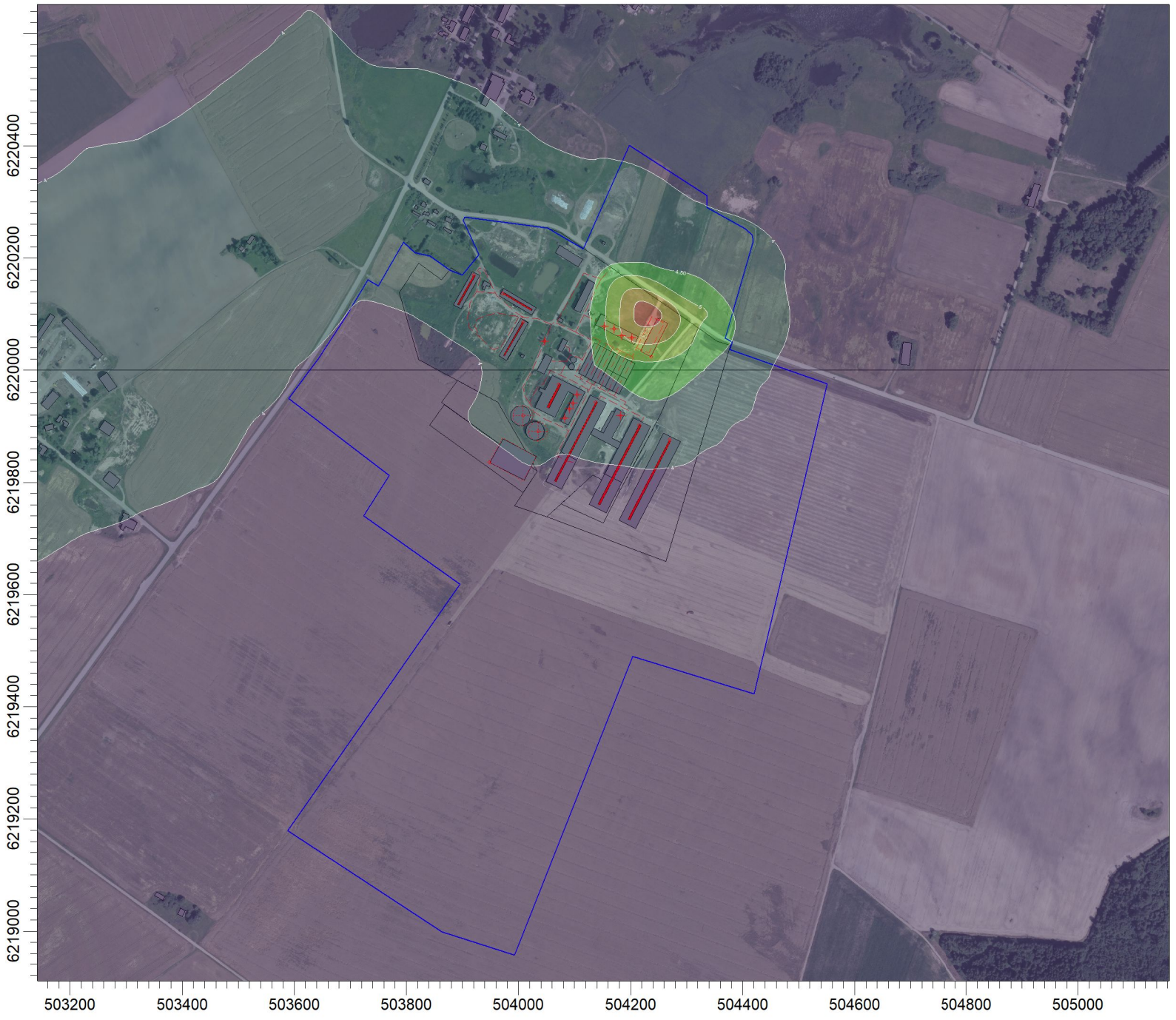
1 PRIEDAS. Grafinė medžiaga

1.1 Priedėlis. Oro tarša

PROJECT TITLE:

Pakruojo rajono Guostagalio žemės ūkio bendrovė



COMMENTS:

Prognozuojama situacija

Su fonine tarša

NO2 - metinis

SOURCES:

65

RECEPTORS:

1125

OUTPUT TYPE:

Concentration

MAX:

6,42 ug/m^3

COMPANY NAME:

UAB "Infraplanas"

MODELER:

DATE:

2020-11-18

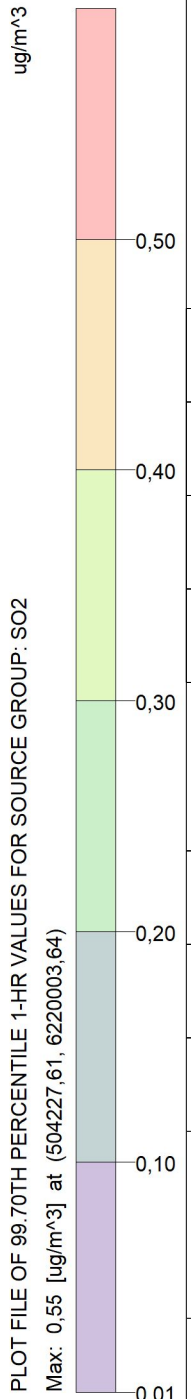
SCALE: 1:10.000

0 0,3 km

PROJECT NO.:

PROJECT TITLE:

Pakruojo rajono Guostagalio žemės ūkio bendrovė



COMMENTS:

Prognozuojama situacija

Be foninės taršos

SO2 - 1 val.

SOURCES:

65

RECEPTORS:

1125

OUTPUT TYPE:

Concentration

MAX:

0,55 ug/m^3

COMPANY NAME:

UAB "Infraplanas"

MODELER:

DATE:

2020-11-18

SCALE: 1:10.000

0 0,3 km

PROJECT NO.:

PROJECT TITLE:

Pakruojo rajono Guostagalio žemės ūkio bendrovė

ug/m^3

2,80

2,60

2,40

2,22

PLOT FILE OF 99.70TH PERCENTILE 1-HR VALUES FOR SOURCE GROUP: SO2

Max: 2,99 [ug/m^3] at (502827,61, 6219903,64)

COMMENTS:

Prognozuojama situacija

Su fonine tarša

SO2 - 1 val.

SOURCES:

65

RECEPTORS:

1125

OUTPUT TYPE:

Concentration

MAX:

2,99 ug/m^3

COMPANY NAME:

UAB "Infraplanas"

MODELER:

DATE:

2020-11-18

SCALE: 1:10.000

0 0,3 km

PROJECT NO.:

PROJECT TITLE:

Pakruojo rajono Guostagalio žemės ūkio bendrovė

ug/m^3

0,20
0,15
0,10
0,05
0,00

PLOT FILE OF 99.20TH PERCENTILE 24-HR VALUES FOR SOURCE GROUP: SO2

Max: 0,24 [ug/m^3] at (504127,61, 6219903,64)

COMMENTS:

Prognozuojama situacija

Be foninės taršos

SO2 - 24 val.

SOURCES:

65

RECEPTORS:

1125

OUTPUT TYPE:

Concentration

MAX:

0,24 ug/m^3

COMPANY NAME:

UAB "Infraplanas"

MODELER:

DATE:

2020-11-18

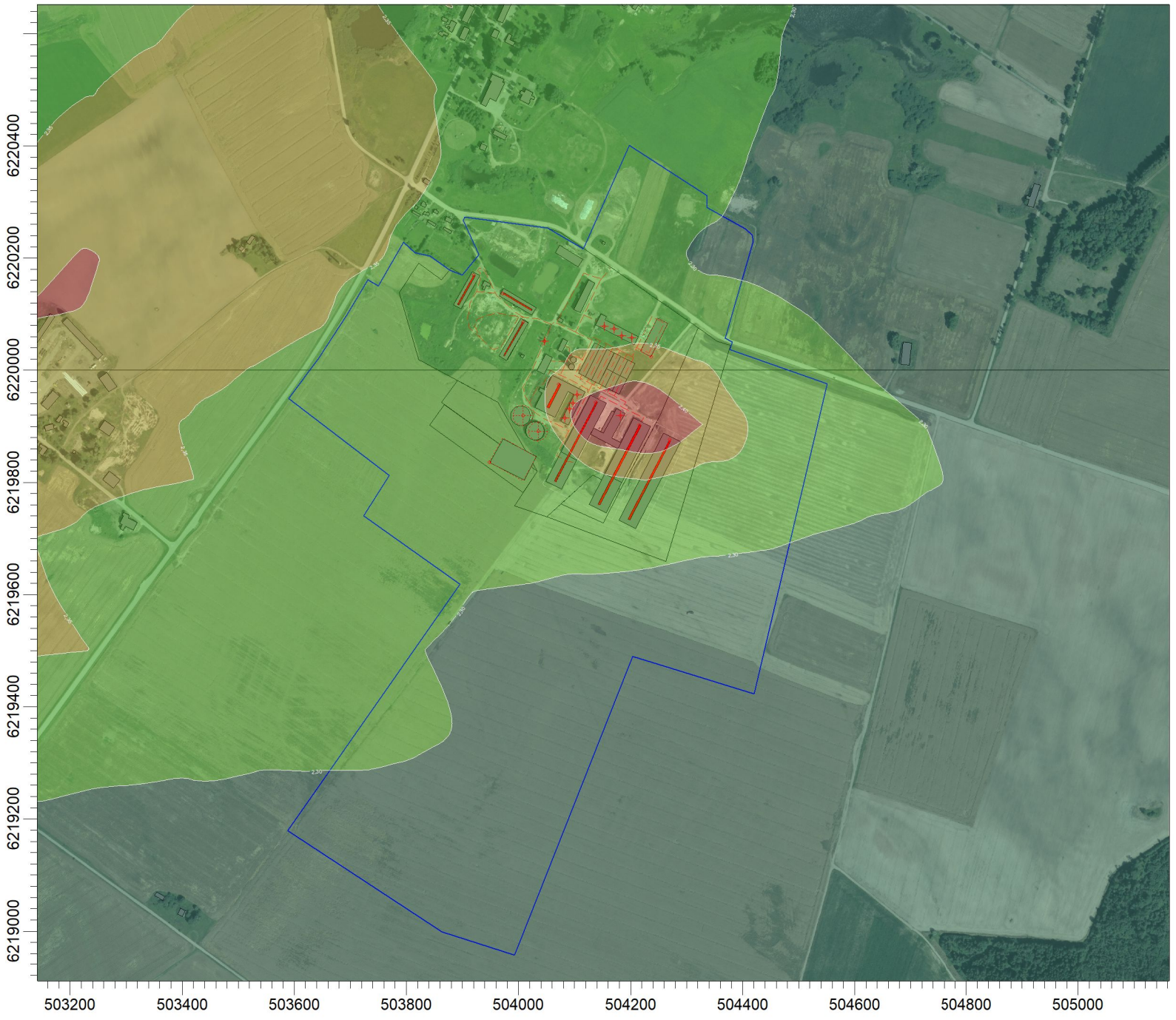
SCALE: 1:10.000

0 0,3 km

PROJECT NO.:

PROJECT TITLE:

Pakruojo rajono Guostagalio žemės ūkio bendrovė



ug/m^3

2,40
2,35
2,30
2,25
2,20

PLOT FILE OF 99.20TH PERCENTILE 24-HR VALUES FOR SOURCE GROUP: SO2

Max: 2,46 [ug/m^3] at (504227,61, 6219903,64)

COMMENTS:

Prognozuojama situacija

Su fonine tarša

SO2 - 24 val.

SOURCES:

65

RECEPTORS:

1125

OUTPUT TYPE:

Concentration

MAX:

2,46 ug/m^3

COMPANY NAME:

UAB "Infraplanas"

MODELER:

DATE:

2020-11-18

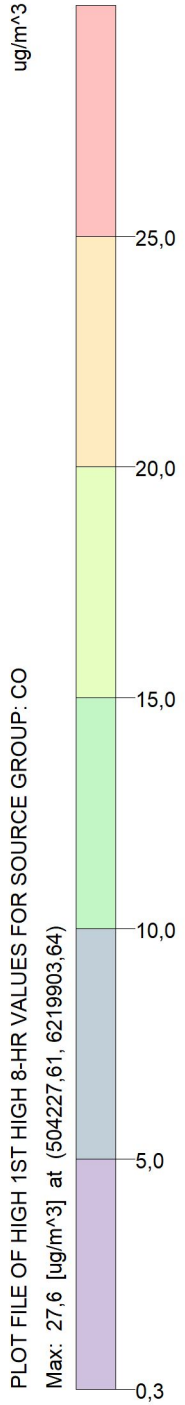
SCALE: 1:10.000

0 0,3 km

PROJECT NO.:

PROJECT TITLE:

Pakruojo rajono Guostagalio žemės ūkio bendrovė



COMMENTS:

Prognozuojama situacija

Be foninės taršos

CO - 8 val.

SOURCES:

65

RECEPTORS:

1125

OUTPUT TYPE:

Concentration

MAX:

27,6 ug/m^3

COMPANY NAME:

UAB "Infraplanas"

MODELER:

DATE:

2020-11-18

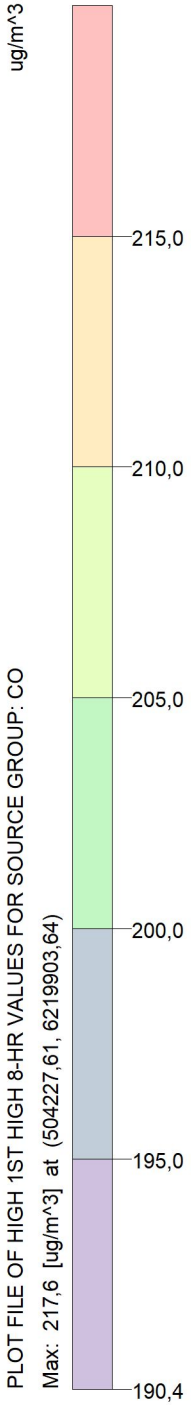
SCALE: 1:10.000

0 0,3 km

PROJECT NO.:

PROJECT TITLE:

Pakruojo rajono Guostagalio žemės ūkio bendrovė



COMMENTS:

Prognozuojama situacija

Su fonine tarša

CO - 8 val.

SOURCES:

65

RECEPTORS:

1125

OUTPUT TYPE:

Concentration

MAX:

217,6 ug/m^3

COMPANY NAME:

UAB "Infraplanas"

MODELER:

DATE:

2020-11-18

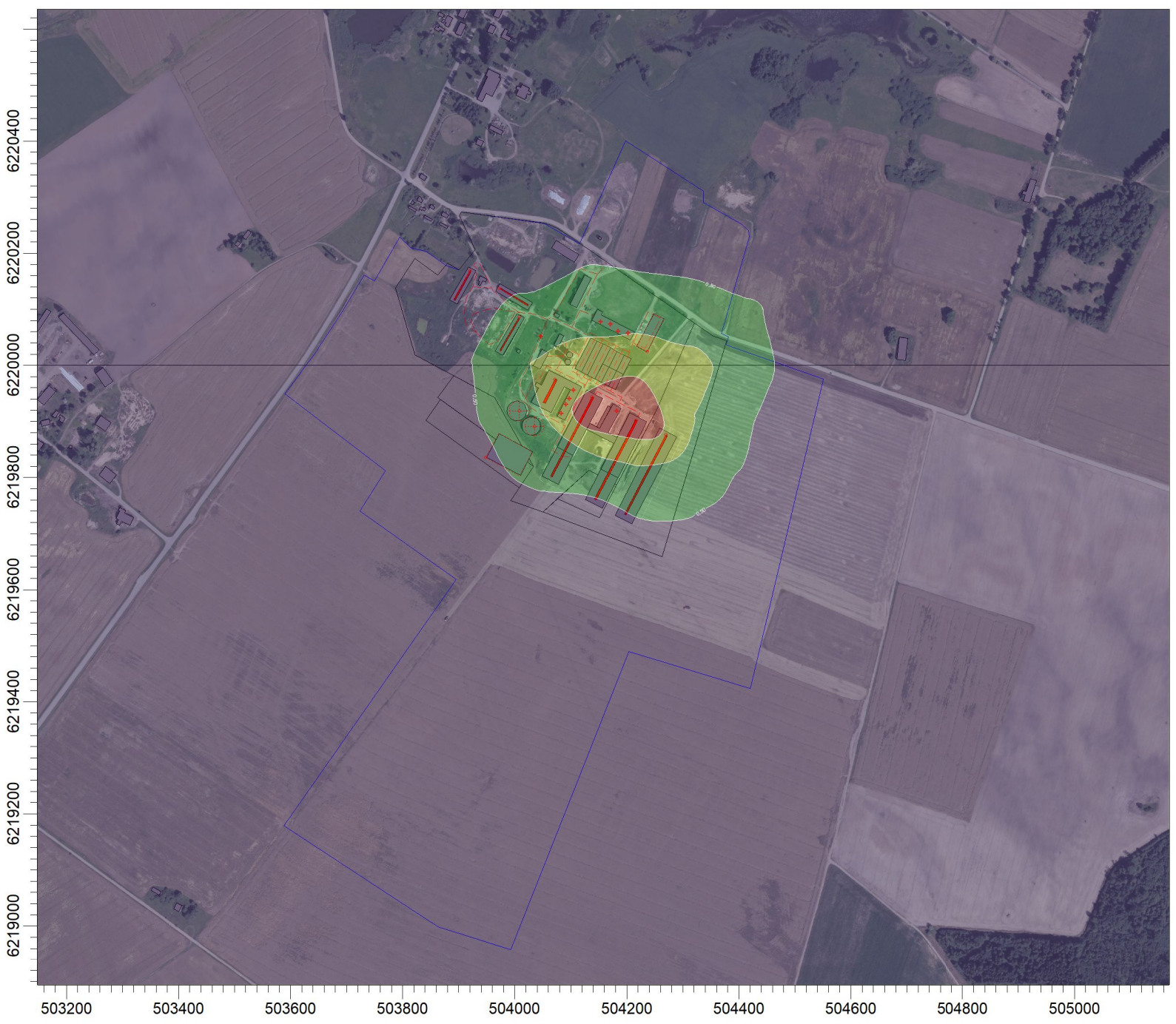
SCALE: 1:10.000

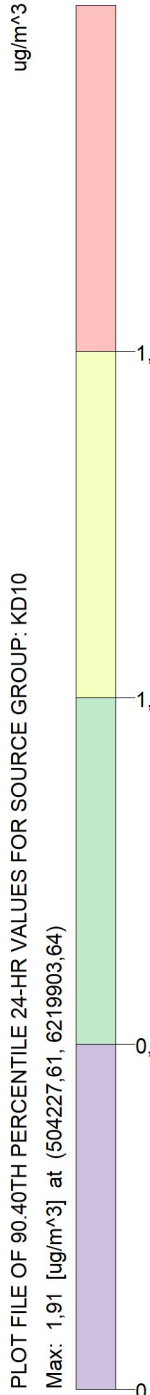
0 0,3 km

PROJECT NO.:

PROJECT TITLE:

Pakruojo rajono Guostagalio žemės ūkio bendrovė





COMMENTS:

Prognozuojama situacija

Be foninės taršos

KD10 - 24 val.

