

MONITORAGGIO QUALITA delle ACQUE

FREDDARA - anno 2019 -

- criterio 3.2.5 ASC Freshwater trout Standard (Appendix IIB) -

DATE	ANALYSIS	LOCATION	METHOD	SAMPLING BY THIRD PARTY?	ANALYSIS BY THIRD PARTY	RESULT
07/01/2019	pH	INLET	SINGLE GRAB	YES	YES	7,15
	SOS (mg/l)	INLET	SINGLE GRAB	YES	YES	3,00
	BOD (mg/l)	INLET	SINGLE GRAB	YES	YES	5,00
	COD (mg/l)	INLET	SINGLE GRAB	YES	YES	5,00
	N amm (mg/l)	INLET	SINGLE GRAB	YES	YES	0,10
	N nitroso (mg/l)	INLET	SINGLE GRAB	YES	YES	0,07
	N nitrico (mg/l)	INLET	SINGLE GRAB	YES	YES	1,90
	P tot (mg/l)	INLET	SINGLE GRAB	YES	YES	0,10
	pH	OUTLET	SINGLE GRAB	YES	YES	7,18
	SOS (mg/l)	OUTLET	SINGLE GRAB	YES	YES	11,00
	BOD (mg/l)	OUTLET	SINGLE GRAB	YES	YES	5,00
	COD (mg/l)	OUTLET	SINGLE GRAB	YES	YES	5,00
	N amm (mg/l)	OUTLET	SINGLE GRAB	YES	YES	0,10
	N nitroso (mg/l)	OUTLET	SINGLE GRAB	YES	YES	0,10
N nitrico (mg/l)	OUTLET	SINGLE GRAB	YES	YES	1,80	
P tot (mg/l)	OUTLET	SINGLE GRAB	YES	YES	0,10	

DATE	ANALYSIS	LOCATION	METHOD	SAMPLING BY THIRD PARTY?	ANALYSIS BY THIRD PARTY	RESULT
08/02/2019	pH	INLET	SINGLE GRAB	YES	YES	7,16
	SOS (mg/l)	INLET	SINGLE GRAB	YES	YES	5,00
	BOD (mg/l)	INLET	SINGLE GRAB	YES	YES	5,00
	COD (mg/l)	INLET	SINGLE GRAB	YES	YES	5,00
	N amm (mg/l)	INLET	SINGLE GRAB	YES	YES	0,10
	N nitroso (mg/l)	INLET	SINGLE GRAB	YES	YES	0,09
	N nitrico (mg/l)	INLET	SINGLE GRAB	YES	YES	1,70
	P tot (mg/l)	INLET	SINGLE GRAB	YES	YES	0,10
	pH	OUTLET	SINGLE GRAB	YES	YES	7,18
	SOS (mg/l)	OUTLET	SINGLE GRAB	YES	YES	12,00
	BOD (mg/l)	OUTLET	SINGLE GRAB	YES	YES	5,00
	COD (mg/l)	OUTLET	SINGLE GRAB	YES	YES	5,00
	N amm (mg/l)	OUTLET	SINGLE GRAB	YES	YES	0,10
	N nitroso (mg/l)	OUTLET	SINGLE GRAB	YES	YES	0,19
N nitrico (mg/l)	OUTLET	SINGLE GRAB	YES	YES	1,70	
P tot (mg/l)	OUTLET	SINGLE GRAB	YES	YES	0,10	

DATE	ANALYSIS	LOCATION	METHOD	SAMPLING BY THIRD PARTY?	ANALYSIS BY THIRD PARTY	RESULT
29/03/2019	pH	INLET	SINGLE GRAB	YES	YES	7,1
	SOS (mg/l)	INLET	SINGLE GRAB	YES	YES	9,00
	BOD (mg/l)	INLET	SINGLE GRAB	YES	YES	1,00
	COD (mg/l)	INLET	SINGLE GRAB	YES	YES	1,00
	N amm (mg/l)	INLET	SINGLE GRAB	YES	YES	0,10
	N nitroso (mg/l)	INLET	SINGLE GRAB	YES	YES	0,01
	N nitrico (mg/l)	INLET	SINGLE GRAB	YES	YES	0,50
	P tot (mg/l)	INLET	SINGLE GRAB	YES	YES	0,09
	pH	OUTLET	SINGLE GRAB	YES	YES	7,1
	SOS (mg/l)	OUTLET	SINGLE GRAB	YES	YES	12,00
	BOD (mg/l)	OUTLET	SINGLE GRAB	YES	YES	2,00
	COD (mg/l)	OUTLET	SINGLE GRAB	YES	YES	3,00
	N amm (mg/l)	OUTLET	SINGLE GRAB	YES	YES	0,10
	N nitroso (mg/l)	OUTLET	SINGLE GRAB	YES	YES	0,01
N nitrico (mg/l)	OUTLET	SINGLE GRAB	YES	YES	0,60	
P tot (mg/l)	OUTLET	SINGLE GRAB	YES	YES	0,14	

