

Levegőtisztaság-védelmi hiánypótlás GS-Daruszentmiklós-1 fűrészpont EVD

„2.5 Kérem ismertetni a kivitelezés során a hatásterületen kialakuló maximális légszennyező anyag koncentrációkat, bemutattva, hogy a háttérterhelés figyelembevételével a vonatkozó határértékek milyen távolságban teljesülnek.”

A kivitelezés első lépésében a fűróakna kiásása, majd a földközi terület betonnal történő kitöltésére kerül sor. Az akna helyéről a föld kitermelését egy CAT 428 típusú kotró-rakodó géppel végzik. Ebben a fázisban a felvonulási területen egyedüli zajforrásként működik.

Légszennyező forrás a CAT 428 Kotró-rakodó

Névleges teljesítmény: 74 kW

$$V = V_0 + L_0(\lambda - 1)$$

V a füstgázmennyiség m³/kg gázolaj

V₀ az elméleti füstgázmennyiség tökéletes égéskor gázolaj esetén 11,6 m³/kg

L₀ az elméleti levegőszükséglet m³/kg gázolaj 11,1 m³/kg

λ légszükséglet tényező 1,9

V=20,43 m³/kg

1 liter gázolaj = 0,83 kg 10 liter = 8,3 kg

füstgáz térfogatáram W=8,3x20,43 = 170 m³ füstgáz/h

fajlagos emissziók 1 liter gázolaj elégetésekor CO=0,6 g/l, NO_x=1,5 g/l, szilárd =1,2 g/l, SO₂=0,0172 g/l

A felhasznált üzemanyag kis kéntartalmú gázolaj. Az európai szabványkövetelményekkel megegyezően a Magyarországon forgalomba hozható gázolaj megengedett maximális kéntartalma legfeljebb 10 mg/kg üzemanyag. Azaz 0,001% lehet az dízel kéntartalma (MSZ-EN-ISO-14596).

E_{CO}=0,6x10=6,0 g/h=0,006 kg/h

C_{CO}=35,29 mg/m³

E_{NO_x}=1,5x10=15,0g/h=0,015 kg/h

C_{NO_x}=88,2 mg/m³

E_{szilárd}= 1,2x10=12,0 g/h=0,012 kg/h

C_{szilárd}=70,6 mg/m³

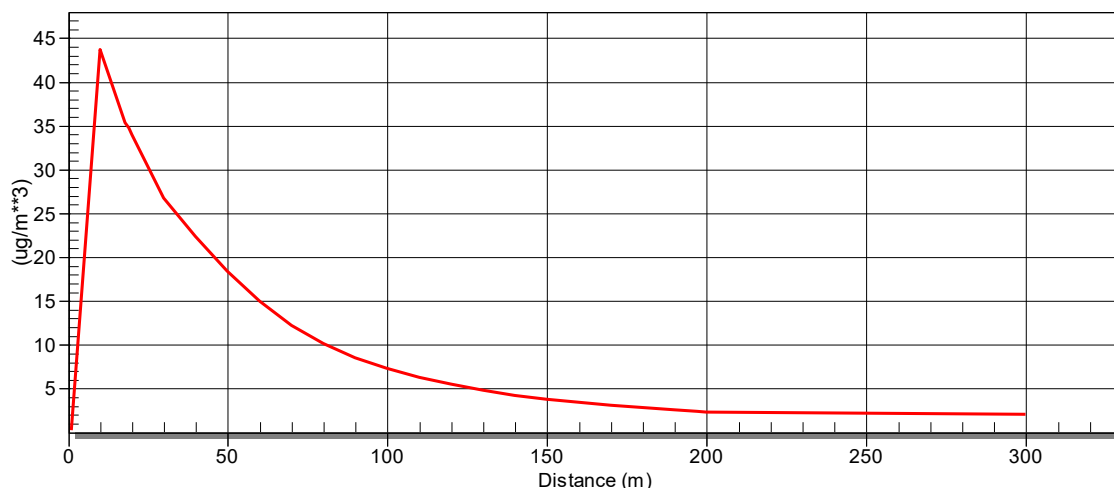
E_{SO₂}=0,0172x10=0,172 g/h=0,0002 kg/h

C_{SO₂}=1,17 mg/m³

szennyezőanyag	CO	NO _x NO ₂ -ként	szilárd anyag	SO ₂
emisszió g/s	0,001	0,004	0,003	0,00005
órás határérték (µg/m ³)	10000	100	-	250
órás határérték 10%-a (µg/m ³)	1000	10	-	25
24 órás határérték (µg/m ³)	5000	85	50	125
24 órás határérték 10%-a (µg/m ³)	500	8,5	5	12,5
alap levegő terheltség (µg/m ³)	370	60	20	5
terhelhetőség (µg/m ³)	9630	40	30	245
terhelhetőség 20 %-a (µg/m ³)	1926	8	6	49
maximum érték 80% (µg/m ³)	34,9	94,3	52,4	1,7
306/2010. Kr. 2.§ 14. a) pont szerinti hatásterület nagysága (m)	nem értelmezhető	150	160	nem értelmezhető
306/2010. Kr. 2.§ 14. b) pont szerinti hatásterület nagysága (m)	nem értelmezhető	173	144	nem értelmezhető
306/2010. Kr. 2.§ 14. c) pont szerinti hatásterület nagysága (m)	19	19	19	20

Discrete Distance Vs. Concentration

CO hatásterület



CO hatásterület számítás adatai

06/16/26

08:34:01

*** SCREEN3 MODEL RUN ***
 *** VERSION DATED 13043 ***

SIMPLE TERRAIN INPUTS:

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SOURCE TYPE           =          POINT
EMISSION RATE (G/S)   =      0.100000E-02
STACK HEIGHT (M)      =          0.5000
STK INSIDE DIAM (M)   =          0.1000
STK EXIT VELOCITY (M/S) =        6.3662
STK GAS EXIT TEMP (K) =        350.0000
AMBIENT AIR TEMP (K)  =        293.0000
RECEPTOR HEIGHT (M) =          0.0000
URBAN/RURAL OPTION    =          RURAL
BUILDING HEIGHT (M)   =          0.0000

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MIN HORIZ BLDG DIM (M) = 0.0000
 MAX HORIZ BLDG DIM (M) = 0.0000

THE REGULATORY (DEFAULT) MIXING HEIGHT OPTION WAS SELECTED.
 THE REGULATORY (DEFAULT) ANEMOMETER HEIGHT OF 10.0 METERS WAS ENTERED.

STACK EXIT VELOCITY WAS CALCULATED FROM
 VOLUME FLOW RATE = 0.50000001E-01 (M**3/S)

BUOY. FLUX = 0.025 M**4/S**3; MOM. FLUX = 0.085 M**4/S**2.

*** FULL METEOROLOGY ***

 *** SCREEN DISCRETE DISTANCES ***

*** TERRAIN HEIGHT OF 0. M ABOVE STACK BASE USED FOR FOLLOWING DISTANCES ***

DIST		CONC		U10M	USTK	MIX HT	PLUME	SIGMA	
SIGMA	(M)	(UG/M**3)	STAB	(M/S)	(M/S)	(M)	HT (M)	Y (M)	Z
(M)	DWASH								
-----	-----	-----	----	-----	-----	-----	-----	-----	--
-----	-----								
	1.	0.2435	4	20.0	20.0	6400.0	0.36	0.11	
0.09	NO								
	10.	43.66	4	5.0	5.0	1600.0	0.84	0.97	
0.64	NO								
	18.	35.32	4	2.0	2.0	640.0	1.45	1.69	
1.08	NO								
	19.	34.72	4	2.0	2.0	640.0	1.45	1.77	
1.13	NO								
	20.	33.97	4	2.0	2.0	640.0	1.45	1.86	
1.18	NO								
	30.	26.74	4	1.5	1.5	480.0	1.77	2.70	
1.67	NO								
	40.	22.32	4	1.0	1.0	320.0	2.41	3.55	
2.17	NO								
	50.	18.33	4	1.0	1.0	320.0	2.41	4.35	
2.60	NO								
	60.	14.91	4	1.0	1.0	320.0	2.41	5.14	
3.03	NO								
	70.	12.21	4	1.0	1.0	320.0	2.41	5.92	
3.45	NO								
	80.	10.13	4	1.0	1.0	320.0	2.41	6.69	
3.87	NO								
	90.	8.511	4	1.0	1.0	320.0	2.41	7.46	
4.28	NO								
	100.	7.244	4	1.0	1.0	320.0	2.41	8.22	
4.68	NO								
	110.	6.237	4	1.0	1.0	320.0	2.41	8.97	
5.08	NO								

120.	5.425	4	1.0	1.0	320.0	2.41	9.72
5.48 NO							
130.	4.762	4	1.0	1.0	320.0	2.41	10.47
5.87 NO							
140.	4.214	4	1.0	1.0	320.0	2.41	11.21
6.26 NO							
150.	3.757	4	1.0	1.0	320.0	2.41	11.95
6.64 NO							
160.	3.371	4	1.0	1.0	320.0	2.41	12.68
7.02 NO							
170.	3.043	4	1.0	1.0	320.0	2.41	13.41
7.40 NO							
180.	2.761	4	1.0	1.0	320.0	2.41	14.13
7.77 NO							
190.	2.518	4	1.0	1.0	320.0	2.41	14.85
8.15 NO							
197.	2.366	4	1.0	1.0	320.0	2.41	15.36
8.41 NO							
200.	2.306	4	1.0	1.0	320.0	2.41	15.57
8.52 NO							
300.	2.015	6	1.0	1.0	10000.0	7.75	11.42
5.99 NO							

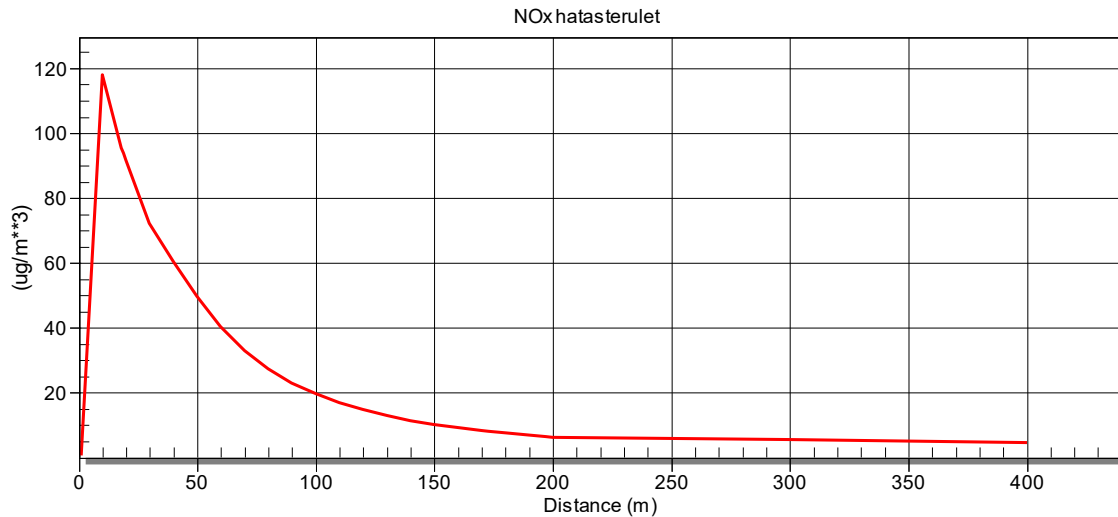
DWASH= MEANS NO CALC MADE (CONC = 0.0)
 DWASH=NO MEANS NO BUILDING DOWNWASH USED
 DWASH=HS MEANS HUBER-SNYDER DOWNWASH USED
 DWASH=SS MEANS SCHULMAN-SCIRE DOWNWASH USED
 DWASH=NA MEANS DOWNWASH NOT APPLICABLE, $X < 3 \cdot LB$

 *** SUMMARY OF SCREEN MODEL RESULTS ***

CALCULATION PROCEDURE	MAX CONC (UG/M**3)	DIST TO MAX (M)	TERRAIN HT (M)
SIMPLE TERRAIN	43.66	10.	0.

 ** REMEMBER TO INCLUDE BACKGROUND CONCENTRATIONS **

Discrete Distance Vs. Concentration



NO_x hatásterület számítás adatai

06/16/26

08:40:24

*** SCREEN3 MODEL RUN ***
 *** VERSION DATED 13043 ***

SIMPLE TERRAIN INPUTS:

SOURCE TYPE	=	POINT
EMISSION RATE (G/S)	=	0.400000E-02
STACK HEIGHT (M)	=	0.5000
STK INSIDE DIAM (M)	=	0.1000
STK EXIT VELOCITY (M/S)	=	6.3662
STK GAS EXIT TEMP (K)	=	350.0000
AMBIENT AIR TEMP (K)	=	293.0000
RECEPTOR HEIGHT (M)	=	0.0000
URBAN/RURAL OPTION	=	RURAL
BUILDING HEIGHT (M)	=	0.0000
MIN HORIZ BLDG DIM (M)	=	0.0000
MAX HORIZ BLDG DIM (M)	=	0.0000

THE REGULATORY (DEFAULT) MIXING HEIGHT OPTION WAS SELECTED.
 THE REGULATORY (DEFAULT) ANEMOMETER HEIGHT OF 10.0 METERS WAS ENTERED.

STACK EXIT VELOCITY WAS CALCULATED FROM
 VOLUME FLOW RATE = 0.50000001E-01 (M³/S)

BUOY. FLUX = 0.025 M⁴/S³; MOM. FLUX = 0.085 M⁴/S².