SOURCES:

65

RECEPTORS:

1125

OUTPUT TYPE:

Concentration

MAX:

1,91 ug/m^3

COMPANY NAME:

UAB "Infraplanas"

MODELER:

DATE:

2020-11-18

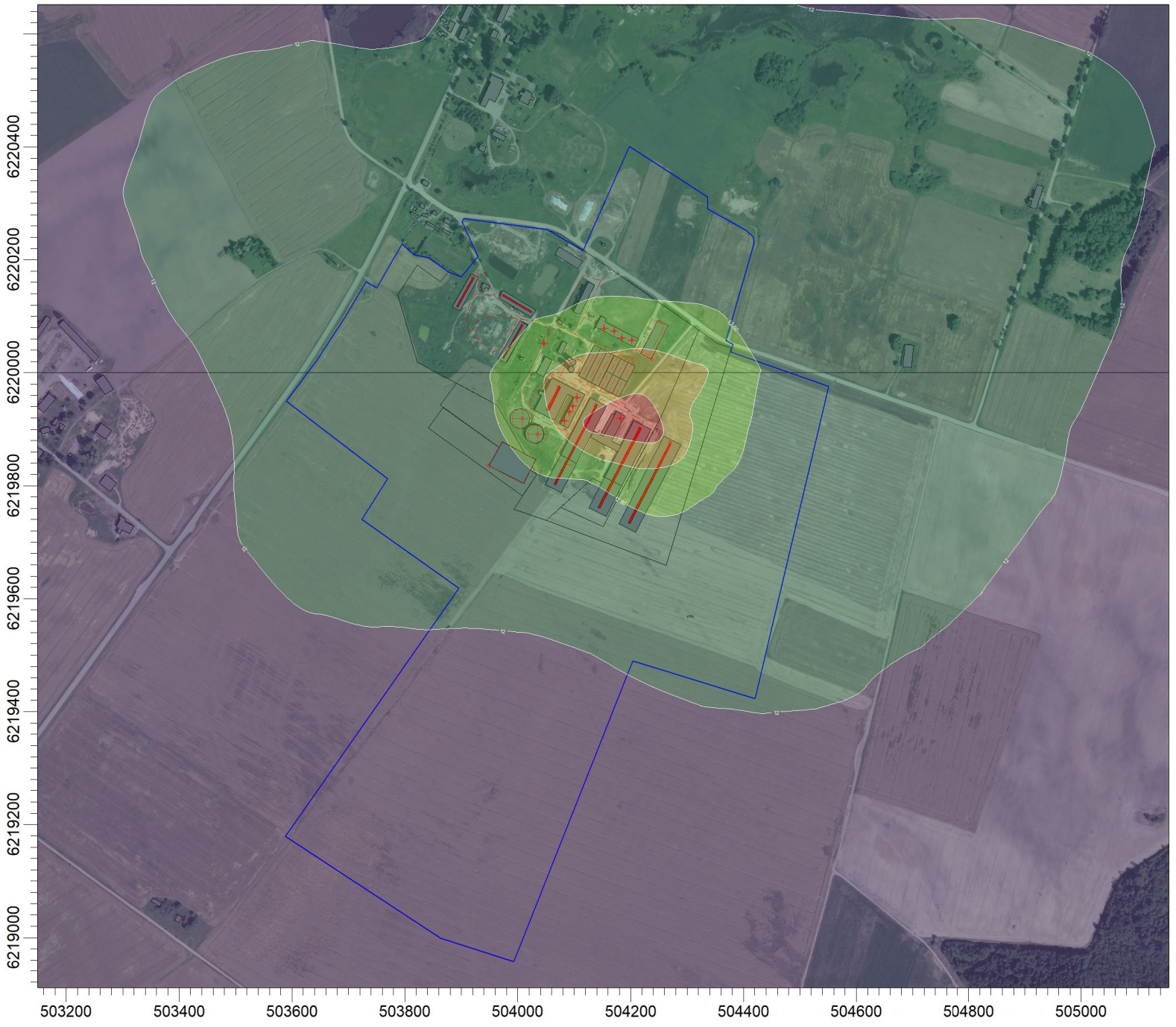
SCALE: 1:10.000

0 0,3 km

PROJECT NO.:

PROJECT TITLE:

Pakruojo rajono Guostagalio žemės ūkio bendrovė



ug/m^3

13,50
13,00
12,50
12,00
11,91

PLOT FILE OF 90.40TH PERCENTILE 24-HR VALUES FOR SOURCE GROUP: KD10

Max: 13,82 [ug/m^3] at (504227,61, 6219903,64)

COMMENTS:

Prognozuojama situacija

Su fonine tarša

KD10 - 24 val.

SOURCES:

65

RECEPTORS:

1125

OUTPUT TYPE:

Concentration

MAX:

13,82 ug/m^3

COMPANY NAME:

UAB "Infraplanas"

MODELER:

DATE:

2020-11-18

SCALE: 1:10.000

0 0,3 km

PROJECT NO.:

PROJECT TITLE:

Pakruojo rajono Guostagalio žemės ūkio bendrovė

ug/m^3

0,60

0,40

0,20

0,01

PLOT FILE OF ANNUAL VALUES AVERAGED ACROSS 5 YEARS FOR SOURCE GROUP: KD10

Max: 0,76 [ug/m^3] at (504227,61, 6219903,64)

COMMENTS:

Prognozuojama situacija

Be foninės taršos

KD10 - metinis

SOURCES:

65

RECEPTORS:

1125

OUTPUT TYPE:

Concentration

MAX:

0,76 ug/m^3

COMPANY NAME:

UAB "Infraplanas"

MODELER:

DATE:

2020-11-18

SCALE: 1:10.000

0 0,3 km

PROJECT NO.:

PROJECT TITLE:

Pakruojo rajono Guostagalio žemės ūkio bendrovė

ug/m^3

12,60
12,40
12,20
12,00
11,90

PLOT FILE OF ANNUAL VALUES AVERAGED ACROSS 5 YEARS FOR SOURCE GROUP: KD10

Max: 12,67 [ug/m^3] at (504227,61, 6219903,64)

COMMENTS:

Prognozuojama situacija

Su fonine tarša

KD10 - metinis

SOURCES:

65

RECEPTORS:

1125

OUTPUT TYPE:

Concentration

MAX:

12,67 ug/m^3

COMPANY NAME:

UAB "Infraplanas"

MODELER:

DATE:

2020-11-18

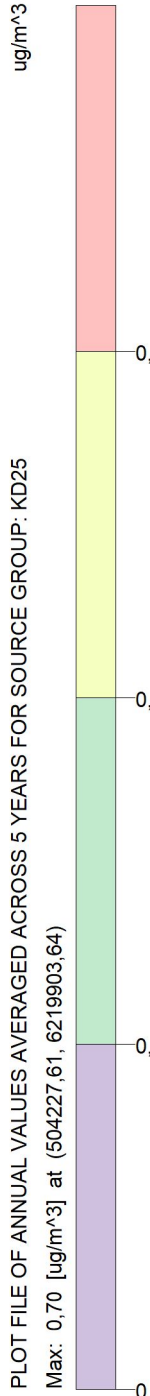
SCALE: 1:10.000

0 0,3 km

PROJECT NO.:

PROJECT TITLE:

Pakruojo rajono Guostagalio žemės ūkio bendrovė



COMMENTS:

Prognozuojama situacija

Be foninės taršos

KD2,5 - metinis

SOURCES:

65

RECEPTORS:

1125

OUTPUT TYPE:

Concentration

MAX:

0,70 ug/m^3

COMPANY NAME:

UAB "Infraplanas"

MODELER:

DATE:

2020-11-18

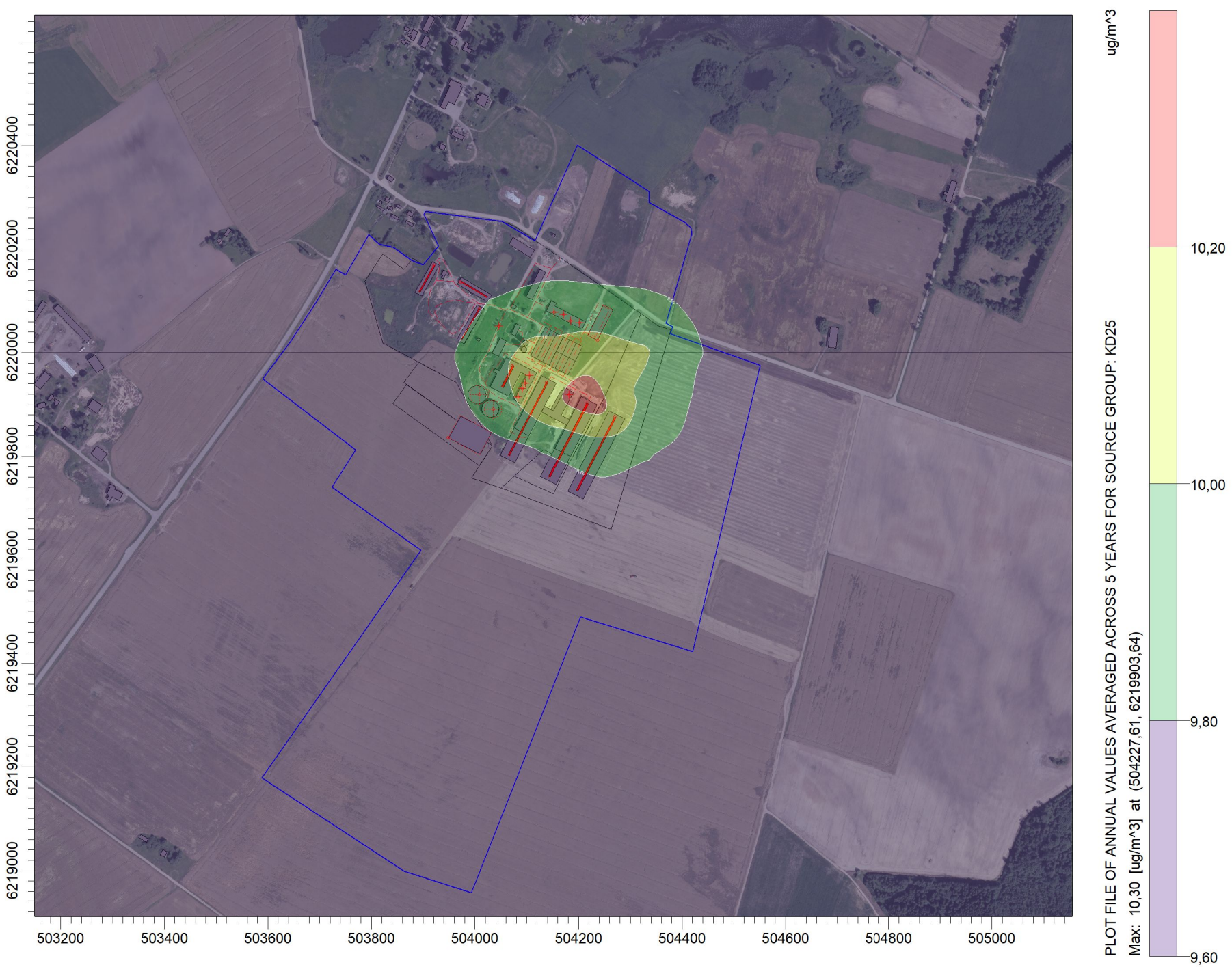
SCALE: 1:10.000

0 0,3 km

PROJECT NO.:

PROJECT TITLE:

Pakruojo rajono Guostagalio žemės ūkio bendrovė



ug/m^3

10,20

10,00

9,80

9,60

PLOT FILE OF ANNUAL VALUES AVERAGED ACROSS 5 YEARS FOR SOURCE GROUP: KD25

Max: 10,30 [ug/m^3] at (504227,61, 6219903,64)

COMMENTS:

Prognozuojama situacija

Su fonine tarša

KD2,5 - metinis

SOURCES:

65

RECEPTORS:

1125

OUTPUT TYPE:

Concentration

MAX:

10,30 ug/m^3

COMPANY NAME:

UAB "Infraplanas"

MODELER:

DATE:

2020-11-18

SCALE: 1:10.000

0 0,3 km

PROJECT NO.:

PROJECT TITLE:

Pakruojo rajono Guostagalio žemės ūkio bendrovė

ug/m^3

40
30
20
10
0

PLOT FILE OF 98.50TH PERCENTILE 1-HR VALUES FOR SOURCE GROUP: LOJ

Max: 45 [ug/m^3] at (504027,61, 6220003,64)

COMMENTS:

Prognozuojama situacija

Be foninės taršos

LOJ - 0,5 val.