DATE	ANALYSIS	LOCATION	METHOD	SAMPLING BY THIRD PARTY?	ANALYSIS BY THIRD PARTY	RESULT
16/04/2019	pH	INLET	SINGLE GRAB	YES	YES	7,15
	SOS (mg/l)	INLET	SINGLE GRAB	YES	YES	4,00
	BOD (mg/l)	INLET	SINGLE GRAB	YES	YES	5,00
	COD (mg/l)	INLET	SINGLE GRAB	YES	YES	5,00
	N amm (mg/l)	INLET	SINGLE GRAB	YES	YES	0,10
	N nitroso (mg/l)	INLET	SINGLE GRAB	YES	YES	0,07
	N nitrico (mg/l)	INLET	SINGLE GRAB	YES	YES	1,50
	P tot (mg/l)	INLET	SINGLE GRAB	YES	YES	0,10
	pH	OUTLET	SINGLE GRAB	YES	YES	7,2
	SOS (mg/l)	OUTLET	SINGLE GRAB	YES	YES	14,00
	BOD (mg/l)	OUTLET	SINGLE GRAB	YES	YES	5,00
	COD (mg/l)	OUTLET	SINGLE GRAB	YES	YES	5,00
	N amm (mg/l)	OUTLET	SINGLE GRAB	YES	YES	0,10
	N nitroso (mg/l)	OUTLET	SINGLE GRAB	YES	YES	0,15
N nitrico (mg/l)	OUTLET	SINGLE GRAB	YES	YES	1,70	
P tot (mg/l)	OUTLET	SINGLE GRAB	YES	YES	0,10	

DATE	ANALYSIS	LOCATION	METHOD	SAMPLING BY THIRD PARTY?	ANALYSIS BY THIRD PARTY	RESULT
16/05/2019	pH	INLET	SINGLE GRAB	YES	YES	7,20
	SOS (mg/l)	INLET	SINGLE GRAB	YES	YES	3,00
	BOD (mg/l)	INLET	SINGLE GRAB	YES	YES	5,00
	COD (mg/l)	INLET	SINGLE GRAB	YES	YES	5,00
	N amm (mg/l)	INLET	SINGLE GRAB	YES	YES	0,10
	N nitroso (mg/l)	INLET	SINGLE GRAB	YES	YES	0,09
	N nitrico (mg/l)	INLET	SINGLE GRAB	YES	YES	1,40
	P tot (mg/l)	INLET	SINGLE GRAB	YES	YES	0,10
	pH	OUTLET	SINGLE GRAB	YES	YES	7,23
	SOS (mg/l)	OUTLET	SINGLE GRAB	YES	YES	16,00
	BOD (mg/l)	OUTLET	SINGLE GRAB	YES	YES	5,00
	COD (mg/l)	OUTLET	SINGLE GRAB	YES	YES	5,00
	N amm (mg/l)	OUTLET	SINGLE GRAB	YES	YES	0,10
	N nitroso (mg/l)	OUTLET	SINGLE GRAB	YES	YES	0,19
N nitrico (mg/l)	OUTLET	SINGLE GRAB	YES	YES	1,60	
P tot (mg/l)	OUTLET	SINGLE GRAB	YES	YES	0,10	

