

VANDERPERS MARITIME BV- RISK ASSESSMENT

Adress: Walewegje 18	Phone: +31 0623341197	RA ID:	SFB-202208-Kishorn	Date: august 16th 2022
Zipcode: 3291 AW	Email: info@consultingmarinechemist.nl	Object:	seamate feed barge	
Place: Strijen	Website: www.consultingmarinechemist.nl	Author:	M.A. van der Pers	

Description of event	Seamate feed barge break up and purging	Revision:	
Location	Sound of Raasay	Approved by:	
Date of operations		Date:	



Risk rating	Probability (likelyhood of occurrence)					LOW	Tolerable, monitoring required no specific actions required
	1	2	3	4	5		
	Practically impossible	Unlikely	Possible	Likely	Almost certain	MEDIUM	Hazard to be investigated by HSE
A. Negligible	LOW	LOW	LOW	MED	MED	HIGH	Unacceptable risk, works can not commence unless risk have been identified and mitigated. If risk can not be reduced: prohibition of works
B. Moderate	LOW	LOW	MED	MED	HIGH		
C. Serious	LOW	MED	MED	HIGH	HIGH		
D. Major	MED	MED	HIGH	HIGH	HIGH		
E. Catastrophic	MED	HIGH	HIGH	HIGH	HIGH		

various events		
1	Seatmate barge and silos simultaneously collapse (uncontrolled gas release 100% capacity)	(approximately 402 m3)
2	Seatmate barge and silos simultaneously collapse (uncontrolled gas release 50% capacity)	(approximately 201 m3)
3	one silo collapse (uncontrolled gas release 100% capacity)	(approximately 67 m3)
4	one silo collapse (uncontrolled gas release 50% capacity)	(approximately 34 m3)
5	purging with N2	
6	venting with air	

event	wind direction	hazard	E	P	risk	Remarks
1 up-wind	NNE	exposure to H2S above the TLV for any member of the public	B	2	LOW	data used from Portree wind forecast August 16 until 18 average wind speed 12mph
	SSE		B	2	LOW	
	ENE (NA)		B	2	LOW	
1 down-wind	NNE	exposure to explosion for any member of the public	A	2	LOW	data used from Portree wind forecast August 16 until 18 average wind speed 12mph
	SSE		A	2	LOW	
	ENE (NA)		A	2	LOW	
2 up-wind	NNE	exposure to H2S above the TLV for any member of the public	D	3	HIGH	data used from Portree wind forecast August 16 until 18 average wind speed 12mph
	SSE		D	3	HIGH	
	ENE (NA)		D	3	HIGH	
2 down-wind	NNE	exposure to explosion for any member of the public	A	2	LOW	data used from Portree wind forecast August 16 until 18 average wind speed 12mph
	SSE		A	2	LOW	
	ENE (NA)		A	2	LOW	
3 up-wind	NNE	exposure to H2S above the TLV for any member of the public	C	3	MED	data used from Portree wind forecast August 16 until 18 average wind speed 12mph
	SSE		C	3	MED	
	ENE (NA)		C	3	MED	
3 down-wind	NNE	exposure to explosion for any member of the public	A	2	LOW	data used from Portree wind forecast August 16 until 18 average wind speed 12mph
	SSE		A	2	LOW	
	ENE (NA)		A	2	LOW	
4 up-wind	NNE	exposure to H2S above the TLV for any member of the public	B	2	LOW	data used from Portree wind forecast August 16 until 18 average wind speed 12mph
	SSE		B	2	LOW	
	ENE (NA)		B	2	LOW	
4 down-wind	NNE	exposure to explosion for any member of the public	B	2	LOW	data used from Portree wind forecast August 16 until 18 average wind speed 12mph
	SSE		B	2	LOW	
	ENE (NA)		B	2	LOW	
5 up-wind	NNE	exposure to H2S above the TLV for any member of the public	B	2	LOW	data used from Portree wind forecast August 16 until 18 average wind speed 12mph
	SSE		B	2	LOW	
	ENE (NA)		B	2	LOW	
5 down-wind	NNE	exposure to explosion for any member of the public	A	2	LOW	data used from Portree wind forecast August 16 until 18 average wind speed 12mph
	SSE		A	2	LOW	
	ENE (NA)		A	2	LOW	
6 up-wind	NNE	exposure to H2S above the TLV for any member of the public	B	2	LOW	data used from Portree wind forecast August 16 until 18 average wind speed 12mph
	SSE		B	2	LOW	
	ENE (NA)		B	2	LOW	
6 down-wind	NNE	exposure to explosion for any member of the public	A	2	LOW	data used from Portree wind forecast August 16 until 18 average wind speed 12mph
	SSE		A	2	LOW	
	ENE (NA)		A	2	LOW	