SOURCES:

65

RECEPTORS:

1125

OUTPUT TYPE:

Concentration

MAX:

45 ug/m^3

COMPANY NAME:

UAB "Infraplanas"

MODELER:

DATE:

2020-11-18

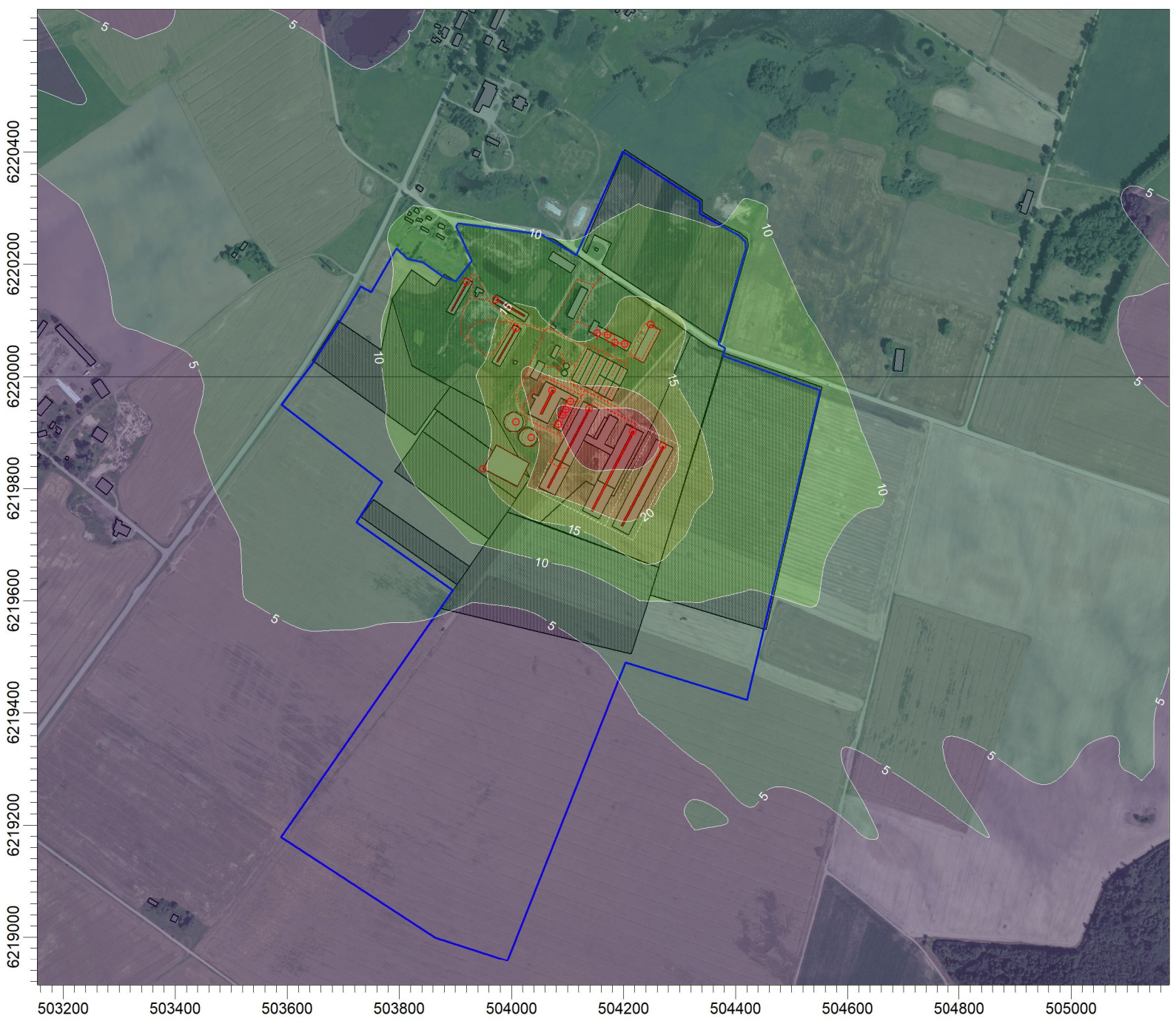
SCALE: 1:10.000

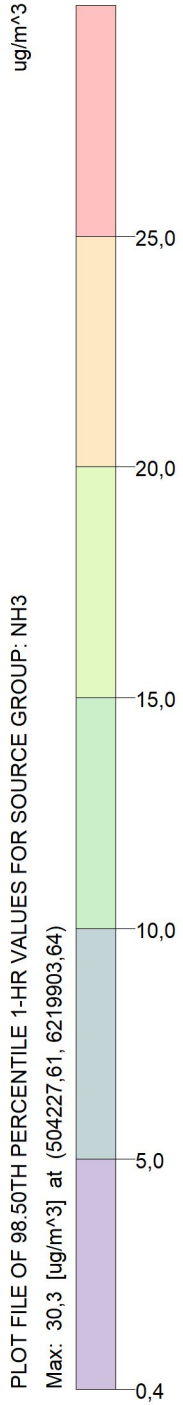
0 0,3 km

PROJECT NO.:

PROJECT TITLE:

Pakruojo rajono Guostagalio žemės ūkio bendrovė





COMMENTS:

Prognozuojama situacija

NH3 - 0.5 val.

SOURCES:

19

RECEPTORS:

1125

OUTPUT TYPE:

Concentration

MAX:

30,3 ug/m^3

COMPANY NAME:

UAB "Infraplanas"

MODELER:

DATE:

2020-11-18

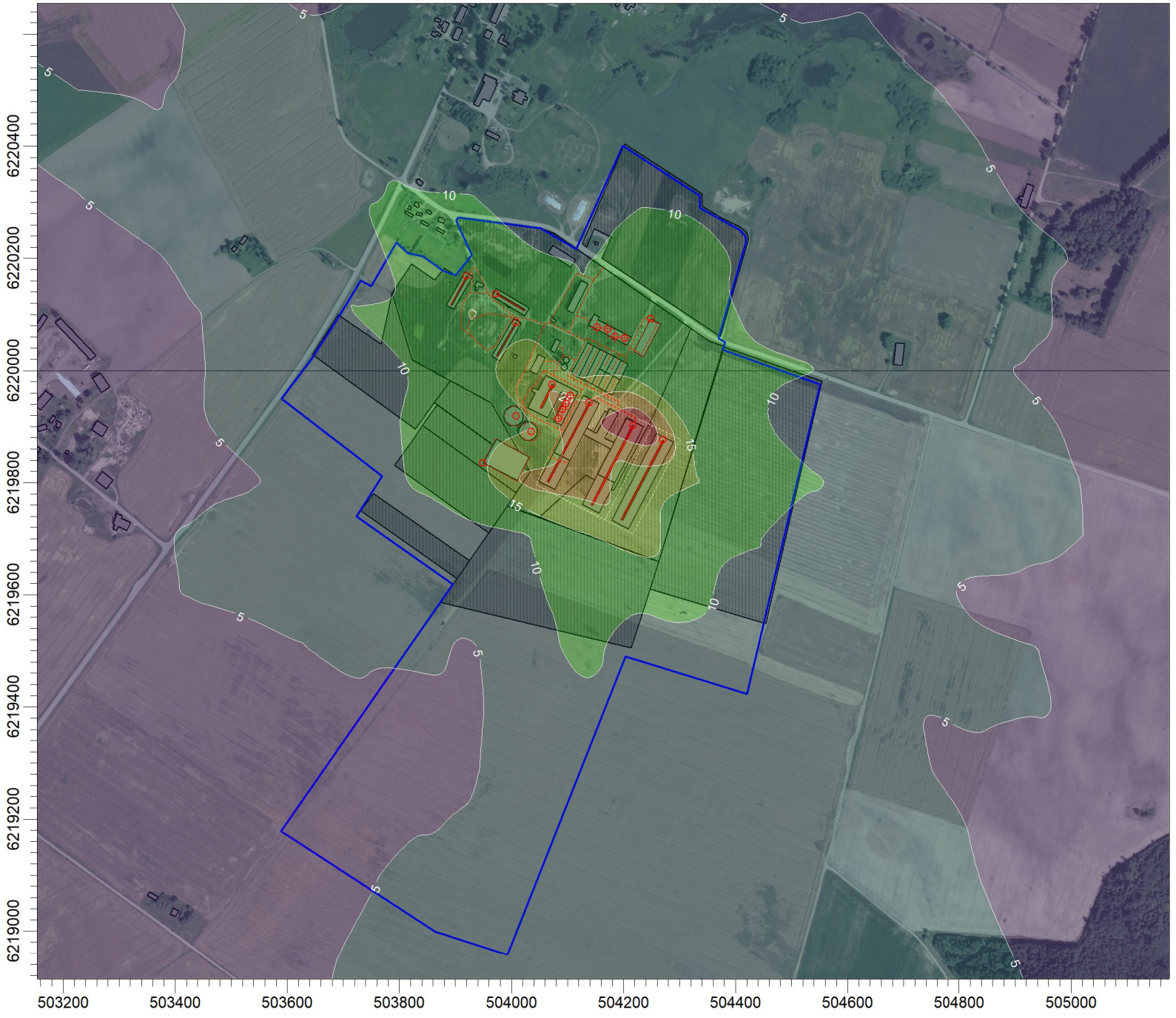
SCALE: 1:10.000

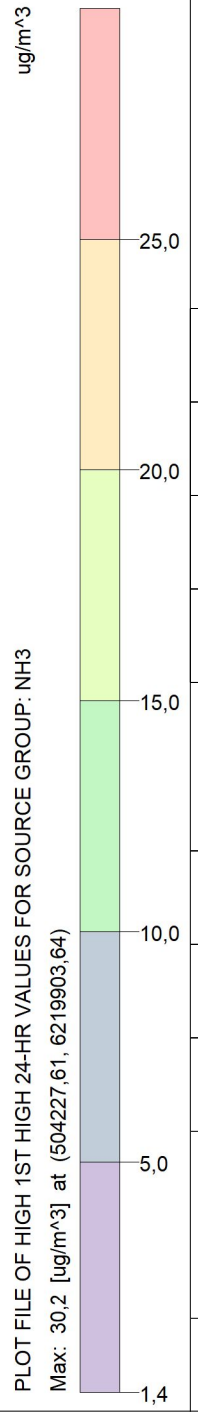
0 0,3 km

PROJECT NO.:

PROJECT TITLE:

Pakruojo rajono Guostagalio žemės ūkio bendrovė





COMMENTS:

Prognozuojama situacija

NH3 - 24 val.

SOURCES:

19

RECEPTORS:

1125

OUTPUT TYPE:

Concentration

MAX:

30,2 ug/m^3

COMPANY NAME:

UAB "Infraplanas"

MODELER:

DATE:

2020-11-18

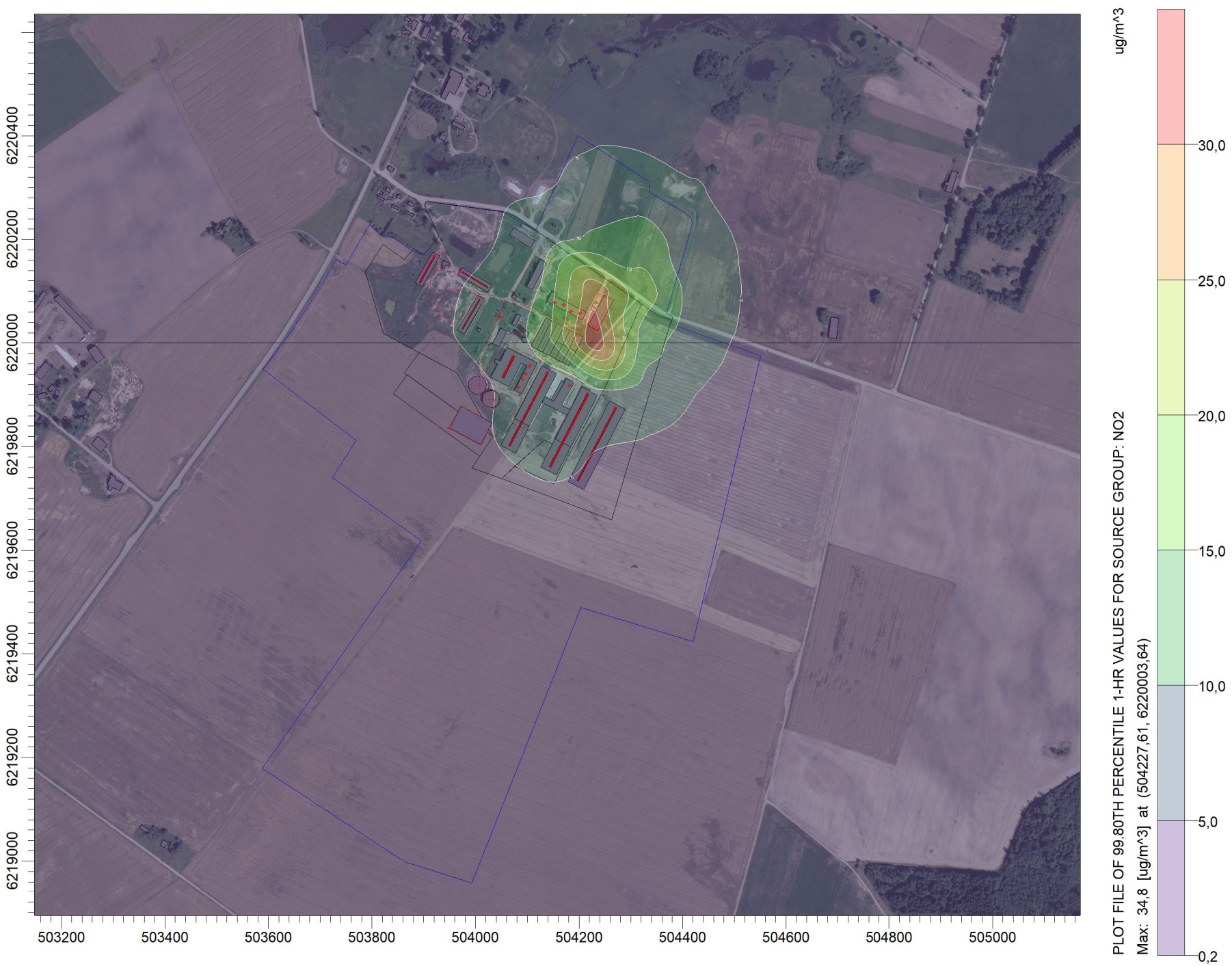
SCALE: 1:10.000

0 0,3 km

PROJECT NO.:

PROJECT TITLE:

Pakruojo rajono Guostagalio žemės ūkio bendrovė



COMMENTS:

Prognozuojama situacija

Be foninės taršos

NO2 - 1 val.

SOURCES:

65

RECEPTORS:

1125

OUTPUT TYPE:

Concentration

MAX:

34,8 ug/m^3

COMPANY NAME:

UAB "Infraplanas"

MODELER:

DATE:

2020-11-18

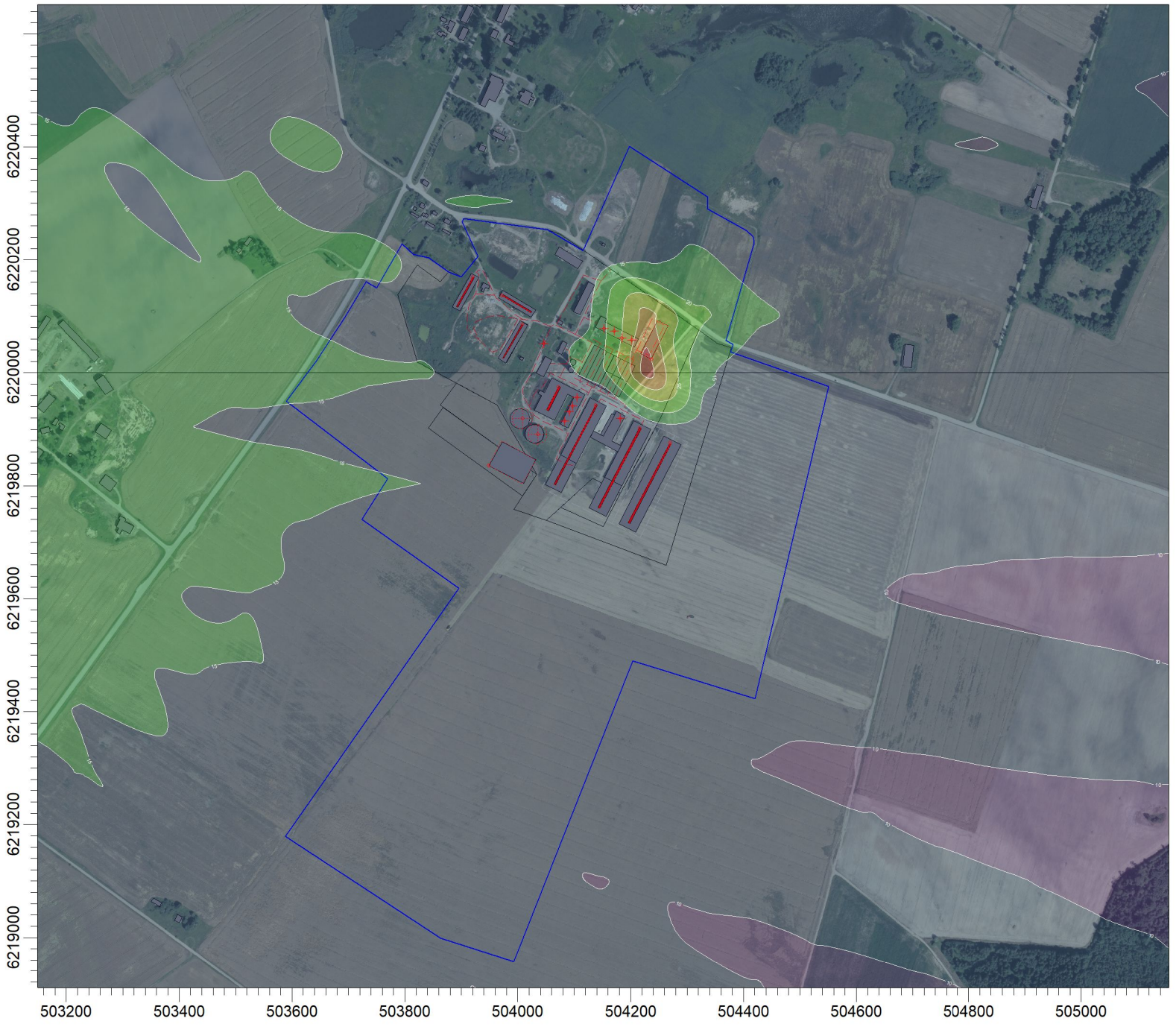
SCALE: 1:10.000

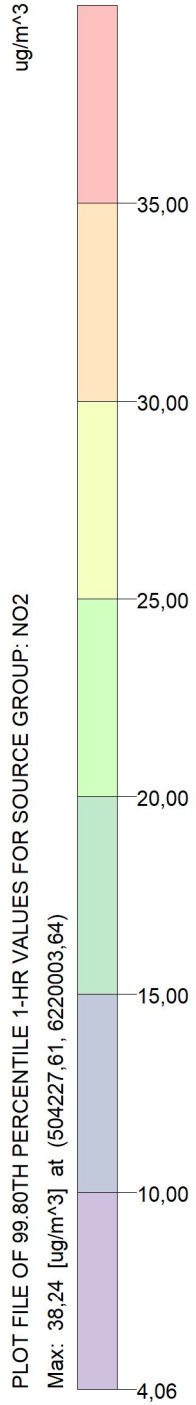
0 0,3 km

PROJECT NO.:

PROJECT TITLE:

Pakruojo rajono Guostagalio žemės ūkio bendrovė





COMMENTS:

Prognozuojama situacija

Su fonine tarša

NO2 - 1 val.

