00	0	0	0		0	0	0.0E+00
Chloropicrin	76062	No	1		0	0.0E+00	0	4.0E-01	0.0E+00		2.9E+01	0.0E+00	0.0E+00
p-chloro-o-toluidine	95692	No	1		7.7E-05	0.0E+00	0	0	0		0	0	0.0E+00
Chromium 6+	18540299	Yes	10		1.5E-01	0.0E+00	0	2.0E-01	0.0E+00		0	0	0.0E+00
Chromium trioxide	1333820	Yes	10		1.5E-01	0.0E+00	0	2.0E-03	0.0E+00		0	0	0.0E+00
Copper and compounds	7440508	No	1		0	0.0E+00	0	0	0		1.0E+02	0.0E+00	0.0E+00
p-cresidine	120718	No	1		4.3E-05	0.0E+00	0	0	0		0	0	0.0E+00
Cresols	1319773	No	1		0	0.0E+00	0	6.0E+02	0.0E+00		0	0	0.0E+00
Cupferron	135206	No	1		6.3E-05	0.0E+00	0	0	0		0	0	0.0E+00
Cyanide compounds (inorganic)	57125	No	1		0	0.0E+00	0	9.0E+00	0.0E+00	0.03269338	3.4E+02	1.4E-01	1.4E-01
2,4-diaminoanisole	615054	No	1		6.6E-06	0.0E+00	0	0	0		0	0	0.0E+00
2,4-diaminotoluene	95807	No	1		1.1E-03	0.0E+00	0	0	0		0	0	0.0E+00
1,2-dibromo-3-chloropropane (DBCP)	96128	No	1		2.0E-03	0.0E+00	0	0	0		0	0	0.0E+00
p-dichlorobenzene	106467	No	1		1.1E-05	0.0E+00	0	8.0E+02	0.0E+00		0	0	0.0E+00
3,3-dichlorobenzidine	91941	No	1		3.4E-04	0.0E+00	0	0	0		0	0	0.0E+00
1,1-dichloroethane (Ethylidene dichloride)	75343	No	1		1.6E-06	0.0E+00	0	0	0		0	0	0.0E+00
Di(2-ethylhexyl)phthalate (DEHP)	117817	Yes	10		2.4E-06	0.0E+00	0	0	0		0	0	0.0E+00
Diesel PM	9901	No	1		3.0E-04	0.0E+00	0	5.0E+00	0.0E+00		0	0	0.0E+00
Diethanolamine	111422	No	1		0	0.0E+00	0	3.0E+00	0.0E+00		0	0	0.0E+00
p-dimethylaminoazobenzene	60117	No	1		1.3E-03	0.0E+00	0	0	0		0	0	0.0E+00
n,n-dimethyl formamide	68122	No	1		0	0.0E+00	0	8.0E+01	0.0E+00		0	0	0.0E+00

2,4-dinitrotoluene	121142	No	1	8.9E-05	0.0E+00	0	0	0	0	0	0.0E+00
1,4-dioxane (1,4-diethylene dioxide)	123911	No	1	7.7E-06	0.0E+00	0	3.0E+03	0.0E+00	3.0E+03	0.0E+00	0.0E+00
Epichlorohydrin (1-chloro-2,3-expoxypropane)	106898	No	1	2.3E-05	0.0E+00	0	3.0E+00	0.0E+00	1.3E+03	0.0E+00	0.0E+00
1,2-epoxybutane	106887	No	1	0.0E+00	0	0	2.0E+01	0.0E+00	0	0	0.0E+00
Ethyl benzene	100414	No	1	2.5E-06	0.0E+00	0	2.0E+03	0.0E+00	0	0	0.0E+00
Ethyl chloride (Chloroethane)	75003	No	1	0.0E+00	0	0	3.0E+04	0.0E+00	0	0	0.0E+00
Ethylene dibromide (1,2-dibromoethane)	106934	No	1	7.1E-05	0.0E+00	0	8.0E-01	0.0E+00	0	0	0.0E+00
Ethylene dichloride (1,2-dichloroethane)	107062	No	1	2.1E-05	0.0E+00	0	4.0E+02	0.0E+00	0	0	0.0E+00
Ethylene glycol	107211	No	1	0.0E+00	0	0	4.0E+02	0.0E+00	0	0	0.0E+00
Ethylene oxide (1,2-epoxyethane)	75218	No	1	8.8E-05	0.0E+00	0	3.0E+01	0.0E+00	0	0	0.0E+00
Ethylene thiourea	96457	No	1	1.3E-05	0.0E+00	0	0	0	0	0	0.0E+00
Fluorides	1101	Yes	10	0.0E+00	0	1.3E+01	0.0E+00	2.4E+02	0.0E+00	0.0E+00	
Hydrogen fluoride (Hydrofluoric acid)	7664393	Yes	10	0.0E+00	0	1.4E+01	0.0E+00	0.007567912	2.4E+02	4.7E-02	4.7E-02
Formaldehyde	50000	No	1	6.0E-06	0.0E+00	0	9.0E+00	0.0E+00	5.5E+01	0.0E+00	0.0E+00
Glutaraldehyde	111308	No	1	0.0E+00	0	8.0E-02	0.0E+00	0	0	0	0.0E+00
Ethylene glycol butyl ether (EGBE)	111762	No	1	0.0E+00	0	8.2E+01	0.0E+00	4.7E+03	0.0E+00	0.0E+00	
Ethylene glycol ethyl ether (EGEE)	110805	No	1	0.0E+00	0	7.0E+01	0.0E+00	3.7E+02	0.0E+00	0.0E+00	
Ethylene glycol ethyl ether acetate (EGEEA)	111159	No	1	0.0E+00	0	3.0E+02	0.0E+00	1.4E+02	0.0E+00	0.0E+00	
Ethylene glycol methyl ether (EGME)	109864	No	1	0.0E+00	0	6.0E+01	0.0E+00	9.3E+01	0.0E+00	0.0E+00	
Ethylene glycol methyl ether acetate (EGMEA)	110496	No	1	0.0E+00	0	9.0E+01	0.0E+00	0	0	0	0.0E+00
Hexachlorobenzene	118741	No	1	5.1E-04	0.0E+00	0	0	0	0	0	0.0E+00
Hexachlorocyclohexanes	608731	Yes	10	1.0E-03	0.0E+00	0	0	0	0	0	0.0E+00
alpha-hexachlorocyclohexane	319846	Yes	10	1.1E-03	0.0E+00	0	0	0	0	0	0.0E+00
beta-hexachlorocyclohexane	319857	Yes	10	1.1E-03	0.0E+00	0	0	0	0	0	0.0E+00
gamma-hexachlorocyclohexane (Lindane)	58899	Yes	10	3.1E-04	0.0E+00	0	0	0	0	0	0.0E+00
n-hexane	110543	No	1	0.0E+00	0	7.0E+03	0.0E+00	0	0	0	0.0E+00
Hydrazine	302012	No	1	4.9E-03	0.0E+00	0	2.0E-01	0.0E+00	0	0	0.0E+00
Hydrochloric acid (Hydrogen chloride)	764701	No	1	0.0E+00	0	9.0E+00	0.0E+00	0.0275472	2.1E+03	2.0E-02	2.0E-02
Hydrogen sulfide	7783064	No	1	0.0E+00	0	1.0E+01	0.0E+00	4.2E+01	0.0E+00	0.0E+00	
Isophorone	78591	No	1	0.0E+00	0	2.0E+03	0.0E+00	0	0	0	0.0E+00
Isopropyl alcohol (Isopropanol)	67630	No	1	0.0E+00	0	7.0E+03	0.0E+00	3.2E+03	0.0E+00	0.0E+00	
Lead and compounds	7439921	Yes	10	1.2E-05	0.0E+00	0	0	0	0	0	0.0E+00
Maleic anhydride	108316	No	1	0.0E+00	0	7.0E-01	0.0E+00	0	0	0	0.0E+00
Manganese and compounds	7439965	No	1	0.0E+00	0	9.0E-02	0.0E+00	0	0	0	0.0E+00
Mercury and compounds	7439976	Yes	10	0.0E+00	0	3.0E-02	0.0E+00	6.0E-01	0.0E+00	0.0E+00	
Methanol	67561	No	1	0.0E+00	0	4.0E+03	0.0E+00	0.000653868	2.8E+04	3.5E-05	3.5E-05
Methyl bromide (Bromomethane)	74839	No	1	0.0E+00	0	5.0E+00	0.0E+00	3.9E+03	0.0E+00	0.0E+00	
Methyl tert-butyl ether	1634044	No	1	2.6E-07	0.0E+00	0	8.0E-03	0.0E+00	0	0	0.0E+00
Methyl chloroform (1,1,1-trichloroethane)	71556	No	1	0.0E+00	0	1.0E+03	0.0E+00	6.8E+04	0.0E+00	0.0E+00	
Methyl ethyl ketone (2-butanone)	78933	No	1	0.0E+00	0	0	0	0	1.3E+04	0.0E+00	0.0E+00
Methyl isocyanate	624839	No	1	0.0E+00	0	1.0E+00	0.0E+00	0	0	0	0.0E+00
4,4'-methylene bis(2-chloroaniline) (MOCA)	101144	No	1	4.3E-04	0.0E+00	0	0	0	0	0	0.0E+00
Methylene chloride (Dichloromethane)	75092	No	1	1.0E-06	0.0E+00	0	4.0E+02	0.0E+00	1.4E+04	0.0E+00	0.0E+00
4,4'-methylene dianiline (and its dichloride)	101779	Yes	10	4.6E-04	0.0E+00	0	2.0E+01	0.0E+00	0	0	0.0E+00
Methylene diphenyl diisocyanate	101688	No	1	0.0E+00	0	8.0E-02	0.0E+00	1.2E+01	0.0E+00	0.0E+00	
Michler's ketone (4,4'-bis(dimethylamino)benzophenone)	90948	No	1	2.5E-04	0.0E+00	0	0	0	0	0	0.0E+00
n-nitrosodi-n-butylamine	924163	No	1	3.1E-03	0.0E+00	0	0	0	0	0	0.0E+00
n-nitrosodi-n-propylamine	621647	No	1	2.0E-03	0.0E+00	0	0	0	0	0	0.0E+00
n-nitrosodiethylamine	55185	No	1	1.0E-02	0.0E+00	0	0	0	0	0	0.0E+00
n-nitrosodimethylamine	62759	No	1	4.6E-03	0.0E+00	0	0	0	0	0	0.0E+00
n-nitrosodiphenylamine	86306	No	1	2.6E-06	0.0E+00	0	0	0	0	0	0.0E+00
n-nitroso-n-methylethylamine	10595956	No	1	6.3E-03	0.0E+00	0	0	0	0	0	0.0E+00
n-nitrosomorpholine	59892	No	1	1.9E-03	0.0E+00	0	0	0	0	0	0.0E+00
n-nitrosopiperidine	100754	No	1	2.7E-03	0.0E+00	0	0	0	0	0	0.0E+00
n-nitrosopyrrolidine	930552	No	1	6.0E-04	0.0E+00	0	0	0	0	0	0.0E+00
Nickel and compounds	7440020	Yes	10	2.6E-04	0.0E+00	0	1.4E-02	0.0E+00	2.0E-01	0.0E+00	0.0E+00
Nitric acid	7697372	No	1	0.0E+00	0	0	0	0	8.6E+01	0.0E+00	0.0E+00
Nitrogen dioxide	10102440	No	1	0.0E+00	0	0	0	0	4.7E+02	0.0E+00	0.0E+00
p-nitrosodiphenylamine	156105	No	1	6.3E-06	0.0E+00	0	0	0	0	0	0.0E+00
Ozone	10028156	No	1	0.0E+00	0	0	0	0	1.8E+02	0.0E+00	0.0E+00
Perchloroethylene (Tetrachloroethylene)	127184	No	1	5.9E-06	0.0E+00	0	3.5E+01	0.0E+00	2.0E+04	0.0E+00	0.0E+00
Phenol	108952	No	1	0.0E+00	0	2.0E+02	0.0E+00	5.8E+00	0.0E+00	0.0E+00	

Phosgene	75445	No	1	0.0E+00	0	0	0	4.0E+00	0.0E+00	0.0E+00	
Phosphine	7803512	No	1	0.0E+00	0	8.0E-01	0.0E+00	0	0	0.0E+00	
Phosphoric acid	7664382	No	1	0.0E+00	0	7.0E+00	0.0E+00	0	0	0.0E+00	
Phthalic anhydride	85449	No	1	0.0E+00	0	2.0E+01	0.0E+00	0	0	0.0E+00	
PCB (Polychlorinated biphenyls) (unspeciated mixture)	1336363	Yes	10	5.7E-04	0.0E+00	0	0	0	0	0.0E+00	
3,3',4,4'-tetrachlorobiphenyl (PCB 77)	32598133	Yes	10	3.8E-03	0.0E+00	0	4.0E-01	0.0E+00	0	0	0.0E+00
3,4,4',5-tetrachlorobiphenyl (PCB 81)	70362504	Yes	10	1.1E-02	0.0E+00	0	1.3E-01	0.0E+00	0	0	0.0E+00
2,3,3',4,4'-pentachlorobiphenyl (PCB 105)	32598144	Yes	10	1.1E-03	0.0E+00	0	1.3E+00	0.0E+00	0	0	0.0E+00
2,3,4,4',5-pentachlorobiphenyl (PCB 114)	74472370	Yes	10	1.1E-03	0.0E+00	0	1.3E+00	0.0E+00	0	0	0.0E+00
2,3',4,4',5-pentachlorobiphenyl (PCB 118)	31508006	Yes	10	1.1E-03	0.0E+00	0	1.3E+00	0.0E+00	0	0	0.0E+00
2,3',4,4',5-pentachlorobiphenyl (PCB 123)	65510443	Yes	10	1.1E-03	0.0E+00	0	1.3E+00	0.0E+00	0	0	0.0E+00
3,3',4,4',5-pentachlorobiphenyl (PCB 126)	57465288	Yes	10	3.8E+00	0.0E+00	0	4.0E-04	0.0E+00	0	0	0.0E+00
2,3,3',4,4',5-hexachlorobiphenyl (PCB 156)	38380084	Yes	10	1.1E-03	0.0E+00	0	1.3E+00	0.0E+00	0	0	0.0E+00
2,3,3',4,4',5-hexachlorobiphenyl (PCB 157)	69782907	Yes	10	1.1E-03	0.0E+00	0	1.3E+00	0.0E+00	0	0	0.0E+00
2,3',4,4',5,5'-hexachlorobiphenyl (PCB 167)	52663726	Yes	10	1.1E-03	0.0E+00	0	1.3E+00	0.0E+00	0	0	0.0E+00
3,3',4,4',5,5'-hexachlorobiphenyl (PCB 169)	32774166	Yes	10	1.1E+00	0.0E+00	0	1.3E-03	0.0E+00	0	0	0.0E+00
2,3,3',4,4',5,5'-heptachlorobiphenyl (PCB 189)	39635319	Yes	10	1.1E-03	0.0E+00	0	1.3E+00	0.0E+00	0	0	0.0E+00
Polychlorinated dibenzo-p-dioxins (PCDD) (Treated as 2,3,7,8-TCDD for HRA)	1086	Yes	10	3.8E+01	0.0E+00	0	4.0E-05	0.0E+00	0	0	0.0E+00
2,3,7,8-tetrachlorodibenzo-p-dioxin	1746016	Yes	10	3.8E+01	0.0E+00	0	4.0E-05	0.0E+00	0	0	0.0E+00
1,2,3,7,8-pentachlorodibenzo-p-dioxin	40321764	Yes	10	3.8E+01	0.0E+00	0	4.0E-05	0.0E+00	0	0	0.0E+00
1,2,3,4,7,8-hexachlorodibenzo-p-dioxin	39227286	Yes	10	3.8E+00	0.0E+00	0	4.0E-04	0.0E+00	0	0	0.0E+00
1,2,3,6,7,8-hexachlorodibenzo-p-dioxin	57653857	Yes	10	3.8E+00	0.0E+00	0	4.0E-04	0.0E+00	0	0	0.0E+00
1,2,3,7,8,9-hexachlorodibenzo-p-dioxin	19408743	Yes	10	3.8E+00	0.0E+00	0	4.0E-04	0.0E+00	0	0	0.0E+00
1,2,3,4,6,7,8-heptachlorodibenzo-p-dioxin	35822469	Yes	10	3.8E+01	0.0E+00	0	4.0E-03	0.0E+00	0	0	0.0E+00
1,2,3,4,6,7,8,9-octachlorodibenzo-p-dioxin	3268879	Yes	10	1.1E-02	0.0E+00	0	1.3E-01	0.0E+00	0	0	0.0E+00
Polychlorinated dibenzofurans (PCDF) (Treated as 2,3,7,8-TCDD for HRA)	1080	Yes	10	3.8E+01	0.0E+00	0	4.0E-05	0.0E+00	0	0	0.0E+00
2,3,7,8-tetrachlorodibenzofuran	51207319	Yes	10	3.8E+00	0.0E+00	0	4.0E-04	0.0E+00	0	0	0.0E+00
1,2,3,7,8-pentachlorodibenzofuran	57117416	Yes	10	1.1E+00	0.0E+00	0	1.3E-03	0.0E+00	0	0	0.0E+00
2,3,4,7,8-pentachlorodibenzofuran	57117314	Yes	10	1.1E+01	0.0E+00	0	1.3E-04	0.0E+00	0	0	0.0E+00
1,2,3,4,7,8-hexachlorodibenzofuran	70648269	Yes	10	3.8E+00	0.0E+00	0	4.0E-04	0.0E+00	0	0	0.0E+00
1,2,3,6,7,8-hexachlorodibenzofuran	57117449	Yes	10	3.8E+00	0.0E+00	0	4.0E-04	0.0E+00	0	0	0.0E+00
1,2,3,7,8,9-hexachlorodibenzofuran	72918219	Yes	10	3.8E+00	0.0E+00	0	4.0E-04	0.0E+00	0	0	0.0E+00
2,3,4,6,7,8-hexachlorodibenzofuran	60851345	Yes	10	3.8E+00	0.0E+00	0	4.0E-04	0.0E+00	0	0	0.0E+00
1,2,3,4,6,7,8-heptachlorodibenzofuran	67562394	Yes	10	3.8E-01	0.0E+00	0	4.0E-03	0.0E+00	0	0	0.0E+00
1,2,3,4,7,8,9-heptachlorodibenzofuran	55673897	Yes	10	3.8E-01	0.0E+00	0	4.0E-03	0.0E+00	0	0	0.0E+00
1,2,3,4,6,7,8,9-octachlorodibenzofuran	39001020	Yes	10	1.1E-02	0.0E+00	0	1.3E-01	0.0E+00	0	0	0.0E+00
Polycyclic aromatic hydrocarbons (PAH) (Treated as B(a)P for HRA)	1151	Yes	10	1.1E-03	0.0E+00	0	0	0	0	0	0.0E+00
Benz(a)anthracene	56553	Yes	10	1.1E-04	0.0E+00	0	0	0	0	0	0.0E+00
Benz(a)pyrene	50328	Yes	10	1.1E-03	0.0E+00	0	0	0	0	0	0.0E+00
Benz(b)fluoranthene	205992	Yes	10	1.1E-04	0.0E+00	0	0	0	0	0	0.0E+00
Benz(j)fluoranthene	205823	Yes	10	1.1E-04	0.0E+00	0	0	0	0	0	0.0E+00
Benz(k)fluoranthene	207089	Yes	10	1.1E-04	0.0E+00	0	0	0	0	0	0.0E+00
Chrysene	218019	Yes	10	1.1E-05	0.0E+00	0	0	0	0	0	0.0E+00
Diben(a,h)acridine	226368	Yes	10	1.1E-04	0.0E+00	0	0	0	0	0	0.0E+00
Diben(a,h)anthracene	53703	Yes	10	1.2E-03	0.0E+00	0	0	0	0	0	0.0E+00
Diben(a,j)acridine	224420	Yes	10	1.1E-04	0.0E+00	0	0	0	0	0	0.0E+00
Diben(a,e)pyrene	192654	Yes	10	1.1E-03	0.0E+00	0	0	0	0	0	0.0E+00
Diben(a,h)pyrene	189640	Yes	10	1.1E-02	0.0E+00	0	0	0	0	0	0.0E+00
Diben(a,l)pyrene	189559	Yes	10	1.1E-02	0.0E+00	0	0	0	0	0	0.0E+00
Diben(a,l)pyrene	191300	Yes	10	1.1E-02	0.0E+00	0	0	0	0	0	0.0E+00
7H-dibenzo(c,g)carbazole	194592	Yes	10	1.1E-03	0.0E+00	0	0	0	0	0	0.0E+00
7,12-dimethylbenz(a)anthracene	57976	Yes	10	7.1E-02	0.0E+00	0	0	0	0	0	0.0E+00
1,6-dinitropyrene	42397648	Yes	10	1.1E-02	0.0E+00	0	0	0	0	0	0.0E+00
1,8-dinitropyrene	42397659	Yes	10	1.1E-03	0.0E+00	0	0	0	0	0	0.0E+00
Indeno(1,2,3-c,d)pyrene	193395	Yes	10	1.1E-04	0.0E+00	0	0	0	0	0	0.0E+00
3-methylcholanthrene	56495	Yes	10	6.3E-03	0.0E+00	0	0	0	0	0	0.0E+00
5-methylchrysene	3697243	Yes	10	1.1E-03	0.0E+00	0	0	0	0	0	0.0E+00
Naphthalene	91203	No	1	3.4E-05	0.0E+00	0	9.0E+00	0.0E+00	0	0	0.0E+00
5-nitroacenaphthene	602879	Yes	10	3.7E-05	0.0E+00	0	0	0	0	0	0.0E+00
6-nitrochrysene	7496028	Yes	10	1.1E-02	0.0E+00	0	0	0	0	0	0.0E+00
2-nitrofluorene	607578	Yes	10	1.1E-05	0.0E+00	0	0	0	0	0	0.0E+00
1-nitropyrene	5522430	Yes	10	1.1E-04	0.0E+00	0	0	0	0	0	0.0E+00

4-nitropyrene	57835924	Yes	10		1.1E-04	0.0E+00	0	0	0		0	0	0.0E+00
1,3-propane sultone	1120714	No	1		6.9E-04	0.0E+00	0	0	0		0	0	0.0E+00
Propylene (Propene)	115071	No	1		0	0.0E+00	0	3.0E+03	0.0E+00		0	0	0.0E+00
Propylene glycol monomethyl ether	107982	No	1		0	0.0E+00	0	7.0E+03	0.0E+00		0	0	0.0E+00
Propylene oxide	75569	No	1		3.7E-06	0.0E+00	0	3.0E+01	0.0E+00		3.1E+03	0.0E+00	0.0E+00
Selenium and compounds	7782492	Yes	10		0	0.0E+00	0	2.0E+01	0.0E+00		0	0	0.0E+00
Hydrogen selenide	7783075	No	1		0	0.0E+00	0	0	0		5.0E+00	0.0E+00	0.0E+00
Silica	1175	No	1		0	0.0E+00	0	3.0E+00	0.0E+00		0	0	0.0E+00
Sodium hydroxide	1310732	No	1		0	0.0E+00	0	0	0		8.0E+00	0.0E+00	0.0E+00
Styrene	100425	No	1		0	0.0E+00	0	9.0E+02	0.0E+00	7.87063E-05	2.1E+04	5.6E-06	5.6E-06
Sulfates	9960	No	1		0	0.0E+00	0	0	0		1.2E+02	0.0E+00	0.0E+00
Sulfur dioxide	7446095	No	1		0	0.0E+00	0	0	0		6.6E+02	0.0E+00	0.0E+00
Sulfuric acid	7664939	No	1		0	0.0E+00	0	1.0E+00	0.0E+00		1.2E+02	0.0E+00	0.0E+00
Oleum	8014957	No	1		0	0.0E+00	0	0	0		1.2E+02	0.0E+00	0.0E+00
Tertiary butyl-acetate	540885	Yes	10		5.8E-05	0.0E+00	0	0	0		0	0	0.0E+00
1,1,2,2-tetrachloroethane	79345	No	1		5.8E-05	0.0E+00	0	0	0		0	0	0.0E+00
Thioacetamide	62555	No	1		1.7E-03	0.0E+00	0	0	0		0	0	0.0E+00
Toluene	108883	No	1		0	0.0E+00	0	3.0E+02	0.0E+00	0.24368677	3.7E+04	9.9E-03	9.9E-03
Toluene diisocyanates	26471625	No	1		1.1E-05	0.0E+00	0	8.0E-03	0.0E+00		2.0E+00	0.0E+00	0.0E+00
1,1,2-trichloroethane (Vinyl trichloride)	79005	No	1		1.6E-05	0.0E+00	0	0	0		0	0	0.0E+00
Trichloroethylene	79016	No	1		2.0E-06	0.0E+00	0	6.0E+02	0.0E+00		0	0	0.0E+00
Triethylamine	121448	No	1		0	0.0E+00	0	2.0E+02	0.0E+00		2.8E+03	0.0E+00	0.0E+00
Urethane (Ethyl carbamate)	51796	No	1		2.9E-04	0.0E+00	0	0	0		0	0	0.0E+00
Vanadium	7440622	No	1		0	0.0E+00	0	0	0		3.0E+01	0.0E+00	0.0E+00
Vinyl acetate	108054	No	1		0	0.0E+00	0	2.0E+02	0.0E+00		0	0	0.0E+00
Vinyl chloride (Chloroethylene)	75014	No	1		7.8E-05	0.0E+00	0	0	0		1.8E+05	0.0E+00	0.0E+00
Vinylidene chloride (1,1-dichloroethylene)	75354	No	1		0	0.0E+00	0	7.0E+01	0.0E+00		0	0	0.0E+00
Xylenes	1330207	No	1		0	0.0E+00	0	7.0E+02	0.0E+00		2.2E+04	0.0E+00	0.0E+00

Last updated: 10/4/18

Cancer Score: 0.0E+00

Chronic Score: 0.0E+00

Acute Score: 6.9E-01

References:

<https://www.ourair.org/wp-content/uploads/FinalSBCAPCDPrioritizationProcedures.pdf>

<https://www.arb.ca.gov/toxics/healthval/contable.pdf>

Non-Cancer Score: 6.9E-01

Overall Source Prioritization Score: 0.7

Source Priority Designation: Low Priority

Battery Malfunction Flammability Analysis: pg 2 of Tesla "Cell and unit level assessment of gas release composition from Tesla ESS"

CGA P-23 Method

Component	Mole %	MW	Wt %	LEL	NFN2: Non-Flamm in Nitrogen*	Mole% x NFN2
H2	24	2	4.01	4.0	5.7	4.21
N2	5	28	11.69	-		
CO2	28	44	102.87	-		
CO	34	28	79.49	12.5	20	1.70
Ch4	4	16	5.34	5	14.3	0.28
C2	5	30	12.53	3	12	0.42
C3	0.004	44	0.01	2.1	6.5	0.00
C4	0	58	0.00	1.8	5.6	0.00
C5+	0	72	0.00	1.4	4.4	0.00
Total	100	25.9	215.9491	5.56	Q factor =	6.61
Frac flamm	67.00		101.39			

* From CGA P-23 Table 1

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+-----+
| CANARY by Quest - Version 4.6.2
| CANARY Case Input
| Case Name - B-1vert
| Fri Sep 27 12:35:11 2019
| Quest Consultants Inc., Norman, Oklahoma, USA
| www.questconsult.com   canary@questconsult.com
| telephone (405) 329-7475   fax (405) 329-7734
+-----+

```

Title: Battery Malfunction

Case Type : Vapor Dispersion
 Case Name : B-1vert
 User ID : GC
 Project Number :
 Type of Units : English Units

NOTES:

MATERIAL MENU

Materials Released	: Number	Formula	Name	Fraction
Component 1	:	51 = H2	Hydrogen(equilibrium)	0.250878
Component 2	:	43 = CO	Carbon Monoxide	0.355411
Component 3	:	17 = CO2	Carbon Dioxide	0.292691
Component 4	:	1 = CH4	Methane	0.041813
Component 5	:	2 = C2H6	Ethane	0.052266
Component 6	:	3 = C3H8	Propane	0.000042
Component 7	:	50 = HF	Hydrogen Fluoride	0.000523
Component 8	:	26 = HCl	Hydrogen Chloride	0.001045
Component 9	:	103 = CHN	Hydrogen Cyanide	0.001673
Component 10	:	281 = C7H8	Toluene	0.003659

Temperature : 122.00 °F
 Pressure : 29.40 psia

The material is indeterminate

NOTES:

ENVIRONMENT MENU

Wind speed	3.36 mph
Wind speed measurement height	32.8 feet
Stability class <A-F>	F
Relative humidity	70 %
Air temperature	77.0 °F
Spill surface temperature	77.0 °F

Substrate name	Soil
Substrate thermal conductivity	1.0000 Btu/hr-ft-F
Substrate density	100 lb/cu.ft
Substrate heat Capacity	0.24 Btu/lb-F
Substrate delay time	60 sec
Surrounding terrain	Long grass or crops > 15 cm (6 in)

NOTES:

Case continued on page 2.

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+-----+  
| CANARY by Quest - Version 4.6.2  
| CANARY Case Input  
| Case Name - B-1vert  
| Fri Sep 27 12:35:11 2019  
+-----+
```

Page 2 Title: Battery Malfunction

RELEASE MENU

Type of release: Regulated, Continuous release
Release duration 60 min
Regulated flow rate 0.01 lb/sec
Pipe inner diameter 12.00 inches
Equivalent release diameter 12.00 inches
Height of release point 7.8 feet
Angle of release from horizontal 90.0 degrees

NOTES:

IMPOUNDMENT MENU
Unconfined

NOTES:

VDVE MENU

Vapor generation, dispersion and cloud explosion - Flammable calculation
Concentration endpoint 1 LFL mol%
Concentration endpoint 2 1/2 LFL mol%
Concentration endpoint 3 1/2 LFL mol%

Dispersion coefficient averaging time 1 min

Baker-Strehlow-Tang parameters

Fuel reactivity High
Obstacle density High
Flame expansion 3-D

Overpressure values

Overpressure endpoint 1 3.00 psi
Overpressure endpoint 2 1.00 psi
Overpressure endpoint 3 1.00 psi

NOTES:

```

+-----+
| CANARY by Quest - Version 4.6.2
| Momentum Jet Vapor Dispersion Model
| Case Name - B-lvert
| Fri Sep 27 12:35:11 2019
| Quest Consultants Inc., Norman, Oklahoma, USA
| www.questconsult.com   canary@questconsult.com
| telephone (405) 329-7475   fax (405) 329-7734
+-----+

```

TITLE: Battery Malfunction

concentration limits

concentration 3 (highest) = 0.082931 mole fraction
 concentration 2 (middle) = 0.041466 mole fraction
 concentration 1 (lowest) = 0.041466 mole fraction

downwind distance x(ft)	centerline conc. c(mole frac.)	ground conc. c(mole frac.)	y(c1) 1/2 width (ft)	y(c2) 1/2 width (ft)	y(c3) 1/2 width (ft)	centerline height (ft)
0	1.000000	0.000000	1.0	1.0	0.9	7.7
0.3	0.795235	0.000000	0.9	0.9	0.8	7.8
0.5	0.674610	0.000000	0.9	0.9	0.8	7.8
0.8	0.586171	0.000000	0.9	0.9	0.8	7.9
1.0	0.516770	0.000000	0.9	0.9	0.8	7.9
1.3	0.460736	0.000000	1.0	1.0	0.8	8.0
1.5	0.414549	0.000000	1.0	1.0	0.8	8.0
1.7	0.375797	0.000000	1.0	1.0	0.8	8.1
2.0	0.342987	0.000000	1.0	1.0	0.8	8.2
2.3	0.314765	0.000000	1.0	1.0	0.8	8.3
2.5	0.290318	0.000000	1.0	1.0	0.8	8.3
2.8	0.268981	0.000000	1.0	1.0	0.8	8.4
3.0	0.250178	0.000000	1.1	1.1	0.8	8.5
3.3	0.233535	0.000000	1.1	1.1	0.8	8.5
3.5	0.218659	0.000000	1.1	1.1	0.8	8.6
3.7	0.205325	0.000000	1.1	1.1	0.8	8.7
4.0	0.193195	0.000000	1.1	1.1	0.8	8.7
4.3	0.182408	0.000000	1.1	1.1	0.8	8.8
4.5	0.172473	0.000000	1.1	1.1	0.8	8.8
4.8	0.163413	0.000000	1.1	1.1	0.8	8.9
5.0	0.155178	0.000000	1.1	1.1	0.8	9.0
5.3	0.147622	0.000000	1.1	1.1	0.8	9.0
5.5	0.140609	0.000000	1.1	1.1	0.7	9.1
5.8	0.134097	0.000000	1.1	1.1	0.7	9.1
6.0	0.128145	0.000000	1.1	1.1	0.7	9.2
6.3	0.122623	0.000000	1.1	1.1	0.7	9.3
6.5	0.117349	0.000000	1.1	1.1	0.7	9.3
6.8	0.112535	0.000000	1.1	1.1	0.6	9.4
7.0	0.108077	0.000000	1.1	1.1	0.6	9.4
7.3	0.103816	0.000000	1.1	1.1	0.6	9.5
7.5	0.099858	0.000000	1.1	1.1	0.5	9.5
7.8	0.096127	0.000000	1.1	1.1	0.5	9.6
8.0	0.092597	0.000000	1.1	1.1	0.4	9.6
8.3	0.089333	0.000000	1.1	1.1	0.3	9.7
8.5	0.086223	0.000000	1.1	1.1	0.3	9.7

downwind distance	centerline conc.	ground conc.	y(c1) 1/2 width	y(c2) 1/2 width	y(c3) 1/2 width	centerline height
x(ft)	c(mole frac.)	c(mole frac.)	(ft)	(ft)	(ft)	(ft)
8.8	0.083291	0.000000	1.1	1.1	0.1	9.8
9.0	0.080508	0.000000	1.1	1.1	0.0	9.8
9.3	0.077859	0.000000	1.1	1.1	0.0	9.9
9.5	0.075379	0.000000	1.1	1.1	0.0	9.9
9.8	0.072999	0.000000	1.0	1.0	0.0	10.0
10.0	0.070761	0.000000	1.0	1.0	0.0	10.0
10.3	0.068622	0.000000	1.0	1.0	0.0	10.1
10.5	0.066581	0.000000	1.0	1.0	0.0	10.1
10.8	0.064652	0.000000	1.0	1.0	0.0	10.2
11.0	0.062816	0.000000	1.0	1.0	0.0	10.2
11.3	0.061033	0.000000	0.9	0.9	0.0	10.3
11.5	0.059349	0.000000	0.9	0.9	0.0	10.3
11.8	0.057743	0.000000	0.9	0.9	0.0	10.4
12.0	0.056201	0.000000	0.9	0.9	0.0	10.4
12.3	0.054713	0.000000	0.8	0.8	0.0	10.5
12.5	0.053309	0.000000	0.8	0.8	0.0	10.5
12.8	0.051974	0.000000	0.8	0.8	0.0	10.5
13.0	0.050661	0.000000	0.7	0.7	0.0	10.6
13.2	0.049410	0.000000	0.7	0.7	0.0	10.6
13.5	0.048218	0.000000	0.7	0.7	0.0	10.7
13.8	0.047066	0.000000	0.6	0.6	0.0	10.7
14.0	0.045959	0.000000	0.6	0.6	0.0	10.7
14.3	0.044890	0.000000	0.5	0.5	0.0	10.8
14.5	0.043870	0.000000	0.4	0.4	0.0	10.8
14.8	0.042880	0.000000	0.3	0.3	0.0	10.9
15.0	0.041921	0.000000	0.2	0.2	0.0	10.9

The downwind distance to c3 is
The downwind distance to c2 is
The downwind distance to c1 is

8.78 ft after about
15.12 ft after about
15.12 ft after about

4 seconds
6 seconds
6 seconds

```

+-----+
| CANARY by Quest - Version 4.6.2
| Momentum Jet Vapor Cloud Explosion
| Case Name - B-1vert
| Fri Sep 27 12:35:11 2019
| Quest Consultants Inc., Norman, Oklahoma, USA
| www.questconsult.com   canary@questconsult.com
| telephone (405) 329-7475   fax (405) 329-7734
+-----+

```

Title: Battery Malfunction

Fuel Reactivity: High
 Flame Expansion: 3-D

Obstacle Density: High
 Flame Speed: 5.20

Overpressure levels:

```

dp3 =      3.00 psi gauge
dp2 =      1.00 psi gauge
dp1 =      1.00 psi gauge

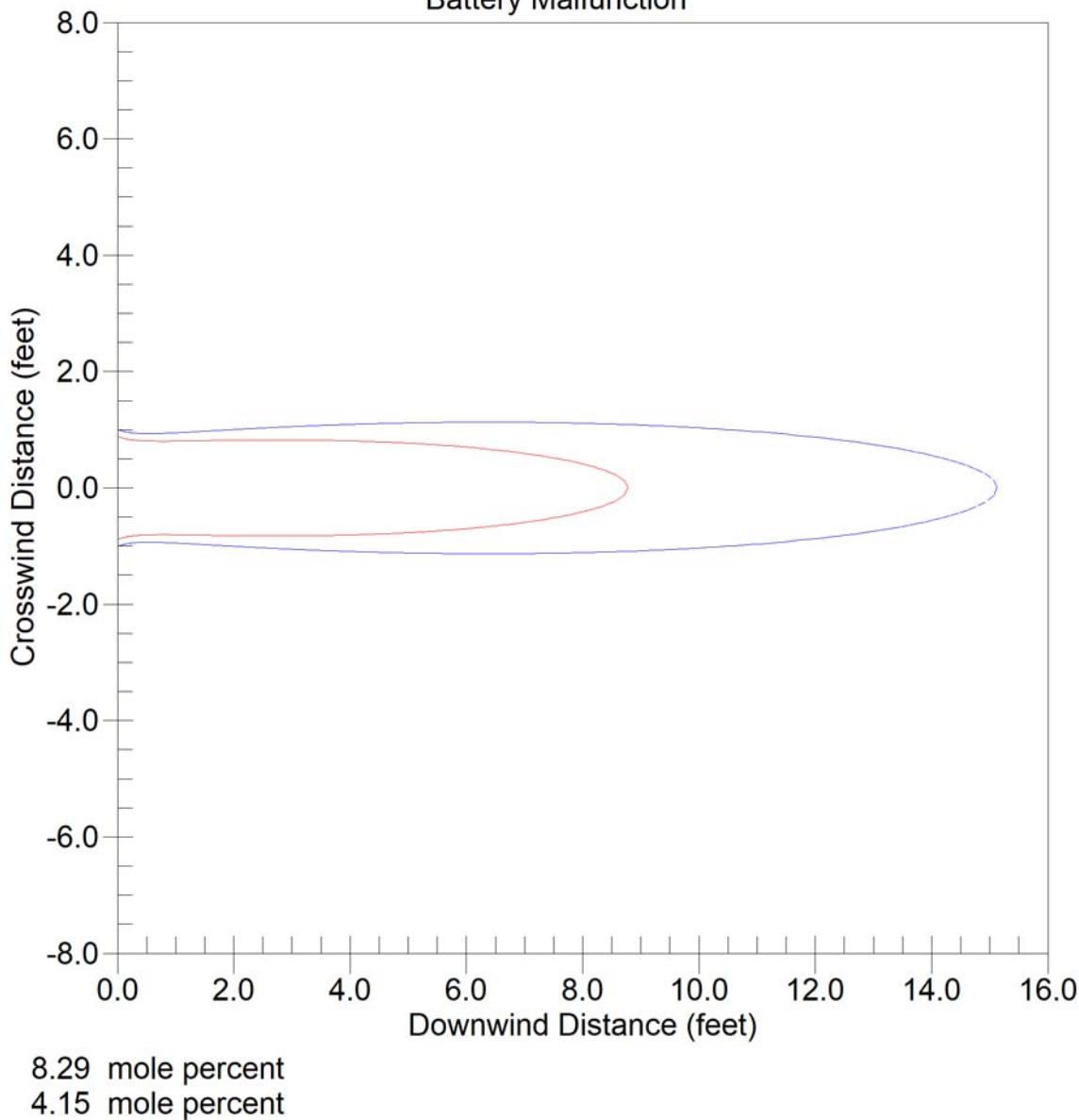
```

Mass of released material in explosive range: 0.0139136 lbs.

