

Digitization of multi-source information from the Malagrotta Landfill

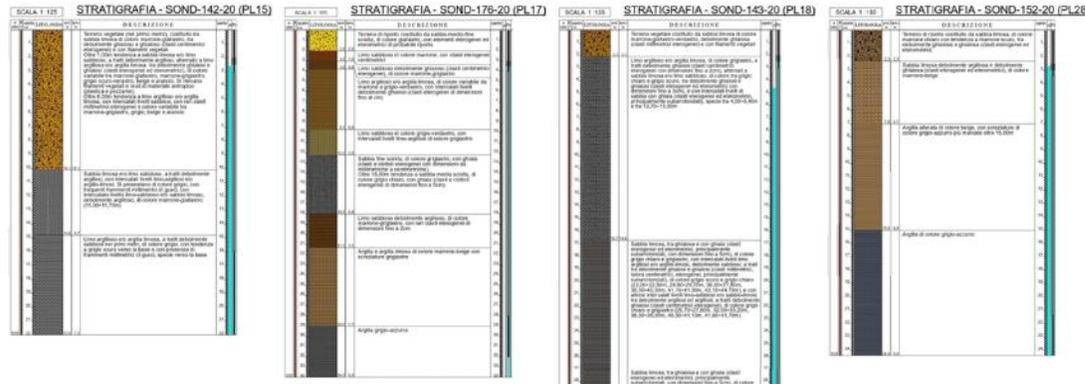
Progress status



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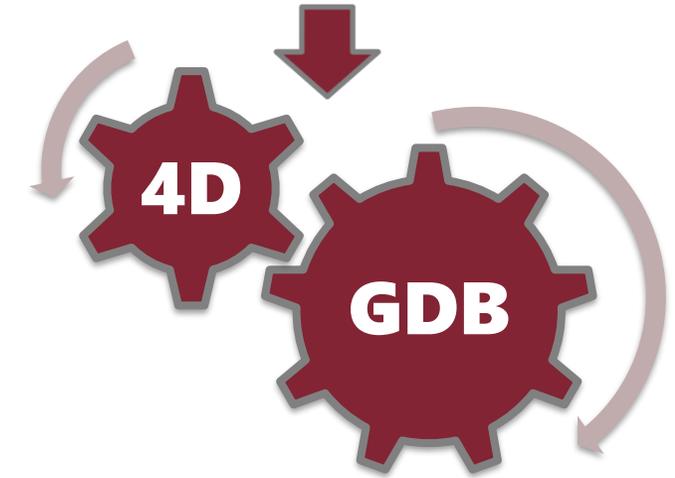
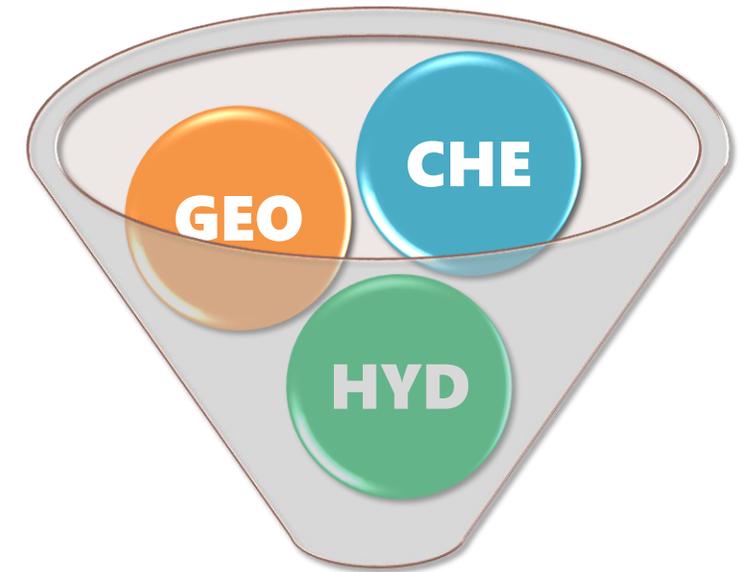


Methodology



Codice	Pozzo	Est UTM 33 m	Nord UTM 33 m	Quota bocca pozzo m s.l.m.	Soggiacenza m	Livello della falda m s.l.m.
pz110b	via Malagrotta 295/A	278788.117	4636416.361	14.774	0.78	13.994
pz7a	Via Tommaso Mosca 5	280767.977	4638892.760	58.774	17.92	40.854
pz9b	via Pericoli 115	280270.180	4639404.201	51.461	27.20	24.261
z1b	Z01	278748.921	4636556.388	19.366	5.36	14.006
z2b	Z02	279052.784	4637692.760	36.101	9.59	26.511
z3b	Z03	279975.467	4638010.162	37.108	10.83	26.278
z4b	Z04	279626.934	4637017.009	24.392	2.50	21.892
z5b*	Z05	279553.933	4636909.281	21.549	0.71	20.839
z6b	Z06	279472.881	4636838.052	21.244	1.68	19.564
z7b	Z07	279418.256	4636918.506	22.755	2.91	19.845
z8b	Z08	279170.507	4636679.475	17.859	1.29	16.569
z9b	Z09	278916.347	4636577.529	16.843	1.33	15.513
z10b	Z10	279826.845	4638716.286	44.653	18.94	25.713
z11b	Z11	279929.255	4638612.922	36.182	10.37	25.812
z12a	Z12	278547.567	4636706.566	19.769	2.40	17.369
z13b	Z13	278467.974	4637154.942	22.671	8.72	13.951
z14b*	Z14	278390.822	4637556.918	24.242	4.34	19.902
z15b*	Z15	278616.011	4637642.876	23.301	2.00	21.301
z16b*	Z16	278821.515	4637628.429	28.328	2.50	25.828
z17b	Z17	279281.306	4638070.876	52.730	27.40	25.330
z18b	Z18	280036.339	4637890.957	33.995	8.19	25.805
z19b	Z19	280060.627	4637780.240	31.935	6.30	25.635
z20b	Z20	278573.650	4636527.233	15.336	4.09	11.246
z21b	Z21	278631.616	4636415.364	15.227	4.26	10.967
z22b	Z22	280010.775	4637537.392	29.415	4.70	24.715
z23b	Z23	279839.509	4637214.203	25.547	2.28	23.267

Punto prelievo	Data	Tipo	$\delta^{18}O$ (‰ vs SMOW)	$\pm 1\sigma$	δ^2H (‰ vs SMOW)	$\pm 1\sigma$	T_H (U.T.)	$\pm 1\sigma$
NP1	11/11/2020	Acqua sott.	-4.92	0.05	-28.3	0.27	39.8	2.67
NP2	06/11/2020	Acqua sott.	-5.48	0.04	-29.5	0.42	99.7	6.58
NP3	02/11/2020	Acqua sott.	-5.50	0.06	-31.8	0.45	82.7	5.46
NP4	24/11/2020	Acqua sott.	-5.23	0.03	-17.3	0.25	644	42.0
NP5	09/11/2020	Acqua sott.	-7.66	0.02	-47.4	0.18	1.8	0.20
NP6	18/11/2020	Acqua sott.	-5.36	0.03	-23.4	0.20	468	30.5
NP7	02/11/2020	Acqua sott.	-5.56	0.03	-23.0	0.22	852	55.5
NP8	28/10/2020	Acqua sott.	-4.94	0.02	-19.8	0.24	295	19.3
NP9	19/11/2020	Acqua sott.	-6.08	0.01	18.1	0.23	2399	156
PL01	13/11/2020	Acqua sott.	-5.05	0.02	-29.7	0.13	26.1	1.78
PL02	27/11/2020	Acqua sott.	-5.04	0.03	-29.2	0.19	50.0	3.00
PL03	27/11/2020	Acqua sott.	-5.21	0.05	-30.8	0.23	122	8.00
PL04	25/11/2020	Acqua sott.	-5.89	0.05	-36.0	0.30	25.0	2.00
PL05	10/11/2020	Acqua sott.	-5.71	0.02	-33.5	0.17	2.1	0.21
PL06	09/11/2020	Acqua sott.	-6.14	0.02	-36.7	0.19	2.5	0.23
PL07	10/11/2020	Acqua sott.	-5.68	0.03	-33.0	0.29	10.0	0.72
PL08	03/11/2020	Acqua sott.	-5.70	0.04	-33.3	0.14	1.9	0.21
PL09	25/11/2020	Acqua sott.	-5.63	0.04	-33.8	0.30	19.0	1.00
PL10	10/11/2020	Acqua sott.	-5.81	0.03	-34.4	0.28	2.3	0.23
PL11	12/11/2020	Acqua sott.	-5.71	0.01	-32.6	0.22	16.1	1.14
PL12	26/11/2020	Acqua sott.	-5.24	0.03	-29.6	0.44	144	9.00
PL13	29/10/2020	Acqua sott.	-5.45	0.03	-30.7	0.11	84.2	5.56
PL14	06/11/2020	Acqua sott.	-5.22	0.02	-28.0	0.24	31.1	2.12
PL15	29/10/2020	Acqua sott.	-5.39	0.04	-27.6	0.19	23.2	1.59
PL16	06/11/2020	Acqua sott.	-5.40	0.04	-30.5	0.43	3.5	0.32
PL17	25/11/2020	Acqua sott.	-5.38	0.06	-17.8	0.28	731	48.0
PL18	20/11/2020	Acqua sott.	-5.48	0.05	-29.6	0.16	89.6	5.91
PL19	18/11/2020	Acqua sott.	-5.54	0.04	-32.2	0.36	8.8	0.66
PL20	20/11/2020	Acqua sott.	-5.37	0.04	-29.5	0.15	123	8.08
PL21	17/11/2020	Acqua sott.	-5.41	0.04	-31.8	0.11	20.0	1.39
PL22	17/11/2020	Acqua sott.	-5.39	0.05	-31.6	0.24	13.0	0.93
PL23	19/11/2020	Acqua sott.	-5.36	0.04	-31.8	0.18	8.2	0.62
PL24	17/11/2020	Acqua sott.	-5.50	0.04	-32.8	0.27	< 0.8	0.10
PL25	09/11/2020	Acqua sott.	-5.51	0.04	-31.9	0.48	< 0.8	0.08
PL26	13/11/2020	Acqua sott.	-5.63	0.02	-32.7	0.25	< 0.8	0.08
PL27	20/11/2020	Acqua sott.	-5.60	0.03	-33.0	0.51	2.8	0.76



