

## Description

Heading: DT1

Description: Desert Tortoise DT1

## Source Condition

Source Type: Continuous  
Source Location: (0,0,0.79)m  
Release Type: Momentum Jet  
Discharge Coefficient: 1  
Orifice Radius: 0.0405m  
Angle From Horizontal: 0deg  
Angle Form North: 90deg  
Release Rate: 80kg/s  
Duration: 126s  
Using Finite Duration Model: Yes

## Source Composition

Phase: Two-Phase  
Substance: Ammonia (SRD Databank)  
Liquid Fraction: 1  
Temperature: 294.65K  
Contaminant Mass Fraction: 1  
Pressure: 1.01e+06Pa  
Rainout Fraction: 0

## Weather Conditions

Weather Scheme: Monin-Obukhov  
Roughness Length: 0.003m  
Wind Reference Height: 2m  
Wind Angle From North: 270deg  
Relative Humidity: 0.132  
Temperature: 301.95K  
Pressure: 90900Pa  
Using User Input Mixing Height: Yes  
User Input Mixing Height: 1000m  
Inverse Obukhov Length: 0.01079/m  
Friction Velocity: 0.442m/s

## Flammable Targets

Flammable Limits Input By User: No  
Lower Flammable Limit: 0%  
Upper Flammable Limit: 0%  
Target LFL Fractions: 1

## Toxic Targets

Indoors Ventilation Rate: 0 air changes per hour  
Indoors Lag Time: 0s  
Maximum Exposure Duration: 80s  
Use Time Averaging: Yes  
Averaging Time: 80s  
Toxic Dose Fraction Method: Method 1  
Toxic Dose Exponents: Ammonia: 1  
Outdoor Conc Criteria #1: 10ppm Ammonia

## Expanded Source Conditions

Diameter: 0.605356m  
Velocity: 81.9413m/s  
Density: 3.39215kg/m<sup>3</sup>  
Vapour Fraction: 0.230169  
Richardson Number: 0.323641

## Messages:

Running Model

At 52.247m downstream from the source the cloud centreline has reached ground-level

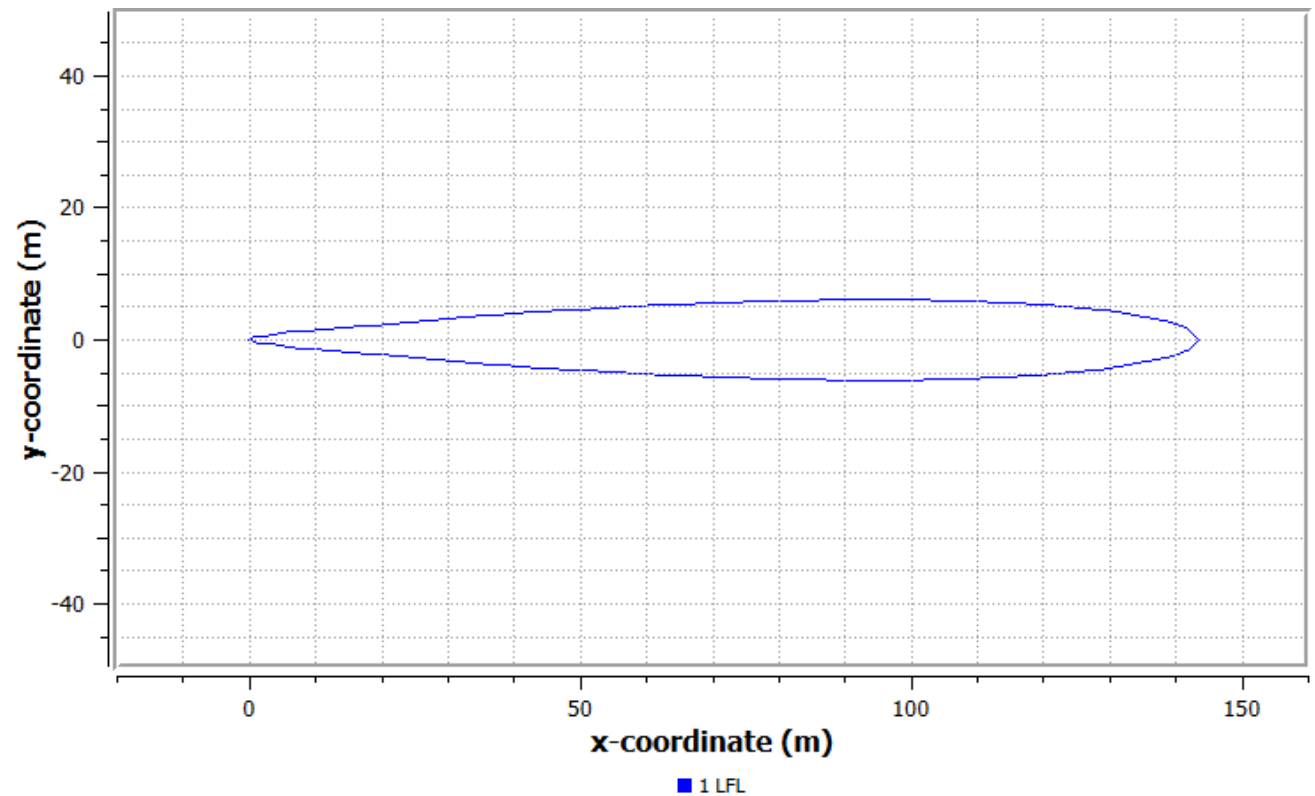
At 415.073m downstream from the source there is no liquid remaining in the cloud in phase 0