Distance from Center of Flammable Cloud (feet)	Overpressure (psi gauge)	Impulse (psi-s)
0.0	308.61	0.0110
0.3	308.61	0.0110
0.3	308.61	0.0103
0.3	308.61	0.0097
0.4	308.61	0.0091
0.4	308.61	0.0085
0.4	308.61	0.0080
0.4	308.61	0.0075
0.5	308.61	0.0071
0.5	259.03	0.0066
0.5	216.93	0.0062
0.5	181.68	0.0058
0.6	152.15	0.0055
0.6	127.42	0.0052
0.7	106.71	0.0048
0.7	89.37	0.0045
0.8	74.84	0.0043
0.8	62.68	0.0040
0.9	52.49	0.0038
0.9	43.96	0.0035
1.0	36.82	0.0033
1.0	30.83	0.0031
1.1	18.34	0.0029
1.2	16.97	0.0027
12.6	1.00	0.0003

The downwind distance to dp3 is 11.2 feet
 The downwind distance to dp2 is 12.6 feet
 The downwind distance to dp1 is 12.6 feet

Momentum Jet Cloud
CONCENTRATION CONTOURS: OVERHEAD VIEW
Battery Malfunction



CANARY by Quest

casename=B-1vert
windspeed = 3.4 mph
F stability
Fri Sep 27 12:02:42 2019

+-----
 CANARY by Quest - Version 4.6.2
 Momentum Jet Vapor Dispersion Model
 Case Name - B-1toxicCO
 Wed Oct 2 14:15:07 2019
 Quest Consultants Inc., Norman, Oklahoma, USA
 www.questconsult.com canary@questconsult.com
 telephone (405) 329-7475 fax (405) 329-7734
 +-----+

TITLE: Battery Malfunction

concentration limits

concentration 3 (highest) = 1200.000 ppm
 concentration 2 (middle) = 500.000 ppm
 concentration 1 (lowest) = 350.000 ppm

downwind distance x(ft)	centerline conc. c(ppm)	ground conc. c(ppm)	y(c1) 1/2 width (ft)	y(c2) 1/2 width (ft)	y(c3) 1/2 width (ft)	centerline height (ft)
0	355411.000	0.000	1.5	1.4	1.3	7.7
3	103216.939	0.000	1.8	1.7	1.6	8.3
5	55137.482	0.000	2.2	2.1	1.9	9.0
7	35484.152	0.000	2.6	2.5	2.2	9.5
10	25143.333	0.000	2.9	2.8	2.5	10.0
13	18943.016	0.000	3.2	3.1	2.7	10.5
15	14898.764	0.000	3.5	3.4	2.9	10.9
18	12083.466	0.000	3.8	3.6	3.1	11.3
20	10043.273	0.000	4.1	3.8	3.2	11.6
23	8534.149	0.000	4.3	4.1	3.4	11.9
25	7384.350	0.000	4.5	4.2	3.5	12.2
28	6477.298	0.000	4.7	4.4	3.6	12.4
30	5742.768	0.000	4.9	4.6	3.7	12.6
33	5136.839	0.000	5.1	4.7	3.7	12.8
35	4631.062	0.001	5.2	4.9	3.8	12.9
38	4200.756	0.002	5.4	5.0	3.8	13.1
40	3831.953	0.005	5.5	5.1	3.9	13.2
43	3510.020	0.012	5.7	5.2	3.9	13.3
45	3233.051	0.024	5.8	5.3	3.9	13.4
48	2986.901	0.046	5.9	5.4	3.9	13.5
50	2769.952	0.084	6.0	5.5	3.8	13.6
53	2577.472	0.141	6.2	5.6	3.8	13.6
55	2403.575	0.230	6.3	5.6	3.8	13.7
58	2250.241	0.355	6.4	5.7	3.7	13.8
60	2108.052	0.532	6.4	5.8	3.6	13.8
62	1982.488	0.766	6.5	5.8	3.5	13.9
65	1866.106	1.068	6.6	5.9	3.4	14.0
68	1760.926	1.447	6.7	5.9	3.3	14.0
70	1664.663	1.913	6.8	5.9	3.1	14.1
73	1574.694	2.484	6.8	6.0	2.9	14.1
75	1493.306	3.146	6.9	6.0	2.7	14.2
78	1418.574	3.932	6.9	6.0	2.4	14.2
80	1349.497	4.801	7.0	6.0	2.1	14.2
83	1284.946	5.812	7.0	6.0	1.6	14.3
85	1224.916	6.916	7.0	6.0	0.9	14.3
•	downwind distance x(ft)	centerline conc. c(ppm)	y(c1) 1/2 width (ft)	y(c2) 1/2 width (ft)	y(c3) 1/2 width (ft)	centerline height (ft)
88	1169.554	8.134	7.1	5.9	0.0	14.3
90	1117.785	9.443	7.1	5.9	0.0	14.4
93	1068.524	10.881	7.1	5.9	0.0	14.4
95	1023.752	12.390	7.1	5.8	0.0	14.4
98	981.370	14.008	7.1	5.8	0.0	14.5
100	940.919	15.677	7.1	5.7	0.0	14.5
103	903.250	17.418	7.1	5.6	0.0	14.5
105	868.465	19.264	7.1	5.5	0.0	14.5
108	835.332	21.093	7.1	5.4	0.0	14.6
110	803.716	23.000	7.1	5.3	0.0	14.6
112	774.100	24.958	7.0	5.2	0.0	14.6
115	746.189	26.925	7.0	5.1	0.0	14.6
118	720.186	28.876	6.9	4.9	0.0	14.7
120	695.021	30.874	6.9	4.8	0.0	14.7
123	671.263	32.911	6.8	4.6	0.0	14.7
125	648.617	34.820	6.8	4.4	0.0	14.7
128	627.160	36.753	6.7	4.2	0.0	14.7
130	606.808	38.720	6.6	3.9	0.0	14.8
133	587.554	40.634	6.5	3.6	0.0	14.8
135	569.118	42.554	6.4	3.3	0.0	14.8
138	551.699	44.369	6.3	2.9	0.0	14.8
140	534.673	46.187	6.2	2.4	0.0	14.8
143	518.584	47.903	6.0	1.8	0.0	14.8
145	503.337	49.653	5.9	0.7	0.0	14.9
148	488.683	51.323	5.7	0.0	0.0	14.9
150	474.742	52.857	5.5	0.0	0.0	14.9
153	461.331	54.486	5.4	0.0	0.0	14.9
155	448.409	55.935	5.1	0.0	0.0	14.9

158	436.047	57.280	4.9	0.0	0.0	14.9
160	424.212	58.696	4.7	0.0	0.0	14.9
163	412.874	59.973	4.4	0.0	0.0	14.9
165	402.004	61.297	4.1	0.0	0.0	15.0
168	391.577	62.400	3.7	0.0	0.0	15.0
170	381.518	63.582	3.3	0.0	0.0	15.0
173	371.792	64.679	2.8	0.0	0.0	15.0
175	362.448	65.666	2.1	0.0	0.0	15.0
178	353.466	66.570	1.1	0.0	0.0	15.0

The downwind distance to c3 is 86.13 ft after about 25 seconds
The downwind distance to c2 is 145.55 ft after about 41 seconds
The downwind distance to c1 is 178.51 ft after about 50 seconds

CANARY by Quest - Version 4.6.2
 Momentum Jet Vapor Dispersion Model
 Case Name - B-1toxicHCL
 Wed Oct 2 14:15:38 2019
 Quest Consultants Inc., Norman, Oklahoma, USA
 www.questconsult.com canary@questconsult.com
 telephone (405) 329-7475 fax (405) 329-7734

TITLE: Battery Malfunction

concentration limits

concentration 3 (highest) = 150.000 ppm
 concentration 2 (middle) = 50.000 ppm
 concentration 1 (lowest) = 20.000 ppm

downwind distance	centerline conc.	ground conc.	y(c1) 1/2 width	y(c2) 1/2 width	y(c3) 1/2 width	centerline height
x(ft)	c(ppm)	c(ppm)	(ft)	(ft)	(ft)	(ft)
0	1045.320	0.000	1.1	1.0	0.8	6.0
0.5	705.039	0.000	1.1	0.9	0.7	6.1
1.0	540.209	0.000	1.1	0.9	0.7	6.2
1.5	433.296	0.000	1.1	0.9	0.7	6.3
2.0	358.527	0.000	1.2	1.0	0.6	6.4
2.5	303.470	0.000	1.2	1.0	0.6	6.6
3.0	261.523	0.000	1.3	1.0	0.6	6.7
3.5	228.578	0.000	1.3	1.0	0.5	6.8
4.0	201.953	0.000	1.3	1.0	0.5	7.0
4.5	180.295	0.000	1.4	1.0	0.4	7.1
5.0	162.229	0.000	1.4	1.1	0.3	7.2
5.5	147.011	0.000	1.4	1.1	0.0	7.3
6.0	133.888	0.000	1.5	1.1	0.0	7.5
6.5	122.653	0.000	1.5	1.1	0.0	7.6
7.0	112.921	0.000	1.5	1.0	0.0	7.7
7.5	104.368	0.000	1.5	1.0	0.0	7.8
8.0	96.807	0.000	1.6	1.0	0.0	7.9
8.5	90.131	0.000	1.6	1.0	0.0	8.0
9.0	84.153	0.000	1.6	1.0	0.0	8.1
9.5	78.800	0.000	1.6	0.9	0.0	8.2
10.0	73.967	0.000	1.6	0.9	0.0	8.3
10.5	69.608	0.000	1.6	0.8	0.0	8.4
11.0	65.659	0.000	1.6	0.8	0.0	8.5
11.5	62.051	0.000	1.6	0.7	0.0	8.6
12.0	58.760	0.000	1.6	0.6	0.0	8.7
12.5	55.734	0.000	1.6	0.5	0.0	8.7
13.0	52.970	0.000	1.6	0.4	0.0	8.8
13.5	50.412	0.000	1.6	0.1	0.0	8.9
14.0	48.043	0.000	1.6	0.0	0.0	9.0
14.5	45.856	0.000	1.6	0.0	0.0	9.1
15.0	43.818	0.000	1.6	0.0	0.0	9.2
15.5	41.935	0.000	1.6	0.0	0.0	9.2
16.0	40.171	0.000	1.6	0.0	0.0	9.3
16.5	38.533	0.000	1.6	0.0	0.0	9.4
17.0	37.001	0.000	1.6	0.0	0.0	9.5
•						
downwind distance	centerline conc.	ground conc.	y(c1) 1/2 width	y(c2) 1/2 width	y(c3) 1/2 width	centerline height
x(ft)	c(ppm)	c(ppm)	(ft)	(ft)	(ft)	(ft)
17.5	35.547	0.000	1.5	0.0	0.0	9.5
18.0	34.197	0.000	1.5	0.0	0.0	9.6
18.5	32.925	0.000	1.5	0.0	0.0	9.7
19.0	31.730	0.000	1.5	0.0	0.0	9.7
19.5	30.601	0.000	1.4	0.0	0.0	9.8
20.0	29.537	0.000	1.4	0.0	0.0	9.9
20.5	28.545	0.000	1.3	0.0	0.0	10.0
21.0	27.609	0.000	1.3	0.0	0.0	10.0
21.5	26.724	0.000	1.3	0.0	0.0	10.1
22.0	25.889	0.000	1.2	0.0	0.0	10.1
22.5	25.102	0.000	1.1	0.0	0.0	10.2
23.0	24.358	0.000	1.1	0.0	0.0	10.2
23.5	23.647	0.000	1.0	0.0	0.0	10.3
24.0	22.974	0.000	0.9	0.0	0.0	10.3
24.5	22.329	0.000	0.8	0.0	0.0	10.4
25.0	21.719	0.000	0.7	0.0	0.0	10.4
25.5	21.137	0.000	0.6	0.0	0.0	10.5
26.0	20.579	0.000	0.4	0.0	0.0	10.5
26.5	20.046	0.000	0.1	0.0	0.0	10.6

The downwind distance to c3 is 5.40 ft after about 3 seconds
 The downwind distance to c2 is 13.59 ft after about 5 seconds
 The downwind distance to c1 is 26.54 ft after about 9 seconds

CANARY by Quest - Version 4.6.2
 Momentum Jet Vapor Dispersion Model
 Case Name - B-1toxicHCN
 Wed Oct 2 14:16:01 2019
 Quest Consultants Inc., Norman, Oklahoma, USA
 www.questconsult.com canary@questconsult.com
 telephone (405) 329-7475 fax (405) 329-7734

TITLE: Battery Malfunction

concentration limits

concentration 3 (highest) = 50.000 ppm
 concentration 2 (middle) = 25.000 ppm
 concentration 1 (lowest) = 10.000 ppm

downwind distance x(ft)	centerline conc. c(ppm)	ground conc. c(ppm)	y(c1) 1/2 width (ft)	y(c2) 1/2 width (ft)	y(c3) 1/2 width (ft)	centerline height (ft)
0	1672.520	0.000	1.3	1.2	1.1	6.0
1	864.225	0.000	1.3	1.1	1.0	6.2
2	573.776	0.000	1.4	1.2	1.1	6.4
3	418.486	0.000	1.5	1.3	1.1	6.7
4	323.302	0.000	1.6	1.4	1.2	7.0
5	259.604	0.000	1.8	1.5	1.2	7.2
6	214.276	0.000	1.9	1.6	1.3	7.5
7	180.742	0.000	2.0	1.6	1.3	7.7
8	154.888	0.000	2.1	1.7	1.3	7.9
9	134.564	0.000	2.1	1.7	1.3	8.1
10	118.283	0.000	2.2	1.8	1.3	8.3
11	105.027	0.000	2.3	1.8	1.3	8.5
12	93.992	0.000	2.4	1.8	1.3	8.7
13	84.726	0.000	2.4	1.8	1.2	8.8
14	76.866	0.000	2.5	1.9	1.1	9.0
15	70.124	0.000	2.5	1.9	1.1	9.2
16	64.273	0.000	2.6	1.9	1.0	9.3
17	59.190	0.000	2.6	1.8	0.8	9.5
18	54.732	0.000	2.7	1.8	0.6	9.6
19	50.770	0.000	2.7	1.8	0.3	9.7
20	47.270	0.000	2.8	1.8	0.0	9.9
21	44.180	0.000	2.8	1.7	0.0	10.0
22	41.428	0.000	2.8	1.7	0.0	10.1
23	38.977	0.000	2.9	1.6	0.0	10.2
24	36.760	0.000	2.9	1.6	0.0	10.3
25	34.746	0.000	2.9	1.5	0.0	10.4
26	32.921	0.000	2.9	1.4	0.0	10.5
27	31.254	0.000	2.9	1.3	0.0	10.6
28	29.727	0.000	2.9	1.2	0.0	10.7
29	28.320	0.000	2.9	1.0	0.0	10.8
30	27.025	0.000	2.9	0.8	0.0	10.9
31	25.825	0.000	2.9	0.5	0.0	10.9
32	24.703	0.000	2.9	0.0	0.0	11.0
33	23.652	0.000	2.9	0.0	0.0	11.1
34	22.702	0.000	2.9	0.0	0.0	11.1

downwind distance x(ft)	centerline conc. c(ppm)	ground conc. c(ppm)	y(c1) 1/2 width (ft)	y(c2) 1/2 width (ft)	y(c3) 1/2 width (ft)	centerline height (ft)
35	21.776	0.000	2.9	0.0	0.0	11.2
36	20.930	0.000	2.9	0.0	0.0	11.2
37	20.139	0.000	2.8	0.0	0.0	11.3
38	19.393	0.000	2.8	0.0	0.0	11.3
39	18.690	0.001	2.8	0.0	0.0	11.4
40	18.029	0.001	2.7	0.0	0.0	11.4
41	17.406	0.001	2.7	0.0	0.0	11.5
42	16.789	0.001	2.7	0.0	0.0	11.5
43	16.243	0.001	2.6	0.0	0.0	11.6
44	15.710	0.002	2.6	0.0	0.0	11.6
45	15.206	0.002	2.5	0.0	0.0	11.6
46	14.729	0.002	2.5	0.0	0.0	11.7
47	14.271	0.003	2.4	0.0	0.0	11.7
48	13.837	0.003	2.3	0.0	0.0	11.7
49	13.425	0.004	2.2	0.0	0.0	11.8
50	13.038	0.005	2.2	0.0	0.0	11.8
51	12.658	0.006	2.1	0.0	0.0	11.8
52	12.300	0.007	2.0	0.0	0.0	11.9
53	11.950	0.008	1.9	0.0	0.0	11.9
54	11.623	0.009	1.7	0.0	0.0	11.9
55	11.301	0.010	1.6	0.0	0.0	12.0
56	11.000	0.011	1.4	0.0	0.0	12.0
57	10.721	0.013	1.2	0.0	0.0	12.0
58	10.445	0.014	1.0	0.0	0.0	12.0
59	10.180	0.016	0.6	0.0	0.0	12.1
60	9.917	0.018	0.0	0.0	0.0	12.1

The downwind distance to c3 is 19.21 ft after about 7 seconds
The downwind distance to c2 is 31.73 ft after about 11 seconds
The downwind distance to c1 is 59.69 ft after about 19 seconds

CANARY by Quest - Version 4.6.2
 Momentum Jet Vapor Dispersion Model
 Case Name - B-1toxicHF
 Wed Oct 2 14:16:36 2019
 Quest Consultants Inc., Norman, Oklahoma, USA
 www.questconsult.com canary@questconsult.com
 telephone (405) 329-7475 fax (405) 329-7734

TITLE: Battery Malfunction

concentration limits

concentration 3 (highest) = 50.000 ppm
 concentration 2 (middle) = 30.000 ppm
 concentration 1 (lowest) = 20.000 ppm

downwind distance x(ft)	centerline conc. c(ppm)	ground conc. c(ppm)	y(c1) 1/2 width (ft)	y(c2) 1/2 width (ft)	y(c3) 1/2 width (ft)	centerline height (ft)
0	522.660	0.000	1.0	0.9	0.9	6.0
0.3	415.666	0.000	1.0	0.9	0.8	6.0
0.5	352.600	0.000	0.9	0.9	0.8	6.1
0.8	306.327	0.000	1.0	0.9	0.8	6.1
1.0	270.113	0.000	1.0	0.9	0.8	6.2
1.3	240.787	0.000	1.0	0.9	0.8	6.2
1.5	216.663	0.000	1.0	0.9	0.8	6.3
1.7	196.428	0.000	1.0	0.9	0.8	6.4
2.0	179.262	0.000	1.0	0.9	0.8	6.4
2.3	164.559	0.000	1.0	0.9	0.8	6.5
2.5	151.790	0.000	1.1	0.9	0.8	6.6
2.8	140.606	0.000	1.1	0.9	0.8	6.6
3.0	130.756	0.000	1.1	1.0	0.8	6.7
3.3	122.049	0.000	1.1	1.0	0.8	6.8
3.5	114.319	0.000	1.1	1.0	0.8	6.8
3.7	107.356	0.000	1.1	1.0	0.7	6.9
4.0	100.995	0.000	1.1	1.0	0.7	7.0
4.3	95.342	0.000	1.1	1.0	0.7	7.0
4.5	90.143	0.000	1.1	1.0	0.7	7.1
4.8	85.419	0.000	1.1	1.0	0.7	7.2
5.0	81.116	0.000	1.2	1.0	0.7	7.2
5.3	77.156	0.000	1.2	1.0	0.7	7.3
5.5	73.501	0.000	1.2	1.0	0.6	7.3
5.8	70.098	0.000	1.2	1.0	0.6	7.4
6.0	66.966	0.000	1.2	1.0	0.6	7.5
6.3	64.079	0.000	1.2	0.9	0.5	7.5
6.5	61.334	0.000	1.2	0.9	0.5	7.6
6.8	58.812	0.000	1.2	0.9	0.5	7.6
7.0	56.471	0.000	1.2	0.9	0.4	7.7
7.3	54.248	0.000	1.2	0.9	0.3	7.7
7.5	52.189	0.000	1.2	0.9	0.2	7.8
7.8	50.241	0.000	1.2	0.9	0.1	7.8
8.0	48.395	0.000	1.2	0.9	0.0	7.9
8.3	46.689	0.000	1.2	0.8	0.0	7.9
8.5	45.066	0.000	1.2	0.8	0.0	8.0
•	downwind distance x(ft)	centerline conc. c(ppm)	ground conc. c(ppm)	y(c1) 1/2 width (ft)	y(c2) 1/2 width (ft)	y(c3) 1/2 width (ft)
8.8	43.535	0.000	1.2	0.8	0.0	8.0
9.0	42.079	0.000	1.1	0.8	0.0	8.1
9.3	40.691	0.000	1.1	0.7	0.0	8.1
9.5	39.393	0.000	1.1	0.7	0.0	8.2
9.8	38.150	0.000	1.1	0.7	0.0	8.2
10.0	36.981	0.000	1.1	0.6	0.0	8.3
10.3	35.864	0.000	1.1	0.6	0.0	8.3
10.5	34.799	0.000	1.1	0.6	0.0	8.4
10.8	33.793	0.000	1.1	0.5	0.0	8.4
11.0	32.835	0.000	1.1	0.4	0.0	8.5
11.3	31.901	0.000	1.0	0.4	0.0	8.5
11.5	31.020	0.000	1.0	0.3	0.0	8.6
11.8	30.179	0.000	1.0	0.1	0.0	8.6
12.0	29.374	0.000	1.0	0.0	0.0	8.7
12.3	28.596	0.000	1.0	0.0	0.0	8.7
12.5	27.863	0.000	0.9	0.0	0.0	8.7
12.8	27.165	0.000	0.9	0.0	0.0	8.8
13.0	26.478	0.000	0.9	0.0	0.0	8.8
13.2	25.823	0.000	0.9	0.0	0.0	8.9
13.5	25.199	0.000	0.8	0.0	0.0	8.9
13.8	24.597	0.000	0.8	0.0	0.0	9.0
14.0	24.017	0.000	0.7	0.0	0.0	9.0
14.3	23.458	0.000	0.7	0.0	0.0	9.0
14.5	22.925	0.000	0.7	0.0	0.0	9.1
14.8	22.409	0.000	0.6	0.0	0.0	9.1
15.0	21.910	0.000	0.6	0.0	0.0	9.2
15.3	21.436	0.000	0.5	0.0	0.0	9.2
15.5	20.971	0.000	0.4	0.0	0.0	9.2

15.7	20.528	0.000	0.3	0.0	0.0	9.3
16.0	20.089	0.000	0.1	0.0	0.0	9.3

The downwind distance to c3 is 7.78 ft after about 3 seconds
The downwind distance to c2 is 11.80 ft after about 5 seconds
The downwind distance to c1 is 16.05 ft after about 6 seconds

CANARY by Quest - Version 4.6.2
 Momentum Jet Vapor Dispersion Model
 Case Name - B-1toxicTol
 Wed Oct 2 14:17:01 2019
 Quest Consultants Inc., Norman, Oklahoma, USA
 www.questconsult.com canary@questconsult.com
 telephone (405) 329-7475 fax (405) 329-7734

TITLE: Battery Malfunction

concentration limits

concentration 3 (highest) = 1000.000 ppm
 concentration 2 (middle) = 500.000 ppm
 concentration 1 (lowest) = 300.000 ppm

downwind distance	centerline conc.	ground conc.	y(c1) 1/2 width	y(c2) 1/2 width	y(c3) 1/2 width	centerline height
x(ft)	c(ppm)	c(ppm)	(ft)	(ft)	(ft)	(ft)
0	3658.640	0.000	0.9	0.8	0.6	6.0
0.2	3021.436	0.000	0.8	0.7	0.6	6.0
0.4	2626.659	0.000	0.8	0.7	0.5	6.0
0.6	2328.338	0.000	0.8	0.7	0.5	6.1
0.8	2089.114	0.000	0.8	0.7	0.5	6.1
1.0	1890.842	0.000	0.8	0.7	0.5	6.2
1.2	1723.865	0.000	0.8	0.7	0.5	6.2
1.4	1580.641	0.000	0.8	0.7	0.4	6.3
1.6	1457.409	0.000	0.8	0.7	0.4	6.3
1.8	1349.474	0.000	0.8	0.7	0.4	6.4
2.0	1255.313	0.000	0.8	0.7	0.3	6.4
2.2	1171.033	0.000	0.8	0.7	0.3	6.5
2.4	1096.962	0.000	0.8	0.6	0.2	6.5
2.6	1029.923	0.000	0.8	0.6	0.1	6.6
2.8	969.966	0.000	0.8	0.6	0.0	6.7
3.0	915.499	0.000	0.8	0.6	0.0	6.7
3.2	865.992	0.000	0.8	0.6	0.0	6.8
3.4	821.057	0.000	0.8	0.6	0.0	6.8
3.6	780.292	0.000	0.8	0.6	0.0	6.9
3.8	742.019	0.000	0.8	0.5	0.0	6.9
4.0	707.049	0.000	0.8	0.5	0.0	7.0
4.2	674.856	0.000	0.8	0.5	0.0	7.0
4.4	645.140	0.000	0.8	0.5	0.0	7.1
4.6	617.291	0.000	0.8	0.4	0.0	7.1
4.8	591.518	0.000	0.8	0.4	0.0	7.2
5.0	567.999	0.000	0.8	0.3	0.0	7.2
5.2	545.383	0.000	0.8	0.3	0.0	7.3
5.4	524.564	0.000	0.8	0.2	0.0	7.3
5.6	504.891	0.000	0.7	0.1	0.0	7.4
5.8	486.290	0.000	0.7	0.0	0.0	7.4
6.0	468.867	0.000	0.7	0.0	0.0	7.5
6.2	452.532	0.000	0.7	0.0	0.0	7.5
6.4	436.923	0.000	0.7	0.0	0.0	7.5
6.6	422.257	0.000	0.7	0.0	0.0	7.6
6.8	408.393	0.000	0.6	0.0	0.0	7.6

downwind distance	centerline conc.	ground conc.	y(c1) 1/2 width	y(c2) 1/2 width	y(c3) 1/2 width	centerline height
x(ft)	c(ppm)	c(ppm)	(ft)	(ft)	(ft)	(ft)
7.0	395.369	0.000	0.6	0.0	0.0	7.7
7.2	382.866	0.000	0.6	0.0	0.0	7.7
7.4	371.088	0.000	0.5	0.0	0.0	7.8
7.6	359.794	0.000	0.5	0.0	0.0	7.8
7.8	349.163	0.000	0.5	0.0	0.0	7.9
8.0	338.818	0.000	0.4	0.0	0.0	7.9
8.2	329.241	0.000	0.4	0.0	0.0	7.9
8.4	319.863	0.000	0.3	0.0	0.0	8.0
8.6	311.085	0.000	0.2	0.0	0.0	8.0
8.8	302.548	0.000	0.1	0.0	0.0	8.1

The downwind distance to c3 is 2.70 ft after about 2 seconds
 The downwind distance to c2 is 5.65 ft after about 3 seconds
 The downwind distance to c1 is 8.86 ft after about 4 seconds

AERMOD OUTPUT FILE

**AERMOD INPUT FILE CREATED BY HARP VERSION 19121
 **DATE CREATED: 9/26/2019 10:02:57 AM
 **
 CO STARTING
 TITLEONE MegaPack Thermal Runaway
 TITLETWO
 MODELOPT DEFAULT CONC
 AVERTIME 1 PERIOD
 POLLUTID OTHER
 RUNORNOT RUN
 FLAGPOLE 1.5
 ERRORFIL "C:\HARP2\Projects\MEGAPACK\MEGAPACK_AERMOD.ERR"
 CO FINISHED
 **
 **SOURCES
 SO STARTING
 **SOURCES LOCATIONS
 LOCATION 1 POINT 236347 3813910 16.08
 **SOURCES PARAMETERS
 SRCPARAM 1 1 2.4 323 0.03537 .3
 SRCGROUP 1 1
 SO FINISHED
 **
 **RECEPTORS
 RE STARTING
 INCLUDED "C:\HARP2\Projects\MEGAPACK\MEGAPACK_AERMAP.REC"
 RE FINISHED
 **
 **MET PATHWAY
 ME STARTING
 ME SURFFILE "C:\HARP2\MET\Goleta12-16.SFC"
 ME PROFILE "C:\HARP2\MET\Goleta12-16.PFL"
 ME SURFDATA 723925 2012
 ME UAIRDATA 93214 2012
 ME SITEDATA 8 2012
 ME PROFBASE 14
 ME FINISHED
 **
 **OUTPUT PATHWAY
 OU STARTING
 RECTABLE ALLAVE 1ST
 RECTABLE 1 1ST
 PLOTFILE 1 1 1ST "C:\HARP2\Projects\MEGAPACK\plt\MAX1HR1.PLT" 31
 PLOTFILE PERIOD 1 "C:\HARP2\Projects\MEGAPACK\plt\PERIOD1.PLT" 32
 OU FINISHED

*** Message Summary For AERMOD Model Setup ***

----- Summary of Total Messages -----

A Total of	0 Fatal Error Message(s)
A Total of	4 Warning Message(s)
A Total of	0 Informational Message(s)

***** FATAL ERROR MESSAGES *****
*** NONE ***

*****	WARNING MESSAGES	*****	
CO W200	6	TITLES: Missing Parameter(s). No Options Specified For	TITLETWO
RE W216	932	RECART: FLAG Input Inconsistent With Option: Defaults Used	1
MX W403	37	PFLCNV: Turbulence data is being used w/o ADJ_U* option	SigA Data

AERMOD OUTPUT FILE
MX W402 37 PFLCNV: Turbulence data being used with ADJ_U* w/o DEFAULT Option

*** SETUP Finishes Successfully ***

• *** AERMOD - VERSION 18081 *** *** MegaPack Thermal Runaway *** 09/26/19
• *** AERMET - VERSION 16216 *** *** 10:03:22
PAGE 1

*** MODELOPTS: RegDEFAULT CONC ELEV FLGPOL RURAL SigA Data

*** MODEL SETUP OPTIONS SUMMARY ***

-- Model Is Setup For Calculation of Average CONCntration Values.

-- DEPOSITION LOGIC --
**NO GAS DEPOSITION Data Provided.
**NO PARTICLE DEPOSITION Data Provided.
**Model Uses NO DRY DEPLETION. DRYDPLT = F
**Model Uses NO WET DEPLETION. WETDPLT = F

**Model Uses RURAL Dispersion Only.

**Model Uses Regulatory DEFAULT Options:
1. Stack-tip Downwash.
2. Model Accounts for ELEVated Terrain Effects.
3. Use Calms Processing Routine.
4. Use Missing Data Processing Routine.
5. No Exponential Decay.

**Model Accepts FLAGPOLE Receptor Heights.

**The User Specified a Pollutant Type of: OTHER

**Model Calculates 1 Short Term Average(s) of: 1-HR
and Calculates PERIOD Averages

**This Run Includes: 1 Source(s); 1 Source Group(s); and 2601 Receptor(s)

with: 1 POINT(s), including
0 POINTCAP(s) and 0 POINTHOR(s)
and: 0 VOLUME source(s)
and: 0 AREA type source(s)
and: 0 LINE source(s)
and: 0 OPENPIT source(s)
and: 0 BUOYANT LINE source(s) with 0 line(s)

**Model Set To Continue RUNning After the Setup Testing.

**The AERMET Input Meteorological Data Version Date: 16216

**Output Options Selected:
Model Outputs Tables of PERIOD Averages by Receptor
Model Outputs Tables of Highest Short Term Values by Receptor (RECTABLE Keyword)
Model Outputs External File(s) of High Values for Plotting (PLOTFILE Keyword)

**NOTE: The Following Flags May Appear Following CONC Values: c for Calm Hours
m for Missing Hours
b for Both Calm and Missing Hours

**Misc. Inputs: Base Elev. for Pot. Temp. Profile (m MSL) = 14.00 ; Decay Coef. = 0.000 ; Rot. Angle = 0.0
Emission Units = GRAMS/SEC ; Emission Rate Unit Factor = 0.10000E+07

AERMOD OUTPUT FILE

Output Units = MICROGRAMS/M**3

**Approximate Storage Requirements of Model = 3.8 MB of RAM.

**Input Runstream File: aermod.inp
**Output Print File: aermod.out

**Detailed Error/Message File: C:\HARP2\Projects\MEGAPACK\MEGAPACK_AERMOD.ERR

• *** AERMOD - VERSION 18081 *** *** MegaPack Thermal Runaway	***	09/26/19
*** AERMET - VERSION 16216 *** ***	***	10:03:22
	PAGE	2

*** MODELOPTS: RegDFAULT CONC ELEV FLGPOL RURAL SigA Data

*** POINT SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV.	STACK HEIGHT (METERS)	STACK TEMP. (DEG.K)	STACK EXIT VEL. (M/SEC)	STACK DIAMETER (METERS)	BLDG EXISTS	URBAN SOURCE	CAP/HOR	EMIS SCALAR RATE VARY BY
1	0	0.10000E+01	236347.0	3813910.0	16.1	2.40	323.00	0.04	0.30	NO	NO	***	09/26/19
• *** AERMOD - VERSION 18081 *** *** MegaPack Thermal Runaway	***	***										***	10:03:22
*** AERMET - VERSION 16216 *** ***												PAGE	3

*** MODELOPTS: RegDFAULT CONC ELEV FLGPOL RURAL SigA Data

*** SOURCE IDs DEFINING SOURCE GROUPS ***

SRCGROUP ID SOURCE IDs

1	1	1	09/26/19
• *** AERMOD - VERSION 18081 *** *** MegaPack Thermal Runaway	***	***	10:03:22
*** AERMET - VERSION 16216 *** ***			PAGE
*** MODELOPTS: RegDFAULT CONC ELEV FLGPOL RURAL SigA Data			4

*** GRIDDED RECEPTOR NETWORK SUMMARY ***

*** NETWORK ID: 1 ; NETWORK TYPE: GRIDCART ***

*** X-COORDINATES OF GRID ***
(METERS)

236097.0, 236107.0, 236117.0, 236127.0, 236137.0, 236147.0, 236157.0, 236167.0, 236177.0, 236187.0,
 236197.0, 236207.0, 236217.0, 236227.0, 236237.0, 236247.0, 236257.0, 236267.0, 236277.0, 236287.0,
 236297.0, 236307.0, 236317.0, 236327.0, 236337.0, 236347.0, 236357.0, 236367.0, 236377.0, 236387.0,
 236397.0, 236407.0, 236417.0, 236427.0, 236437.0, 236447.0, 236457.0, 236467.0, 236477.0, 236487.0,
 236497.0, 236507.0, 236517.0, 236527.0, 236537.0, 236547.0, 236557.0, 236567.0, 236577.0, 236587.0,
 236597.0,

*** Y-COORDINATES OF GRID ***
(METERS)

3813660.0, 3813670.0, 3813680.0, 3813690.0, 3813700.0, 3813710.0, 3813720.0, 3813730.0, 3813740.0, 3813750.0,
 3813760.0, 3813770.0, 3813780.0, 3813790.0, 3813800.0, 3813810.0, 3813820.0, 3813830.0, 3813840.0, 3813850.0,
 3813860.0, 3813870.0, 3813880.0, 3813890.0, 3813900.0, 3813910.0, 3813920.0, 3813930.0, 3813940.0, 3813950.0,
 3813960.0, 3813970.0, 3813980.0, 3813990.0, 3814000.0, 3814010.0, 3814020.0, 3814030.0, 3814040.0, 3814050.0,
 3814060.0, 3814070.0, 3814080.0, 3814090.0, 3814100.0, 3814110.0, 3814120.0, 3814130.0, 3814140.0, 3814150.0,
 3814160.0,

• *** AERMOD - VERSION 18081 *** *** MegaPack Thermal Runaway	***	09/26/19
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*** AERMET - VERSION 16216 *** ***

AERMOD OUTPUT FILE

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*** MODELOPTS: RegDEFAULT CONC ELEV FLGPOL RURAL SigA Data