4 down-wind	SSE ENE (NA)	the TLV for any member of the public	B B	2 2	LOW LOW	forecast August 16 until 18 average wind speed 12mph
	NNE SSE ENE (NA)	exposure to explosion for any member of the public	A A A	2 2 2	LOW LOW LOW	data used from Portree wind forecast August 16 until 18 average wind speed 12mph
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Toxic Threat Zone

ALOHA® 5.4.7



Time: August 16, 2022 1023 hours ST (using computer's clock)

Chemical Name: HYDROGEN SULFIDE

Wind: 12 miles/hour from nne at 3 meters

THREAT ZONE:

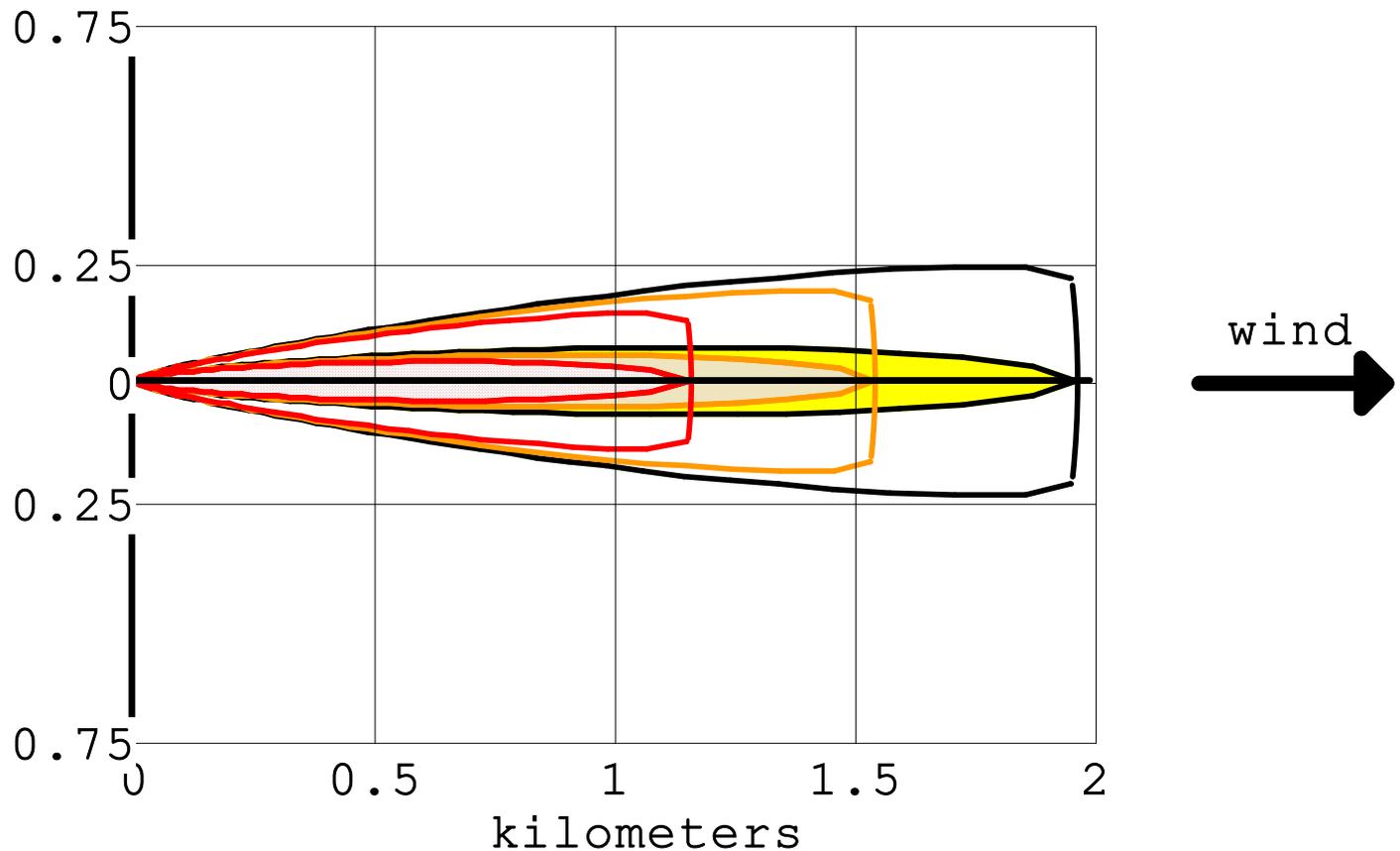
Model Run: Heavy Gas

Red : 1.2 kilometers --- (100 ppm = IDLH)