SOURCES:

65

RECEPTORS:

1125

OUTPUT TYPE:

Concentration

MAX:

38,24 ug/m^3

COMPANY NAME:

UAB "Infraplanas"

MODELER:

DATE:

2020-11-18

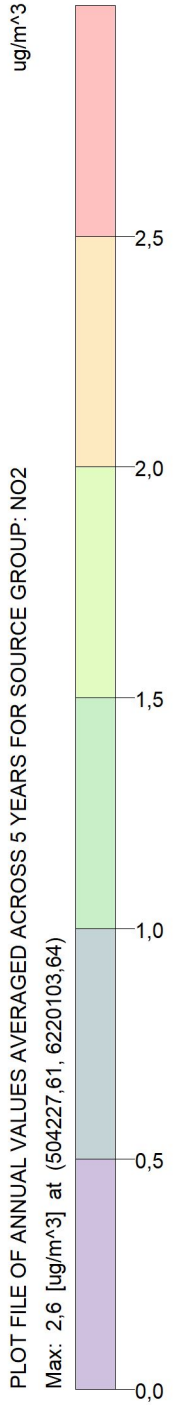
SCALE: 1:10.000

0 0,3 km

PROJECT NO.:

PROJECT TITLE:

Pakruojo rajono Guostagalio žemės ūkio bendrovė



COMMENTS:

Prognozuojama situacija

Be foninės taršos

NO2 - metinis

SOURCES:

65

RECEPTORS:

1125

OUTPUT TYPE:

Concentration

MAX:

2,6 ug/m^3

COMPANY NAME:

UAB "Infraplanas"

MODELER:

DATE:

2020-11-18

SCALE: 1:10.000

0 0,3 km

PROJECT NO.:

APLINKOS APSAUGOS AGENTŪRA

Biudžetinė įstaiga, A. Juozapavičiaus g. 9, LT-09311 Vilnius, tel. 8 706 62 008, el.p. aaa@aaa.am.lt, http://gamta.lt
Duomenys kaupiami ir saugomi Juridinių asmenų registre, kodas 188784898

UAB „Infraplanas“
El. p. info@infraplanas.lt

2020-03-
Į 2020-03-02

Nr. (30.3)-A4(e)-
Nr. S-2020-21

DĖL GUOSTAGALIO ŽŪB FONINIO APLINKOS ORO UŽTERŠTUMO DUOMENŲ

Aplinkos apsaugos agentūra gavo Jūsų prašymą pateikti foninio aplinkos oro užterštumo duomenis, kurie bus naudojami Guostagalio ŽŪB, adresu Palinkuvės g. 9, Guostagalio k., Pakruojo r., oro teršalų sklaidos aplinkos ore modeliavimą.

Vadovaujantis Tvarkos[1] ir Rekomendacijų[2] reikalavimais, atliekant prašyme nurodytų teršalų (*anglies monoksido, azoto oksidų, kietųjų dalelių, LOJ, sieros dioksido, amoniako*) sklaidos modeliavimą, turi būti naudojamos apie prašyme nurodytą ūkinės veiklos objektą, kurio poveikį aplinkos orui numatoma vertinti, visų iki 2 kilometrų atstumu esančių kitų ūkinės veiklos objektų, turinčių aplinkos oro taršos šaltinių ir iš jų išmetamų teršalų inventorizacijos ataskaitų, parengtų vadovaujantis inventorizacijos ataskaitų įforminimo tvarka[3], duomenys. Taip pat papildomai turi būti įskaitomos santykinai švarių Lietuvos kaimiškųjų vietovių aplinkos oro teršalų vidutinių metinių koncentracijų vertės, skelbiamos Agentūros interneto svetainėje http://gamta.lt, skyriuje „Foninės koncentracijos PAOV skaičiavimams“. Duomenų apie planuojamas ūkines veiklas (toliau – PŪV), dėl kurių teisės aktų nustatyta tvarka yra priimtas teigiamas sprendimas dėl PŪV galimybių ir kurių poveikio aplinkai vertinimo dokumentuose (ataskaitose ar atrankos dokumentuose) būtų pateikti į aplinkos orą numatomų išmesti teršalų kiekio skaičiavimo duomenys, neturime.

Šį atsakymą turite teisę apskųsti[4].

PRIDEDAMA:

1. Gretimybėse veikiančių įmonių oro teršalų išmetimo šaltinių ir iš jų išmetamų teršalų parametrai, 1 lapas.

Direktoriaus įgaliota Taršos prevencijos departamento
Oro taršos prevencijos skyriaus vedėja Loreta Jovaišienė

Jurgita Ivanauskienė, tel. (8 41) 596415, el. p. jurgita.ivanauskiene@aaa.am.lt

[1] Teršalų sklaidos skaičiavimo modelių, foninio aplinkos oro užterštumo duomenų ir meteorologinių duomenų naudojimo tvarka ūkinės veiklos poveikiui aplinkos orui įvertinti, patvirtinta Lietuvos Respublikos aplinkos ministro 2007 m. lapkričio 30 d. įsakymu Nr. D1-653 „Dėl teršalų sklaidos skaičiavimo modelių, foninio aplinkos oro užterštumo duomenų ir meteorologinių duomenų naudojimo tvarkos ūkinės veiklos poveikiui aplinkos orui įvertinti“.

[2] Foninio aplinkos oro užterštumo duomenų naudojimo ūkinės veiklos poveikiui aplinkos orui įvertinti rekomendacijos, patvirtintos Aplinkos apsaugos agentūros direktoriaus 2008 m. liepos 10 d. įsakymu Nr. AV-112 „Dėl foninio aplinkos oro užterštumo duomenų naudojimo ūkinės veiklos poveikiui aplinkos orui įvertinti rekomendacijų patvirtinimo“.

[3] Aplinkos oro taršos šaltinių ir iš jų išmetamų teršalų inventorizacijos ataskaitų įforminimo tvarka, patvirtinta Lietuvos Respublikos aplinkos ministro 2002 m. birželio 27 d. įsakymu Nr. 340 „Dėl Aplinkos oro taršos šaltinių ir iš jų išmetamų teršalų inventorizacijos ir ataskaitų teikimo taisyklių patvirtinimo“.

[4] Lietuvos administracinių ginčų komisijai (Vilniaus g. 27, 01402 Vilnius) Lietuvos Respublikos ikiteisminio administracinių ginčų nagrinėjimo tvarkos įstatymo nustatyta tvarka arba Vilniaus apygardos administraciniam teismui (Žygimantų g. 2, 01102 Vilnius) Lietuvos Respublikos administracinių bylų teisenos įstatymo nustatyta tvarka per vieną mėnesį nuo įteikimo dienos.

Greta esančių įmonių (2 km spinduliu) aplinkos oro taršos šaltinių ir iš jų išmetamų teršalų inventorizacijos ataskaitų duomenys

UAB „Didma“ Linkuvos socialinės globos namai
Linkavičių k., Guostagalio sen., Pakruojo r.

2.1 lentelė. STACIONARIŲJŲ TARŠOS ŠALTINIŲ FIZINIAI DUOMENYS

Taršos šaltiniai					Išmetamųjų dujų rodikliai pavyzdžio paėmimo (matavimo) vietoje			teršalų išmetimo trukmė, val./m
pavadinimas	Nr.	Koordinatės LKS-94	aukštis, m	išmetimo angos matmenys, m	srauto greitis, m/s	temperatūra, ° C	tūrio debitas, Nm^3/s	
1	2	3	4	5	6	7	8	9
Kaminas	001	x:6219818; y:502614	28,0	0,65	8,4	147	5,488	8760

2.2 lentelė. TARŠA Į APLINKOS ORĄ

Veiklos kodas	Cecho ar kt. pavadinimas arba Nr.	Taršos šaltiniai		Teršalai		Tarša			
		pavadinimas	Nr.	pavadinimas	kodas	vienkartinis dydis			metinė t/m
						vnt.	vidut.	maks.	
1	2	3	4	5	6	7	8	9	10
040105	Naftos gavybos aikštelė	Dujų deginimo fakelas	001 01	Anglies monoksidas (A)	177	mg/m^3	29	47	3,936
				Azoto oksidai (A)	250		486	576	0,603
				Sieros anhidridas (A)	1753		10	19	0,085
				Kietosios dalelės (A)	6493		13	15	1,357

DETALŪS METADUOMENYS	
Dokumento sudarytojas (-ai)	Aplinkos apsaugos agentūra,A. Juozapavičiaus g. 9, LT-09311 Vilnius
Dokumento pavadinimas (antraštė)	DĖL GUOSTAGALIO ŽŪB FONINIO APLINKOS ORO UŽTERŠTUMO DUOMENŲ
Dokumento registracijos data ir numeris	2020-03-05 Nr. (30.3)-A4E-1672
Dokumento specifikacijos identifikavimo žymuo	ADOC-V1.0, GEDOC
Parašo paskirtis	Pasirašymas
Parašą sukūrusio asmens vardas, pavardė ir pareigos	LORETA JOVAIŠIENĖ, skyriaus vedėja
Parašo sukūrimo data ir laikas	2020-03-05 15:05:26
Parašo formatas	Trumpalaikis skaitmeninis parašas, kuriame taip pat saugoma sertifikato informacija
Laiko žymoje nurodytas laikas	
Informacija apie sertifikavimo paslaugų teikėją	ADIC CA-A
Sertifikato galiojimo laikas	2018-11-14 - 2021-11-13
Parašo paskirtis	Registravimas
Parašą sukūrusio asmens vardas, pavardė ir pareigos	Danguolė Petravičienė
Parašo sukūrimo data ir laikas	2020-03-05 15:39:46
Parašo formatas	Trumpalaikis skaitmeninis parašas, kuriame taip pat saugoma sertifikato informacija
Laiko žymoje nurodytas laikas	
Informacija apie sertifikavimo paslaugų teikėją	RCSC IssuingCA
Sertifikato galiojimo laikas	2020-01-09 - 2021-01-08
Pagrindinio dokumento priedų skaičius	1
Pagrindinio dokumento pridedamų dokumentų skaičius	0
Programinės įrangos, kuria naudojantis sudarytas elektroninis dokumentas, pavadinimas	Elektroninė dokumentų valdymo sistema VDVIS, versija v. 3.04.02
Informacija apie elektroninio dokumento ir elektroninio (-ių) parašo (-ų) tikrinimą (tikrinimo data)	El. dokumentas atitinka specifikacijos keliamus reikalavimus. Visi dokumente esantys elektroniniai parašai galioja. Tikrinimo data: 2020-03-05 15:51:04
Elektroninio dokumento nuorašo atspausdinimo data ir ją atspausdinęs darbuotojas	2020-03-05 atspausdino Jurgita Ivanauskienė
Paieškos nuoroda	

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Nr. LA.01.138

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Biudžetinė įstaiga, Žolyno g. 36, LT-10210 Vilnius, tel. (8 5) 270 9229, faks. (8 5) 210 4848
el. p. nvspl@nvspl.lt, www.nvspl.lt
Duomenys kaupiami ir saugomi Juridinių asmenų registre, kodas 195551983

Cheminių tyrimų skyrius
(skyrius)

KVAPO KONCENTRACIJOS NUSTATYMO PROTOKOLAS NR. Ch 6354/2020-6357/2020

2020 m. rugsėjo mėn. 07 d.

Užsakovas, adresas: UAB „Infraplanas“, K. Donelaičio g. 55-2, LT- 44245, Kaunas

Sutartis *(pažymėkite X)* [X] nėra [ ] yra data: 20 ____ - _____ - _____ Nr. _____

Telefonas: (8 37) 407548 El. paštas info@infraplanas.lt

Objekto pavadinimas, adresas: Guostagalio ŽŪB, Palinkuvės g. 9, Guostagalio k., Pakruojo r.

Oro mėginį (-ius) paėmė: Chemijos specialistas Irmantas Rastenis
(pareigos, vardas ir pavardė)

Oro mėginio(-ių) kvapo koncentracijos nustatymui paėmimo aktas – užduotis tyrimui Nr.: V 8712 data: 2020-08-26

Oro mėginį (-ius) pristatė: Chemijos specialistas Irmantas Rastenis
(pareigos, vardas ir pavardė)

Oro mėginio (-ių) pristatymo: data: 2020-08-25 laikas: 16^{20}

Oro mėginio					Metodo žymuo	Aplinkos oro sąlygos			
paėmimo data, laikas	**tūris, l**	**paėmimo vieta / pavadinimas**	**registracijos Nr.**	**talpos identifikavimo kodas**		**temperatūra, °C**	**atmosferos slėgis, kPa**	**vėjo greitis, m/s**	**santykinė oro drėgmė, %**
1	2	3	4	5	6	7	8	9	10
2020-08-25 11^{20}- 11^{40}	2x~10 l	Kieto mėšlo aikštelė	Ch 6354	1812 1814	LST EN 13725:2004 +AC:2006	23	99,3	4	78
2020-08-25 11^{43}- 11^{52}	2x~10 l	Siloso tranšėja	Ch 6355	1819 1820	LST EN 13725:2004 +AC:2006	23	99,3	4	78
2020-08-25 12^{06}- 12^{33}	2x~10 l	Skysto mėšlo rezervuaras	Ch 6356	023592 031840	LST EN 13725:2004 +AC:2006	22	99,2	4,5	73
2020-08-25 12^{48}- 13^{00}	2x~10 l	Karvidė	Ch 6357	1817 1811	LST EN 13725:2004 +AC:2006	20	99,2	4,5	73

Oro mėginių kvapo koncentracijai nustatyti paėmimo planas: ☑ nėra ☐ yra Nr.: _____

Kita užsakovo pateikta informacija apie mėginį: -

Oro mėginio		Analitė	Oro mėginio tyrimo		Matavimo vnt.	Kvapo koncentracijos nustatymo data, laikas
registracijos Nr.	talpos identifikavimo kodas		metodo žymuo	rezultatas		
1	2	3	4	5	6	7
Ch 6354	1812 1814	Kvapas	LST EN 13725:2004 +AC:2006	777	europiniai kvapo vienetai (OU_E/m^3)	2020-08-26 10^{01}- 10^{12}
Ch 6355	1819 1820	Kvapas	LST EN 13725:2004 +AC:2006	13861	europiniai kvapo vienetai (OU_E/m^3)	2020-08-26 10^{31}- 10^{40}
Ch 6356	023592 031840	Kvapas	LST EN 13725:2004 +AC:2006	4260	europiniai kvapo vienetai (OU_E/m^3)	2020-08-26 10^{45}- 10^{56}
Ch 6357	1817 1811	Kvapas	LST EN 13725:2004 +AC:2006	330	europiniai kvapo vienetai (OUE/m3)	2020-08-26 11^{01}- 11^{10}

Vertintojų grupės narių geometrinis vidurkis po retrospektyvaus patikrinimo Z_{ITE} = 1745, naudota sertifikuota pamatinė medžiaga n-butanolis (60,5 ppm arba — µmol/mol).

Tyrimų patalpos aplinkos sąlygos:
temperatūra tyrimų pradžioje 20 °C temperatūra tyrimų pabaigoje 21 °C CO_2 tūrio frakcija <0,15 %

Įrangos pavadinimas TO-8 Gamyklinis Nr. EO.8113 Įrangos sprendimo riba 24 OU_E/m^3

Papildomi duomenys, pastabos: Imant oro mėginius iš kieto mėšlo aikštelės, siloso tranšėjos ir skysto mėšlo rezervuaro (Ch 6354 - Ch 6356) paviršiaus buvo naudotas mėginių paėmimo gaubtas, kurio dengiamas paviršiaus plotas lygus 0,5 m^2, o sukuriamas srautas – 30 $m^3/(m^2 \times h)$

Tyrimą (-us) atliko: Chemijos specialistas Irmantas Rastenis
(pareigos, vardas ir pavardė)

Tvirtinu: Aplinkos tyrimų poskyrio vedėja Irena Kavoliūnienė
(pareigos, vardas ir pavardė, parašas)

Paaiškinimai:	1. N – neakredituotas metodas.
	2. Tyrimų protokolas ar jo dalys (priedai) negali būti dauginami be skyriaus ir (arba) poskyrio vedėjo sutikimo.
	3. Tyrimų rezultatai susiję tik su konkrečiais, ištirtais mėginiais.
	4. Tyrimo protokolo perdavimo būdas

1 Priedo. 1.1. priedėlis

Oro tarša

Amoniako (NH_3) kiekis išsiskiriantis iš gyvulių laikymo vietų (tvartų), mėšlo tvarkymo (krovos, sandėliavimo, vežimo) metu ir mėšlo tręšimo metu apskaičiuotas pagal Europos aplinkos agentūros į atmosferą išmetamų teršalų apskaitos metodiką (anglų kalba – EMEP/EEA air pollutant emission inventory guidebook, chapter 3B. Manure management, 2019) (toliau – Metodika). Skaičiavimams naudota Metodika įrašyta į atmosferą išmetamų teršalų kiekio apskaičiavimo metodikų sąrašą, patvirtintą Lietuvos Respublikos aplinkos ministro 1999 m. gruodžio 13 d. įsakymu Nr. 395. Amoniako emisijai apskaičiuoti buvo pasinaudota EMEP/EEA 2013 m. amoniako skaičiuokle (MS Excel formatu).