18/06/2019	pH	INLET	SINGLE GRAB	YES	YES	7,20
	SOS (mg/l)	INLET	SINGLE GRAB	YES	YES	6,00
	BOD (mg/l)	INLET	SINGLE GRAB	YES	YES	5,00
	COD (mg/l)	INLET	SINGLE GRAB	YES	YES	5,00
	N amm (mg/l)	INLET	SINGLE GRAB	YES	YES	0,10
	N nitroso (mg/l)	INLET	SINGLE GRAB	YES	YES	0,12
	N nitrico (mg/l)	INLET	SINGLE GRAB	YES	YES	1,60
	P tot (mg/l)	INLET	SINGLE GRAB	YES	YES	0,10
	pH	OUTLET	SINGLE GRAB	YES	YES	7,18
	SOS (mg/l)	OUTLET	SINGLE GRAB	YES	YES	12,00
	BOD (mg/l)	OUTLET	SINGLE GRAB	YES	YES	5,00
	COD (mg/l)	OUTLET	SINGLE GRAB	YES	YES	5,00
	N amm (mg/l)	OUTLET	SINGLE GRAB	YES	YES	0,10
	N nitroso (mg/l)	OUTLET	SINGLE GRAB	YES	YES	0,26
N nitrico (mg/l)	OUTLET	SINGLE GRAB	YES	YES	1,80	
P tot (mg/l)	OUTLET	SINGLE GRAB	YES	YES	0,10	

DATE	ANALYSIS	LOCATION	METHOD	SAMPLING BY THIRD PARTY?	ANALYSIS BY THIRD PARTY	RESULT
25/07/2019	pH	INLET	SINGLE GRAB	YES	YES	7,25
	SOS (mg/l)	INLET	SINGLE GRAB	YES	YES	8,00
	BOD (mg/l)	INLET	SINGLE GRAB	YES	YES	5,00
	COD (mg/l)	INLET	SINGLE GRAB	YES	YES	5,00
	N amm (mg/l)	INLET	SINGLE GRAB	YES	YES	0,10
	N nitroso (mg/l)	INLET	SINGLE GRAB	YES	YES	0,19
	N nitrico (mg/l)	INLET	SINGLE GRAB	YES	YES	1,50
	P tot (mg/l)	INLET	SINGLE GRAB	YES	YES	0,10
	pH	OUTLET	SINGLE GRAB	YES	YES	7,25
	SOS (mg/l)	OUTLET	SINGLE GRAB	YES	YES	15,00
	BOD (mg/l)	OUTLET	SINGLE GRAB	YES	YES	5,00
	COD (mg/l)	OUTLET	SINGLE GRAB	YES	YES	5,00
	N amm (mg/l)	OUTLET	SINGLE GRAB	YES	YES	0,10
	N nitroso (mg/l)	OUTLET	SINGLE GRAB	YES	YES	0,22
N nitrico (mg/l)	OUTLET	SINGLE GRAB	YES	YES	1,70	
P tot (mg/l)	OUTLET	SINGLE GRAB	YES	YES	0,10	

DATE	ANALYSIS	LOCATION	METHOD	SAMPLING BY THIRD PARTY?	ANALYSIS BY THIRD PARTY	RESULT
20/08/2019	pH	INLET	SINGLE GRAB	YES	YES	7,15
	SOS (mg/l)	INLET	SINGLE GRAB	YES	YES	8,00
	BOD (mg/l)	INLET	SINGLE GRAB	YES	YES	5,00
	COD (mg/l)	INLET	SINGLE GRAB	YES	YES	5,00
	N amm (mg/l)	INLET	SINGLE GRAB	YES	YES	0,10
	N nitroso (mg/l)	INLET	SINGLE GRAB	YES	YES	0,15
	N nitrico (mg/l)	INLET	SINGLE GRAB	YES	YES	1,60
	P tot (mg/l)	INLET	SINGLE GRAB	YES	YES	0,10
	pH	OUTLET	SINGLE GRAB	YES	YES	7,2
	SOS (mg/l)	OUTLET	SINGLE GRAB	YES	YES	15,00
	BOD (mg/l)	OUTLET	SINGLE GRAB	YES	YES	5,00
	COD (mg/l)	OUTLET	SINGLE GRAB	YES	YES	5,00
	N amm (mg/l)	OUTLET	SINGLE GRAB	YES	YES	0,10
	N nitroso (mg/l)	OUTLET	SINGLE GRAB	YES	YES	0,25
N nitrico (mg/l)	OUTLET	SINGLE GRAB	YES	YES	1,70	
P tot (mg/l)	OUTLET	SINGLE GRAB	YES	YES	0,10	

