

Preg.mi

- **Provincia della Spezia**
Settore Gestione Ambiente e Tutela Ambientale
- **Comune della Spezia**
Dipartimento II "Territorio e politiche ambientali"
- **Regione Liguria**
Dipartimento Territorio
Vice Direzione Ambiente
Settore Ecologia

OGGETTO: trasmissione dati metalli III e IV TRIMESTRE 2017 e riepilogo anno 2017.

Si trasmettono in allegato i dati relativi alla ricerca dei metalli nell'aria ai sensi del D.Lgs. 155/2010.

Si coglie l'occasione per trasmettere l'aggiornamento dei dati relativi al I e al II Trimestre contenete le determinazioni analitiche di alcuni campioni che non risultavano disponibili all'atto della precedente trasmissione (nota nr. 34985 del 29/11/17)

Rimanendo a disposizione per ulteriori chiarimenti, si porgono cordiali saluti.

***Il Dirigente Responsabile Settore Agenti
Fisici-Inquinamento Atmosferico***

dott. Ing. G.C. Leveratto

Allegati:

- elaborazioni dati in oggetto

Il Dirigente Responsabile U.O Territorio: dott.ssa. F.Colonna

Il Dirigente Responsabile Settore Agenti Fisici-Inquinamento Atmosferico: dott.G.C. Leveratto

Estensore Provvedimento: dott. R.Cresta

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C.F. e P.IVA 01305930107

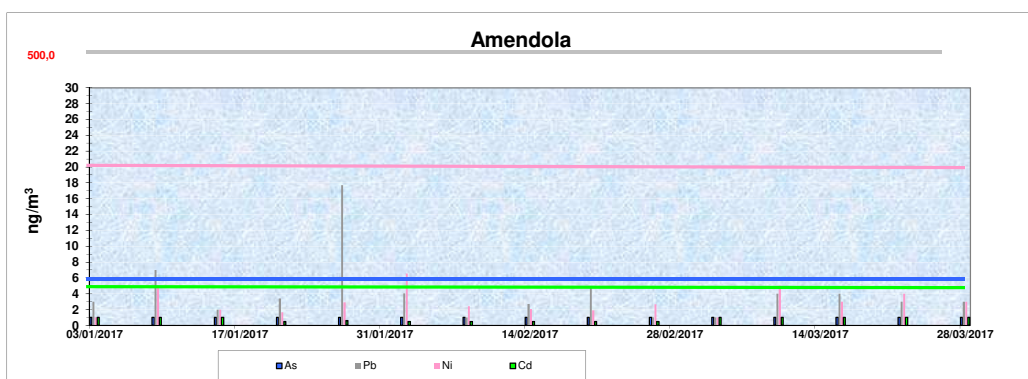


Metalli anno 2017

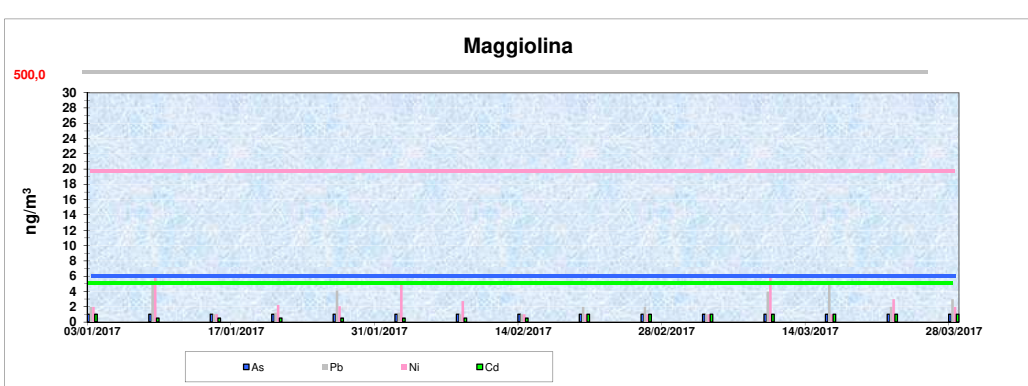
Valori obiettivo annuale per As, Ni, Cd e valore limite per il piombo ai sensi D.Lgs. 155/2010

Arsenico: 6 ng/m³ - Cadmio 5ng/m³ - Nichel 20 ng/m³ - Piombo 500 ng/m³

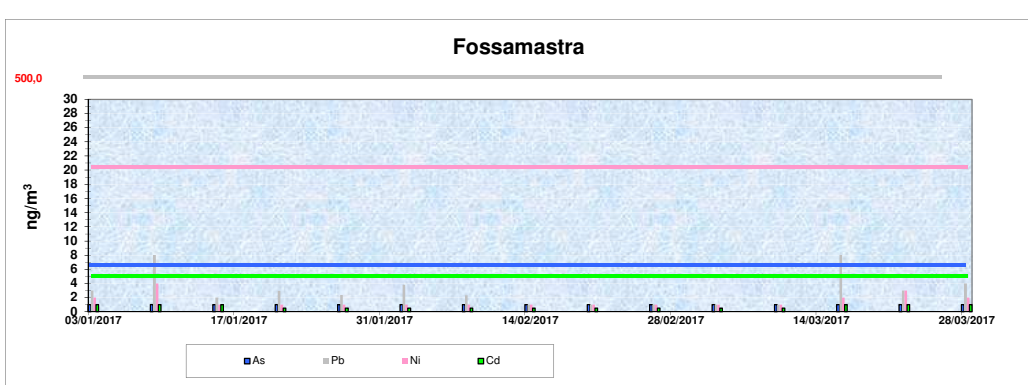
Amendola				
	As	Pb	Ni	Cd
3-gen-17	< 1,0	3,0	1,0	< 1,0
9-gen-17	< 1,0	7,0	5,0	< 1,0
15-gen-17	< 1,0	2,0	2,0	< 1,0
21-gen-17	< 1,0	3,4	1,6	< 0,5
27-gen-17	< 1,0	17,7	2,9	0,6
2-feb-17	< 1,0	4,1	6,5	< 0,5
8-feb-17	< 1,0	< 1,0	2,4	< 0,5
14-feb-17	< 1,0	2,7	2,1	< 0,5
20-feb-17	< 1,0	4,9	1,9	< 0,5
26-feb-17	< 1,0	< 1,0	2,7	< 0,5
4-mar-17	1,0	1,0	1,0	< 1,0
10-mar-17	< 1,0	4,0	5,0	< 1,0
16-mar-17	< 1,0	4,0	3,0	< 1,0
22-mar-17	< 1,0	3,0	4,0	< 1,0
28-mar-17	< 1,0	3,0	3,0	< 1,0
media (*)	1,0	4,1	2,9	0,8