*** NETWORK ID: 1 ; NETWORK TYPE: GRIDCART ***

* ELEVATION HEIGHTS IN METERS *

Y-COORD (METERS)	236097.00	236107.00	236117.00	236127.00	236137.00	236147.00	236157.00	236167.00	236177.00
3814160.00	18.30	18.00	18.00	18.00	18.00	17.60	17.30	17.10	17.40
3814150.00	18.30	18.00	17.90	17.80	17.70	17.40	17.20	17.00	17.40
3814140.00	18.30	18.00	17.80	17.60	17.40	17.20	17.10	17.00	17.40
3814130.00	18.30	18.00	17.60	17.30	17.00	17.00	17.00	17.00	17.40
3814120.00	18.40	18.00	17.60	17.30	17.00	17.00	17.00	17.00	17.30
3814110.00	18.50	18.00	17.60	17.30	17.00	17.00	17.00	17.00	17.10
3814100.00	18.60	18.00	17.60	17.30	17.00	17.00	17.00	17.00	17.00
3814090.00	18.70	18.00	17.60	17.30	17.00	17.00	17.00	17.00	17.00
3814080.00	18.80	18.00	17.60	17.30	17.00	17.00	17.00	17.00	17.00
3814070.00	18.80	18.00	17.60	17.30	17.00	17.00	17.00	17.00	17.00
3814060.00	18.90	18.00	17.60	17.30	17.00	17.00	17.00	17.00	17.00
3814050.00	18.90	18.00	17.60	17.30	17.00	17.00	17.00	17.00	17.00
3814040.00	18.90	18.00	17.60	17.30	17.00	17.00	17.00	17.00	17.00
3814030.00	18.60	18.00	17.60	17.30	17.00	16.90	16.80	16.70	16.70
3814020.00	18.30	18.00	17.60	17.30	17.00	16.80	16.60	16.40	16.40
3814010.00	18.00	18.00	17.60	17.30	17.00	16.60	16.30	16.00	16.00
3814000.00	17.50	17.40	17.20	16.90	16.70	16.40	16.20	16.00	16.00
3813990.00	16.90	16.70	16.60	16.50	16.40	16.20	16.10	16.00	16.00
3813980.00	16.40	16.10	16.10	16.10	16.00	16.00	16.00	16.00	16.00
3813970.00	16.40	16.00	15.90	15.80	15.70	15.70	15.70	15.70	15.70
3813960.00	16.50	16.00	15.80	15.60	15.40	15.40	15.40	15.40	15.40
3813950.00	16.60	16.00	15.60	15.30	15.00	15.00	15.00	15.00	15.00
3813940.00	16.80	16.20	15.80	15.40	15.00	14.90	14.80	14.70	14.70
3813930.00	17.00	16.50	16.00	15.50	15.00	14.80	14.60	14.40	14.40
3813920.00	17.30	16.90	16.20	15.60	15.00	14.60	14.30	14.00	14.00
3813910.00	17.40	16.90	16.20	15.60	15.00	14.60	14.30	14.00	13.90
3813900.00	17.50	16.90	16.20	15.60	15.00	14.60	14.30	14.00	13.80
3813890.00	17.60	16.90	16.20	15.60	15.00	14.60	14.30	14.00	13.60
3813880.00	17.50	16.90	16.20	15.60	14.90	14.50	14.10	13.70	13.40
3813870.00	17.40	16.90	16.20	15.60	14.90	14.40	13.80	13.40	13.20
3813860.00	17.30	16.90	16.20	15.60	14.90	14.30	13.60	13.00	13.00
3813850.00	17.30	16.90	16.00	15.20	14.30	13.80	13.20	12.70	12.70
3813840.00	17.30	16.90	15.80	14.70	13.70	13.20	12.80	12.40	12.40
3813830.00	17.30	16.80	15.50	14.20	13.00	12.70	12.30	12.00	12.00
3813820.00	17.00	16.50	15.30	14.10	13.00	12.70	12.50	12.30	12.20
3813810.00	16.70	16.20	15.10	14.00	13.00	12.90	12.70	12.60	12.40
3813800.00	16.30	15.90	14.90	13.90	13.00	13.00	13.00	12.90	12.60
3813790.00	16.30	15.90	15.10	14.30	13.50	13.40	13.20	13.00	12.60
3813780.00	16.30	15.90	15.30	14.70	14.20	13.80	13.40	13.00	12.60
3813770.00	16.30	15.90	15.60	15.20	14.80	14.20	13.50	13.00	12.60

• *** AERMOD - VERSION 18081 *** *** MegaPack Thermal Runaway

*** 09/26/19

*** AERMET - VERSION 16216 *** ***

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*** MODELOPTS: RegDEFAULT CONC ELEV FLGPOL RURAL SigA Data

*** NETWORK ID: 1 ; NETWORK TYPE: GRIDCART ***

* ELEVATION HEIGHTS IN METERS *

Y-COORD (METERS)	236097.00	236107.00	236117.00	236127.00	236137.00	236147.00	236157.00	236167.00	236177.00
236097.00									

AERMOD OUTPUT FILE

3813760.00	16.20	16.00	15.60	15.30	14.90	14.40	13.80	13.20	12.90
3813750.00	16.10	16.00	15.60	15.30	14.90	14.50	14.00	13.60	13.20
3813740.00	16.00	16.00	15.60	15.30	15.00	14.60	14.30	13.90	13.60
3813730.00	16.00	16.00	15.60	15.30	15.00	14.70	14.50	14.20	13.90
3813720.00	16.00	16.00	15.60	15.30	15.00	14.90	14.70	14.60	14.20
3813710.00	16.00	16.00	15.60	15.30	15.00	15.00	15.00	14.90	14.60
3813700.00	15.70	15.70	15.40	15.20	15.00	15.00	15.00	15.00	14.60
3813690.00	15.40	15.40	15.20	15.10	15.00	15.00	15.00	15.00	14.60
3813680.00	15.00	15.00	15.00	15.00	15.00	15.00	15.00	15.00	14.60
3813670.00	15.00	15.00	14.90	14.80	14.70	14.70	14.70	14.70	14.40
3813660.00	15.00	15.00	14.80	14.60	14.40	14.40	14.40	14.40	14.20

• *** AERMOD - VERSION 18081 *** *** MegaPack Thermal Runaway

*** AERMET - VERSION 16216 *** ***

*** 09/26/19

*** 10:03:22

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*** MODELOPTS: RegDEFAULT CONC ELEV FLGPOL RURAL SigA Data

*** NETWORK ID: 1 ; NETWORK TYPE: GRIDCART ***

* ELEVATION HEIGHTS IN METERS *

Y-COORD (METERS)	X-COORD (METERS)								
	236187.00	236197.00	236207.00	236217.00	236227.00	236237.00	236247.00	236257.00	236267.00
3814160.00	17.70	18.00	18.00	18.00	18.00	18.00	18.00	18.00	18.00
3814150.00	17.70	18.00	18.00	18.00	18.00	18.00	18.00	18.00	18.00
3814140.00	17.70	18.00	18.00	18.00	18.00	18.00	18.00	18.00	18.00
3814130.00	17.70	18.00	18.00	18.00	18.00	18.00	18.00	18.00	18.00
3814120.00	17.50	17.70	17.80	17.90	18.00	18.00	18.00	18.00	18.00
3814110.00	17.30	17.40	17.60	17.80	18.00	18.00	18.00	18.00	18.00
3814100.00	17.00	17.10	17.40	17.70	18.00	18.00	18.00	18.00	18.00
3814090.00	17.00	17.00	17.30	17.50	17.70	17.70	17.70	17.70	17.70
3814080.00	17.00	17.00	17.10	17.30	17.40	17.40	17.40	17.40	17.40
3814070.00	17.00	17.00	17.00	17.00	17.00	17.00	17.00	17.00	17.00
3814060.00	17.00	17.00	17.00	17.00	17.00	17.00	17.00	17.00	17.00
3814050.00	17.00	17.00	17.00	17.00	17.00	17.00	17.00	17.00	17.00
3814040.00	17.00	17.00	17.00	17.00	17.00	17.00	17.00	17.00	17.00
3814030.00	16.70	16.70	16.70	16.70	16.80	16.90	17.00	17.00	17.00
3814020.00	16.40	16.40	16.40	16.40	16.40	16.60	16.80	17.00	17.00
3814010.00	16.00	16.00	16.00	16.00	16.10	16.40	16.70	17.00	17.00
3814000.00	16.00	16.00	16.00	16.00	16.00	16.30	16.50	16.70	16.90
3813990.00	16.00	16.00	16.00	16.00	16.00	16.10	16.30	16.40	16.80
3813980.00	16.00	16.00	16.00	16.00	16.00	16.00	16.00	16.10	16.80
3813970.00	15.70	15.70	15.70	15.70	15.70	15.90	16.10	16.40	16.90
3813960.00	15.40	15.40	15.40	15.40	15.40	15.80	16.30	16.70	17.10
3813950.00	15.00	15.00	15.00	15.00	15.10	15.80	16.40	17.00	17.30
3813940.00	14.70	14.70	14.70	14.70	14.80	15.40	15.90	16.50	17.00
3813930.00	14.40	14.40	14.40	14.40	14.40	14.90	15.40	15.90	16.60
3813920.00	14.00	14.00	14.00	14.00	14.10	14.40	14.80	15.20	16.20
3813910.00	13.80	13.70	13.70	13.70	13.70	14.00	14.20	14.50	15.30
3813900.00	13.60	13.40	13.40	13.40	13.40	13.50	13.70	13.80	14.40
3813890.00	13.30	13.00	13.00	13.00	13.00	13.10	13.10	13.10	13.50
3813880.00	13.20	13.00	12.90	12.80	12.70	12.70	12.70	12.70	13.00
3813870.00	13.10	13.00	12.80	12.60	12.40	12.40	12.40	12.40	12.50
3813860.00	13.00	13.00	12.60	12.30	12.00	12.00	12.00	12.00	12.10
3813850.00	12.70	12.70	12.40	12.20	12.00	12.00	12.00	12.00	12.00
3813840.00	12.40	12.40	12.20	12.10	12.00	12.00	12.00	12.00	12.00
3813830.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
3813820.00	12.10	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
3813810.00	12.20	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
3813800.00	12.30	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
3813790.00	12.30	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
3813780.00	12.30	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00

AERMOD OUTPUT FILE
 3813770.00 | 12.30 12.00 12.00 12.00 12.00 12.00 12.00 12.00 12.00 12.00 12.00 12.00
 • *** AERMOD - VERSION 18081 *** *** MegaPack Thermal Runaway
 *** AERMET - VERSION 16216 *** ***
 *** MODELOPTs: RegDFAULT CONC ELEV FLGPOL RURAL SigA Data
 *** NETWORK ID: 1 ; NETWORK TYPE: GRIDCART ***

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* ELEVATION HEIGHTS IN METERS *

Y-COORD (METERS)	X-COORD (METERS)								
	236187.00	236197.00	236207.00	236217.00	236227.00	236237.00	236247.00	236257.00	236267.00
3813760.00	12.60	12.30	12.30	12.30	12.30	12.20	12.10	12.00	12.00
3813750.00	12.90	12.60	12.60	12.60	12.60	12.40	12.20	12.00	12.00
3813740.00	13.20	13.00	13.00	13.00	12.90	12.60	12.30	12.00	12.00
3813730.00	13.60	13.30	13.30	13.30	13.20	12.90	12.60	12.30	12.30
3813720.00	13.90	13.60	13.60	13.60	13.60	13.20	12.90	12.60	12.60
3813710.00	14.20	14.00	14.00	14.00	13.90	13.60	13.20	13.00	13.00
3813700.00	14.30	14.00	14.00	14.00	14.00	13.70	13.50	13.30	13.20
3813690.00	14.30	14.00	14.00	14.00	14.00	13.90	13.70	13.60	13.40
3813680.00	14.30	14.00	14.00	14.00	14.00	14.00	14.00	13.90	13.60
3813670.00	14.20	14.00	14.00	14.00	14.00	14.00	14.00	14.00	13.60
3813660.00	14.10	14.00	14.00	14.00	14.00	14.00	14.00	14.00	13.60

• *** AERMOD - VERSION 18081 *** *** MegaPack Thermal Runaway
 *** AERMET - VERSION 16216 *** ***
 *** MODELOPTs: RegDFAULT CONC ELEV FLGPOL RURAL SigA Data
 *** NETWORK ID: 1 ; NETWORK TYPE: GRIDCART ***

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* ELEVATION HEIGHTS IN METERS *

Y-COORD (METERS)	X-COORD (METERS)								
	236277.00	236287.00	236297.00	236307.00	236317.00	236327.00	236337.00	236347.00	236357.00
3814160.00	18.00	18.00	18.00	18.00	18.00	18.00	18.00	18.00	18.00
3814150.00	18.00	18.00	18.00	18.00	18.00	18.00	18.00	18.00	18.00
3814140.00	18.00	18.00	18.00	18.00	18.00	18.00	18.00	18.00	18.00
3814130.00	18.00	18.00	18.00	18.00	18.00	18.00	18.00	18.00	18.00
3814120.00	18.00	18.00	18.00	18.00	18.00	18.00	18.00	18.00	18.00
3814110.00	18.00	18.00	18.00	18.00	18.00	18.00	18.00	18.00	18.00
3814100.00	18.00	18.00	18.00	18.00	18.00	18.00	18.00	18.00	18.00
3814090.00	17.70	17.70	17.80	17.90	18.00	18.00	18.00	18.00	18.00
3814080.00	17.40	17.40	17.60	17.80	18.00	18.00	18.00	18.00	18.00
3814070.00	17.00	17.10	17.40	17.70	18.00	18.00	18.00	18.00	18.00
3814060.00	17.00	17.00	17.30	17.50	17.70	17.70	17.70	17.70	17.70
3814050.00	17.00	17.00	17.10	17.30	17.40	17.40	17.40	17.40	17.40
3814040.00	17.00	17.00	17.00	17.00	17.00	17.00	17.00	17.00	17.00
3814030.00	17.00	17.00	17.00	17.00	17.00	17.00	17.00	17.00	16.90
3814020.00	17.00	17.00	17.00	17.00	17.00	17.00	17.00	17.00	16.80
3814010.00	17.00	17.00	17.00	17.00	17.00	17.00	17.00	17.00	16.60
3814000.00	17.10	17.30	17.30	17.30	17.30	17.30	17.30	17.20	16.90
3813990.00	17.30	17.60	17.60	17.60	17.60	17.60	17.60	17.60	17.20
3813980.00	17.40	18.00	18.00	18.00	18.00	18.00	18.00	17.90	17.60
3813970.00	17.50	18.00	18.00	18.00	18.00	18.00	18.00	18.00	17.60
3813960.00	17.60	18.00	18.00	18.00	18.00	18.00	18.00	18.00	17.60
3813950.00	17.70	18.00	18.00	18.00	18.00	18.00	18.00	18.00	17.60
3813940.00	17.50	18.00	18.00	18.00	18.00	17.90	17.80	17.70	17.20
3813930.00	17.40	18.00	18.00	18.00	18.00	17.80	17.60	17.30	16.80
3813920.00	17.20	18.00	18.00	18.00	18.00	17.60	17.30	17.00	16.30
3813910.00	16.20	16.90	17.00	17.10	17.10	16.80	16.40	16.10	15.60

AERMOD OUTPUT FILE

3813900.00	15.00	15.50	15.80	16.00	16.10	15.80	15.40	15.10	14.90
3813890.00	13.90	14.20	14.50	14.90	15.10	14.80	14.40	14.10	14.10
3813880.00	13.20	13.50	13.70	13.90	14.10	14.00	13.80	13.70	13.60
3813870.00	12.70	12.80	12.90	13.00	13.20	13.20	13.30	13.40	13.10
3813860.00	12.10	12.10	12.10	12.10	12.20	12.50	12.80	13.00	12.70
3813850.00	12.00	12.00	12.00	12.00	12.00	12.30	12.50	12.70	12.40
3813840.00	12.00	12.00	12.00	12.00	12.00	12.10	12.30	12.40	12.20
3813830.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
3813820.00	12.00	12.00	11.90	11.80	11.70	11.70	11.70	11.70	11.70
3813810.00	12.00	12.00	11.80	11.60	11.40	11.40	11.40	11.40	11.40
3813800.00	12.00	12.00	11.60	11.30	11.00	11.00	11.00	11.00	11.00
3813790.00	12.00	12.00	11.70	11.50	11.30	11.30	11.30	11.30	11.20
3813780.00	12.00	12.00	11.90	11.70	11.60	11.60	11.60	11.60	11.40
3813770.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	11.90	11.60

• *** AERMOD - VERSION 18081 *** *** MegaPack Thermal Runaway

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*** MODELOPTS: RegDFAULT CONC ELEV FLGPOL RURAL SigA Data

*** NETWORK ID: 1 ; NETWORK TYPE: GRIDCART ***

* ELEVATION HEIGHTS IN METERS *

Y-COORD (METERS)	X-COORD (METERS)								
	236277.00	236287.00	236297.00	236307.00	236317.00	236327.00	236337.00	236347.00	236357.00
3813760.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	11.70
3813750.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	11.90
3813740.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
3813730.00	12.30	12.30	12.20	12.10	12.00	12.00	12.00	12.00	12.00
3813720.00	12.60	12.60	12.40	12.20	12.00	12.00	12.00	12.00	12.00
3813710.00	13.00	12.90	12.60	12.30	12.00	12.00	12.00	12.00	12.00
3813700.00	13.10	13.00	12.70	12.50	12.30	12.30	12.30	12.30	12.20
3813690.00	13.20	13.00	12.90	12.70	12.60	12.60	12.60	12.60	12.40
3813680.00	13.30	13.00	13.00	13.00	13.00	13.00	13.00	12.90	12.60
3813670.00	13.30	13.00	13.00	13.00	13.00	13.00	13.00	13.00	12.70
3813660.00	13.30	13.00	13.00	13.00	13.00	13.00	13.00	13.00	12.90

• *** AERMOD - VERSION 18081 *** *** MegaPack Thermal Runaway

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*** AERMET - VERSION 16216 *** ***

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*** MODELOPTS: RegDFAULT CONC ELEV FLGPOL RURAL SigA Data

*** NETWORK ID: 1 ; NETWORK TYPE: GRIDCART ***

* ELEVATION HEIGHTS IN METERS *

Y-COORD (METERS)	X-COORD (METERS)								
	236367.00	236377.00	236387.00	236397.00	236407.00	236417.00	236427.00	236437.00	236447.00
3814160.00	18.00	17.90	17.60	17.30	17.00	17.00	17.00	17.00	17.00
3814150.00	18.00	18.00	17.70	17.50	17.30	17.30	17.30	17.30	17.30
3814140.00	18.00	18.00	17.90	17.70	17.60	17.60	17.60	17.60	17.60
3814130.00	18.00	18.00	18.00	18.00	18.00	18.00	18.00	18.00	18.00
3814120.00	18.00	18.00	18.00	18.00	18.00	18.00	18.00	18.00	18.00
3814110.00	18.00	18.00	18.00	18.00	18.00	18.00	18.00	18.00	18.00
3814100.00	18.00	18.00	18.00	18.00	18.00	18.00	18.00	18.00	18.00
3814090.00	18.00	18.00	18.00	18.00	18.00	17.90	17.80	17.70	17.70
3814080.00	18.00	18.00	18.00	18.00	18.00	17.80	17.60	17.40	17.40
3814070.00	18.00	18.00	18.00	18.00	18.00	17.60	17.30	17.00	17.00
3814060.00	17.70	17.70	17.60	17.50	17.40	17.20	16.90	16.70	16.60
3814050.00	17.40	17.40	17.10	16.90	16.70	16.60	16.50	16.40	16.10
3814040.00	17.00	17.00	16.70	16.40	16.10	16.10	16.10	16.00	15.70

AERMOD OUTPUT FILE

3814030.00	16.80	16.70	16.40	16.20	16.00	15.90	15.80	15.70	15.20
3814020.00	16.60	16.40	16.20	16.10	16.00	15.80	15.60	15.30	14.80
3814010.00	16.30	16.00	16.00	16.00	16.00	15.60	15.30	15.00	14.30
3814000.00	16.60	16.30	16.10	15.90	15.70	15.30	15.00	14.60	14.10
3813990.00	16.90	16.60	16.20	15.70	15.30	15.00	14.70	14.30	13.90
3813980.00	17.20	16.90	16.20	15.60	15.00	14.70	14.30	14.00	13.70
3813970.00	17.30	16.90	16.10	15.40	14.70	14.40	14.20	14.00	13.60
3813960.00	17.30	16.90	16.00	15.10	14.40	14.20	14.10	14.00	13.60
3813950.00	17.30	16.90	15.90	14.90	14.00	14.00	14.00	14.00	13.60
3813940.00	16.80	16.30	15.50	14.70	14.00	13.90	13.80	13.70	13.30
3813930.00	16.20	15.70	15.10	14.50	14.00	13.80	13.60	13.30	13.00
3813920.00	15.70	15.00	14.70	14.30	14.00	13.60	13.30	13.00	12.70
3813910.00	15.10	14.70	14.30	14.00	13.70	13.30	13.00	12.70	12.40
3813900.00	14.60	14.30	14.00	13.70	13.30	13.00	12.70	12.40	12.20
3813890.00	14.10	14.00	13.70	13.30	13.00	12.70	12.30	12.00	12.00
3813880.00	13.50	13.40	13.20	12.90	12.70	12.40	12.20	12.00	12.00
3813870.00	12.90	12.70	12.60	12.50	12.40	12.20	12.10	12.00	12.00
3813860.00	12.40	12.10	12.10	12.10	12.00	12.00	12.00	12.00	12.00
3813850.00	12.20	12.00	12.00	12.00	12.00	11.90	11.80	11.70	11.70
3813840.00	12.10	12.00	12.00	12.00	12.00	11.80	11.60	11.40	11.40
3813830.00	12.00	12.00	12.00	12.00	12.00	11.60	11.30	11.00	11.00
3813820.00	11.70	11.70	11.70	11.70	11.70	11.40	11.20	11.00	11.00
3813810.00	11.40	11.40	11.40	11.40	11.40	11.20	11.10	11.00	11.00
3813800.00	11.00	11.00	11.00	11.00	11.00	11.00	11.00	11.00	11.00
3813790.00	11.10	11.00	11.00	11.00	11.00	11.00	11.00	11.00	11.00
3813780.00	11.20	11.00	11.00	11.00	11.00	11.00	11.00	11.00	11.00
3813770.00	11.30	11.00	11.00	11.00	11.00	11.00	11.00	11.00	11.00

• *** AERMOD - VERSION 18081 *** *** MegaPack Thermal Runaway

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*** MODELOPTs: RegDEFAULT CONC ELEV FLGPOL RURAL SigA Data

*** NETWORK ID: 1 ; NETWORK TYPE: GRIDCART ***

* ELEVATION HEIGHTS IN METERS *

Y-COORD (METERS)	236367.00	236377.00	236387.00	236397.00	236407.00	236417.00	236427.00	236437.00	236447.00
3813760.00	11.50	11.30	11.30	11.30	11.30	11.30	11.30	11.30	11.20
3813750.00	11.70	11.60	11.60	11.60	11.60	11.60	11.60	11.60	11.40
3813740.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	11.90	11.60
3813730.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	11.70
3813720.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	11.90
3813710.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
3813700.00	12.10	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
3813690.00	12.20	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
3813680.00	12.30	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
3813670.00	12.50	12.30	12.20	12.10	12.00	12.00	12.00	12.00	12.00
3813660.00	12.70	12.60	12.40	12.20	12.00	12.00	12.00	12.00	12.00

• *** AERMOD - VERSION 18081 *** *** MegaPack Thermal Runaway

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*** AERMET - VERSION 16216 *** ***

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*** MODELOPTs: RegDEFAULT CONC ELEV FLGPOL RURAL SigA Data

*** NETWORK ID: 1 ; NETWORK TYPE: GRIDCART ***

* ELEVATION HEIGHTS IN METERS *

Y-COORD (METERS)	236457.00	236467.00	236477.00	236487.00	236497.00	236507.00	236517.00	236527.00	236537.00
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AERMOD OUTPUT FILE

3814160.00	17.00	16.90	16.20	15.60	15.00	14.60	14.30	13.90	13.20
3814150.00	17.30	17.20	16.60	16.10	15.50	15.10	14.70	14.20	13.40
3814140.00	17.60	17.60	17.10	16.60	16.20	15.60	15.10	14.50	13.60
3814130.00	18.00	17.90	17.60	17.20	16.80	16.20	15.50	14.80	13.80
3814120.00	18.00	18.00	17.70	17.50	17.20	16.40	15.70	14.90	14.10
3814110.00	18.00	18.00	17.90	17.70	17.50	16.60	15.80	14.90	14.30
3814100.00	18.00	18.00	18.00	18.00	17.80	16.80	15.90	15.00	14.60
3814090.00	17.70	17.70	17.50	17.30	17.00	16.20	15.40	14.70	14.40
3814080.00	17.40	17.30	16.90	16.50	16.10	15.50	14.90	14.40	14.20
3814070.00	17.00	17.00	16.30	15.70	15.10	14.70	14.40	14.00	14.00
3814060.00	16.50	16.30	15.70	15.00	14.40	14.00	13.70	13.40	13.40
3814050.00	15.90	15.70	15.00	14.30	13.70	13.40	13.00	12.80	12.80
3814040.00	15.40	15.00	14.30	13.70	13.00	12.70	12.40	12.10	12.10
3814030.00	14.80	14.40	13.80	13.20	12.70	12.40	12.20	12.00	11.90
3814020.00	14.20	13.70	13.20	12.80	12.40	12.20	12.10	12.00	11.80
3814010.00	13.70	13.00	12.70	12.30	12.00	12.00	12.00	12.00	11.60
3814000.00	13.50	13.00	12.60	12.30	12.00	12.00	12.00	12.00	11.60
3813990.00	13.40	13.00	12.60	12.30	12.00	12.00	12.00	12.00	11.60
3813980.00	13.30	13.00	12.60	12.30	12.00	12.00	12.00	12.00	11.60
3813970.00	13.30	13.00	12.60	12.30	12.00	12.00	12.00	12.00	11.60
3813960.00	13.30	13.00	12.60	12.30	12.00	12.00	12.00	12.00	11.60
3813950.00	13.30	13.00	12.60	12.30	12.00	12.00	12.00	12.00	11.60
3813940.00	13.00	12.70	12.40	12.20	12.00	11.90	11.80	11.70	11.40
3813930.00	12.70	12.40	12.20	12.10	12.00	11.80	11.60	11.40	11.20
3813920.00	12.30	12.00	12.00	12.00	12.00	11.60	11.30	11.00	11.00
3813910.00	12.20	12.00	12.00	12.00	12.00	11.60	11.30	11.00	11.00
3813900.00	12.10	12.00	12.00	12.00	12.00	11.60	11.30	11.00	11.00
3813890.00	12.00	12.00	12.00	12.00	12.00	11.60	11.30	11.00	11.00
3813880.00	12.00	12.00	11.90	11.80	11.70	11.40	11.20	11.00	11.00
3813870.00	12.00	12.00	11.80	11.60	11.40	11.20	11.10	11.00	11.00
3813860.00	12.00	12.00	11.60	11.30	11.00	11.00	11.00	11.00	11.00
3813850.00	11.70	11.70	11.40	11.20	11.00	11.00	11.00	11.00	10.90
3813840.00	11.40	11.40	11.20	11.10	11.00	11.00	11.00	11.00	10.80
3813830.00	11.00	11.00	11.00	11.00	11.00	11.00	11.00	11.00	10.60
3813820.00	11.00	11.00	11.00	11.00	11.00	11.00	11.00	11.00	10.60
3813810.00	11.00	11.00	11.00	11.00	11.00	11.00	11.00	11.00	10.60
3813800.00	11.00	11.00	11.00	11.00	11.00	11.00	11.00	11.00	10.60
3813790.00	11.00	11.00	11.00	11.00	11.00	10.90	10.80	10.70	10.40
3813780.00	11.00	11.00	11.00	11.00	11.00	10.80	10.60	10.40	10.20
3813770.00	11.00	11.00	11.00	11.00	11.00	10.60	10.30	10.00	10.00

• *** AERMOD - VERSION 18081 *** *** MegaPack Thermal Runaway

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*** AERMET - VERSION 16216 *** ***

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*** MODELOPTS: RegDFAULT CONC ELEV FLGPOL RURAL SigA Data

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*** NETWORK ID: 1 ; NETWORK TYPE: GRIDCART ***

* ELEVATION HEIGHTS IN METERS *

Y-COORD (METERS)	X-COORD (METERS)								
	236457.00	236467.00	236477.00	236487.00	236497.00	236507.00	236517.00	236527.00	236537.00
3813760.00	11.10	11.00	11.00	11.00	11.00	10.60	10.30	10.00	10.00
3813750.00	11.20	11.00	11.00	11.00	11.00	10.60	10.30	10.00	10.00
3813740.00	11.30	11.00	11.00	11.00	11.00	10.60	10.30	10.00	10.00
3813730.00	11.50	11.30	11.20	11.10	11.00	10.60	10.30	10.00	10.00
3813720.00	11.70	11.60	11.40	11.20	11.00	10.60	10.30	10.00	10.00
3813710.00	12.00	11.90	11.60	11.30	11.00	10.60	10.30	10.00	10.00
3813700.00	12.00	12.00	11.70	11.50	11.20	10.90	10.60	10.30	10.20
3813690.00	12.00	12.00	11.90	11.70	11.60	11.20	10.90	10.60	10.40
3813680.00	12.00	12.00	12.00	12.00	11.90	11.60	11.20	10.90	10.60
3813670.00	12.00	12.00	12.00	12.00	12.00	11.70	11.50	11.30	11.00
3813660.00	12.00	12.00	12.00	12.00	12.00	11.90	11.70	11.60	11.50

• *** AERMOD - VERSION 18081 *** *** MegaPack Thermal Runaway
*** AERMET - VERSION 16216 *** ***

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*** MODELOPTS: RegDFAULT CONC ELEV FLGPOL RURAL SigA Data

*** NETWORK ID: 1 ; NETWORK TYPE: GRIDCART ***

* ELEVATION HEIGHTS IN METERS *

Y-COORD (METERS)	236547.00	236557.00	236567.00	236577.00	236587.00	236597.00
3814160.00	12.60	12.00	12.00	12.00	12.00	12.00
3814150.00	12.70	12.00	12.00	12.00	12.00	12.00
3814140.00	12.80	12.00	12.00	12.00	12.00	12.00
3814130.00	12.90	12.00	12.00	12.00	12.00	12.00
3814120.00	13.30	12.60	12.60	12.60	12.60	12.50
3814110.00	13.70	13.20	13.20	13.20	13.20	13.00
3814100.00	14.20	13.90	13.90	13.90	13.90	13.50
3814090.00	14.20	14.00	13.90	13.80	13.70	13.30
3814080.00	14.10	14.00	13.80	13.60	13.30	13.00
3814070.00	14.00	14.00	13.60	13.30	13.00	12.70
3814060.00	13.40	13.40	13.20	12.90	12.70	12.40
3814050.00	12.80	12.70	12.60	12.50	12.40	12.20
3814040.00	12.10	12.10	12.10	12.10	12.00	12.00
3814030.00	11.80	11.70	11.70	11.70	11.70	11.70
3814020.00	11.60	11.40	11.40	11.40	11.40	11.40
3814010.00	11.30	11.00	11.00	11.00	11.00	11.00
3814000.00	11.30	11.00	11.00	11.00	11.00	10.90
3813990.00	11.30	11.00	11.00	11.00	11.00	10.80
3813980.00	11.30	11.00	11.00	11.00	11.00	10.60
3813970.00	11.30	11.00	11.00	11.00	11.00	10.60
3813960.00	11.30	11.00	11.00	11.00	11.00	10.60
3813950.00	11.30	11.00	11.00	11.00	11.00	10.60
3813940.00	11.20	11.00	10.90	10.80	10.70	10.40
3813930.00	11.10	11.00	10.80	10.60	10.40	10.20
3813920.00	11.00	11.00	10.60	10.30	10.00	10.00
3813910.00	11.00	11.00	10.60	10.30	10.00	10.00
3813900.00	11.00	11.00	10.60	10.30	10.00	10.00
3813890.00	11.00	11.00	10.60	10.30	10.00	10.00
3813880.00	11.00	11.00	10.60	10.30	10.00	10.00
3813870.00	11.00	11.00	10.60	10.30	10.00	10.00
3813860.00	11.00	11.00	10.60	10.30	10.00	10.00
3813850.00	10.80	10.70	10.40	10.20	10.00	10.00
3813840.00	10.60	10.40	10.20	10.10	10.00	10.00
3813830.00	10.30	10.00	10.00	10.00	10.00	10.00
3813820.00	10.30	10.00	10.00	10.00	10.00	10.00
3813810.00	10.30	10.00	10.00	10.00	10.00	10.00
3813800.00	10.30	10.00	10.00	10.00	10.00	10.00
3813790.00	10.20	10.00	10.00	10.00	10.00	9.90
3813780.00	10.10	10.00	10.00	10.00	10.00	9.80
3813770.00	10.00	10.00	10.00	10.00	10.00	9.60

• *** AERMOD - VERSION 18081 *** *** MegaPack Thermal Runaway
*** AERMET - VERSION 16216 *** ***

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*** MODELOPTS: RegDFAULT CONC ELEV FLGPOL RURAL SigA Data

*** NETWORK ID: 1 ; NETWORK TYPE: GRIDCART ***

* ELEVATION HEIGHTS IN METERS *

Y-COORD (METERS)	236547.00	236557.00	236567.00	236577.00	236587.00	236597.00
Battery ESS						

AERMOD OUTPUT FILE

3813760.00	10.00	10.00	9.90	9.80	9.70	9.40
3813750.00	10.00	10.00	9.80	9.60	9.40	9.20
3813740.00	10.00	10.00	9.60	9.30	9.00	9.00
3813730.00	10.00	10.00	9.60	9.30	9.00	9.00
3813720.00	10.00	10.00	9.60	9.30	9.00	9.00
3813710.00	10.00	10.00	9.60	9.30	9.00	9.00
3813700.00	10.10	10.00	9.60	9.30	9.00	9.00
3813690.00	10.20	10.00	9.60	9.30	9.00	9.00
3813680.00	10.30	10.00	9.60	9.30	9.00	9.00
3813670.00	10.80	10.50	10.20	9.90	9.60	9.50
3813660.00	11.30	11.20	10.90	10.50	10.20	10.00

• *** AERMOD - VERSION 18081 *** *** MegaPack Thermal Runaway

*** AERMET - VERSION 16216 *** ***

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*** MODELOPTs: RegDEFAULT CONC ELEV FLGPOL RURAL SigA Data

*** NETWORK ID: 1 ; NETWORK TYPE: GRIDCART ***

* HILL HEIGHT SCALES IN METERS *

Y-COORD (METERS)	236097.00	236107.00	236117.00	X-COORD (METERS) 236127.00	236137.00	236147.00	236157.00	236167.00	236177.00
3814160.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3814150.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3814140.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3814130.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3814120.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3814110.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3814100.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3814090.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3814080.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3814070.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3814060.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3814050.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3814040.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3814030.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3814020.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3814010.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3814000.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3813990.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3813980.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3813970.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3813960.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3813950.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3813940.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3813930.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3813920.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3813910.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3813900.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3813890.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3813880.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3813870.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3813860.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3813850.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3813840.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3813830.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3813820.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3813810.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3813800.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3813790.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00

AERMOD OUTPUT FILE

3813780.00 | 887.00 887.00 887.00 887.00 887.00 887.00 887.00 887.00 887.00
 3813770.00 | 887.00 887.00 887.00 887.00 887.00 887.00 887.00 887.00 887.00
 • *** AERMOD - VERSION 18081 *** *** MegaPack Thermal Runaway
 *** AERMET - VERSION 16216 *** ***
 *** MODELOPTS: RegDEFAULT CONC ELEV FLGPOL RURAL SigA Data
 *** NETWORK ID: 1 ; NETWORK TYPE: GRIDCART ***
 * HILL HEIGHT SCALES IN METERS *

Y-COORD (METERS)	236097.00	236107.00	236117.00	X-COORD (METERS)	236127.00	236137.00	236147.00	236157.00	236167.00	236177.00
3813760.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3813750.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3813740.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3813730.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3813720.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3813710.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3813700.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3813690.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3813680.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3813670.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3813660.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00

• *** AERMOD - VERSION 18081 *** *** MegaPack Thermal Runaway
 *** AERMET - VERSION 16216 *** ***
 *** MODELOPTS: RegDEFAULT CONC ELEV FLGPOL RURAL SigA Data
 *** NETWORK ID: 1 ; NETWORK TYPE: GRIDCART ***
 * HILL HEIGHT SCALES IN METERS *

Y-COORD (METERS)	236187.00	236197.00	236207.00	X-COORD (METERS)	236217.00	236227.00	236237.00	236247.00	236257.00	236267.00
3814160.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3814150.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3814140.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3814130.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3814120.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3814110.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3814100.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3814090.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3814080.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3814070.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3814060.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3814050.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3814040.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3814030.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3814020.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3814010.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3814000.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3813990.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3813980.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3813970.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3813960.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3813950.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3813940.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3813930.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3813920.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00

	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3813910.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3813900.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3813890.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3813880.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3813870.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3813860.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3813850.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3813840.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3813830.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3813820.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3813810.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3813800.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3813790.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3813780.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3813770.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00

• *** AERMOD - VERSION 18081 *** *** MegaPack Thermal Runaway

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*** AERMET - VERSION 16216 *** ***

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*** MODELOPTs: RegDEFAULT CONC ELEV FLGPOL RURAL SigA Data

*** NETWORK ID: 1 ; NETWORK TYPE: GRIDCART ***

* HILL HEIGHT SCALES IN METERS *

Y-COORD (METERS)	X-COORD (METERS)								
	236187.00	236197.00	236207.00	236217.00	236227.00	236237.00	236247.00	236257.00	236267.00
3813760.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3813750.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3813740.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3813730.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3813720.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3813710.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3813700.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3813690.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3813680.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3813670.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3813660.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00

• *** AERMOD - VERSION 18081 *** *** MegaPack Thermal Runaway

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*** AERMET - VERSION 16216 *** ***

*** 10:03:22

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*** MODELOPTs: RegDEFAULT CONC ELEV FLGPOL RURAL SigA Data

*** NETWORK ID: 1 ; NETWORK TYPE: GRIDCART ***

* HILL HEIGHT SCALES IN METERS *

Y-COORD (METERS)	X-COORD (METERS)								
	236277.00	236287.00	236297.00	236307.00	236317.00	236327.00	236337.00	236347.00	236357.00
3814160.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3814150.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3814140.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3814130.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3814120.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3814110.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3814100.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3814090.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3814080.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3814070.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3814060.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3814050.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00

	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3814040.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3814030.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3814020.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3814010.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3814000.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3813990.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3813980.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3813970.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3813960.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3813950.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3813940.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3813930.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3813920.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3813910.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3813900.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3813890.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3813880.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3813870.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3813860.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3813850.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3813840.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3813830.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3813820.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3813810.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3813800.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3813790.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3813780.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3813770.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00

• *** AERMOD - VERSION 18081 *** *** MegaPack Thermal Runaway

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*** AERMET - VERSION 16216 *** ***

*** 10:03:22

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*** MODELOPTs: RegDFault Conc Elev FlgPol Rural SigA Data

*** NETWORK ID: 1 ; NETWORK TYPE: GRIDCART ***

* HILL HEIGHT SCALES IN METERS *

Y-COORD (METERS)	236277.00	236287.00	236297.00	236307.00	236317.00	236327.00	236337.00	236347.00	236357.00
3813760.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3813750.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3813740.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3813730.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3813720.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3813710.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3813700.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3813690.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3813680.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3813670.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3813660.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00

• *** AERMOD - VERSION 18081 *** *** MegaPack Thermal Runaway

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*** AERMET - VERSION 16216 *** ***

*** 10:03:22

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*** MODELOPTs: RegDFault Conc Elev FlgPol Rural SigA Data

*** NETWORK ID: 1 ; NETWORK TYPE: GRIDCART ***

* HILL HEIGHT SCALES IN METERS *

Y-COORD (METERS)	236367.00	236377.00	236387.00	236397.00	236407.00	236417.00	236427.00	236437.00	236447.00

AERMOD OUTPUT FILE

• *** AERMOD - VERSION 18081 *** *** MegaPack Thermal Runaway
*** AERMET - VERSION 16216 *** ***

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*** MODELOPTS: RegDFAULT CONC ELEV FLGPOL RURAL SigA Data

*** NETWORK ID: 1 ; NETWORK TYPE: GRIDCART ***

* HILL HEIGHT SCALES IN METERS *

AERMOD OUTPUT FILE
 3813660.00 | 887.00 887.00 887.00 887.00 887.00 887.00 887.00 887.00 887.00 887.00 887.00 887.00
 • *** AERMOD - VERSION 18081 *** *** MegaPack Thermal Runaway
 *** AERMET - VERSION 16216 *** ***
 *** MODELOPTs: RegDFAULT CONC ELEV FLGPOL RURAL SigA Data
 *** 09/26/19
 *** 10:03:22
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*** NETWORK ID: 1 ; NETWORK TYPE: GRIDCART ***