*** FULL METEOROLOGY ***

 *** SCREEN DISCRETE DISTANCES ***

*** TERRAIN HEIGHT OF 0. M ABOVE STACK BASE USED FOR FOLLOWING
DISTANCES ***

SIGMA	DIST (M)	CONC (UG/M**3)	STAB	U10M (M/S)	USTK (M/S)	MIX HT (M)	PLUME HT (M)	SIGMA Y (M)	Z
	DWASH								
	1.	0.6575	4	20.0	20.0	6400.0	0.36	0.11	
0.09	NO								
	10.	117.9	4	5.0	5.0	1600.0	0.84	0.97	
0.64	NO								
	18.	95.35	4	2.0	2.0	640.0	1.45	1.69	
1.08	NO								
	19.	93.75	4	2.0	2.0	640.0	1.45	1.77	
1.13	NO								
	20.	91.71	4	2.0	2.0	640.0	1.45	1.86	
1.18	NO								
	30.	72.21	4	1.5	1.5	480.0	1.77	2.70	
1.67	NO								
	40.	60.27	4	1.0	1.0	320.0	2.41	3.55	
2.17	NO								
	50.	49.50	4	1.0	1.0	320.0	2.41	4.35	
2.60	NO								
	60.	40.24	4	1.0	1.0	320.0	2.41	5.14	
3.03	NO								
	70.	32.97	4	1.0	1.0	320.0	2.41	5.92	
3.45	NO								
	80.	27.34	4	1.0	1.0	320.0	2.41	6.69	
3.87	NO								
	90.	22.98	4	1.0	1.0	320.0	2.41	7.46	
4.28	NO								
	100.	19.56	4	1.0	1.0	320.0	2.41	8.22	
4.68	NO								
	110.	16.84	4	1.0	1.0	320.0	2.41	8.97	
5.08	NO								
	120.	14.65	4	1.0	1.0	320.0	2.41	9.72	
5.48	NO								
	130.	12.86	4	1.0	1.0	320.0	2.41	10.47	
5.87	NO								
	140.	11.38	4	1.0	1.0	320.0	2.41	11.21	
6.26	NO								
	150.	10.14	4	1.0	1.0	320.0	2.41	11.95	
6.64	NO								
	160.	9.103	4	1.0	1.0	320.0	2.41	12.68	
7.02	NO								
	170.	8.216	4	1.0	1.0	320.0	2.41	13.41	
7.40	NO								
	173.	7.976	4	1.0	1.0	320.0	2.41	13.62	
7.51	NO								
	180.	7.456	4	1.0	1.0	320.0	2.41	14.13	
7.77	NO								

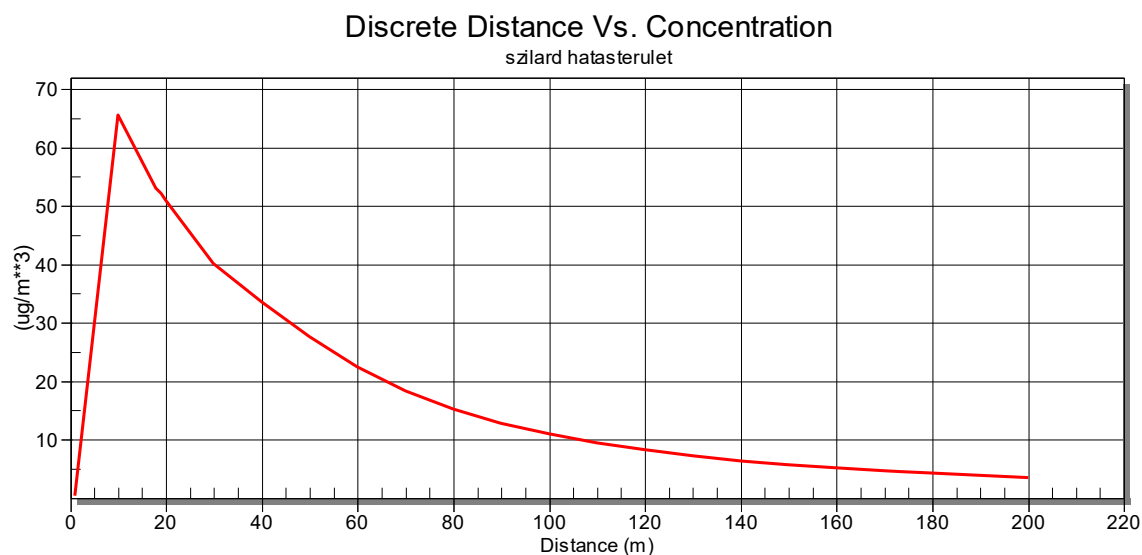
190.	6.798	4	1.0	1.0	320.0	2.41	14.85
8.15	NO						
197.	6.389	4	1.0	1.0	320.0	2.41	15.36
8.41	NO						
200.	6.226	4	1.0	1.0	320.0	2.41	15.57
8.52	NO						
300.	5.440	6	1.0	1.0	10000.0	7.75	11.42
5.99	NO						
400.	4.535	6	1.0	1.0	10000.0	7.75	14.78
7.35	NO						

DWASH= MEANS NO CALC MADE (CONC = 0.0)
 DWASH=NO MEANS NO BUILDING DOWNWASH USED
 DWASH=HS MEANS HUBER-SNYDER DOWNWASH USED
 DWASH=SS MEANS SCHULMAN-SCIRE DOWNWASH USED
 DWASH=NA MEANS DOWNWASH NOT APPLICABLE, $X < 3 \cdot LB$

 *** SUMMARY OF SCREEN MODEL RESULTS ***

CALCULATION PROCEDURE	MAX CONC (UG/M**3)	DIST TO MAX (M)	TERRAIN HT (M)
SIMPLE TERRAIN	117.9	10.	0.

 ** REMEMBER TO INCLUDE BACKGROUND CONCENTRATIONS **



06/16/26

08:55:16

*** SCREEN3 MODEL RUN ***
 *** VERSION DATED 13043 ***

SIMPLE TERRAIN INPUTS:

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SOURCE TYPE           =          POINT
EMISSION RATE (G/S)   =      0.300000E-02
STACK HEIGHT (M)      =          0.5000
STK INSIDE DIAM (M)   =          0.1000
STK EXIT VELOCITY (M/S) =          6.3662
STK GAS EXIT TEMP (K) =          350.0000
AMBIENT AIR TEMP (K)  =          293.0000
RECEPTOR HEIGHT (M) =          0.0000
URBAN/RURAL OPTION    =          RURAL
BUILDING HEIGHT (M)   =          0.0000
MIN HORIZ BLDG DIM (M) =          0.0000
MAX HORIZ BLDG DIM (M) =          0.0000

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THE REGULATORY (DEFAULT) MIXING HEIGHT OPTION WAS SELECTED.
 THE REGULATORY (DEFAULT) ANEMOMETER HEIGHT OF 10.0 METERS WAS
 ENTERED.

STACK EXIT VELOCITY WAS CALCULATED FROM
 VOLUME FLOW RATE = 0.50000001E-01 (M**3/S)

BUOY. FLUX = 0.025 M**4/S**3; MOM. FLUX = 0.085 M**4/S**2.

*** FULL METEOROLOGY ***

 *** SCREEN DISCRETE DISTANCES ***

*** TERRAIN HEIGHT OF 0. M ABOVE STACK BASE USED FOR FOLLOWING
 DISTANCES ***

SIGMA	DIST (M)	CONC (UG/M**3)	STAB	U10M (M/S)	USTK (M/S)	MIX HT (M)	PLUME HT (M)	SIGMA Y (M)	Z
0.09	1.	0.3653	4	20.0	20.0	6400.0	0.36	0.11	
0.64	10.	65.49	4	5.0	5.0	1600.0	0.84	0.97	
1.08	18.	52.97	4	2.0	2.0	640.0	1.45	1.69	
1.13	19.	52.09	4	2.0	2.0	640.0	1.45	1.77	
1.18	20.	50.95	4	2.0	2.0	640.0	1.45	1.86	
1.67	30.	40.12	4	1.5	1.5	480.0	1.77	2.70	
2.17	40.	33.49	4	1.0	1.0	320.0	2.41	3.55	
2.60	50.	27.50	4	1.0	1.0	320.0	2.41	4.35	

60.	22.36	4	1.0	1.0	320.0	2.41	5.14
3.03 NO							
70.	18.31	4	1.0	1.0	320.0	2.41	5.92
3.45 NO							
80.	15.19	4	1.0	1.0	320.0	2.41	6.69
3.87 NO							
90.	12.77	4	1.0	1.0	320.0	2.41	7.46
4.28 NO							
100.	10.87	4	1.0	1.0	320.0	2.41	8.22
4.68 NO							
110.	9.355	4	1.0	1.0	320.0	2.41	8.97
5.08 NO							
120.	8.137	4	1.0	1.0	320.0	2.41	9.72
5.48 NO							
130.	7.143	4	1.0	1.0	320.0	2.41	10.47
5.87 NO							
140.	6.322	4	1.0	1.0	320.0	2.41	11.21
6.26 NO							
144.	6.033	4	1.0	1.0	320.0	2.41	11.50
6.41 NO							
150.	5.636	4	1.0	1.0	320.0	2.41	11.95
6.64 NO							
160.	5.057	4	1.0	1.0	320.0	2.41	12.68
7.02 NO							
170.	4.565	4	1.0	1.0	320.0	2.41	13.41
7.40 NO							
173.	4.431	4	1.0	1.0	320.0	2.41	13.62
7.51 NO							
180.	4.142	4	1.0	1.0	320.0	2.41	14.13
7.77 NO							
190.	3.777	4	1.0	1.0	320.0	2.41	14.85
8.15 NO							
200.	3.459	4	1.0	1.0	320.0	2.41	15.57
8.52 NO							

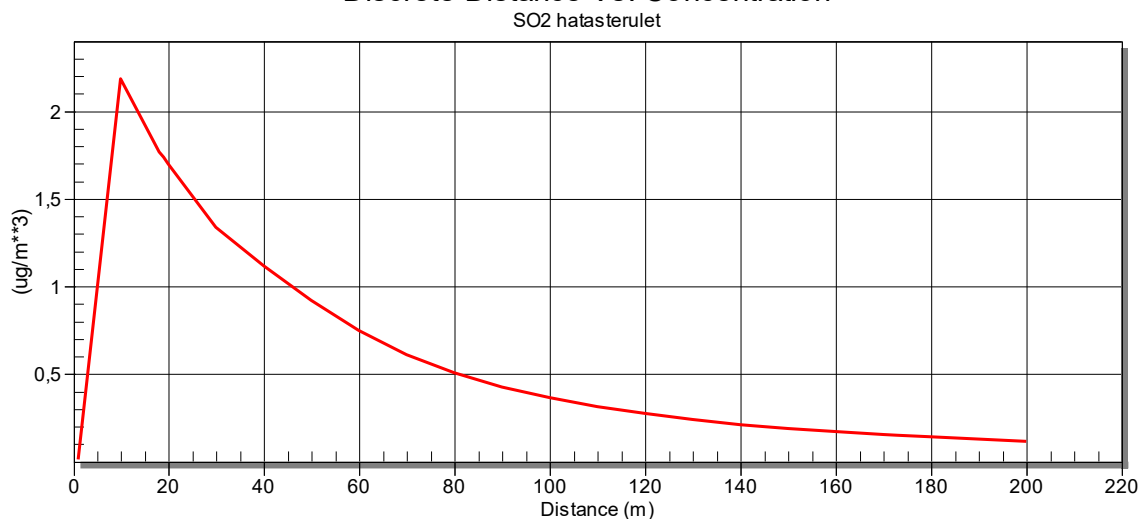
DWASH= MEANS NO CALC MADE (CONC = 0.0)
 DWASH=NO MEANS NO BUILDING DOWNWASH USED
 DWASH=HS MEANS HUBER-SNYDER DOWNWASH USED
 DWASH=SS MEANS SCHULMAN-SCIRE DOWNWASH USED
 DWASH=NA MEANS DOWNWASH NOT APPLICABLE, $X < 3 \cdot LB$

 *** SUMMARY OF SCREEN MODEL RESULTS ***

CALCULATION PROCEDURE	MAX CONC (UG/M**3)	DIST TO MAX (M)	TERRAIN HT (M)
SIMPLE TERRAIN	65.49	10.	0.

 ** REMEMBER TO INCLUDE BACKGROUND CONCENTRATIONS **

Discrete Distance Vs. Concentration



SO₂ hatásterület számítás adatai

06/16/26

09:48:18

*** SCREEN3 MODEL RUN ***

*** VERSION DATED 13043 ***

SIMPLE TERRAIN INPUTS:

SOURCE TYPE	=	POINT
EMISSION RATE (G/S)	=	0.500000E-04
STACK HEIGHT (M)	=	0.5000
STK INSIDE DIAM (M)	=	0.1000
STK EXIT VELOCITY (M/S)	=	6.3662
STK GAS EXIT TEMP (K)	=	350.0000
AMBIENT AIR TEMP (K)	=	293.0000
RECEPTOR HEIGHT (M)	=	0.0000
URBAN/RURAL OPTION	=	RURAL
BUILDING HEIGHT (M)	=	0.0000
MIN HORIZ BLDG DIM (M)	=	0.0000
MAX HORIZ BLDG DIM (M)	=	0.0000

THE REGULATORY (DEFAULT) MIXING HEIGHT OPTION WAS SELECTED.
THE REGULATORY (DEFAULT) ANEMOMETER HEIGHT OF 10.0 METERS WAS ENTERED.

STACK EXIT VELOCITY WAS CALCULATED FROM
VOLUME FLOW RATE = 0.50000001E-01 (M**3/S)

BUOY. FLUX = 0.025 M**4/S**3; MOM. FLUX = 0.085 M**4/S**2.

*** FULL METEOROLOGY ***

*** SCREEN DISCRETE DISTANCES ***

*** TERRAIN HEIGHT OF 0. M ABOVE STACK BASE USED FOR FOLLOWING
DISTANCES ***

SIGMA	DIST (M)	CONC (UG/M**3)	STAB	U10M (M/S)	USTK (M/S)	MIX HT (M)	PLUME HT (M)	SIGMA Y (M)	Z
(M)	DWASH								
0.09	1.	0.1218E-01	4	20.0	20.0	6400.0	0.36	0.11	
0.64	10.	2.183	4	5.0	5.0	1600.0	0.84	0.97	
1.08	18.	1.766	4	2.0	2.0	640.0	1.45	1.69	
1.13	19.	1.736	4	2.0	2.0	640.0	1.45	1.77	
1.18	20.	1.698	4	2.0	2.0	640.0	1.45	1.86	
1.67	30.	1.337	4	1.5	1.5	480.0	1.77	2.70	
2.17	40.	1.116	4	1.0	1.0	320.0	2.41	3.55	
2.60	50.	0.9167	4	1.0	1.0	320.0	2.41	4.35	
3.03	60.	0.7453	4	1.0	1.0	320.0	2.41	5.14	
3.45	70.	0.6105	4	1.0	1.0	320.0	2.41	5.92	
3.87	80.	0.5063	4	1.0	1.0	320.0	2.41	6.69	
4.28	90.	0.4256	4	1.0	1.0	320.0	2.41	7.46	
4.68	100.	0.3622	4	1.0	1.0	320.0	2.41	8.22	
5.08	110.	0.3118	4	1.0	1.0	320.0	2.41	8.97	
5.48	120.	0.2712	4	1.0	1.0	320.0	2.41	9.72	
5.87	130.	0.2381	4	1.0	1.0	320.0	2.41	10.47	
6.26	140.	0.2107	4	1.0	1.0	320.0	2.41	11.21	
6.41	144.	0.2011	4	1.0	1.0	320.0	2.41	11.50	
6.64	150.	0.1879	4	1.0	1.0	320.0	2.41	11.95	
7.02	160.	0.1686	4	1.0	1.0	320.0	2.41	12.68	
7.40	170.	0.1522	4	1.0	1.0	320.0	2.41	13.41	
7.51	173.	0.1477	4	1.0	1.0	320.0	2.41	13.62	
7.77	180.	0.1381	4	1.0	1.0	320.0	2.41	14.13	

190.	0.1259	4	1.0	1.0	320.0	2.41	14.85
8.15	NO						
200.	0.1153	4	1.0	1.0	320.0	2.41	15.57
8.52	NO						

DWASH= MEANS NO CALC MADE (CONC = 0.0)
 DWASH=NO MEANS NO BUILDING DOWNWASH USED
 DWASH=HS MEANS HUBER-SNYDER DOWNWASH USED
 DWASH=SS MEANS SCHULMAN-SCIRE DOWNWASH USED
 DWASH=NA MEANS DOWNWASH NOT APPLICABLE, X<3*LB

 *** SUMMARY OF SCREEN MODEL RESULTS ***

CALCULATION PROCEDURE	MAX CONC (UG/M**3)	DIST TO MAX (M)	TERRAIN HT (M)
-----	-----	-----	-----
SIMPLE TERRAIN	2.183	10.	0.