Orange: 1.5 kilometers --- (50 ppm = PAC-3)

Yellow: 2.0 kilometers --- (27 ppm = PAC-2)

kilometers



- greater than 100 ppm (IDLH)
- greater than 50 ppm (PAC-3)
- greater than 27 ppm (PAC-2)
- wind direction confidence lines

Toxic Threat Zone

ALOHA® 5.4.7



Time: August 16, 2022 1119 hours ST (using computer's clock)

Chemical Name: HYDROGEN SULFIDE

Wind: 12 miles/hour from ene at 3 meters

THREAT ZONE:

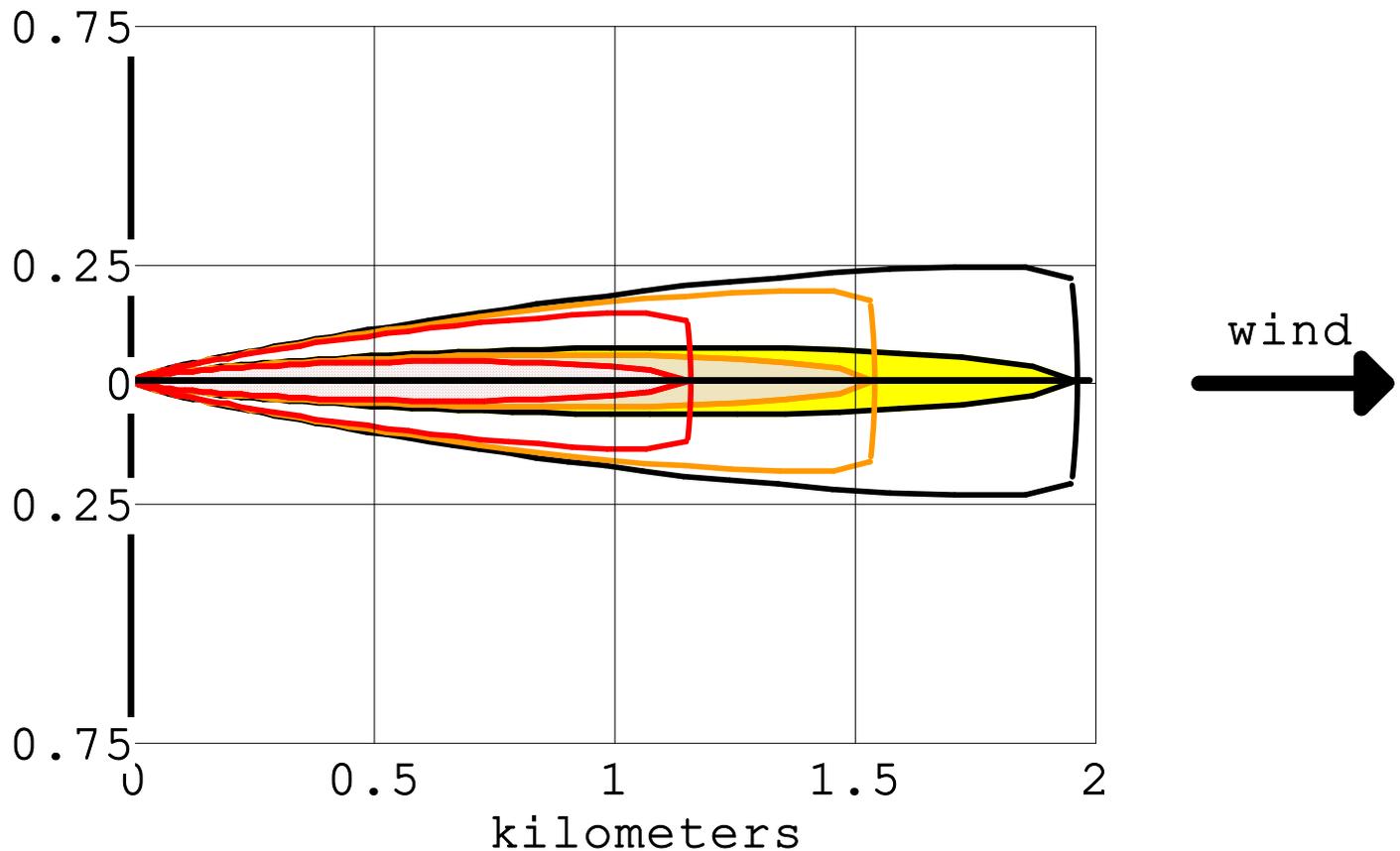
Model Run: Heavy Gas

Red : 1.2 kilometers --- (100 ppm = IDLH)

Orange: 1.5 kilometers --- (50 ppm = PAC-3)

Yellow: 2.0 kilometers --- (27 ppm = PAC-2)

kilometers



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-  greater than 50 ppm (PAC-3)
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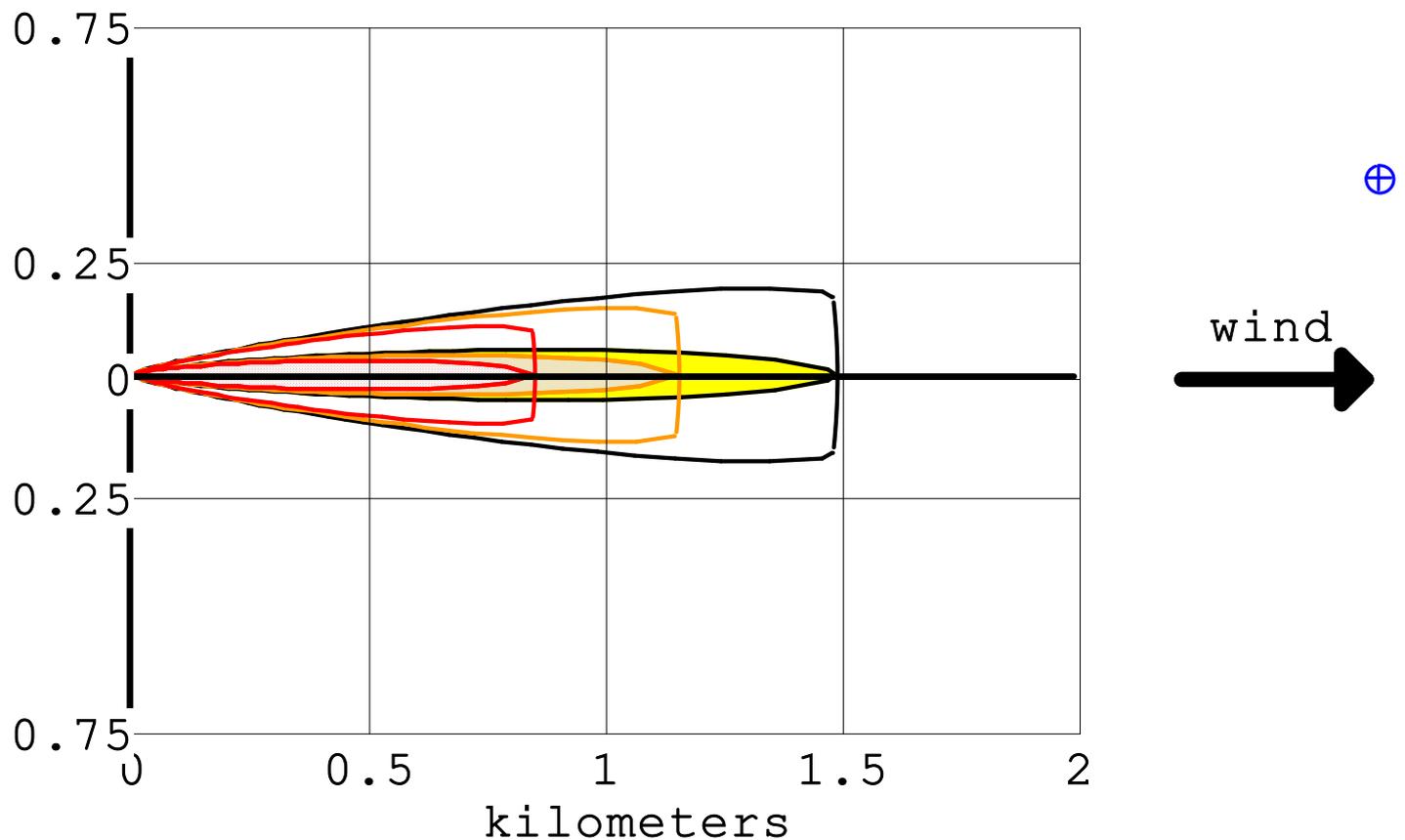
Model Run: Heavy Gas