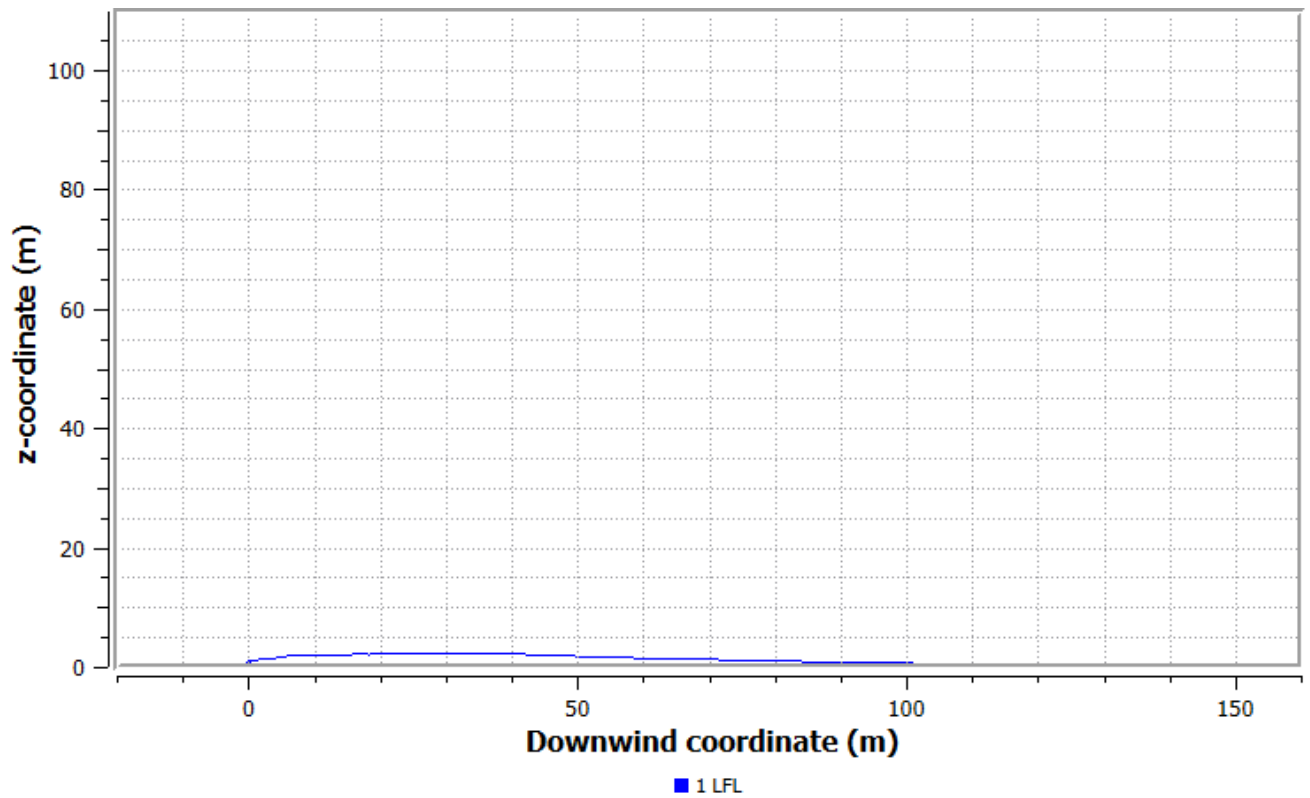
At a downstream distance of 69139.4m and a centroid height of 100.088m the cloud centroid has left the Surface Layer and has now entered the z-less Scaling Layer