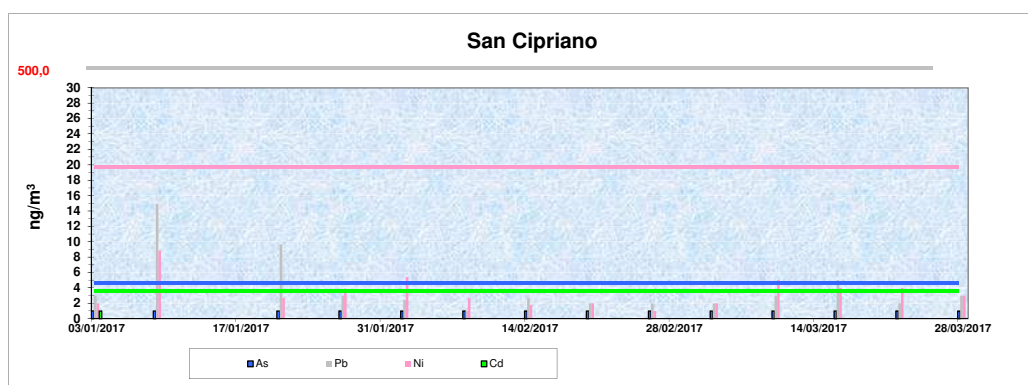
Maggiolina				
	As	Pb	Ni	Cd
3-gen-17	< 1,0	2,0	2,0	< 1,0
9-gen-17	< 1,0	5,2	6,0	< 0,5
15-gen-17	< 1,0	1,0	1,0	< 0,5
21-gen-17	< 1,0	1,2	2,2	< 0,5
27-gen-17	< 1,0	4,1	2,1	< 0,5
2-feb-17	< 1,0	1,2	5,4	< 0,5
8-feb-17	< 1,0	1,0	2,7	< 0,5
14-feb-17	< 1,0	1,0	1,0	< 0,5
20-feb-17	< 1,0	2,0	1,0	< 1,0
26-feb-17	< 1,0	2,0	1,0	< 1,0
4-mar-17	1,0	1,0	1,0	< 1,0
10-mar-17	< 1,0	4,0	6,0	< 1,0
16-mar-17	< 1,0	5,0	1,0	< 1,0
22-mar-17	< 1,0	2,0	3,0	< 1,0
28-mar-17	< 1,0	3,0	2,0	< 1,0
media (*)	1,0	2,4	2,5	0,8



Fossamastra				
	As	Pb	Ni	Cd
3-gen-17	< 1,0	3,0	2,0	< 1,0
9-gen-17	1,0	8,0	4,0	< 1,0
15-gen-17	< 1,0	2,0	1,0	< 1,0
21-gen-17	< 1,0	2,9	< 1,0	< 0,5
27-gen-17	< 1,0	2,4	< 1,0	< 0,5
2-feb-17	< 1,0	3,8	< 1,0	< 0,5
8-feb-17	< 1,0	2,3	< 1,0	< 0,5
14-feb-17	< 1,0	< 1,0	< 1,0	< 0,5
20-feb-17	< 1,0	< 1,0	< 1,0	< 0,5
26-feb-17	< 1,0	< 1,0	< 1,0	< 0,5
4-mar-17	< 1,0	< 1,0	< 1,0	< 0,5
10-mar-17	< 1,0	< 1,0	< 1,0	< 0,5
16-mar-17	< 1,0	8,0	2,0	< 1,0
22-mar-17	< 1,0	3,0	3,0	< 1,0
28-mar-17	< 1,0	4,0	2,0	< 1,0
media (*)	1,0	3,0	1,5	0,7



San Cipriano				
	As	Pb	Ni	Cd
3-gen-17	< 1,0	3,0	2,0	< 1,0
9-gen-17	< 1,0	14,9	8,8	< 0,5
15-gen-17	-	-	-	-
21-gen-17	< 1,0	9,6	2,6	< 0,5
27-gen-17	< 1,0	3,0	3,9	< 0,5
2-feb-17	< 1,0	2,5	5,4	< 0,5
8-feb-17	< 1,0	< 1,0	2,6	< 0,5
14-feb-17	< 1,0	2,6	1,8	< 0,5
20-feb-17	< 1,0	2,0	2,0	< 1,0
26-feb-17	< 1,0	2,0	1,0	< 1,0
4-mar-17	1,0	2,0	2,0	< 1,0
10-mar-17	< 1,0	3,0	5,0	< 1,0
16-mar-17	< 1,0	5,0	4,0	< 1,0
22-mar-17	< 1,0	2,0	4,0	< 1,0
28-mar-17	< 1,0	3,0	3,0	< 1,0
media (*)	1,0	4,0	3,4	0,8



(*) calcolata tenendo conto anche dei valori sotto il limite di quantificazione strumentale espresso in ng/m³ come da tabella

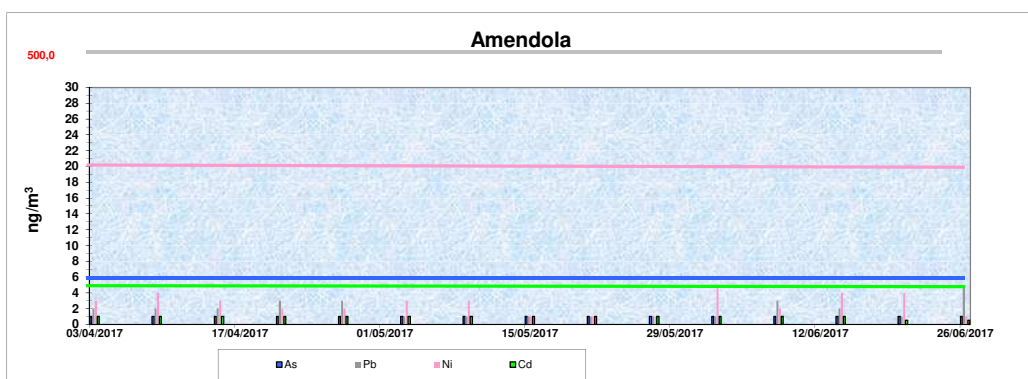
metodo	As	Pb	Ni	Cd
EPA 3051A + EPA 6010C	1,0	1,0	1,0	1,0
UNI EN 14902:2005	1,0	1,0	1,0	0,5