* HILL HEIGHT SCALES IN METERS *

Y-COORD (METERS)	236457.00	236467.00	236477.00	X-COORD (METERS)	236487.00	236497.00	236507.00	236517.00	236527.00	236537.00
3814160.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3814150.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3814140.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3814130.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3814120.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3814110.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3814100.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3814090.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3814080.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3814070.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3814060.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3814050.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3814040.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3814030.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3814020.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3814010.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3814000.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3813990.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3813980.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3813970.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3813960.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3813950.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3813940.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3813930.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3813920.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3813910.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3813900.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3813890.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3813880.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3813870.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3813860.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3813850.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3813840.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3813830.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3813820.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3813810.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3813800.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3813790.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3813780.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3813770.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00

• *** AERMOD - VERSION 18081 *** *** MegaPack Thermal Runaway
 *** AERMET - VERSION 16216 *** ***
 *** 09/26/19
 *** 10:03:22
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*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL RURAL SigA Data

*** NETWORK ID: 1 ; NETWORK TYPE: GRIDCART ***

* HILL HEIGHT SCALES IN METERS *

Y-COORD |

X-COORD (METERS)

(METERS)	236457.00	236467.00	236477.00	236487.00	236497.00	236507.00	236517.00	236527.00	236537.00
3813760.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3813750.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3813740.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3813730.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3813720.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3813710.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3813700.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3813690.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3813680.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3813670.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3813660.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00

• *** AERMOD - VERSION 18081 *** *** MegaPack Thermal Runaway

*** AERMET - VERSION 16216 *** ***

*** 09/26/19

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*** MODELOPTS: RegDEFAULT CONC ELEV FLGPOL RURAL SigA Data

*** NETWORK ID: 1 ; NETWORK TYPE: GRIDCART ***

* HILL HEIGHT SCALES IN METERS *

Y-COORD (METERS)	236547.00	236557.00	236567.00	X-COORD (METERS)		236577.00	236587.00	236597.00
3814160.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3814150.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3814140.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3814130.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3814120.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3814110.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3814100.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3814090.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3814080.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3814070.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3814060.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3814050.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3814040.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3814030.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3814020.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3814010.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3814000.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3813990.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3813980.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3813970.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3813960.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3813950.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3813940.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3813930.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3813920.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3813910.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3813900.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3813890.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3813880.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3813870.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3813860.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3813850.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3813840.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3813830.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3813820.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3813810.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3813800.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00

AERMOD OUTPUT FILE

3813790.00	887.00	887.00	887.00	887.00	887.00	887.00
3813780.00	887.00	887.00	887.00	887.00	887.00	887.00
3813770.00	887.00	887.00	887.00	887.00	887.00	887.00

• *** AERMOD - VERSION 18081 *** *** MegaPack Thermal Runaway

*** 09/26/19

*** AERMET - VERSION 16216 *** ***

*** 10:03:22

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*** MODELOPTs: RegDEFAULT CONC ELEV FLGPOL RURAL SigA Data

*** NETWORK ID: 1 ; NETWORK TYPE: GRIDCART ***

* HILL HEIGHT SCALES IN METERS *

Y-COORD (METERS)	236547.00	236557.00	236567.00	236577.00	236587.00	236597.00	X-COORD (METERS)
3813760.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3813750.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3813740.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3813730.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3813720.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3813710.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3813700.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3813690.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3813680.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3813670.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00
3813660.00	887.00	887.00	887.00	887.00	887.00	887.00	887.00

• *** AERMOD - VERSION 18081 *** *** MegaPack Thermal Runaway

*** 09/26/19

*** AERMET - VERSION 16216 *** ***

*** 10:03:22

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*** MODELOPTs: RegDEFAULT CONC ELEV FLGPOL RURAL SigA Data

*** NETWORK ID: 1 ; NETWORK TYPE: GRIDCART ***

* RECEPTOR FLAGPOLE HEIGHTS IN METERS *

Y-COORD (METERS)	236097.00	236107.00	236117.00	236127.00	236137.00	236147.00	236157.00	236167.00	236177.00	X-COORD (METERS)
3814160.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3814150.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3814140.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3814130.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3814120.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3814110.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3814100.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3814090.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3814080.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3814070.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3814060.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3814050.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3814040.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3814030.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3814020.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3814010.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3814000.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3813990.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3813980.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3813970.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3813960.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3813950.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3813940.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3813930.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50

AERMOD OUTPUT FILE

3813920.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3813910.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3813900.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3813890.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3813880.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3813870.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3813860.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3813850.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3813840.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3813830.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3813820.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3813810.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3813800.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3813790.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3813780.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3813770.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50

• *** AERMOD - VERSION 18081 *** *** MegaPack Thermal Runaway

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*** AERMET - VERSION 16216 *** ***

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*** MODELOPTS: RegDEFAULT CONC ELEV FLGPOL RURAL SigA Data

*** NETWORK ID: 1 ; NETWORK TYPE: GRIDCART ***

* RECEPTOR FLAGPOLE HEIGHTS IN METERS *

Y-COORD (METERS)	X-COORD (METERS)								
	236097.00	236107.00	236117.00	236127.00	236137.00	236147.00	236157.00	236167.00	236177.00
3813760.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3813750.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3813740.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3813730.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3813720.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3813710.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3813700.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3813690.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3813680.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3813670.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3813660.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50

• *** AERMOD - VERSION 18081 *** *** MegaPack Thermal Runaway

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*** AERMET - VERSION 16216 *** ***

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*** MODELOPTS: RegDEFAULT CONC ELEV FLGPOL RURAL SigA Data

*** NETWORK ID: 1 ; NETWORK TYPE: GRIDCART ***

* RECEPTOR FLAGPOLE HEIGHTS IN METERS *

Y-COORD (METERS)	X-COORD (METERS)								
	236187.00	236197.00	236207.00	236217.00	236227.00	236237.00	236247.00	236257.00	236267.00
3814160.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3814150.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3814140.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3814130.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3814120.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3814110.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3814100.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3814090.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3814080.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3814070.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3814060.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50

AERMOD OUTPUT FILE

3814050.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3814040.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3814030.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3814020.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3814010.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3814000.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3813990.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3813980.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3813970.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3813960.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3813950.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3813940.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3813930.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3813920.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3813910.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3813900.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3813890.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3813880.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3813870.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3813860.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3813850.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3813840.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3813830.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3813820.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3813810.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3813800.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3813790.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3813780.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3813770.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50

• *** AERMOD - VERSION 18081 *** *** MegaPack Thermal Runaway
*** AERMET - VERSION 16216 *** ***

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*** MODELOPTS: RegDFAULT CONC ELEV FLGPOL RURAL SigA Data

*** NETWORK ID: 1 ; NETWORK TYPE: GRIDCART ***

* RECEPTOR FLAGPOLE HEIGHTS IN METERS *

Y-COORD (METERS)	236187.00	236197.00	236207.00	236217.00	236227.00	236237.00	236247.00	236257.00	236267.00
3813760.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3813750.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3813740.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3813730.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3813720.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3813710.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3813700.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3813690.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3813680.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3813670.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3813660.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50

• *** AERMOD - VERSION 18081 *** *** MegaPack Thermal Runaway
*** AERMET - VERSION 16216 *** ***

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*** MODELOPTS: RegDFAULT CONC ELEV FLGPOL RURAL SigA Data

*** NETWORK ID: 1 ; NETWORK TYPE: GRIDCART ***

* RECEPTOR FLAGPOLE HEIGHTS IN METERS *

Y-COORD (METERS)	236277.00	236287.00	236297.00	236307.00	236317.00	236327.00	236337.00	236347.00	236357.00
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AERMOD OUTPUT FILE

3814160.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3814150.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3814140.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3814130.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3814120.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3814110.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3814100.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3814090.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3814080.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3814070.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3814060.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3814050.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3814040.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3814030.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3814020.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3814010.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3814000.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3813990.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3813980.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3813970.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3813960.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3813950.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3813940.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3813930.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3813920.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3813910.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3813900.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3813890.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3813880.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3813870.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3813860.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3813850.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3813840.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3813830.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3813820.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3813810.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3813800.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3813790.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3813780.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3813770.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50

• *** AERMOD - VERSION 18081 *** *** MegaPack Thermal Runaway

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*** AERMET - VERSION 16216 *** ***

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*** MODELOPTs: RegDFault Conc Elev FlgPol Rural SigA Data

*** NETWORK ID: 1 ; NETWORK TYPE: GRIDCART ***

* RECEPTOR FLAGPOLE HEIGHTS IN METERS *

Y-COORD (METERS)	236277.00	236287.00	236297.00	236307.00	236317.00	236327.00	236337.00	236347.00	236357.00	X-COORD (METERS)
3813760.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	
3813750.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	
3813740.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	
3813730.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	
3813720.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	
3813710.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	
3813700.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	
3813690.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	
3813680.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	

AERMOD OUTPUT FILE

3813670.00 | 1.50 1.50 1.50 1.50 1.50 1.50 1.50 1.50 1.50 1.50
 3813660.00 | 1.50 1.50 1.50 1.50 1.50 1.50 1.50 1.50 1.50 1.50
 • *** AERMOD - VERSION 18081 *** *** MegaPack Thermal Runaway ***
 *** AERMET - VERSION 16216 *** ***
 *** MODELOPTS: RegDFAULT CONC ELEV FLGPOL RURAL SigA Data
 *** 09/26/19
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*** NETWORK ID: 1 ; NETWORK TYPE: GRIDCART ***

* RECEPTOR FLAGPOLE HEIGHTS IN METERS *

Y-COORD (METERS)	236367.00	236377.00	236387.00	X-COORD (METERS)	236397.00	236407.00	236417.00	236427.00	236437.00	236447.00
3814160.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3814150.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3814140.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3814130.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3814120.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3814110.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3814100.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3814090.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3814080.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3814070.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3814060.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3814050.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3814040.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3814030.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3814020.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3814010.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3814000.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3813990.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3813980.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3813970.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3813960.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3813950.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3813940.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3813930.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3813920.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3813910.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3813900.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3813890.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3813880.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3813870.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3813860.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3813850.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3813840.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3813830.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3813820.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3813810.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3813800.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3813790.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3813780.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3813770.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50

• *** AERMOD - VERSION 18081 *** *** MegaPack Thermal Runaway ***
 *** AERMET - VERSION 16216 *** ***
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*** MODELOPTS: RegDFAULT CONC ELEV FLGPOL RURAL SigA Data

*** NETWORK ID: 1 ; NETWORK TYPE: GRIDCART ***

* RECEPTOR FLAGPOLE HEIGHTS IN METERS *

Y-COORD (METERS)	AERMOD OUTPUT FILE								
	236367.00	236377.00	236387.00	X-COORD (METERS)	236397.00	236407.00	236417.00	236427.00	236437.00
3813760.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3813750.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3813740.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3813730.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3813720.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3813710.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3813700.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3813690.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3813680.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3813670.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3813660.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50

• *** AERMOD - VERSION 18081 *** *** MegaPack Thermal Runaway

*** AERMET - VERSION 16216 *** ***

*** 09/26/19

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*** MODELOPTs: RegDEFAULT CONC ELEV FLGPOL RURAL SigA Data

*** NETWORK ID: 1 ; NETWORK TYPE: GRIDCART ***

* RECEPTOR FLAGPOLE HEIGHTS IN METERS *

Y-COORD (METERS)	X-COORD (METERS)								
	236457.00	236467.00	236477.00	236487.00	236497.00	236507.00	236517.00	236527.00	236537.00
3814160.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3814150.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3814140.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3814130.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3814120.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3814110.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3814100.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3814090.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3814080.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3814070.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3814060.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3814050.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3814040.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3814030.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3814020.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3814010.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3814000.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3813990.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3813980.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3813970.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3813960.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3813950.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3813940.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3813930.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3813920.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3813910.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3813900.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3813890.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3813880.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3813870.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3813860.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3813850.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3813840.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3813830.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3813820.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3813810.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50

AERMOD OUTPUT FILE

3813800.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3813790.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3813780.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3813770.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50

• *** AERMOD - VERSION 18081 *** *** MegaPack Thermal Runaway
*** AERMET - VERSION 16216 *** ***

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*** MODELOPTS: RegDEFAULT CONC ELEV FLGPOL RURAL SigA Data

*** NETWORK ID: 1 ; NETWORK TYPE: GRIDCART ***

* RECEPTOR FLAGPOLE HEIGHTS IN METERS *

Y-COORD (METERS)	X-COORD (METERS)								
	236457.00	236467.00	236477.00	236487.00	236497.00	236507.00	236517.00	236527.00	236537.00
3813760.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3813750.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3813740.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3813730.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3813720.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3813710.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3813700.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3813690.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3813680.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3813670.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
3813660.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50

• *** AERMOD - VERSION 18081 *** *** MegaPack Thermal Runaway
*** AERMET - VERSION 16216 *** ***

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*** 10:03:22
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*** MODELOPTS: RegDEFAULT CONC ELEV FLGPOL RURAL SigA Data

*** NETWORK ID: 1 ; NETWORK TYPE: GRIDCART ***

* RECEPTOR FLAGPOLE HEIGHTS IN METERS *

Y-COORD (METERS)	X-COORD (METERS)					
	236547.00	236557.00	236567.00	236577.00	236587.00	236597.00
3814160.00	1.50	1.50	1.50	1.50	1.50	1.50
3814150.00	1.50	1.50	1.50	1.50	1.50	1.50
3814140.00	1.50	1.50	1.50	1.50	1.50	1.50
3814130.00	1.50	1.50	1.50	1.50	1.50	1.50
3814120.00	1.50	1.50	1.50	1.50	1.50	1.50
3814110.00	1.50	1.50	1.50	1.50	1.50	1.50
3814100.00	1.50	1.50	1.50	1.50	1.50	1.50
3814090.00	1.50	1.50	1.50	1.50	1.50	1.50
3814080.00	1.50	1.50	1.50	1.50	1.50	1.50
3814070.00	1.50	1.50	1.50	1.50	1.50	1.50
3814060.00	1.50	1.50	1.50	1.50	1.50	1.50
3814050.00	1.50	1.50	1.50	1.50	1.50	1.50
3814040.00	1.50	1.50	1.50	1.50	1.50	1.50
3814030.00	1.50	1.50	1.50	1.50	1.50	1.50
3814020.00	1.50	1.50	1.50	1.50	1.50	1.50
3814010.00	1.50	1.50	1.50	1.50	1.50	1.50
3814000.00	1.50	1.50	1.50	1.50	1.50	1.50
3813990.00	1.50	1.50	1.50	1.50	1.50	1.50
3813980.00	1.50	1.50	1.50	1.50	1.50	1.50
3813970.00	1.50	1.50	1.50	1.50	1.50	1.50
3813960.00	1.50	1.50	1.50	1.50	1.50	1.50
3813950.00	1.50	1.50	1.50	1.50	1.50	1.50
3813940.00	1.50	1.50	1.50	1.50	1.50	1.50

AERMOD OUTPUT FILE

3813930.00	1.50	1.50	1.50	1.50	1.50	1.50
3813920.00	1.50	1.50	1.50	1.50	1.50	1.50
3813910.00	1.50	1.50	1.50	1.50	1.50	1.50
3813900.00	1.50	1.50	1.50	1.50	1.50	1.50
3813890.00	1.50	1.50	1.50	1.50	1.50	1.50
3813880.00	1.50	1.50	1.50	1.50	1.50	1.50
3813870.00	1.50	1.50	1.50	1.50	1.50	1.50
3813860.00	1.50	1.50	1.50	1.50	1.50	1.50
3813850.00	1.50	1.50	1.50	1.50	1.50	1.50
3813840.00	1.50	1.50	1.50	1.50	1.50	1.50
3813830.00	1.50	1.50	1.50	1.50	1.50	1.50
3813820.00	1.50	1.50	1.50	1.50	1.50	1.50
3813810.00	1.50	1.50	1.50	1.50	1.50	1.50
3813800.00	1.50	1.50	1.50	1.50	1.50	1.50
3813790.00	1.50	1.50	1.50	1.50	1.50	1.50
3813780.00	1.50	1.50	1.50	1.50	1.50	1.50
3813770.00	1.50	1.50	1.50	1.50	1.50	1.50

• *** AERMOD - VERSION 18081 *** *** MegaPack Thermal Runaway
*** AERMET - VERSION 16216 *** ***

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*** MODELOPTs : RegDFAULT CONC ELEV FLGPOL RURAL SigA Data

*** NETWORK ID: 1 ; NETWORK TYPE: GRIDCART ***

* RECEPTOR FLAGPOLE HEIGHTS IN METERS *

Y-COORD (METERS)	X-COORD (METERS)					
	236547.00	236557.00	236567.00	236577.00	236587.00	236597.00
3813760.00	1.50	1.50	1.50	1.50	1.50	1.50
3813750.00	1.50	1.50	1.50	1.50	1.50	1.50
3813740.00	1.50	1.50	1.50	1.50	1.50	1.50
3813730.00	1.50	1.50	1.50	1.50	1.50	1.50
3813720.00	1.50	1.50	1.50	1.50	1.50	1.50
3813710.00	1.50	1.50	1.50	1.50	1.50	1.50
3813700.00	1.50	1.50	1.50	1.50	1.50	1.50
3813690.00	1.50	1.50	1.50	1.50	1.50	1.50
3813680.00	1.50	1.50	1.50	1.50	1.50	1.50
3813670.00	1.50	1.50	1.50	1.50	1.50	1.50
3813660.00	1.50	1.50	1.50	1.50	1.50	1.50

• *** AERMOD - VERSION 18081 *** *** MegaPack Thermal Runaway
*** AERMET - VERSION 16216 *** ***

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*** MODELOPTS: RegDFAULT CONC ELEV FLGPOL RURAL SigA Data

* SOURCE-RECEPTOR COMBINATIONS FOR WHICH CALCULATIONS MAY NOT BE PERFORMED *
LESS THAN 1.0 METER; WITHIN OPENPIT; OR BEYOND 80KM FOR FASTAREA/FASTALL

SOURCE ID	RECEPTOR LOCATION XR (METERS)	LOCATION YR (METERS)	DISTANCE (METERS)
--------------	-------------------------------------	-------------------------	----------------------

1 236347.0 3813910.0 0.00

• *** AERMOD - VERSION 18081 *** *** MegaPack Thermal Runaway
*** AERMET - VERSION 16216 *** ***

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*** MODELOPTs: READDEFAULT CONC ELEV FLGPOI RURAL SigA Data

*** METEOROLOGICAL DAYS SELECTED FOR PROCESSING ***
(1=YES; 0=NO)

NOTE: METEOROLOGICAL DATA ACTUALLY PROCESSED WILL ALSO DEPEND ON WHAT IS INCLUDED IN THE DATA FILE.

*** UPPER BOUND OF FIRST THROUGH FIFTH WIND SPEED CATEGORIES ***
(METERS/SEC)

*** MODELOPTs: RegDEFAULT CONC ELEV FLGPOL RURAL SigA Data

*** UP TO THE FIRST 24 HOURS OF METEOROLOGICAL DATA ***

Surface file: C:\HARP2\MET\Goleta12-16.SFC Met Version: 16216
Profile file: C:\HARP2\MET\Goleta12-16.PFL
Surface format: FREE
Profile format: FREE
Surface station no.: 723925 Upper air station no.: 93214
Name: UNKNOWN Name: UNKNOWN
Year: 2012 Year: 2012

First 24 hours of scalar data

Upper air station no.: 93214

Name: UNKNOWN
Year: 2012

Name: UNKNOWN
Year: 2012

First 24 hours of scalar data																						
YR	MO	DY	JDY	HR	H0	U*	W*	DT/DZ	ZICNV	ZIMCH	M-O	LEN	Z0	BOWEN	ALBEDO	REF	WS	WD	HT	REF	TA	HT
					-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
12	01	01	1	01	-1.3	0.037	-9.000	-9.000	-999.	17.	3.5	0.13	0.78	1.00	0.80	19.	10.0	277.5	10.0			
12	01	01	1	02	-0.7	0.028	-9.000	-9.000	-999.	11.	2.6	0.13	0.78	1.00	0.60	10.	10.0	277.8	10.0			
12	01	01	1	03	-0.7	0.028	-9.000	-9.000	-999.	11.	2.6	0.13	0.78	1.00	0.60	26.	10.0	277.4	10.0			
12	01	01	1	04	-0.8	0.035	-9.000	-9.000	-999.	16.	4.9	0.18	0.78	1.00	0.70	30.	10.0	277.0	10.0			
12	01	01	1	05	-0.5	0.023	-9.000	-9.000	-999.	8.	2.2	0.13	0.78	1.00	0.50	15.	10.0	276.5	10.0			
12	01	01	1	06	-1.3	0.037	-9.000	-9.000	-999.	17.	3.5	0.13	0.78	1.00	0.80	26.	10.0	276.4	10.0			
12	01	01	1	07	-0.6	0.025	-9.000	-9.000	-999.	9.	2.5	0.18	0.78	1.00	0.50	34.	10.0	277.0	10.0			
12	01	01	1	08	-0.8	0.028	-9.000	-9.000	-999.	11.	2.7	0.08	0.78	0.59	0.69	51.	10.0	280.6	10.0			
12	01	01	1	09	15.8	0.091	-9.000	-9.000	-999.	66.	-4.3	0.28	0.78	0.33	0.50	180.	10.0	286.4	10.0			
12	01	01	1	10	60.7	0.209	-9.000	-9.000	-999.	229.	-13.6	0.28	0.78	0.24	1.40	197.	10.0	290.8	10.0			
12	01	01	1	11	92.5	0.219	-9.000	-9.000	-999.	245.	-10.3	0.28	0.78	0.21	1.40	201.	10.0	291.8	10.0			
12	01	01	1	12	109.2	0.243	-9.000	-9.000	-999.	288.	-12.0	0.28	0.78	0.20	1.60	203.	10.0	292.6	10.0			
12	01	01	1	13	109.4	0.233	-9.000	-9.000	-999.	271.	-10.5	0.28	0.78	0.19	1.50	214.	10.0	291.2	10.0			
12	01	01	1	14	94.5	0.261	-9.000	-9.000	-999.	319.	-17.0	0.28	0.78	0.20	1.80	198.	10.0	291.4	10.0			
12	01	01	1	15	63.9	0.241	-9.000	-9.000	-999.	284.	-19.8	0.28	0.78	0.23	1.70	199.	10.0	290.1	10.0			
12	01	01	1	16	20.4	0.158	-9.000	-9.000	-999.	154.	-17.7	0.28	0.78	0.31	1.10	192.	10.0	287.8	10.0			
12	01	01	1	17	-1.8	0.056	-9.000	-9.000	-999.	41.	8.7	0.28	0.78	0.55	1.00	219.	10.0	284.1	10.0			
12	01	01	1	18	-12.8	0.226	-9.000	-9.000	-999.	258.	82.0	0.17	0.78	1.00	2.64	268.	10.0	282.6	10.0			
12	01	01	1	19	-0.1	0.014	-9.000	-9.000	-999.	177.	1.9	0.13	0.78	1.00	0.30	6.	10.0	281.4	10.0			
12	01	01	1	20	-0.6	0.030	-9.000	-9.000	-999.	61.	3.9	0.18	0.78	1.00	0.60	30.	10.0	280.4	10.0			
12	01	01	1	21	-0.4	0.025	-9.000	-9.000	-999.	12.	3.5	0.18	0.78	1.00	0.50	37.	10.0	279.5	10.0			
12	01	01	1	22	-0.3	0.022	-9.000	-9.000	-999.	8.	2.9	0.10	0.78	1.00	0.50	359.	10.0	278.4	10.0			
12	01	01	1	23	-0.5	0.025	-9.000	-9.000	-999.	9.	2.6	0.18	0.78	1.00	0.50	48.	10.0	277.6	10.0			
12	01	01	1	24	-0.5	0.028	-9.000	-9.000	-999.	11.	3.7	0.13	0.78	1.00	0.60	8.	10.0	278.1	10.0			

```

First hour of profile data
YR MO DY HR HEIGHT F WDIR    WSPD AMB_TMP sigmaA sigmaW sigmaV
12 01 01 01   10.0 1   19.    0.80  277.6  28.1 -99.00  0.35

```

AERMOD OUTPUT FILE

F indicates top of profile (=1) or below (=0)
 • *** AERMOD - VERSION 18081 *** *** MegaPack Thermal Runaway
 *** AERMET - VERSION 16216 *** ***

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*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL RURAL SigA Data

*** THE PERIOD (43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: 1 ***
 INCLUDING SOURCE(S): 1 ,

*** NETWORK ID: 1 ; NETWORK TYPE: GRIDCART ***

** CONC OF OTHER IN MICROGRAMS/M***3 **

Y-COORD (METERS)	236097.00	236107.00	236117.00	236127.00	236137.00	236147.00	236157.00	236167.00	236177.00
3814160.00	65.99503	69.29923	71.44593	73.65749	75.92325	80.10324	83.82893	87.13714	88.32936
3814150.00	67.88681	71.37811	74.11510	76.96632	79.92216	83.86719	87.42367	91.01661	91.98747
3814140.00	69.83967	73.52799	76.89553	80.39858	84.02953	87.76706	91.17774	94.66360	95.82132
3814130.00	71.85315	75.75046	80.24028	84.38331	88.62505	91.80693	95.09508	98.46868	99.83398
3814120.00	73.41060	78.04488	82.79959	87.20560	91.73370	95.16852	98.74188	102.43710	104.61488
3814110.00	74.96223	80.40811	85.44571	90.13275	94.96535	98.66751	102.54118	106.57671	110.20676
3814100.00	76.49568	82.83450	88.17457	93.16354	98.32275	102.31090	106.50288	110.89807	115.48382
3814090.00	78.00361	85.31585	90.97888	96.29271	101.80425	106.10201	110.63553	115.41318	120.43378
3814080.00	79.47239	87.84118	93.84803	99.51081	105.40291	110.03857	114.94315	120.13251	125.61720
3814070.00	81.58884	90.39651	96.76762	102.80379	109.10621	114.11143	119.42250	125.06089	131.04714
3814060.00	82.97529	92.96573	99.71961	106.15275	112.89545	118.30373	124.06110	130.19365	136.72934
3814050.00	85.04777	95.53259	102.68380	109.53443	116.74549	122.59032	128.83605	135.51341	142.65681
3814040.00	87.09776	98.08270	105.64057	112.92374	120.62638	126.93801	133.71309	140.98838	148.80505
3814030.00	91.54065	100.60311	108.57246	116.29704	124.50703	131.97653	140.05218	148.78334	157.52419
3814020.00	95.98737	103.07742	111.46118	119.63207	128.35834	137.02716	146.37513	156.43976	166.15170
3814010.00	100.36460	105.47735	114.27889	122.90064	132.14921	142.65738	153.12981	164.24670	174.96956
3814000.00	105.93991	112.30635	119.93030	128.85653	137.82890	148.12352	158.65734	170.08960	181.73306
3813990.00	111.44866	118.74508	126.15354	134.24758	143.11012	153.31910	164.00369	175.77669	188.36010
3813980.00	115.55295	123.38079	130.78457	138.90422	148.22099	158.09852	169.03138	181.17535	194.71532
3813970.00	117.15802	125.57926	133.61983	142.44406	152.15379	162.60786	174.22817	187.19455	201.72259
3813960.00	118.09978	127.16740	135.75397	145.11531	155.35085	166.28456	178.48669	192.16276	207.56123
3813950.00	118.77091	128.48164	137.77570	147.45272	157.92320	169.22788	181.88189	196.11366	212.20269
3813940.00	118.65083	128.81483	138.48177	148.69638	159.56232	171.21077	184.24698	198.91776	215.54749
3813930.00	118.14220	128.25155	138.71839	149.51773	160.74366	172.63425	185.89800	197.17617	213.70418
3813920.00	116.56715	126.47139	138.46202	149.89842	161.44905	173.47821	181.78189	190.56983	206.39211
3813910.00	115.97374	126.60802	138.63242	150.10574	161.69892	173.77736	182.12489	190.96510	204.90761
3813900.00	115.14863	126.50430	138.51324	149.97137	161.54814	173.60438	181.93217	190.74605	202.77920
3813890.00	114.12663	126.18817	138.13604	149.52975	161.03330	172.99743	181.23894	189.94328	198.37725
3813880.00	114.45000	125.65603	137.49451	148.77051	160.19762	170.64999	176.57841	183.52406	193.62494
3813870.00	114.53765	124.88091	136.55712	147.65771	158.88431	167.52430	170.16319	177.25171	188.50648
3813860.00	114.36009	123.84248	135.30553	146.17832	157.14855	163.99178	165.23478	170.02449	183.12947
3813850.00	113.27321	122.55244	134.50485	145.07901	151.30454	154.61183	158.03907	164.26235	176.63908
3813840.00	112.00006	121.05541	133.33218	143.34733	141.62706	145.51111	151.56226	158.75572	170.47219
3813830.00	110.58800	119.96591	132.07852	136.70525	132.77134	138.81676	144.97946	152.85238	163.91044
3813820.00	110.82971	119.67408	130.36204	133.40204	130.60110	136.42606	143.78861	152.01860	162.00810
3813810.00	110.70984	119.02235	128.50178	130.13262	128.39356	135.52785	142.58891	151.26496	160.07667
3813800.00	110.63782	118.06786	126.51875	126.90885	126.14820	133.80638	142.22626	150.60925	158.15250
3813790.00	108.93342	116.15291	124.21604	128.78972	127.99498	134.68256	141.08183	148.25079	154.61377
3813780.00	107.21158	114.21071	121.78561	129.21118	132.66024	136.00337	140.03329	145.07031	151.22248
3813770.00	105.46283	112.23450	119.05055	126.39366	134.03178	137.70691	138.13235	142.03565	147.99771

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*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL RURAL SigA Data

*** THE PERIOD (43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: 1 ***
 INCLUDING SOURCE(S): 1 ,

AERMOD OUTPUT FILE

*** NETWORK ID: 1 ; NETWORK TYPE: GRIDCART ***

** CONC OF OTHER IN MICROGRAMS/M**3

**

Y-COORD (METERS)	X-COORD (METERS)								
	236097.00	236107.00	236117.00	236127.00	236137.00	236147.00	236157.00	236167.00	236177.00
3813760.00	103.99479	109.97158	116.82015	123.79424	131.27879	137.16764	138.48098	140.89252	147.30297
3813750.00	102.47818	107.98063	114.62210	121.39544	128.67931	135.51076	137.97319	141.98279	146.87825
3813740.00	100.94293	106.02971	112.49511	119.09856	126.14061	133.67988	138.67022	142.43976	147.82166
3813730.00	99.19002	104.14840	110.46142	116.91162	123.78142	131.10361	138.11722	143.00675	148.00615
3813720.00	97.50384	102.35090	108.52309	114.82128	121.50711	128.51763	136.13006	144.27135	148.23206
3813710.00	95.89291	100.63535	106.66631	112.80163	119.28158	125.95504	133.13334	140.88650	149.14623
3813700.00	94.95377	99.62486	105.18771	110.94320	117.07089	123.44745	130.24994	137.46739	145.25856
3813690.00	93.90425	98.48458	103.66135	109.07558	114.84881	120.90846	127.32557	134.08870	141.35469
3813680.00	92.80796	97.27879	102.06721	107.17537	112.59975	118.33359	124.36879	130.69353	137.45806
3813670.00	91.36718	95.69199	100.35095	105.27376	110.45241	115.86994	121.54354	127.45789	131.80502
3813660.00	89.93392	94.09796	98.59675	103.27355	106.90944	111.91331	117.12515	122.52147	126.09162

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*** MODELOPTs: RegDEFAULT CONC ELEV FLGPOL RURAL SigA Data

*** THE PERIOD (43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: 1 ***
INCLUDING SOURCE(S): 1 ,

*** NETWORK ID: 1 ; NETWORK TYPE: GRIDCART ***

** CONC OF OTHER IN MICROGRAMS/M**3

**

Y-COORD (METERS)	X-COORD (METERS)								
	236187.00	236197.00	236207.00	236217.00	236227.00	236237.00	236247.00	236257.00	236267.00
3814160.00	89.21906	89.78016	91.98537	94.12544	96.19149	98.17832	100.08539	101.91566	103.66979
3814150.00	93.04898	93.75813	96.22692	98.62857	100.95089	103.18543	105.32883	107.38272	109.34908
3814140.00	97.07990	97.96319	100.73415	103.43812	106.05858	108.58296	111.00417	113.32138	115.53675
3814130.00	101.31614	102.40239	105.51951	108.57330	111.54153	114.40630	117.15555	119.78466	122.29467
3814120.00	107.12075	109.41264	112.25228	114.93375	117.42694	120.69288	123.83134	126.83210	129.69325
3814110.00	113.22303	116.77487	119.43487	121.77610	123.74134	127.48141	131.08353	134.52976	137.81293
3814100.00	120.23247	124.45068	127.07618	129.12450	130.50907	134.81056	138.96763	142.95094	146.74506
3814090.00	125.68056	131.11741	134.35214	137.99024	141.23139	146.40066	151.42644	156.26093	160.87263
3814080.00	131.39540	137.44465	142.91946	147.45446	152.71846	158.93143	165.02101	170.91145	176.54810
3814070.00	137.39486	144.10124	151.13580	158.43382	165.89921	173.41587	180.86194	188.12433	195.10943
3814060.00	143.69524	151.10949	158.96768	167.22821	175.80179	184.55811	193.34227	201.99560	210.37593
3814050.00	150.30362	158.49011	167.24079	176.54931	186.35662	196.53852	206.91462	217.27453	227.40957
3814040.00	157.20905	166.25123	175.98116	186.43304	197.59761	209.38978	221.63190	234.06916	246.41115
3814030.00	166.97449	177.19961	188.27157	200.26282	213.22443	225.91879	239.11138	252.47273	267.57506
3814020.00	176.71940	188.22518	200.76231	214.43497	229.35015	243.49806	258.05955	272.56654	291.07535
3814010.00	186.71794	199.59900	213.73124	229.24866	245.75005	262.07251	278.55793	294.43681	317.05983
3814000.00	194.58904	208.80491	224.54192	241.97832	261.31482	280.65138	302.10074	324.87944	348.42544
3813990.00	202.35477	217.96221	235.40950	254.94910	276.86145	300.87927	326.84404	356.67372	383.08619
3813980.00	209.87145	226.90485	246.12349	267.88566	292.60262	320.74079	352.82777	388.94586	418.28847
3813970.00	218.07229	236.55925	257.56669	281.56162	309.10626	340.48441	376.58995	416.54300	452.64150
3813960.00	224.98398	244.80186	267.47220	293.56358	323.78703	359.38179	398.79937	440.85565	482.17186
3813950.00	230.49303	251.40994	275.48598	303.39323	336.20947	376.44550	419.94144	458.75275	506.98622
3813940.00	234.52970	256.34505	281.60517	311.09718	345.99110	389.77141	443.19113	502.46952	561.59024
3813930.00	232.60501	254.38021	279.67561	309.33607	344.48561	397.71995	455.03585	528.47106	611.16475
3813920.00	224.49367	245.36445	269.63916	298.15485	335.85535	392.42285	459.10613	532.80014	638.76030
3813910.00	220.80956	239.10760	262.69372	290.41292	323.36625	374.82705	436.22706	524.88004	632.28948
3813900.00	216.65625	232.79606	255.57394	282.30732	314.03848	355.26750	410.12791	475.07991	599.46031
3813890.00	210.46768	224.79205	246.44015	271.77044	301.73128	340.03438	383.97668	438.31656	524.15344

3813880.00	206.96411	222.36312	241.78645	264.40949	291.05540	324.73970	365.46803	415.55872	487.37131
3813870.00	202.72808	218.95750	236.12214	256.18919	279.94228	311.45017	349.37943	395.76698	455.69330
3813860.00	197.96054	214.85538	228.52834	246.38668	267.83022	297.22220	332.42268	375.18061	429.58717
3813850.00	190.61422	206.49456	220.95165	239.14980	260.54825	288.24660	321.19345	360.96910	409.84299
3813840.00	183.67220	198.62900	213.53525	231.83906	253.07809	279.14067	310.04858	347.23581	392.43820
3813830.00	176.33228	190.35805	206.28988	224.52374	245.59629	270.23722	299.38881	334.10894	375.27510
3813820.00	173.19228	185.78935	200.95518	218.30603	238.36405	261.76599	289.18018	321.12708	357.71130
3813810.00	169.99048	181.22704	195.73505	212.34440	231.49533	253.62510	279.05559	307.84956	339.64020
3813800.00	166.81480	176.80278	190.75502	206.67942	224.86940	245.53187	268.70712	294.17950	321.34355
3813790.00	162.96328	172.59317	186.01367	201.19320	218.26892	237.26700	258.05601	280.27430	303.19381
3813780.00	159.30070	168.57463	181.40533	195.71930	211.53400	228.76659	247.19409	266.36927	285.50279
3813770.00	155.79290	164.65635	176.80165	190.13898	204.61421	220.08617	236.27434	252.67532	268.49103

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*** AERMET - VERSION 16216 *** ***

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*** MODELOPTS: RegDEFAULT CONC ELEV FLGPOL RURAL SigA Data

*** THE PERIOD (43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: 1 ***
INCLUDING SOURCE(S): 1 ,

*** NETWORK ID: 1 ; NETWORK TYPE: GRIDCART ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

Y-COORD (METERS)	236187.00	236197.00	236207.00	236217.00	236227.00	236237.00	236247.00	236257.00	236267.00
3813760.00	154.64155	162.91609	174.43964	186.89532	200.18975	213.16536	226.39362	239.35264	252.29989
3813750.00	153.64134	161.21428	172.06246	183.62096	195.76897	206.23161	216.64850	226.51494	237.01145
3813740.00	152.80649	160.51771	170.74353	181.49543	191.47782	199.37408	207.12574	214.23903	222.66257
3813730.00	153.33331	159.13635	168.71255	178.65326	187.48173	193.77275	199.81953	205.15345	211.90428
3813720.00	153.03102	158.00556	166.99182	176.19904	185.41867	188.62687	193.01542	196.71275	202.06001
3813710.00	152.77087	158.48907	167.07028	175.75107	182.58173	185.58660	186.86946	190.12390	194.32557
3813700.00	149.74114	153.60641	161.38953	169.14518	176.65066	178.65473	181.52216	183.43812	185.38532
3813690.00	145.39398	148.76321	155.79180	162.68604	169.23931	173.58010	175.42990	177.73988	177.33428
3813680.00	141.07699	143.97801	150.29572	156.39455	162.09002	167.18174	171.44455	172.95178	170.11697
3813670.00	135.69329	139.26479	144.91713	150.28845	155.21736	159.52751	163.01874	165.48212	160.78191
3813660.00	130.46485	134.63528	139.67029	144.38218	148.63005	152.25642	155.08335	156.94009	152.14652

• *** AERMOD - VERSION 18081 *** *** MegaPack Thermal Runaway

*** AERMET - VERSION 16216 *** ***

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*** MODELOPTS: RegDEFAULT CONC ELEV FLGPOL RURAL SigA Data