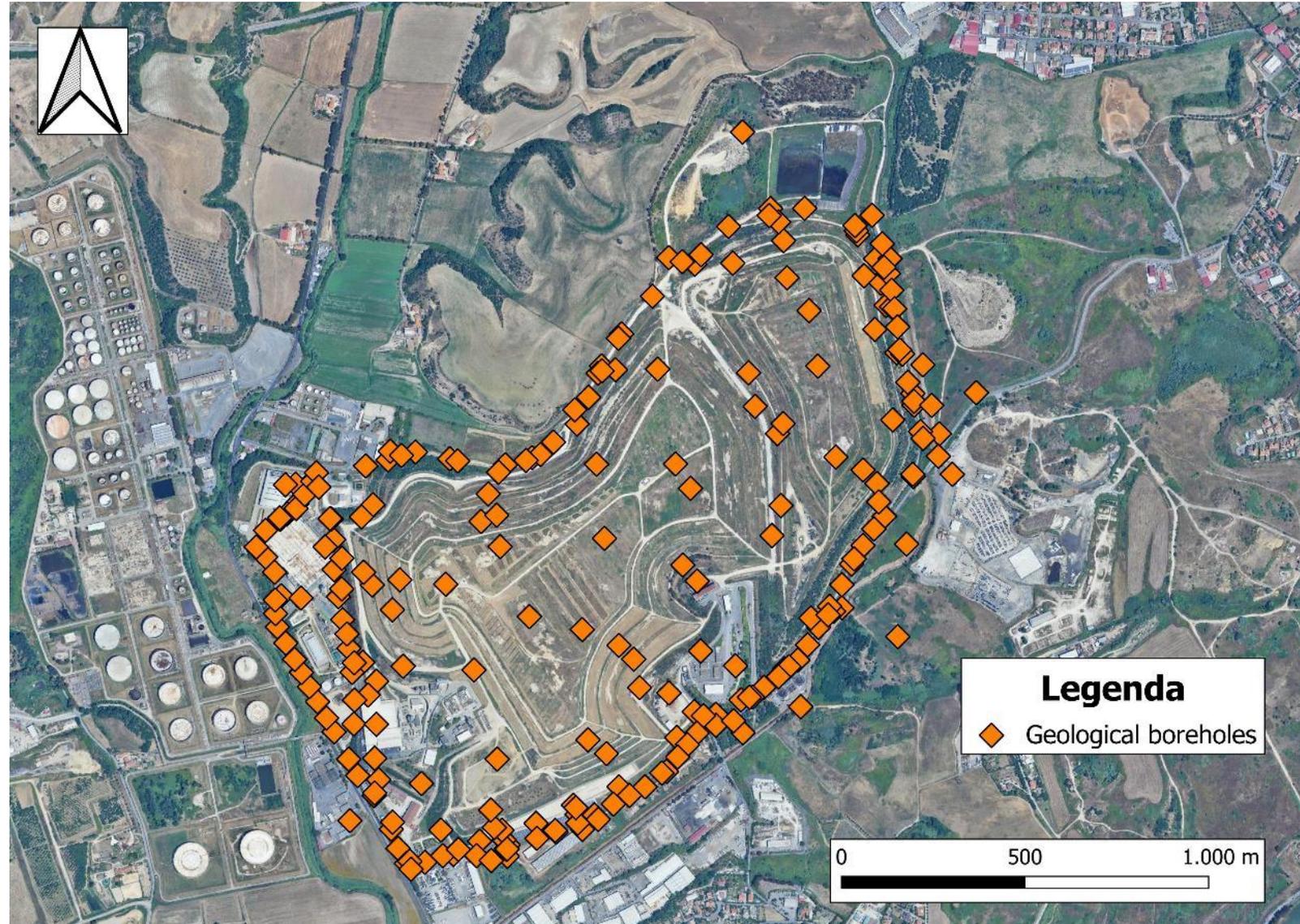
Decision Support System

Digitization of multi

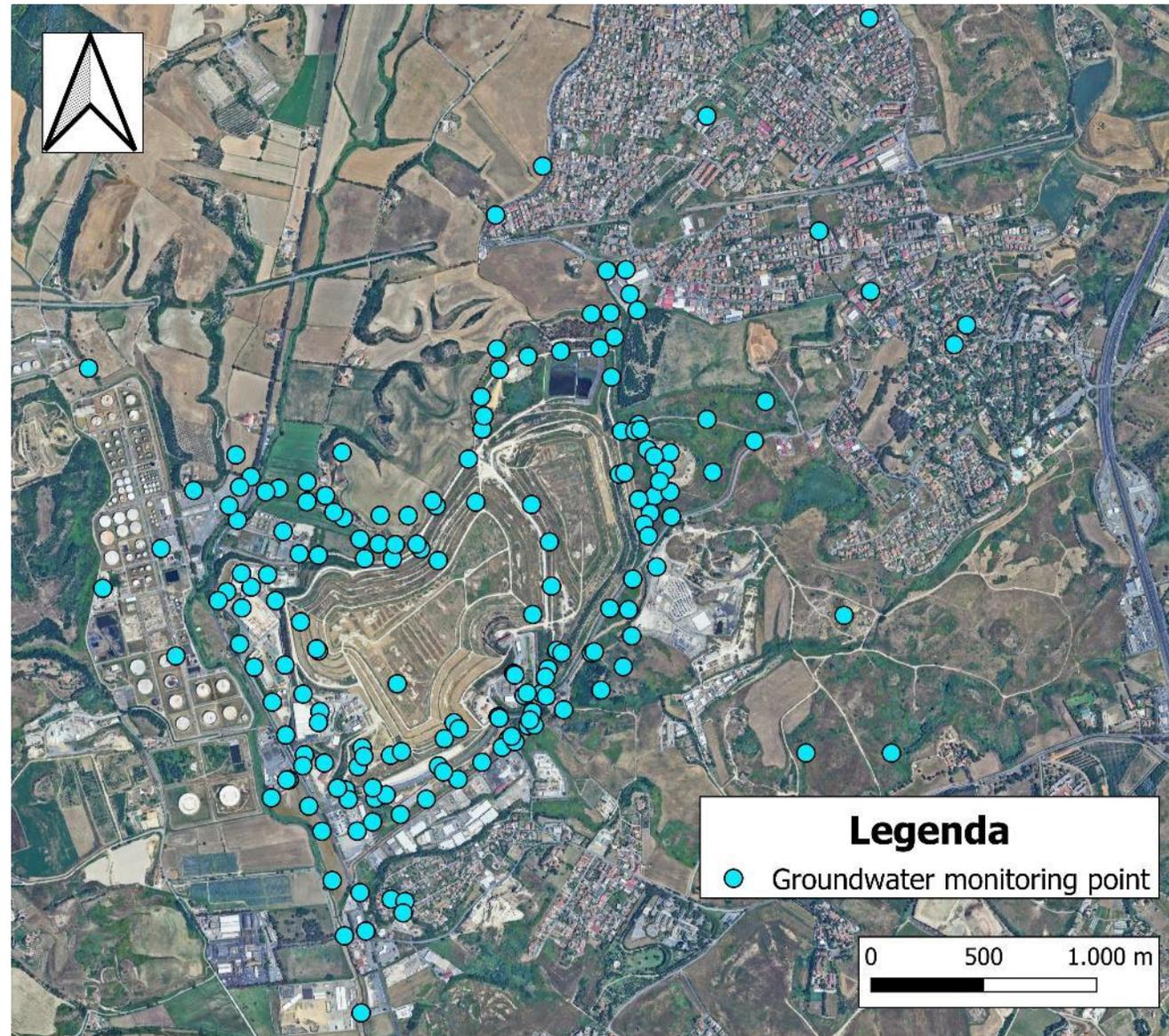


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245 geological boreholes



GW monitoring points