Metalli anno 2017

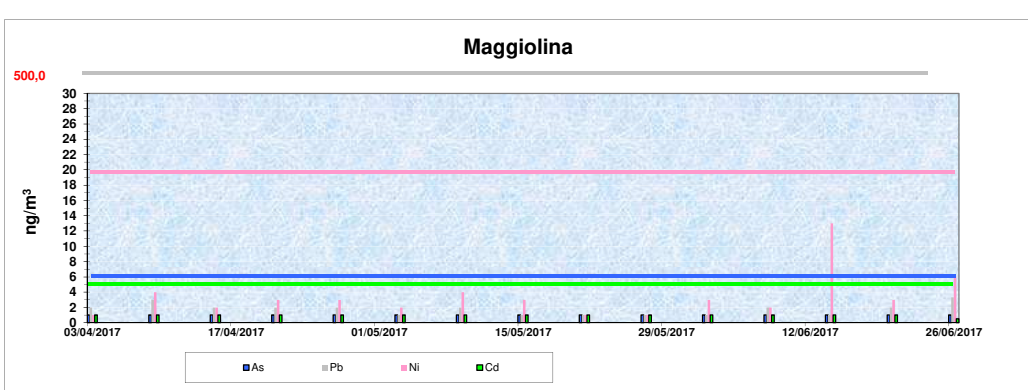
Valori obiettivo annuale per As, Ni, Cd e valore limite per il piombo ai sensi D.Lgs. 155/2010

Arsenico: 6 ng/m³ - Cadmio 5ng/m³ - Nichel 20 ng/m³ - Piombo 500 ng/m³

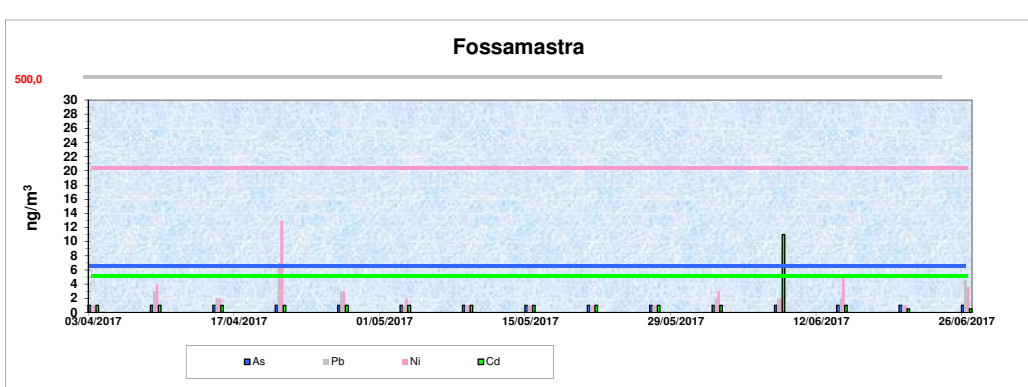
Amendola				
	As	Pb	Ni	Cd
3-apr-17	< 1,0	2,0	3,0	< 1,0
9-apr-17	< 1,0	2,0	4,0	< 1,0
15-apr-17	< 1,0	2,0	3,0	< 1,0
21-apr-17	< 1,0	3,0	2,0	< 1,0
27-apr-17	1,0	3,0	2,0	< 1,0
3-mag-17	1,0	1,0	3,0	< 1,0
9-mag-17	< 1,0	< 1,0	3,0	< 1,0
15-mag-17	< 1,0	< 1,0	1,0	< 1,0
21-mag-17	< 1,0	< 1,0	< 1,0	< 1,0
27-mag-17	< 1,0	< 1,0	< 1,0	1,0
2-giu-17	< 1,0	1,0	5,0	1,0
8-giu-17	< 1,0	3,0	2,0	< 1,0
14-giu-17	< 1,0	2,0	4,0	< 1,0
20-giu-17	< 1,0	< 1,0	3,9	< 0,5
26-giu-17	< 1,0	4,6	1,0	< 0,5
media (*)	1,0	1,9	2,6	0,9



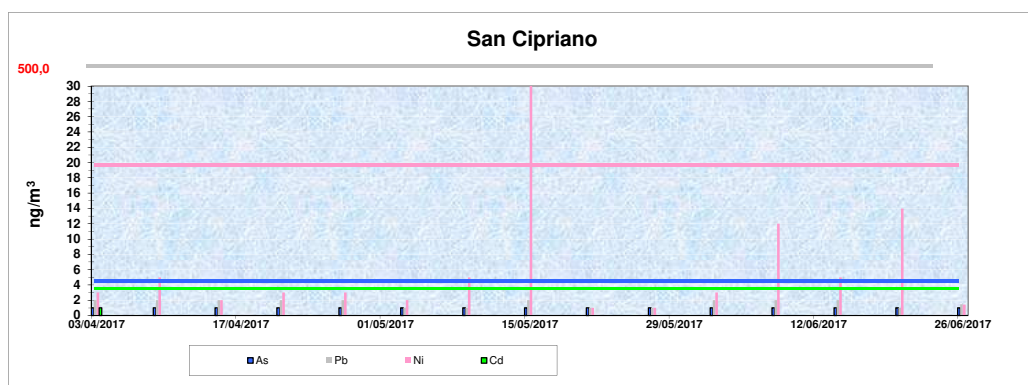
Maggiolina				
	As	Pb	Ni	Cd
3-apr-17	< 1,0	2,0	1,0	< 1,0
9-apr-17	< 1,0	3,0	4,0	< 1,0
15-apr-17	< 1,0	2,0	2,0	< 1,0
21-apr-17	< 1,0	2,0	3,0	< 1,0
27-apr-17	< 1,0	2,0	3,0	< 1,0
3-mag-17	< 1,0	1,0	2,0	< 1,0
9-mag-17	< 1,0	2,0	4,0	< 1,0
15-mag-17	< 1,0	1,0	3,0	< 1,0
21-mag-17	< 1,0	< 1,0	1,0	< 1,0
27-mag-17	< 1,0	< 1,0	1,0	< 1,0
2-giu-17	< 1,0	1,0	3,0	< 1,0
8-giu-17	< 1,0	2,0	2,0	< 1,0
14-giu-17	< 1,0	1,0	13,0	< 1,0
20-giu-17	< 1,0	2,0	3,0	< 1,0
26-giu-17	< 1,0	3,3	6,1	< 0,5
media (*)	1,0	1,8	3,4	1,0