Red : 849 meters --- (100 ppm = IDLH)

Orange: 1.2 kilometers --- (50 ppm = PAC-3)

Yellow: 1.5 kilometers --- (27 ppm = PAC-2)

kilometers



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- greater than 27 ppm (PAC-2)
- wind direction confidence lines

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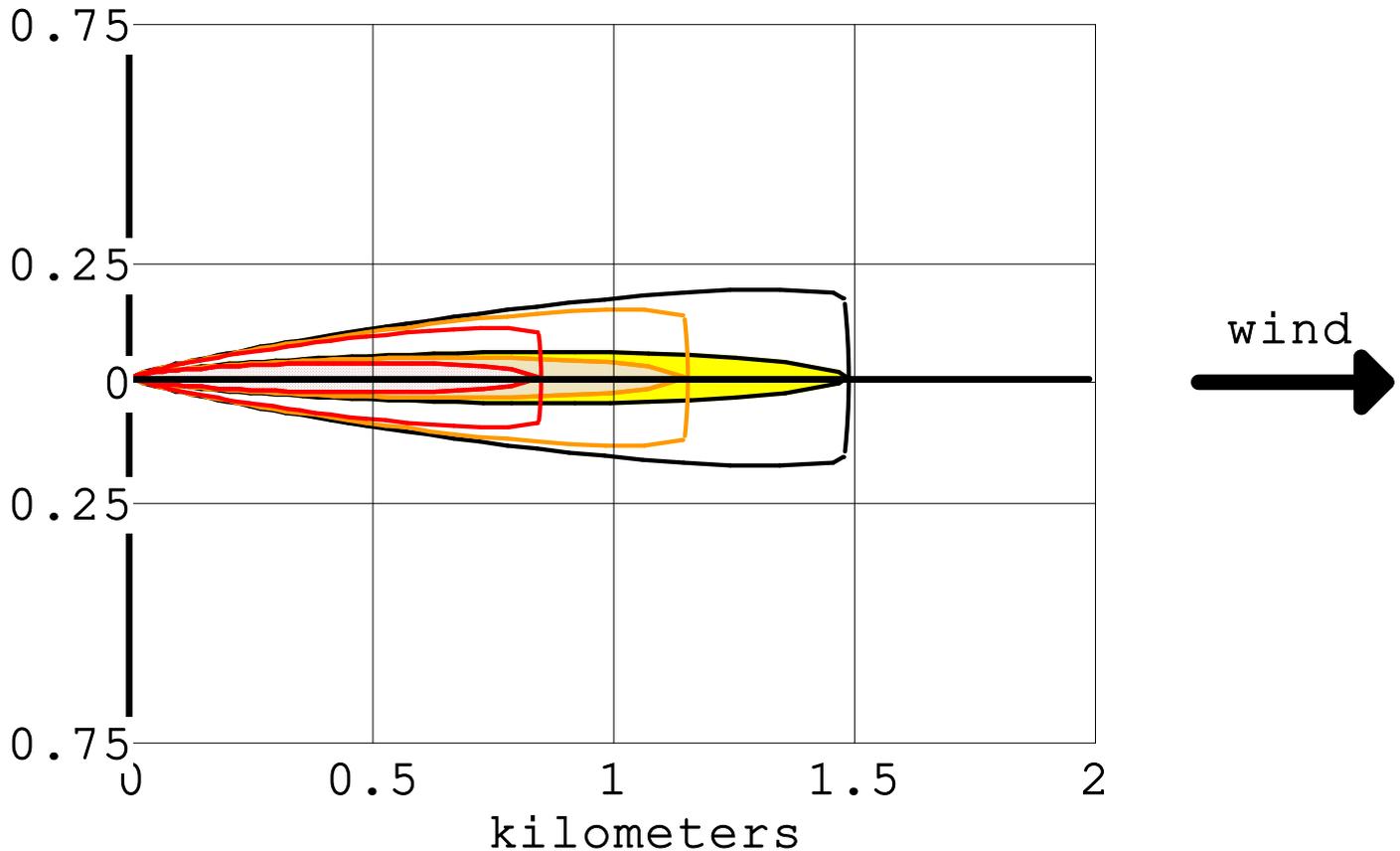
Model Run: Heavy Gas