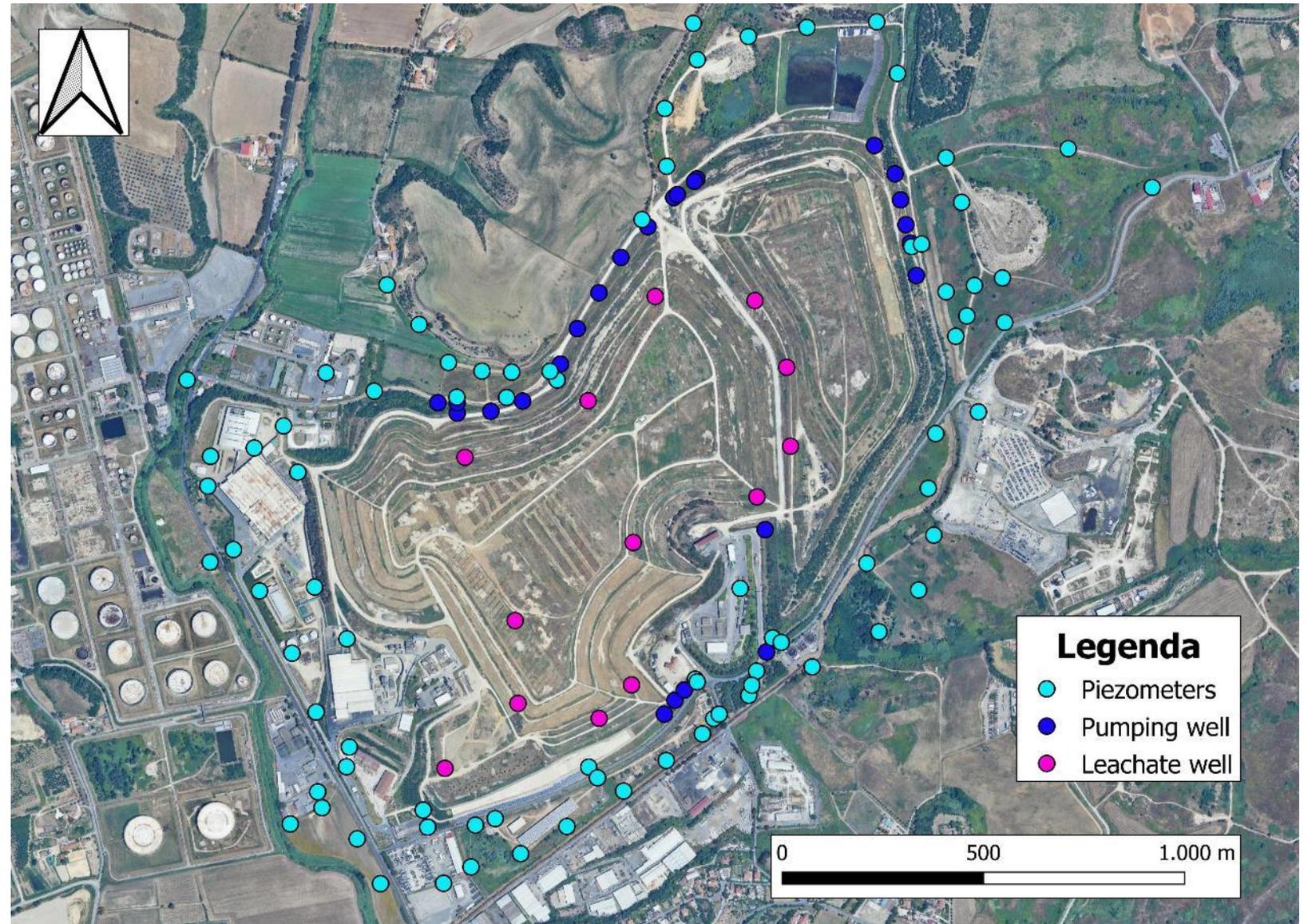


GDB

Piezometers

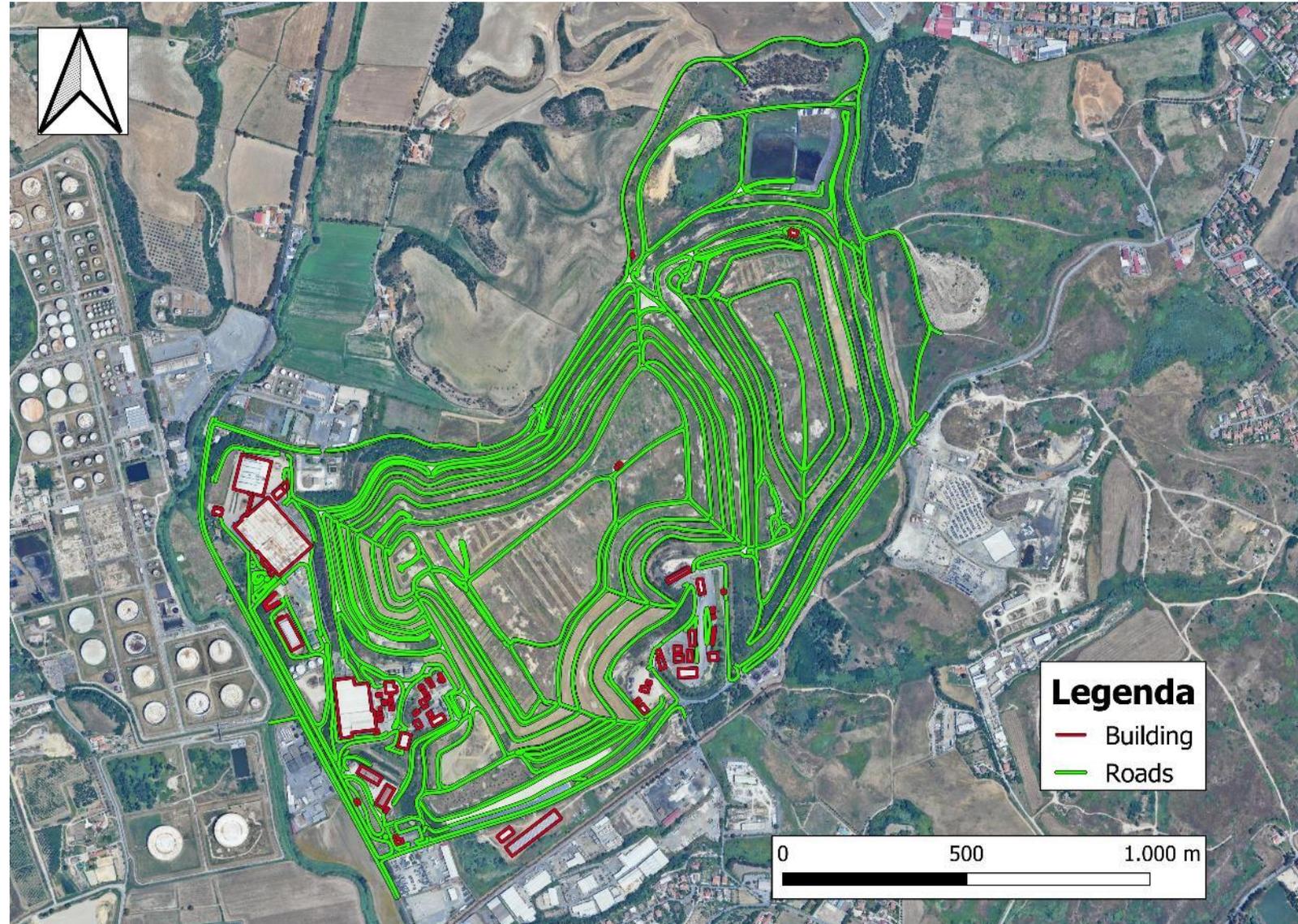
Pumping wells

Leachate wells

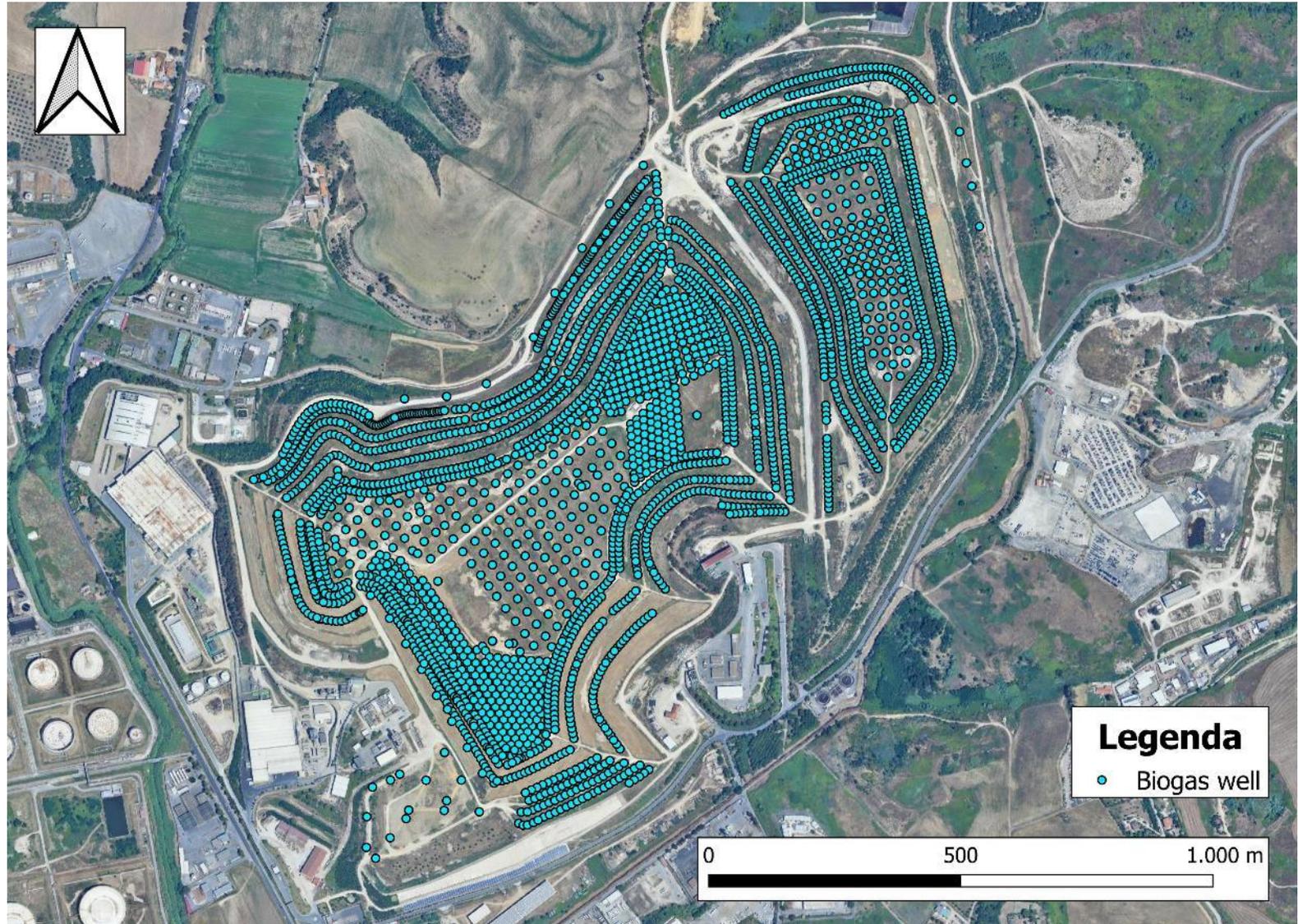


Buildings

Roads



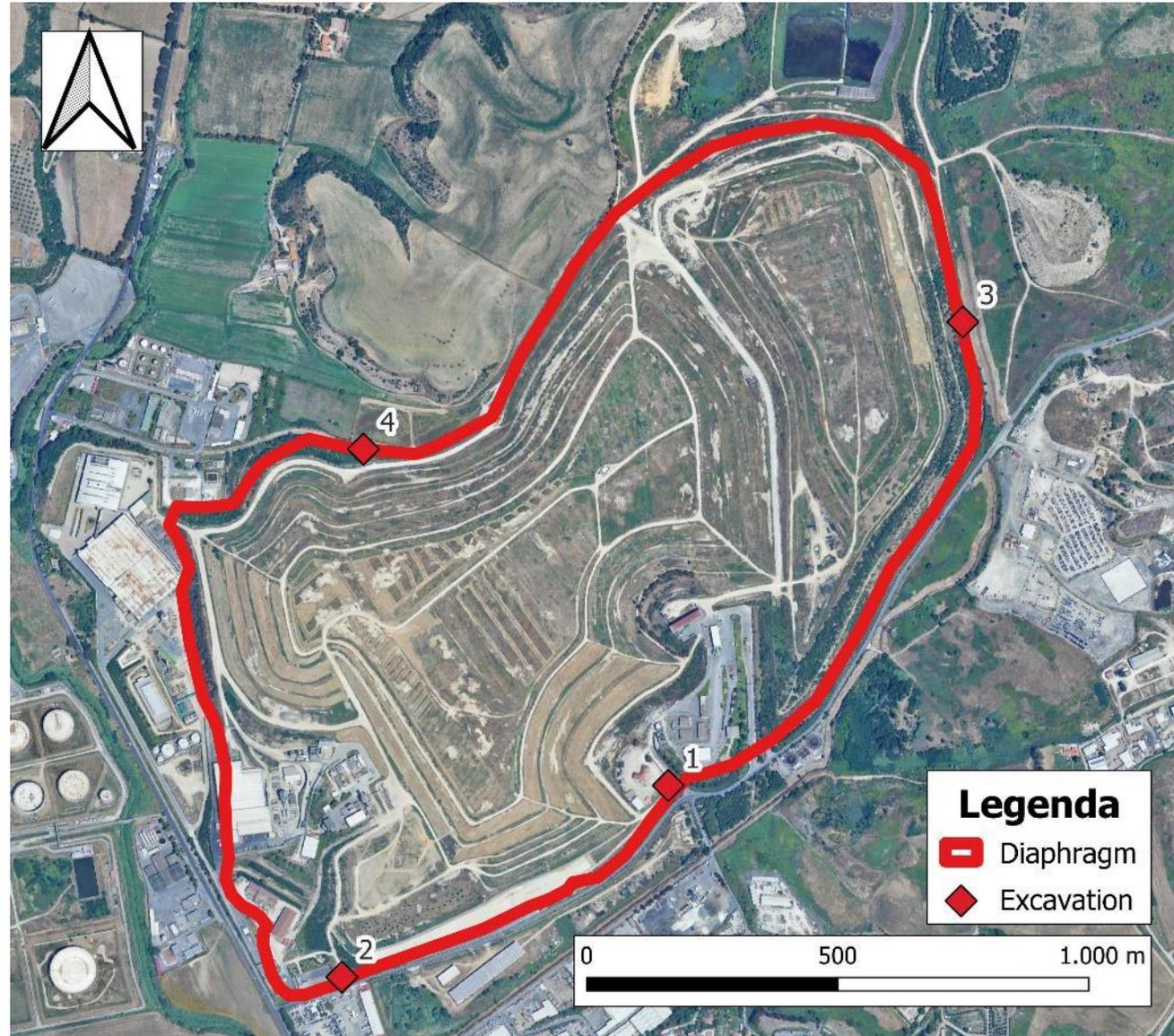