 ** REMEMBER TO INCLUDE BACKGROUND CONCENTRATIONS **

A következő feladat az akna betonnal történő feltöltése, ezen munka során megfelelő minőségű mixerbeton beszállítására kerül sor. A szükséges beton mennyiséget, 2-3 db 12 vagy 7 m³ kapacitású jármű biztosítja egy nap alatt.

Egy időben egy mixer kibocsátása jelentkezik, más gép részéről kibocsátás nem történik. A mixerek egy időben nem tartózkodnak a munkaterületen.

Légszennyező forrás napi legfeljebb 3 db betonmixer

Névleges teljesítmény: 250 kW

$$V = V_0 + L_0(\lambda - 1)$$

V a füstgázmennyiség m³/kg gázolaj

V₀ az elméleti füstgázmennyiség tökéletes égéskor gázolaj esetén 11,6 m³/kg

L₀ az elméleti levegőszükséglet m³/kg gázolaj 11,1 m³/kg

λ légfelhasználási tényező 1,9

V=20,43 m³/kg

1 liter gázolaj = 0,83 kg 15 liter = 13,3 kg

füstgáz térfogatáram W=13,3x20,43 = 272 m³ füstgáz/h

fajlagos emissziók 1 liter gázolaj elégetésekor CO=0,6 g/l, NO_x=1,5 g/l, szilárd =1,2 g/l, SO₂=0,0172 g/l

A felhasznált üzemanyag kis kéntartalmú gázolaj. Az európai szabványkövetelményekkel megegyezően a Magyarországon forgalomba hozható gázolaj megengedett maximális kéntartalma legfeljebb 10 mg/kg üzemanyag. Azaz 0,001% lehet az dízel kéntartalma (MSZ-EN-ISO-14596).

$$E_{CO}=0,6 \times 15=9,0 \text{ g/h}=0,009 \text{ kg/h}$$

$$C_{CO}=33,08 \text{ mg/m}^3$$

$$E_{NOx}=1,5 \times 15=21 \text{ g/h}=0,023 \text{ kg/h}$$

$$C_{NOx}=84,55 \text{ mg/m}^3$$

$$E_{szilárd}=1,2 \times 15=16,8 \text{ g/h}=0,018 \text{ kg/h}$$

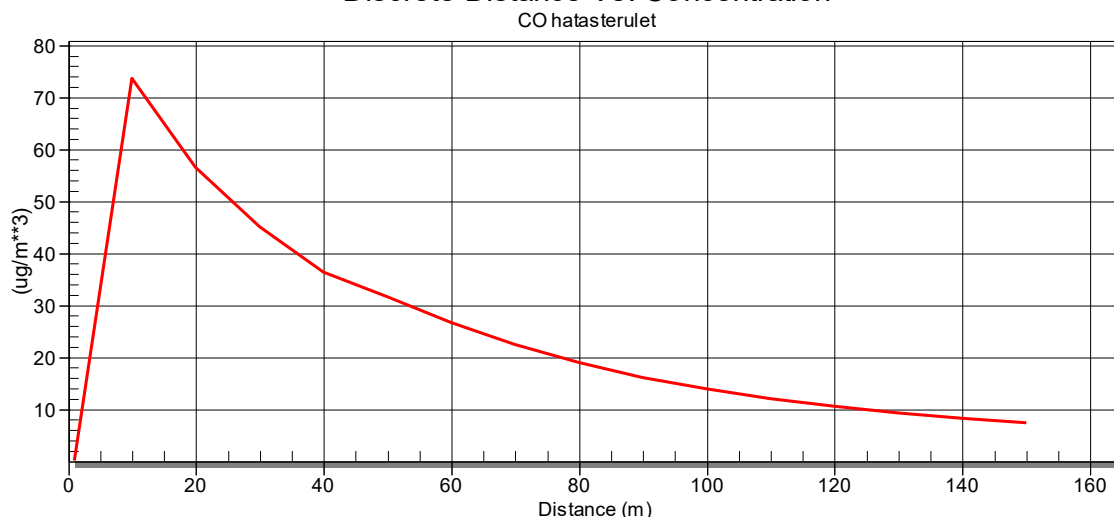
$$C_{szilárd}=66,17 \text{ mg/m}^3$$

$$E_{SO_2}=0,0172 \times 15=0,24 \text{ g/h}=0,0003 \text{ kg/h}$$

$$C_{SO_2}=1,10 \text{ mg/m}^3$$

szennyezőanyag	CO	NO _x NO ₂ -ként	szilárd anyag	SO ₂
emisszió g/s	0,002	0,006	0,005	0,00008
órás határérték (µg/m ³)	10000	100	-	250
órás határérték 10%-a (µg/m ³)	1000	10	-	25
24 órás határérték (µg/m ³)	5000	85	50	125
24 órás határérték 10%-a (µg/m ³)	500	8,5	5	12,5
alap levegő terheltség (µg/m ³)	370	60	20	5
terhelhetőség (µg/m ³)	9630	40	30	245
terhelhetőség 20 %-a (µg/m ³)	1926	8	6	49
maximum érték 80% (µg/m ³)	58,8	117,7	70,9	1,8
306/2010. Kr. 2.§ 14. a) pont szerinti hatásterület nagysága (m)	nem értelmezhető	188	190	nem értelmezhető
306/2010. Kr. 2.§ 14. b) pont szerinti hatásterület nagysága (m)	nem értelmezhető	208	170	nem értelmezhető
306/2010. Kr. 2.§ 14. c) pont szerinti hatásterület nagysága (m)	19	18	18	18

Discrete Distance Vs. Concentration



CO hatásterület számítás adatai

06/16/26

06:01:10

*** SCREEN3 MODEL RUN ***
 *** VERSION DATED 13043 ***

SIMPLE TERRAIN INPUTS:

SOURCE TYPE	=	POINT
EMISSION RATE (G/S)	=	0.200000E-02
STACK HEIGHT (M)	=	0.5000
STK INSIDE DIAM (M)	=	0.1000
STK EXIT VELOCITY (M/S)	=	7.6394
STK GAS EXIT TEMP (K)	=	350.0000
AMBIENT AIR TEMP (K)	=	293.0000
RECEPTOR HEIGHT (M)	=	0.0000
URBAN/RURAL OPTION	=	RURAL
BUILDING HEIGHT (M)	=	0.0000
MIN HORIZ BLDG DIM (M)	=	0.0000
MAX HORIZ BLDG DIM (M)	=	0.0000

THE REGULATORY (DEFAULT) MIXING HEIGHT OPTION WAS SELECTED.
 THE REGULATORY (DEFAULT) ANEMOMETER HEIGHT OF 10.0 METERS WAS ENTERED.

STACK EXIT VELOCITY WAS CALCULATED FROM
 VOLUME FLOW RATE = 0.59999999E-01 (M**3/S)

BUOY. FLUX = 0.031 M**4/S**3; MOM. FLUX = 0.122 M**4/S**2.

*** FULL METEOROLOGY ***

 *** SCREEN DISCRETE DISTANCES ***

*** TERRAIN HEIGHT OF 0. M ABOVE STACK BASE USED FOR FOLLOWING DISTANCES ***

SIGMA	DIST (M)	CONC (UG/M**3)	STAB	U10M (M/S)	USTK (M/S)	MIX HT (M)	PLUME HT (M)	SIGMA Y (M)	Z
	DWASH								
0.09	1.	0.1035	4	20.0	20.0	6400.0	0.39	0.11	
0.63	10.	73.56	4	8.0	8.0	2560.0	0.68	0.96	
1.13	19.	57.97	4	2.5	2.5	800.0	1.42	1.77	
1.18	20.	56.53	4	2.5	2.5	800.0	1.42	1.85	
1.69	30.	45.02	4	1.5	1.5	480.0	2.03	2.72	

	40.	36.26	4	1.0	1.0	320.0	2.79	3.56
2.20	NO							
	50.	31.60	4	1.0	1.0	320.0	2.79	4.36
2.63	NO							
	60.	26.66	4	1.0	1.0	320.0	2.79	5.15
3.05	NO							
	70.	22.38	4	1.0	1.0	320.0	2.79	5.93
3.47	NO							
	80.	18.89	4	1.0	1.0	320.0	2.79	6.70
3.89	NO							
	90.	16.07	4	1.0	1.0	320.0	2.79	7.47
4.29	NO							
	100.	13.81	4	1.0	1.0	320.0	2.79	8.23
4.70	NO							
	110.	11.97	4	1.0	1.0	320.0	2.79	8.98
5.10	NO							
	120.	10.47	4	1.0	1.0	320.0	2.79	9.73
5.49	NO							
	130.	9.234	4	1.0	1.0	320.0	2.79	10.48
5.88	NO							
	140.	8.202	4	1.0	1.0	320.0	2.79	11.22
6.27	NO							
	150.	7.334	4	1.0	1.0	320.0	2.79	11.95
6.65	NO							

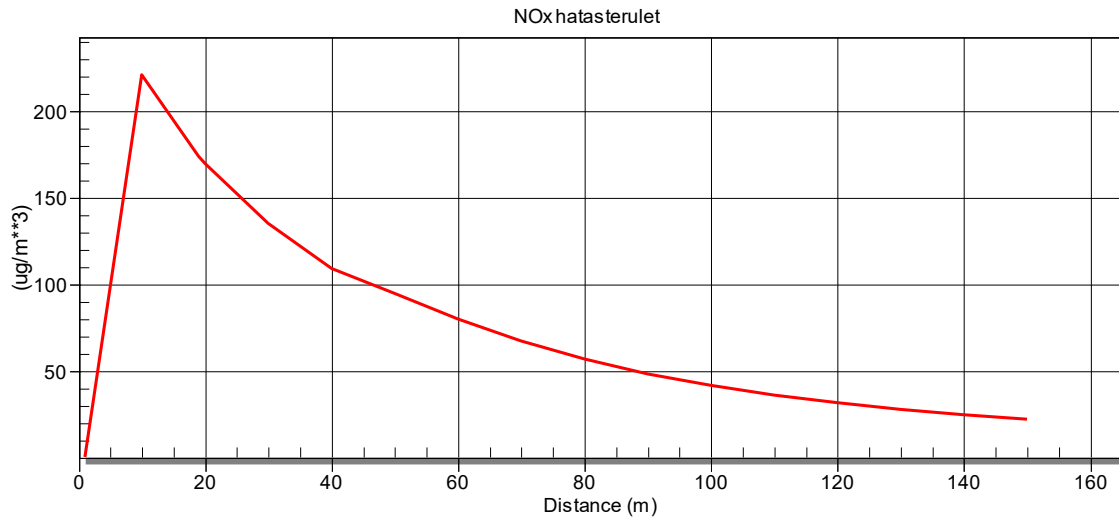
DWASH= MEANS NO CALC MADE (CONC = 0.0)
 DWASH=NO MEANS NO BUILDING DOWNWASH USED
 DWASH=HS MEANS HUBER-SNYDER DOWNWASH USED
 DWASH=SS MEANS SCHULMAN-SCIRE DOWNWASH USED
 DWASH=NA MEANS DOWNWASH NOT APPLICABLE, $X < 3 \cdot LB$

 *** SUMMARY OF SCREEN MODEL RESULTS ***

CALCULATION PROCEDURE	MAX CONC (UG/M**3)	DIST TO MAX (M)	TERRAIN HT (M)
SIMPLE TERRAIN	73.56	10.	0.

 ** REMEMBER TO INCLUDE BACKGROUND CONCENTRATIONS **

Discrete Distance Vs. Concentration



NO_x hatásterület számítás adatai

06/16/26

06:34:44

*** SCREEN3 MODEL RUN ***
 *** VERSION DATED 13043 ***

SIMPLE TERRAIN INPUTS:

SOURCE TYPE	=	POINT
EMISSION RATE (G/S)	=	0.600000E-02
STACK HEIGHT (M)	=	0.5000
STK INSIDE DIAM (M)	=	0.1000
STK EXIT VELOCITY (M/S)	=	7.6394
STK GAS EXIT TEMP (K)	=	350.0000
AMBIENT AIR TEMP (K)	=	293.0000
RECEPTOR HEIGHT (M)	=	0.0000
URBAN/RURAL OPTION	=	RURAL
BUILDING HEIGHT (M)	=	0.0000
MIN HORIZ BLDG DIM (M)	=	0.0000
MAX HORIZ BLDG DIM (M)	=	0.0000

THE REGULATORY (DEFAULT) MIXING HEIGHT OPTION WAS SELECTED.
 THE REGULATORY (DEFAULT) ANEMOMETER HEIGHT OF 10.0 METERS WAS ENTERED.

STACK EXIT VELOCITY WAS CALCULATED FROM
 VOLUME FLOW RATE = 0.59999999E-01 (M**3/S)

BUOY. FLUX = 0.031 M**4/S**3; MOM. FLUX = 0.122 M**4/S**2.

*** FULL METEOROLOGY ***

 *** SCREEN DISCRETE DISTANCES ***

*** TERRAIN HEIGHT OF 0. M ABOVE STACK BASE USED FOR FOLLOWING
DISTANCES ***

DIST SIGMA (M)	CONC (UG/M**3) DWASH	STAB	U10M (M/S)	USTK (M/S)	MIX HT (M)	PLUME HT (M)	SIGMA Y (M)	Z
-----	-----	----	-----	-----	-----	-----	-----	--
0.09	1. NO	4	20.0	20.0	6400.0	0.39	0.11	
0.63	10. NO	4	8.0	8.0	2560.0	0.68	0.96	
1.08	18. NO	4	2.5	2.5	800.0	1.42	1.68	
1.18	20. NO	4	2.5	2.5	800.0	1.42	1.85	
1.69	30. NO	4	1.5	1.5	480.0	2.03	2.72	
2.20	40. NO	4	1.0	1.0	320.0	2.79	3.56	
2.63	50. NO	4	1.0	1.0	320.0	2.79	4.36	
3.05	60. NO	4	1.0	1.0	320.0	2.79	5.15	
3.47	70. NO	4	1.0	1.0	320.0	2.79	5.93	
3.89	80. NO	4	1.0	1.0	320.0	2.79	6.70	
4.29	90. NO	4	1.0	1.0	320.0	2.79	7.47	
4.70	100. NO	4	1.0	1.0	320.0	2.79	8.23	
5.10	110. NO	4	1.0	1.0	320.0	2.79	8.98	
5.49	120. NO	4	1.0	1.0	320.0	2.79	9.73	
5.88	130. NO	4	1.0	1.0	320.0	2.79	10.48	
6.27	140. NO	4	1.0	1.0	320.0	2.79	11.22	
6.65	150. NO	4	1.0	1.0	320.0	2.79	11.95	
7.03	160. NO	4	1.0	1.0	320.0	2.79	12.68	
7.41	170. NO	4	1.0	1.0	320.0	2.79	13.41	
7.78	180. NO	4	1.0	1.0	320.0	2.79	14.14	
8.08	188. NO	4	1.0	1.0	320.0	2.79	14.71	
8.15	190. NO	4	1.0	1.0	320.0	2.79	14.86	
8.52	200. NO	4	1.0	1.0	320.0	2.79	15.58	