Fossamastra				
	As	Pb	Ni	Cd
3-apr-17	< 1,0	< 1,0	< 1,0	< 1,0
9-apr-17	1,0	3,0	4,0	< 1,0
15-apr-17	< 1,0	2,0	2,0	< 1,0
21-apr-17	< 1,0	7,0	13,0	< 1,0
27-apr-17	< 1,0	3,0	3,0	< 1,0
3-mag-17	< 1,0	1,0	2,0	< 1,0
9-mag-17	< 1,0	1,0	< 1,0	< 1,0
15-mag-17	< 1,0	1,0	< 1,0	< 1,0
21-mag-17	< 1,0	1,0	< 1,0	< 1,0
27-mag-17	< 1,0	1,0	< 1,0	< 1,0
2-giu-17	< 1,0	2,0	3,0	< 1,0
8-giu-17	< 1,0	2,0	2,0	11,0
14-giu-17	< 1,0	2,0	5,0	< 1,0
20-giu-17	< 1,0	< 1,0	< 1,0	< 0,5
26-giu-17	< 1,0	4,7	3,7	< 0,5
media (*)	1,0	2,2	2,9	1,6



San Cipriano				
	As	Pb	Ni	Cd
3-apr-17	1,0	2,0	3,0	< 1,0
9-apr-17	1,0	2,0	5,0	< 1,0
15-apr-17	< 1,0	2,0	2,0	< 1,0
21-apr-17	< 1,0	2,0	3,0	< 1,0
27-apr-17	< 1,0	2,0	3,0	< 1,0
3-mag-17	1,0	1,0	2,0	< 1,0
9-mag-17	< 1,0	1,0	5,0	< 1,0
15-mag-17	< 1,0	2,0	46,0	< 1,0
21-mag-17	< 1,0	1,0	1,0	< 1,0
27-mag-17	< 1,0	1,0	< 1,0	< 1,0
2-giu-17	< 1,0	2,0	3,0	< 1,0
8-giu-17	< 1,0	2,0	12,0	< 1,0
14-giu-17	< 1,0	2,0	5,0	< 1,0
20-giu-17	< 1,0	1,0	14,0	< 1,0
26-giu-17	< 1,0	1,4	1,4	< 0,5
media (*)	1,0	1,6	7,1	1,0



(*) calcolata tenendo conto anche dei valori sotto il limite di rilevabilità strumentale espresso in ng/m³ come da tabella

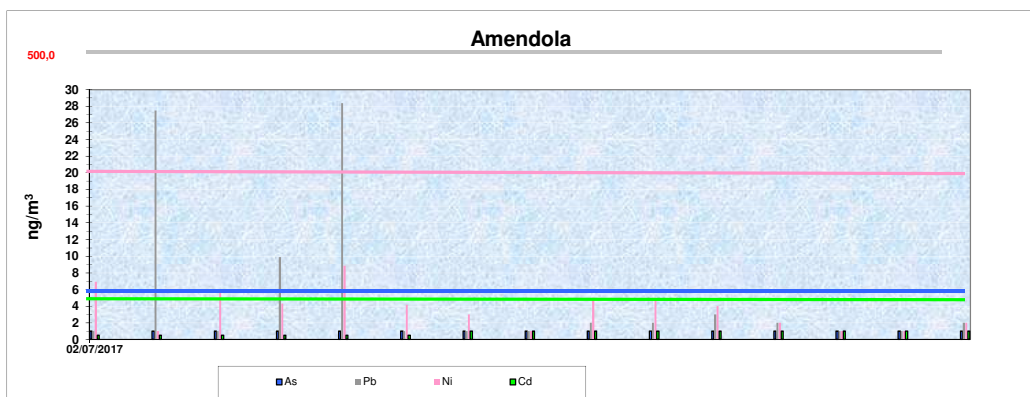
metodo	As	Pb	Ni	Cd
EPA 3051A + EPA 6010C	1,0	1,0	1,0	1,0
UNI EN 14902:2005	1,0	1,0	1,0	0,5

Metalli anno 2017

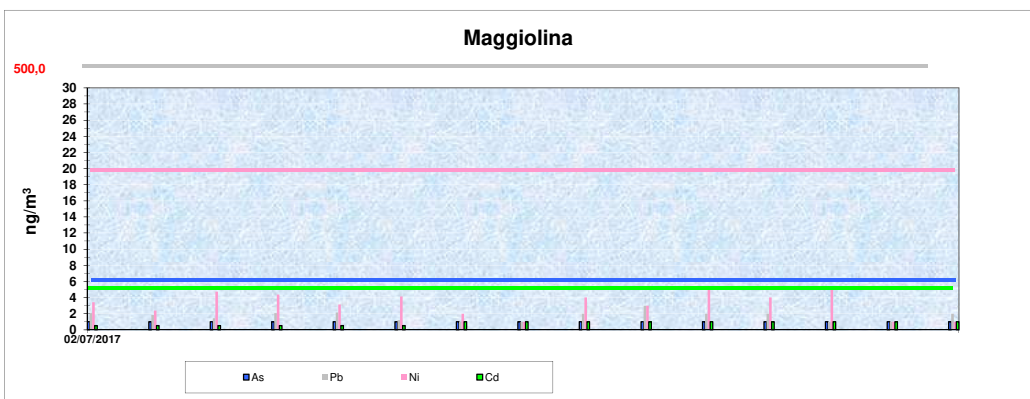
Valori obiettivo annuale per As, Ni, Cd e valore limite per il piombo ai sensi D.Lgs. 155/2010