*** THE PERIOD (43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: 1 ***
INCLUDING SOURCE(S): 1 ,

*** NETWORK ID: 1 ; NETWORK TYPE: GRIDCART ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

Y-COORD (METERS)	236277.00	236287.00	236297.00	236307.00	236317.00	236327.00	236337.00	236347.00	236357.00
3814160.00	105.33718	106.88997	108.28755	109.49130	110.47876	111.24350	111.78085	112.07512	112.10309
3814150.00	111.22034	112.97004	114.55379	115.92476	117.05188	117.92381	118.53404	118.86492	118.89032
3814140.00	117.64583	119.62459	121.42598	122.99402	124.28697	125.28658	125.98347	126.35753	126.37915
3814130.00	124.68350	126.93061	128.98755	130.78897	132.27993	133.43265	134.23336	134.65871	134.67486
3814120.00	132.41405	134.97811	137.33722	139.41669	141.14572	142.48339	143.40945	143.89617	143.90456
3814110.00	140.93155	143.87327	146.59211	149.00489	151.02224	152.58528	153.66412	154.22496	154.22241
3814100.00	150.34525	153.74195	156.89340	159.70855	162.07725	163.91724	165.18401	165.83515	165.81745
3814090.00	165.24704	169.37339	171.65635	173.40641	174.51462	176.69809	178.19832	178.96085	178.92182
3814080.00	181.89814	186.94351	188.44909	189.03159	188.58608	191.19988	192.99369	193.89492	193.82607

AERMOD OUTPUT FILE									
3814070.00	201.75359	206.65258	207.63380	206.96574	204.60496	207.76380	209.93144	211.00788	210.89675
3814060.00	218.37512	225.92618	227.79870	229.90031	230.50996	234.54991	237.30968	238.64297	238.42497
3814050.00	237.14322	246.35323	253.10520	256.62711	260.86262	266.09196	269.65420	271.32946	270.95037
3814040.00	258.38170	269.76529	280.42288	290.21519	298.83383	305.75403	310.46048	312.60840	311.96879
3814030.00	282.44206	296.70889	310.11579	322.46790	333.42401	342.32234	348.40794	351.14851	352.91267
3814020.00	309.68478	327.81273	344.98037	360.85319	375.03124	386.68823	394.72546	398.29981	403.10916
3814010.00	340.45168	363.76790	386.16865	407.01355	425.75729	441.36983	452.25760	457.04613	468.38942
3814000.00	371.65145	392.97068	421.33255	448.03427	472.23041	492.68509	507.22433	520.17033	533.67139
3813990.00	400.89814	420.88692	456.62989	491.00686	522.50705	549.54418	569.23824	578.07032	609.73525
3813980.00	436.01348	438.52722	481.93879	525.32236	565.90603	601.36976	628.01230	653.44012	686.06349
3813970.00	472.99126	486.69485	544.59748	606.22701	666.44286	720.37615	761.99562	781.36650	840.37961
3813960.00	510.86765	539.85170	615.92591	703.52403	796.42817	883.64920	953.29279	986.19672	1063.51624
3813950.00	547.33054	596.84122	695.86774	818.47626	964.20127	1116.33099	1244.73777	1306.62145	1407.46998
3813940.00	612.49788	653.55528	781.16927	950.48723	1176.19405	1501.38660	1840.25927	2048.27857	2243.84375
3813930.00	662.17914	702.95496	861.29548	1088.26021	1428.42341	2087.45022	3044.71822	3976.78998	4077.15168
3813920.00	711.05522	735.95678	918.79816	1198.60902	1669.99684	3016.77880	6250.41265	11589.19966	8184.05742
3813910.00	781.66424	936.31353	1196.44501	1610.04937	2427.38019	4856.69370	14544.53532	0.00000	9009.01968
3813900.00	741.49735	929.00155	1208.65124	1659.82451	2475.00409	3829.45610	6544.40459	8539.42566	5133.06422
3813890.00	643.54472	806.15082	1052.14298	1385.62844	1901.86766	2691.40585	3626.71238	3551.21866	2819.23342
3813880.00	577.58140	704.99951	876.54894	1127.81816	1507.92839	1939.46665	2237.44925	2122.62339	1814.09438
3813870.00	534.79214	635.25388	770.65776	955.41771	1199.79052	1433.99083	1544.01733	1463.82866	1288.93898
3813860.00	496.45063	582.70605	694.48168	833.33098	986.70679	1111.23151	1143.09658	1085.94219	980.76336
3813850.00	470.80634	546.82440	638.60095	740.51270	834.78984	895.57887	894.95660	852.15981	781.64351
3813840.00	447.21757	511.91724	584.03517	655.91552	712.35956	736.92733	727.27969	692.72314	644.17846
3813830.00	423.06973	476.26129	531.18278	580.42848	612.76083	619.62920	604.67632	576.36164	543.16991
3813820.00	398.27921	440.92681	480.20580	511.51963	527.59509	526.99488	513.11189	490.78869	465.08449
3813810.00	373.37852	406.95394	433.86500	452.50995	458.78251	454.83912	442.59174	424.61918	404.15919
3813800.00	348.98163	375.01134	391.18317	401.28021	402.00374	396.80651	386.21815	371.49839	354.86215
3813790.00	325.55050	345.43350	356.61005	362.12061	360.26536	354.64049	345.38034	333.02297	318.42995
3813780.00	303.37485	318.32529	327.21795	328.91079	326.13266	320.59150	312.47775	301.94825	288.54992
3813770.00	282.60975	293.65013	300.23058	301.74020	299.06407	293.81506	286.65092	276.50382	263.69045

• *** AERMOD - VERSION 18081 *** *** MegaPack Thermal Runaway

*** 09/26/19

*** AERMET - VERSION 16216 *** ***

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*** MODELOPTS: RegDFAULT CONC ELEV FLGPOL RURAL SigA Data

*** THE PERIOD (43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: 1
INCLUDING SOURCE(S): 1 ,

*** NETWORK ID: 1 ; NETWORK TYPE: GRIDCART ***

** CONC OF OTHER IN MICROGRAMS/M**3

**

Y-COORD (METERS)	X-COORD (METERS)
236277.00	236287.00
236297.00	236307.00
236317.00	236327.00
236337.00	236347.00
236357.00	

3813760.00	263.31449	271.28849	275.30101	275.27530	272.25962	267.47725	261.19678	253.30619	241.88462
3813750.00	245.48367	251.07746	253.25632	252.29269	249.21986	244.90267	239.36396	232.46865	223.98138
3813740.00	229.06988	232.83605	233.73100	232.22951	229.25339	225.36953	220.45565	214.38292	207.69424
3813730.00	216.69036	219.08746	218.15980	215.47562	211.81931	208.32570	203.94086	198.55533	192.63434
3813720.00	205.54102	206.90657	204.37979	200.70393	196.49063	193.34216	189.40790	184.60202	179.32731
3813710.00	196.77889	196.22441	192.17321	187.61409	182.92773	180.08185	176.53374	172.22106	167.49537
3813700.00	185.77543	184.65492	180.41006	176.77710	172.97761	170.36847	167.12382	163.20212	158.22030
3813690.00	175.74876	173.13849	170.82136	167.19008	164.30563	161.89702	158.90725	155.31343	149.95041
3813680.00	166.61306	162.69622	161.35189	159.65635	157.74315	155.48278	152.68209	148.46687	142.56002
3813670.00	157.11551	153.20811	151.87530	150.30126	148.54913	146.47158	143.89845	140.83637	135.23815
3813660.00	148.40699	144.56762	143.27792	141.82374	140.21526	138.29864	135.92636	133.11463	129.30990

*** 09/26/19

*** 10:03:22

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*** MODELOPTS: RegDFAULT CONC ELEV FLGPOL RURAL SigA Data

*** THE PERIOD (43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: 1 ***

AERMOD OUTPUT FILE

INCLUDING SOURCE(S) : 1 ,

*** NETWORK ID: 1 ; NETWORK TYPE: GRIDCART ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

Y-COORD (METERS)	X-COORD (METERS)									
	236367.00	236377.00	236387.00	236397.00	236407.00	236417.00	236427.00	236437.00	236447.00	
3814160.00	111.84934	112.14860	113.66586	114.62415	115.01204	113.35148	111.45469	109.34416	107.05458	
3814150.00	118.59321	117.97712	119.68423	120.01934	119.89553	118.02932	115.90254	113.54663	111.00635	
3814140.00	126.02940	125.31324	125.23837	125.69080	124.78800	122.69237	120.31159	117.68839	114.87918	
3814130.00	134.26078	133.42315	132.18562	130.56979	128.59099	126.26936	123.64154	120.76361	117.70444	
3814120.00	143.41111	142.42477	140.97310	139.08072	136.76794	134.06530	131.02563	127.72367	124.24463	
3814110.00	153.63008	152.45983	150.74408	148.51202	145.79198	142.63000	139.10084	135.30236	131.33772	
3814100.00	165.10090	163.70084	161.65644	159.00351	155.78332	152.06477	147.95216	143.57134	139.04325	
3814090.00	178.04718	176.35767	173.90013	170.72102	166.88304	164.00618	160.54629	156.65072	151.26168	
3814080.00	192.74781	190.68798	187.70512	183.86333	179.25675	177.38880	174.58422	171.02677	164.60473	
3814070.00	209.55281	207.01355	203.35483	198.66949	193.10187	194.17868	191.70487	187.91485	180.18913	
3814060.00	236.60569	233.24730	230.73708	226.68635	221.29438	216.50547	211.86760	204.90931	196.61393	
3814050.00	268.46594	263.97674	264.21251	259.54960	252.77479	243.38265	233.41776	223.22077	214.22128	
3814040.00	308.49365	302.35374	299.49352	292.62330	282.66378	269.48535	256.07973	243.30066	231.36557	
3814030.00	350.59528	344.39067	337.56922	325.48291	311.11897	295.31783	279.40378	263.73952	248.89019	
3814020.00	401.34765	393.37068	380.10883	362.54875	343.32581	323.83581	304.30991	285.25727	266.93024	
3814010.00	464.40341	450.48118	429.73377	405.82252	380.62841	355.83582	331.20913	307.90517	276.68458	
3814000.00	531.73404	515.38985	488.17753	456.52469	423.67604	390.59537	360.07239	332.11316	289.52298	
3813990.00	611.32430	592.71589	559.71351	515.14890	469.54291	428.40018	391.45058	345.12754	302.83890	
3813980.00	704.32402	683.01089	648.86973	584.00518	520.81874	470.20857	408.84672	358.09192	316.47903	
3813970.00	843.14005	817.71701	759.40957	660.95455	578.78392	501.84660	437.13916	383.69796	333.01506	
3813960.00	1051.45475	997.00989	894.09335	743.44274	624.30362	533.15876	465.49228	409.34700	352.06464	
3813950.00	1353.87019	1239.03224	1053.95714	837.71469	651.46837	564.11374	492.69643	433.96972	369.90782	
3813940.00	2021.49533	1619.24241	1196.33683	937.73708	712.72746	599.14110	510.93205	441.25080	375.50866	
3813930.00	2875.14406	1874.41031	1326.30108	1017.63335	766.99595	626.89528	523.62003	441.45716	378.51476	
3813920.00	3465.73646	2004.80852	1441.44852	1048.98546	805.39008	636.79057	524.80273	442.05153	378.85075	
3813910.00	3498.24703	2119.83428	1414.00860	1028.53218	792.35944	629.52434	519.80557	438.53501	376.32885	
3813900.00	3004.14656	1879.82435	1303.88646	971.12186	752.81706	609.87993	506.78186	429.54108	371.41976	
3813890.00	2093.02984	1540.41627	1144.02812	878.08899	703.40917	578.40349	483.67349	413.32662	361.77026	
3813880.00	1489.27252	1198.01474	961.45047	778.32779	644.31257	539.72150	460.83672	398.56889	351.04509	
3813870.00	1119.40738	949.58443	803.38193	681.21092	581.57030	498.95800	433.60884	380.23281	337.51670	
3813860.00	879.88139	774.16376	678.87507	593.94100	518.89512	456.52730	403.91518	359.53077	321.98667	
3813850.00	718.02447	649.98745	584.10021	522.72651	467.16233	416.56381	372.38893	334.06036	301.82837	
3813840.00	601.06742	555.60330	508.56828	463.03442	420.62282	379.20174	342.13229	309.30207	281.86733	
3813830.00	512.63788	481.52295	447.16672	412.50059	379.56383	344.14965	313.16154	285.28380	262.00974	
3813820.00	441.55009	418.57891	393.06430	366.25237	340.23438	312.82955	288.16647	265.35558	245.58518	
3813810.00	385.40650	367.78270	348.48214	327.50479	306.56824	285.06403	265.40592	246.83642	230.03902	
3813800.00	339.54402	325.56199	310.66728	294.13315	277.08364	260.57393	244.82509	229.77862	215.48739	
3813790.00	304.94107	292.87470	281.1137	267.96611	253.96810	240.11899	226.85859	214.15505	201.96569	
3813780.00	276.20941	265.36433	255.85913	245.31194	233.78603	222.06812	210.74217	199.90114	189.45943	
3813770.00	252.03005	241.96388	234.11180	225.55164	216.04147	206.09133	196.31009	186.93896	177.92786	

• *** AERMOD - VERSION 18081 *** *** MegaPack Thermal Runaway
 *** AERMET - VERSION 16216 *** ***

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*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL RURAL SigA Data

*** THE PERIOD (43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: 1 ***

INCLUDING SOURCE(S) : 1 ,

*** NETWORK ID: 1 ; NETWORK TYPE: GRIDCART ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

Y-COORD (METERS)	X-COORD (METERS)									
	236367.00	236377.00	236387.00	236397.00	236407.00	236417.00	236427.00	236437.00	236447.00	
Y-COORD (METERS)	236367.00	236377.00	236387.00	236397.00	236407.00	236417.00	236427.00	236437.00	236447.00	

AERMOD OUTPUT FILE

3813760.00	232.15000	223.65527	217.01288	209.94709	202.04772	193.56293	185.02534	176.78402	168.33693
3813750.00	215.16295	208.14750	202.41347	196.48026	189.86990	182.62357	175.14197	167.81403	159.62737
3813740.00	201.29809	195.68494	190.63295	185.54730	179.94483	173.72332	167.13873	159.87802	151.72753
3813730.00	186.94005	181.92035	177.45432	173.07405	168.33071	163.03730	157.31909	151.47768	143.98882
3813720.00	174.22816	169.70940	165.71953	161.89554	157.83883	153.32088	148.36443	143.18853	137.46859
3813710.00	162.90533	158.81469	155.21902	151.83968	148.33267	144.45753	140.16480	135.59163	130.96253
3813700.00	153.39342	149.04361	145.77964	142.76088	139.69594	136.35082	132.63048	128.60137	124.44036
3813690.00	144.83774	140.23840	137.25762	134.53569	131.82883	128.91963	125.68816	122.14572	118.41745
3813680.00	137.10851	132.26913	129.53316	127.05915	124.64482	122.09406	119.27690	116.16518	112.83578
3813670.00	130.70976	126.62197	123.53218	120.73793	118.06855	115.81321	113.34525	110.61071	107.64581
3813660.00	124.95706	121.62519	118.10408	114.96027	112.03422	110.02334	107.84875	105.44150	102.80619

• *** AERMOD - VERSION 18081 *** *** MegaPack Thermal Runaway

*** AERMET - VERSION 16216 *** ***

*** MODELOPTs: RegDEFAULT CONC ELEV FLGPOL RURAL SigA Data

*** THE PERIOD (43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: 1 ***
INCLUDING SOURCE(S): 1 ,

*** NETWORK ID: 1 ; NETWORK TYPE: GRIDCART ***

** CONC OF OTHER IN MICROGRAMS/M**3

*** 09/26/19
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Y-COORD (METERS)	X-COORD (METERS)								
	236457.00	236467.00	236477.00	236487.00	236497.00	236507.00	236517.00	236527.00	236537.00
3814160.00	104.62930	102.56896	102.47757	101.09744	99.01960	96.41058	92.07220	87.14483	81.06894
3814150.00	108.33401	106.14258	106.08977	104.78260	103.03310	100.48787	97.69689	92.48009	85.14035
3814140.00	111.94557	108.94366	108.95384	108.11353	106.26073	104.37987	101.73204	98.19923	89.52013
3814130.00	114.53373	112.15084	111.15761	110.35480	108.95360	107.69307	105.70602	102.79438	94.22939
3814120.00	120.66796	117.05465	115.98417	113.76432	111.95584	111.94873	110.00076	107.07711	99.99197
3814110.00	127.29464	123.23425	120.13488	117.80466	115.24750	116.30250	114.65948	111.59725	105.44139
3814100.00	134.46098	129.88397	125.34621	120.87034	118.28015	120.72512	119.51987	116.26253	111.83412
3814090.00	145.84994	140.47371	137.15485	133.56335	130.44716	129.21387	125.92962	121.29407	114.80262
3814080.00	158.20132	152.91043	150.08209	146.31880	141.85463	137.34344	132.06120	124.67246	117.50347
3814070.00	172.53865	165.02549	162.62295	157.50727	151.32378	144.59904	135.98859	125.72096	120.13103
3814060.00	188.29947	180.67840	174.43700	167.08592	156.58992	144.02787	133.99538	125.03065	119.26471
3814050.00	204.34932	194.55483	185.58168	171.53198	154.59598	143.66566	133.10678	125.17854	119.15905
3814040.00	219.35776	207.64447	190.84894	171.03706	154.18374	143.59343	134.06146	125.45290	119.16289
3814030.00	234.29903	216.23522	192.17743	173.11905	158.48827	147.37213	138.01432	129.47198	122.16959
3814020.00	239.44498	214.02578	193.34833	177.10723	162.99036	151.98541	142.63300	134.05984	125.67612
3814010.00	242.66571	214.89033	197.16867	180.61489	166.90119	156.62872	147.23207	138.63008	128.63155
3814000.00	253.46144	226.85485	205.93293	188.87199	173.86930	162.62401	152.41642	143.13383	132.49403
3813990.00	266.58817	239.03553	215.87543	197.12627	180.78125	168.52607	157.48202	147.50133	136.21126
3813980.00	279.76529	251.25518	225.74715	205.24350	187.51427	174.22030	162.32247	151.63501	139.69719
3813970.00	294.90897	263.25973	235.32436	213.02114	193.88708	179.54533	166.79806	155.41775	142.85783
3813960.00	309.52791	274.65399	244.26758	220.17288	199.66536	184.31387	170.76412	158.74135	145.61601
3813950.00	322.91429	284.87637	252.14918	226.38345	204.62480	188.37099	174.11780	161.54074	147.93362
3813940.00	326.96145	287.86528	255.85495	230.32568	208.64079	190.83225	175.34240	161.77545	148.72083
3813930.00	329.06792	289.40471	258.18754	233.08854	211.71922	192.55926	176.05272	161.71698	149.17599
3813920.00	327.71610	288.37877	259.22636	234.73205	213.90088	192.86661	175.69433	160.90326	149.31687
3813910.00	328.84938	290.43474	260.89910	236.11922	215.06983	193.84188	176.52387	161.61700	149.94426
3813900.00	326.43105	289.76353	260.46645	235.85050	214.91535	193.75943	176.49371	161.62380	149.98080
3813890.00	320.20420	286.09614	257.68271	233.70537	213.24134	192.45080	175.45764	160.79648	149.31389
3813880.00	312.19850	279.98346	251.88253	228.05336	207.65173	188.68607	172.93010	159.18342	147.97160
3813870.00	301.97927	272.10258	244.74112	221.46993	201.50905	184.25435	169.73800	156.96587	146.10039
3813860.00	290.08975	262.83753	235.70431	213.50180	194.42740	179.33576	166.05431	154.29976	143.84195
3813850.00	273.87112	249.57019	226.02750	206.31878	189.10160	174.94670	162.40455	151.23795	140.82440
3813840.00	257.63237	236.21634	215.93405	198.61661	183.25939	170.09077	158.33625	147.80616	137.51461
3813830.00	241.11385	222.38740	205.60471	190.55182	177.03619	164.88573	153.94498	144.07377	133.59230
3813820.00	227.54074	211.14120	196.26443	182.77285	170.53062	159.41302	149.30815	140.11542	130.21672

3813810.00 | 214.46925 200.12515 186.95986 174.90010 163.85864 153.74546 144.47629 135.97509 126.67833
 3813800.00 | 202.04927 189.51159 177.87222 167.10289 157.15829 147.98182 139.51258 131.69150 123.00356
 3813790.00 | 190.35399 179.39179 169.10788 159.49952 150.54910 141.80024 133.69521 126.18674 118.59576
 3813780.00 | 179.40959 169.81421 160.72447 152.15708 144.10909 135.75677 128.01927 120.85383 114.21556
 3813770.00 | 169.20840 160.79938 152.75596 145.11364 137.88140 129.54583 122.22866 115.46632 109.90942
 • *** AERMOD - VERSION 18081 *** *** MegaPack Thermal Runaway ***
 *** AERMET - VERSION 16216 *** ***
 *** MODELOPTS: RegDEFAULT CONC ELEV FLGPOL RURAL SigA Data
 *** THE PERIOD (43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: 1 ***
 INCLUDING SOURCE(S): 1 ,
 *** NETWORK ID: 1 ; NETWORK TYPE: GRIDCART ***
 ** CONC OF OTHER IN MICROGRAMS/M**3 **
 Y-COORD (METERS) | 236457.00 236467.00 236477.00 236487.00 236497.00 236507.00 236517.00 236527.00 236537.00

3813760.00 | 160.20316 152.34416 145.21944 138.39405 131.89178 124.25566 117.53611 111.29411 106.17773
 3813750.00 | 151.86225 144.42947 138.11461 132.01261 126.15907 119.15800 112.98826 107.23032 102.52356
 3813740.00 | 144.15068 137.03095 131.42780 125.97091 120.69565 114.26715 108.59764 103.28712 98.96198
 3813730.00 | 137.52864 131.40458 125.94939 120.64364 115.50435 109.59342 104.37555 99.47366 95.50123
 3813720.00 | 131.46947 126.28083 120.84146 115.61321 110.57864 105.14009 100.33084 95.79904 92.14823
 3813710.00 | 126.45660 121.62270 116.08270 110.86380 105.90656 100.90266 96.46710 92.27098 88.91055
 3813700.00 | 120.33101 116.37645 111.21685 106.76973 102.14242 97.73559 93.54062 89.56059 86.22113
 3813690.00 | 114.67134 111.03458 107.10401 102.93773 99.32111 94.78278 90.80756 87.02431 83.65980
 3813680.00 | 109.42881 106.07839 102.85830 99.77195 96.38174 92.36885 88.25116 84.64951 81.22306
 3813670.00 | 104.55764 101.47325 98.48531 95.62538 92.87356 89.11536 85.85813 82.70357 79.39661
 3813660.00 | 100.01695 97.18435 94.40830 91.74303 89.19086 86.36768 83.29990 80.62762 78.00528
 • *** AERMOD - VERSION 18081 *** *** MegaPack Thermal Runaway ***
 *** AERMET - VERSION 16216 *** ***
 *** MODELOPTS: RegDEFAULT CONC ELEV FLGPOL RURAL SigA Data
 *** THE PERIOD (43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: 1 ***
 INCLUDING SOURCE(S): 1 ,
 *** NETWORK ID: 1 ; NETWORK TYPE: GRIDCART ***
 ** CONC OF OTHER IN MICROGRAMS/M**3 **
 Y-COORD (METERS) | 236547.00 236557.00 236567.00 236577.00 236587.00 236597.00

3814160.00 | 76.33055 72.22287 70.15592 68.13591 66.16585 64.24787
 3814150.00 | 79.47387 74.71808 72.48506 70.30892 68.19232 66.13700
 3814140.00 | 82.77934 77.30773 74.89425 72.54920 70.27474 68.07215
 3814130.00 | 86.25240 79.99052 77.38115 74.85361 72.40951 70.04970
 3814120.00 | 91.48558 85.02793 82.12060 79.31379 76.60854 73.65498
 3814110.00 | 97.34864 90.88270 87.61822 84.47795 81.46223 77.69621
 3814100.00 | 104.62473 98.46950 94.72261 91.13367 87.70176 82.27076
 3814090.00 | 108.51987 102.64157 97.85441 93.34641 89.10534 83.54279
 3814080.00 | 111.66972 106.18705 100.32595 94.91510 89.37101 84.35657
 3814070.00 | 114.82408 109.79601 102.08763 95.88293 90.29490 85.24371
 3814060.00 | 113.82100 108.68958 102.55605 96.39640 91.29863 86.19509
 3814050.00 | 113.50884 107.63580 102.17515 97.09577 92.36807 87.57239
 3814040.00 | 113.29279 107.81621 102.70618 97.93636 93.08398 88.93971
 3814030.00 | 115.42984 109.20554 103.85199 98.87537 94.24419 89.92944
 3814020.00 | 118.04424 111.08230 105.45085 100.23688 95.40207 90.91170
 3814010.00 | 120.19515 112.59783 106.69432 101.25040 96.22042 91.56397

3814000.00	123.53938	115.50603	109.25361	103.50874	98.21824	93.04097
3813990.00	126.73311	118.26224	111.66126	105.61854	100.07287	94.38106
3813980.00	129.70212	120.80411	113.86590	107.53855	101.75189	95.28583
3813970.00	123.37285	123.07559	115.82554	109.23817	103.23358	96.56889
3813960.00	134.69175	125.04076	117.51696	110.70325	104.51024	97.67457
3813950.00	136.63858	126.69107	118.93909	111.93740	105.58824	98.61057
3813940.00	137.76093	128.04304	119.73844	112.26613	105.51504	98.84834
3813930.00	138.56589	129.12359	120.31798	112.44169	105.36415	98.97750
3813920.00	139.06463	129.93811	120.34719	112.18193	104.89045	98.99676
3813910.00	139.62067	130.43451	120.78557	112.57342	105.24219	99.31732
3813900.00	139.67853	130.50752	120.86493	112.65756	105.32908	99.40731
3813890.00	139.13832	130.06837	120.50768	112.36589	105.09053	99.21241
3813880.00	138.01362	129.12033	119.71032	111.69020	104.51519	98.71896
3813870.00	136.42249	127.75827	118.54805	110.69016	103.65024	97.96426
3813860.00	134.49243	126.09584	117.11973	109.45166	102.56999	97.01282
3813850.00	131.48591	123.07977	114.86904	107.76602	101.33170	95.91938
3813840.00	128.28661	119.98133	112.48021	105.92860	99.95177	94.70450
3813830.00	124.60350	116.52914	109.94508	103.93038	98.42065	93.36039
3813820.00	121.69887	114.01596	107.75392	102.01359	96.73881	91.88038
3813810.00	118.64612	111.36459	105.42985	99.96761	94.93157	90.27982
3813800.00	115.46929	108.60184	103.00348	97.82530	93.03128	88.58777
3813790.00	111.91328	105.74163	100.48782	95.60229	91.05728	86.61935
3813780.00	108.30995	102.80423	97.89424	93.30577	89.01639	84.60417
3813770.00	104.70230	99.82139	95.24363	90.94785	86.91488	82.36447

• *** AERMOD - VERSION 18081 *** *** MegaPack Thermal Runaway

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*** AERMET - VERSION 16216 *** ***

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*** MODELOPTS: RegDEFAULT CONC ELEV FLGPOL RURAL SigA Data

*** THE PERIOD (43848 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: 1
INCLUDING SOURCE(S): 1 ,

*** NETWORK ID: 1 ; NETWORK TYPE: GRIDCART ***

**

** CONC OF OTHER IN MICROGRAMS/M***3

Y-COORD (METERS)	236547.00	236557.00	236567.00	236577.00	236587.00	236597.00
3813760.00	101.36148	96.82973	92.34841	88.13680	84.17656	80.11250
3813750.00	98.07011	93.86206	89.47203	85.35474	81.49010	77.85944
3813740.00	94.84801	90.94212	86.45261	82.45879	78.72424	75.62026
3813730.00	91.70521	88.08363	83.86587	80.10965	76.58894	73.67272
3813720.00	88.64728	85.29320	81.33370	77.80239	74.48287	71.74207
3813710.00	85.67955	82.57462	78.86039	75.54345	72.41521	69.83966
3813700.00	83.01246	79.93218	76.44852	73.33552	70.39032	67.97214
3813690.00	80.44278	77.37136	74.10146	71.18036	68.40977	66.14231
3813680.00	77.97368	74.89772	71.82383	69.08067	66.47474	64.35102
3813670.00	76.48322	73.48038	70.63961	67.95051	65.40082	63.25186
3813660.00	75.18167	72.70879	69.87205	67.00093	64.48777	62.26064

• *** AERMOD - VERSION 18081 *** *** MegaPack Thermal Runaway

*** 09/26/19

*** AERMET - VERSION 16216 *** ***

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*** MODELOPTS: RegDEFAULT CONC ELEV FLGPOL RURAL SigA Data

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: 1
INCLUDING SOURCE(S): 1 ,

*** NETWORK ID: 1 ; NETWORK TYPE: GRIDCART ***

**

** CONC OF OTHER IN MICROGRAMS/M***3

Y-COORD |

X-COORD (METERS)

AERMOD OUTPUT FILE								
(METERS)	236097.00	236107.00	236117.00	236127.00	236137.00			
3814160.0	1634.13254 (12092020)	1488.93200 (12092020)	1745.03711 (13030221)	2040.38972 (13030221)	2253.08999 (13030221)			
3814150.0	1847.61674 (12092020)	1766.97993 (12092020)	1569.23352 (12092020)	1896.19533 (13030221)	2236.65797 (13030221)			
3814140.0	2033.37082 (14041022)	2001.25254 (12092020)	1891.81806 (12092020)	1694.01713 (12092020)	2108.67034 (13030221)			
3814130.0	2167.71097 (14041022)	2210.79074 (14041022)	2194.41988 (12092020)	2093.95061 (12092020)	1898.17421 (13030221)			
3814120.0	2148.45282 (14041022)	2346.84894 (14041022)	2433.06613 (14041022)	2380.26910 (12092020)	2267.64375 (12092020)			
3814110.0	2187.54482 (16041906)	2336.23117 (14041022)	2570.43361 (14041022)	2646.55214 (14041022)	2582.19137 (12092020)			
3814100.0	2190.92569 (16041906)	2446.69425 (16041906)	2534.84399 (14041022)	2779.77968 (14041022)	2877.05132 (14041022)			
3814090.0	2035.42519 (16041906)	2445.90299 (16041906)	2692.91385 (16041906)	2781.88094 (16041906)	3001.19669 (14041022)			
3814080.0	2112.62176 (12090601)	2256.56440 (16041906)	2644.32323 (16041906)	2918.17340 (16041906)	3050.40770 (16041906)			
3814070.0	2622.34769 (12090601)	2615.10234 (12090601)	2382.83605 (12090601)	2806.54638 (16041906)	3147.34743 (16041906)			
3814060.0	2933.65162 (12090601)	3157.90488 (12090601)	3079.62410 (12090601)	2834.72644 (12090601)	2954.87612 (16041906)			
3814050.0	3000.44977 (12090601)	3445.71972 (12090601)	3598.02357 (12090601)	3560.57178 (12090601)	3354.01397 (12090601)			
3814040.0	2753.04978 (12090601)	3367.28384 (12090601)	3760.80090 (12090601)	4000.22554 (12090601)	4070.74034 (12090601)			
3814030.0	2331.58173 (12090601)	2923.55405 (12090601)	3483.68541 (12090601)	3975.46122 (12090601)	4366.03012 (12090601)			
3814020.0	2490.23926 (15082622)	2463.37697 (12072806)	2836.30100 (12090601)	3459.89399 (12090601)	4089.06141 (12090601)			
3814010.0	3201.44592 (16030422)	3032.97021 (16030422)	3066.89182 (15082622)	3038.25872 (15082622)	3309.24301 (12090601)			
3814000.0	3888.84633 (16030422)	3949.09101 (16030422)	3965.37262 (16030422)	3916.80343 (16030422)	3816.15862 (15082622)			
3813990.0	4096.93591 (16030422)	4417.34851 (16030422)	4648.34896 (16030422)	4798.98583 (16030422)	4843.88631 (16030422)			
3813980.0	4228.10938 (14052720)	4394.49979 (14052720)	4535.02307 (16030422)	4922.94334 (16030422)	5287.59269 (16030422)			
3813970.0	4146.44053 (14052720)	4512.62812 (14052720)	4781.65408 (14052720)	5014.93708 (14052720)	5194.90550 (14052720)			
3813960.0	3471.52140 (14052720)	3931.71447 (14052720)	4342.93831 (14052720)	4763.85176 (14052720)	5181.26351 (14052720)			
3813950.0	3184.01125 (14052124)	3356.67850 (14052124)	3567.43996 (14030602)	3776.10065 (14052720)	4252.51893 (14052720)			
3813940.0	3764.52844 (15082522)	4031.88339 (15082522)	4222.95240 (15082522)	4387.69107 (15082522)	4518.21111 (15082522)			
3813930.0	3902.69353 (15082522)	4241.23988 (15082522)	4574.63252 (15082522)	4890.65086 (15082522)	5178.13178 (15082522)			
3813920.0	3508.97857 (14073002)	3808.55946 (14073002)	4168.38701 (14073002)	4514.34110 (15082522)	4857.04163 (15082522)			
3813910.0	3325.33675 (15080504)	3628.86518 (15080504)	3991.16311 (15080504)	4306.70764 (15080504)	4592.05932 (15080504)			
3813900.0	3888.15051 (12070821)	4313.04507 (12070821)	4770.08759 (12070821)	5170.42495 (12070821)	5534.08925 (12070821)			
3813890.0	4004.59782 (12070821)	4442.24534 (12070821)	4856.06248 (12070821)	5195.12552 (12070821)	5478.71967 (12070821)			
3813880.0	3792.60302 (12091004)	4264.61857 (12091004)	4772.20122 (12091004)	5221.07750 (12091004)	5630.87947 (12091004)			
3813870.0	4113.82073 (12091004)	4470.23918 (12091004)	4869.33896 (12091004)	5169.03480 (12091004)	5388.50080 (12091004)			
3813860.0	3776.00046 (12091004)	3952.06270 (15091123)	4482.81758 (15091123)	4952.35957 (15091123)	5365.14070 (15091123)			
3813850.0	3914.42658 (15091123)	4237.11149 (15091123)	4674.30131 (15091123)	4947.91267 (15091123)	4835.54670 (15091123)			
3813840.0	3723.37460 (15091123)	4023.56277 (12041001)	4517.36941 (12041001)	4793.85662 (12041001)	4332.42242 (12072001)			
3813830.0	3698.71956 (12041001)	3958.08050 (12072001)	4566.51889 (12072001)	4621.25868 (12072001)	4002.38801 (12072001)			
3813820.0	3847.15290 (12072001)	4130.72651 (12072001)	4440.51382 (12072001)	4174.69028 (16090620)	3969.43729 (16090620)			
3813810.0	3682.92554 (12072001)	4001.64352 (16090620)	4598.80876 (16090620)	4537.37758 (16090620)	4094.96668 (16090620)			
3813800.0	4042.70608 (16090620)	4389.78090 (16090620)	4680.47195 (16090620)	4268.24537 (14092002)	4031.42108 (14092002)			
3813790.0	4058.27308 (16090620)	4175.41866 (14092002)	4589.31610 (14092002)	4598.42294 (16090106)	4257.81171 (13121804)			
3813780.0	3999.21447 (14092002)	4233.06375 (14092002)	4531.95804 (13121804)	4923.43177 (13121804)	4766.14403 (13121804)			
3813770.0	3940.53070 (16090106)	4339.31746 (13121804)	4580.66316 (13121804)	4620.04152 (13121804)	4608.97302 (12041506)			

*** AERMOD - VERSION 18081 *** *** MegaPack Thermal Runaway

*** AERMET - VERSION 16216 *** ***

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*** MODELOPTS: RegDFault Conc Elev FlgPol Rural SigA Data

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: 1 ***
INCLUDING SOURCE(S): 1 ,

*** NETWORK ID: 1 ; NETWORK TYPE: GRIDCART ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

(METERS)	236097.00	236107.00	X-COORD (METERS)	236117.00	236127.00	236137.00
3813760.0	4102.20747 (13121804)	4197.94907 (13121804)	4198.32884 (12041506)	4250.84337 (12041506)	4667.86292 (16122223)	
3813750.0	3846.48438 (13121804)	3894.50200 (12041506)	3884.75130 (12041506)	4558.71894 (16122223)	5060.38298 (16122223)	
3813740.0	3642.63905 (12041506)	3810.04032 (16122223)	4409.63021 (16122223)	4794.95740 (16122223)	4886.39362 (16122223)	
3813730.0	3780.31697 (16122223)	4207.22507 (16122223)	4518.98434 (16122223)	4541.02439 (16122223)	4375.33740 (16082121)	
3813720.0	4063.73693 (16122223)	4215.69805 (16122223)	4204.31861 (16122223)	4135.49868 (16082121)	4180.49408 (16082121)	

AERMOD OUTPUT FILE

3813710.0	3992.32893	(16122223)	3862.87462	(16122223)	3898.11438	(16082121)	3918.81409	(16082121)	4171.79376	(15073105)
3813700.0	3655.59571	(16122223)	3696.65901	(16082121)	3691.37807	(16082121)	3953.10030	(15073105)	4462.79778	(14120606)
3813690.0	3555.09192	(16082121)	3502.95207	(15073105)	3768.57409	(14120606)	4234.09189	(14120606)	4429.85890	(14120606)
3813680.0	3387.66807	(15073105)	3613.99122	(14120606)	4037.16286	(14120606)	4218.91107	(14120606)	4312.53524	(16021524)
3813670.0	3457.68527	(14120606)	3849.12119	(14120606)	4028.90927	(14120606)	4107.36922	(16021524)	4168.58523	(16021524)
3813660.0	3675.27934	(14120606)	3843.14263	(14120606)	3907.60374	(16021524)	3994.36504	(16021524)	3912.19267	(15010320)

• *** AERMOD - VERSION 18081 *** *** MegaPack Thermal Runaway
 *** AERMET - VERSION 16216 *** ***

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*** MODELOPTS: RegDEFAULT CONC ELEV FLGPOL RURAL SigA Data

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: 1 ***
 INCLUDING SOURCE(S): 1 ,