Biogas wells



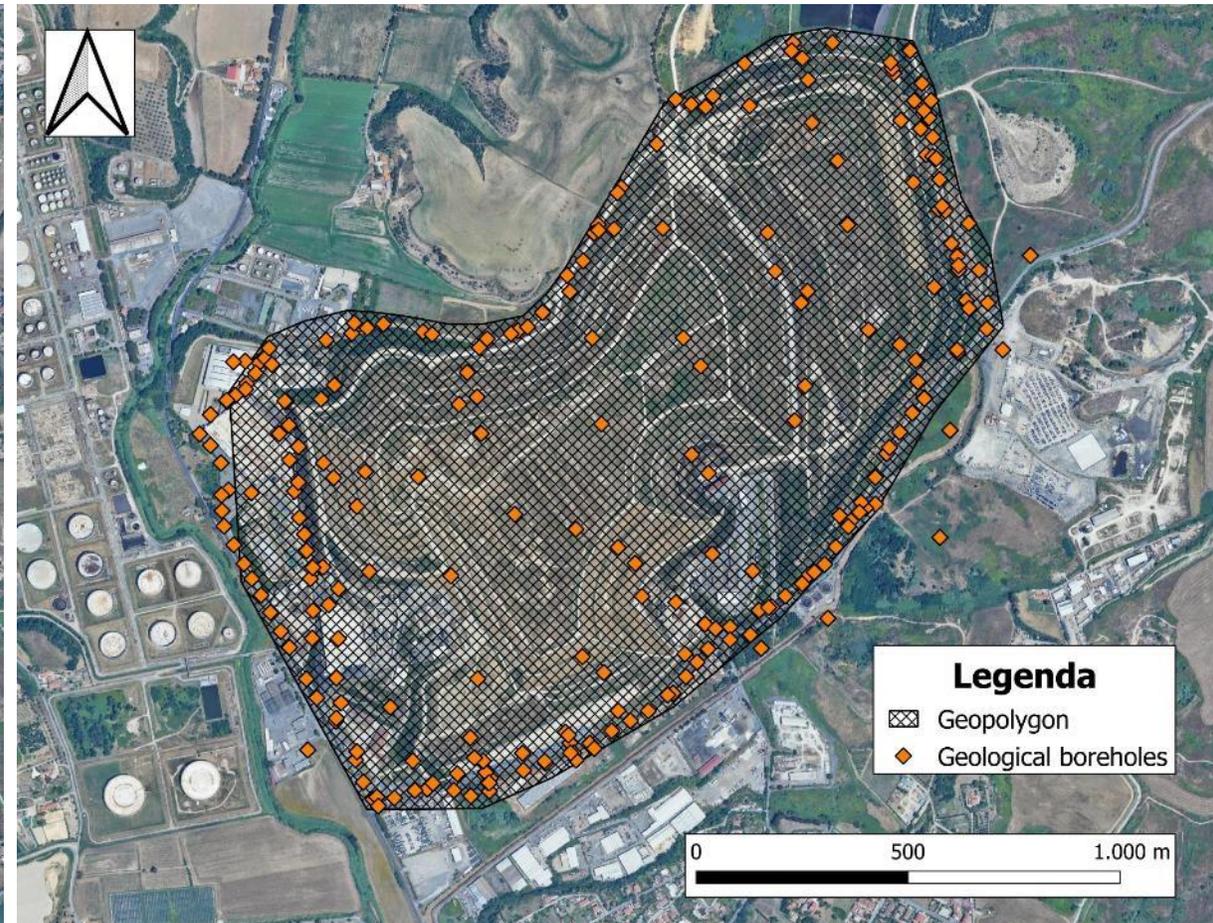
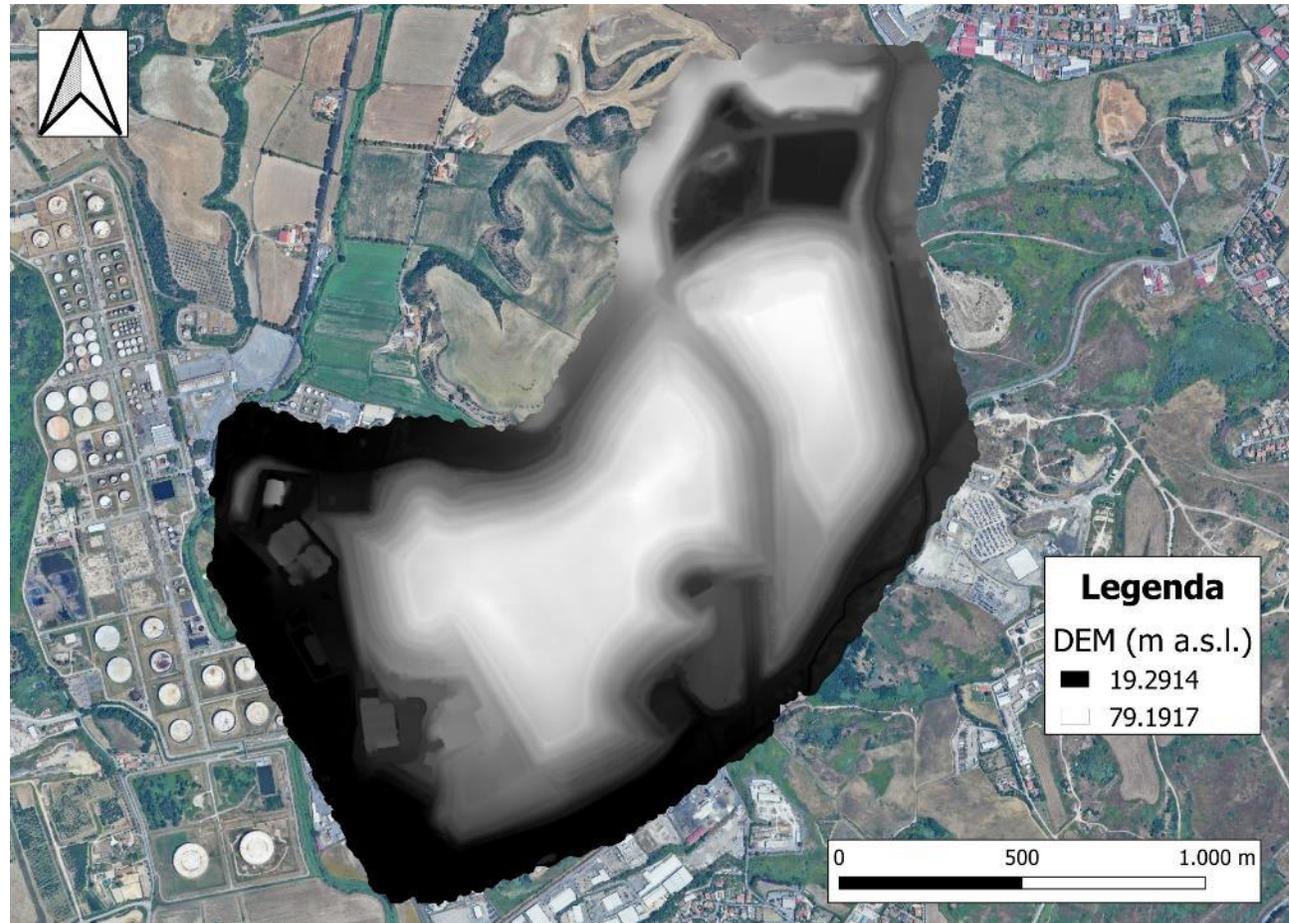
GDB

4 Excavations

Diaphragm



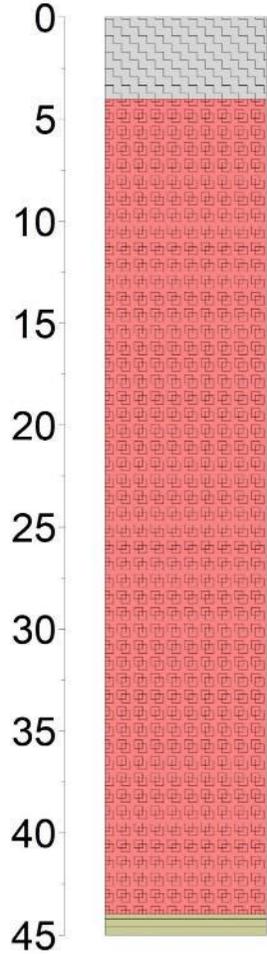
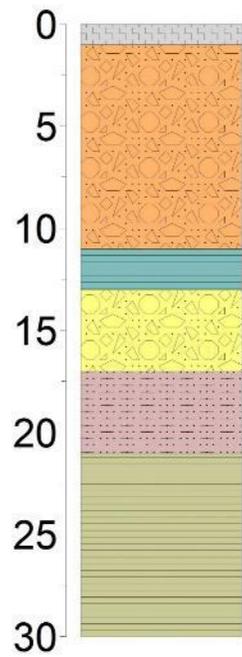
DEM and extent