KD10, KD2,5 ir LOJ skaičiavimams naudota Metodikos Tier 1 metodologija. KD10, KD2,5 ir LOJ skaičiavimams pateikiami PAV ataskaitos tekste.

Amoniako kiekis:

a.t.š. Nr. 601 - rekonstruojama karvidė Nr. 1

Step 3. Calculation of Total N excretion deposited in buildings, on outdoor yards and on grazed land				
Input data				
	Number of livestock	700		
	N Excretion kg	105	85,5	
	% TAN excr	60		
	Housed period, days	365		
	% excreta on yards	0		
Calculations				
Equation 5	m_grazN	0,0		
Equation 6	m_yardN	0,0		
Equation 7	m_buildN	73500,0		
Total		73500,0		
Check		0,000		
Step 4. Allocation of organic-N and TAN excretion between buildings, outdoor yards and grazing				
Input data				
Equation 8	m_graz,TAN	0,0	m_grazN	0,0
Equation 9	m_yard,TAN	0,0	m_yardN	0,0
Equation 10	m_build,TAN	44100,0	m_buildN	73500,0
Total		44100,0		73500,0
Check		0,000		0,000

Step 5. Estimate amounts of TAN deposited in buildings as slurry or FYM					
Input data					
	Proportion of livestock housed on slurry-based system (%)	100			
	Proportion of livestock housed on FYM-based system (%)	0			
Calculations					
Equation 11	$m_{build\_slurry\_TAN}$	44100,00	Equation 12	$m_{build\_slurry\_N}$	73500,00
Equation 13	$m_{build\_solid\_TAN}$	0,00	Equation 14	$m_{build\_solid\_N}$	0,00
Total		44100			73500
Check		0,000			0,000
Step 6. Calculate emissions from buildings and yards					
Calculations					
Equation 15	E_{build_slurry}	10584,00			
Equation 16	E_{build_solid}	0,00			
Equation 17	E_{yard}	0,00			
Step 7. Calculate total-N and TAN leaving buildings (FYM only)					
Input data					
	Mass of bedding, kg	0			
	$m_{bedding}$ kg N	0			
	f_{imm} kg/kg	0,0067			

Calculations		
Equation 18	$m_{ex\text{-}build\_solid\_TAN}$	0,00
Equation 19	$m_{ex\text{-}build\_solid\_N}$	0,00
Check		0
Step 8. Calculate Total-N and TAN entering storage (all manures)		
	x_{store_slurry}	0,5
	x_{store_solid}	1
Calculations		
Equation 20	$m_{storage\_slurryTAN}$	16758,00
Equation 21	$m_{storage\_slurry,N}$	31458,00
Equation 24	$m_{storage\_solid\_TAN}$	0,00
Equation 25	$m_{storage\_solid\_N}$	0,00
The amounts of manures applied directly to fields will be		
Equation 22	$m_{spread\_direct\_slurry\_TAN}$	16758,00
Equation 23	$m_{spread\_direct\_slurry\_N}$	31458,00
Equation 26	$m_{spread\_direct\_solid\_TAN}$	0,00
Equation 27	$m_{spread\_direct\_solidN}$	0,00
Step 9. Calculate TAN from which slurry storage emissions will occur		
Input data		
	f_{min}	0,1
Calculations		
Equation 28	$mm_{storage\_slurry\_TAN}$	18228,00

Calculations				
Equation 28	$mm_{storage\_slurry\_TAN}$	18228,00		
Step 10. Calculate storage emissions				
Calculations				
Equation 29	$E_{storage\_slurry\_NH3}$	4557,000		
Equation 29	$E_{storage\_slurry\_N2O}$	18,228		
Equation 29	$E_{storage\_slurry\_NO}$	1,823		
Equation 29	$E_{storage\_slurry\_N2}$	54,684		
Equation 30	$E_{storage\_solid\_NH3}$	0,000		
Equation 30	$E_{storage\_solid\_N2O}$	0,000		
Equation 30	$E_{storage\_solid\_NO}$	0,000		
Equation 30	$E_{storage\_solid\_N2}$	0,000		
Step 11. Calculate organic-N and TAN applied to field				
Calculations			%TAN	
Equation 31	$m_{applic\_slurry\_TAN}$	30354,27	52	
Equation 32	$m_{applic\_slurry\_N}$	58284,27		
Not currently included	$E_{storage\_solid\_leach}$	0,000		
Equation 33	$m_{applic\_solid\_TAN}$	0,00	#DIV/0!	
Equation 34	$m_{applic\_solid\_N}$	0,00		
Check	*slurry*	0,000		
	solid	0,000		
Step 12. Calculate emission following application to field				
Calculations				
Equation 35	E_{applic_slurry}	16695		
Equation 36	E_{applic_solid}	0		

Step 13. To calculate total-N and TAN returned to soil					
Calculations					
Equation 37	$m_{returned\_slurry\_TAN}$	13659			
Equation 38	$m_{returned\_slurry\_N}$	41589			
Equation 39	$m_{returned\_solid'\_TAN}$	0			
Equation 40	$m_{returned\_solid\_N}$	0			
Step 14. To calculate emissions from grazing					
Calculations					
Equation 41	E_{graz}	0,0			
Entering soil in grazed pasture	TAN returned	0		N returned	0
Check		0,000			0,000
N input		73500,0			
N output		73500,0			
System check		0,000			

Total emissions					
	As kg of the relevant compound				
Source	***NH_3***	***N_2O***	***NO***	***N_2***	***Leached NO_3***
Buildings, manure as slurry	**12852,0**				
Buildings, manure as FYM	**0,0**				
Yards	**0,0**				
Slurry storage	**5533,5**	**28,644**	**3,906**	**54,7**	
FYM storage	**0,0**	**0,000**	**0,000**	**0,0**	**0,0**
Slurry application	**20272,3**				
Solid application	**0,0**				
Grazing	**0,0**				
Total	**38657,81**	**28,644**	**3,906**	**55**	**0**

Iš a.t.š. 601, kuriame laikoma 700 vnt. melžiamų karvių per metus išsiskirs 12,8520 t amoniako (be amoniako mažinimo priemonių). 5,5335 t amoniako (be amoniako mažinimo priemonių) išsiskirs iš skysto mėšlo laikymo vietų. 20,2723 t amoniako išsiskirs tręšimo metu.

a.t.š. Nr. 602 - rekonstruojama karvidė Nr. 3

Step 3. Calculation of Total N excretion deposited in buildings, on outdoor yards and on grazed land				
Input data				
	Number of livestock	517		
	N Excretion kg	105		
	% TAN excr	60		
	Housed period, days	365		
	% excreta on yards	0		
Calculations				
Equation 5	m_grazN	0,0		
Equation 6	m_yardN	0,0		
Equation 7	m_buildN	54285,0		
Total		54285,0		
Check		0,000		
Step 4. Allocation of organic-N and TAN excretion between buildings, outdoor yards and grazing				
Input data				
Equation 8	m_graz,TAN	0,0	m_grazN	0,0
Equation 9	m_yard,TAN	0,0	m_yardN	0,0
Equation 10	m_build,TAN	32571,0	m_buildN	54285,0
Total		32571,0		54285,0
Check		0,000		0,000

Step 5. Estimate amounts of TAN deposited in buildings as slurry or FYM					
Input data					
	Proportion of livestock housed on slurry-based system (%)	100			
	Proportion of livestock housed on FYM-based system (%)	0			
Calculations					
Equation 11	$m_{build\_slurry\_TAN}$	32571,00	Equation 12	$m_{build\_slurry\_N}$	54285,00
Equation 13	$m_{build\_solid\_TAN}$	0,00	Equation 14	$m_{build\_solid\_N}$	0,00
Total		32571			54285
Check		0,000			0,000
Step 6. Calculate emissions from buildings and yards					
Calculations					
Equation 15	E_{build_slurry}	7817,04			
Equation 16	E_{build_solid}	0,00			
Equation 17	E_{yard}	0,00			
Step 7. Calculate total-N and TAN leaving buildings (FYM only)					
Input data					
	Mass of bedding, kg	0			
	$m_{bedding}$ kg N	0			
	f_{imm} kg/kg	0,0067			

Calculations			
Equation 18	$m_{ex\text{-}build\_solid\_TAN}$	0,00	
Equation 19	$m_{ex\text{-}build\_solid\_N}$	0,00	
Check		0	
Step 8. Calculate Total-N and TAN entering storage (all manures)			
	x_{store_slurry}	0,5	
	x_{store_solid}	1	
Calculations			
Equation 20	$m_{storage\_slurryTAN}$	12376,98	
Equation 21	$m_{storage\_slurry,N}$	23233,98	
Equation 24	$m_{storage\_solid\_TAN}$	0,00	
Equation 25	$m_{storage\_solid\_N}$	0,00	
The amounts of manures applied directly to fields will be			
Equation 22	$m_{spread\_direct\_slurry\_TAN}$	12376,98	
Equation 23	$m_{spread\_direct\_slurry\_N}$	23233,98	
Equation 26	$m_{spread\_direct\_solid\_TAN}$	0,00	
Equation 27	$m_{spread\_direct\_solidN}$	0,00	
Step 9. Calculate TAN from which slurry storage emissions will occur			
Input data			
	f_{min}	0,1	
Calculations			
Equation 28	$mm_{storage\_slurry\_TAN}$	13462,68	

Step 10. Calculate storage emissions						
Calculations						
Equation 29	$E_{storage\_slurry\_NH3}$	3365,670				
Equation 29	$E_{storage\_slurry\_N2O}$	13,463				
Equation 29	$E_{storage\_slurry\_NO}$	1,346				
Equation 29	$E_{storage\_slurry\_N2}$	40,388				
Equation 30	$E_{storage\_solid\_NH3}$	0,000				
Equation 30	$E_{storage\_solid\_N2O}$	0,000				
Equation 30	$E_{storage\_solid\_NO}$	0,000				
Equation 30	$E_{storage\_solid\_N2}$	0,000				
Step 11. Calculate organic-N and TAN applied to field						
Calculations			%TAN			%TAN
Equation 31	$m_{applic\_slurry\_TAN}$	22418,79	52		22418,79	52
Equation 32	$m_{applic\_slurry\_N}$	43047,09			43047,09	
Not currently included	$E_{storage\_solid\_leach}$	0,000				
Equation 33	$m_{applic\_solid\_TAN}$	0,00	#DIV/0!		0,00	#DIV/0!
Equation 34	$m_{applic\_solid\_N}$	0,00			0,00	
Check	*slurry*	0,000			0,000	
	solid	0,000			0,000	
Step 12. Calculate emission following application to field						
Calculations						
Equation 35	E_{applic_slurry}	12330				
Equation 36	E_{applic_solid}	0				

Step 13. To calculate total-N and TAN returned to soil						
Calculations						
Equation 37	$m_{returned\_slurry\_TAN}$	10088				
Equation 38	$m_{returned\_slurry\_N}$	30717				
Equation 39	$m_{returned\_solid'\_TAN}$	0				
Equation 40	$m_{returned\_solid\_N}$	0				
Step 14. To calculate emissions from grazing						
Calculations						
Equation 41	E_{graz}	0,0				
Entering soil in grazed pasture	TAN returned	0		N returned	0	
Check		0,000			0,000	
N input		54285,0				
N output		54285,0				
System check		0,000				

Total emissions					
	As kg of the relevant compound				
Source	***NH_3***	***N_2O***	***NO***	***N_2***	***Leached NO_3***
Buildings, manure as slurry	**9492,1**				
Buildings, manure as FYM	**0,0**				
Yards	**0,0**				
Slurry storage	**4086,9**	**21,156**	**2,885**	**40,4**	
FYM storage	**0,0**	**0,000**	**0,000**	**0,0**	**0,0**
Slurry application	**14972,6**				
Solid application	**0,0**				
Grazing	**0,0**				
Total	**28551,56**	**21,156**	**2,885**	**40**	**0**

Iš a.t.š. 602, kuriame laikoma 517 vnt. melžiamų karvių per metus išsiskirs 9,4921 t amoniako (be amoniako mažinimo priemonių). 4,0869 t amoniako (be amoniako mažinimo priemonių) išsiskirs iš skysto mėšlo laikymo vietų. 14,9726 t amoniako išsiskirs tręšimo metu.

Step 3. Calculation of Total N excretion deposited in buildings, on outdoor yards and on grazed land				
Input data				
	Number of livestock	183		
	N Excretion kg	41		
	% TAN excr	60		
	Housed period, days	365		
	% excreta on yards	0		
Calculations				
Equation 5	m_grazN	0,0		
Equation 6	m_yardN	0,0		
Equation 7	m_buildN	7503,0		
Total		7503,0		
Check		0,000		
Step 4. Allocation of organic-N and TAN excretion between buildings, outdoor yards and grazing				
Input data				
Equation 8	m_graz,TAN	0,0	m_grazN	0,0
Equation 9	m_yard,TAN	0,0	m_yardN	0,0
Equation 10	m_build,TAN	4501,8	m_buildN	7503,0
Total		4501,8		7503,0
Check		0,000		0,000

Step 5. Estimate amounts of TAN deposited in buildings as slurry or FYM					
Input data					
	Proportion of livestock housed on slurry-based system (%)	100			
	Proportion of livestock housed on FYM-based system (%)	0			
Calculations					
Equation 11	$m_{build\_slurry\_TAN}$	4501,80	Equation 12	$m_{build\_slurry\_N}$	7503,00
Equation 13	$m_{build\_solid\_TAN}$	0,00	Equation 14	$m_{build\_solid\_N}$	0,00
Total		4502			7503
Check		0,000			0,000
Step 6. Calculate emissions from buildings and yards					
Calculations					
Equation 15	E_{build_slurry}	1080,43			
Equation 16	E_{build_solid}	0,00			
Equation 17	E_{yard}	0,00			
Step 7. Calculate total-N and TAN leaving buildings (FYM only)					
Input data					
	Mass of bedding, kg	0			
	$m_{bedding}$ kg N	0			
	f_{imm} kg/kg	0,0067			

Calculations		
Equation 18	$m_{ex\text{-}build\_solid\_TAN}$	0,00
Equation 19	$m_{ex\text{-}build\_solid\_N}$	0,00
Check		0
Step 8. Calculate Total-N and TAN entering storage (all manures)		
	x_{store_slurry}	0,5
	x_{store_solid}	1
Calculations		
Equation 20	$m_{storage\_slurryTAN}$	1710,68
Equation 21	$m_{storage\_slurry,N}$	3211,28
Equation 24	$m_{storage\_solid\_TAN}$	0,00
Equation 25	$m_{storage\_solid\_N}$	0,00
The amounts of manures applied directly to fields will be		
Equation 22	$m_{spread\_direct\_slurry\_TAN}$	1710,68
Equation 23	$m_{spread\_direct\_slurry\_N}$	3211,28
Equation 26	$m_{spread\_direct\_solid\_TAN}$	0,00
Equation 27	$m_{spread\_direct\_solidN}$	0,00
Step 9. Calculate TAN from which slurry storage emissions will occur		
Input data		
	f_{min}	0,1
Calculations		
Equation 28	$mm_{storage\_slurry\_TAN}$	1860,74

Step 10. Calculate storage emissions						
Calculations						
Equation 29	$E_{storage\_slurry\_NH3}$	465,186				
Equation 29	$E_{storage\_slurry\_N2O}$	1,861				
Equation 29	$E_{storage\_slurry\_NO}$	0,186				
Equation 29	$E_{storage\_slurry\_N2}$	5,582				
Equation 30	$E_{storage\_solid\_NH3}$	0,000				
Equation 30	$E_{storage\_solid\_N2O}$	0,000				
Equation 30	$E_{storage\_solid\_NO}$	0,000				
Equation 30	$E_{storage\_solid\_N2}$	0,000				
Step 11. Calculate organic-N and TAN applied to field						
Calculations			%TAN			%TAN
Equation 31	$m_{applic\_slurry\_TAN}$	3098,61	52		3098,61	52
Equation 32	$m_{applic\_slurry\_N}$	5949,75			5949,75	
Not currently included	$E_{storage\_solid\_leach}$	0,000				
Equation 33	$m_{applic\_solid\_TAN}$	0,00	#DIV/0!		0,00	#DIV/0!
Equation 34	$m_{applic\_solid\_N}$	0,00			0,00	
Check	*slurry*	0,000			0,000	
	solid	0,000			0,000	
Step 12. Calculate emission following application to field						
Calculations						
Equation 35	E_{applic_slurry}	1704				
Equation 36	E_{applic_solid}	0				

Step 13. To calculate total-N and TAN returned to soil					
Calculations					
Equation 37	$m_{returned\_slurry\_TAN}$	1394			
Equation 38	$m_{returned\_slurry\_N}$	4246			
Equation 39	$m_{returned\_solid'\_TAN}$	0			
Equation 40	$m_{returned\_solid\_N}$	0			
Step 14. To calculate emissions from grazing					
Calculations					
Equation 41	E_{graz}	0,0			
Entering soil in grazed pasture	TAN returned	0		N returned	0
Check		0,000			0,000
N input		7503,0			
N output		7503,0			
System check		0,000			