Arsenico: 6 ng/m³ - Cadmio 5ng/m³ - Nichel 20 ng/m³ - Piombo 500 ng/m³

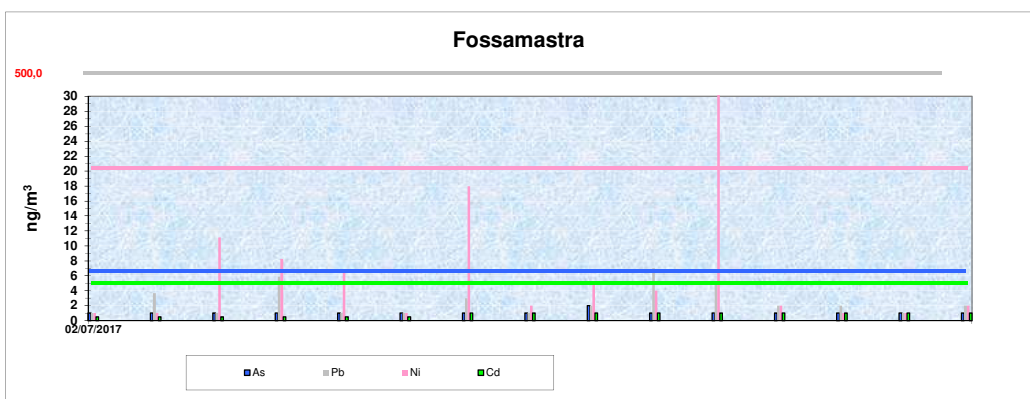
Amendola				
	As	Pb	Ni	Cd
2-lug-17	< 1,0	< 1,0	6,9	< 0,5
8-lug-17	< 1,0	27,5	< 1,0	< 0,5
14-lug-17	< 1,0	< 1,0	5,9	< 0,5
20-lug-17	< 1,0	9,9	4,3	< 0,5
26-lug-17	< 1,0	28,4	8,8	< 0,5
1-ago-17	< 1,0	< 1,0	4,2	< 0,5
7-ago-17	< 1,0	1,0	3,0	< 1,0
13-ago-17	< 1,0	1,0	1,0	< 1,0
19-ago-17	< 1,0	2,0	5,0	< 1,0
25-ago-17	< 1,0	2,0	5,0	< 1,0
31-ago-17	< 1,0	3,0	4,0	< 1,0
6-set-17	< 1,0	2,0	2,0	< 1,0
12-set-17	< 1,0	1,0	1,0	< 1,0
18-set-17	< 1,0	1,0	1,0	< 1,0
24-set-17	1,0	2,0	2,0	< 1,0
30-set-17	< 1,0	5,0	2,0	< 1,0
media (*)	1,0	5,6	3,7	0,8



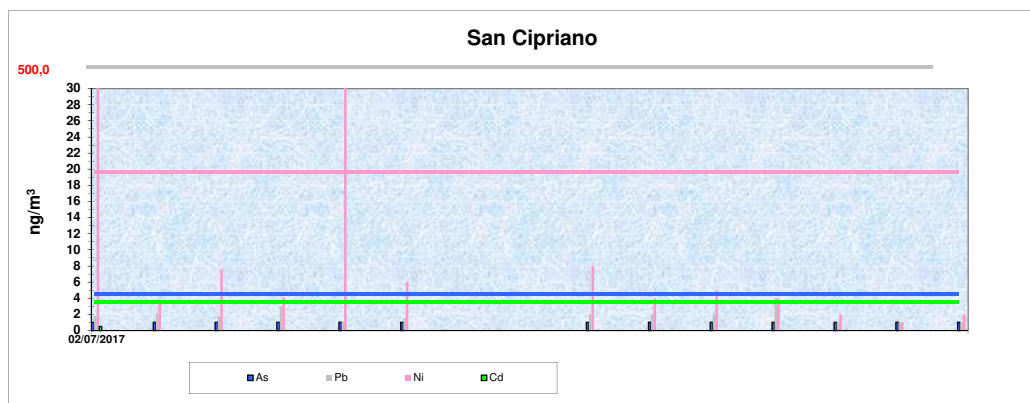
Maggiolina				
	As	Pb	Ni	Cd
2-lug-17	< 1,0	2,1	3,4	< 0,5
8-lug-17	< 1,0	1,8	2,4	< 0,5
14-lug-17	< 1,0	1,4	4,7	< 0,5
20-lug-17	< 1,0	2,1	4,4	< 0,5
26-lug-17	< 1,0	2,2	3,1	< 0,5
1-ago-17	< 1,0	1,2	4,1	< 0,5
7-ago-17	< 1,0	1,0	2,0	< 1,0
13-ago-17	< 1,0	< 1,0	1,0	< 1,0
19-ago-17	< 1,0	2,0	4,0	< 1,0
25-ago-17	< 1,0	3,0	3,0	< 1,0
31-ago-17	< 1,0	2,0	5,0	< 1,0
6-set-17	1,0	2,0	4,0	< 1,0
12-set-17	< 1,0	1,0	5,0	< 1,0
18-set-17	< 1,0	1,0	1,0	< 1,0
24-set-17	< 1,0	2,0	1,0	< 1,0
30-set-17	< 1,0	5,0	2,0	< 1,0
media (*)	1,0	1,7	3,2	0,8