2D and 3D Logs

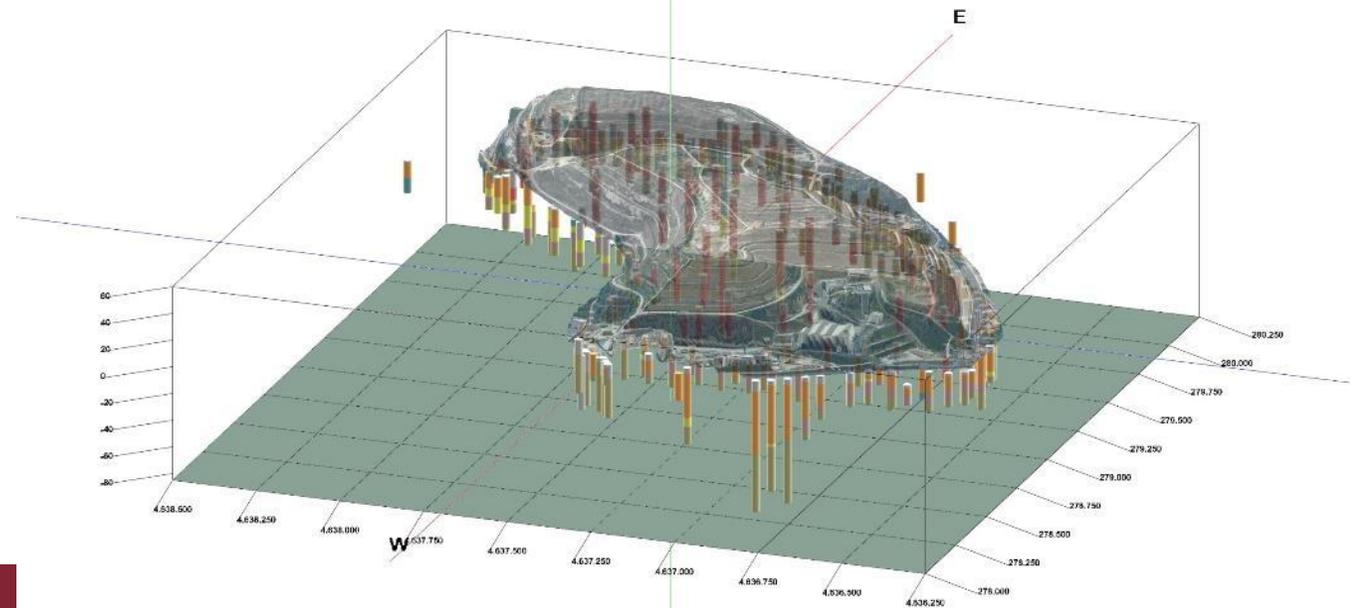
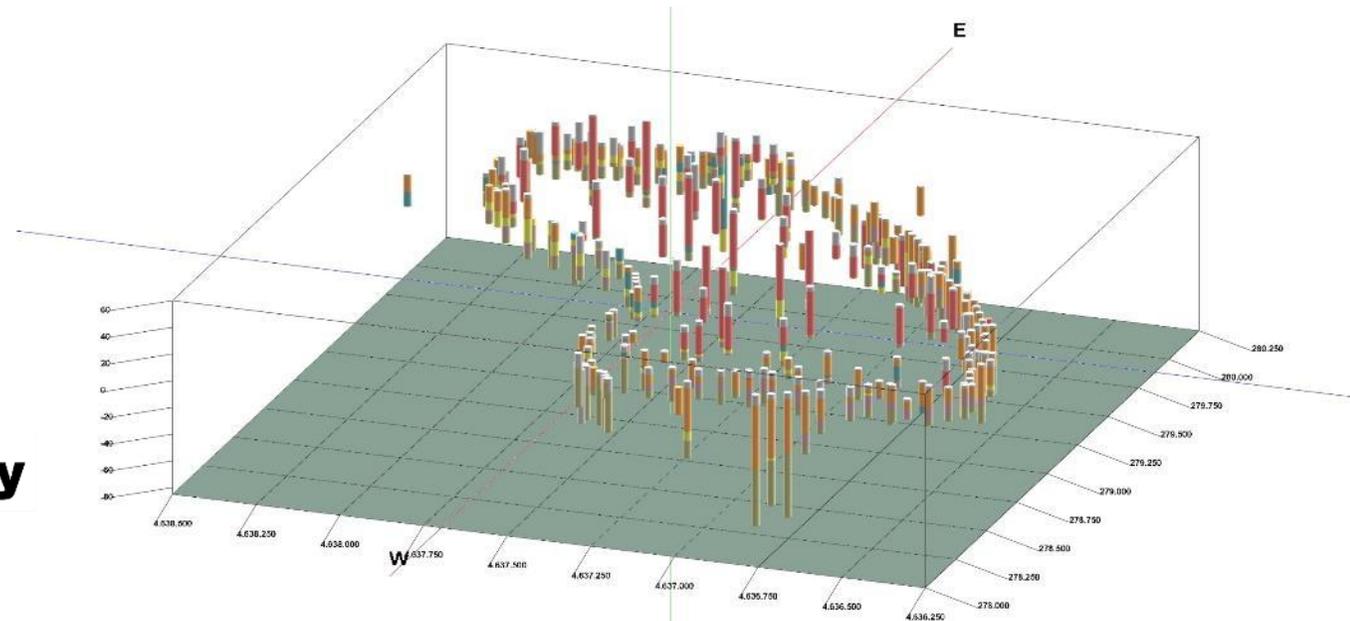
S115

F02BIS

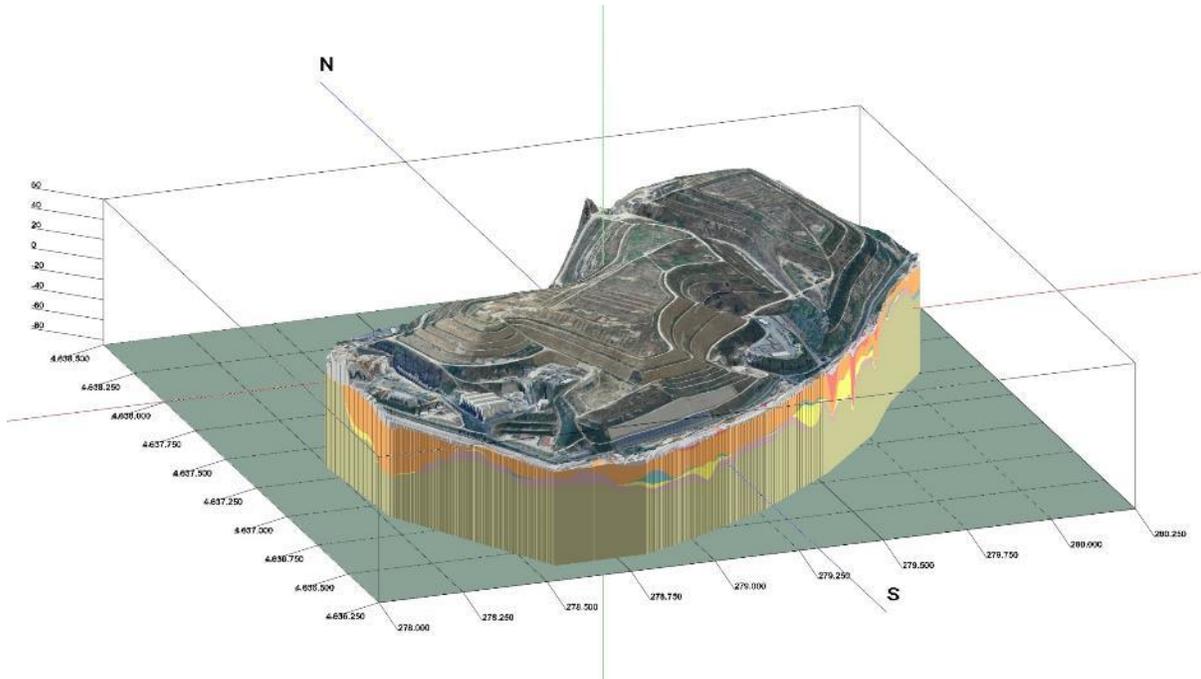


Stratigraphy

- Filling material
- Waste
- Recent alluvia
- Silty-sandy clays
- Sandy gravel
- Sandy clays (MdP)
- Clays (MdP)