Total emissions					
	As kg of the relevant compound				
Source	NH_3	N_2O	NO	N_2	***Leached*** NO_3
Buildings, manure as slurry	**1312,0**				
Buildings, manure as FYM	**0,0**				
Yards	**0,0**				
Slurry storage	**564,9**	**2,924**	**0,399**	**5,6**	
FYM storage	**0,0**	**0,000**	**0,000**	**0,0**	**0,0**
Slurry application	**2069,4**				
Solid application	**0,0**				
Grazing	**0,0**				
Total	**3946,25**	**2,924**	**0,399**	**6**	**0**

Iš a.t.š. 602, kuriame laikoma 183 vnt. kitų galvijų (prieauglio) per metus išsiskirs 1,3120 t amoniako (be amoniako mažinimo priemonių). 0,5649 t amoniako (be amoniako mažinimo priemonių) išsiskirs iš skysto mėšlo laikymo vietų. 2,0694 t amoniako išsiskirs tręšimo metu.

a.t.š. Nr. 603 - karvidė Nr. 4

Step 3. Calculation of Total N excretion deposited in buildings, on outdoor yards and on grazed land				
Input data				
	Number of livestock	410		
	N Excretion kg	41		
	% TAN excr	60		
	Housed period, days	365		
	% excreta on yards	0		
Calculations				
Equation 5	m_grazN	0,0		
Equation 6	m_yardN	0,0		
Equation 7	m_buildN	16810,0		
Total		16810,0		
Check		0,000		
Step 4. Allocation of organic-N and TAN excretion between buildings, outdoor yards and grazing				
Input data				
Equation 8	m_graz,TAN	0,0	m_grazN	0,0
Equation 9	m_yard,TAN	0,0	m_yardN	0,0
Equation 10	m_build,TAN	10086,0	m_buildN	16810,0
Total		10086,0		16810,0
Check		0,000		0,000

Step 5. Estimate amounts of TAN deposited in buildings as slurry or FYM					
Input data					
	Proportion of livestock housed on slurry-based system (%)	100			
	Proportion of livestock housed on FYM-based system (%)	0			
Calculations					
Equation 11	$m_{build\_slurry\_TAN}$	10086,00	Equation 12	$m_{build\_slurry\_N}$	16810,00
Equation 13	$m_{build\_solid\_TAN}$	0,00	Equation 14	$m_{build\_solid\_N}$	0,00
Total		10086			16810
Check		0,000			0,000
Step 6. Calculate emissions from buildings and yards					
Calculations					
Equation 15	E_{build_slurry}	2420,64			
Equation 16	E_{build_solid}	0,00			
Equation 17	E_{yard}	0,00			
Step 7. Calculate total-N and TAN leaving buildings (FYM only)					
Input data					
	Mass of bedding, kg	0			
	$m_{bedding}$ kg N	0			
	f_{imm} kg/kg	0,0067			

Calculations		
Equation 18	$m_{ex\text{-}build\_solid\_TAN}$	0,00
Equation 19	$m_{ex\text{-}build\_solid\_N}$	0,00
Check		0
Step 8. Calculate Total-N and TAN entering storage (all manures)		
	x_{store_slurry}	0,5
	x_{store_solid}	1
Calculations		
Equation 20	$m_{storage\_slurryTAN}$	3832,68
Equation 21	$m_{storage\_slurry,N}$	7194,68
Equation 24	$m_{storage\_solid\_TAN}$	0,00
Equation 25	$m_{storage\_solid\_N}$	0,00
The amounts of manures applied directly to fields will be		
Equation 22	$m_{spread\_direct\_slurry\_TAN}$	3832,68
Equation 23	$m_{spread\_direct\_slurry\_N}$	7194,68
Equation 26	$m_{spread\_direct\_solid\_TAN}$	0,00
Equation 27	$m_{spread\_direct\_solidN}$	0,00
Step 9. Calculate TAN from which slurry storage emissions will occur		
Input data		
	f_{min}	0,1
Calculations		
Equation 28	$mm_{storage\_slurry\_TAN}$	4168,88

Step 10. Calculate storage emissions						
Calculations						
Equation 29	$E_{storage\_slurry\_NH3}$	1042,220				
Equation 29	$E_{storage\_slurry\_N2O}$	4,169				
Equation 29	$E_{storage\_slurry\_NO}$	0,417				
Equation 29	$E_{storage\_slurry\_N2}$	12,507				
Equation 30	$E_{storage\_solid\_NH3}$	0,000				
Equation 30	$E_{storage\_solid\_N2O}$	0,000				
Equation 30	$E_{storage\_solid\_NO}$	0,000				
Equation 30	$E_{storage\_solid\_N2}$	0,000				
Step 11. Calculate organic-N and TAN applied to field						
Calculations			%TAN			%TAN
Equation 31	$m_{applic\_slurry\_TAN}$	6942,25	52		6942,25	52
Equation 32	$m_{applic\_slurry\_N}$	13330,05			13330,05	
Not currently included	$E_{storage\_solid\_leach}$	0,000				
Equation 33	$m_{applic\_solid\_TAN}$	0,00	#DIV/0!		0,00	#DIV/0!
Equation 34	$m_{applic\_solid\_N}$	0,00			0,00	
Check	*slurry*	0,000			0,000	
	solid	0,000			0,000	
Step 12. Calculate emission following application to field						
Calculations						
Equation 35	E_{applic_slurry}	3818				
Equation 36	E_{applic_solid}	0				

Step 13. To calculate total-N and TAN returned to soil					
Calculations					
Equation 37	$m_{returned\_slurry\_TAN}$	3124			
Equation 38	$m_{returned\_slurry\_N}$	9512			
Equation 39	$m_{returned\_solid'\_TAN}$	0			
Equation 40	$m_{returned\_solid\_N}$	0			
Step 14. To calculate emissions from grazing					
Calculations					
Equation 41	E_{graz}	0,0			
Entering soil in grazed pasture	TAN returned	0		N returned	0
Check		0,000			0,000
N input		16810,0			
N output		16810,0			
System check		0,000			

Total emissions					
	As kg of the relevant compound				
Source	***NH_3***	***N_2O***	***NO***	***N_2***	***Leached NO_3***
Buildings, manure as slurry	**2939,3**				
Buildings, manure as FYM	**0,0**				
Yards	**0,0**				
Slurry storage	**1265,6**	**6,551**	**0,893**	**12,5**	
FYM storage	**0,0**	**0,000**	**0,000**	**0,0**	**0,0**
Slurry application	**4636,4**				
Solid application	**0,0**				
Grazing	**0,0**				
Total	**8841,33**	**6,551**	**0,893**	**13**	**0**

Iš a.t.š. 603, kuriame laikoma 410 vnt. kitų galvijų (prieauglio) per metus išsiskirs 2,9393 t amoniako (be amoniako mažinimo priemonių). 1,2656 t amoniako (be amoniako mažinimo priemonių) išsiskirs iš skysto mėšlo laikymo vietų. 4,6364 t amoniako išsiskirs tręšimo metu.

a.t.š. Nr. 004 - 007 - karvidė Nr. 4A

Step 3. Calculation of Total N excretion deposited in buildings, on outdoor yards and on grazed land				
Input data				
	Number of livestock	150		
	N Excretion kg	41		
	% TAN excr	60		
	Housed period, days	365		
	% excreta on yards	0		
Calculations				
Equation 5	m_grazN	0,0		
Equation 6	m_yardN	0,0		
Equation 7	m_buildN	6150,0		
Total		6150,0		
Check		0,000		
Step 4. Allocation of organic-N and TAN excretion between buildings, outdoor yards and grazing				
Input data				
Equation 8	m_graz,TAN	0,0	m_grazN	0,0
Equation 9	m_yard,TAN	0,0	m_yardN	0,0
Equation 10	m_build,TAN	3690,0	m_buildN	6150,0
Total		3690,0		6150,0
Check		0,000		0,000

Step 5. Estimate amounts of TAN deposited in buildings as slurry or FYM					
Input data					
	Proportion of livestock housed on slurry-based system (%)	0			
	Proportion of livestock housed on FYM-based system (%)	100			
Calculations					
Equation 11	$m_{build\_slurry\_TAN}$	0,00	Equation 12	$m_{build\_slurry\_N}$	0,00
Equation 13	$m_{build\_solid\_TAN}$	3690,00	Equation 14	$m_{build\_solid\_N}$	6150,00
Total		3690			6150
Check		0,000			0,000
Step 6. Calculate emissions from buildings and yards					
Calculations					
Equation 15	E_{build_slurry}	0,00			
Equation 16	E_{build_solid}	295,20			
Equation 17	E_{yard}	0,00			
Step 7. Calculate total-N and TAN leaving buildings (FYM only)					
Input data					
	Mass of bedding, kg	75000			
	$m_{bedding}$ kg N	300			
	f_{imm} kg/kg	0,0067			

Calculations		
Equation 18	$m_{ex\text{-}build\_solid\_TAN}$	2892,30
Equation 19	$m_{ex\text{-}build\_solid\_N}$	6154,80
Check		0
Step 8. Calculate Total-N and TAN entering storage (all manures)		
	x_{store_slurry}	1
	x_{store_solid}	0,5
Calculations		
Equation 20	$m_{storage\_slurryTAN}$	0,00
Equation 21	$m_{storage\_slurry,N}$	0,00
Equation 24	$m_{storage\_solid\_TAN}$	1446,15
Equation 25	$m_{storage\_solid\_N}$	3077,40
The amounts of manures applied directly to fields will be		
Equation 22	$m_{spread\_direct\_slurry\_TAN}$	0,00
Equation 23	$m_{spread\_direct\_slurry\_N}$	0,00
Equation 26	$m_{spread\_direct\_solid\_TAN}$	1446,15
Equation 27	$m_{spread\_direct\_solidN}$	3077,40
Step 9. Calculate TAN from which slurry storage emissions will occur		
Input data		
	f_{min}	0,1
Calculations		
Equation 28	$mm_{storage\_slurry\_TAN}$	0,00

Step 10. Calculate storage emissions						
Calculations						
Equation 29	$E_{storage\_slurry\_NH3}$	0,000				
Equation 29	$E_{storage\_slurry\_N2O}$	0,000				
Equation 29	$E_{storage\_slurry\_NO}$	0,000				
Equation 29	$E_{storage\_slurry\_N2}$	0,000				
Equation 30	$E_{storage\_solid\_NH3}$	462,768				
Equation 30	$E_{storage\_solid\_N2O}$	115,692				
Equation 30	$E_{storage\_solid\_NO}$	14,462				
Equation 30	$E_{storage\_solid\_N2}$	433,845				
Step 11. Calculate organic-N and TAN applied to field						
Calculations			%TAN			%TAN
Equation 31	$m_{applic\_slurry\_TAN}$	0,00	#DIV/0!		0,00	#DIV/0!
Equation 32	$m_{applic\_slurry\_N}$	0,00			0,00	
Not currently included	$E_{storage\_solid\_leach}$	0,000				
Equation 33	$m_{applic\_solid\_TAN}$	1865,53	36		1865,53	36
Equation 34	$m_{applic\_solid\_N}$	5128,03			5128,03	
Check	*slurry*	0,000			0,000	
	solid	0,000			0,000	
Step 12. Calculate emission following application to field						
Calculations						
Equation 35	E_{applic_slurry}	0				
Equation 36	E_{applic_solid}	1269				

Step 13. To calculate total-N and TAN returned to soil					
Calculations					
Equation 37	$m_{returned\_slurry\_TAN}$	0			
Equation 38	$m_{returned\_slurry\_N}$	0			
Equation 39	$m_{returned\_solid'\_TAN}$	597			
Equation 40	$m_{returned\_solid\_N}$	3859			
Step 14. To calculate emissions from grazing					
Calculations					
Equation 41	E_{graz}	0,0			
Entering soil in grazed pasture	TAN returned	0		N returned	0
Check		0,000			0,000
N input		6450,0			
N output		6450,0			
System check		0,000			

Total emissions					
	As kg of the relevant compound				
Source	***NH_3***	***N_2O***	***NO***	***N_2***	***Leached NO_3***
Buildings, manure as slurry	**0,0**				
Buildings, manure as FYM	**358,5**				
Yards	**0,0**				
Slurry storage	**0,0**	**0,000**	**0,000**	**0,0**	
FYM storage	**561,9**	**181,802**	**30,989**	**433,8**	**0,0**
Slurry application	**0,0**				
Solid application	**1540,4**				
Grazing	**0,0**				
Total	**2460,79**	**181,802**	**30,989**	**434**	**0**

Iš a.t.š. 004 - 007, kuriame laikoma 150 vnt. kitų galvijų (prieauglio) per metus išsiskirs 0,3585 t amoniako (be amoniako mažinimo priemonių). 0,5619 t amoniako (be amoniako mažinimo priemonių) išsiskirs iš kieto (kraikinio) mėšlo laikymo vietų. 1,5404 t amoniako išsiskirs tręšimo metu.

a.t.š. Nr. 008 - 011 - karvidė Nr. 7

Step 3. Calculation of Total N excretion deposited in buildings, on outdoor yards and on grazed land				
Input data				
	Number of livestock	250		
	N Excretion kg	41		
	% TAN excr	60		
	Housed period, days	365		
	% excreta on yards	0		
Calculations				
Equation 5	m_grazN	0,0		
Equation 6	m_yardN	0,0		
Equation 7	m_buildN	10250,0		
Total		10250,0		
Check		0,000		
Step 4. Allocation of organic-N and TAN excretion between buildings, outdoor yards and grazing				
Input data				
Equation 8	m_graz,TAN	0,0	m_grazN	0,0
Equation 9	m_yard,TAN	0,0	m_yardN	0,0
Equation 10	m_build,TAN	6150,0	m_buildN	10250,0
Total		6150,0		10250,0
Check		0,000		0,000

Step 5. Estimate amounts of TAN deposited in buildings as slurry or FYM					
Input data					
	Proportion of livestock housed on slurry-based system (%)	0			
	Proportion of livestock housed on FYM-based system (%)	100			
Calculations					
Equation 11	$m_{build\_slurry\_TAN}$	0,00	Equation 12	$m_{build\_slurry\_N}$	0,00
Equation 13	$m_{build\_solid\_TAN}$	6150,00	Equation 14	$m_{build\_solid\_N}$	10250,00
Total		6150			10250
Check		0,000			0,000
Step 6. Calculate emissions from buildings and yards					
Calculations					
Equation 15	E_{build_slurry}	0,00			
Equation 16	E_{build_solid}	492,00			
Equation 17	E_{yard}	0,00			
Step 7. Calculate total-N and TAN leaving buildings (FYM only)					
Input data					
	Mass of bedding, kg	125000			
	$m_{bedding}$ kg N	500			
	f_{imm} kg/kg	0,0067			

Calculations		
Equation 18	$m_{ex\text{-}build\_solid\_TAN}$	4820,50
Equation 19	$m_{ex\text{-}build\_solid\_N}$	10258,00
Check		0
Step 8. Calculate Total-N and TAN entering storage (all manures)		
	x_{store_slurry}	1
	x_{store_solid}	0,5
Calculations		
Equation 20	$m_{storage\_slurryTAN}$	0,00
Equation 21	$m_{storage\_slurry,N}$	0,00
Equation 24	$m_{storage\_solid\_TAN}$	2410,25
Equation 25	$m_{storage\_solid\_N}$	5129,00
The amounts of manures applied directly to fields will be		
Equation 22	$m_{spread\_direct\_slurry\_TAN}$	0,00
Equation 23	$m_{spread\_direct\_slurry\_N}$	0,00
Equation 26	$m_{spread\_direct\_solid\_TAN}$	2410,25
Equation 27	$m_{spread\_direct\_solidN}$	5129,00
Step 9. Calculate TAN from which slurry storage emissions will occur		
Input data		
	f_{min}	0,1
Calculations		
Equation 28	$mm_{storage\_slurry\_TAN}$	0,00

Step 10. Calculate storage emissions						
Calculations						
Equation 29	$E_{storage\_slurry\_NH3}$	0,000				
Equation 29	$E_{storage\_slurry\_N2O}$	0,000				
Equation 29	$E_{storage\_slurry\_NO}$	0,000				
Equation 29	$E_{storage\_slurry\_N2}$	0,000				
Equation 30	$E_{storage\_solid\_NH3}$	771,280				
Equation 30	$E_{storage\_solid\_N2O}$	192,820				
Equation 30	$E_{storage\_solid\_NO}$	24,103				
Equation 30	$E_{storage\_solid\_N2}$	723,075				
Step 11. Calculate organic-N and TAN applied to field						
Calculations			%TAN			%TAN
Equation 31	$m_{applic\_slurry\_TAN}$	0,00	#DIV/0!		0,00	#DIV/0!
Equation 32	$m_{applic\_slurry\_N}$	0,00			0,00	
Not currently included	$E_{storage\_solid\_leach}$	0,000				
Equation 33	$m_{applic\_solid\_TAN}$	3109,22	36		3109,22	36
Equation 34	$m_{applic\_solid\_N}$	8546,72			8546,72	
Check	*slurry*	0,000			0,000	
	solid	0,000			0,000	
Step 12. Calculate emission following application to field						
Calculations						
Equation 35	E_{applic_slurry}	0				
Equation 36	E_{applic_solid}	2114				