*** NETWORK ID: 1 ; NETWORK TYPE: GRIDCART ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

Y-COORD (METERS)	236147.00	236157.00	X-COORD (METERS)	236167.00	236177.00	236187.00				
3814160.0	2461.93821	(15062821)	3041.74647	(15062821)	3437.53563	(15062821)	3419.58603	(15062821)	3085.63460	(15062821)
3814150.0	2534.35565	(13030221)	2793.90708	(15062821)	3371.03240	(15062821)	3553.84157	(15062821)	3423.72622	(15062821)
3814140.0	2501.48102	(13030221)	2749.07395	(13030221)	3117.50916	(15062821)	3521.59796	(15062821)	3637.38991	(15062821)
3814130.0	2340.00052	(13030221)	2710.52120	(13030221)	2923.40707	(13030221)	3308.34000	(15062821)	3678.67024	(15062821)
3814120.0	2031.80532	(13030221)	2505.23265	(13030221)	2887.59287	(13030221)	2991.20014	(13030221)	3589.05339	(15062821)
3814110.0	2392.58109	(12092020)	2181.01047	(13030221)	2688.91824	(13030221)	3052.15403	(13030221)	3288.50257	(15062821)
3814100.0	2728.60715	(12092020)	2530.81842	(12092020)	2348.65497	(13030221)	2894.18589	(13030221)	3292.37400	(13030221)
3814090.0	3046.05383	(14041022)	2898.32586	(14041022)	2684.81295	(12092020)	2538.37098	(13030221)	3124.91601	(13030221)
3814080.0	3151.47171	(14041022)	3232.41798	(14041022)	3094.61959	(14041022)	2857.70999	(12092020)	2754.82777	(13030221)
3814070.0	3247.74977	(16041906)	3312.36920	(14041022)	3439.05067	(14041022)	3316.54789	(14041022)	3053.59861	(12092020)
3814060.0	3286.05815	(16041906)	3456.93385	(16041906)	3484.67948	(14041022)	3669.56013	(14041022)	3569.80171	(14041022)
3814050.0	2999.54841	(16041906)	3418.42256	(16041906)	3677.04628	(16041906)	3697.29775	(16041906)	3928.45902	(14041022)
3814040.0	3838.75021	(12090601)	3422.35369	(12090601)	3539.06389	(16041906)	3906.13473	(16041906)	4014.93410	(16041906)
3814030.0	4508.77401	(12090601)	4428.65473	(12090601)	4104.25736	(12090601)	3735.78985	(16041906)	4248.53609	(16041906)
3814020.0	4614.40571	(12090601)	4984.90881	(12090601)	5113.89459	(12090601)	4870.54219	(12090601)	4325.56910	(12090601)
3814010.0	4094.45138	(12090601)	4838.17994	(12090601)	5464.96624	(12090601)	5764.10638	(12090601)	5721.71009	(12090601)
3814000.0	3753.58889	(15082622)	3913.02210	(12090601)	4793.82729	(12090601)	5577.93023	(12090601)	6177.37621	(12090601)
3813990.0	4788.88911	(16030422)	4557.05825	(16030422)	4388.40469	(15082622)	4443.90232	(12090601)	5455.90562	(12090601)
3813980.0	5542.09179	(16030422)	5675.84401	(16030422)	5652.24508	(16030422)	5441.06936	(16030422)	5113.18266	(15082622)
3813970.0	5282.56287	(14052720)	5781.09097	(16030422)	6227.51504	(16030422)	6551.44168	(16030422)	6691.63784	(16030422)
3813960.0	5551.72853	(14052720)	5885.94324	(14052720)	6158.28518	(14052720)	6337.64362	(14052720)	6825.60219	(16030422)
3813950.0	4744.99809	(14052720)	5269.72287	(14052720)	5815.59200	(14052720)	6364.25981	(14052720)	6887.74725	(14052720)
3813940.0	4599.59763	(15082522)	4659.63529	(15082522)	4692.33424	(15082522)	4911.33248	(14052720)	5599.80533	(14052720)
3813930.0	5424.82981	(15082522)	5670.43198	(15082522)	5704.44056	(15082522)	5925.70303	(15082522)	6138.88175	(15082522)
3813920.0	5165.87729	(15082522)	5196.10422	(15082522)	5172.19532	(15082522)	5470.27246	(15082522)	5790.94724	(15082522)
3813910.0	4841.13905	(15080504)	4836.90625	(15080504)	4782.95553	(15080504)	4920.03645	(15080504)	5069.33155	(15080504)
3813900.0	5855.14838	(12070821)	5850.32303	(12070821)	5784.56658	(12070821)	5844.34748	(12070821)	5937.80384	(12070821)
3813890.0	5699.48444	(12070821)	5586.96771	(12070821)	5403.65986	(12070821)	5357.65425	(12091004)	5536.10805	(12091004)
3813880.0	5880.28045	(12091004)	5717.93302	(12091004)	5524.71206	(12091004)	5466.83216	(12091004)	5501.47839	(12091004)
3813870.0	5318.42809	(12091004)	4909.44079	(15091123)	4976.62203	(15091123)	5196.51462	(15091123)	5442.90165	(15091123)
3813860.0	5408.80491	(15091123)	4960.57042	(15091123)	4700.90559	(15091123)	4718.52717	(12041001)	4955.86629	(12041001)
3813850.0	4579.48191	(12041001)	4359.15218	(12041001)	4451.86556	(12072001)	4796.75383	(12072001)	5032.13379	(12072001)
3813840.0	4322.92846	(12072001)	4363.92297	(12072001)	4373.89260	(12072001)	4464.34555	(16090620)	5010.55688	(16090620)
3813830.0	3912.29746	(12072001)	4104.07746	(16090620)	4490.65488	(16090620)	4766.47820	(16090620)	4859.18113	(14092002)
3813820.0	4189.41810	(16090620)	4339.17022	(16090620)	4363.97583	(14092002)	4677.83148	(14092002)	4882.36464	(13121804)
3813810.0	4085.88931	(14092002)	4305.82726	(14092002)	4446.17300	(16090106)	4755.74500	(13121804)	4882.66988	(13121804)
3813800.0	4171.42872	(16090106)	4419.83528	(13121804)	4590.08618	(13121804)	4438.65915	(13121804)	4302.48155	(12041506)
3813790.0	4450.87748	(13121804)	4363.63381	(13121804)	4121.55116	(12041506)	4310.83627	(16122223)	4925.37483	(16122223)
3813780.0	4327.98942	(13121804)	3990.31043	(12041506)	4379.47740	(16122223)	4745.51316	(16122223)	4795.05758	(16122223)
3813770.0	4420.44205	(16122223)	4559.39799	(16122223)	4634.82971	(16122223)	4484.31732	(16122223)	4288.86792	(16082121)

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AERMOD OUTPUT FILE

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*** MODELOPTS: RegDEFAULT CONC ELEV FLGPOL RURAL SigA Data

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: 1 ***
INCLUDING SOURCE(S): 1 ,

*** NETWORK ID: 1 ; NETWORK TYPE: GRIDCART ***

** CONC OF OTHER IN MICROGRAMS/M**3

**

Y-COORD (METERS)	236147.00	236157.00	X-COORD (METERS)	236167.00	236177.00	236187.00
3813760.0	5140.12497 (16122223)	4889.62728 (16122223)	4363.63627 (16122223)	4155.69724 (16082121)	4179.79789 (15073105)	
3813750.0	5174.99345 (16122223)	4566.40474 (16122223)	4267.04797 (16082121)	4156.95116 (15073105)	4611.35749 (14120606)	
3813740.0	4631.11708 (16122223)	4532.52677 (16082121)	4386.02107 (15073105)	4751.16759 (14120606)	4656.46868 (14120606)	
3813730.0	4451.83765 (16082121)	4597.01313 (15073105)	4975.61286 (14120606)	4911.35426 (14120606)	4819.08973 (16021524)	
3813720.0	4399.47073 (15073105)	4983.88715 (14120606)	5194.22461 (14120606)	5059.26062 (16021524)	4765.03930 (15010320)	
3813710.0	4704.57522 (14120606)	4906.89444 (14120606)	5065.81177 (16021524)	4973.07610 (15010320)	4969.29630 (15010320)	
3813700.0	4658.50420 (14120606)	4791.38848 (16021524)	4728.60547 (16021524)	4999.36599 (15010320)	4924.07173 (16022407)	
3813690.0	4543.07596 (16021524)	4530.46472 (16021524)	4717.63463 (15010320)	4849.10219 (14022307)	4751.00392 (15010507)	
3813680.0	4339.66365 (16021524)	4460.20085 (15010320)	4596.87187 (14022307)	4699.02054 (16022407)	4625.23869 (16012702)	
3813670.0	4225.21684 (15010320)	4371.47059 (14022307)	4487.83849 (16022407)	4457.17178 (16012702)	4390.57612 (12010107)	
3813660.0	4077.64607 (15010320)	4181.70014 (16022407)	4237.06254 (15010507)	4192.63001 (12010107)	4209.82051 (15010306)	

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*** AERMOD - VERSION 18081 *** *** MegaPack Thermal Runaway

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*** MODELOPTS: RegDEFAULT CONC ELEV FLGPOL RURAL SigA Data

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: 1 ***
INCLUDING SOURCE(S): 1 ,

*** NETWORK ID: 1 ; NETWORK TYPE: GRIDCART ***

**

Y-COORD (METERS)	236197.00	236207.00	X-COORD (METERS)	236217.00	236227.00	236237.00
3814160.0	2704.10666 (12102506)	2766.23927 (12102506)	2899.73747 (13082802)	2976.08532 (16031619)	3355.42519 (16031619)	
3814150.0	2968.32045 (15062821)	2871.85358 (12102506)	2895.93137 (13082802)	3037.76560 (13082802)	3354.55701 (16031619)	
3814140.0	3378.92597 (15062821)	2892.42179 (15062821)	3001.35116 (12102506)	3129.44388 (13082802)	3265.85935 (16031619)	
3814130.0	3679.37336 (15062821)	3389.71036 (15062821)	3094.29011 (12102506)	3116.98314 (13082802)	3295.75705 (13082802)	
3814120.0	3930.64807 (15062821)	3880.60519 (15062821)	3383.68639 (15062821)	3272.73244 (12102506)	3399.55655 (13082802)	
3814110.0	3959.45435 (15062821)	4216.44279 (15062821)	3958.56877 (15062821)	3343.42206 (12102506)	3388.56140 (12102506)	
3814100.0	3729.70404 (15062821)	4312.72761 (15062821)	4390.93406 (15062821)	3882.60492 (15062821)	3588.80063 (12102506)	
3814090.0	3524.08245 (13030221)	4074.63289 (15062821)	4626.27934 (15062821)	4568.77487 (15062821)	3957.33644 (15062821)	
3814080.0	3385.97003 (13030221)	3741.67112 (13030221)	4531.04611 (15062821)	5035.25335 (15062821)	4847.52123 (15062821)	
3814070.0	3004.11787 (13030221)	3683.49670 (13030221)	4117.15186 (15062821)	5184.10188 (15062821)	5603.04240 (15062821)	
3814060.0	3277.88314 (12092020)	3294.31660 (13030221)	4025.33806 (13030221)	4685.81685 (15062821)	5738.58730 (15062821)	
3814050.0	3861.89087 (14041022)	3537.83199 (12092020)	3636.30517 (13030221)	4421.55535 (13030221)	5342.80001 (15062821)	
3814040.0	4221.42120 (14041022)	4202.87732 (14041022)	3843.40280 (12092020)	4044.99897 (13030221)	4885.07851 (13030221)	
3814030.0	4482.26774 (16041906)	4668.69952 (14041022)	4720.60509 (14041022)	4321.50170 (12092020)	4622.34048 (13030221)	
3814020.0	4564.75217 (16041906)	4964.73334 (16041906)	5132.40848 (14041022)	5284.73096 (14041022)	4809.32390 (12092020)	
3814010.0	5281.87274 (12090601)	4821.71240 (16041906)	5429.81600 (16041906)	5586.92904 (14041022)	5890.16861 (14041022)	
3814000.0	6437.79582 (12090601)	6227.87971 (12090601)	5502.53598 (12090601)	5882.61550 (16041906)	6244.44411 (16041906)	
3813990.0	6391.66720 (12090601)	7055.10853 (12090601)	7224.25564 (12090601)	6732.71784 (12090601)	6384.61942 (16041906)	
3813980.0	5041.91432 (12090601)	6299.94727 (12090601)	7442.13283 (12090601)	8166.94443 (12090601)	8142.80798 (12090601)	
3813970.0	6587.24922 (16030422)	6192.03596 (16030422)	5858.61492 (12090601)	7479.59540 (12090601)	8885.97437 (12090601)	
3813960.0	7429.17194 (16030422)	7843.16349 (16030422)	7957.22577 (16030422)	7663.57917 (16030422)	7200.48395 (15082622)	
3813950.0	7345.98826 (14052720)	7685.01644 (14052720)	8134.29984 (16030422)	8986.68282 (16030422)	9814.68025 (16030422)	
3813940.0	6354.66285 (14052720)	7159.61179 (14052720)	7981.62681 (14052720)	8771.30212 (14052720)	9646.84467 (14052720)	

AERMOD OUTPUT FILE										
3813930.0	6336.22249	(15082522)	6507.10746	(15082522)	6637.19126	(15082522)	6927.77020	(13012603)	7775.28906	(14052720)
3813920.0	6135.94131	(15082522)	6507.06014	(15082522)	6906.21750	(15082522)	7515.65292	(15082522)	8734.56845	(15082522)
3813910.0	5257.65371	(12070821)	5613.92576	(15020807)	6093.49951	(15020807)	6641.59536	(15020807)	7603.61046	(15020807)
3813900.0	6090.75961	(12070821)	6428.42889	(12070821)	6796.73420	(12070821)	7200.08897	(12070821)	7698.01287	(12070821)
3813890.0	5816.87144	(12091004)	6250.49380	(12091004)	6695.64462	(12091004)	7136.91998	(12091004)	7565.75192	(12091004)
3813880.0	5532.62738	(12091004)	5816.91432	(15091123)	6351.61957	(15091123)	6845.50115	(15091123)	7235.14291	(15091123)
3813870.0	5628.59674	(15091123)	5697.87552	(15091123)	5848.37444	(12041001)	6392.43545	(12072001)	7021.42132	(12072001)
3813860.0	5332.22661	(12072001)	5690.46912	(12072001)	5943.58697	(12072001)	6276.74492	(16090620)	7100.81176	(16090620)
3813850.0	5104.18349	(12072001)	5587.30991	(16090620)	6128.99162	(16090620)	6347.32700	(14092002)	6879.46198	(16090106)
3813840.0	5392.13873	(16090620)	5517.35571	(14092002)	5956.44884	(14092002)	6479.91011	(13121804)	6723.12155	(13121804)
3813830.0	5237.72078	(14092002)	5593.01700	(13121804)	5972.40658	(13121804)	5764.90081	(13121804)	6734.79033	(16122223)
3813820.0	5304.08022	(13121804)	5326.91222	(13121804)	5327.63729	(16122223)	6384.71551	(16122223)	6664.01260	(16122223)
3813810.0	4703.37059	(12041506)	5259.68769	(16122223)	5984.04279	(16122223)	5991.24538	(16122223)	5804.56725	(16082121)
3813800.0	5107.91552	(16122223)	5568.93180	(16122223)	5393.99364	(16122223)	5323.86984	(15073105)	6303.04503	(14120606)
3813790.0	5160.71918	(16122223)	4866.74138	(16122223)	4965.98987	(15073105)	5822.12850	(14120606)	6112.63398	(16021524)
3813780.0	4552.30890	(16082121)	4648.13404	(15073105)	5405.70767	(14120606)	5644.54099	(16021524)	5679.13290	(15010320)
3813770.0	4364.40938	(15073105)	5041.58294	(14120606)	5233.09149	(16021524)	5311.95140	(16021524)	5583.81413	(14022307)

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*** MODELOPTs: RegDEFAULT CONC ELEV FLGPOL RURAL SigA Data

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: 1 ***
INCLUDING SOURCE(S): 1 ,

*** NETWORK ID: 1 ; NETWORK TYPE: GRIDCART ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

Y-COORD (METERS)	X-COORD (METERS)	236197.00	236207.00	236217.00	236227.00	236237.00
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3813760.0	4747.67564	(14120606)	4902.09547	(14120606)	5037.26445	(16021524)	5211.28377	(15010320)	5345.91576	(16022407)
3813750.0	4676.18768	(14120606)	4814.90022	(16021524)	4939.90021	(15010320)	5096.53894	(16022407)	5155.74172	(16012702)
3813740.0	4697.13740	(16021524)	4763.75483	(15010320)	4908.45024	(16022407)	4972.39788	(16012702)	4982.79809	(15010306)
3813730.0	4628.62666	(15010320)	4796.86407	(14022307)	4873.22158	(15010507)	4893.74558	(12010107)	4889.16938	(15010423)
3813720.0	4747.62117	(14022307)	4840.38513	(16022407)	4917.33120	(16012702)	5042.64916	(15010423)	5183.61966	(12010223)
3813710.0	4944.74336	(16022407)	5028.50002	(16012702)	5102.61314	(15010306)	5186.24575	(12010223)	5386.60142	(12010223)
3813700.0	4753.91140	(16012702)	4831.07647	(12010107)	4968.30026	(15010423)	5478.94785	(12010223)	5290.24679	(16012107)
3813690.0	4599.55492	(12010107)	4711.89471	(15010423)	5029.96046	(12010223)	5364.35428	(12010223)	5351.67743	(16012107)
3813680.0	4483.52348	(15010306)	4560.79473	(15010307)	5123.63076	(12010223)	5208.51016	(16012107)	5287.34601	(16012103)
3813670.0	4379.28272	(15010423)	4764.87849	(12010223)	4973.57938	(12010223)	5073.19820	(16012107)	5151.91571	(16012103)
3813660.0	4337.84842	(12010223)	4792.87330	(12010223)	4858.48000	(16012107)	4909.67101	(16012103)	4985.57829	(14120703)

• *** AERMOD - VERSION 18081 *** *** MegaPack Thermal Runaway

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*** MODELOPTs: RegDEFAULT CONC ELEV FLGPOL RURAL SigA Data

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: 1 ***
INCLUDING SOURCE(S): 1 ,

*** NETWORK ID: 1 ; NETWORK TYPE: GRIDCART ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

Y-COORD (METERS)	X-COORD (METERS)	236247.00	236257.00	236267.00	236277.00	236287.00
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3814160.0	3354.38267	(16031619)	2952.10267	(16031619)	2276.28317	(16031619)	2497.12586	(16092021)	3008.37634	(16092021)
3814150.0	3542.02677	(16031619)	3277.71590	(16031619)	2640.91239	(16031619)	2410.17572	(16092021)	3029.33162	(16092021)
3814140.0	3660.06012	(16031619)	3579.60595	(16031619)	3029.77910	(16031619)	2295.88231	(16092021)	3021.64477	(16092021)
3814130.0	3687.78995	(16031619)	3833.25527	(16031619)	3428.06343	(16031619)	2618.52291	(16031619)	2980.75391	(16092021)

AERMOD OUTPUT FILE

3814120.0	3608.10554	(16031619)	4010.27626	(16031619)	3813.45615	(16031619)	3072.30420	(16031619)	2902.57244	(16092021)
3814110.0	3603.52460	(13082802)	4081.06109	(16031619)	4155.46075	(16031619)	3556.66890	(16031619)	2784.04083	(16092021)
3814100.0	3722.46979	(13082802)	4019.18752	(16031619)	4416.02995	(16031619)	4047.77435	(16031619)	3060.08924	(16031619)
3814090.0	3959.95814	(12102506)	4191.21694	(13082802)	4737.23835	(16031619)	4694.54757	(16031619)	3795.31101	(16031619)
3814080.0	4364.34194	(12102506)	4557.91952	(13082802)	4892.75476	(16031619)	5294.82227	(16031619)	4625.33745	(16031619)
3814070.0	5090.76514	(15062821)	4926.95926	(12102506)	5223.03462	(13082802)	5821.96678	(16031619)	5503.29113	(16031619)
3814060.0	5910.42642	(15062821)	5160.15932	(12102506)	5456.07458	(13082802)	5881.89085	(16031619)	6222.37359	(16031619)
3814050.0	6315.57282	(15062821)	6123.19055	(15062821)	5708.42464	(12102506)	6053.01915	(13082802)	6716.90108	(16031619)
3814040.0	6098.52495	(15062821)	6887.38297	(15062821)	6184.18466	(15062821)	6357.14521	(13082802)	6920.35070	(16031619)
3814030.0	5485.29610	(13030221)	6959.96584	(15062821)	7405.48224	(15062821)	6767.64877	(12102506)	7223.71468	(13082802)
3814020.0	5249.32902	(13030221)	6157.36884	(15062821)	7924.66507	(15062821)	7789.84667	(15062821)	7637.92795	(13082802)
3814010.0	5350.20888	(12092020)	5927.64648	(13030221)	7341.81691	(15062821)	8968.10612	(15062821)	8258.69494	(12102506)
3814000.0	6641.44257	(14041022)	6084.70527	(14041022)	7004.79456	(13030221)	8728.75066	(15062821)	9608.62753	(15062821)
3813990.0	7124.93053	(16041906)	7617.74408	(14041022)	7048.18016	(14041022)	7791.19072	(13030221)	9713.99128	(15062821)
3813980.0	7171.93737	(12090601)	8106.55177	(16041906)	8790.14425	(14041022)	7525.98404	(14041022)	7462.21072	(13030221)
3813970.0	9619.28588	(12090601)	9138.67085	(12090601)	9319.18137	(16041906)	9021.67165	(14041022)	7287.71867	(14041022)
3813960.0	8986.61122	(12090601)	10723.56019	(12090601)	11009.39067	(12090601)	8980.04906	(16041906)	8776.51526	(14041022)
3813950.0	10120.14399	(16030422)	9546.12872	(15082622)	10574.76025	(12090601)	11883.38506	(12090601)	10925.07080	(12090601)
3813940.0	10620.81570	(16030422)	12630.56144	(16030422)	13501.31107	(16030422)	12182.90132	(16030422)	11888.49316	(12090601)
3813930.0	9421.21105	(14052720)	11706.66487	(14052720)	14310.60431	(14052720)	14527.98000	(14052720)	14106.28143	(16030422)
3813920.0	9970.86320	(15082522)	10935.01319	(15082522)	13159.01074	(15082522)	13662.60387	(15082522)	11668.22183	(12081806)
3813910.0	8674.95369	(15020807)	10187.17845	(15020807)	11810.29569	(12070821)	15949.83968	(14073002)	18880.11145	(14073002)
3813900.0	8318.24382	(12070821)	8927.44156	(12091004)	11551.65613	(12091004)	14391.72607	(12091004)	18361.41048	(12091004)
3813890.0	7899.87656	(12091004)	8696.80713	(15091123)	9905.72426	(14121801)	11824.79336	(16011806)	14108.00513	(13020208)
3813880.0	7409.09075	(15091123)	8253.47826	(12072001)	9213.63173	(12072001)	10359.71572	(16090620)	11838.15156	(16011007)
3813870.0	7322.03677	(12072001)	8421.84862	(16090620)	9076.91271	(14092002)	10290.17766	(13121804)	10837.70009	(13121804)
3813860.0	7467.12473	(14092002)	8173.35872	(16090106)	9023.92190	(13121804)	9859.32823	(16122223)	11018.30991	(16122223)
3813850.0	7596.83070	(13121804)	7511.15604	(13121804)	9074.63798	(16122223)	9207.86470	(16122223)	10699.73543	(14120606)
3813840.0	6975.48129	(16122223)	8228.49877	(16122223)	7913.04595	(16082121)	9366.23282	(14120606)	9863.04882	(16021524)
3813830.0	7413.16323	(16122223)	7083.47871	(16082121)	8346.92787	(14120606)	8841.42713	(16021524)	9266.01325	(16022407)
3813820.0	6391.20214	(16082121)	7534.02227	(14120606)	7989.23145	(16021524)	8256.55500	(14022307)	8496.36715	(12010107)
3813810.0	6865.42529	(14120606)	7267.57497	(16021524)	7451.70615	(15010320)	7765.36733	(16012702)	8390.39534	(12010223)
3813800.0	6648.70688	(16021524)	6810.63001	(15010320)	7042.36996	(15010507)	7313.65382	(15010423)	8275.68927	(12010223)
3813790.0	6217.91677	(15010320)	6534.25722	(16022407)	6647.11767	(12010107)	7428.94747	(12010223)	7831.00521	(16012107)
3813780.0	6007.59082	(16022407)	6191.35436	(16012702)	6378.89883	(15010423)	7161.14679	(12010223)	7427.92080	(16012103)
3813770.0	5722.76821	(16012702)	5874.99239	(15010306)	6630.33547	(12010223)	6862.40153	(16012107)	7092.71291	(14120703)

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*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL RURAL SigA Data

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: 1
INCLUDING SOURCE(S): 1 ,

*** NETWORK ID: 1 ; NETWORK TYPE: GRIDCART ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

Y-COORD (METERS)	236247.00	236257.00	X-COORD (METERS)	236267.00	236277.00	236287.00				
3813760.0	5454.93061	(12010107)	5851.69226	(12010223)	6300.96614	(12010223)	6561.46938	(16012103)	6686.75895	(15020602)
3813750.0	5290.46035	(15010423)	5960.49489	(12010223)	6109.13786	(16012107)	6260.35819	(14120703)	6396.39493	(15012723)
3813740.0	5405.73252	(12010223)	5668.10097	(16012107)	5868.09149	(16012103)	5983.09704	(14120703)	6090.09413	(16021123)
3813730.0	5425.90528	(12010223)	5510.46911	(16012107)	5579.26176	(14120703)	5760.02813	(15012723)	5823.56589	(14010419)
3813720.0	5245.30895	(16012107)	5334.25595	(16012103)	5466.92900	(14120703)	5546.65684	(16021123)	5593.83129	(14010419)
3813710.0	5213.32779	(16012107)	5180.95049	(16012103)	5307.30216	(15020602)	5368.71578	(16021123)	5438.34816	(13012224)
3813700.0	5229.29157	(16012103)	5222.33323	(14120703)	5237.74569	(15012723)	5229.07862	(14010419)	5268.76453	(16020903)
3813690.0	5224.06386	(16012103)	5225.54074	(15020602)	5181.30407	(16021123)	5101.02150	(14010419)	5028.13199	(16020903)
3813680.0	5398.25820	(14120703)	5368.79866	(15012723)	5095.73236	(16021123)	5000.96906	(13012224)	4909.42455	(14120424)
3813670.0	5248.04715	(14120703)	5301.69828	(15012723)	4977.44521	(14010419)	4833.99730	(16020903)	4782.07489	(14120424)
3813660.0	5070.34989	(15020602)	5158.96560	(16021123)	4842.25187	(14010419)	4680.19442	(16020903)	4603.20221	(14120424)

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*** AERMET - VERSION 16216 *** ***

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*** MODELOPTS: RegDEFAULT CONC ELEV FLGPOL RURAL SigA Data

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: 1 ***
INCLUDING SOURCE(S): 1 ,

*** NETWORK ID: 1 ; NETWORK TYPE: GRIDCART ***

** CONC OF OTHER IN MICROGRAMS/M**3

**

Y-COORD (METERS)	X-COORD (METERS)					
	236297.00	236307.00	236317.00	236327.00	236337.00	
3814160.0	3119.27185 (16092021)	3157.90763 (12080621)	3166.72795 (12080621)	2695.69772 (12080621)	2529.13814 (14013101)	
3814150.0	3257.64057 (16092021)	3230.60836 (12080621)	3319.29783 (12080621)	2867.96988 (12080621)	2616.99420 (14013101)	
3814140.0	3383.16549 (16092021)	3292.76104 (12080621)	3476.11519 (12080621)	3054.64332 (12080621)	2711.20948 (14013101)	
3814130.0	3489.87642 (16092021)	3405.74799 (16092021)	3635.84809 (12080621)	3257.01567 (12080621)	2812.49053 (14013101)	
3814120.0	3570.70783 (16092021)	3627.91368 (16092021)	3796.58116 (12080621)	3476.42377 (12080621)	2921.63826 (14013101)	
3814110.0	3617.56675 (16092021)	3846.63089 (16092021)	3955.63199 (12080621)	3714.18971 (12080621)	3039.55951 (14013101)	
3814100.0	3621.57752 (16092021)	4054.29389 (16092021)	4109.31992 (12080621)	3971.52988 (12080621)	3167.27822 (14013101)	
3814090.0	3711.89524 (16092021)	4324.34209 (16092021)	4252.68158 (12080621)	4249.40651 (12080621)	3305.94463 (14013101)	
3814080.0	3742.27585 (16092021)	4574.44280 (16092021)	4379.13408 (12080621)	4548.29032 (12080621)	3577.35098 (12080621)	
3814070.0	3980.10511 (16031619)	4787.45502 (16092021)	4676.31580 (16092021)	4867.55925 (12080621)	3910.60494 (12080621)	
3814060.0	4913.65224 (16031619)	5038.58919 (16092021)	5401.46708 (16092021)	5578.96143 (12080621)	4602.48549 (12080621)	
3814050.0	6015.14184 (16031619)	5201.78923 (16092021)	6188.28168 (16092021)	6385.87331 (12080621)	5441.81106 (12080621)	
3814040.0	7072.90786 (16031619)	5307.58072 (16092021)	7081.75606 (16092021)	7367.30515 (12080621)	6534.81670 (12080621)	
3814030.0	7915.87404 (16031619)	6617.34526 (16031619)	7501.64680 (16092021)	7953.10319 (12080621)	7409.23317 (12080621)	
3814020.0	8402.54195 (16031619)	8135.21009 (16031619)	7790.26049 (16092021)	8590.07873 (16092021)	8469.55169 (12080621)	
3814010.0	8972.83002 (13082802)	9611.73480 (16031619)	7861.60200 (16092021)	9825.70163 (16092021)	9765.23498 (12080621)	
3814000.0	9042.64653 (12102506)	10206.58320 (16031619)	8998.13413 (16031619)	10341.58168 (16092021)	10529.62614 (12080621)	
3813990.0	9804.32968 (15062821)	9872.40388 (13082802)	10704.91554 (16031619)	10219.70391 (12093020)	10925.20015 (12080621)	
3813980.0	10553.74068 (15062821)	9191.97459 (12102506)	11158.19485 (16031619)	9032.75838 (16092021)	10541.58752 (12080621)	
3813970.0	9553.38923 (15062821)	12286.44302 (15062821)	11510.41961 (16031619)	11555.19934 (16031619)	11866.26192 (12080621)	
3813960.0	8701.42574 (14041022)	12598.49708 (15062821)	13536.80211 (15062821)	15205.82989 (16031619)	13779.21866 (16092021)	
3813950.0	10566.72820 (16041906)	10693.78738 (14041022)	17074.86385 (15062821)	16917.54457 (16031619)	16290.02046 (16092021)	
3813940.0	14638.20171 (12090601)	13012.51435 (16041906)	13930.10732 (15011617)	24236.20546 (15062821)	24224.12268 (16031619)	
3813930.0	15505.44030 (16030422)	17555.17263 (12090601)	21329.04949 (12090601)	21667.03645 (15011617)	36571.54250 (16031619)	
3813920.0	15283.97414 (14052720)	19831.15969 (14052720)	25773.63421 (16030422)	38773.01540 (12090601)	58143.95087 (15011617)	
3813910.0	23061.93948 (12070821)	29319.02265 (12070821)	40555.86081 (12070821)	76144.96848 (12070821)	195165.70372 (12070821)	
3813900.0	23550.38776 (12091004)	32260.09253 (15091123)	44677.20733 (12072001)	57289.50078 (14092002)	68178.60398 (15011107)	
3813890.0	17334.10748 (16020307)	21181.88370 (16011007)	24822.16858 (13121804)	31642.71489 (14120606)	42952.30265 (16012107)	
3813880.0	13923.35004 (13121804)	16751.13997 (16122223)	20241.91056 (14120606)	22951.54791 (16012702)	30577.37059 (14010419)	
3813870.0	13440.02737 (16122223)	15344.24594 (14120606)	17044.91373 (16022407)	21159.44976 (16012107)	23570.13122 (14120424)	
3813860.0	12549.79457 (14120606)	13499.51913 (14022307)	15745.38667 (12010223)	17715.62352 (15012723)	18149.12751 (15010323)	
3813850.0	11299.43580 (15010320)	11980.51622 (15010306)	14317.39053 (16012107)	15193.51540 (14010419)	15495.47417 (15010424)	
3813840.0	10419.93852 (16012702)	12041.30699 (12010223)	12912.48555 (14120703)	13374.92575 (16020903)	13431.66734 (15010424)	
3813830.0	9654.81295 (15010423)	11080.82349 (16012107)	11626.55722 (15010273)	12121.36122 (14120424)	12115.25599 (16022523)	
3813820.0	9798.02741 (12010223)	10198.14773 (14120703)	10574.58053 (14010419)	10727.48608 (14120424)	11068.24999 (16022523)	
3813810.0	9145.65666 (16012107)	9459.90877 (15012723)	9755.71574 (13012224)	9709.24943 (15010323)	10116.09065 (16022523)	
3813800.0	8553.14505 (16012103)	8880.11080 (16021123)	8985.07949 (16020903)	8936.18427 (15010323)	9262.91254 (16022523)	
3813790.0	8112.39419 (14120703)	8264.81394 (14010419)	8531.52537 (14120424)	8437.55182 (15010424)	8502.49329 (16022523)	
3813780.0	7655.51593 (15012723)	7793.15414 (13012224)	7884.59980 (14120424)	7913.85958 (15010424)	7871.94918 (13120501)	
3813770.0	7227.02888 (16021123)	7346.11926 (16020903)	7167.54942 (15010323)	7375.65045 (15123002)	7422.32288 (15011302)	

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*** MODELOPTS: RegDEFAULT CONC ELEV FLGPOL RURAL SigA Data

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: 1 ***
INCLUDING SOURCE(S): 1 ,

*** NETWORK ID: 1 ; NETWORK TYPE: GRIDCART ***

AERMOD OUTPUT FILE

** CONC OF OTHER IN MICROGRAMS/M***3 **

Y-COORD (METERS)		X-COORD (METERS)						
		236297.00	236307.00	236317.00	236327.00	236337.00		
3813760.0	6825.99647	(14010419)	6926.43582	(14120424)	6881.75841	(15010323)	6949.52386	(15123002)
3813750.0	6498.51396	(13012224)	6659.06629	(14120424)	6518.80020	(15010323)	6621.51428	(16022523)
3813740.0	6181.94316	(16020903)	6273.33712	(14120424)	6175.91172	(15010424)	6358.97582	(16022523)
3813730.0	5895.71428	(16020903)	5819.26445	(14120424)	5959.65643	(15010424)	6089.02470	(16022523)
3813720.0	5660.77784	(14120424)	5529.33380	(15010323)	5709.56956	(15010424)	5818.28632	(16022523)
3813710.0	5495.32477	(14120424)	5360.51815	(15010323)	5439.37610	(15010424)	5551.36847	(16022523)
3813700.0	5256.06954	(14120424)	5160.26146	(15010323)	5199.97390	(15123002)	5302.48964	(16022523)
3813690.0	4999.40926	(14120424)	4946.42641	(15010323)	5017.64793	(15123002)	5083.30720	(16022523)
3813680.0	4730.32003	(15121723)	4867.19172	(15010424)	4896.21555	(15123002)	4950.94054	(13120501)
3813670.0	4633.95188	(15010323)	4749.87098	(15010424)	4730.41930	(16022523)	4774.26880	(13120501)
3813660.0	4527.11646	(15010323)	4612.07903	(15010424)	4621.15407	(16022523)	4602.80308	(13120501)

• *** AERMOD - VERSION 18081 *** *** MegaPack Thermal Runaway

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*** AERMET - VERSION 16216 *** ***

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*** MODELOPTS: RegDEFAULT CONC ELEV FLGPOL RURAL SigA Data

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: 1 ***
INCLUDING SOURCE(S): 1 ,

*** NETWORK ID: 1 ; NETWORK TYPE: GRIDCART ***

** CONC OF OTHER IN MICROGRAMS/M***3 **

Y-COORD (METERS)		X-COORD (METERS)						
		236347.00	236357.00	236367.00	236377.00	236387.00		
3814160.0	3026.83324	(13051121)	3216.96322	(13051121)	2895.44259	(13051121)	2538.62880	(12042806)
3814150.0	3149.90923	(13051121)	3339.03777	(13051121)	2969.16072	(13051121)	2546.65902	(12042806)
3814140.0	3283.46688	(13051121)	3470.23413	(13051121)	3044.64216	(13051121)	2586.37881	(12042806)
3814130.0	3428.95855	(13051121)	3611.60739	(13051121)	3131.41682	(12042806)	2621.72526	(12042806)
3814120.0	3588.11123	(13051121)	3764.36498	(13051121)	3245.45023	(12042806)	2651.39439	(12042806)
3814110.0	3762.99226	(13051121)	3929.88906	(13051121)	3363.91324	(12042806)	2673.80915	(12042806)
3814100.0	3956.09462	(13051121)	4109.76087	(13051121)	3486.35879	(12042806)	2729.88498	(12012401)
3814090.0	4170.44873	(13051121)	4305.78523	(13051121)	3612.00555	(12042806)	2972.97670	(12012401)
3814080.0	4409.77077	(13051121)	4520.01252	(13051121)	3739.59058	(12042806)	3233.91833	(12012401)
3814070.0	4678.42803	(13051121)	4754.52765	(13051121)	3867.16137	(12042806)	3510.57525	(12012401)
3814060.0	5341.08061	(13051121)	5372.01530	(13051121)	4254.79164	(12042806)	3896.26795	(12012401)
3814050.0	6125.02061	(13051121)	6084.29805	(13051121)	4665.58396	(12042806)	4308.04361	(12012401)
3814040.0	7131.77393	(13051121)	6978.01794	(13051121)	5137.33661	(12042806)	4806.71903	(16013021)
3814030.0	7858.54781	(13051121)	7646.89638	(13051121)	5436.19749	(12042806)	5503.67064	(16013021)
3814020.0	8744.39665	(13051121)	8420.70344	(13051121)	6012.00622	(13113001)	6733.47497	(13010702)
3814010.0	9840.53451	(13051121)	9366.83473	(13051121)	6772.62576	(12012401)	7746.25177	(13010702)
3814000.0	10709.89134	(13051121)	10036.28186	(13051121)	7547.04291	(13113001)	9878.59000	(15081506)
3813990.0	10668.33632	(13051121)	10299.47343	(13051121)	9421.06379	(13010702)	11935.36289	(15081506)
3813980.0	10689.63499	(13051121)	9901.15854	(12042806)	11472.91957	(13010702)	12907.66825	(15081506)
3813970.0	11747.58885	(13051121)	10742.74972	(12042806)	14110.88726	(15081506)	13207.37667	(12082204)
3813960.0	13744.89896	(13051121)	11970.28280	(13113001)	17377.25593	(15081506)	20823.70552	(12082204)
3813950.0	16622.95545	(13051121)	15628.61419	(16013021)	20451.95162	(12082204)	23660.50137	(12082204)
3813940.0	23308.19153	(13051121)	29882.00994	(15081506)	40102.54327	(12082204)	30681.80963	(12041621)
3813930.0	38528.69304	(13051121)	61276.68543	(12082204)	50839.33602	(12041621)	25016.27253	(15043021)
3813920.0	84756.21725	(16052824)	120895.97096	(12041621)	45430.34485	(15093019)	24002.68245	(16082921)
3813910.0	0.00000	(00000000)	116641.16508	(16123019)	38670.52336	(16123019)	25479.13022	(16092923)
3813900.0	83855.70111	(15121204)	53791.42538	(15120308)	34834.52392	(15012819)	23441.75765	(12081203)
3813890.0	52717.89049	(15021822)	43741.11199	(15121622)	26180.28210	(16123101)	19656.36014	(16121202)
3813880.0	35506.54246	(15021822)	30351.32831	(12042906)	20945.76837	(16012705)	17344.26643	(16123101)
3813870.0	26009.94953	(15021822)	22684.88540	(14021723)	21804.21655	(15121622)	15133.61834	(15031322)
								12943.18789 (16123101)