3D Model



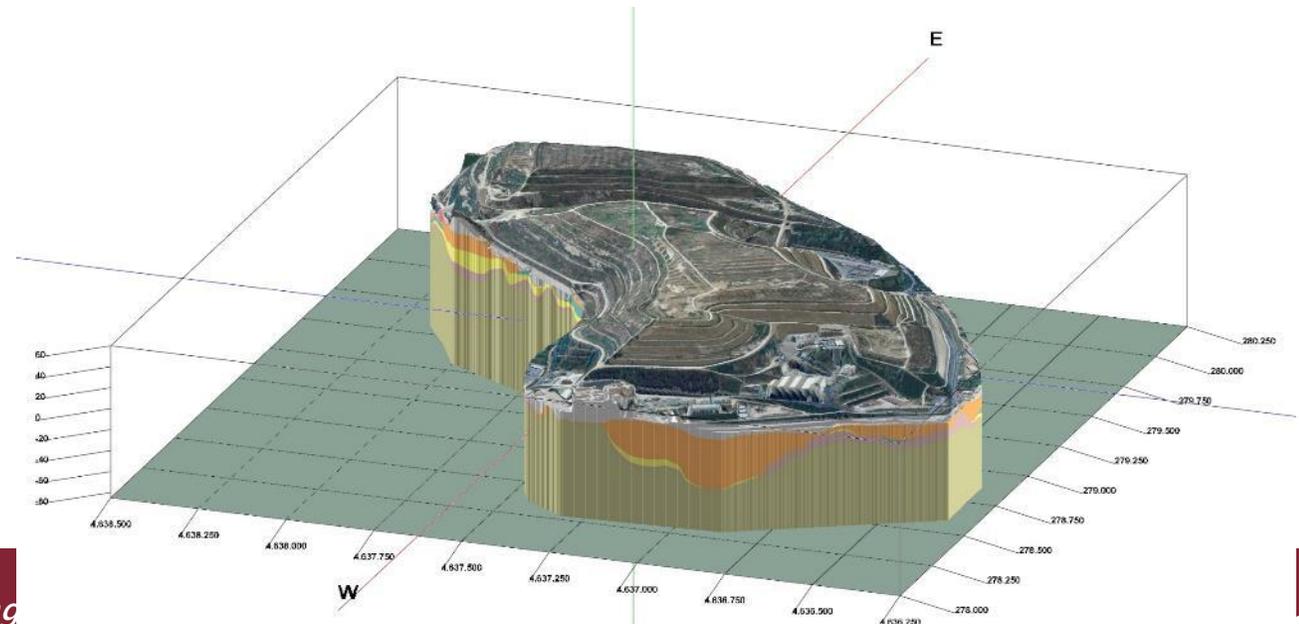
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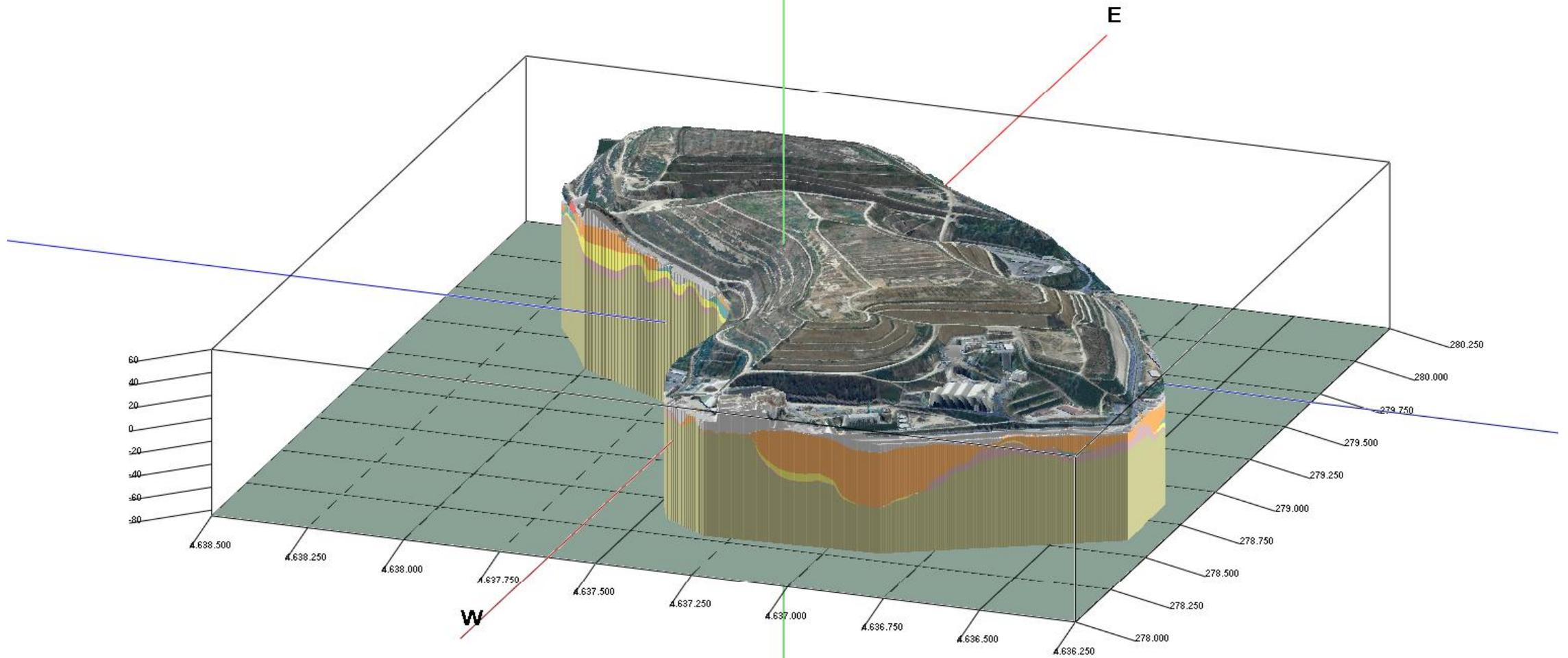
1327 x 1447 x 307 voxels

2 x 2 x 0.5 meters

589,491,883 mesh elements

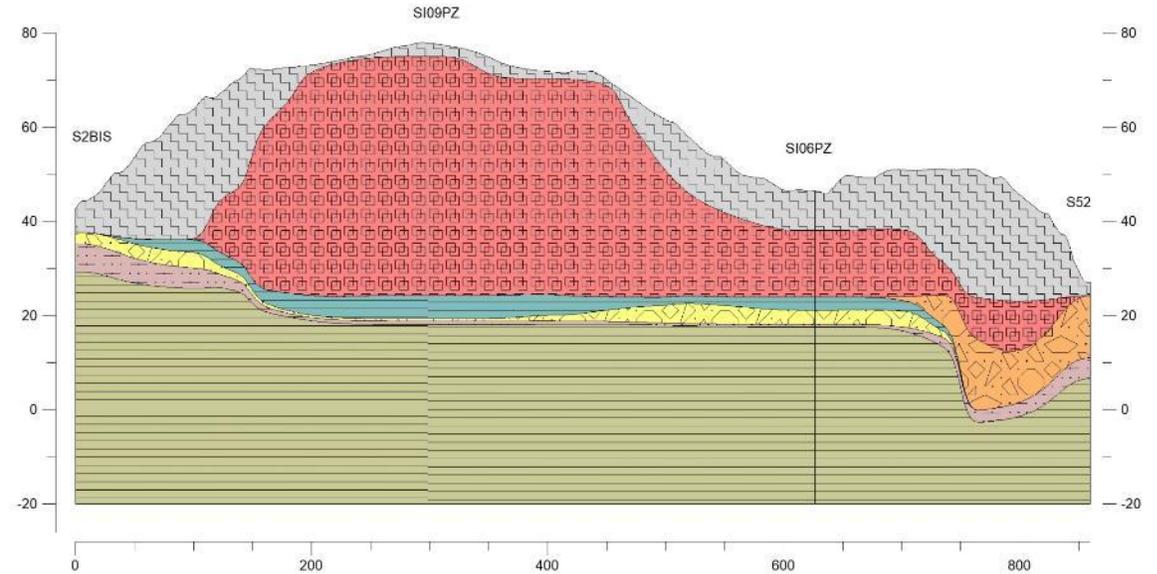
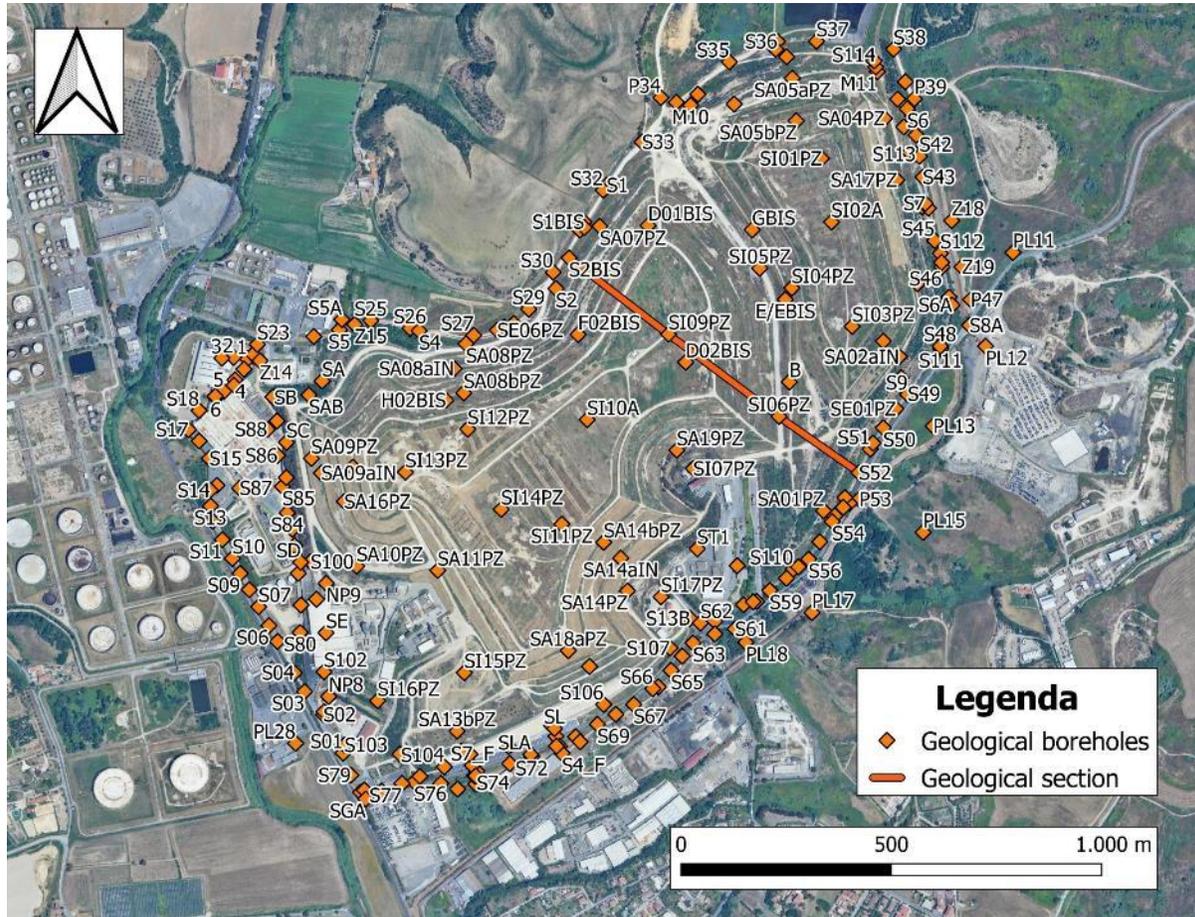