DATE	ANALYSIS	LOCATION	METHOD	SAMPLING BY THIRD PARTY?	ANALYSIS BY THIRD PARTY	RESULT
17/09/2019	pH	INLET	SINGLE GRAB	YES	YES	7,20
	SOS (mg/l)	INLET	SINGLE GRAB	YES	YES	6,00
	BOD (mg/l)	INLET	SINGLE GRAB	YES	YES	5,00
	COD (mg/l)	INLET	SINGLE GRAB	YES	YES	5,00
	N amm (mg/l)	INLET	SINGLE GRAB	YES	YES	0,10
	N nitroso (mg/l)	INLET	SINGLE GRAB	YES	YES	0,14
	N nitrico (mg/l)	INLET	SINGLE GRAB	YES	YES	1,40
	P tot (mg/l)	INLET	SINGLE GRAB	YES	YES	0,10
	pH	OUTLET	SINGLE GRAB	YES	YES	7,22
	SOS (mg/l)	OUTLET	SINGLE GRAB	YES	YES	11,00
	BOD (mg/l)	OUTLET	SINGLE GRAB	YES	YES	5,00
	COD (mg/l)	OUTLET	SINGLE GRAB	YES	YES	5,00
	N amm (mg/l)	OUTLET	SINGLE GRAB	YES	YES	0,10
	N nitroso (mg/l)	OUTLET	SINGLE GRAB	YES	YES	0,21
N nitrico (mg/l)	OUTLET	SINGLE GRAB	YES	YES	1,60	
P tot (mg/l)	OUTLET	SINGLE GRAB	YES	YES	0,10	

DATE	ANALYSIS	LOCATION	METHOD	SAMPLING BY THIRD PARTY?	ANALYSIS BY THIRD PARTY	RESULT
29/10/2019	pH	INLET	SINGLE GRAB	YES	YES	7,74
	SOS (mg/l)	INLET	SINGLE GRAB	YES	YES	5,00
	BOD (mg/l)	INLET	SINGLE GRAB	YES	YES	5,00
	COD (mg/l)	INLET	SINGLE GRAB	YES	YES	12,00
	N amm (mg/l)	INLET	SINGLE GRAB	YES	YES	0,0100
	N nitroso (mg/l)	INLET	SINGLE GRAB	YES	YES	0,0030
	N nitrico (mg/l)	INLET	SINGLE GRAB	YES	YES	0,6700
	P tot (mg/l)	INLET	SINGLE GRAB	YES	YES	0,6230
	pH	OUTLET	SINGLE GRAB	YES	YES	7,75
	SOS (mg/l)	OUTLET	SINGLE GRAB	YES	YES	5,00
	BOD (mg/l)	OUTLET	SINGLE GRAB	YES	YES	1,00
	COD (mg/l)	OUTLET	SINGLE GRAB	YES	YES	10,00
	N amm (mg/l)	OUTLET	SINGLE GRAB	YES	YES	0,0170
	N nitroso (mg/l)	OUTLET	SINGLE GRAB	YES	YES	0,0052
N nitrico (mg/l)	OUTLET	SINGLE GRAB	YES	YES	0,7000	
P tot (mg/l)	OUTLET	SINGLE GRAB	YES	YES	0,6510	

DATE	ANALYSIS	LOCATION	METHOD	SAMPLING BY THIRD PARTY?	ANALYSIS BY THIRD PARTY	RESULT
19/11/2019	pH	INLET	SINGLE GRAB	YES	YES	7,15
	SOS (mg/l)	INLET	SINGLE GRAB	YES	YES	3,00
	BOD (mg/l)	INLET	SINGLE GRAB	YES	YES	5,00
	COD (mg/l)	INLET	SINGLE GRAB	YES	YES	5,00
	N amm (mg/l)	INLET	SINGLE GRAB	YES	YES	0,10
	N nitroso (mg/l)	INLET	SINGLE GRAB	YES	YES	0,08
	N nitrico (mg/l)	INLET	SINGLE GRAB	YES	YES	1,50
	P tot (mg/l)	INLET	SINGLE GRAB	YES	YES	0,10
	pH	OUTLET	SINGLE GRAB	YES	YES	7,2
	SOS (mg/l)	OUTLET	SINGLE GRAB	YES	YES	9,00
	BOD (mg/l)	OUTLET	SINGLE GRAB	YES	YES	5,00
	COD (mg/l)	OUTLET	SINGLE GRAB	YES	YES	5,00
	N amm (mg/l)	OUTLET	SINGLE GRAB	YES	YES	0,10
	N nitroso (mg/l)	OUTLET	SINGLE GRAB	YES	YES	0,14
	N nitrico (mg/l)	OUTLET	SINGLE GRAB	YES	YES	1,70
	P tot (mg/l)	OUTLET	SINGLE GRAB	YES	YES	0,10