						AERMOD	OUTPUT	FILE			
3813860.0	20451.50390	(15021822)	17992.23407	(14021602)	18205.90329	(15121622)	12832.46252	(12092021)	11493.24911	(15031322)	
3813850.0	16934.98048	(15021822)	14342.11174	(14021602)	14936.81527	(12042906)	14374.15258	(15121622)	10804.83654	(16012705)	
3813840.0	14535.18082	(15021822)	11402.73425	(14021602)	12654.30996	(12042906)	13516.10130	(15121622)	9663.25008	(12092021)	
3813830.0	12840.96132	(15122705)	10763.73754	(14122722)	11341.77206	(14021723)	10743.22167	(15121622)	10915.78897	(15121622)	
3813820.0	11562.02039	(15122705)	10237.35614	(14122722)	10341.68993	(14021723)	10376.64332	(12042906)	10813.49100	(15121622)	
3813810.0	10545.45969	(15122705)	9705.88865	(14122722)	9191.58817	(14021602)	9389.02736	(12042906)	9403.89630	(15121622)	
3813800.0	9714.64498	(15122705)	9192.96182	(14122722)	8229.79354	(14021602)	8111.21048	(12042906)	8270.78157	(12042906)	
3813790.0	9020.42577	(15122705)	8708.87331	(14122722)	7297.76650	(14021602)	7906.09919	(14021723)	8094.22796	(12042906)	
3813780.0	8429.69817	(15122705)	8257.08831	(14122722)	6520.40063	(13051524)	7511.45994	(14021723)	7541.28858	(12042906)	
3813770.0	7919.29668	(15122705)	7837.64240	(14122722)	6117.78667	(15030821)	6989.77912	(14021723)	6779.49548	(12042906)	

*** MODELOPTS: RegDFAULT CONC ELEV FLGPOL RURAL SigA Data

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: 1
INCLUDING SOURCE(S): 1 ,

*** NETWORK ID: 1 ; NETWORK TYPE: GRIDCART ***

* *

Y-COORD (METERS)	X-COORD (METERS)						
	236347.00	236357.00	236367.00	236377.00	236387.00		
3813760.0	7472.52907 (15122705)	7448.95271 (14122722)	5765.85614 (15030821)	6445.52867 (14021602)	6244.35211 (14021723)		
3813750.0	7077.04769 (15122705)	7088.80937 (14122722)	5466.32556 (15052403)	5983.75917 (14021602)	6161.83136 (14021723)		
3813740.0	6723.58804 (15122705)	6754.84667 (14122722)	5336.36744 (14122722)	5510.05535 (14021602)	5957.41452 (14021723)		
3813730.0	6405.05987 (15122705)	6444.61692 (14122722)	5279.58822 (14122722)	5044.04442 (14021602)	5668.45330 (14021723)		
3813720.0	6115.96128 (15122705)	6157.44156 (15021822)	5204.41363 (14122722)	4714.92721 (13051524)	5326.50158 (14021723)		
3813710.0	5851.96362 (15122705)	5916.11692 (15021822)	5115.59030 (14122722)	4497.10926 (13051524)	5045.47819 (14021602)		
3813700.0	5613.57077 (15122705)	5691.74968 (15021822)	5017.70099 (14122722)	4311.03582 (15030821)	4762.55696 (14021602)		
3813690.0	5405.64329 (15122705)	5485.58626 (15021822)	4914.00694 (14122722)	4136.17312 (15030821)	4466.48997 (14021602)		
3813680.0	5242.88100 (15122705)	5301.41510 (15021822)	4807.57482 (14122722)	3966.40519 (15052403)	4167.29265 (14021602)		
3813670.0	5083.16686 (15122705)	5129.20438 (15021822)	4707.53078 (14122722)	3839.42928 (15052403)	3872.91030 (14021602)		
3813660.0	4914.68069 (15122705)	4995.82533 (15021822)	4619.08373 (14122722)	3727.30657 (15052403)	3703.46845 (13051524)		

*** MODELOPTs: RegDFAULT CONC ELEV FLGPOL RURAL SigA Data

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: 1 **
INCLUDING SOURCE(S): 1 ,

*** NETWORK ID: 1 ; NETWORK TYPE: GRIDCART ***

* *

Y-COORD (METERS)			X-COORD (METERS)							
	236397.00	236407.00	236417.00	236427.00	236437.00					
3814160.0	2319.40781	(13113001)	2180.16748	(13113001)	2488.76760	(13010702)	2865.46202	(13010702)	3115.00206	(15081506)
3814150.0	2347.26814	(13113001)	2289.76043	(16013021)	2672.53795	(13010702)	2949.59816	(13010702)	3193.39910	(15081506)
3814140.0	2379.18518	(12012401)	2406.53543	(16013021)	2822.27763	(13010702)	3090.91791	(15081506)	3197.98079	(15081506)
3814130.0	2448.02796	(12012401)	2492.37330	(16013021)	2874.39226	(13010702)	3139.79814	(15081506)	3070.62153	(15081506)
3814120.0	2582.16039	(16013021)	2729.23714	(13010702)	3060.67397	(15081506)	3311.44288	(15081506)	3041.18926	(15081506)
3814110.0	2785.70949	(16013021)	3022.66516	(13010702)	3361.61666	(15081506)	3415.81430	(15081506)	2945.71141	(12031907)
3814100.0	2980.50251	(16013021)	3303.76789	(13010702)	3623.26829	(15081506)	3431.35309	(15081506)	3008.61571	(12031907)
3814090.0	3155.53296	(16013021)	3567.96037	(15081506)	3884.13033	(15081506)	3457.35385	(15081506)	3121.34437	(12031907)
3814080.0	3500.48688	(13010702)	3952.46252	(15081506)	4050.72088	(15081506)	3585.64971	(12031907)	3744.95454	(12082204)
3814070.0	3890.72795	(13010702)	4274.98449	(15081506)	4155.96218	(15081506)	3732.82416	(12031907)	4938.41728	(12082204)
3814060.0	4726.34725	(15081506)	5028.70117	(15081506)	4337.20915	(12031907)	4689.77746	(12082204)	6062.32193	(12082204)

AERMOD OUTPUT FILE											
3814050.0	5815.65198	(15081506)	5561.90251	(15081506)	4607.73232	(12031907)	6166.63401	(12082204)	6896.00171	(12082204)	
3814040.0	6583.80332	(15081506)	5475.46862	(15081506)	6045.40070	(12082204)	7479.75537	(12082204)	7171.61668	(12082204)	
3814030.0	6928.45941	(15081506)	5475.74024	(12031907)	7758.84925	(12082204)	8160.06910	(12082204)	6588.63428	(12082204)	
3814020.0	6869.77275	(15081506)	7556.25135	(12082204)	9015.77220	(12082204)	7842.22034	(12082204)	7262.97994	(12041621)	
3814010.0	6848.03831	(12082204)	9611.54708	(12082204)	9249.02484	(12082204)	7698.12965	(12041621)	8286.64295	(12041621)	
3814000.0	9778.04731	(12082204)	10776.44061	(12082204)	8113.18534	(12041621)	9090.54613	(12041621)	7897.48321	(12041621)	
3813990.0	12249.08131	(12082204)	9967.31017	(12082204)	10015.57876	(12041621)	8745.08172	(12041621)	8331.45518	(15043021)	
3813980.0	12705.74733	(12082204)	11084.67943	(12041621)	9757.47279	(12041621)	9143.02336	(15043021)	7298.15538	(15043021)	
3813970.0	12952.81559	(12041621)	10995.74177	(12041621)	10418.97613	(15043021)	7928.59743	(15043021)	5680.07586	(14051722)	
3813960.0	13087.15194	(12041621)	11524.47496	(15043021)	8003.10300	(15043021)	6759.18780	(14051722)	7081.45702	(14052001)	
3813950.0	14134.66834	(15043021)	8037.23626	(16120618)	8429.59814	(14052001)	7816.24196	(14052001)	7570.56958	(15070123)	
3813940.0	11972.80902	(14052001)	9944.84539	(14052001)	9305.70908	(15070123)	8043.87717	(16082921)	7742.45707	(16082921)	
3813930.0	13379.19469	(15070123)	11157.46382	(16082921)	9466.63060	(16082921)	8197.76930	(16061822)	7459.90586	(16061822)	
3813920.0	12913.26567	(16061822)	10823.09180	(15042722)	9673.27891	(15042722)	8664.78392	(15042722)	7783.02760	(15042722)	
3813910.0	14080.34665	(16052923)	11302.31907	(16052923)	9747.21624	(16071920)	8606.74322	(16071920)	7728.23652	(16071920)	
3813900.0	14308.97441	(14020408)	12250.59221	(14020408)	10477.56701	(14020408)	9103.21519	(15022221)	8097.34861	(15022221)	
3813890.0	12673.24251	(12081203)	12003.15088	(12081203)	10280.67910	(12081203)	8368.68909	(12081203)	7056.73048	(14020408)	
3813880.0	12116.51971	(15081501)	11441.65288	(14072623)	9643.45958	(14072623)	8749.40233	(12081203)	8442.55479	(12081203)	
3813870.0	10686.53605	(16013002)	10034.51042	(16082221)	8802.02995	(15081501)	8909.53321	(14072623)	7914.92895	(14072623)	
3813860.0	10461.80432	(16033002)	8873.22507	(16013002)	8455.20221	(16082221)	7996.95659	(15081501)	7244.19712	(14072623)	
3813850.0	9822.91186	(16123101)	8957.20275	(16033002)	7661.01364	(15070804)	7044.48578	(16082221)	7077.95763	(16082221)	
3813840.0	9296.93193	(15031322)	8681.39888	(16123101)	7872.01693	(16033002)	6911.39163	(15070804)	5866.42542	(16082221)	
3813830.0	8235.13916	(16012705)	8125.38035	(15031322)	7770.02857	(16123101)	7043.15782	(16033002)	6287.14078	(15070804)	
3813820.0	7905.69042	(16022421)	7600.12466	(16012705)	7058.48518	(15031322)	7026.79101	(16123101)	6382.66769	(16033002)	
3813810.0	8887.18075	(15121622)	6976.22637	(12092021)	6825.81611	(15031322)	6239.80767	(15011501)	6408.50508	(16123101)	
3813800.0	9041.50933	(15121622)	6786.65728	(16022421)	6331.00456	(16012705)	6284.84154	(15031322)	5798.61984	(15011501)	
3813790.0	8288.67919	(15121622)	7531.13209	(15121622)	6053.17301	(12092021)	5968.10332	(16012705)	5717.56127	(15031322)	
3813780.0	7043.84558	(15121622)	7778.28900	(15121622)	5962.76562	(16022421)	5407.77401	(12092021)	5495.87477	(16012705)	
3813770.0	6792.71253	(12042906)	7374.04567	(15121622)	6547.26752	(15121622)	5309.54314	(12092021)	5183.94707	(16012705)	

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*** MODELOPTs: RegDEFAULT CONC ELEV FLGPOL RURAL SigA Data

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: 1 ***
INCLUDING SOURCE(S): 1 ,

*** NETWORK ID: 1 ; NETWORK TYPE: GRIDCART ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

Y-COORD (METERS)	X-COORD (METERS)									
	236397.00	236407.00	236417.00	236427.00	236437.00					
3813760.0	6668.98368	(12042906)	6545.79516	(15121622)	6823.27246	(15121622)	5322.40553	(16022421)	4879.00356	(12092021)
3813750.0	6312.05322	(12042906)	5654.32106	(12042906)	6616.48506	(15121622)	5791.82933	(15121622)	4700.70058	(12092021)
3813740.0	5808.76247	(12042906)	5764.59892	(12042906)	6057.99363	(15121622)	6070.08708	(15121622)	4805.62815	(16022421)
3813730.0	5227.86356	(12042906)	5670.64113	(12042906)	5297.58021	(15121622)	5980.63981	(15121622)	5188.70446	(15121622)
3813720.0	5111.48830	(14021723)	5420.88242	(12042906)	4932.80503	(12042906)	5601.60197	(15121622)	5457.00183	(15121622)
3813710.0	5064.05617	(14021723)	5063.65764	(12042906)	4996.76168	(12042906)	5032.88827	(15121622)	5439.46271	(15121622)
3813700.0	4940.57392	(14021723)	4642.20113	(12042906)	4922.58190	(12042906)	4370.03126	(15121622)	5183.54357	(15121622)
3813690.0	4759.75758	(14021723)	4290.96177	(14021723)	4738.56725	(12042906)	4360.45297	(12042906)	4756.70519	(15121622)
3813680.0	4538.30709	(14021723)	4321.93157	(14021723)	4474.34784	(12042906)	4399.86938	(12042906)	4228.86067	(15121622)
3813670.0	4343.60935	(14021602)	4291.56887	(14021723)	4157.46403	(12042906)	4340.42556	(12042906)	3789.10070	(12042906)
3813660.0	4165.03799	(14021602)	4210.42500	(14021723)	3811.49909	(12042906)	4200.23389	(12042906)	3897.83914	(12042906)

• *** AERMOD - VERSION 18081 *** *** MegaPack Thermal Runaway

*** 09/26/19

*** AERMET - VERSION 16216 *** ***

*** 10:03:22

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*** MODELOPTs: RegDEFAULT CONC ELEV FLGPOL RURAL SigA Data

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: 1 ***
INCLUDING SOURCE(S): 1 ,

AERMOD OUTPUT FILE
*** NETWORK ID: 1 ; NETWORK TYPE: GRIDCART ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

Y-COORD (METERS)		X-COORD (METERS)				
	236447.00	236457.00	236467.00	236477.00	236487.00	
3814160.0	3112.91204 (15081506)	2744.33943 (15081506)	2548.45591 (12031907)	2339.21526 (12082204)	3164.88588 (12082204)	
3814150.0	3030.64809 (15081506)	2661.96796 (12031907)	2443.37841 (12031907)	2834.53367 (12082204)	3620.50741 (12082204)	
3814140.0	2869.13575 (15081506)	2602.01781 (12031907)	2383.61587 (12082204)	3286.69523 (12082204)	3960.27305 (12082204)	
3814130.0	2680.05775 (12031907)	2439.27528 (12031907)	2875.80520 (12082204)	3646.59705 (12082204)	4083.40514 (12082204)	
3814120.0	2717.38026 (12031907)	2603.67643 (12082204)	3419.44318 (12082204)	4022.32236 (12082204)	4090.14951 (12082204)	
3814110.0	2684.38206 (12031907)	3253.89248 (12082204)	3945.23832 (12082204)	4177.87189 (12082204)	3907.37268 (12082204)	
3814100.0	2992.48126 (12082204)	3906.79591 (12082204)	4335.29931 (12082204)	4143.44253 (12082204)	3460.83088 (12082204)	
3814090.0	3897.07914 (12082204)	4632.38896 (12082204)	4660.50861 (12082204)	4122.95619 (12082204)	3419.42790 (12041621)	
3814080.0	4835.19628 (12082204)	5176.95500 (12082204)	4729.39872 (12082204)	3822.76307 (12082204)	4451.55837 (12041621)	
3814070.0	5705.26219 (12082204)	5441.08653 (12082204)	4378.46036 (12082204)	4704.41808 (12041621)	5248.31497 (12041621)	
3814060.0	6234.63993 (12082204)	5278.89181 (12082204)	4894.62366 (12041621)	5585.90898 (12041621)	5515.91886 (12041621)	
3814050.0	6241.84327 (12082204)	5185.75459 (12041621)	5951.75464 (12041621)	5943.92196 (12041621)	4887.78435 (12041621)	
3814040.0	5539.42094 (12082204)	6402.60336 (12041621)	6425.10416 (12041621)	5257.20080 (12041621)	4882.14778 (15043021)	
3814030.0	6841.47505 (12041621)	6978.85470 (12041621)	5797.61837 (12041621)	5345.00395 (15043021)	4911.78794 (15043021)	
3814020.0	7591.23342 (12041621)	5996.64593 (12041621)	5665.33587 (15043021)	5219.63991 (15043021)	4426.82448 (15043021)	
3814010.0	6672.12717 (12041621)	6131.35676 (15043021)	5466.82626 (15043021)	4549.01440 (15043021)	3700.94626 (15063024)	
3814000.0	7230.91456 (15043021)	6073.66505 (15043021)	4720.57616 (15043021)	3922.76598 (15063024)	3883.08359 (14051722)	
3813990.0	6833.35966 (15043021)	4902.51584 (15043021)	4219.78675 (14051722)	4319.96364 (14051722)	4482.06891 (14052001)	
3813980.0	5067.88343 (15063024)	4879.46847 (14051722)	5013.40464 (14052001)	5023.61062 (14052001)	4658.58769 (14052001)	
3813970.0	5712.13737 (14052001)	5800.18249 (14052001)	5346.97436 (14052001)	5171.96015 (15093019)	5035.03227 (15070123)	
3813960.0	6330.60017 (14052001)	6061.36471 (15093019)	5781.08574 (15070123)	5207.98794 (15070123)	5024.74257 (16082921)	
3813950.0	6773.82816 (15070123)	6164.29094 (16082921)	5976.89287 (16082921)	5563.57736 (16082921)	5028.47770 (16082921)	
3813940.0	6964.39187 (16082921)	6059.59141 (16082921)	5719.86091 (16061822)	5411.65515 (16061822)	5043.84816 (16061822)	
3813930.0	6668.89729 (16061822)	5901.48133 (16061822)	5663.18965 (15042722)	5455.28990 (15042722)	5220.83162 (15042722)	
3813920.0	7018.38759 (15042722)	6355.70278 (15042722)	5779.74448 (15042722)	5449.48511 (16071920)	5171.22312 (16071920)	
3813910.0	7027.23110 (16071920)	6452.31902 (16071920)	5970.24018 (16071920)	5558.59034 (16071920)	5201.69547 (16071920)	
3813900.0	7240.63030 (15022221)	6514.90560 (15022221)	5901.11833 (12122408)	5421.88220 (12122408)	4998.96161 (12122408)	
3813890.0	6769.48679 (14020408)	6373.39835 (14020408)	5931.50207 (14020408)	5481.26760 (14020408)	5043.87346 (14020408)	
3813880.0	7666.82172 (12081203)	6693.59107 (12081203)	5696.46858 (12081203)	5015.80592 (16050521)	4488.58376 (16050521)	
3813870.0	6586.12655 (12081203)	6783.70822 (12081203)	6593.10175 (12081203)	6143.63127 (12081203)	5552.66869 (12081203)	
3813860.0	7355.74677 (14072623)	6726.89925 (14072623)	5708.62124 (14072623)	5460.30792 (12081203)	5544.41829 (12081203)	
3813850.0	6598.80251 (15081501)	6212.15680 (14072623)	6275.79942 (14072623)	5842.13224 (14072623)	5112.43983 (14072623)	
3813840.0	6323.76690 (16082221)	6040.53267 (15081501)	5541.60304 (15081501)	5430.07463 (14072623)	5466.19397 (14072623)	
3813830.0	5142.47239 (16013002)	5563.96523 (16082221)	5516.21673 (16082221)	5259.08128 (15081501)	4720.10247 (15081501)	
3813820.0	5757.59520 (15070804)	4774.95503 (15070804)	4857.28457 (16082221)	5058.57826 (16082221)	4840.26686 (15081501)	
3813810.0	5839.20219 (16033002)	5301.50226 (15070804)	4535.33162 (15070804)	4225.68138 (16082221)	4575.58340 (16082221)	
3813800.0	5884.95958 (16123101)	5380.99933 (16033002)	4903.90343 (15070804)	4300.66569 (15070804)	3673.09907 (16082221)	
3813790.0	5385.78080 (15011501)	5434.80070 (16123101)	4987.43117 (16033002)	4553.97630 (15070804)	4075.37501 (15070804)	
3813780.0	5165.94285 (15031322)	5030.99801 (16123101)	5042.71593 (16123101)	4644.50581 (16033002)	4243.65181 (15070804)	
3813770.0	5090.91968 (15031322)	4650.47055 (15031322)	4765.13712 (16123101)	4697.52597 (16123101)	4342.35302 (16033002)	

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*** 10:03:22

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*** MODELOPTs: RegDFault Conc Elev FlgPol Rural SigA Data

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: 1 ***
INCLUDING SOURCE(S): 1 ,

Y-COORD (METERS)		X-COORD (METERS)				
	236447.00	236457.00	236467.00	236477.00	236487.00	

AERMOD OUTPUT FILE

3813760.0	4939.40176	(16012705)	4749.56611	(15031322)	4402.39779	(15011501)	4514.15333	(16123101)	4390.90347	(16123101)
3813750.0	4492.06270	(16012705)	4621.24893	(16012705)	4395.26695	(15031322)	4194.34447	(15011501)	4278.50637	(16123101)
3813740.0	4410.35583	(12092021)	4392.18695	(16012705)	4268.03887	(16012705)	4045.62764	(15031322)	3986.99178	(15011501)
3813730.0	4195.68009	(12092021)	4029.47278	(12092021)	4211.36234	(16012705)	4021.11342	(15031322)	3711.26232	(15031322)
3813720.0	4376.67812	(16022421)	4000.06401	(12092021)	3888.17751	(16012705)	3979.49077	(16012705)	3782.11096	(15031322)
3813710.0	4692.61133	(15121622)	3799.33115	(16022421)	3727.27114	(12092021)	3802.58913	(16012705)	3719.01332	(16012705)
3813700.0	4946.67175	(15121622)	4015.50408	(16022421)	3653.76801	(12092021)	3438.47044	(16012705)	3661.61330	(16012705)
3813690.0	4974.20537	(15121622)	4276.27157	(15121622)	3529.27919	(16022421)	3444.14172	(12092021)	3417.44440	(16012705)
3813680.0	4804.53675	(15121622)	4514.74480	(15121622)	3705.25719	(16022421)	3343.97827	(12092021)	3200.37687	(12092021)
3813670.0	4483.85407	(15121622)	4570.83049	(15121622)	3921.49242	(15121622)	3290.78481	(16022421)	3195.25730	(12092021)
3813660.0	4063.49184	(15121622)	4462.68415	(15121622)	4144.50935	(15121622)	3436.58557	(16022421)	3073.24061	(12092021)

• *** AERMOD - VERSION 18081 *** *** MegaPack Thermal Runaway

*** AERMET - VERSION 16216 *** ***

*** 09/26/19

*** 10:03:22

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*** MODELOPTs: RegDFault CONC ELEV FLGPOL RURAL SigA Data

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: 1 ***
INCLUDING SOURCE(S): 1 ,

*** NETWORK ID: 1 ; NETWORK TYPE: GRIDCART ***

** CONC OF OTHER IN MICROGRAMS/M**3

**

Y-COORD (METERS)	236497.00	236507.00	X-COORD (METERS)	236517.00	236527.00	236537.00				
3814160.0	3776.07310	(12082204)	3998.55855	(12082204)	3711.87637	(12082204)	3086.99957	(12082204)	2274.69454	(12082204)
3814150.0	4093.04206	(12082204)	4085.10274	(12082204)	3665.20740	(12082204)	2869.33770	(12082204)	2519.69526	(12041621)
3814140.0	4177.10274	(12082204)	3953.94220	(12082204)	3336.09068	(12082204)	3003.93836	(12071224)	3021.31996	(12041621)
3814130.0	4030.60128	(12082204)	3584.78992	(12082204)	3148.58064	(12071224)	3515.50691	(12041621)	3450.32460	(12041621)
3814120.0	3710.76852	(12082204)	3158.87024	(12071224)	3550.44037	(12041621)	3970.93860	(12041621)	3777.85217	(12041621)
3814110.0	3231.90308	(12082204)	3474.55246	(12041621)	4057.23471	(12041621)	4228.65276	(12041621)	3832.15391	(12041621)
3814100.0	3188.08270	(12041621)	3992.74366	(12041621)	4349.62267	(12041621)	4203.91495	(12041621)	3655.61603	(12041621)
3814090.0	4099.97147	(12041621)	4537.55601	(12041621)	4442.82884	(12041621)	3891.81322	(12041621)	3875.35324	(15043021)
3814080.0	4843.16216	(12041621)	4733.29476	(12041621)	4147.91655	(12041621)	4146.22791	(15043021)	4225.39194	(15043021)
3814070.0	5125.01351	(12041621)	4446.68818	(12041621)	4446.40362	(15043021)	4353.80487	(15043021)	4198.95963	(15043021)
3814060.0	4636.30401	(12041621)	4467.21648	(15043021)	4405.11803	(15043021)	4017.26443	(15043021)	3556.55062	(15043021)
3814050.0	4549.97044	(15043021)	4468.64370	(15043021)	4000.19467	(15043021)	3405.24960	(15043021)	2827.36759	(15063024)
3814040.0	4534.00719	(15043021)	4073.88024	(15043021)	3386.55587	(15043021)	2947.55893	(15063024)	2747.53104	(15063024)
3814030.0	4242.95972	(15043021)	3433.10823	(15043021)	3104.89688	(15063024)	2901.79157	(12081202)	3010.79281	(14051722)
3814020.0	3462.34946	(15063024)	3238.46412	(15063024)	3226.18942	(14051722)	3256.14046	(14051722)	3306.75380	(14052001)
3814010.0	3435.22012	(12081202)	3558.87110	(14051722)	3571.83145	(14052001)	3684.10168	(14052001)	3597.30192	(14052001)
3814000.0	3860.98249	(14052001)	4049.10382	(14052001)	3981.40087	(14052001)	3711.49000	(14052001)	3583.83119	(15093019)
3813990.0	4443.54475	(14052001)	4133.03500	(14052001)	4005.06127	(15093019)	3955.40633	(15070123)	3841.42807	(15070123)
3813980.0	4518.18060	(15093019)	4441.77995	(15070123)	4242.94005	(15070123)	3906.57903	(15070123)	3661.34308	(16082921)
3813970.0	4696.43872	(15070123)	4212.17816	(16082921)	4255.92744	(16082921)	4170.56649	(16082921)	3984.28657	(16082921)
3813960.0	4908.54242	(16082921)	4646.98296	(16082921)	4292.98144	(16082921)	3891.48367	(16082921)	3735.06082	(12052123)
3813950.0	4602.35848	(12052123)	4436.76954	(16061822)	4266.63466	(16061822)	4054.79895	(16061822)	3815.79306	(16061822)
3813940.0	4650.46945	(16061822)	4255.09593	(16061822)	3948.00934	(15042722)	3895.36105	(15042722)	3818.27001	(15042722)
3813930.0	4973.65189	(15042722)	4723.00311	(15042722)	4475.26360	(15042722)	4234.40935	(15042722)	4002.90602	(15042722)
3813920.0	4915.76904	(16071920)	4680.05677	(16071920)	4466.76405	(14093020)	4269.01752	(14093020)	4084.79855	(14093020)
3813910.0	4888.33590	(16071920)	4609.79065	(16071920)	4360.43224	(16071920)	4135.36699	(16071920)	3930.91843	(16071920)
3813900.0	4624.29643	(12122408)	4197.17834	(12122408)	3848.60695	(12122408)	3623.17776	(14121705)	3477.70891	(14121705)
3813890.0	4630.49024	(14020408)	4231.15707	(15022221)	3945.41478	(15022221)	3679.85398	(15022221)	3471.30739	(15022221)
3813880.0	4326.39872	(14020408)	4119.55033	(14020408)	3908.47671	(14020408)	3686.06340	(14020408)	3485.08685	(14020408)
3813870.0	4908.29832	(12081203)	4269.38010	(12081203)	3915.89714	(16050521)	3578.00161	(16050521)	3245.74104	(16050521)
3813860.0	5406.40369	(12081203)	5109.45867	(12081203)	4713.14158	(12081203)	4266.59495	(12081203)	3806.55216	(12081203)
3813850.0	4431.02016	(12081203)	4634.61513	(12081203)	4668.66485	(12081203)	4562.59009	(12081203)	4350.98906	(12081203)
3813840.0	5149.98154	(14072623)	4605.62703	(14072623)	3953.77788	(14072623)	3877.70854	(12081203)	4000.26885	(12081203)
3813830.0	4810.47006	(14072623)	4830.62595	(14072623)	4590.82223	(14072623)	4172.21759	(14072623)	3656.45249	(14072623)
3813820.0	4592.17549	(15081501)	4112.64212	(12122508)	4305.32563	(14072623)	4316.17018	(14072623)	4128.18311	(14072623)
3813810.0	4506.74094	(16082221)	4337.00983	(15081501)	4028.62412	(15081501)	3735.61585	(12122508)	3884.31231	(14072623)
3813800.0	4102.99359	(16082221)	4194.23718	(16082221)	4009.98412	(15081501)	3880.29698	(15081501)	3552.24059	(15081501)

AERMOD OUTPUT FILE
 3813790.0 | 3299.25680 (15070804) 3659.70886 (16082221) 3858.27185 (16082221) 3787.42715 (16082221) 3658.84350 (15081501)
 3813780.0 | 3861.73574 (15070804) 3203.73401 (15070804) 3254.29591 (16082221) 3520.53220 (16082221) 3559.05825 (16082221)
 3813770.0 | 3975.04203 (16033002) 3660.10349 (15070804) 3100.60749 (15070804) 2889.58321 (16082221) 3194.67528 (16082221)
 • *** AERMOD - VERSION 18081 *** *** MegaPack Thermal Runaway ***
 *** AERMET - VERSION 16216 *** ***
 *** MODELOPTs: RegDEFAULT CONC ELEV FLGPOL RURAL SigA Data
 *** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: 1 ***
 INCLUDING SOURCE(S): 1 ,
 *** NETWORK ID: 1 ; NETWORK TYPE: GRIDCART ***
 ** CONC OF OTHER IN MICROGRAMS/M**3 **

Y-COORD (METERS)	236497.00	236507.00	X-COORD (METERS)	236517.00	236527.00	236537.00
3813760.0	4073.76113 (16033002)	3753.05416 (16033002)	3471.31963 (15070804)	2994.04254 (15070804)	2607.16201 (16070923)	
3813750.0	4116.51496 (16123101)	3832.69249 (16033002)	3550.96394 (16033002)	3294.95830 (15070804)	2886.66338 (15070804)	
3813740.0	4057.97982 (16123101)	3869.35072 (16123101)	3615.55816 (16033002)	3366.23759 (16033002)	3130.58955 (15070804)	
3813730.0	3784.38898 (15011501)	3851.86415 (16123101)	3645.60520 (16123101)	3418.83724 (16033002)	3196.90520 (16033002)	
3813720.0	3503.80942 (15011501)	3588.87316 (15011501)	3659.52468 (16123101)	3442.11060 (16123101)	3239.88889 (16033002)	
3813710.0	3535.68040 (15031322)	3384.24719 (15011501)	3402.06593 (15011501)	3480.07021 (16123101)	3256.30051 (16123101)	
3813700.0	3457.52665 (15031322)	3292.13851 (15031322)	3259.71310 (15011501)	3271.01500 (16123101)	3312.65634 (16123101)	
3813690.0	3485.24852 (16012705)	3290.72198 (15031322)	3056.99392 (15031322)	3133.20479 (15011501)	3146.96887 (16123101)	
3813680.0	3348.56799 (16012705)	3286.03838 (16012705)	3114.91453 (15031322)	2872.42528 (15011501)	3006.98996 (15011501)	
3813670.0	3072.29264 (16012705)	3232.55428 (16012705)	3074.36632 (16012705)	2938.80060 (15031322)	2799.22126 (15011501)	
3813660.0	3001.39608 (12092021)	3045.10064 (16012705)	3093.54922 (16012705)	2908.71597 (15031322)	2769.70250 (15031322)	

• *** AERMOD - VERSION 18081 *** *** MegaPack Thermal Runaway ***
 *** AERMET - VERSION 16216 *** ***
 *** MODELOPTs: RegDEFAULT CONC ELEV FLGPOL RURAL SigA Data
 *** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: 1 ***
 INCLUDING SOURCE(S): 1 ,
 *** NETWORK ID: 1 ; NETWORK TYPE: GRIDCART ***
 ** CONC OF OTHER IN MICROGRAMS/M**3 **

Y-COORD (METERS)	236547.00	236557.00	X-COORD (METERS)	236567.00	236577.00	236587.00
3814160.0	2287.80343 (12041621)	2459.93527 (12041621)	2571.41752 (12041621)	2521.90757 (12041621)	2332.38984 (12041621)	
3814150.0	2659.62405 (12041621)	2675.85579 (12041621)	2639.57370 (12041621)	2445.90856 (12041621)	2140.87294 (12041621)	
3814140.0	2948.33048 (12041621)	2766.41156 (12041621)	2569.25039 (12041621)	2245.53760 (12041621)	2247.35600 (15043021)	
3814130.0	3099.06305 (12041621)	2703.70930 (12041621)	2359.52620 (12041621)	2370.81710 (15043021)	2545.80083 (15043021)	
3814120.0	3177.07712 (12041621)	2580.07352 (12041621)	2605.25321 (15043021)	2790.73393 (15043021)	2823.66350 (15043021)	
3814110.0	3072.99976 (12041621)	2923.25566 (15043021)	3120.44701 (15043021)	3135.20973 (15043021)	2982.22136 (15043021)	
3814100.0	3538.00746 (15043021)	3604.15717 (15043021)	3587.41917 (15043021)	3370.09588 (15043021)	3006.52952 (15043021)	
3814090.0	3978.98359 (15043021)	3815.31999 (15043021)	3491.22105 (15043021)	3027.64640 (15043021)	2514.39548 (15063024)	
3814080.0	4061.92879 (15043021)	3661.61178 (15043021)	3076.57527 (15043021)	2602.09016 (15063024)	2426.38485 (15063024)	
3814070.0	3779.52682 (15043021)	3203.52637 (15043021)	2723.98024 (15063024)	2493.03216 (15063024)	2298.80850 (12081202)	
3814060.0	2955.54000 (15043021)	2756.09996 (15063024)	2513.96744 (15063024)	2453.15125 (14051722)	2495.80583 (14051722)	
3814050.0	2709.63408 (15063024)	2545.51675 (12081202)	2627.95356 (14051722)	2628.38159 (14051722)	2613.33686 (14052001)	
3814040.0	2748.40587 (14051722)	2804.29707 (14051722)	2747.13412 (14052001)	2865.62053 (14052001)	2869.05513 (14052001)	
3814030.0	2977.76621 (14051722)	3067.69532 (14052001)	3096.22962 (14052001)	3003.77724 (14052001)	2815.99761 (14052001)	
3814020.0	3366.88391 (14052001)	3274.84078 (14052001)	3063.88616 (14052001)	2939.46830 (15093019)	2921.16277 (15093019)	
3814010.0	3358.46720 (14052001)	3232.97504 (15093019)	3198.71777 (15070123)	3180.58967 (15070123)	3076.49728 (15070123)	
3814000.0	3544.77042 (15070123)	3489.04932 (15070123)	3331.97046 (15070123)	3101.63449 (15070123)	2825.83645 (15070123)	
3813990.0	3609.49823 (15070123)	3299.61843 (15070123)	3225.63408 (16082921)	3234.15133 (16082921)	3179.30068 (16082921)	

AERMOD OUTPUT FILE										
3813980.0	3681.57297	(16082921)	3613.58273	(16082921)	3476.06351	(16082921)	3287.79018	(16082921)	3066.23305	(16082921)
3813970.0	3731.47969	(16082921)	3438.36723	(16082921)	3204.48595	(12052123)	3125.91653	(12052123)	3034.28546	(16061822)
3813960.0	3615.64702	(16061822)	3506.06670	(16061822)	3368.09592	(16061822)	3210.60688	(16061822)	3041.11062	(16061822)
3813950.0	3565.90103	(16061822)	3313.78254	(16061822)	3066.27960	(16061822)	2956.62681	(15042722)	2932.74717	(15042722)
3813940.0	3723.51184	(15042722)	3616.07218	(15042722)	3500.11756	(15042722)	3378.87405	(15042722)	3254.90679	(15042722)
3813930.0	3782.19895	(15042722)	3572.95040	(15042722)	3375.34660	(15042722)	3189.32815	(15042722)	3014.57881	(15042722)
3813920.0	3912.84119	(14093020)	3752.04947	(14093020)	3601.33794	(14093020)	3459.98766	(14093020)	3327.18910	(14093020)
3813910.0	3744.14884	(16071920)	3572.71949	(16071920)	3414.59300	(16071920)	3268.35401	(16071920)	3132.63823	(16071920)
3813900.0	3342.45126	(14121705)	3216.31997	(14121705)	3098.37780	(14121705)	2987.81667	(14121705)	2883.93469	(14121705)
3813890.0	3275.31646	(15022221)	3091.82498	(15022221)	2888.68586	(12122408)	2747.33753	(14050301)	2642.40504	(14050301)
3813880.0	3343.40986	(12020121)	3222.48127	(12020121)	3097.28489	(12020121)	2970.42579	(12020121)	2843.86581	(12020121)
3813870.0	3026.01343	(14020408)	2956.01069	(14020408)	2841.55049	(12020121)	2811.14433	(12020121)	2767.20669	(12020121)
3813860.0	3405.65295	(16050521)	3178.88416	(16050521)	2941.48760	(16050521)	2706.31385	(16050521)	2478.10829	(16050521)
3813850.0	4067.93096	(12081203)	3742.91464	(12081203)	3399.30146	(12081203)	3055.34304	(12081203)	2811.96134	(16050521)
3813840.0	4010.26609	(12081203)	3925.72761	(12081203)	3767.58687	(12081203)	3556.69176	(12081203)	3311.71762	(12081203)
3813830.0	3256.71708	(12081203)	3420.36734	(12081203)	3497.67484	(12081203)	3496.35970	(12081203)	3428.08976	(12081203)
3813820.0	3798.09784	(14072623)	3383.65270	(14072623)	2935.43415	(14072623)	2928.26339	(12081203)	3041.55837	(12081203)
3813810.0	3889.04642	(14072623)	3739.37824	(14072623)	3474.55804	(14072623)	3136.49227	(14072623)	2763.26228	(14072623)
3813800.0	3410.62259	(12122508)	3528.47578	(14072623)	3530.20736	(14072623)	3408.88290	(14072623)	3192.97082	(14072623)
3813790.0	3473.51459	(15081501)	3148.73731	(15081501)	3128.66161	(12122508)	3224.66660	(14072623)	3224.63899	(14072623)
3813780.0	3396.61745	(15081501)	3328.72264	(15081501)	3116.74668	(15081501)	2883.25477	(12122508)	2882.26930	(12122508)
3813770.0	3312.36055	(16082221)	3246.15857	(16082221)	3140.32995	(15081501)	3026.31179	(15081501)	2804.74208	(15081501)

• *** AERMOD - VERSION 18081 *** *** MegaPack Thermal Runaway

*** 09/26/19

*** AERMET - VERSION 16216 *** ***

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*** MODELOPTS: RegDFAULT CONC ELEV FLGPOL RURAL SigA Data

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: 1 ***
INCLUDING SOURCE(S): 1 ,