3D Geomodel

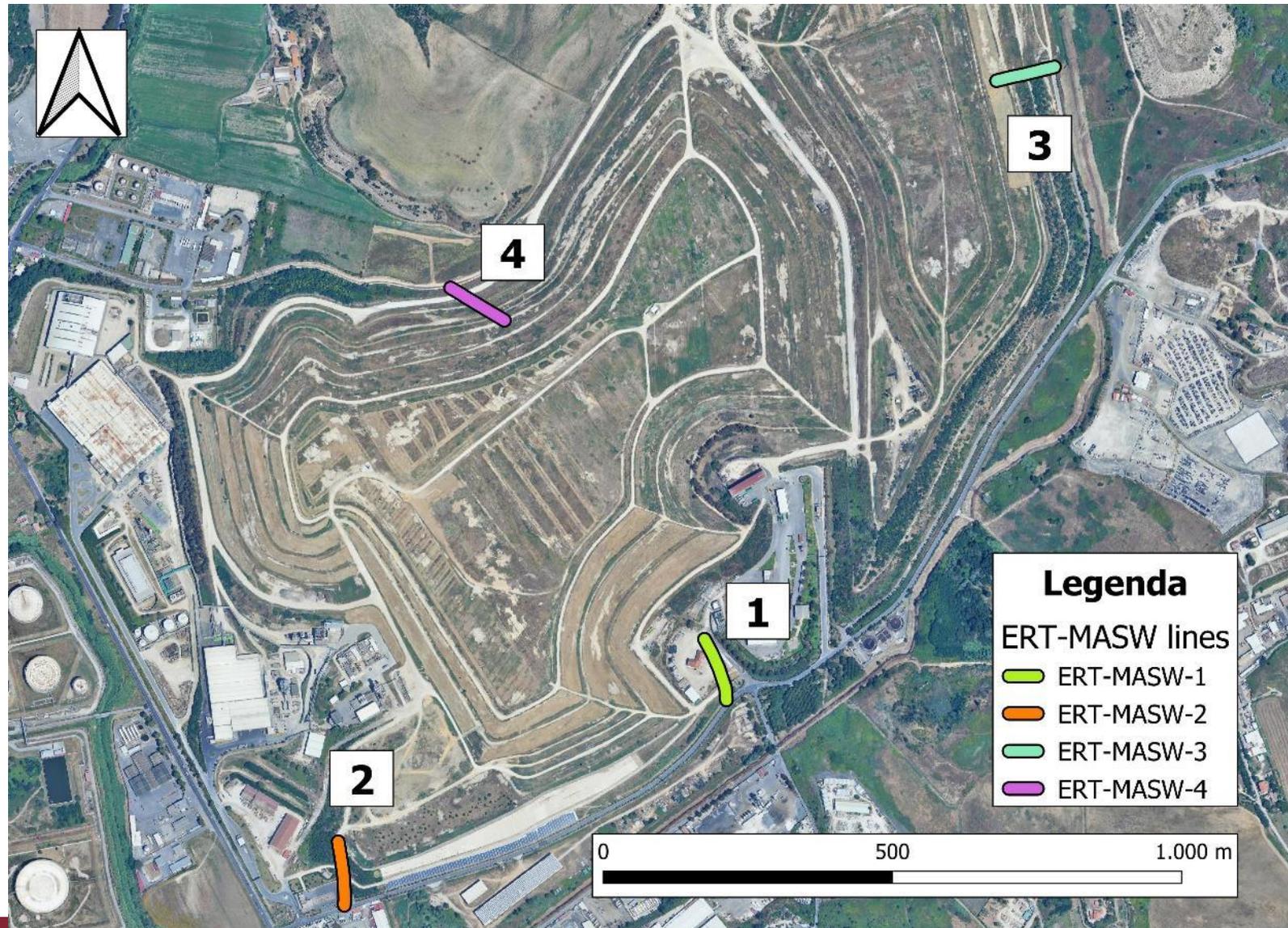


2D Section

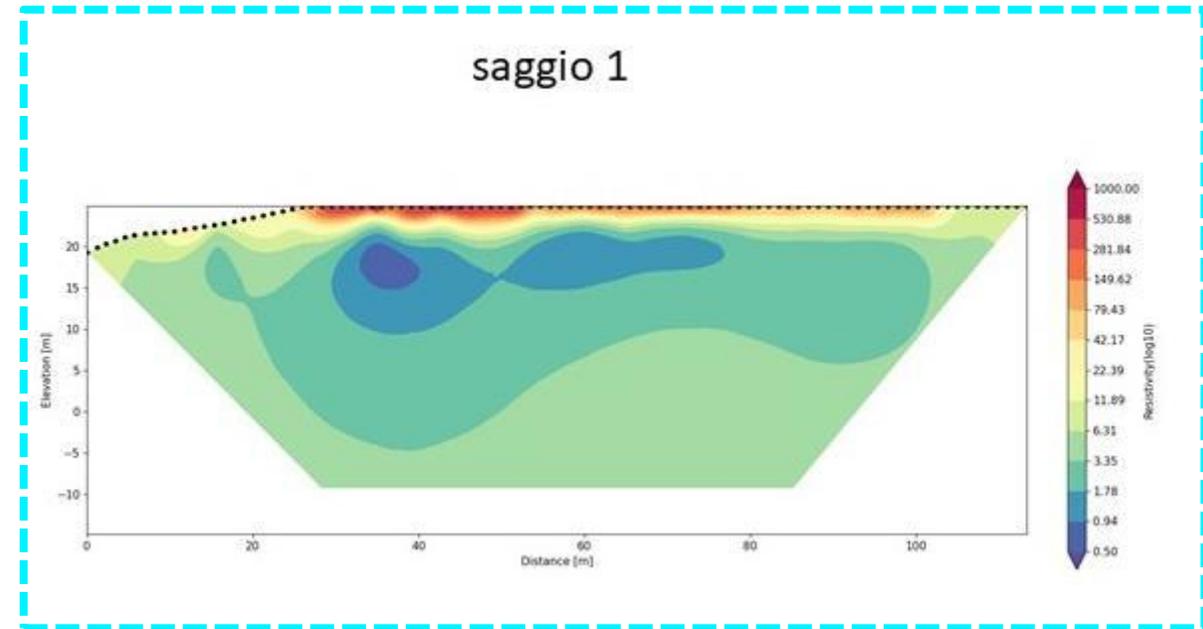
Stratigraphy



Geophysical investigations

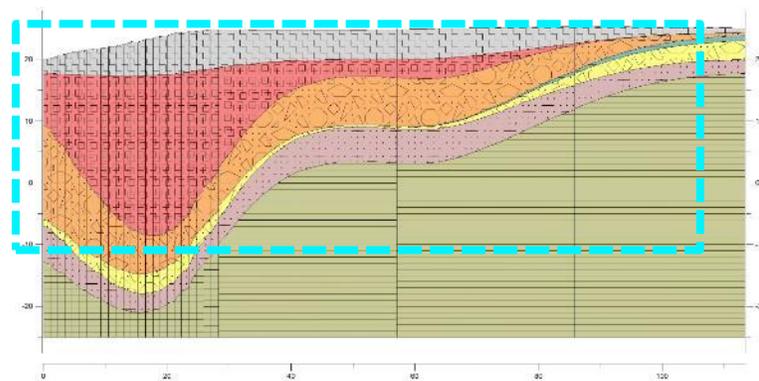


Geophysical investigations

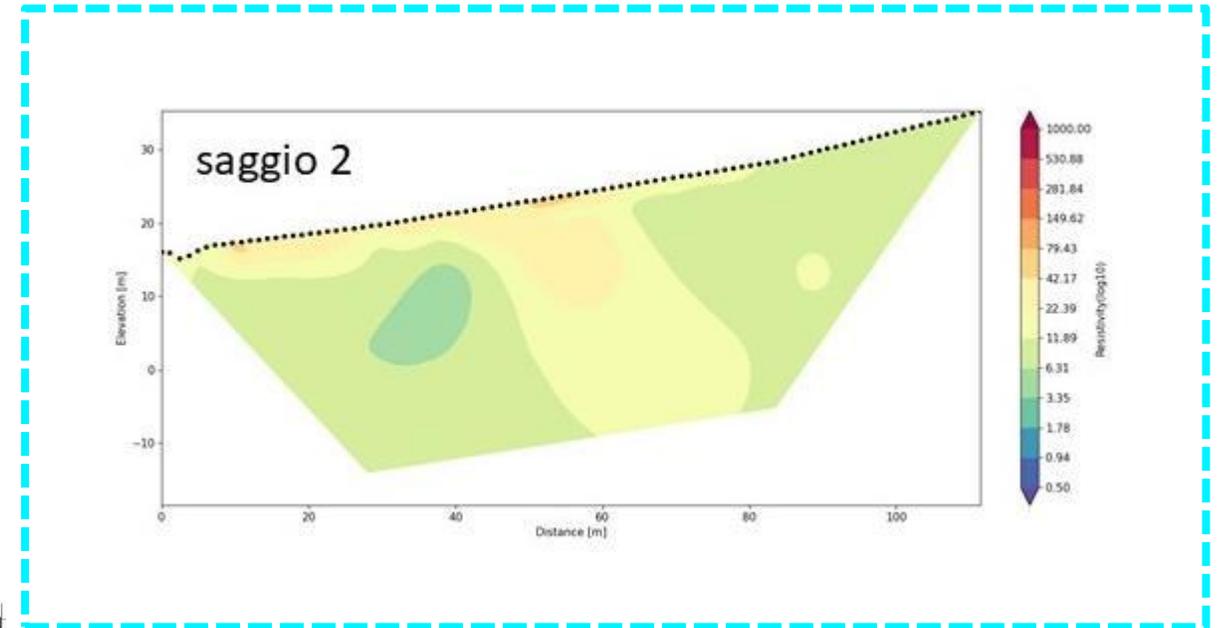
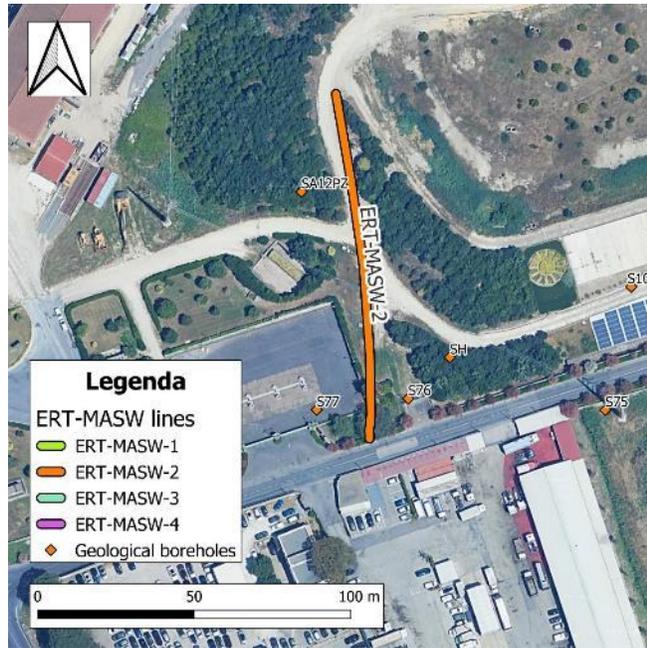