DATE	ANALYSIS	LOCATION	METHOD	SAMPLING BY THIRD PARTY?	ANALYSIS BY THIRD PARTY	RESULT
16/12/2019	pH	INLET	SINGLE GRAB	YES	YES	7,16
	SOS (mg/l)	INLET	SINGLE GRAB	YES	YES	3,00
	BOD (mg/l)	INLET	SINGLE GRAB	YES	YES	5,00
	COD (mg/l)	INLET	SINGLE GRAB	YES	YES	5,00
	N amm (mg/l)	INLET	SINGLE GRAB	YES	YES	0,10
	N nitroso (mg/l)	INLET	SINGLE GRAB	YES	YES	0,06
	N nitrico (mg/l)	INLET	SINGLE GRAB	YES	YES	1,40
	P tot (mg/l)	INLET	SINGLE GRAB	YES	YES	0,10
	pH	OUTLET	SINGLE GRAB	YES	YES	7,19
	SOS (mg/l)	OUTLET	SINGLE GRAB	YES	YES	8,00
	BOD (mg/l)	OUTLET	SINGLE GRAB	YES	YES	5,00
	COD (mg/l)	OUTLET	SINGLE GRAB	YES	YES	5,00
	N amm (mg/l)	OUTLET	SINGLE GRAB	YES	YES	0,10
	N nitroso (mg/l)	OUTLET	SINGLE GRAB	YES	YES	0,11
	N nitrico (mg/l)	OUTLET	SINGLE GRAB	YES	YES	1,50
	P tot (mg/l)	OUTLET	SINGLE GRAB	YES	YES	0,10

SATURAZIONE MINIMA di OSSIGENO DISCIOLTO

FREDDARA - anno 2019 -

- criterio 3.2.2 ASC Freshwater trout Standard (Appendix IIB) -

ACQUA IN USCITA VASCHE ALLEVAMENTO

MESE	DATA RILEVAZIONE	OSSIGENO DISCIOLTO [mg/l]	TEMPERATURA [°C]	PRESSIONE [mmHg]	VALORE SATURAZIONE DI O ₂ [mg/l]	SATURAZIONE PERCENTUALE [%]
GENNAIO	07/01/2019	10,5	7,8	715,28	11,25	93,33
FEBBRAIO	08/02/2019	10,5	8	715,28	11,19	93,80
MARZO	29/03/2019	9,9	12,1	715,28	10,18	97,24
APRILE	16/04/2019	10,2	10,9	715,28	10,46	97,48
MAGGIO	16/05/2019	9,6	12,3	715,28	10,134	94,73
GIUGNO	18/06/2019	9,9	12,9	715,28	9,996	99,04
LUGLIO	25/07/2019	9,9	13,5	715,28	9,87	100,32
AGOSTO	20/08/2019	9,8	13,5	715,28	9,87	99,31
SETTEMBRE	17/09/2019	9,9	13	715,28	9,97	99,30
OTTOBRE	29/10/2019	10	12	715,28	10,20	98,01
NOVEMBRE	19/11/2019	10,1	11,3	715,28	10,37	97,42
DICEMBRE	16/12/2019	10	9,7	715,28	10,76	92,97

La % di saturazione di OD (concentrazione di ossigeno disciolto; in inglese DO) è data dal rapporto, in % appunto, tra l'effettiva quantità di OD e il massimo valore possibile in funzione della temperatura e dell'altitudine.

Altitudine FREDDARA= 490m.

Pressione in funzione dell'altitudine: $p=0,9877^q$; dove P=pressione in atm - q=altitudine in centinaia di metri (nel caso di FREDDARA q=4,9), da cui $p=0,9411\text{atm}$ (715,28mm di Hg)