Red : 849 meters --- (100 ppm = IDLH)

Orange: 1.2 kilometers --- (50 ppm = PAC-3)

Yellow: 1.5 kilometers --- (27 ppm = PAC-2)

kilometers



-  greater than 100 ppm (IDLH)
-  greater than 50 ppm (PAC-3)
-  greater than 27 ppm (PAC-2)
-  wind direction confidence lines

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Wind: 12 miles/hour from nne at 3 meters

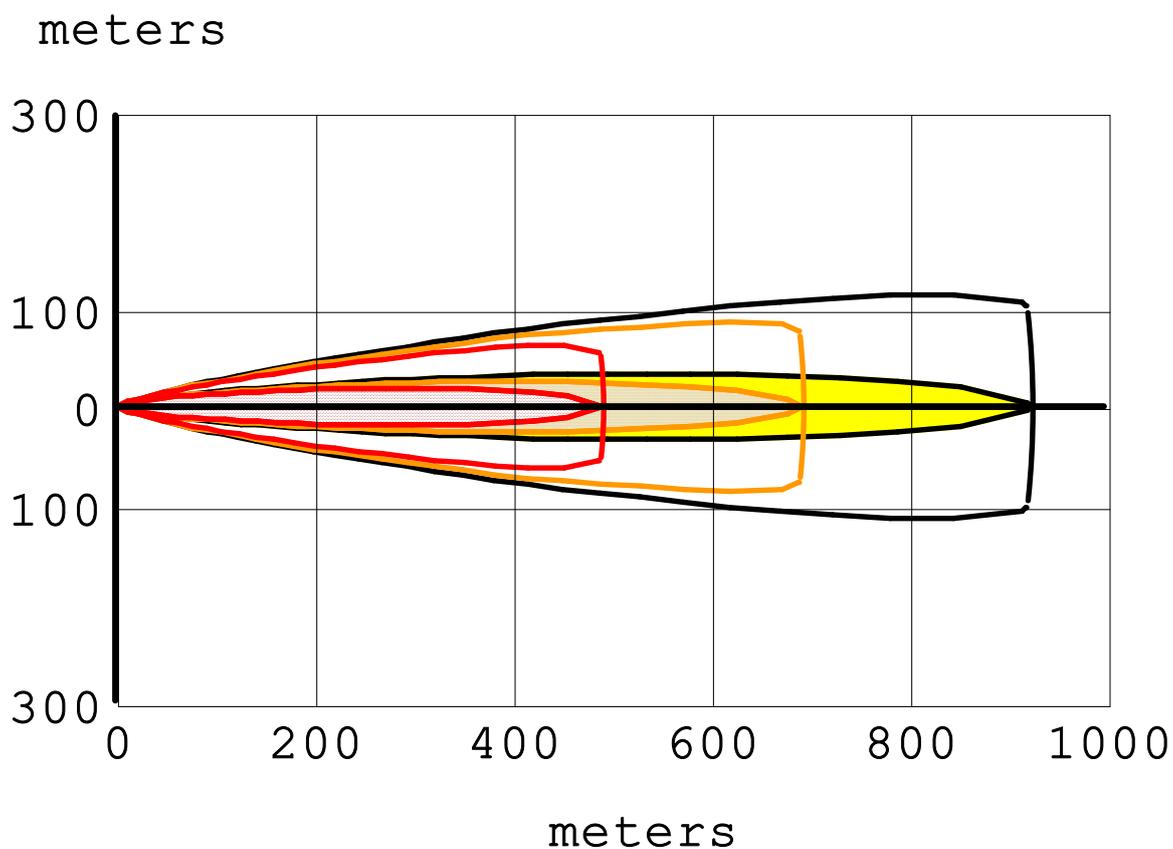
THREAT ZONE:

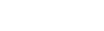
Model Run: Heavy Gas

Red : 490 meters --- (100 ppm = IDLH)