208.	8.503	4	1.0	1.0	320.0	2.79	16.15
8.82	NO						
300.	7.318	6	1.0	1.0	10000.0	8.21	11.45
6.04	NO						
400.	6.282	6	1.0	1.0	10000.0	8.21	14.80
7.38	NO						

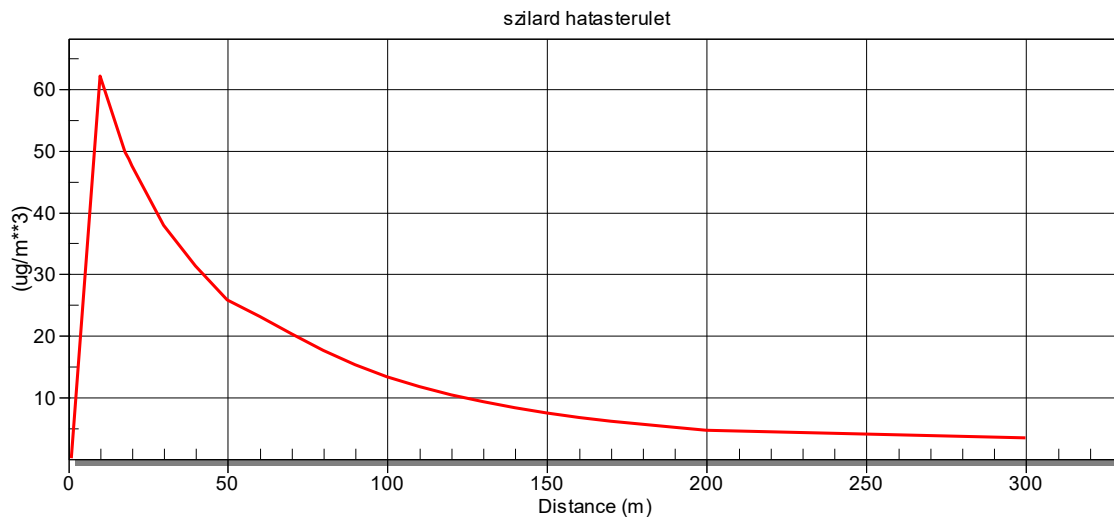
DWASH= MEANS NO CALC MADE (CONC = 0.0)
 DWASH=NO MEANS NO BUILDING DOWNWASH USED
 DWASH=HS MEANS HUBER-SNYDER DOWNWASH USED
 DWASH=SS MEANS SCHULMAN-SCIRE DOWNWASH USED
 DWASH=NA MEANS DOWNWASH NOT APPLICABLE, $X < 3 \cdot L_B$

 *** SUMMARY OF SCREEN MODEL RESULTS ***

CALCULATION PROCEDURE	MAX CONC (UG/M**3)	DIST TO MAX (M)	TERRAIN HT (M)
SIMPLE TERRAIN	147.1	10.	0.

 ** REMEMBER TO INCLUDE BACKGROUND CONCENTRATIONS **

Discrete Distance Vs. Concentration



06/16/26

10:52:28

*** SCREEN3 MODEL RUN ***
 *** VERSION DATED 13043 ***

SIMPLE TERRAIN INPUTS:

SOURCE TYPE	=	POINT
EMISSION RATE (G/S)	=	0.500000E-02

```

STACK HEIGHT (M)      =      0.5000
STK INSIDE DIAM (M)   =      0.1000
STK EXIT VELOCITY (M/S) =      9.5493
STK GAS EXIT TEMP (K) =     350.0000
AMBIENT AIR TEMP (K)  =     293.0000
RECEPTOR HEIGHT (M) =      0.0000
URBAN/RURAL OPTION    =      RURAL
BUILDING HEIGHT (M)   =      0.0000
MIN HORIZ BLDG DIM (M) =      0.0000
MAX HORIZ BLDG DIM (M) =      0.0000