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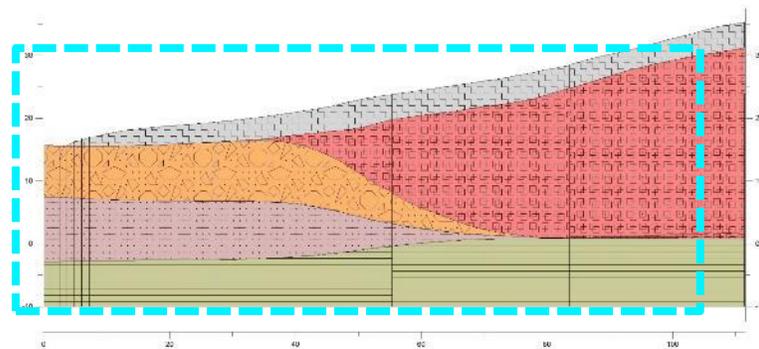


Geophysical investigations

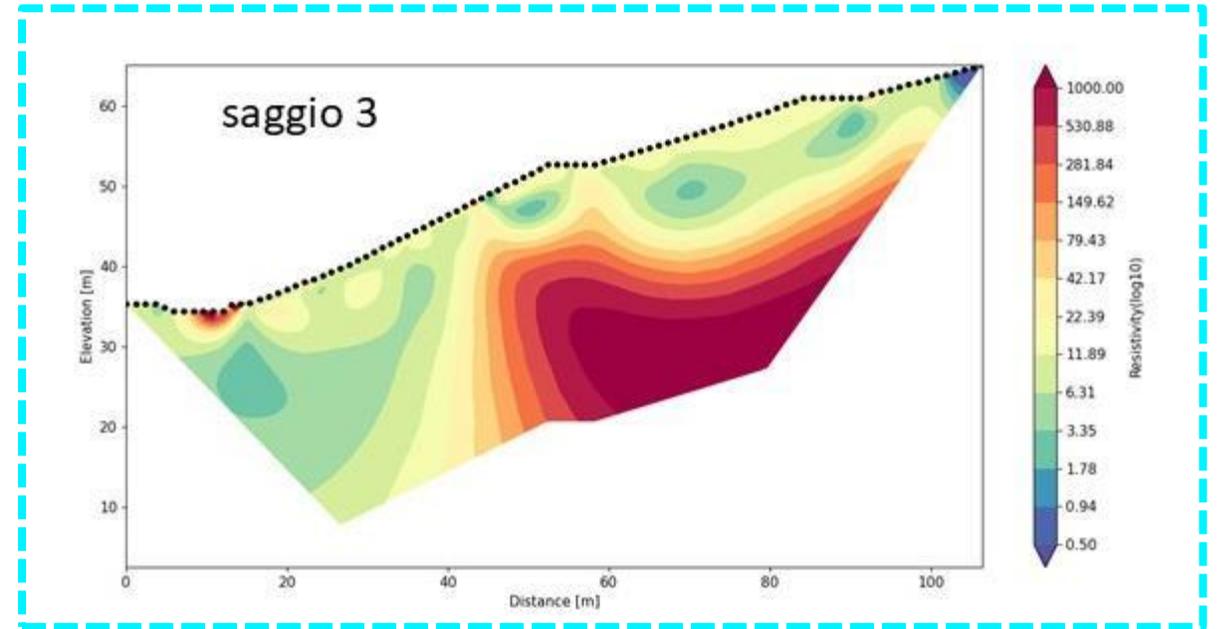


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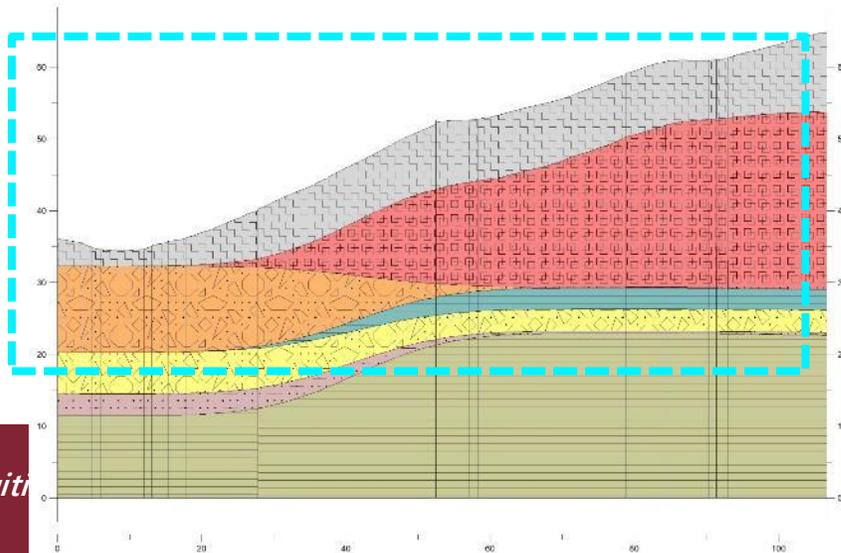


Geophysical investigations



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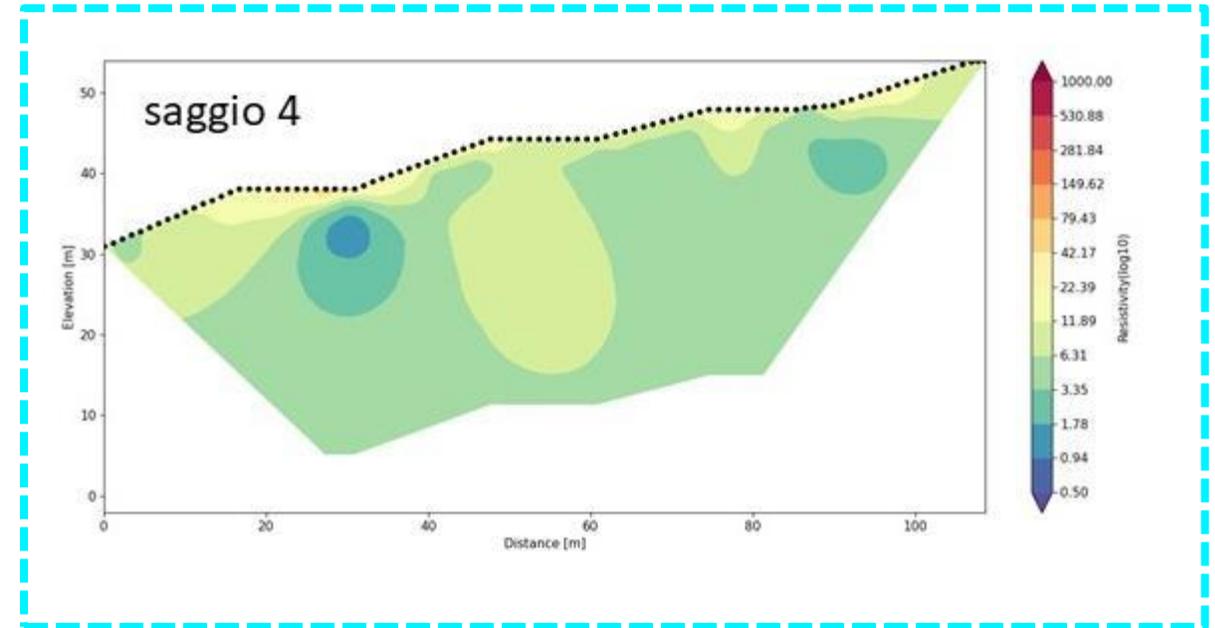
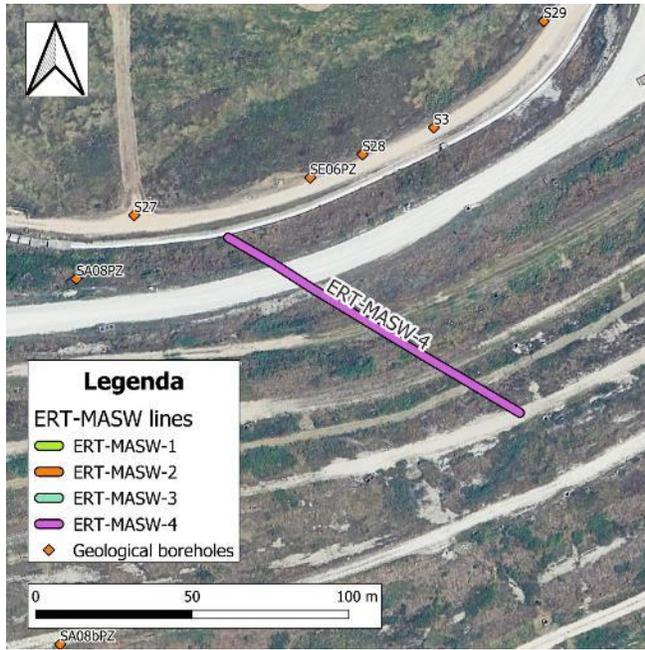
Digit

landfill



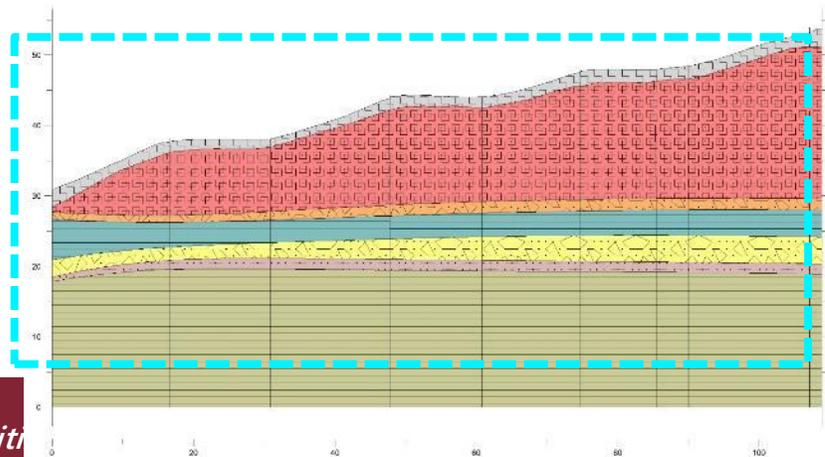
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Geophysical investigations



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Digit

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