Orange: 693 meters --- (50 ppm = PAC-3)

Yellow: 925 meters --- (27 ppm = PAC-2)



-  greater than 100 ppm (IDLH)
-  greater than 50 ppm (PAC-3)
-  greater than 27 ppm (PAC-2)
-  wind direction confidence lines

Toxic Threat Zone

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Time: August 16, 2022 1023 hours ST (using computer's clock)

Chemical Name: HYDROGEN SULFIDE

Wind: 12 miles/hour from nne at 3 meters

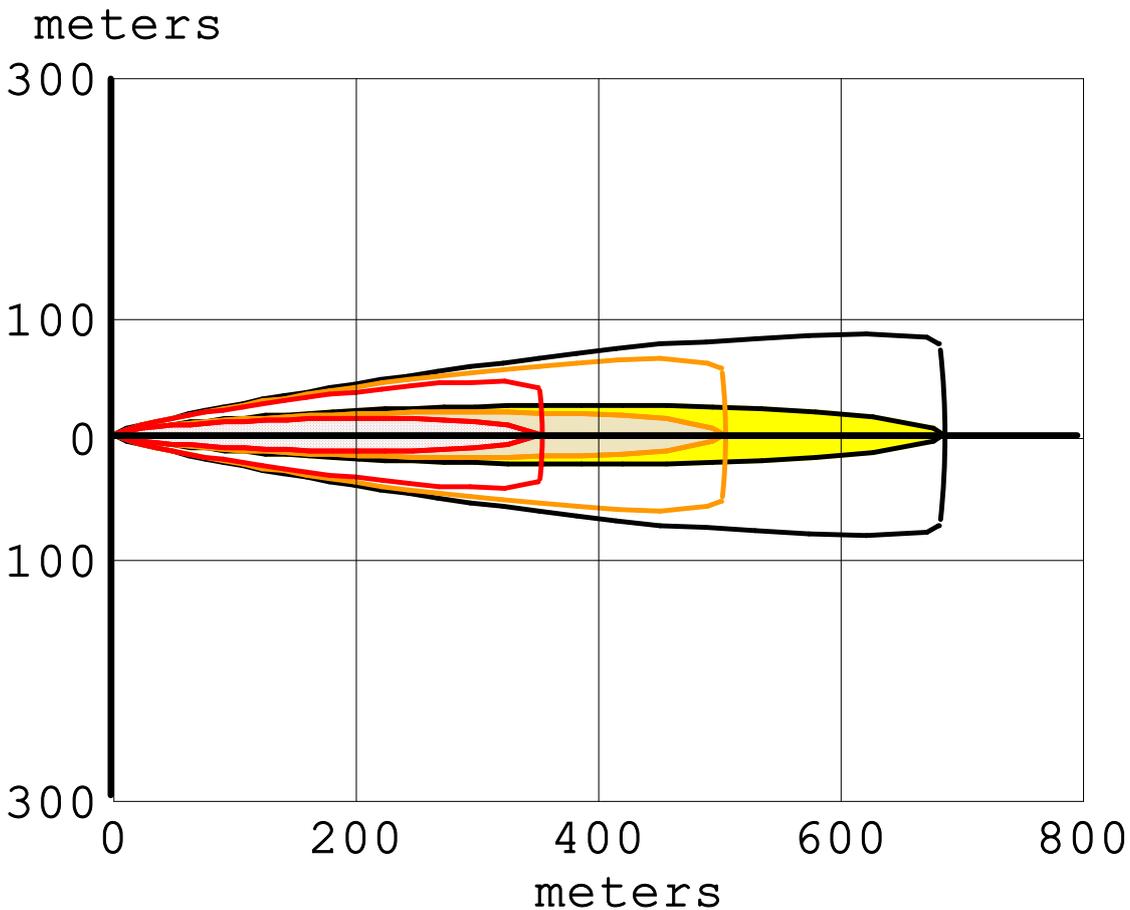
THREAT ZONE:

Model Run: Heavy Gas

Red : 353 meters --- (100 ppm = IDLH)

Orange: 505 meters --- (50 ppm = PAC-3)

Yellow: 686 meters --- (27 ppm = PAC-2)



-  greater than 100 ppm (IDLH)
-  greater than 50 ppm (PAC-3)
-  greater than 27 ppm (PAC-2)
-  wind direction confidence lines