Fossamastra				
	As	Pb	Ni	Cd
2-lug-17	< 1,0	< 1,0	< 1,0	< 0,5
8-lug-17	< 1,0	3,7	< 1,0	< 0,5
14-lug-17	< 1,0	< 1,0	11,1	< 0,5
20-lug-17	< 1,0	5,9	8,3	< 0,5
26-lug-17	< 1,0	< 1,0	6,7	< 0,5
1-ago-17	< 1,0	< 1,0	< 1,0	< 0,5
7-ago-17	< 1,0	3,0	18,0	< 1,0
13-ago-17	< 1,0	1,0	< 2,0	< 1,0
19-ago-17	2,0	2,0	5,0	< 1,0
25-ago-17	< 1,0	7,0	4,0	< 1,0
31-ago-17	< 1,0	5,0	60,0	< 1,0
6-set-17	< 1,0	2,0	2,0	< 1,0
12-set-17	< 1,0	2,0	1,0	< 1,0
18-set-17	< 1,0	1,0	1,0	< 1,0
24-set-17	< 1,0	2,0	2,0	< 1,0
30-set-17	1,0	5,0	2,0	< 1,0
media (*)	1,1	2,6	8,3	0,8



San Cipriano				
	As	Pb	Ni	Cd
2-lug-17	< 1,0	1,8	33,7	< 0,5
8-lug-17	< 1,0	2,1	3,8	< 0,5
14-lug-17	< 1,0	1,7	7,6	< 0,5
20-lug-17	< 1,0	2,9	4,1	< 0,5
26-lug-17	< 1,0	1,2	44,7	< 0,5
1-ago-17	< 1,0	1,5	6,1	< 0,5
7-ago-17	-	-	-	-
13-ago-17	-	-	-	-
19-ago-17	1,0	2,0	8,0	< 1,0
25-ago-17	< 1,0	2,0	4,0	< 1,0
31-ago-17	< 1,0	2,0	5,0	< 1,0
6-set-17	< 1,0	4,0	4,0	< 1,0
12-set-17	< 1,0	1,0	2,0	< 1,0
18-set-17	< 1,0	1,0	1,0	< 1,0
24-set-17	1,0	1,0	2,0	< 1,0
30-set-17	1,0	5,0	2,0	< 1,0
media (*)	1,0	1,9	9,7	0,8



(*) calcolata tenendo conto anche dei valori sotto il limite di rilevabilità strumentale espresso in ng/m³ come da tabella

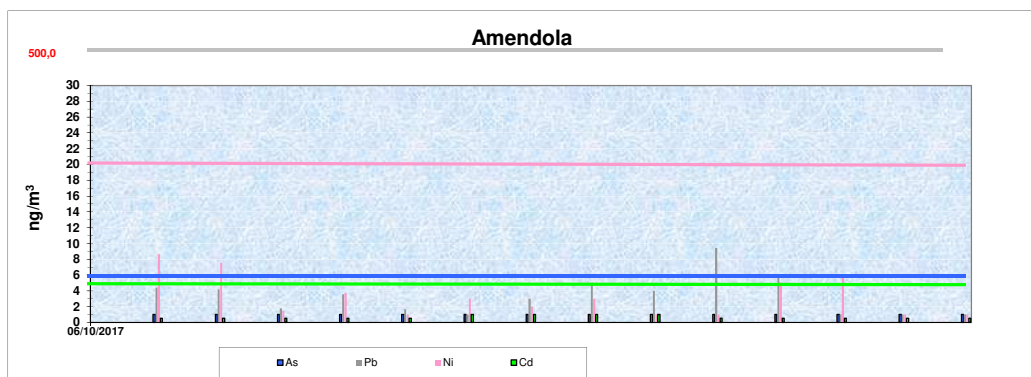
metodo	As	Pb	Ni	Cd
EPA 3051A + EPA 6010C	1,0	1,0	1,0	1,0
UNI EN 14902:2005	1,0	1,0	1,0	0,5

Metalli anno 2017

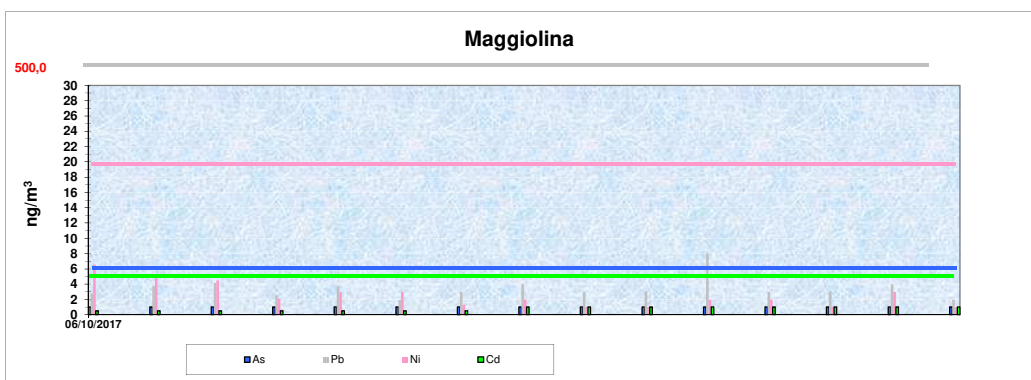
Valori obiettivo annuale per As, Ni, Cd e valore limite per il piombo ai sensi D.Lgs. 155/2010