```

THE REGULATORY (DEFAULT) MIXING HEIGHT OPTION WAS SELECTED.
 THE REGULATORY (DEFAULT) ANEMOMETER HEIGHT OF 10.0 METERS WAS
 ENTERED.

```

STACK EXIT VELOCITY WAS CALCULATED FROM
VOLUME FLOW RATE =  0.75000003E-01 (M**3/S)

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BUOY. FLUX =      0.038 M**4/S**3;  MOM. FLUX =      0.191 M**4/S**2.

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*** FULL METEOROLOGY ***

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*****
*** SCREEN DISCRETE DISTANCES ***
*****

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*** TERRAIN HEIGHT OF 0. M ABOVE STACK BASE USED FOR FOLLOWING
 DISTANCES ***

DIST		CONC		U10M	USTK	MIX HT	PLUME	SIGMA	
SIGMA	(M)	(UG/M**3)	STAB	(M/S)	(M/S)	(M)	HT (M)	Y (M)	Z
(M)	DWASH								
----	-----	----	-----	-----	-----	-----	-----	-----	--
0.64	10.	62.06	4	8.0	8.0	2560.0	0.80	0.97	
	NO								
1.07	18.	49.78	4	3.5	3.5	1120.0	1.32	1.68	
	NO								
1.13	19.	48.61	4	3.0	3.0	960.0	1.45	1.77	
	NO								
1.18	20.	47.55	4	3.0	3.0	960.0	1.45	1.86	
	NO								
1.68	30.	37.89	4	2.0	2.0	640.0	1.93	2.71	
	NO								
2.17	40.	31.25	4	1.5	1.5	480.0	2.41	3.55	
	NO								
2.67	50.	25.81	4	1.0	1.0	320.0	3.36	4.39	
	NO								
3.09	60.	23.12	4	1.0	1.0	320.0	3.36	5.17	
	NO								
3.51	70.	20.22	4	1.0	1.0	320.0	3.36	5.95	
	NO								
3.92	80.	17.56	4	1.0	1.0	320.0	3.36	6.72	
	NO								

	90.	15.26	4	1.0	1.0	320.0	3.36	7.48
4.32	NO							
	100.	13.32	4	1.0	1.0	320.0	3.36	8.24
4.72	NO							
	110.	11.70	4	1.0	1.0	320.0	3.36	8.99
5.12	NO							
	120.	10.33	4	1.0	1.0	320.0	3.36	9.74
5.51	NO							
	130.	9.182	4	1.0	1.0	320.0	3.36	10.49
5.90	NO							
	140.	8.208	4	1.0	1.0	320.0	3.36	11.23
6.29	NO							
	150.	7.379	4	1.0	1.0	320.0	3.36	11.96
6.67	NO							
	160.	6.668	4	1.0	1.0	320.0	3.36	12.69
7.05	NO							
	170.	6.054	4	1.0	1.0	320.0	3.36	13.42
7.42	NO							
	180.	5.521	4	1.0	1.0	320.0	3.36	14.15
7.80	NO							
	190.	5.056	4	1.0	1.0	320.0	3.36	14.87
8.17	NO							
	200.	4.648	4	1.0	1.0	320.0	3.36	15.58
8.54	NO							
	235.	3.553	4	1.0	1.0	320.0	3.36	18.08
9.81	NO							
	300.	3.373	6	1.0	1.0	10000.0	8.80	11.48
6.10	NO							

DWASH= MEANS NO CALC MADE (CONC = 0.0)
 DWASH=NO MEANS NO BUILDING DOWNWASH USED
 DWASH=HS MEANS HUBER-SNYDER DOWNWASH USED
 DWASH=SS MEANS SCHULMAN-SCIRE DOWNWASH USED
 DWASH=NA MEANS DOWNWASH NOT APPLICABLE, $X < 3 \cdot LB$

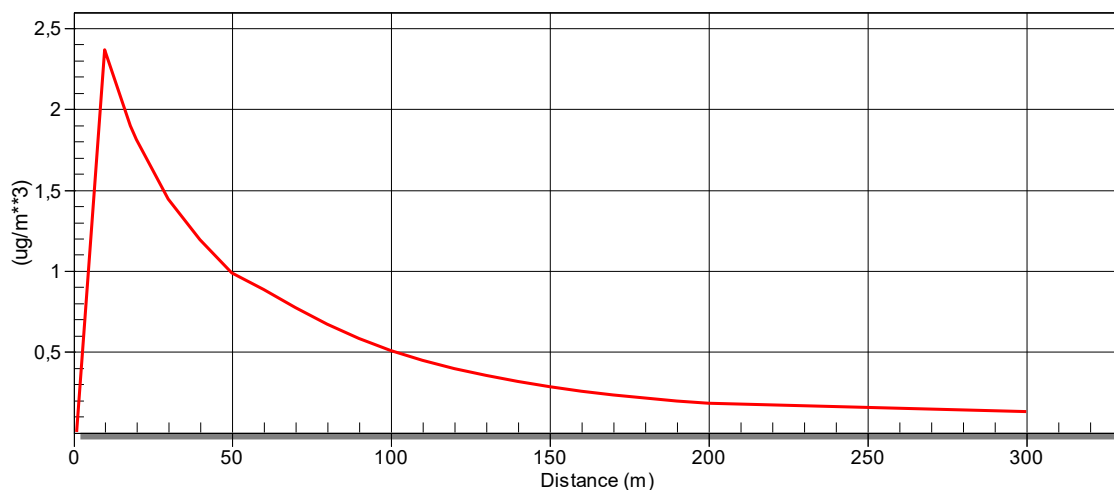
 *** SUMMARY OF SCREEN MODEL RESULTS ***

CALCULATION PROCEDURE	MAX CONC (UG/M**3)	DIST TO MAX (M)	TERRAIN HT (M)
SIMPLE TERRAIN	62.06	10.	0.

 ** REMEMBER TO INCLUDE BACKGROUND CONCENTRATIONS **

Discrete Distance Vs. Concentration

SO2 hatasterület



06/16/26

10:58:11

*** SCREEN3 MODEL RUN ***
 *** VERSION DATED 13043 ***

SIMPLE TERRAIN INPUTS:

SOURCE TYPE	=	POINT
EMISSION RATE (G/S)	=	0.800000E-04
STACK HEIGHT (M)	=	0.5000
STK INSIDE DIAM (M)	=	0.1000
STK EXIT VELOCITY (M/S)	=	9.5493
STK GAS EXIT TEMP (K)	=	350.0000
AMBIENT AIR TEMP (K)	=	293.0000
RECEPTOR HEIGHT (M)	=	0.0000
URBAN/RURAL OPTION	=	RURAL
BUILDING HEIGHT (M)	=	0.0000
MIN HORIZ BLDG DIM (M)	=	0.0000
MAX HORIZ BLDG DIM (M)	=	0.0000

THE REGULATORY (DEFAULT) MIXING HEIGHT OPTION WAS SELECTED.
 THE REGULATORY (DEFAULT) ANEMOMETER HEIGHT OF 10.0 METERS WAS ENTERED.

STACK EXIT VELOCITY WAS CALCULATED FROM
 VOLUME FLOW RATE = 0.75000003E-01 (M**3/S)

BUOY. FLUX = 0.038 M**4/S**3; MOM. FLUX = 0.191 M**4/S**2.

*** FULL METEOROLOGY ***

 *** SCREEN DISCRETE DISTANCES ***

*** TERRAIN HEIGHT OF 0. M ABOVE STACK BASE USED FOR FOLLOWING DISTANCES ***

	DIST	CONC		U10M	USTK	MIX HT	PLUME	SIGMA	
SIGMA	(M)	(UG/M**3)	STAB	(M/S)	(M/S)	(M)	HT (M)	Y (M)	Z
	(M)	DWASH							
	-----	-----	----	-----	-----	-----	-----	-----	----
	-----	-----							
0.09	1.	0.3510E-03	4	20.0	20.0	6400.0	0.44	0.11	
	NO								
0.64	10.	2.364	4	8.0	8.0	2560.0	0.80	0.97	
	NO								
1.07	18.	1.896	4	3.5	3.5	1120.0	1.32	1.68	
	NO								
1.13	19.	1.852	4	3.0	3.0	960.0	1.45	1.77	
	NO								
1.18	20.	1.812	4	3.0	3.0	960.0	1.45	1.86	
	NO								
1.68	30.	1.444	4	2.0	2.0	640.0	1.93	2.71	
	NO								
2.17	40.	1.191	4	1.5	1.5	480.0	2.41	3.55	
	NO								
2.67	50.	0.9833	4	1.0	1.0	320.0	3.36	4.39	
	NO								
3.09	60.	0.8809	4	1.0	1.0	320.0	3.36	5.17	
	NO								
3.51	70.	0.7704	4	1.0	1.0	320.0	3.36	5.95	
	NO								
3.92	80.	0.6690	4	1.0	1.0	320.0	3.36	6.72	
	NO								
4.32	90.	0.5815	4	1.0	1.0	320.0	3.36	7.48	
	NO								
4.72	100.	0.5076	4	1.0	1.0	320.0	3.36	8.24	
	NO								
5.12	110.	0.4456	4	1.0	1.0	320.0	3.36	8.99	
	NO								
5.51	120.	0.3936	4	1.0	1.0	320.0	3.36	9.74	
	NO								
5.90	130.	0.3498	4	1.0	1.0	320.0	3.36	10.49	
	NO								
6.29	140.	0.3127	4	1.0	1.0	320.0	3.36	11.23	
	NO								
6.67	150.	0.2811	4	1.0	1.0	320.0	3.36	11.96	
	NO								
7.05	160.	0.2540	4	1.0	1.0	320.0	3.36	12.69	
	NO								
7.42	170.	0.2306	4	1.0	1.0	320.0	3.36	13.42	
	NO								
7.80	180.	0.2103	4	1.0	1.0	320.0	3.36	14.15	
	NO								
8.17	190.	0.1926	4	1.0	1.0	320.0	3.36	14.87	
	NO								
8.54	200.	0.1771	4	1.0	1.0	320.0	3.36	15.58	
	NO								
6.10	300.	0.1285	6	1.0	1.0	10000.0	8.80	11.48	
	NO								

DWASH= MEANS NO CALC MADE (CONC = 0.0)
 DWASH=NO MEANS NO BUILDING DOWNWASH USED
 DWASH=HS MEANS HUBER-SNYDER DOWNWASH USED
 DWASH=SS MEANS SCHULMAN-SCIRE DOWNWASH USED
 DWASH=NA MEANS DOWNWASH NOT APPLICABLE, X<3*LB

 *** SUMMARY OF SCREEN MODEL RESULTS ***

CALCULATION PROCEDURE	MAX CONC (UG/M**3)	DIST TO MAX (M)	TERRAIN HT (M)
----- SIMPLE TERRAIN	----- 2.364	----- 10.	----- 0.

 ** REMEMBER TO INCLUDE BACKGROUND CONCENTRATIONS **

A további munkálatok a betonozást követően folytatódnak. Ekkor elsőként egy darab lánctalpas CAT 225 kotró a kijelölt 150x150 m méretű üzemi területen, a kiméréseknek megfelelően kialakítja a zúzottköves feltöltés fogadására megfelelő területet. A letermelt humuszt a Daruszentmiklós lakóházainak irányába deponálja. A területről a föld elszállításra nem került a kotró egyedüli légszennyező forrásként végzi a feladatát. A jármű az anyagmozgatás során a kitermelt földet az üzemi terület határán, a lakóházak irányába közel 150 m szélességben, 6 m töltéslábra 4 m magasra emelt 4 m-es koronaszélességgel deponálja,

Légszennyező forrás CAT 225 lánctalpas kotró

Névleges teljesítmény: 225 kW

A motor gyártása során beépítésre került SCR katalizátor a dízelmotor NO_x kibocsátását csökkenti, így a kipufogónál közvetlenül a kibocsátási koncentrációkat a járműkategóriának teljesítenie kell.

$$V = V_0 + L_0(\lambda - 1)$$

V a füstgázmennyiség m³/kg gázolaj

V₀ az elméleti füstgázmennyiség tökéletes égéskor gázolaj esetén 11,6 m³/kg

L₀ az elméleti levegőszükséglet m³/kg gázolaj 11,1 m³/kg

λ légfelhasználási tényező 1,9

V=20,43 m³/kg

1 liter gázolaj = 0,83 kg 14 liter = 11,6 kg

füstgáz térfogatáram W=11,6x20,43 = 237 m³ füstgáz/h