Step 13. To calculate total-N and TAN returned to soil					
Calculations					
Equation 37	$m_{returned\_slurry\_TAN}$	0			
Equation 38	$m_{returned\_slurry\_N}$	0			
Equation 39	$m_{returned\_solid'\_TAN}$	995			
Equation 40	$m_{returned\_solid\_N}$	6432			
Step 14. To calculate emissions from grazing					
Calculations					
Equation 41	E_{graz}	0,0			
Entering soil in grazed pasture	TAN returned	0		N returned	0
Check		0,000			0,000
N input		10750,0			
N output		10750,0			
System check		0,000			

Total emissions					
	As kg of the relevant compound				
Source	***NH_3***	***N_2O***	***NO***	***N_2***	***Leached NO_3***
Buildings, manure as slurry	**0,0**				
Buildings, manure as FYM	**597,4**				
Yards	**0,0**				
Slurry storage	**0,0**	**0,000**	**0,000**	**0,0**	
FYM storage	**936,6**	**303,003**	**51,648**	**723,1**	**0,0**
Slurry application	**0,0**				
Solid application	**2567,3**				
Grazing	**0,0**				
Total	**4101,31**	**303,003**	**51,648**	**723**	**0**

Iš a.t.š. 008 - 011, kuriame laikoma 250 vnt. kitų galvijų (prieauglio) per metus išsiskirs 0,5974 t amoniako (be amoniako mažinimo priemonių). 0,9366 t amoniako (be amoniako mažinimo priemonių) išsiskirs iš kieto (kraikinio) mėšlo laikymo vietų. 2,5673 t amoniako išsiskirs tręšimo metu.

a.t.š. Nr. 607 - rekonstruojamas tvartas Nr. 11

Step 3. Calculation of Total N excretion deposited in buildings, on outdoor yards and on grazed land				
Input data				
	Number of livestock	130		
	N Excretion kg	41		
	% TAN excr	60		
	Housed period, days	365		
	% excreta on yards	0		
Calculations				
Equation 5	m_grazN	0,0		
Equation 6	m_yardN	0,0		
Equation 7	m_buildN	5330,0		
Total		5330,0		
Check		0,000		
Step 4. Allocation of organic-N and TAN excretion between buildings, outdoor yards and grazing				
Input data				
Equation 8	m_graz,TAN	0,0	m_grazN	0,0
Equation 9	m_yard,TAN	0,0	m_yardN	0,0
Equation 10	m_build,TAN	3198,0	m_buildN	5330,0
Total		3198,0		5330,0
Check		0,000		0,000

Step 5. Estimate amounts of TAN deposited in buildings as slurry or FYM					
Input data					
	Proportion of livestock housed on slurry-based system (%)	0			
	Proportion of livestock housed on FYM-based system (%)	100			
Calculations					
Equation 11	$m_{build\_slurry\_TAN}$	0,00	Equation 12	$m_{build\_slurry\_N}$	0,00
Equation 13	$m_{build\_solid\_TAN}$	3198,00	Equation 14	$m_{build\_solid\_N}$	5330,00
Total		3198			5330
Check		0,000			0,000
Step 6. Calculate emissions from buildings and yards					
Calculations					
Equation 15	E_{build_slurry}	0,00			
Equation 16	E_{build_solid}	255,84			
Equation 17	E_{yard}	0,00			
Step 7. Calculate total-N and TAN leaving buildings (FYM only)					
Input data					
	Mass of bedding, kg	65000			
	$m_{bedding}$ kg N	260			
	f_{imm} kg/kg	0,0067			

Calculations		
Equation 18	$m_{ex\text{-}build\_solid\_TAN}$	2506,66
Equation 19	$m_{ex\text{-}build\_solid\_N}$	5334,16
Check		0
Step 8. Calculate Total-N and TAN entering storage (all manures)		
	x_{store_slurry}	1
	x_{store_solid}	0,5
Calculations		
Equation 20	$m_{storage\_slurryTAN}$	0,00
Equation 21	$m_{storage\_slurry,N}$	0,00
Equation 24	$m_{storage\_solid\_TAN}$	1253,33
Equation 25	$m_{storage\_solid\_N}$	2667,08
The amounts of manures applied directly to fields will be		
Equation 22	$m_{spread\_direct\_slurry\_TAN}$	0,00
Equation 23	$m_{spread\_direct\_slurry\_N}$	0,00
Equation 26	$m_{spread\_direct\_solid\_TAN}$	1253,33
Equation 27	$m_{spread\_direct\_solidN}$	2667,08
Step 9. Calculate TAN from which slurry storage emissions will occur		
Input data		
	f_{min}	0,1
Calculations		
Equation 28	$mm_{storage\_slurry\_TAN}$	0,00

Step 10. Calculate storage emissions						
Calculations						
Equation 29	$E_{storage\_slurry\_NH3}$	0,000				
Equation 29	$E_{storage\_slurry\_N2O}$	0,000				
Equation 29	$E_{storage\_slurry\_NO}$	0,000				
Equation 29	$E_{storage\_slurry\_N2}$	0,000				
Equation 30	$E_{storage\_solid\_NH3}$	401,066				
Equation 30	$E_{storage\_solid\_N2O}$	100,266				
Equation 30	$E_{storage\_solid\_NO}$	12,533				
Equation 30	$E_{storage\_solid\_N2}$	375,999				
Step 11. Calculate organic-N and TAN applied to field						
Calculations			%TAN			%TAN
Equation 31	$m_{applic\_slurry\_TAN}$	0,00	#DIV/0!		0,00	#DIV/0!
Equation 32	$m_{applic\_slurry\_N}$	0,00			0,00	
Not currently included	$E_{storage\_solid\_leach}$	0,000				
Equation 33	$m_{applic\_solid\_TAN}$	1616,80	36		1616,80	36
Equation 34	$m_{applic\_solid\_N}$	4444,30			4444,30	
Check	*slurry*	0,000			0,000	
	solid	0,000			0,000	
Step 12. Calculate emission following application to field						
Calculations						
Equation 35	E_{applic_slurry}	0				
Equation 36	E_{applic_solid}	1099				

Step 13. To calculate total-N and TAN returned to soil					
Calculations					
Equation 37	$m_{returned\_slurry\_TAN}$	0			
Equation 38	$m_{returned\_slurry\_N}$	0			
Equation 39	$m_{returned\_solid'\_TAN}$	517			
Equation 40	$m_{returned\_solid\_N}$	3345			
Step 14. To calculate emissions from grazing					
Calculations					
Equation 41	E_{graz}	0,0			
Entering soil in grazed pasture	TAN returned	0		N returned	0
Check		0,000			0,000
N input		5590,0			
N output		5590,0			
System check		0,000			

Total emissions					
	As kg of the relevant compound				
Source	***NH_3***	***N_2O***	***NO***	***N_2***	***Leached NO_3***
Buildings, manure as slurry	**0,0**				
Buildings, manure as FYM	**310,7**				
Yards	**0,0**				
Slurry storage	**0,0**	**0,000**	**0,000**	**0,0**	
FYM storage	**487,0**	**157,561**	**26,857**	**376,0**	**0,0**
Slurry application	**0,0**				
Solid application	**1335,0**				
Grazing	**0,0**				
Total	**2132,68**	**157,561**	**26,857**	**376**	**0**

Iš a.t.š. 607, kuriame laikoma 130 vnt. kitų galvijų (prieauglio) per metus išsiskirs 0,3107 t amoniako (be amoniako mažinimo priemonių). 0,4870 t amoniako (be amoniako mažinimo priemonių) išsiskirs iš kieto (kraikinio) mėšlo laikymo vietų. 1,3350 t amoniako išsiskirs tręšimo metu.

a.t.š. Nr. 608 - planuojamas tvartas Nr. 12

Step 3. Calculation of Total N excretion deposited in buildings, on outdoor yards and on grazed land				
Input data				
	Number of livestock	240		
	N Excretion kg	41		
	% TAN excr	60		
	Housed period, days	365		
	% excreta on yards	0		
Calculations				
Equation 5	m_grazN	0,0		
Equation 6	m_yardN	0,0		
Equation 7	m_buildN	9840,0		
Total		9840,0		
Check		0,000		
Step 4. Allocation of organic-N and TAN excretion between buildings, outdoor yards and grazing				
Input data				
Equation 8	m_graz,TAN	0,0	m_grazN	0,0
Equation 9	m_yard,TAN	0,0	m_yardN	0,0
Equation 10	m_build,TAN	5904,0	m_buildN	9840,0
Total		5904,0		9840,0
Check		0,000		0,000

Step 5. Estimate amounts of TAN deposited in buildings as slurry or FYM					
Input data					
	Proportion of livestock housed on slurry-based system (%)	0			
	Proportion of livestock housed on FYM-based system (%)	100			
Calculations					
Equation 11	$m_{build\_slurry\_TAN}$	0,00	Equation 12	$m_{build\_slurry\_N}$	0,00
Equation 13	$m_{build\_solid\_TAN}$	5904,00	Equation 14	$m_{build\_solid\_N}$	9840,00
Total		5904			9840
Check		0,000			0,000
Step 6. Calculate emissions from buildings and yards					
Calculations					
Equation 15	E_{build_slurry}	0,00			
Equation 16	E_{build_solid}	472,32			
Equation 17	E_{yard}	0,00			
Step 7. Calculate total-N and TAN leaving buildings (FYM only)					
Input data					
	Mass of bedding, kg	120000			
	$m_{bedding}$ kg N	480			
	f_{imm} kg/kg	0,0067			

Calculations			
Equation 18	$m_{ex\text{-}build\_solid\_TAN}$	4627,68	
Equation 19	$m_{ex\text{-}build\_solid\_N}$	9847,68	
Check		0	
Step 8. Calculate Total-N and TAN entering storage (all manures)			
	x_{store_slurry}	1	
	x_{store_solid}	0,5	
Calculations			
Equation 20	$m_{storage\_slurryTAN}$	0,00	
Equation 21	$m_{storage\_slurry,N}$	0,00	
Equation 24	$m_{storage\_solid\_TAN}$	2313,84	
Equation 25	$m_{storage\_solid\_N}$	4923,84	
The amounts of manures applied directly to fields will be			
Equation 22	$m_{spread\_direct\_slurry\_TAN}$	0,00	
Equation 23	$m_{spread\_direct\_slurry\_N}$	0,00	
Equation 26	$m_{spread\_direct\_solid\_TAN}$	2313,84	
Equation 27	$m_{spread\_direct\_solidN}$	4923,84	
Step 9. Calculate TAN from which slurry storage emissions will occur			
Input data			
	f_{min}	0,1	
Calculations			
Equation 28	$mm_{storage\_slurry\_TAN}$	0,00	

Step 10. Calculate storage emissions						
Calculations						
Equation 29	$E_{storage\_slurry\_NH3}$	0,000				
Equation 29	$E_{storage\_slurry\_N2O}$	0,000				
Equation 29	$E_{storage\_slurry\_NO}$	0,000				
Equation 29	$E_{storage\_slurry\_N2}$	0,000				
Equation 30	$E_{storage\_solid\_NH3}$	740,429				
Equation 30	$E_{storage\_solid\_N2O}$	185,107				
Equation 30	$E_{storage\_solid\_NO}$	23,138				
Equation 30	$E_{storage\_solid\_N2}$	694,152				
Step 11. Calculate organic-N and TAN applied to field						
Calculations			%TAN			%TAN
Equation 31	$m_{applic\_slurry\_TAN}$	0,00	#DIV/0!		0,00	#DIV/0!
Equation 32	$m_{applic\_slurry\_N}$	0,00			0,00	
Not currently included	$E_{storage\_solid\_leach}$	0,000				
Equation 33	$m_{applic\_solid\_TAN}$	2984,85	36		2984,85	36
Equation 34	$m_{applic\_solid\_N}$	8204,85			8204,85	
Check	*slurry*	0,000			0,000	
	solid	0,000			0,000	
Step 12. Calculate emission following application to field						
Calculations						
Equation 35	E_{applic_slurry}	0				
Equation 36	E_{applic_solid}	2030				

Step 13. To calculate total-N and TAN returned to soil					
Calculations					
Equation 37	$m_{returned\_slurry\_TAN}$	0			
Equation 38	$m_{returned\_slurry\_N}$	0			
Equation 39	$m_{returned\_solid'\_TAN}$	955			
Equation 40	$m_{returned\_solid\_N}$	6175			
Step 14. To calculate emissions from grazing					
Calculations					
Equation 41	E_{graz}	0,0			
Entering soil in grazed pasture	TAN returned	0		N returned	0
Check		0,000			0,000
N input		10320,0			
N output		10320,0			
System check		0,000			

Total emissions					
	As kg of the relevant compound				
Source	***NH_3***	***N_2O***	***NO***	***N_2***	***Leached NO_3***
Buildings, manure as slurry	**0,0**				
Buildings, manure as FYM	**573,5**				
Yards	**0,0**				
Slurry storage	**0,0**	**0,000**	**0,000**	**0,0**	
FYM storage	**899,1**	**290,883**	**49,582**	**694,2**	**0,0**
Slurry application	**0,0**				
Solid application	**2464,6**				
Grazing	**0,0**				
Total	**3937,26**	**290,883**	**49,582**	**694**	**0**

Iš a.t.š. 608, kuriame laikoma 240 vnt. kitų galvijų (prieauglio) per metus išsiskirs 0,5735 t amoniako (be amoniako mažinimo priemonių). 0,8991 t amoniako (be amoniako mažinimo priemonių) išsiskirs iš kieto (kraikinio) mėšlo laikymo vietų. 2,4646 t amoniako išsiskirs tręšimo metu.

a.t.š. Nr. 609 - planuojamas tvartas Nr. 13

Step 3. Calculation of Total N excretion deposited in buildings, on outdoor yards and on grazed land				
Input data				
	Number of livestock	120		
	N Excretion kg	41		
	% TAN excr	60		
	Housed period, days	365		
	% excreta on yards	0		
Calculations				
Equation 5	m_grazN	0,0		
Equation 6	m_yardN	0,0		
Equation 7	m_buildN	4920,0		
Total		4920,0		
Check		0,000		
Step 4. Allocation of organic-N and TAN excretion between buildings, outdoor yards and grazing				
Input data				
Equation 8	m_graz,TAN	0,0	m_grazN	0,0
Equation 9	m_yard,TAN	0,0	m_yardN	0,0
Equation 10	m_build,TAN	2952,0	m_buildN	4920,0
Total		2952,0		4920,0
Check		0,000		0,000

Step 5. Estimate amounts of TAN deposited in buildings as slurry or FYM					
Input data					
	Proportion of livestock housed on slurry-based system (%)	0			
	Proportion of livestock housed on FYM-based system (%)	100			
Calculations					
Equation 11	$m_{build\_slurry\_TAN}$	0,00	Equation 12	$m_{build\_slurry\_N}$	0,00
Equation 13	$m_{build\_solid\_TAN}$	2952,00	Equation 14	$m_{build\_solid\_N}$	4920,00
Total		2952			4920
Check		0,000			0,000
Step 6. Calculate emissions from buildings and yards					
Calculations					
Equation 15	E_{build_slurry}	0,00			
Equation 16	E_{build_solid}	236,16			
Equation 17	E_{yard}	0,00			
Step 7. Calculate total-N and TAN leaving buildings (FYM only)					
Input data					
	Mass of bedding, kg	60000			
	$m_{bedding}$ kg N	240			
	f_{imm} kg/kg	0,0067			

Calculations		
Equation 18	$m_{ex\text{-}build\_solid\_TAN}$	2313,84
Equation 19	$m_{ex\text{-}build\_solid\_N}$	4923,84
Check		0
Step 8. Calculate Total-N and TAN entering storage (all manures)		
	x_{store_slurry}	1
	x_{store_solid}	0,5
Calculations		
Equation 20	$m_{storage\_slurryTAN}$	0,00
Equation 21	$m_{storage\_slurry,N}$	0,00
Equation 24	$m_{storage\_solid\_TAN}$	1156,92
Equation 25	$m_{storage\_solid\_N}$	2461,92
The amounts of manures applied directly to fields will be		
Equation 22	$m_{spread\_direct\_slurry\_TAN}$	0,00
Equation 23	$m_{spread\_direct\_slurry\_N}$	0,00
Equation 26	$m_{spread\_direct\_solid\_TAN}$	1156,92
Equation 27	$m_{spread\_direct\_solidN}$	2461,92
Step 9. Calculate TAN from which slurry storage emissions will occur		
Input data		
	f_{min}	0,1
Calculations		
Equation 28	$mm_{storage\_slurry\_TAN}$	0,00