Arsenico: 6 ng/m³ - Cadmio 5ng/m³ - Nichel 20 ng/m³ - Piombo 500 ng/m³

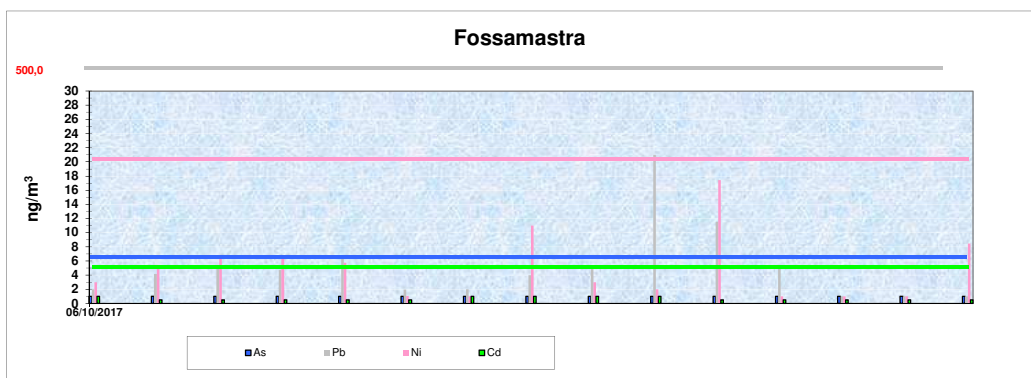
Amendola				
	As	Pb	Ni	Cd
6-ott-17	-	-	-	-
12-ott-17	< 1,0	4,4	8,6	< 0,5
18-ott-17	< 1,0	4,1	7,6	< 0,5
24-ott-17	< 1,0	1,8	1,5	< 0,5
30-ott-17	< 1,0	3,5	3,7	< 0,5
5-nov-17	< 1,0	1,7	< 1,0	< 0,5
11-nov-17	< 1,0	1,0	3,0	< 1,0
17-nov-17	< 1,0	3,0	2,0	< 1,0
23-nov-17	< 1,0	5,0	3,0	< 1,0
29-nov-17	< 1,0	4,0	1,0	< 1,0
5-dic-17	< 1,0	9,4	< 1,0	< 0,5
11-dic-17	< 1,0	5,9	5,0	< 0,5
17-dic-17	< 1,0	< 1,0	6,1	< 0,5
23-dic-17	< 1,0	< 1,0	< 1,0	< 0,5
29-dic-17	< 1,0	< 1,0	< 1,0	< 0,5
media (*)	1,0	3,4	3,2	0,6



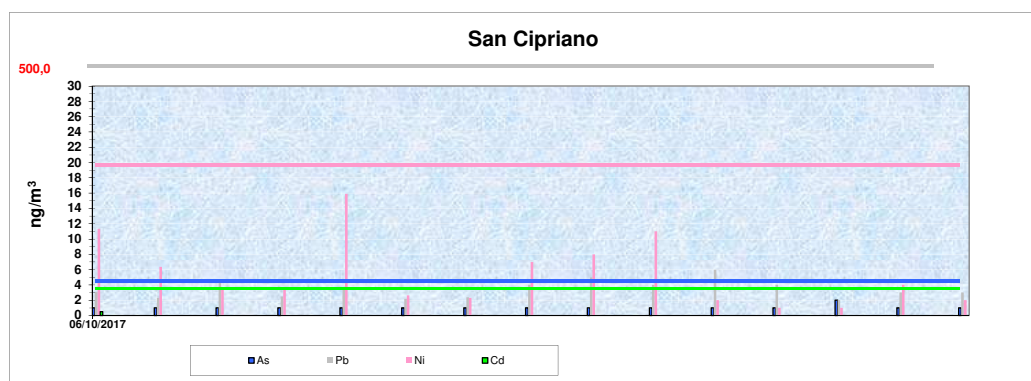
Maggiolina				
	As	Pb	Ni	Cd
6-ott-17	< 1,0	2,8	6,5	< 0,5
12-ott-17	< 1,0	3,8	5,1	< 0,5
18-ott-17	< 1,0	4,1	4,5	< 0,5
24-ott-17	< 1,0	2,5	2,1	< 0,5
30-ott-17	< 1,0	3,7	3,0	< 0,5
5-nov-17	< 1,0	1,9	3,0	< 0,5
11-nov-17	< 1,0	3,0	1,3	< 0,5
17-nov-17	< 1,0	4,0	2,0	< 1,0
23-nov-17	< 1,0	3,0	1,0	< 1,0
29-nov-17	< 1,0	3,0	1,0	< 1,0
5-dic-17	< 1,0	8,0	2,0	< 1,0
11-dic-17	< 1,0	3,0	2,0	< 1,0
17-dic-17	< 1,0	3,0	< 1,0	< 1,0
23-dic-17	< 1,0	4,0	3,0	< 1,0
29-dic-17	< 1,0	2,0	1,0	< 1,0
media (*)	1,0	3,5	2,6	0,8



Fossamastra				
	As	Pb	Ni	Cd
6-ott-17	< 1,0	2,0	3,0	< 1,0
12-ott-17	< 1,0	4,2	5,4	< 0,5
18-ott-17	< 1,0	5,3	6,3	< 0,5
24-ott-17	< 1,0	4,7	6,5	< 0,5
30-ott-17	< 1,0	6,5	5,8	< 0,5
5-nov-17	< 1,0	2,0	1,1	< 0,5
11-nov-17	< 1,0	2,0	1,0	< 1,0
17-nov-17	< 1,0	4,0	11,0	< 1,0
23-nov-17	< 1,0	5,0	3,0	< 1,0
29-nov-17	< 1,0	21,0	2,0	< 1,0
5-dic-17	< 1,0	11,6	17,4	< 0,5
11-dic-17	< 1,0	5,3	< 1,0	< 0,5
17-dic-17	< 1,0	< 1,0	< 1,0	< 0,5
23-dic-17	< 1,0	< 1,0	< 1,0	< 0,5
29-dic-17	< 1,0	< 1,0	8,5	< 0,5
media (*)	1,0	5,1	4,9	0,7



San Cipriano				
	As	Pb	Ni	Cd
6-ott-17	< 1,0	3,1	11,4	< 0,5
12-ott-17	< 1,0	2,3	6,4	< 0,5
18-ott-17	< 1,0	4,7	3,6	< 0,5
24-ott-17	< 1,0	2,4	3,7	< 0,5
30-ott-17	< 1,0	3,3	15,9	< 0,5
5-nov-17	< 1,0	2,2	2,7	< 0,5
11-nov-17	< 1,0	2,4	2,3	< 0,5
17-nov-17	< 1,0	4,0	7,0	< 1,0
23-nov-17	< 1,0	5,0	8,0	< 1,0
29-nov-17	< 1,0	4,0	11,0	< 1,0
5-dic-17	< 1,0	6,0	2,0	< 1,0
11-dic-17	< 1,0	4,0	1,0	< 1,0
17-dic-17	< 1,0	2,0	1,0	< 1,0
23-dic-17	< 1,0	3,0	4,0	< 1,0
29-dic-17	< 1,0	3,0	2,0	< 1,0
media (*)	1,1	3,4	5,5	0,8