## General Results

Worst Case Time: Yes

## Flammable Results





Worst Case Time: Yes

Worst Case Height: Yes

Flammable Volume: 1055.8m<sup>3</sup>

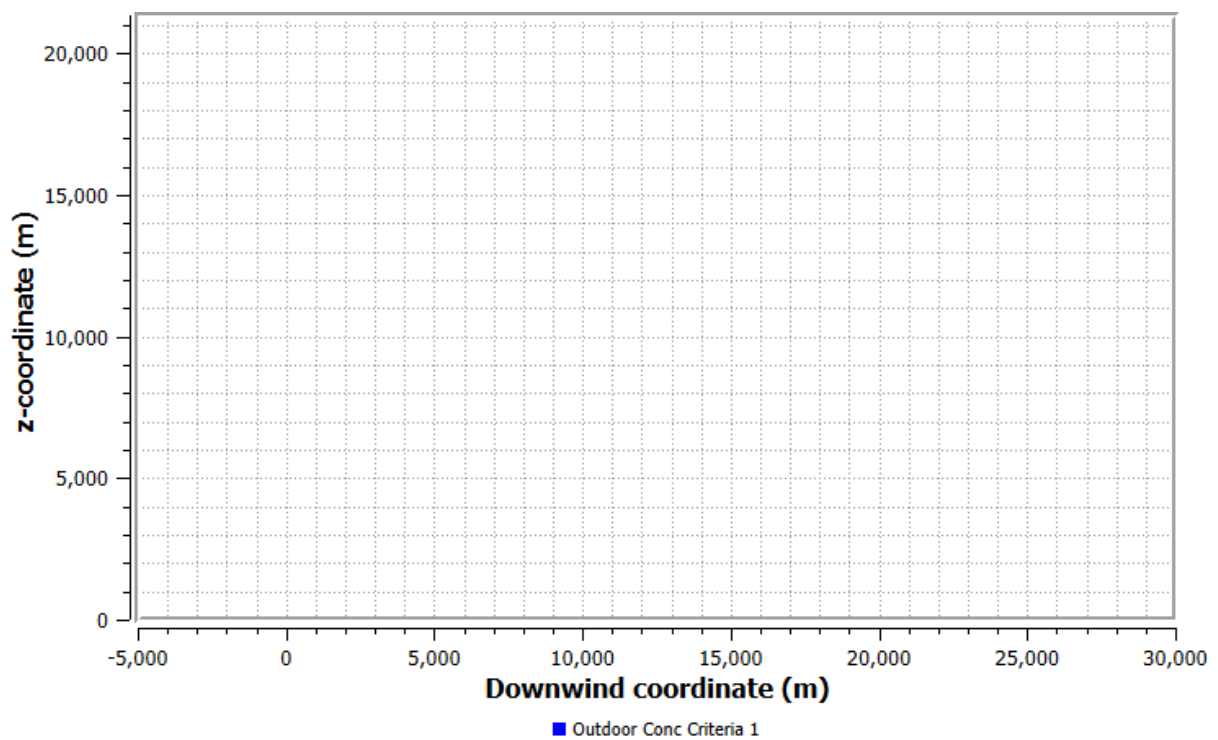
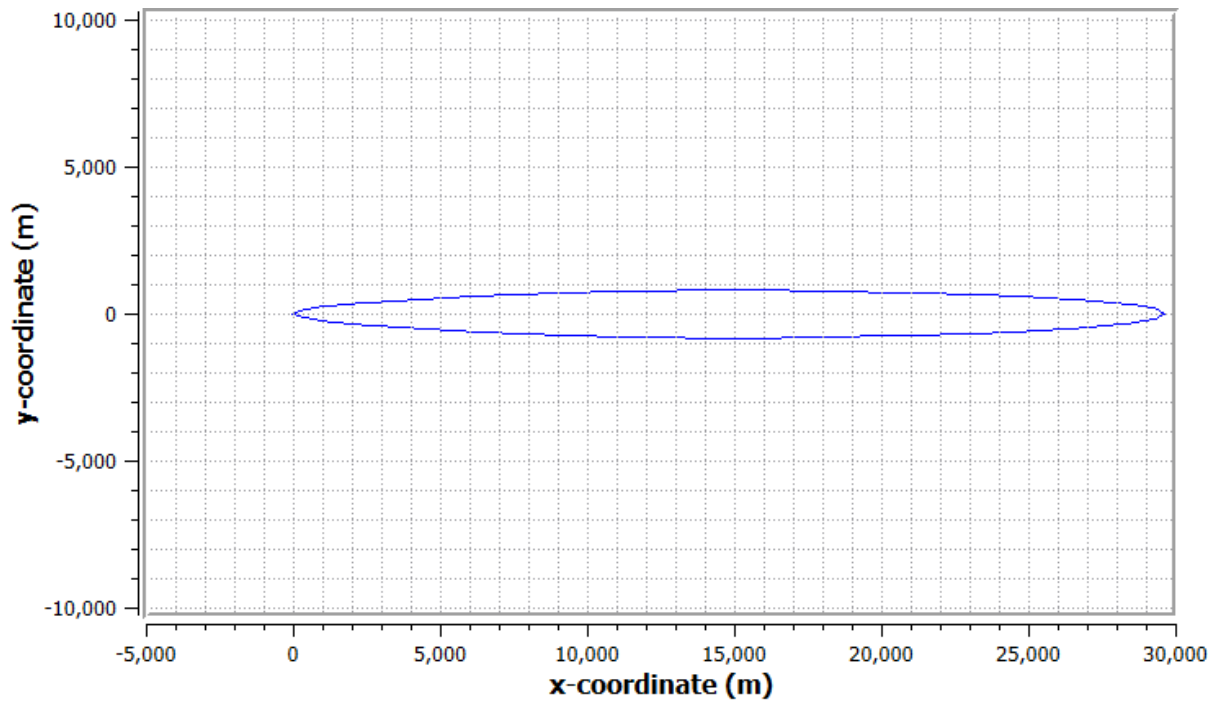
Excluding UFL Region: No

Flammable Mass: 148.228kg

Excluding UFL Region: No

	Fraction Of LFL Distance Upstream (m)	Distance Downstream (m)	Max. Half Width (m)	Distance to Max. Half Width (m)
1	0.120598	143.245	6.10446	94.1385

## Toxic Results



Worst Case Time: Yes

Worst Case Height: Yes

Criteria Description:	Distance Upstream (m)	Distance Downstream (m)	Max. Half Width (m)	Distance to Max. Half Width (m)
Outdoor Concentration Level 1	0.315965	29600.5	816.707	14928.3