Step 10. Calculate storage emissions						
Calculations						
Equation 29	$E_{storage\_slurry\_NH3}$	0,000				
Equation 29	$E_{storage\_slurry\_N2O}$	0,000				
Equation 29	$E_{storage\_slurry\_NO}$	0,000				
Equation 29	$E_{storage\_slurry\_N2}$	0,000				
Equation 30	$E_{storage\_solid\_NH3}$	370,214				
Equation 30	$E_{storage\_solid\_N2O}$	92,554				
Equation 30	$E_{storage\_solid\_NO}$	11,569				
Equation 30	$E_{storage\_solid\_N2}$	347,076				
Step 11. Calculate organic-N and TAN applied to field						
Calculations			%TAN			%TAN
Equation 31	$m_{applic\_slurry\_TAN}$	0,00	#DIV/0!		0,00	#DIV/0!
Equation 32	$m_{applic\_slurry\_N}$	0,00			0,00	
Not currently included	$E_{storage\_solid\_leach}$	0,000				
Equation 33	$m_{applic\_solid\_TAN}$	1492,43	36		1492,43	36
Equation 34	$m_{applic\_solid\_N}$	4102,43			4102,43	
Check	*slurry*	0,000			0,000	
	solid	0,000			0,000	
Step 12. Calculate emission following application to field						
Calculations						
Equation 35	E_{applic_slurry}	0				
Equation 36	E_{applic_solid}	1015				

Step 13. To calculate total-N and TAN returned to soil					
Calculations					
Equation 37	$m_{returned\_slurry\_TAN}$	0			
Equation 38	$m_{returned\_slurry\_N}$	0			
Equation 39	$m_{returned\_solid'\_TAN}$	478			
Equation 40	$m_{returned\_solid\_N}$	3088			
Step 14. To calculate emissions from grazing					
Calculations					
Equation 41	E_{graz}	0,0			
Entering soil in grazed pasture	TAN returned	0		N returned	0
Check		0,000			0,000
N input		5160,0			
N output		5160,0			
System check		0,000			

Total emissions					
	As kg of the relevant compound				
Source	***NH_3***	***N_2O***	***NO***	***N_2***	***Leached NO_3***
Buildings, manure as slurry	**0,0**				
Buildings, manure as FYM	**286,8**				
Yards	**0,0**				
Slurry storage	**0,0**	**0,000**	**0,000**	**0,0**	
FYM storage	**449,5**	**145,441**	**24,791**	**347,1**	**0,0**
Slurry application	**0,0**				
Solid application	**1232,3**				
Grazing	**0,0**				
Total	**1968,63**	**145,441**	**24,791**	**347**	**0**

Iš a.t.š. 609, kuriame laikoma 120 vnt. kitų galvijų (prieauglio) per metus išsiskirs 0,2868 t amoniako (be amoniako mažinimo priemonių). 0,4495 t amoniako (be amoniako mažinimo priemonių) išsiskirs iš kieto (kraikinio) mėšlo laikymo vietų. 1,2323 t amoniako išsiskirs tręšimo metu.

a.t.š. Nr. 610 - planuojamas tvartas Nr. 17

Step 3. Calculation of Total N excretion deposited in buildings, on outdoor yards and on grazed land				
Input data				
	Number of livestock	564		
	N Excretion kg	41		
	% TAN excr	60		
	Housed period, days	365		
	% excreta on yards	0		
Calculations				
Equation 5	m_grazN	0,0		
Equation 6	m_yardN	0,0		
Equation 7	m_buildN	23124,0		
Total		23124,0		
Check		0,000		
Step 4. Allocation of organic-N and TAN excretion between buildings, outdoor yards and grazing				
Input data				
Equation 8	m_graz,TAN	0,0	m_grazN	0,0
Equation 9	m_yard,TAN	0,0	m_yardN	0,0
Equation 10	m_build,TAN	13874,4	m_buildN	23124,0
Total		13874,4		23124,0
Check		0,000		0,000

Step 5. Estimate amounts of TAN deposited in buildings as slurry or FYM					
Input data					
	Proportion of livestock housed on slurry-based system (%)	100			
	Proportion of livestock housed on FYM-based system (%)	0			
Calculations					
Equation 11	$m_{build\_slurry\_TAN}$	13874,40	Equation 12	$m_{build\_slurry\_N}$	23124,00
Equation 13	$m_{build\_solid\_TAN}$	0,00	Equation 14	$m_{build\_solid\_N}$	0,00
Total		13874			23124
Check		0,000			0,000
Step 6. Calculate emissions from buildings and yards					
Calculations					
Equation 15	E_{build_slurry}	3329,86			
Equation 16	E_{build_solid}	0,00			
Equation 17	E_{yard}	0,00			
Step 7. Calculate total-N and TAN leaving buildings (FYM only)					
Input data					
	Mass of bedding, kg	0			
	$m_{bedding}$ kg N	0			
	f_{imm} kg/kg	0,0067			

Calculations		
Equation 18	$m_{ex\text{-}build\_solid\_TAN}$	0,00
Equation 19	$m_{ex\text{-}build\_solid\_N}$	0,00
Check		0
Step 8. Calculate Total-N and TAN entering storage (all manures)		
	x_{store_slurry}	0,5
	x_{store_solid}	1
Calculations		
Equation 20	$m_{storage\_slurryTAN}$	5272,27
Equation 21	$m_{storage\_slurry,N}$	9897,07
Equation 24	$m_{storage\_solid\_TAN}$	0,00
Equation 25	$m_{storage\_solid\_N}$	0,00
The amounts of manures applied directly to fields will be		
Equation 22	$m_{spread\_direct\_slurry\_TAN}$	5272,27
Equation 23	$m_{spread\_direct\_slurry\_N}$	9897,07
Equation 26	$m_{spread\_direct\_solid\_TAN}$	0,00
Equation 27	$m_{spread\_direct\_solidN}$	0,00
Step 9. Calculate TAN from which slurry storage emissions will occur		
Input data		
	f_{min}	0,1
Calculations		
Equation 28	$mm_{storage\_slurry\_TAN}$	5734,75

Step 10. Calculate storage emissions						
Calculations						
Equation 29	$E_{storage\_slurry\_NH3}$	1433,688				
Equation 29	$E_{storage\_slurry\_N2O}$	5,735				
Equation 29	$E_{storage\_slurry\_NO}$	0,573				
Equation 29	$E_{storage\_slurry\_N2}$	17,204				
Equation 30	$E_{storage\_solid\_NH3}$	0,000				
Equation 30	$E_{storage\_solid\_N2O}$	0,000				
Equation 30	$E_{storage\_solid\_NO}$	0,000				
Equation 30	$E_{storage\_solid\_N2}$	0,000				
Step 11. Calculate organic-N and TAN applied to field						
Calculations			%TAN			%TAN
Equation 31	$m_{applic\_slurry\_TAN}$	9549,82	52		9549,82	52
Equation 32	$m_{applic\_slurry\_N}$	18336,94			18336,94	
Not currently included	$E_{storage\_solid\_leach}$	0,000				
Equation 33	$m_{applic\_solid\_TAN}$	0,00	#DIV/0!		0,00	#DIV/0!
Equation 34	$m_{applic\_solid\_N}$	0,00			0,00	
Check	*slurry*	0,000			0,000	
	solid	0,000			0,000	
Step 12. Calculate emission following application to field						
Calculations						
Equation 35	E_{applic_slurry}	5252				
Equation 36	E_{applic_solid}	0				

Step 13. To calculate total-N and TAN returned to soil					
Calculations					
Equation 37	$m_{returned\_slurry\_TAN}$	4297			
Equation 38	$m_{returned\_slurry\_N}$	13085			
Equation 39	$m_{returned\_solid'\_TAN}$	0			
Equation 40	$m_{returned\_solid\_N}$	0			
Step 14. To calculate emissions from grazing					
Calculations					
Equation 41	E_{graz}	0,0			
Entering soil in grazed pasture	TAN returned	0		N returned	0
Check		0,000			0,000
N input		23124,0			
N output		23124,0			
System check		0,000			

Total emissions					
	As kg of the relevant compound				
Source	***NH_3***	***N_2O***	***NO***	***N_2***	***Leached NO_3***
Buildings, manure as slurry	**4043,4**				
Buildings, manure as FYM	**0,0**				
Yards	**0,0**				
Slurry storage	**1740,9**	**9,012**	**1,229**	**17,2**	
FYM storage	**0,0**	**0,000**	**0,000**	**0,0**	**0,0**
Slurry application	**6377,9**				
Solid application	**0,0**				
Grazing	**0,0**				
Total	**12162,22**	**9,012**	**1,229**	**17**	**0**

Iš a.t.š. 610, kuriame laikoma 564 vnt. kitų galvijų (prieauglio) per metus išsiskirs 4,0434 t amoniako (be amoniako mažinimo priemonių). 1,7409 t amoniako (be amoniako mažinimo priemonių) išsiskirs iš skysto mėšlo laikymo vietų. 6,3779 t amoniako išsiskirs tręšimo metu.

Step 3. Calculation of Total N excretion deposited in buildings, on outdoor yards and on grazed land				
Input data				
	Number of livestock	136		
	N Excretion kg	41		
	% TAN excr	60		
	Housed period, days	365		
	% excreta on yards	0		
Calculations				
Equation 5	m_grazN	0,0		
Equation 6	m_yardN	0,0		
Equation 7	m_buildN	5576,0		
Total		5576,0		
Check		0,000		
Step 4. Allocation of organic-N and TAN excretion between buildings, outdoor yards and grazing				
Input data				
Equation 8	m_graz,TAN	0,0	m_grazN	0,0
Equation 9	m_yard,TAN	0,0	m_yardN	0,0
Equation 10	m_build,TAN	3345,6	m_buildN	5576,0
Total		3345,6		5576,0
Check		0,000		0,000

Step 5. Estimate amounts of TAN deposited in buildings as slurry or FYM					
Input data					
	Proportion of livestock housed on slurry-based system (%)	0			
	Proportion of livestock housed on FYM-based system (%)	100			
Calculations					
Equation 11	$m_{build\_slurry\_TAN}$	0,00	Equation 12	$m_{build\_slurry\_N}$	0,00
Equation 13	$m_{build\_solid\_TAN}$	3345,60	Equation 14	$m_{build\_solid\_N}$	5576,00
Total		3346			5576
Check		0,000			0,000
Step 6. Calculate emissions from buildings and yards					
Calculations					
Equation 15	E_{build_slurry}	0,00			
Equation 16	E_{build_solid}	267,65			
Equation 17	E_{yard}	0,00			
Step 7. Calculate total-N and TAN leaving buildings (FYM only)					
Input data					
	Mass of bedding, kg	68000			
	$m_{bedding}$ kg N	272			
	f_{imm} kg/kg	0,0067			

Calculations		
Equation 18	$m_{ex\text{-}build\_solid\_TAN}$	2622,35
Equation 19	$m_{ex\text{-}build\_solid\_N}$	5580,35
Check		0
Step 8. Calculate Total-N and TAN entering storage (all manures)		
	x_{store_slurry}	1
	x_{store_solid}	0,5
Calculations		
Equation 20	$m_{storage\_slurryTAN}$	0,00
Equation 21	$m_{storage\_slurry,N}$	0,00
Equation 24	$m_{storage\_solid\_TAN}$	1311,18
Equation 25	$m_{storage\_solid\_N}$	2790,18
The amounts of manures applied directly to fields will be		
Equation 22	$m_{spread\_direct\_slurry\_TAN}$	0,00
Equation 23	$m_{spread\_direct\_slurry\_N}$	0,00
Equation 26	$m_{spread\_direct\_solid\_TAN}$	1311,18
Equation 27	$m_{spread\_direct\_solidN}$	2790,18
Step 9. Calculate TAN from which slurry storage emissions will occur		
Input data		
	f_{min}	0,1
Calculations		
Equation 28	$mm_{storage\_slurry\_TAN}$	0,00

Step 10. Calculate storage emissions						
Calculations						
Equation 29	$E_{storage\_slurry\_NH3}$	0,000				
Equation 29	$E_{storage\_slurry\_N2O}$	0,000				
Equation 29	$E_{storage\_slurry\_NO}$	0,000				
Equation 29	$E_{storage\_slurry\_N2}$	0,000				
Equation 30	$E_{storage\_solid\_NH3}$	419,576				
Equation 30	$E_{storage\_solid\_N2O}$	104,894				
Equation 30	$E_{storage\_solid\_NO}$	13,112				
Equation 30	$E_{storage\_solid\_N2}$	393,353				
Step 11. Calculate organic-N and TAN applied to field						
Calculations			%TAN			%TAN
Equation 31	$m_{applic\_slurry\_TAN}$	0,00	#DIV/0!		0,00	#DIV/0!
Equation 32	$m_{applic\_slurry\_N}$	0,00			0,00	
Not currently included	$E_{storage\_solid\_leach}$	0,000				
Equation 33	$m_{applic\_solid\_TAN}$	1691,42	36		1691,42	36
Equation 34	$m_{applic\_solid\_N}$	4649,42			4649,42	
Check	*slurry*	0,000			0,000	
	solid	0,000			0,000	
Step 12. Calculate emission following application to field						
Calculations						
Equation 35	E_{applic_slurry}	0				
Equation 36	E_{applic_solid}	1150				

Step 13. To calculate total-N and TAN returned to soil					
Calculations					
Equation 37	$m_{returned\_slurry\_TAN}$	0			
Equation 38	$m_{returned\_slurry\_N}$	0			
Equation 39	$m_{returned\_solid'\_TAN}$	541			
Equation 40	$m_{returned\_solid\_N}$	3499			
Step 14. To calculate emissions from grazing					
Calculations					
Equation 41	E_{graz}	0,0			
Entering soil in grazed pasture	TAN returned	0		N returned	0
Check		0,000			0,000
N input		5848,0			
N output		5848,0			
System check		0,000			

Total emissions					
	As kg of the relevant compound				
Source	***NH_3***	***N_2O***	***NO***	***N_2***	***Leached NO_3***
Buildings, manure as slurry	**0,0**				
Buildings, manure as FYM	**325,0**				
Yards	**0,0**				
Slurry storage	**0,0**	**0,000**	**0,000**	**0,0**	
FYM storage	**509,5**	**164,834**	**28,097**	**393,4**	**0,0**
Slurry application	**0,0**				
Solid application	**1396,6**				
Grazing	**0,0**				
Total	**2231,11**	**164,834**	**28,097**	**393**	**0**

Iš a.t.š. 610, kuriame laikoma 136 vnt. kitų galvijų (prieauglio) per metus išsiskirs 0,3250 t amoniako (be amoniako mažinimo priemonių). 0,5095 t amoniako (be amoniako mažinimo priemonių) išsiskirs iš kieto (kraikinio) mėšlo laikymo vietų. 1,3696 t amoniako išsiskirs tręšimo metu.

Toliau susumuojamas aukščiau apskaičiuoto amoniako išsiskyrimas iš mėšlo laikymo vietų:

a.t.š. Nr.	NH3 kiekis, t/m	
	Iš skysto mėšlo	**Iš kieto (kraikinio) mėšlo**
601	5,5335	-
602	4,0869 + 0,5649	-
603	1,2656	-
004 – 007	-	0,5619
008 – 011	-	0,9366
607	-	0,4870
608	-	0,8991
609	-	0,4495
610	1,7409	0,5095
	Viso: 13,1918	**Viso: 3,8436**

Apskaičiuota, kad iš skysto mėšlo laikymo vietų (be mažinimo priemonių) per metus išsiskirs 13,1918 t/m amoniako. Įvertinus skysto mėšlo kaupimo vietų tūrį, skysto mėšlo rezervuare (a.t.š. Nr. 001) galima sukaupti 12 proc. bendro susidariusio skysto mėšlo kiekio, skysto mėšlo rezervuare (a.t.š. Nr. 002) – 11 proc., lagūnoje (a.t.š. Nr. 003) – 55 proc. Į nuo PŪV objekto nutolusį Šikšnių kaime esantį rezervuarą išvežamas likęs 22 proc. skysto mėšlo kiekis.

Per a.t.š. 001 išsiskirs 1,5830 t/m amoniako (be mažinimo priemonių), a.t.š. 002 – 1,4511 t/m amoniako (be mažinimo priemonių) ir per a.t.š. 003 – 7,2555 t/m amoniako (be mažinimo priemonių).

Likęs amoniako kiekis – 2,9022 t/m išsiskirs iš nuo PŪV objekto nutolusio Šikšnių kaime esančio skysto mėšlo rezervuaro.

Apskaičiuota, kad iš kieto (kraikinio) mėšlo laikymo vietų (be mažinimo priemonių) (a.t.š. Nr. 604) per metus išsiskirs 3,8436 t/m amoniako.

Toliau susumuojamas aukščiau apskaičiuoto amoniako išsiskyrimas tręšimo mėšlu metu:

a.t.š. Nr.	NH3 kiekis, t/m	
601	20,2723	
602	14,9726	2,0694
603	4,6364	
004 – 007	1,5404	
008 – 011	2,5673	
607	1,3350	
608	2,4646	
609	1,2323	
610	6,3779	1,3966
		Viso: 58,8648

Iš ūkio tręšimo metu iš viso išsiskirs 58,8648 t/m amoniako.

Skaičiavimus atliko: Ieva Juozulynienė UAB “Infraplanas