fajlagos emissziók 1 liter gázolaj elégetésekor CO=0,6 g/l, NO_x=1,5 g/l, szilárd =1,2 g/l, SO₂=0,0172 g/l

A felhasznált üzemanyag kis kéntartalmú gázolaj. Az európai szabványkövetelményekkel megegyezően a Magyarországon forgalomba hozható gázolaj megengedett maximális kéntartalma legfeljebb 10 mg/kg üzemanyag. Azaz 0,001% lehet az dízel kéntartalma (MSZ-EN-ISO-14596).

$$E_{CO}=0,6 \times 14=8,4 \text{ g/h}=0,0084 \text{ kg/h}$$

$$C_{NO_x}=88,6 \text{ mg/m}^3$$

$$E_{NO_x}=1,5 \times 14=21 \text{ g/h}=0,021 \text{ kg/h}$$

$$C_{szilárd}=70,88 \text{ mg/m}^3$$

$$E_{szilárd}=1,2 \times 14=16,8 \text{ g/h}=0,0168 \text{ kg/h}$$

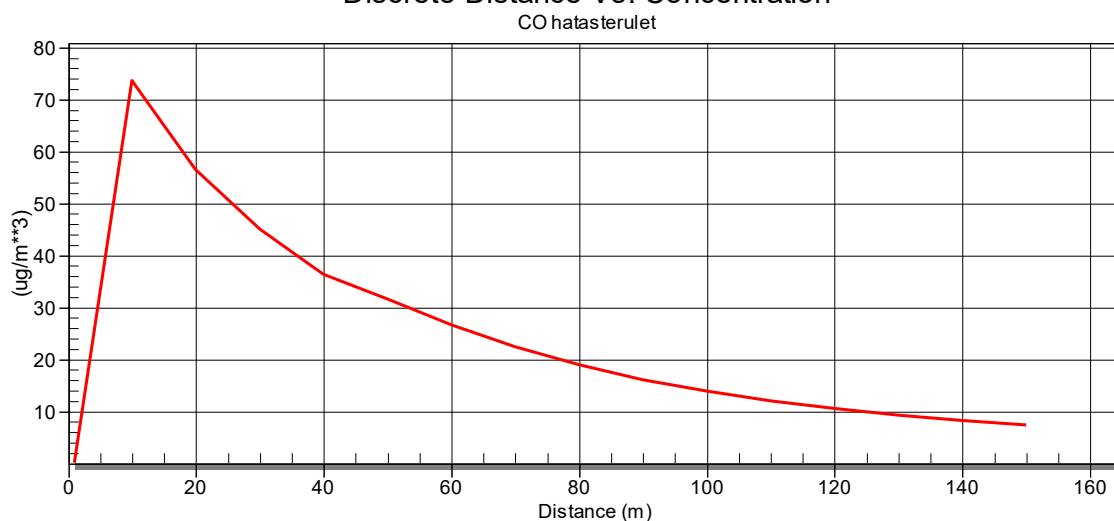
$$C_{SO_2}=0,84 \text{ mg/m}^3$$

$$E_{SO_2}=0,0172 \times 14=0,24 \text{ g/h}=0,0002 \text{ kg/h}$$

$$C_{CO}=35,44 \text{ mg/m}^3$$

szennyezőanyag	CO	NO _x NO ₂ -ként	szilárd anyag	SO ₂
emisszió g/s	0,002	0,006	0,004	0,00006
órás határérték (µg/m³)	10000	100	-	250
órás határérték 10%-a (µg/m³)	1000	10	-	25
24 órás határérték (µg/m³)	5000	85	50	125
24 órás határérték 10%-a (µg/m³)	500	8,5	5	12,5
alap levegő terheltség (µg/m³)	370	60	20	5
terhelhetőség (µg/m³)	9630	40	30	245
terhelhetőség 20 %-a (µg/m³)	1926	8	6	49
maximum érték 80% (µg/m³)	58,8	117,7	64,7	1,8
306/2010. Kr. 2.§ 14. a) pont szerinti hatásterület nagysága (m)	nem értelmezhető	188	200	nem értelmezhető
306/2010. Kr. 2.§ 14. b) pont szerinti hatásterület nagysága (m)	nem értelmezhető	208	180	nem értelmezhető
306/2010. Kr. 2.§ 14. c) pont szerinti hatásterület nagysága (m)	19	18	18	17

Discrete Distance Vs. Concentration



CO hatásterület számítás adatai

06/16/26

06:01:10

*** SCREEN3 MODEL RUN ***
 *** VERSION DATED 13043 ***

SIMPLE TERRAIN INPUTS:

SOURCE TYPE	=	POINT
EMISSION RATE (G/S)	=	0.200000E-02
STACK HEIGHT (M)	=	0.5000
STK INSIDE DIAM (M)	=	0.1000
STK EXIT VELOCITY (M/S)	=	7.6394
STK GAS EXIT TEMP (K)	=	350.0000
AMBIENT AIR TEMP (K)	=	293.0000
RECEPTOR HEIGHT (M)	=	0.0000
URBAN/RURAL OPTION	=	RURAL
BUILDING HEIGHT (M)	=	0.0000
MIN HORIZ BLDG DIM (M)	=	0.0000
MAX HORIZ BLDG DIM (M)	=	0.0000

THE REGULATORY (DEFAULT) MIXING HEIGHT OPTION WAS SELECTED.
 THE REGULATORY (DEFAULT) ANEMOMETER HEIGHT OF 10.0 METERS WAS ENTERED.

STACK EXIT VELOCITY WAS CALCULATED FROM
 VOLUME FLOW RATE = 0.59999999E-01 (M**3/S)

BUOY. FLUX = 0.031 M**4/S**3; MOM. FLUX = 0.122 M**4/S**2.

*** FULL METEOROLOGY ***

 *** SCREEN DISCRETE DISTANCES ***

*** TERRAIN HEIGHT OF 0. M ABOVE STACK BASE USED FOR FOLLOWING DISTANCES ***

DIST		CONC		U10M	USTK	MIX HT	PLUME	SIGMA	
SIGMA	(M)	(UG/M**3)	STAB	(M/S)	(M/S)	(M)	HT (M)	Y (M)	Z
(M)	DWASH								
	-----	-----	----	-----	-----	-----	-----	-----	--
0.09	1.	0.1035	4	20.0	20.0	6400.0	0.39	0.11	
	NO								
0.63	10.	73.56	4	8.0	8.0	2560.0	0.68	0.96	
	NO								
1.13	19.	57.97	4	2.5	2.5	800.0	1.42	1.77	
	NO								
1.18	20.	56.53	4	2.5	2.5	800.0	1.42	1.85	
	NO								
1.69	30.	45.02	4	1.5	1.5	480.0	2.03	2.72	
	NO								

	40.	36.26	4	1.0	1.0	320.0	2.79	3.56
2.20	NO							
	50.	31.60	4	1.0	1.0	320.0	2.79	4.36
2.63	NO							
	60.	26.66	4	1.0	1.0	320.0	2.79	5.15
3.05	NO							
	70.	22.38	4	1.0	1.0	320.0	2.79	5.93
3.47	NO							
	80.	18.89	4	1.0	1.0	320.0	2.79	6.70
3.89	NO							
	90.	16.07	4	1.0	1.0	320.0	2.79	7.47
4.29	NO							
	100.	13.81	4	1.0	1.0	320.0	2.79	8.23
4.70	NO							
	110.	11.97	4	1.0	1.0	320.0	2.79	8.98
5.10	NO							
	120.	10.47	4	1.0	1.0	320.0	2.79	9.73
5.49	NO							
	130.	9.234	4	1.0	1.0	320.0	2.79	10.48
5.88	NO							
	140.	8.202	4	1.0	1.0	320.0	2.79	11.22
6.27	NO							
	150.	7.334	4	1.0	1.0	320.0	2.79	11.95
6.65	NO							

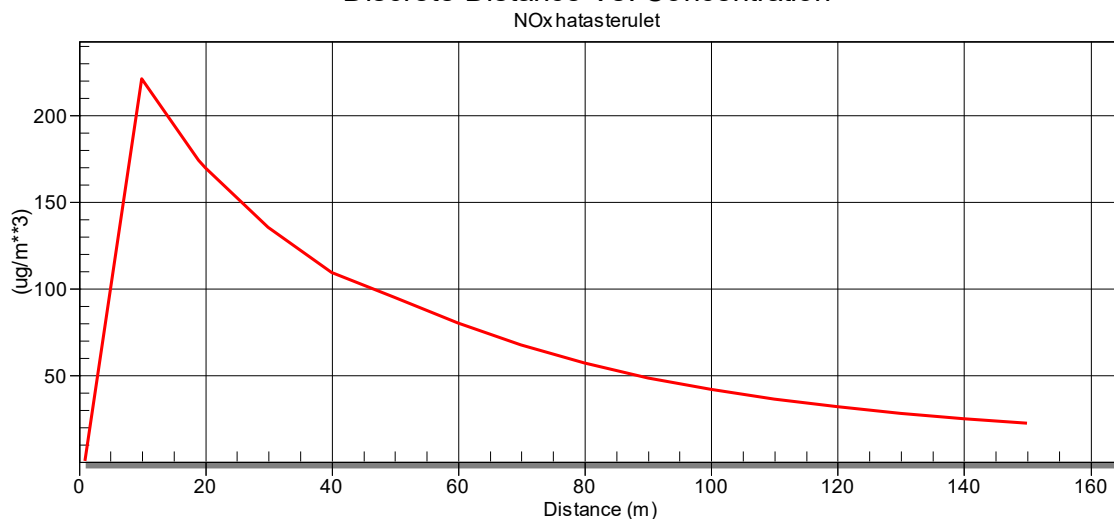
DWASH= MEANS NO CALC MADE (CONC = 0.0)
 DWASH=NO MEANS NO BUILDING DOWNWASH USED
 DWASH=HS MEANS HUBER-SNYDER DOWNWASH USED
 DWASH=SS MEANS SCHULMAN-SCIRE DOWNWASH USED
 DWASH=NA MEANS DOWNWASH NOT APPLICABLE, $X < 3 \cdot LB$

 *** SUMMARY OF SCREEN MODEL RESULTS ***

CALCULATION PROCEDURE	MAX CONC (UG/M**3)	DIST TO MAX (M)	TERRAIN HT (M)
SIMPLE TERRAIN	73.56	10.	0.

 ** REMEMBER TO INCLUDE BACKGROUND CONCENTRATIONS **

Discrete Distance Vs. Concentration



NO_x hatásterület számítás adatai

06/16/26

06:34:44

*** SCREEN3 MODEL RUN ***

*** VERSION DATED 13043 ***

SIMPLE TERRAIN INPUTS:

SOURCE TYPE	=	POINT
EMISSION RATE (G/S)	=	0.600000E-02
STACK HEIGHT (M)	=	0.5000
STK INSIDE DIAM (M)	=	0.1000
STK EXIT VELOCITY (M/S)	=	7.6394
STK GAS EXIT TEMP (K)	=	350.0000
AMBIENT AIR TEMP (K)	=	293.0000
RECEPTOR HEIGHT (M)	=	0.0000
URBAN/RURAL OPTION	=	RURAL
BUILDING HEIGHT (M)	=	0.0000
MIN HORIZ BLDG DIM (M)	=	0.0000
MAX HORIZ BLDG DIM (M)	=	0.0000

THE REGULATORY (DEFAULT) MIXING HEIGHT OPTION WAS SELECTED.
THE REGULATORY (DEFAULT) ANEMOMETER HEIGHT OF 10.0 METERS WAS ENTERED.

STACK EXIT VELOCITY WAS CALCULATED FROM
VOLUME FLOW RATE = 0.59999999E-01 (M³/S)

BUOY. FLUX = 0.031 M⁴/S³; MOM. FLUX = 0.122 M⁴/S².

*** FULL METEOROLOGY ***

*** SCREEN DISCRETE DISTANCES ***

*** TERRAIN HEIGHT OF 0. M ABOVE STACK BASE USED FOR FOLLOWING
DISTANCES ***

DIST SIGMA (M)	CONC (UG/M**3) DWASH	STAB	U10M (M/S)	USTK (M/S)	MIX HT (M)	PLUME HT (M)	SIGMA Y (M)	Z
-----	-----	----	-----	-----	-----	-----	-----	--
0.09	1. NO	4	20.0	20.0	6400.0	0.39	0.11	
0.63	10. NO	4	8.0	8.0	2560.0	0.68	0.96	
1.08	18. NO	4	2.5	2.5	800.0	1.42	1.68	
1.18	20. NO	4	2.5	2.5	800.0	1.42	1.85	
1.69	30. NO	4	1.5	1.5	480.0	2.03	2.72	
2.20	40. NO	4	1.0	1.0	320.0	2.79	3.56	
2.63	50. NO	4	1.0	1.0	320.0	2.79	4.36	
3.05	60. NO	4	1.0	1.0	320.0	2.79	5.15	
3.47	70. NO	4	1.0	1.0	320.0	2.79	5.93	
3.89	80. NO	4	1.0	1.0	320.0	2.79	6.70	
4.29	90. NO	4	1.0	1.0	320.0	2.79	7.47	
4.70	100. NO	4	1.0	1.0	320.0	2.79	8.23	
5.10	110. NO	4	1.0	1.0	320.0	2.79	8.98	
5.49	120. NO	4	1.0	1.0	320.0	2.79	9.73	
5.88	130. NO	4	1.0	1.0	320.0	2.79	10.48	
6.27	140. NO	4	1.0	1.0	320.0	2.79	11.22	
6.65	150. NO	4	1.0	1.0	320.0	2.79	11.95	
7.03	160. NO	4	1.0	1.0	320.0	2.79	12.68	
7.41	170. NO	4	1.0	1.0	320.0	2.79	13.41	
7.78	180. NO	4	1.0	1.0	320.0	2.79	14.14	
8.08	188. NO	4	1.0	1.0	320.0	2.79	14.71	
8.15	190. NO	4	1.0	1.0	320.0	2.79	14.86	
8.52	200. NO	4	1.0	1.0	320.0	2.79	15.58	

208.	8.503	4	1.0	1.0	320.0	2.79	16.15
8.82	NO						
300.	7.318	6	1.0	1.0	10000.0	8.21	11.45
6.04	NO						
400.	6.282	6	1.0	1.0	10000.0	8.21	14.80
7.38	NO						

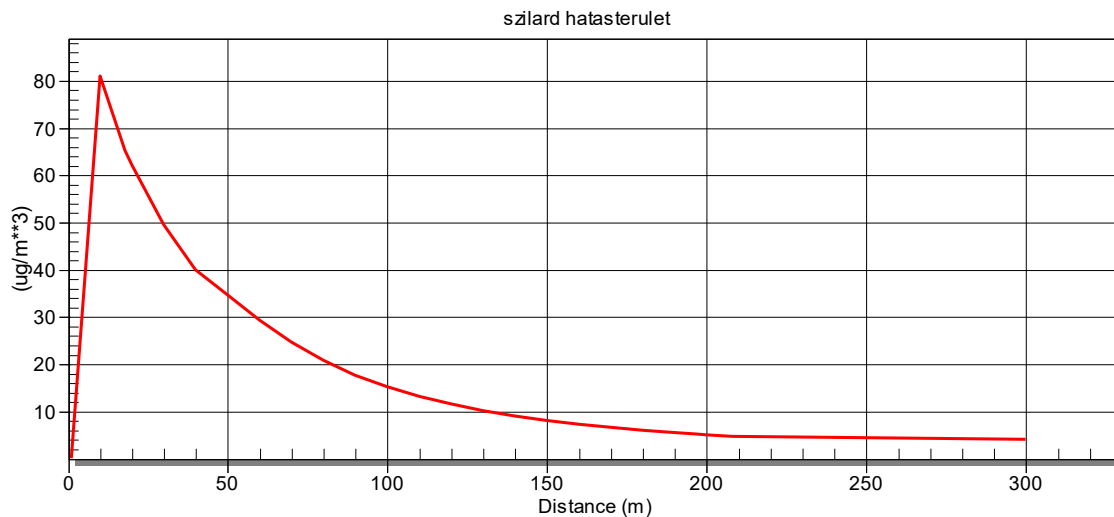
DWASH= MEANS NO CALC MADE (CONC = 0.0)
 DWASH=NO MEANS NO BUILDING DOWNWASH USED
 DWASH=HS MEANS HUBER-SNYDER DOWNWASH USED
 DWASH=SS MEANS SCHULMAN-SCIRE DOWNWASH USED
 DWASH=NA MEANS DOWNWASH NOT APPLICABLE, $X < 3 \cdot L_B$

 *** SUMMARY OF SCREEN MODEL RESULTS ***

CALCULATION PROCEDURE	MAX CONC (UG/M**3)	DIST TO MAX (M)	TERRAIN HT (M)
SIMPLE TERRAIN	147.1	10.	0.

 ** REMEMBER TO INCLUDE BACKGROUND CONCENTRATIONS **

Discrete Distance Vs. Concentration



Szilárd anyag hatásterület számítás adatai

06/16/26

07:15:22

*** SCREEN3 MODEL RUN ***
 *** VERSION DATED 13043 ***

SIMPLE TERRAIN INPUTS:

```

SOURCE TYPE           =          POINT
EMISSION RATE (G/S)   =      0.400000E-02
STACK HEIGHT (M)      =          0.5000
STK INSIDE DIAM (M)   =          0.1000
STK EXIT VELOCITY (M/S) =      7.6394
STK GAS EXIT TEMP (K) =      350.0000
AMBIENT AIR TEMP (K)  =      293.0000
RECEPTOR HEIGHT (M) =          0.0000
URBAN/RURAL OPTION    =          RURAL
BUILDING HEIGHT (M)   =          0.0000
MIN HORIZ BLDG DIM (M) =          0.0000
MAX HORIZ BLDG DIM (M) =          0.0000

```

THE REGULATORY (DEFAULT) MIXING HEIGHT OPTION WAS SELECTED.
 THE REGULATORY (DEFAULT) ANEMOMETER HEIGHT OF 10.0 METERS WAS
 ENTERED.

STACK EXIT VELOCITY WAS CALCULATED FROM
 VOLUME FLOW RATE = 0.59999999E-01 (M**3/S)

BUOY. FLUX = 0.031 M**4/S**3; MOM. FLUX = 0.122 M**4/S**2.

*** FULL METEOROLOGY ***

 *** SCREEN DISCRETE DISTANCES ***

*** TERRAIN HEIGHT OF 0. M ABOVE STACK BASE USED FOR FOLLOWING
 DISTANCES ***

DIST	CONC		U10M	USTK	MIX HT	PLUME	SIGMA	
SIGMA								
(M)	(UG/M**3)	STAB	(M/S)	(M/S)	(M)	HT (M)	Y (M)	Z
(M)	DWASH							
-----	-----	----	-----	-----	-----	-----	-----	--
0.09	1. NO	4	20.0	20.0	6400.0	0.39	0.11	
0.63	10. NO	4	8.0	8.0	2560.0	0.68	0.96	
1.08	18. NO	4	2.5	2.5	800.0	1.42	1.68	
1.18	20. NO	4	2.5	2.5	800.0	1.42	1.85	
1.69	30. NO	4	1.5	1.5	480.0	2.03	2.72	
2.20	40. NO	4	1.0	1.0	320.0	2.79	3.56	
2.63	50. NO	4	1.0	1.0	320.0	2.79	4.36	
3.05	60. NO	4	1.0	1.0	320.0	2.79	5.15	

	70.	24.62	4	1.0	1.0	320.0	2.79	5.93
3.47	NO							
	80.	20.77	4	1.0	1.0	320.0	2.79	6.70
3.89	NO							
	90.	17.68	4	1.0	1.0	320.0	2.79	7.47
4.29	NO							
	100.	15.19	4	1.0	1.0	320.0	2.79	8.23
4.70	NO							
	110.	13.17	4	1.0	1.0	320.0	2.79	8.98
5.10	NO							
	120.	11.52	4	1.0	1.0	320.0	2.79	9.73
5.49	NO							
	130.	10.16	4	1.0	1.0	320.0	2.79	10.48
5.88	NO							
	140.	9.022	4	1.0	1.0	320.0	2.79	11.22
6.27	NO							
	150.	8.068	4	1.0	1.0	320.0	2.79	11.95
6.65	NO							
	160.	7.258	4	1.0	1.0	320.0	2.79	12.68
7.03	NO							
	170.	6.565	4	1.0	1.0	320.0	2.79	13.41
7.41	NO							
	180.	5.968	4	1.0	1.0	320.0	2.79	14.14
7.78	NO							
	190.	5.451	4	1.0	1.0	320.0	2.79	14.86
8.15	NO							
	197.	5.128	4	1.0	1.0	320.0	2.79	15.36
8.41	NO							
	200.	4.998	4	1.0	1.0	320.0	2.79	15.58
8.52	NO							
	208.	4.677	4	1.0	1.0	320.0	2.79	16.15
8.82	NO							
	300.	4.025	6	1.0	1.0	10000.0	8.21	11.45
6.04	NO							

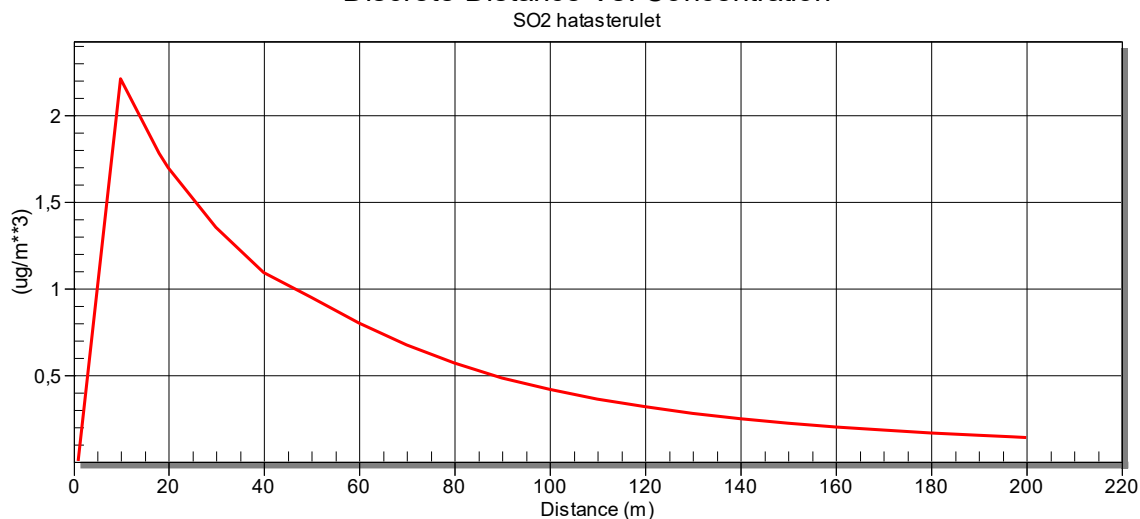
DWASH= MEANS NO CALC MADE (CONC = 0.0)
 DWASH=NO MEANS NO BUILDING DOWNWASH USED
 DWASH=HS MEANS HUBER-SNYDER DOWNWASH USED
 DWASH=SS MEANS SCHULMAN-SCIRE DOWNWASH USED
 DWASH=NA MEANS DOWNWASH NOT APPLICABLE, $X < 3 \cdot LB$

 *** SUMMARY OF SCREEN MODEL RESULTS ***

CALCULATION PROCEDURE	MAX CONC (UG/M**3)	DIST TO MAX (M)	TERRAIN HT (M)
SIMPLE TERRAIN	80.92	10.	0.

 ** REMEMBER TO INCLUDE BACKGROUND CONCENTRATIONS **

Discrete Distance Vs. Concentration



SO₂ hatásterület számítás adatai

06/16/26

07:48:35

*** SCREEN3 MODEL RUN ***

*** VERSION DATED 13043 ***

SIMPLE TERRAIN INPUTS:

SOURCE TYPE	=	POINT
EMISSION RATE (G/S)	=	0.600000E-04
STACK HEIGHT (M)	=	0.5000
STK INSIDE DIAM (M)	=	0.1000
STK EXIT VELOCITY (M/S)	=	7.6394
STK GAS EXIT TEMP (K)	=	350.0000
AMBIENT AIR TEMP (K)	=	293.0000
RECEPTOR HEIGHT (M)	=	0.0000
URBAN/RURAL OPTION	=	RURAL
BUILDING HEIGHT (M)	=	0.0000
MIN HORIZ BLDG DIM (M)	=	0.0000
MAX HORIZ BLDG DIM (M)	=	0.0000

THE REGULATORY (DEFAULT) MIXING HEIGHT OPTION WAS SELECTED.
THE REGULATORY (DEFAULT) ANEMOMETER HEIGHT OF 10.0 METERS WAS ENTERED.

STACK EXIT VELOCITY WAS CALCULATED FROM
VOLUME FLOW RATE = 0.59999999E-01 (M³/S)

BUOY. FLUX = 0.031 M⁴/S³; MOM. FLUX = 0.122 M⁴/S².

*** FULL METEOROLOGY ***

*** SCREEN DISCRETE DISTANCES ***

*** TERRAIN HEIGHT OF 0. M ABOVE STACK BASE USED FOR FOLLOWING
DISTANCES ***

SIGMA	DIST (M)	CONC (UG/M**3)	STAB	U10M (M/S)	USTK (M/S)	MIX HT (M)	PLUME HT (M)	SIGMA Y (M)	Z
(M)	DWASH								
0.09	1.	0.3106E-02	4	20.0	20.0	6400.0	0.39	0.11	
	NO								
0.63	10.	2.207	4	8.0	8.0	2560.0	0.68	0.96	
	NO								
1.02	17.	1.818	4	3.0	3.0	960.0	1.26	1.59	
	NO								
1.18	20.	1.696	4	2.5	2.5	800.0	1.42	1.85	
	NO								
1.69	30.	1.351	4	1.5	1.5	480.0	2.03	2.72	
	NO								
2.20	40.	1.088	4	1.0	1.0	320.0	2.79	3.56	
	NO								
2.63	50.	0.9480	4	1.0	1.0	320.0	2.79	4.36	
	NO								
3.05	60.	0.7999	4	1.0	1.0	320.0	2.79	5.15	
	NO								
3.47	70.	0.6715	4	1.0	1.0	320.0	2.79	5.93	
	NO								
3.89	80.	0.5666	4	1.0	1.0	320.0	2.79	6.70	
	NO								
4.29	90.	0.4822	4	1.0	1.0	320.0	2.79	7.47	
	NO								
4.70	100.	0.4142	4	1.0	1.0	320.0	2.79	8.23	
	NO								
5.10	110.	0.3592	4	1.0	1.0	320.0	2.79	8.98	
	NO								
5.49	120.	0.3142	4	1.0	1.0	320.0	2.79	9.73	
	NO								
5.88	130.	0.2770	4	1.0	1.0	320.0	2.79	10.48	
	NO								
6.27	140.	0.2461	4	1.0	1.0	320.0	2.79	11.22	
	NO								
6.65	150.	0.2200	4	1.0	1.0	320.0	2.79	11.95	
	NO								
7.03	160.	0.1979	4	1.0	1.0	320.0	2.79	12.68	
	NO								
7.41	170.	0.1791	4	1.0	1.0	320.0	2.79	13.41	
	NO								
7.78	180.	0.1628	4	1.0	1.0	320.0	2.79	14.14	
	NO								
8.15	190.	0.1487	4	1.0	1.0	320.0	2.79	14.86	
	NO								
8.41	197.	0.1398	4	1.0	1.0	320.0	2.79	15.36	
	NO								
8.52	200.	0.1363	4	1.0	1.0	320.0	2.79	15.58	
	NO								

DWASH= MEANS NO CALC MADE (CONC = 0.0)
 DWASH=NO MEANS NO BUILDING DOWNWASH USED
 DWASH=HS MEANS HUBER-SNYDER DOWNWASH USED
 DWASH=SS MEANS SCHULMAN-SCIRE DOWNWASH USED
 DWASH=NA MEANS DOWNWASH NOT APPLICABLE, X<3*LB

 *** SUMMARY OF SCREEN MODEL RESULTS ***

CALCULATION PROCEDURE	MAX CONC (UG/M**3)	DIST TO MAX (M)	TERRAIN HT (M)
----- SIMPLE TERRAIN	----- 2.207	----- 10.	----- 0.

 ** REMEMBER TO INCLUDE BACKGROUND CONCENTRATIONS **

A fúrasi alap és a munkaterület szilárd burkolattal történő borításánál a zúzottkővet teherautókkal szállítják a helyszínre, napi 6 fordulóval. A területen történő tartózkodási idejük 20 perc/jármű. A leürítést követően elhagyják a területet. Ezzel a tevékenységgel egy időben a Komatsu gréder elvégzi a lerakott anyag területen történő elterítését. A gréder üzemórája naponta 4 óra.

A légszennyezés szempontjából legkedvezőtlenebb helyzet, amikor a gréder és egy teherautó egyszerre üzemel a munkaterületen, ezért ezt a helyzetet vizsgáljuk.

Légszennyező forrás napi 6 db teherautó, 1 db gréder

A kivitelezés során a legnagyobb mértékű légszennyezést a teherautó és a gréder egyidejű üzemelése jelenti ezért az üzemanyag fogyasztásukat és az abból eredő kibocsátásokat együttesen kezeljük.

$$V = V_0 + L_0(\lambda - 1)$$

V a füstgázmennyiség m³/kg gázolaj

V₀ az elméleti füstgázmennyiség tökéletes égéskor gázolaj esetén 11,6 m³/kg

L₀ az elméleti levegőszükséglet m³/kg gázolaj 11,1 m³/kg

λ légszükséglet tényező 1,9

V=20,43 m³/kg

1 liter gázolaj = 0,83 kg 18 liter = 14,9 kg

füstgáz térfogatáram W=14,9x20,43 = 304 m³ füstgáz/h

fajlagos emissziók 1 liter gázolaj elégetésekor CO=0,6 g/l, NO_x=1,5 g/l, szilárd =1,2 g/l, SO₂=0,0172 g/l

A felhasznált üzemanyag kis kéntartalmú gázolaj. Az európai szabványkövetelményekkel megegyezően a Magyarországon forgalomba hozható gázolaj megengedett maximális kéntartalma legfeljebb 10 mg/kg üzemanyag. Azaz 0,001% lehet az dízel kéntartalma (MSZ-EN-ISO-14596).

$$E_{CO}=0,6 \times 18=10,8 \text{ g/h}=0,011 \text{ kg/h}$$

$$C_{CO}=36,18 \text{ mg/m}^3$$

$$E_{NOx}=1,5 \times 18=27 \text{ g/h}=0,027 \text{ kg/h}$$

$$C_{NOx}=88,8 \text{ mg/m}^3$$

$$E_{szilárd}=1,2 \times 18=21,6 \text{ g/h}=0,022 \text{ kg/h}$$

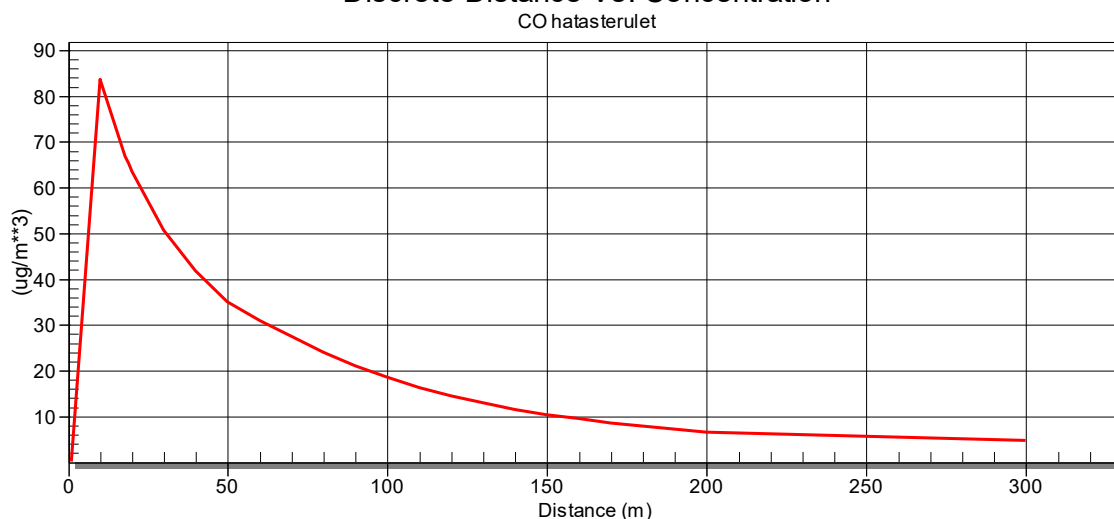
$$C_{szilárd}=72,36 \text{ mg/m}^3$$

$$E_{SO_2}=0,0172 \times 18=0,3 \text{ g/h}=0,0003 \text{ kg/h}$$

$$C_{SO_2}=0,98 \text{ mg/m}^3$$

szennyezőanyag	CO	NO _x NO ₂ -ként	szilárd anyag	SO ₂
emisszió g/s	0,003	0,007	0,006	0,00008
órás határérték (µg/m ³)	10000	100	-	250
órás határérték 10%-a (µg/m ³)	1000	10	-	25
24 órás határérték (µg/m ³)	5000	85	50	125
24 órás határérték 10%-a (µg/m ³)	500	8,5	5	12,5
alap levegő terheltség (µg/m ³)	370	60	20	5
terhelhetőség (µg/m ³)	9630	40	30	245
terhelhetőség 20 %-a (µg/m ³)	1926	8	6	49
maximum érték 80% (µg/m ³)	66,8	122,4	77,9	1,8
306/2010. Kr. 2.§ 14. a) pont szerinti hatásterület nagysága (m)	nem értelmezhető	224	235	nem értelmezhető
306/2010. Kr. 2.§ 14. b) pont szerinti hatásterület nagysága (m)	nem értelmezhető	360	210	nem értelmezhető
306/2010. Kr. 2.§ 14. c) pont szerinti hatásterület nagysága (m)	18	18	18	18

Discrete Distance Vs. Concentration



CO hatásterület számítás adatai

06/16/26

11:20:41

*** SCREEN3 MODEL RUN ***
 *** VERSION DATED 13043 ***

SIMPLE TERRAIN INPUTS:

SOURCE TYPE	=	POINT
EMISSION RATE (G/S)	=	0.300000E-02
STACK HEIGHT (M)	=	0.5000
STK INSIDE DIAM (M)	=	0.1000
STK EXIT VELOCITY (M/S)	=	10.1859
STK GAS EXIT TEMP (K)	=	350.0000
AMBIENT AIR TEMP (K)	=	293.0000
RECEPTOR HEIGHT (M)	=	0.0000
URBAN/RURAL OPTION	=	RURAL
BUILDING HEIGHT (M)	=	0.0000
MIN HORIZ BLDG DIM (M)	=	0.0000
MAX HORIZ BLDG DIM (M)	=	0.0000

THE REGULATORY (DEFAULT) MIXING HEIGHT OPTION WAS SELECTED.
 THE REGULATORY (DEFAULT) ANEMOMETER HEIGHT OF 10.0 METERS WAS ENTERED.

STACK EXIT VELOCITY WAS CALCULATED FROM
 VOLUME FLOW RATE = 0.79999998E-01 (M**3/S)

BUOY. FLUX = 0.041 M**4/S**3; MOM. FLUX = 0.217 M**4/S**2.

*** FULL METEOROLOGY ***

 *** SCREEN DISCRETE DISTANCES ***

*** TERRAIN HEIGHT OF 0. M ABOVE STACK BASE USED FOR FOLLOWING DISTANCES ***

DIST	CONC		U10M	USTK	MIX HT	PLUME	SIGMA	
(M)	(UG/M**3)	STAB	(M/S)	(M/S)	(M)	HT (M)	Y (M)	Z
(M) DWASH								
-----	-----	----	-----	-----	-----	-----	-----	--
1.	0.5607E-02	4	20.0	20.0	6400.0	0.45	0.11	
0.09 NO								
10.	83.53	4	10.0	10.0	3200.0	0.71	0.96	
0.63 NO								
18.	66.76	4	3.5	3.5	1120.0	1.37	1.68	
1.08 NO								
19.	65.14	4	3.5	3.5	1120.0	1.37	1.77	
1.13 NO								

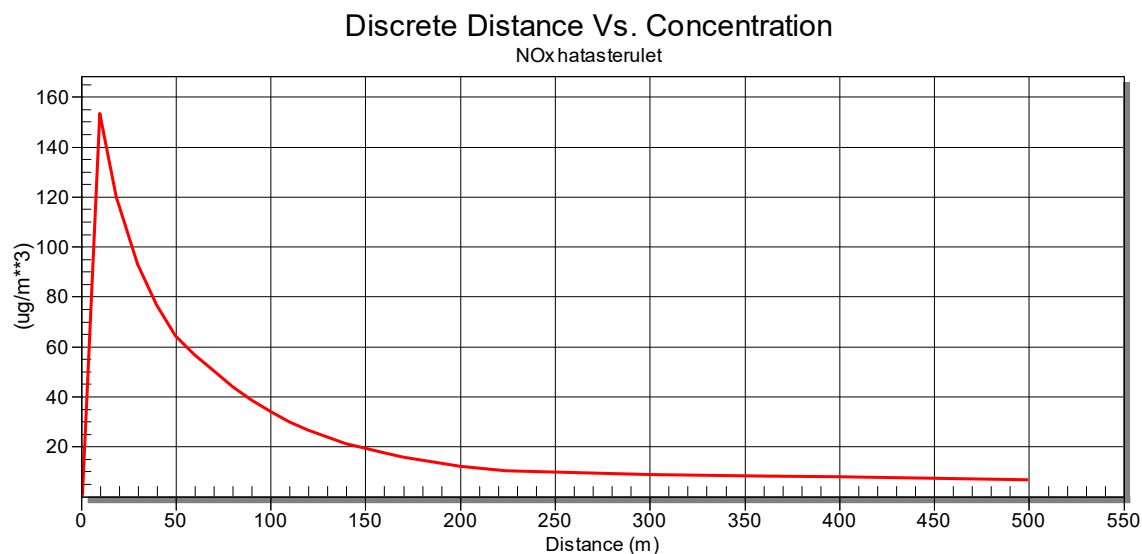
1.18	20.	63.52	4	3.0	3.0	960.0	1.52	1.86
	NO							
1.69	30.	50.65	4	2.0	2.0	640.0	2.03	2.72
	NO							
2.18	40.	41.75	4	1.5	1.5	480.0	2.54	3.55
	NO							
2.61	50.	34.96	4	1.5	1.5	480.0	2.54	4.35
	NO							
3.11	60.	30.82	4	1.0	1.0	320.0	3.56	5.18