(*) calcolata tenendo conto anche dei valori sotto il limite di rilevabilità strumentale espresso in ng/m³ come da tabella

metodo	As	Pb	Ni	Cd
EPA 3051A + EPA 6010C	1,0	1,0	1,0	1,0
UNI EN 14902:2005	1,0	1,0	1,0	0,5

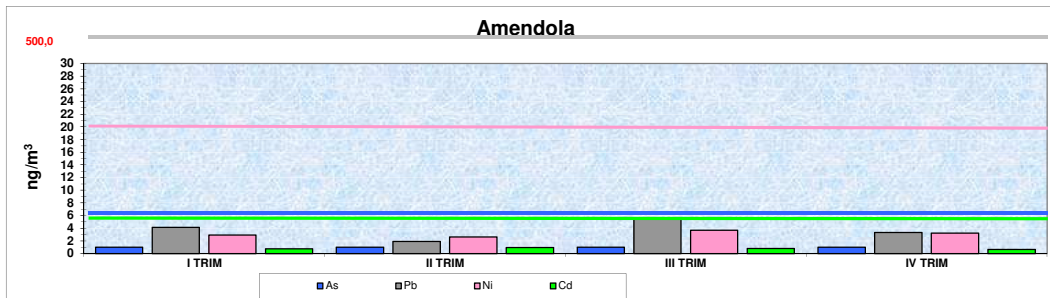
Metalli anno 2017

Valori obiettivo annuale per As, Ni, Cd e valore limite per il piombo ai sensi D.Lgs. 155/2010

Arsenico: 6 ng/m³ - Cadmio 5ng/m³ - Nickel 20 ng/m³ - Piombo 500 ng/m³

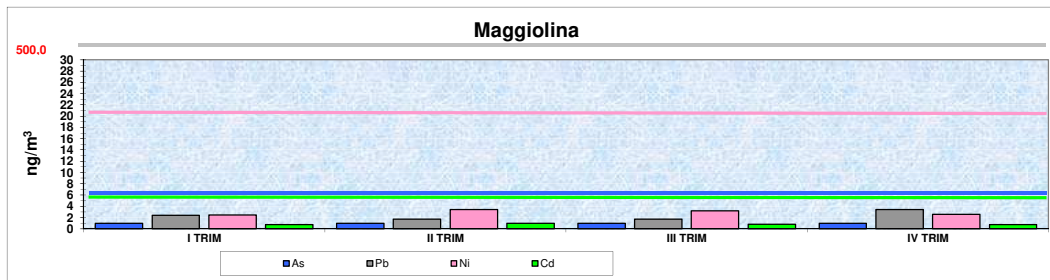
Amendola

	As	Pb	Ni	Cd
I TRIM	1,0	4,1	2,9	0,8
II TRIM	1,0	1,9	2,6	0,9
III TRIM	1,0	5,6	3,7	0,8
IV TRIM	1,0	3,4	3,2	0,6
media (*)	1,0	3,7	3,1	0,8



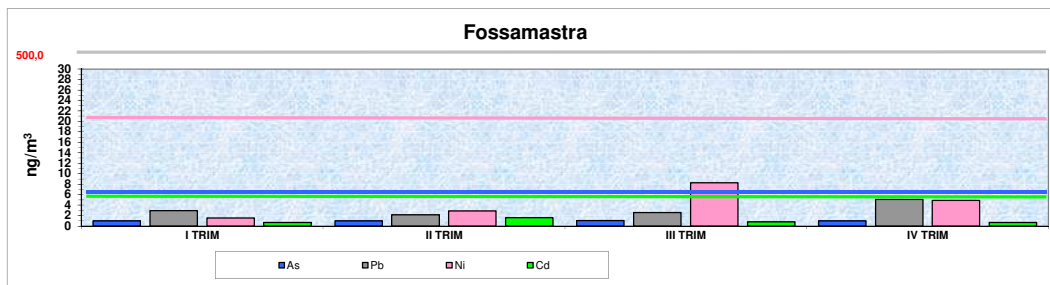
Maggiolina

	As	Pb	Ni	Cd
I TRIM	1,0	2,4	2,5	0,8
II TRIM	1,0	1,8	3,4	1,0
III TRIM	1,0	1,7	3,2	0,8
IV TRIM	1,0	3,5	2,6	0,8
media (*)	1,0	2,3	2,9	0,8



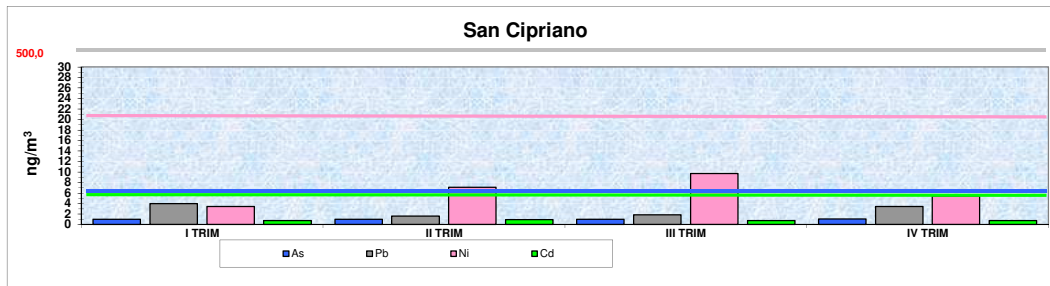
Fossamastra

	As	Pb	Ni	Cd
I TRIM	1,0	3,0	1,5	0,7
II TRIM	1,0	2,2	2,9	1,6
III TRIM	1,1	2,6	8,3	0,8
IV TRIM	1,0	5,1	4,9	0,7
media (*)	1,0	3,2	4,4	0,9



San Cipriano

	As	Pb	Ni	Cd
I TRIM	1,0	4,0	3,4	0,8
II TRIM	1,0	1,6	7,1	1,0
III TRIM	1,0	1,9	9,7	0,8
IV TRIM	1,1	3,4	5,5	0,8
media (*)	1,0	2,7	6,4	0,8



(*) calcolata tenendo conto anche dei valori sotto il limite di rilevabilità

metodo	As	Pb	Ni	Cd
EPA 3051A + EPA 6010C	1,0	1,0	1,0	1,0