Hydrogen Sulfide

CAS RN: 7783-06-4

Spill Location: 57.4209917099168,-6.15139257815114

Spill Size: Large

Time of Day: Day

First ISOLATE 400 m in all directions, then PROTECT downwind 2.2 km

SSE



Hydrogen Sulfide

CAS RN: 7783-06-4

Spill Location: 57.4209917099168,-6.15139257815114

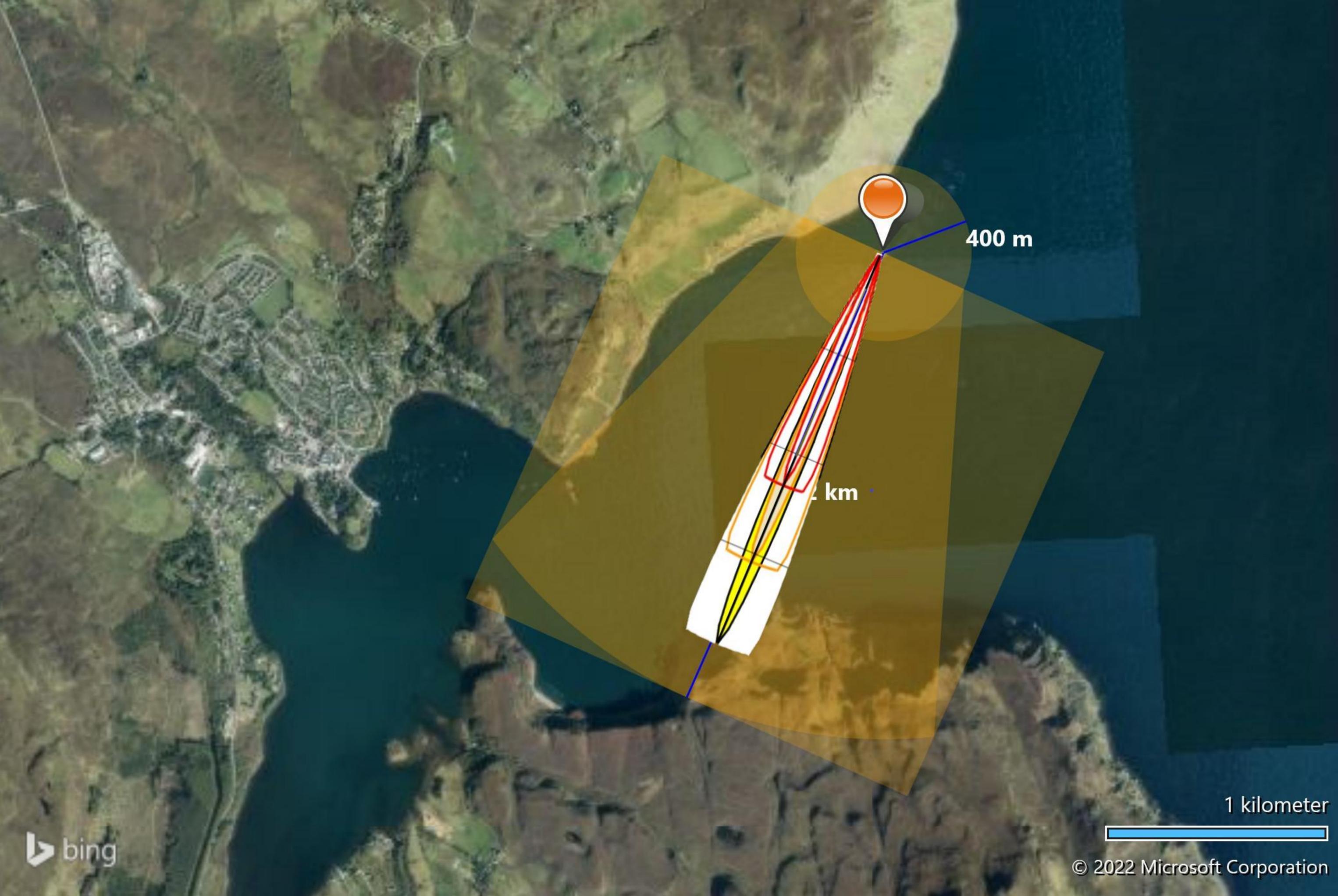
Spill Size: Large

Time of Day: Day

First ISOLATE 400 m in all directions, then PROTECT downwind 2.2 km

ENE





400 m

2 km

1 kilometer