*** NETWORK ID: 1 ; NETWORK TYPE: GRIDCART ***

** CONC OF OTHER IN MICROGRAMS/M***3 **

Y-COORD (METERS)	X-COORD (METERS)									
	236547.00	236557.00	236567.00	236577.00	236587.00					
3813760.0	2888.37258	(16082221)	3060.74423	(16082221)	3072.80264	(16082221)	2941.38299	(16082221)	2893.43031	(15081501)
3813750.0	2472.10766	(12020201)	2605.31487	(16082221)	2813.19452	(16082221)	2884.71552	(16082221)	2824.91816	(16082221)
3813740.0	2780.28286	(15070804)	2387.12233	(12020201)	2346.61756	(16082221)	2575.63172	(16082221)	2690.86906	(16082221)
3813730.0	2977.46476	(15070804)	2676.17393	(15070804)	2301.01706	(12020201)	2190.45428	(16070923)	2351.75515	(16082221)
3813720.0	3041.19843	(16033002)	2834.86787	(15070804)	2574.80463	(15070804)	2215.83324	(15070804)	2088.60845	(16070923)
3813710.0	3076.40535	(16033002)	2897.65518	(16033002)	2701.58996	(15070804)	2477.12806	(15070804)	2157.94807	(15070804)
3813700.0	3086.04490	(16123101)	2926.53558	(16033002)	2764.70553	(16033002)	2577.47735	(15070804)	2383.34453	(15070804)
3813690.0	3156.38241	(16123101)	2929.51967	(16123101)	2788.33774	(16033002)	2641.61653	(16033002)	2461.70463	(15070804)
3813680.0	3026.77855	(16123101)	3010.37735	(16123101)	2785.18710	(16123101)	2660.94749	(16033002)	2527.34019	(16033002)
3813670.0	2883.07383	(15011501)	2911.20559	(16123101)	2874.04601	(16123101)	2651.86658	(16123101)	2543.44457	(16033002)
3813660.0	2722.60093	(15011501)	2764.37823	(15011501)	2801.48544	(16123101)	2746.90315	(16123101)	2528.52102	(16123101)

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*** MODELOPTS: RegDFAULT CONC ELEV FLGPOL RURAL SigA Data

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: 1 ***
INCLUDING SOURCE(S): 1 ,

*** NETWORK ID: 1 ; NETWORK TYPE: GRIDCART ***

** CONC OF OTHER IN MICROGRAMS/M***3 **

Y-COORD (METERS)	X-COORD (METERS)				
	236597.00				
17	236597.00				

AERMOD OUTPUT FILE

3814160.0	2044.44073	(12041621)
3814150.0	2134.12048	(15043021)
3814140.0	2420.17582	(15043021)
3814130.0	2590.36429	(15043021)
3814120.0	2690.38131	(15043021)
3814110.0	2642.10462	(15043021)
3814100.0	2437.67872	(15043021)
3814090.0	2346.93258	(15063024)
3814080.0	2191.07894	(15063024)
3814070.0	2325.59547	(14051722)
3814060.0	2440.10308	(14051722)
3814050.0	2683.56845	(14052001)
3814040.0	2778.67902	(14052001)
3814030.0	2693.52052	(15093019)
3814020.0	2911.94504	(15070123)
3814010.0	2906.12159	(15070123)
3814000.0	2872.54808	(16082921)
3813990.0	3072.71587	(16082921)
3813980.0	2825.81143	(16082921)
3813970.0	2958.06361	(16061822)
3813960.0	2865.10912	(16061822)
3813950.0	2895.32025	(15042722)
3813940.0	3130.13230	(15042722)
3813930.0	2883.20543	(16071920)
3813920.0	3202.25683	(14093020)
3813910.0	3006.33429	(16071920)
3813900.0	2786.12138	(14121705)
3813890.0	2541.53219	(14050301)
3813880.0	2719.06042	(12020121)
3813870.0	2712.52358	(12020121)
3813860.0	2295.48495	(12020121)
3813850.0	2645.16350	(16050521)
3813840.0	3048.54174	(12081203)
3813830.0	3306.24174	(12081203)
3813820.0	3092.09099	(12081203)
3813810.0	2514.17134	(12081203)
3813800.0	2913.63658	(14072623)
3813790.0	3124.70240	(14072623)
3813780.0	2962.25005	(14072623)
3813770.0	2680.62436	(12122508)

*** MODELOPTs : RegDFAULT CONC ELEV FLGPOL RURAL SigA Data

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: 1 ***
INCLUDING SOURCE(S): 1 ,

*** NETWORK ID: 1 ; NETWORK TYPE: GRIDCART ***

** CONC OF OTHER IN MICROGRAMS/M***3 *

Y-COORD (METERS) | 236597.00 X-COORD (METERS)

3813760.0	2752.60347	(15081501)
3813750.0	2732.50412	(15081501)
3813740.0	2689.14541	(16082221)
3813730.0	2497.82523	(16082221)
3813720.0	2143.35400	(16082221)
3813710.0	2016.89413	(12080201)
3813700.0	2099.23080	(15070804)

AERMOD OUTPUT FILE

3813690.0	2293.66379 (15070804)
3813680.0	2353.70279 (15070804)
3813670.0	2421.35162 (16033002)
3813660.0	2435.31813 (16033002)

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*** MODELOPTS: RegDFAULT CONC ELEV FLGPOL RURAL SigA Data

*** THE SUMMARY OF MAXIMUM PERIOD (43848 HRS) RESULTS ***

** CONC OF OTHER IN MICROGRAMS/M***3

**

GROUP ID	AVERAGE CONC	RECEPTOR (XR, YR, ZELEV, ZHILL, ZFLAG)	NETWORK	
			OF	TYPE
1	1ST HIGHEST VALUE IS 14544.53532 AT (236337.00, 3813910.00, 16.40, 887.00, 1.50)	GC	1	
	2ND HIGHEST VALUE IS 11589.19966 AT (236347.00, 3813920.00, 17.00, 887.00, 1.50)	GC	1	
	3RD HIGHEST VALUE IS 9009.01968 AT (236357.00, 3813910.00, 15.60, 887.00, 1.50)	GC	1	
	4TH HIGHEST VALUE IS 8539.42566 AT (236347.00, 3813900.00, 15.10, 887.00, 1.50)	GC	1	
	5TH HIGHEST VALUE IS 8184.05742 AT (236357.00, 3813920.00, 16.30, 887.00, 1.50)	GC	1	
	6TH HIGHEST VALUE IS 6544.40459 AT (236337.00, 3813900.00, 15.40, 887.00, 1.50)	GC	1	
	7TH HIGHEST VALUE IS 6250.41265 AT (236337.00, 3813920.00, 17.30, 887.00, 1.50)	GC	1	
	8TH HIGHEST VALUE IS 5133.06422 AT (236357.00, 3813900.00, 14.90, 887.00, 1.50)	GC	1	
	9TH HIGHEST VALUE IS 4856.69370 AT (236327.00, 3813910.00, 16.80, 887.00, 1.50)	GC	1	
	10TH HIGHEST VALUE IS 4077.15168 AT (236357.00, 3813930.00, 16.80, 887.00, 1.50)	GC	1	

*** RECEPTOR TYPES: GC = GRIDCART
 GP = GRIDPOLR
 DC = DISCCART
 DP = DISCPOLR

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*** MODELOPTS: RegDFAULT CONC ELEV FLGPOL RURAL SigA Data

*** THE SUMMARY OF HIGHEST 1-HR RESULTS ***

** CONC OF OTHER IN MICROGRAMS/M***3

**

GROUP ID	AVERAGE CONC	DATE (YYMMDDHH)	RECEPTOR (XR, YR, ZELEV, ZHILL, ZFLAG)	NETWORK	
				OF	TYPE
1	HIGH 1ST HIGH VALUE IS 195165.70372 ON 12070821:	AT (236337.00, 3813910.00, 16.40, 887.00, 1.50)	GC	1	

*** RECEPTOR TYPES: GC = GRIDCART
 GP = GRIDPOLR
 DC = DISCCART
 DP = DISCPOLR

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*** MODELOPTS: RegDFAULT CONC ELEV FLGPOL RURAL SigA Data

*** Message Summary : AERMOD Model Execution ***

----- Summary of Total Messages -----

AERMOD OUTPUT FILE

A Total of 0 Fatal Error Message(s)
A Total of 4 Warning Message(s)
A Total of 744 Informational Message(s)

A Total of 43848 Hours Were Processed

A Total of 22 Calm Hours Identified

A Total of 722 Missing Hours Identified (1.65 Percent)

***** FATAL ERROR MESSAGES *****
*** NONE ***

***** WARNING MESSAGES *****

CO W200	6	TITLES: Missing Parameter(s). No Options Specified For	TITLETWO
RE W216	932	RECAR: FLAG Input Inconsistent With Option: Defaults Used	1
MX W403	37	PFLCNV: Turbulence data is being used w/o ADJ_U* option	SigA Data
MX W402	37	PFLCNV: Turbulence data being used with ADJ_U* w/o DFAULT	Option

*** AERMOD Finishes Successfully ***

Attachment B

Emergency Response Guide

 TESLA	LITHIUM-ION BATTERY EMERGENCY RESPONSE GUIDE Tesla Powerpack System, Powerwall, and Subassemblies, All Sizes		
	Released: Oct 22, 2018	Document Number TS-0004027	Revision 05

Rechargeable Lithium Ion Batteries: Tesla Products

The products referenced herein are exempt articles and are not subject to OSHA's Hazard Communication Standard requirements for preparation of Safety Data Sheets (SDS).

SDS

Safety Data Sheets (SDS) are a sub-requirement of the Occupational Safety and Health Administration (OSHA) Hazard Communication Standard, 29 CFR Subpart 1910.1200. This Hazard Communication Standard does not apply to various subcategories including anything defined by OSHA as an "article." OSHA has defined "article" as a manufactured item other than a fluid or particle; (i) which is formed to a specific shape or design during manufacture; (ii) which has end use function(s) dependent in whole or in part upon its shape or design during end use; and (iii) which under normal conditions of use does not release more than very small quantities (e.g., minute or trace amounts) of a hazardous chemical, and does not pose a physical hazard or health risk to employees.

Tesla battery products meet the OSHA definition of "article." Thus, they are exempt from the requirements of the Hazardous Communication Standard therefore, a SDS is not required.

1. Identification of Products and Company

Product	Rechargeable lithium-ion Powerpack Systems and Powerwalls for residential, commercial, and industrial Tesla applications, and modules and sub-assemblies that can be installed in Powerpack Systems and Powerwalls (Tesla Energy Products). Specific part numbers are listed below.	
Locations	Headquarters (USA)	3500 Deer Creek Road Palo Alto, CA 94304 Tel. No. +001 650-681-5000
	Europe and Africa	Burgemeester Stramanweg 122 1101EN Amsterdam The Netherlands Tel. No. +31 20 258 3916
	Australia and Asia	Eastern Aoyama Building 4F 8-5-41 Akasaka, Minato-ku Tokyo, Japan 107-0052 Tel: +81 3 6890 7700
	Manufacturer (USA)	3500 Deer Creek Road Palo Alto, CA 94304 Tel. No. +001 650-681-5000
Emergency Contacts	CHEMTREC	For Hazardous Materials [or Dangerous Goods] Incidents: Spill, Leak, Fire, Exposure, or Accident Call CHEMTREC Day or Night Within USA and Canada: 1-800-424-9300 Contract Number: CCN204273 Outside USA and Canada: +1 703-741-5970 (collect calls accepted)

LITHIUM-ION BATTERY EMERGENCY RESPONSE GUIDE
Tesla Powerpack System, Powerwall, and Subassemblies, All Sizes

Tesla Powerpack Systems and Powerwalls contain battery subassemblies made up of rechargeable lithium-ion cells. Tesla Powerpack Systems and Powerwalls and their respective battery subassemblies are covered by this document (Tesla Energy Products).

Tesla Energy Products contain sealed lithium-ion battery cells (cells) that are similar to rechargeable batteries in many consumer electronic products. Cells are individually, hermetically sealed cylinders approximately 18-21 mm in diameter and 65-70 mm in length. These cylinders each contain lithium-ion electrodes and electrolyte (approximate composition listed below). THE CELLS AND BATTERIES DO NOT CONTAIN METALLIC LITHIUM. Individual cells have nominal voltages of approximately 3.6 V.

Materials/Ingredients of Battery Cells	Approx. % by wt.
The lithium-ion cell positive electrodes can be composed of: Lithium Nickel Cobalt Aluminum Oxide (NCA material), $\text{LiNi}_x\text{Co}_y\text{Al}_z\text{O}_2$; Lithium Nickel, Manganese, Cobalt Oxide (NMC material) $\text{LiNi}_x\text{Mn}_y\text{Co}_z\text{O}_2$; Lithium Nickel, Manganese Oxide (NMO material), $\text{LiNi}_x\text{Mn}_y\text{O}_2$ Lithium Cobalt Oxide, LiCoO_2 ; or a mixture of these compounds	33
Carbon	21
Iron	12
Copper	7
Aluminum	5
Nickel	<1
Organic electrolyte (mainly composed of alkyl carbonate)*	10
Polypropylene	3
Polyethylene Terephthalate	<1
Other	8

*An acceptable exposure concentration of electrolyte has not been identified by the American Council of Governmental Industrial Hygienists (ACGIH). In case of electrolyte leakage from the battery, the oral (rat) LD₅₀ is greater than 2 g/kg (estimated).

Tesla Powerpack systems and Powerwalls also include sealed thermal management systems containing coolants and refrigerants.

Non-Cell Materials Found in Powerpack Systems and Powerwalls	Approximate Quantity
Ethylene glycol 50/50 mixture with water	Powerwall 1: 1.6 L of 50/50 mixture Powerwall 2: 2.3 L of 50/50 mixture Powerpack 1: 22 L of 50/50 mixture Powerpack 2: 26 L of 50/50 mixture Tesla Inverter: 11 L of 50/50 mixture
R134a: 1,1,1,2-Tetrafluoroethane refrigerant	Powerwall 1, 2: none Powerpack 1, 2: 400 g

LITHIUM-ION BATTERY EMERGENCY RESPONSE GUIDE
Tesla Powerpack System, Powerwall, and Subassemblies, All Sizes

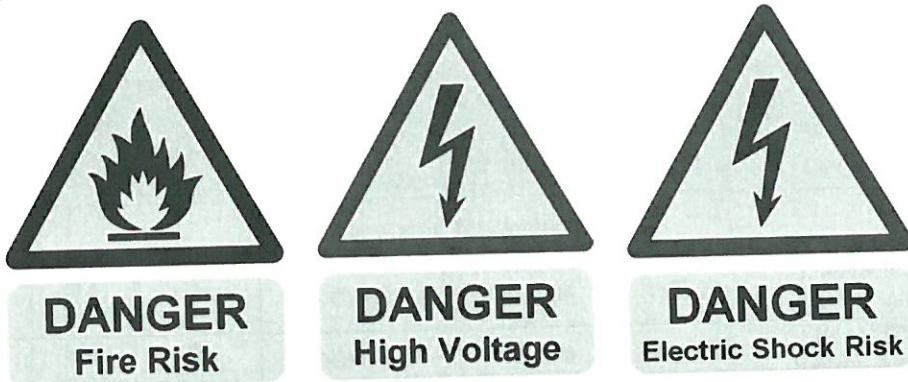
Individual lithium-ion cells are connected to form modules. Pods are installed in a Powerpack or Powerwall. Approximate specifications of lithium-ion based modules, pods, Powerwalls, and Powerpacks are listed below. Modules and pods are battery sub-assemblies.

Part Number (Reman Number if available)	Description	Voltage – as shipped (V)	Nominal Voltage – as installed (V)	Max Voltage – as installed (V)	Weight (kg)	Height (cm)	Width (cm)	Depth (cm)
Powerwall 1 Versions								
1050100-x*y*-z*	POWERWALL, 2KW, 7KWH	<30 (DC)	400 (DC)	450 (DC)	95 (210 lb)	130 (51 in)	86 (34 in)	18 (7 in)
1067000-x*y*-z*	POWERWALL, 3.3KW, 7KWH	<30 (DC)	400 (DC)	450 (DC)	95 (210 lb)	130 (51 in)	86 (34 in)	18 (7 in)
1068000-x*y*-z*	POWERWALL, 6.6KW, 10KWH	<30 (DC)	400 (DC)	450 (DC)	101 (223 lb)	130 (51 in)	86 (34 in)	18 (7 in)
Powerwall 2 Versions								
1092170-x*y*-z*	AC POWERWALL	<30 (DC)	208, 240, 277 (AC)	300 (AC)	122 (269 lb)	112 (44 in)	74 (29 in)	14 (5.5 in)
1112170-x*y*-z*	DC POWERWALL	<30 (DC)	450 (DC)	550 (DC)	115 (254 lb)	112 (44 in)	74 (29 in)	14 (5.5 in)
Powerpack 1 Versions								
1047404-x*y*-z*	POWERPACK (2hr continuous net discharge)	<30 (DC)	400 (DC)	450 (DC)	1680 (3700 lb)	219 (86 in)	97 (38 in)	132 (52 in)
1060119-x*y*-z*	POWERPACK (4hr continuous net discharge)	<30 (DC)	400 (DC)	450 (DC)	1665 (3670 lb)	219 (86 in)	97 (38 in)	132 (52 in)
1121229-x*y*-z*	POWERPACK (4hr continuous net discharge)	<30 (DC)	400 (DC)	450 (DC)	2160 (4765 lb)	219 (86 in)	97 (38 in)	132 (52 in)
Powerpack 1.5 Version								
1089288-x*y*-z*	POWERPACK 1.5 C/2 SYSTEM	<30 (DC)	900 (DC)	920 (DC)	1622 (3575 lb)	219 (86 in)	131 (51.5 in)	82 (32.5 in)
Powerpack 2 Versions								
1083931-x*y*-z* (1130518-x*y*-z*)	POWERPACK 2,C/4 SYSTEM	<30 (DC)	900 (DC)	920 (DC)	2160 (4765 lb)	219 (86 in)	131 (51.5 in)	82 (32.5 in)
1083932-x*y*-z*	POWERPACK 2,C/2 SYSTEM	<30 (DC)	900 (DC)	920 (DC)	2160 (4765 lb)	219 (86 in)	131 (51.5 in)	82 (32.5 in)

* Note that the 8th or 9th digit could be any number or letter and the 10th digit could be any letter.

LITHIUM-ION BATTERY EMERGENCY RESPONSE GUIDE
Tesla Powerpack System, Powerwall, and Subassemblies, All Sizes

2. Handling and Use Precautions/ Identification of Hazards



The products described by this document are dangerous if mishandled. Injury to property or person, including loss of life is possible if mishandled.

Tesla Energy Products contain lithium-ion batteries. **A battery is a source of energy.** Do not short circuit, puncture, incinerate, crush, immerse, force discharge or expose to temperatures above the declared operating temperature range of the product. An internal or external short circuit can cause significant overheating and provide an ignition source resulting in fire, including surrounding materials or materials within the cell or battery. Under normal conditions of use, the electrode materials and electrolyte they contain are not exposed, provided the battery integrity is maintained and seals remain intact. Risk of exposure may occur only in cases of abuse (mechanical, thermal, electrical).

a. High Voltage Hazards

Under normal conditions of use, provided that a Tesla Energy Product enclosure remains closed, handling the product does not pose an electrical hazard. Numerous safeguards have been designed into Tesla Energy Products to help ensure that the high voltage battery is kept safe and secure as a result of a number of expected abuse conditions. All of the constituent component battery cells are sealed within the pack as sub-groups in metal enclosures (Pods). The exterior of each Pod is isolated from internal components and connectors are touch-safe. Pods are then installed in a rigid metal enclosure, which is isolated from high voltage.

A Tesla Energy Product may pose a significant high voltage and electrocution risk if the outer enclosure, Pod enclosures, and/or safety circuits have been compromised or have been significantly damaged. **A battery pack, even in a normally discharged condition is likely to contain substantial electrical charge and can cause injury or death if mishandled.** If a Tesla Energy Product has been significantly visibly damaged or its enclosure compromised, then practice appropriate high-voltage preventative measures until the danger has been assessed (and dissipated if necessary).

WARNING: NEVER CUT INTO A SEALED TESLA ENERGY PRODUCT ENCLOSURE due to the high voltage and electrocution risks.

For proper installation / removal instructions please contact the Tesla Service team:

- PowerpackSupport@tesla.com
- (650) 681-6060

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Tesla Powerpack System, Powerwall, and Subassemblies, All Sizes

b. Hazards Associated with Mechanical Damage

Mechanical damage to Tesla Energy Products can result in a number of hazardous conditions (discussed below) including:

- Leaked battery pack coolant (see Section 2D)
- Leaked refrigerant (Powerpack systems only see Section 2E)
- Leaked cell electrolyte (see Section 2F)
- Rapid heating of individual cells due to exothermic reaction of constituent materials (cell thermal runaway), venting of cells, and propagation of self-heating and thermal runaway reactions to neighboring cells.
- Fire

To prevent mechanical damage to Tesla Energy Products, these items should be stored in their original packaging when not in use or prior to being installed (see Section 6 below).

c. Hazards Associated with Elevated Temperature Exposure

The Tesla Powerpack system and Powerwall are designed to withstand operating temperatures up to 50°C (122°F), with up to 100% operating humidity (condensing), and storage temperatures up to 60°C (140°F) and <95% relative humidity (non-condensing) for up to 24 hours.

Exposure of Tesla Energy Products to elevated temperatures can drive battery cells into thermal runaway and result in a fire.

- Storage for more than 24 hours at temperatures above approximately 80°C (176°F) could result in cell thermal runaway reactions and should be avoided.
- Storage for more than a few minutes at temperatures above approximately 150°C (302°F) could result in cell thermal runaway reactions and should be avoided.

Exposure of battery packs to localized heat sources such as flames could result in cell thermal runaway reactions and should be avoided.

d. Hazards Associated with Leaked Coolant

Thermal management of Tesla Energy Products is achieved via liquid cooling using a 50/50 mixture of ethylene glycol and water. A typical Powerpack system includes about 26 L of coolant (Powerpack 2) or about 22 L of coolant (Powerpack 1). A typical Powerwall system includes about 1.6 L of coolant (Powerwall 1) or about 2.3 L of coolant (Powerwall 2). The Tesla Inverter (fully populated) includes about 11 L of coolant. Mechanical damage of a Tesla Energy Product that has been installed could result in leakage of the coolant. The fluid is blue in color and does not emit a strong odor.

For information regarding the toxicological hazards associated with ethylene glycol, as well as ecological effects and disposal considerations, refer to the specific Safety Data Sheet (SDS) for battery coolant.

Extended exposure of a Tesla Energy Product to leaked coolant could cause additional damage to the product such as corrosion and compromise of protection electronics.

e. Hazards Associated with Leaked Refrigerant (Powerpack Only)

The Powerpack thermal management system includes 400g of R134a: 1,1,1,2-Tetrafluoroethane refrigerant in a sealed system. Mechanical damage of a Powerpack could result in a release of the refrigerant. Such a release would appear similar to the emission of smoke.

For information regarding the toxicological hazards associated with R134a, as well as ecological effects and disposal considerations, refer to the specific Safety Data Sheet (SDS) for R134a.

f. Hazards Associated with Leaked Electrolyte

The electrolyte within constituent cells includes a volatile hydrocarbon-based liquid and a dissolved lithium salt (which is a source of lithium ions) such as lithium hexafluorophosphate. The electrolyte is largely absorbed in electrodes within

LITHIUM-ION BATTERY EMERGENCY RESPONSE GUIDE
Tesla Powerpack System, Powerwall, and Subassemblies, All Sizes

individual sealed cells. Under normal usage conditions battery electrolyte should not be encountered by anyone handling a Tesla Energy Product.

Severe mechanical damage (e.g., severe crushing) can cause a small quantity of electrolyte (up to approximately 1 g) to leak out of a cell. For the electrolyte liquid to come into contact with a user of a Tesla Energy Product, the Powerpack system or Powerwall external enclosure, the Pod enclosure, and the cell would have to be mechanically damaged.

The possibility of a spill of electrolyte from a Tesla Powerpack system and Powerwall is very remote. Electrolyte can be extracted from a single cell using a centrifuge, or under some extreme abuse conditions such as a severe crush. However, it is very difficult to mechanically damage cells in such a way as to cause leakage of electrolyte. Even if a single cell were damaged in a manner that could cause electrolyte leakage, it is extremely difficult to cause a leak from more than a few cells due to any incident. Furthermore, cells are connected into modules which are placed within a sealed steel, compartmentalized enclosure. Each compartment has the capacity to contain liquid from a large number of individual cells.

Any released electrolyte liquid is likely to evaporate rapidly, leaving a white salt residue. Evaporated electrolyte is flammable and will contain alkyl-carbonate compounds. Leaked electrolyte is colorless and characterized by a sweet odor. If an odor is obvious, evacuate or clear the surrounding area and ventilate the area. **WARNING: AVOID CONTACT WITH ELECTROLYTE.**

Leaked electrolyte solution is flammable and corrosive / irritating to the eyes and skin. If a liquid is observed that is suspected electrolyte, ventilate the area and avoid contact with the liquid until a positive identification can be made and sufficient protective equipment can be obtained (eye, skin, and respiratory protection). Chemical classifier strips can be used to identify the spilled liquid (electrolyte will contain petroleum/organic solvent and fluoride compounds).

In case of an electrolyte leak, the following protective equipment is recommended: an air purifying respirator with organic vapor/acid gas cartridges, safety goggles or a full face respirator, and safety gloves (Butyl rubber or laminated film (e.g., Silver Shield)). Protective clothing should be worn. Use a dry absorbent material to clean up a spill.

g. Hazards Associated with Vented Electrolyte

Lithium-ion cells are sealed units, and thus under normal usage conditions, venting of electrolyte should not occur. If subjected to abnormal heating or other abuse conditions, electrolyte and electrolyte decomposition products can vaporize and be vented from cells. Accumulation of liquid electrolyte is unlikely in the case of abnormal heating. Vented gases are a common early indicator of a thermal runaway reaction – an abnormal and hazardous condition.

If gases or smoke are observed escaping from a Tesla Energy Product, evacuate the area and notify a first responder team and/or the local fire department. Gases or smoke exiting a lithium-ion battery pack are likely flammable and could ignite unexpectedly as the condition that led to cell venting may also cause ignition of the vent gases. A venting Tesla Energy Product should only be approached with extreme caution by trained first responders equipped with appropriate personal protective equipment (PPE), as discussed in Section 3.

Cell vent gas composition will depend upon a number of factors, including cell composition, cell state of charge, and the cause of cell venting. Vent gases may include volatile organic compounds (VOCs) such as alkyl-carbonates, methane, ethylene, and ethane; hydrogen gas; carbon dioxide; carbon monoxide; soot; and particulates containing oxides of nickel, aluminum, lithium, copper, and cobalt. Additionally, phosphorus pentafluoride, POF_3 , and HF vapors may form.

WARNING: AVOID CONTACT WITH VENTED GASES. Vented gases may irritate the eyes, skin, and throat. Cell vent gases are typically hot; upon exit from a cell, vent gas temperatures can exceed 600°C ($1,110^\circ\text{F}$). Contact with hot gases can cause thermal burns. Vented electrolyte is flammable, and may ignite on contact with a competent ignition source such as an open flame, spark, or a sufficiently heated surface. Vented electrolyte may also ignite on contact with cells undergoing a thermal runaway reaction.

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3. Firefighting Measures

Responding to a Venting Tesla Energy Product: Smoke emanating from a Tesla Energy Product is an indication of an abnormal and hazardous condition. Smoke will always be the first sign of a thermal runaway event. The smoke is likely flammable and may ignite at any time. If fire or smoke is observed emanating from a Tesla Energy Product at any time, the following should be performed:

1. If possible, shut off the unit/system (see instructions below)
2. Evacuate the area
3. Notify appropriately trained first responders and the local fire department

WARNING: When responding to a smoke or fire event with the Powerpack system, do not approach the Powerpack units from the front (door-side). Perform all incident response from the sides or rear of the unit.

How to Shut Off the Powerpack System or Powerwall in an Emergency:

Powerpack System:

1. If an E-Stop button is present on the inverter door, engage the E-Stop
2. Open the AC disconnect installed upstream of the system
3. Open the DC disconnect switch on the inverter door

Powerwall: Open the AC disconnect installed upstream of the unit.

WARNING: Shutting off power to the Tesla Energy Product does not de-energize the battery, and a shock hazard may still be present.

The Tesla Energy Product should then be monitored for evidence of continued smoke venting. Application of high volumes of water from a safe distance may help cool the unit and prevent further reaction or a fire from developing. If a fire develops and visible flames appear, the Incident Commander should determine whether an attempt will be made to suppress the fire (aggressive firefighting) or allow the battery to burn until it self-extinguishes, while protecting surrounding materials (defensive firefighting). Tesla recommends that copious volumes of water be used to fight a fire involving Tesla Energy Products. Virtually all fires involving lithium-ion batteries can be controlled with water. To date, water has been found to be the most effective agent for controlling lithium-ion battery fires. Water will suppress flames and can cool cells, limiting propagation of thermal runaway reactions. If water is used, electrolysis of water (splitting of water into hydrogen and oxygen) may contribute to the flammable gas mixture formed by venting cells, burning plastic, and burning of other combustibles.

Gaseous agents such as CO₂ or Halon, or dry chemical suppressants may temporarily suppress flaming of lithium-ion battery packs, but they will not cool lithium-ion batteries and will not limit the propagation of cell thermal runaway reactions. Metal fire suppressants such as LITH-X, graphite powder, or copper powder are not appropriate agents for suppressing fires involving lithium-ion battery packs as they are unlikely to be effective.

A battery fire may continue for several hours and it may take 24 hours or longer for the battery pack to cool. A lithium-ion battery fire that has been extinguished can re-ignite due to the exothermic reaction of constituent materials from broken or damaged cells. To avoid this, remove sources of ignition and cool the burned mass by flooding with water.

Aggressive Firefighting: If a decision is made to aggressively fight a fire involving a Tesla Energy Product, then copious amounts of water should be applied from a safe distance. The water may not suppress all cell thermal runaway reactions within the battery pack, but it may cool cells and control the spread of the fire. When responding to a fire event with the Powerpack system, do not approach the Powerpack units from the front (door-side). Perform all incident response from the sides or rear of the unit. If possible, direct the application of water towards openings in the battery pack enclosure, if any have formed, with the intent of flooding the pack enclosure. The objective is to contact the surfaces of the affected and surrounding individual battery pods and cells with water.

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Defensive Firefighting If a decision is made to fight a Tesla Energy Product fire defensively, then the fire crew should pull back a safe distance and allow the battery to burn itself out. Fire crews may choose to utilize a water stream or fog pattern to protect exposures or control the path of smoke. When responding to a fire event with the Powerpack system, do not approach the Powerpack units from the front (door-side). Perform all incident response from the sides or rear of the unit. A battery fire may continue for several hours and may result in multiple re-ignition events. It may take 24 hours or longer for the battery pack to cool.

Firefighter PPE. Firefighters should wear self-contained breathing apparatus (SCBA) and fire protective turnout gear. Cells or batteries may flame or leak potentially hazardous organic vapors if exposed to excessive heat, fire or over voltage conditions. These vapors may include volatile organic compounds (VOCs), hydrogen gas, carbon dioxide, carbon monoxide, soot, and particulates containing oxides of nickel, aluminum, lithium, copper, and cobalt. Additionally, phosphorus pentafluoride, POF₃ and HF vapors may form.

4. First Aid Measures

Electric Shock / Electrocution: Seek immediate medical assistance if an electrical shock or electrocution has occurred (or is suspected).

Contact with Leaked Electrolyte: The constituent battery cells are sealed. Contents of an open (broken) constituent battery cell can cause skin irritation and/or chemical burns. If materials from a ruptured or otherwise damaged cell or battery contact skin, flush immediately with water and wash affected area with soap and water. If a chemical burn occurs or if irritation persists, seek medical assistance.

For eye contact, flush with significant amounts of water for 15 minutes without rubbing and see physician at once.

Inhalation of Electrolyte Vapors: If inhalation of electrolyte vapors occurs, move person into fresh air. If not breathing give artificial respiration. Seek immediate medical assistance.

Vent Gas Inhalation: The constituent battery cells are sealed and venting of cells should not occur during normal use. If inhalation of vent gases occurs, move person into fresh air. If not breathing give artificial respiration. Seek immediate medical assistance.

5. Storage Precautions

Powerpack systems, Powerwalls, and sub-assemblies should be stored in approved packaging prior to installation.

Do not store Tesla Energy Products in a manner that allows terminals to short circuit (do not allow the formation of an electrically-conductive path).

Elevated temperatures can result in reduced battery service life. Powerpack systems and Powerwalls can withstand temperatures of -40°C to 60°C for up to 24 hours. However, Tesla Energy Products stored for longer than one month should be stored at temperatures between -20°C and 30°C (-4°F and 86°F), at humidity <95%, and protected from condensation. Extended, longer-term storage (more than a month) at temperatures outside the recommended range can result in degradation of product lifetime. Storage in areas where temperatures routinely approach or exceed 80°C (176°F) could result in a hazardous condition. Do not store Tesla Energy Products near heating equipment.

Ideally, a Tesla Energy Product should be stored at 50% state of charge (SOC) or less. Tesla Energy Products should not be stored for extended periods either at a full SOC or completely discharged since both conditions adversely impact battery life. Tesla Energy Products should not be stored unintended for longer than twelve months since battery service life likely will be adversely impacted.

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The storage area should be protected from flooding.

Long-term storage areas should be compliant with the appropriate local fire code requirements.

Acceptable storage density of battery packs and storage height of battery packs will be defined by the local authority having jurisdiction (AHJ). Requirements and limits will be based upon a number of factors including the structural and fire protection characteristics of the storage area and recommendations for fire protection promulgated by the National Fire Protection Association (NFPA) and similar organizations. At the time of this writing, no Commodity Classification has been defined for lithium-ion cells or battery packs (see 2016 NFPA 13: Standard for the Installation of Sprinkler Systems). Until a Commodity Classification has been defined based on testing by NFPA or a similar organization, Tesla recommends treating lithium-ion cells and batteries in packaging as equivalent to a Group A Plastic Commodity.

6. Installation Precautions

Elevated temperatures can result in reduced battery service life, or a hazardous condition.

The allowed installation temperature range for Tesla Powerpack Systems and Powerwalls is between -30°C and 50°C (-22°F and 122°F). Installation in areas with ambient temperatures over 50°C (122°F) is not recommended as this can result in degradation of product lifetime or a hazardous condition.

Installation in areas where temperatures routinely approach or exceed 80°C (176°F) is not permitted, as this could result in a hazardous condition. Do not install batteries near heating equipment.

The installation area should be protected from the risk of flooding. If the equipment is installed in areas below the floodplain where flooding can occur, active or passive flood prevention shall be installed to prevent more than 5 cm. (~2 in.) of standing water for a maximum of 30 minutes.

Installation areas should be compliant with the appropriate local fire code requirements.

7. Handling, Storage, and Transportation of Damaged Tesla Energy Products

If a Tesla Energy Product has been damaged (battery enclosure has been dented or compromised), it is possible that heating is occurring that may eventually lead to a fire. Damaged or opened cells/batteries can result in rapid heating (due to exothermic reaction of constituent materials), the release of flammable vapors, and propagation of self-heating and thermal runaway reactions to neighboring cells.

Before handling or transporting a damaged Tesla Energy Product, wait at least one hour. Smoke may be an indication that a thermal reaction is in progress. If no smoke, flame, leakage of electrolyte, leakage of coolant, or signs of heat have been observed for one hour, the Tesla Energy Product may be disconnected and moved into a safe location. To obtain specific instructions for evaluating, disconnecting, and preparing a damaged Tesla Energy Product for transport, please contact the Tesla Service team:

- PowerpackSupport@tesla.com
- (650) 681-6060

A damaged Tesla Energy Product should be monitored during storage for evidence of smoke, flame, leakage of electrolyte, leakage of coolant, or signs of heat. If full-time monitoring of the Product is not possible (for example during extended storage), the Product should be moved to a safe storage location.

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A safe storage location for a damaged battery will be free of flammable materials, accessible only by trained professionals, and 50 feet downwind of occupied structures. For example, a fenced, open yard may be an appropriate safe location. **DO NOT STORE DAMAGED TESLA ENERGY PRODUCTS ADJACENT TO UNDAMAGED TESLA ENERGY PRODUCTS.** It is possible that a damaged battery may sustain further damage during transportation, and may lead to a fire. To further reduce this risk, handle the damaged battery with extreme caution.

8. Disposal Procedures

Tesla Energy lithium-ion batteries do not contain heavy metals such as lead, cadmium, or mercury.

Tesla Energy Products should be disposed of or recycled in accordance with local, state, and federal regulations. Note that regulations regarding disposal of batteries vary by jurisdiction. In the United States, batteries are classified as Universal Waste, and in addition, many individual states have specific regulations regarding disposal of battery packs. For example, in California, all batteries must be taken to a Universal Waste handler or authorized recycling facility.

Tesla Energy Products contain recyclable materials. Tesla strongly encourages recycling. At this time, when a Tesla product must be decommissioned, we request that it be returned to a Tesla facility for disassembly and further processing.

If disposing without return to Tesla, please consult with local, state and/or federal authorities on the appropriate methods for disposal and recycling. Tesla has confirmed that at least two recycling processors are capable of recycling Tesla battery products in North America and three in the Europe, the Middle East and Africa (EMEA) region.

9. Maintenance or Repair

Tesla requests all maintenance, service, and repairs of Tesla Energy Products be performed by Tesla approved service personnel or Tesla authorized repair facilities. This includes all proactive and corrective maintenance over the lifetime of a Tesla Energy Product. Improper service or repair by personnel not approved nor authorized by Tesla could void the Powerpack 2 System Limited Warranty, lead to failure of the Tesla Energy product, and potentially result in development of an unsafe condition and unexpected electrical events.

10. Transport Information

Lithium-ion batteries are regulated as Class 9 Miscellaneous dangerous goods (also known as "hazardous materials") pursuant to the International Civil Aviation Organization (ICAO) Technical Instructions for the Safe Transport of Dangerous Goods by Air, International Air Transport Association (IATA) Dangerous Goods Regulations, the International Maritime Dangerous Goods (IMDG) Code, European Agreements concerning the International Carriage of Dangerous Goods by Rail (RID) and Road (ADR), and applicable national regulations such as the USA's hazardous materials regulations (see 49 CFR 173.185). These regulations contain very specific packaging, labeling, marking, and documentation requirements. The regulations also require that individuals involved in the preparation of dangerous goods for transport be trained on how to properly package, label, mark and prepare shipping documents.

UN Number	3480
Proper Shipping Name	Lithium Ion Batteries
Hazard Classification	Class 9 Miscellaneous
Packing Group	N/A

NOTICE: The information and recommendations set forth are made in good faith and believed to be accurate as of the date of preparation. TESLA, INC. makes no warranty, expressed or implied, with respect to this information.

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Revision Log

Revision #	Date	Description
01	14-July-2015	ERG for Tesla Powerpack systems, Powerwalls, and Sub-assemblies
02	3-Sept-2015	Added part numbers, updated weights, voltages, and temperatures, clarified hazards associated with spilled electrolyte, updated storage requirements, updated warning label icons, updated packing group.
03	3-Oct-2016	Added part numbers, minor edits
04	30-June-2017	Added fire ground operations response for Powerpack 2, including approach; exhaust gases; and safety. Updated general product information and contacts, as well as part numbers and reman numbers
05	22-Oct 2018	Reformatted for ease of use and translation; removed Confidential status; corrected phone number for CHEMTREC