	NO							
3.52	70.	27.34	4	1.0	1.0	320.0	3.56	5.96
	NO							
3.93	80.	23.99	4	1.0	1.0	320.0	3.56	6.73
	NO							
4.33	90.	21.01	4	1.0	1.0	320.0	3.56	7.49
	NO							
4.73	100.	18.45	4	1.0	1.0	320.0	3.56	8.25
	NO							
5.13	110.	16.27	4	1.0	1.0	320.0	3.56	9.00
	NO							
5.52	120.	14.42	4	1.0	1.0	320.0	3.56	9.75
	NO							
5.91	130.	12.85	4	1.0	1.0	320.0	3.56	10.49
	NO							
6.29	140.	11.52	4	1.0	1.0	320.0	3.56	11.23
	NO							
6.68	150.	10.37	4	1.0	1.0	320.0	3.56	11.97
	NO							
7.05	160.	9.390	4	1.0	1.0	320.0	3.56	12.70
	NO							
7.43	170.	8.538	4	1.0	1.0	320.0	3.56	13.42
	NO							
7.80	180.	7.796	4	1.0	1.0	320.0	3.56	14.15
	NO							
8.18	190.	7.146	4	1.0	1.0	320.0	3.56	14.87
	NO							
8.54	200.	6.575	4	1.0	1.0	320.0	3.56	15.59
	NO							
6.12	300.	4.629	6	1.0	1.0	10000.0	8.98	11.49
	NO							

DWASH= MEANS NO CALC MADE (CONC = 0.0)
 DWASH=NO MEANS NO BUILDING DOWNWASH USED
 DWASH=HS MEANS HUBER-SNYDER DOWNWASH USED
 DWASH=SS MEANS SCHULMAN-SCIRE DOWNWASH USED
 DWASH=NA MEANS DOWNWASH NOT APPLICABLE, $X < 3 \cdot LB$

 *** SUMMARY OF SCREEN MODEL RESULTS ***

CALCULATION PROCEDURE	MAX CONC (UG/M**3)	DIST TO MAX (M)	TERRAIN HT (M)
SIMPLE TERRAIN	83.53	10.	0.

 ** REMEMBER TO INCLUDE BACKGROUND CONCENTRATIONS **



NO_x hatásterület számítás adatai

06/16/26

11:33:11

*** SCREEN3 MODEL RUN ***
 *** VERSION DATED 13043 ***

SIMPLE TERRAIN INPUTS:

SOURCE TYPE	=	POINT
EMISSION RATE (G/S)	=	0.700000E-02
STACK HEIGHT (M)	=	0.5000
STK INSIDE DIAM (M)	=	0.1000
STK EXIT VELOCITY (M/S)	=	10.1859
STK GAS EXIT TEMP (K)	=	350.0000
AMBIENT AIR TEMP (K)	=	293.0000
RECEPTOR HEIGHT (M)	=	0.0000
URBAN/RURAL OPTION	=	RURAL
BUILDING HEIGHT (M)	=	0.0000
MIN HORIZ BLDG DIM (M)	=	0.0000
MAX HORIZ BLDG DIM (M)	=	0.0000

THE REGULATORY (DEFAULT) MIXING HEIGHT OPTION WAS SELECTED.
 THE REGULATORY (DEFAULT) ANEMOMETER HEIGHT OF 10.0 METERS WAS ENTERED.

STACK EXIT VELOCITY WAS CALCULATED FROM
 VOLUME FLOW RATE = 0.79999998E-01 (M³/S)

BUOY. FLUX = 0.041 M⁴/S³; MOM. FLUX = 0.217 M⁴/S².

*** FULL METEOROLOGY ***

 *** SCREEN DISCRETE DISTANCES ***

*** TERRAIN HEIGHT OF 0. M ABOVE STACK BASE USED FOR FOLLOWING
 DISTANCES ***

DIST		CONC		U10M	USTK	MIX HT	PLUME	SIGMA	
SIGMA	(M)	(UG/M**3)	STAB	(M/S)	(M/S)	(M)	HT (M)	Y (M)	Z
(M)	DWASH								
----	-----	----	-----	-----	-----	-----	-----	-----	--
0.09	1. NO	0.1028E-01	4	20.0	20.0	6400.0	0.45	0.11	
0.63	10. NO	153.1	4	10.0	10.0	3200.0	0.71	0.96	
1.08	18. NO	122.4	4	3.5	3.5	1120.0	1.37	1.68	
1.13	19. NO	119.4	4	3.5	3.5	1120.0	1.37	1.77	
1.18	20. NO	116.5	4	3.0	3.0	960.0	1.52	1.86	
1.69	30. NO	92.86	4	2.0	2.0	640.0	2.03	2.72	
2.18	40. NO	76.54	4	1.5	1.5	480.0	2.54	3.55	
2.61	50. NO	64.09	4	1.5	1.5	480.0	2.54	4.35	
3.11	60. NO	56.51	4	1.0	1.0	320.0	3.56	5.18	
3.52	70. NO	50.13	4	1.0	1.0	320.0	3.56	5.96	
3.93	80. NO	43.99	4	1.0	1.0	320.0	3.56	6.73	
4.33	90. NO	38.53	4	1.0	1.0	320.0	3.56	7.49	
4.73	100. NO	33.82	4	1.0	1.0	320.0	3.56	8.25	
5.13	110. NO	29.83	4	1.0	1.0	320.0	3.56	9.00	
5.52	120. NO	26.44	4	1.0	1.0	320.0	3.56	9.75	
5.91	130. NO	23.57	4	1.0	1.0	320.0	3.56	10.49	
6.29	140. NO	21.12	4	1.0	1.0	320.0	3.56	11.23	
6.68	150. NO	19.02	4	1.0	1.0	320.0	3.56	11.97	
7.05	160. NO	17.22	4	1.0	1.0	320.0	3.56	12.70	
7.43	170. NO	15.65	4	1.0	1.0	320.0	3.56	13.42	
7.80	180. NO	14.29	4	1.0	1.0	320.0	3.56	14.15	

190.	13.10	4	1.0	1.0	320.0	3.56	14.87
8.18	NO						
200.	12.05	4	1.0	1.0	320.0	3.56	15.59
8.54	NO						
224.	10.00	4	1.0	1.0	320.0	3.56	17.30
9.42	NO						
300.	8.487	6	1.0	1.0	10000.0	8.98	11.49
6.12	NO						
360.	8.074	6	1.0	1.0	10000.0	8.98	13.50
6.93	NO						
400.	7.659	6	1.0	1.0	10000.0	8.98	14.84
7.45	NO						
500.	6.516	6	1.0	1.0	10000.0	8.98	18.13
8.74	NO						

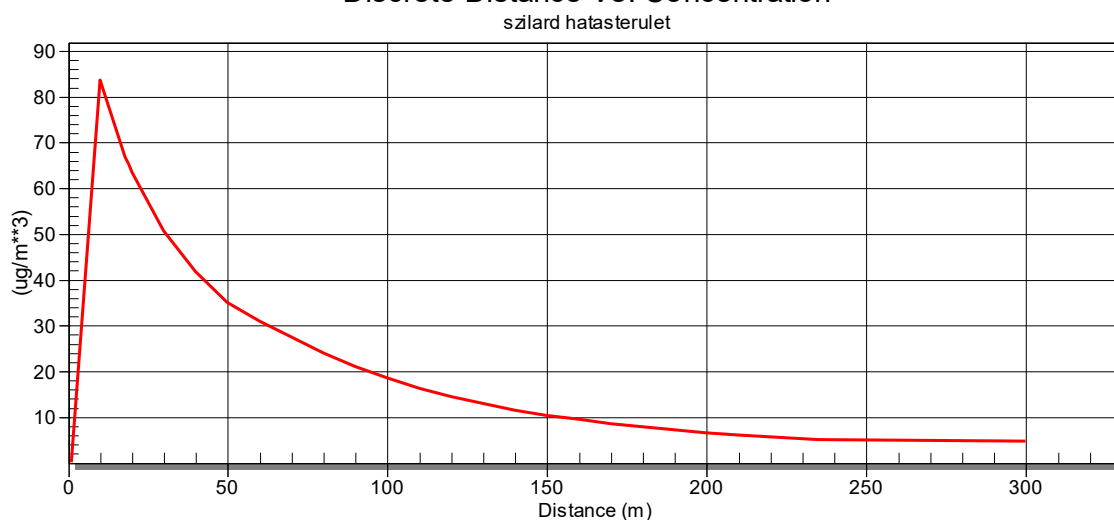
DWASH= MEANS NO CALC MADE (CONC = 0.0)
 DWASH=NO MEANS NO BUILDING DOWNWASH USED
 DWASH=HS MEANS HUBER-SNYDER DOWNWASH USED
 DWASH=SS MEANS SCHULMAN-SCIRE DOWNWASH USED
 DWASH=NA MEANS DOWNWASH NOT APPLICABLE, $X < 3 \cdot LB$

 *** SUMMARY OF SCREEN MODEL RESULTS ***

CALCULATION PROCEDURE	MAX CONC (UG/M**3)	DIST TO MAX (M)	TERRAIN HT (M)
SIMPLE TERRAIN	153.1	10.	0.

 ** REMEMBER TO INCLUDE BACKGROUND CONCENTRATIONS **

Discrete Distance Vs. Concentration



Szilárd anyag hatásterület számítás adatai

06/16/26

11:44:34

*** SCREEN3 MODEL RUN ***
 *** VERSION DATED 13043 ***

SIMPLE TERRAIN INPUTS:

SOURCE TYPE	=	POINT
EMISSION RATE (G/S)	=	0.600000E-02
STACK HEIGHT (M)	=	0.5000
STK INSIDE DIAM (M)	=	0.1000
STK EXIT VELOCITY (M/S)	=	10.1859
STK GAS EXIT TEMP (K)	=	350.0000
AMBIENT AIR TEMP (K)	=	293.0000
RECEPTOR HEIGHT (M)	=	0.0000
URBAN/RURAL OPTION	=	RURAL
BUILDING HEIGHT (M)	=	0.0000
MIN HORIZ BLDG DIM (M)	=	0.0000
MAX HORIZ BLDG DIM (M)	=	0.0000

THE REGULATORY (DEFAULT) MIXING HEIGHT OPTION WAS SELECTED.
 THE REGULATORY (DEFAULT) ANEMOMETER HEIGHT OF 10.0 METERS WAS ENTERED.

STACK EXIT VELOCITY WAS CALCULATED FROM
 VOLUME FLOW RATE = 0.79999998E-01 (M**3/S)

BUOY. FLUX = 0.041 M**4/S**3; MOM. FLUX = 0.217 M**4/S**2.

*** FULL METEOROLOGY ***

 *** SCREEN DISCRETE DISTANCES ***

*** TERRAIN HEIGHT OF 0. M ABOVE STACK BASE USED FOR FOLLOWING DISTANCES ***

DIST		CONC		U10M	USTK	MIX HT	PLUME	SIGMA	
SIGMA	(M)	(UG/M**3)	STAB	(M/S)	(M/S)	(M)	HT (M)	Y (M)	Z
(M)	DWASH								
----	-----	----	-----	-----	-----	-----	-----	-----	--
0.09	1.	0.5607E-02	4	20.0	20.0	6400.0	0.45	0.11	
	NO								
0.63	10.	83.53	4	10.0	10.0	3200.0	0.71	0.96	
	NO								
1.08	18.	66.76	4	3.5	3.5	1120.0	1.37	1.68	
	NO								
1.13	19.	65.14	4	3.5	3.5	1120.0	1.37	1.77	
	NO								

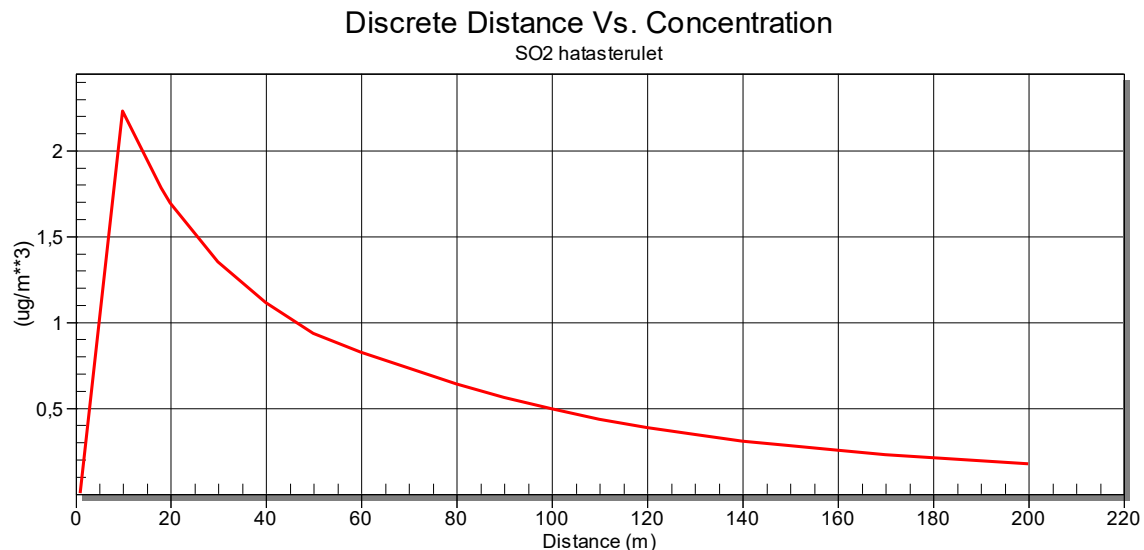
	20.	63.52	4	3.0	3.0	960.0	1.52	1.86
1.18	NO							
	30.	50.65	4	2.0	2.0	640.0	2.03	2.72
1.69	NO							
	40.	41.75	4	1.5	1.5	480.0	2.54	3.55
2.18	NO							
	50.	34.96	4	1.5	1.5	480.0	2.54	4.35
2.61	NO							
	60.	30.82	4	1.0	1.0	320.0	3.56	5.18
3.11	NO							
	70.	27.34	4	1.0	1.0	320.0	3.56	5.96
3.52	NO							
	80.	23.99	4	1.0	1.0	320.0	3.56	6.73
3.93	NO							
	90.	21.01	4	1.0	1.0	320.0	3.56	7.49
4.33	NO							
	100.	18.45	4	1.0	1.0	320.0	3.56	8.25
4.73	NO							
	110.	16.27	4	1.0	1.0	320.0	3.56	9.00
5.13	NO							
	120.	14.42	4	1.0	1.0	320.0	3.56	9.75
5.52	NO							
	130.	12.85	4	1.0	1.0	320.0	3.56	10.49
5.91	NO							
	140.	11.52	4	1.0	1.0	320.0	3.56	11.23
6.29	NO							
	150.	10.37	4	1.0	1.0	320.0	3.56	11.97
6.68	NO							
	160.	9.390	4	1.0	1.0	320.0	3.56	12.70
7.05	NO							
	170.	8.538	4	1.0	1.0	320.0	3.56	13.42
7.43	NO							
	180.	7.796	4	1.0	1.0	320.0	3.56	14.15
7.80	NO							
	190.	7.146	4	1.0	1.0	320.0	3.56	14.87
8.18	NO							
	200.	6.575	4	1.0	1.0	320.0	3.56	15.59
8.54	NO							
	210.	6.070	4	1.0	1.0	320.0	3.56	16.30
8.91	NO							
	235.	5.038	4	1.0	1.0	320.0	3.56	18.08
9.82	NO							
	300.	4.629	6	1.0	1.0	10000.0	8.98	11.49
6.12	NO							

DWASH= MEANS NO CALC MADE (CONC = 0.0)
 DWASH=NO MEANS NO BUILDING DOWNWASH USED
 DWASH=HS MEANS HUBER-SNYDER DOWNWASH USED
 DWASH=SS MEANS SCHULMAN-SCIRE DOWNWASH USED
 DWASH=NA MEANS DOWNWASH NOT APPLICABLE, $X < 3 \cdot LB$

 *** SUMMARY OF SCREEN MODEL RESULTS ***

CALCULATION PROCEDURE	MAX CONC (UG/M**3)	DIST TO MAX (M)	TERRAIN HT (M)
SIMPLE TERRAIN	83.53	10.	0.

 ** REMEMBER TO INCLUDE BACKGROUND CONCENTRATIONS **



06/16/26

11:57:19

*** SCREEN3 MODEL RUN ***
 *** VERSION DATED 13043 ***

SIMPLE TERRAIN INPUTS:

SOURCE TYPE	=	POINT
EMISSION RATE (G/S)	=	0.800000E-04
STACK HEIGHT (M)	=	0.5000
STK INSIDE DIAM (M)	=	0.1000
STK EXIT VELOCITY (M/S)	=	10.1859
STK GAS EXIT TEMP (K)	=	350.0000
AMBIENT AIR TEMP (K)	=	293.0000
RECEPTOR HEIGHT (M)	=	0.0000
URBAN/RURAL OPTION	=	RURAL
BUILDING HEIGHT (M)	=	0.0000
MIN HORIZ BLDG DIM (M)	=	0.0000
MAX HORIZ BLDG DIM (M)	=	0.0000

THE REGULATORY (DEFAULT) MIXING HEIGHT OPTION WAS SELECTED.
 THE REGULATORY (DEFAULT) ANEMOMETER HEIGHT OF 10.0 METERS WAS ENTERED.

STACK EXIT VELOCITY WAS CALCULATED FROM

VOLUME FLOW RATE = 0.79999998E-01 (M**3/S)

BUOY. FLUX = 0.041 M**4/S**3; MOM. FLUX = 0.217 M**4/S**2.

*** FULL METEOROLOGY ***

*** SCREEN DISCRETE DISTANCES ***

*** TERRAIN HEIGHT OF 0. M ABOVE STACK BASE USED FOR FOLLOWING DISTANCES ***

SIGMA	DIST (M)	CONC (UG/M**3)	STAB	U10M (M/S)	USTK (M/S)	MIX HT (M)	PLUME HT (M)	SIGMA Y (M)	Z
(M)	DWASH								
	1.	0.1495E-03	4	20.0	20.0	6400.0	0.45	0.11	
0.09	NO								
	10.	2.227	4	10.0	10.0	3200.0	0.71	0.96	
0.63	NO								
	18.	1.780	4	3.5	3.5	1120.0	1.37	1.68	
1.08	NO								
	19.	1.737	4	3.5	3.5	1120.0	1.37	1.77	
1.13	NO								
	20.	1.694	4	3.0	3.0	960.0	1.52	1.86	
1.18	NO								
	30.	1.351	4	2.0	2.0	640.0	2.03	2.72	
1.69	NO								
	40.	1.113	4	1.5	1.5	480.0	2.54	3.55	
2.18	NO								
	50.	0.9322	4	1.5	1.5	480.0	2.54	4.35	
2.61	NO								
	60.	0.8220	4	1.0	1.0	320.0	3.56	5.18	
3.11	NO								
	70.	0.7292	4	1.0	1.0	320.0	3.56	5.96	
3.52	NO								
	80.	0.6398	4	1.0	1.0	320.0	3.56	6.73	
3.93	NO								
	90.	0.5604	4	1.0	1.0	320.0	3.56	7.49	
4.33	NO								
	100.	0.4920	4	1.0	1.0	320.0	3.56	8.25	
4.73	NO								
	110.	0.4339	4	1.0	1.0	320.0	3.56	9.00	
5.13	NO								
	120.	0.3846	4	1.0	1.0	320.0	3.56	9.75	
5.52	NO								
	130.	0.3428	4	1.0	1.0	320.0	3.56	10.49	
5.91	NO								
	140.	0.3072	4	1.0	1.0	320.0	3.56	11.23	
6.29	NO								
	150.	0.2767	4	1.0	1.0	320.0	3.56	11.97	
6.68	NO								

160.	0.2504	4	1.0	1.0	320.0	3.56	12.70
7.05	NO						
170.	0.2277	4	1.0	1.0	320.0	3.56	13.42
7.43	NO						
180.	0.2079	4	1.0	1.0	320.0	3.56	14.15
7.80	NO						
190.	0.1906	4	1.0	1.0	320.0	3.56	14.87
8.18	NO						
200.	0.1753	4	1.0	1.0	320.0	3.56	15.59
8.54	NO						

DWASH= MEANS NO CALC MADE (CONC = 0.0)
 DWASH=NO MEANS NO BUILDING DOWNWASH USED
 DWASH=HS MEANS HUBER-SNYDER DOWNWASH USED
 DWASH=SS MEANS SCHULMAN-SCIRE DOWNWASH USED
 DWASH=NA MEANS DOWNWASH NOT APPLICABLE, $X < 3 \cdot LB$

 *** SUMMARY OF SCREEN MODEL RESULTS ***

CALCULATION PROCEDURE	MAX CONC (UG/M**3)	DIST TO MAX (M)	TERRAIN HT (M)
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SIMPLE TERRAIN	2.227	10.	0.

 ** REMEMBER TO INCLUDE BACKGROUND CONCENTRATIONS **
