



CORRIDOIO PLURIMODALE TIRRENICO-NORD EUROPA ITINERARIO AGRIGENTO -CALTANISSETTA-A19

S.S. N° 640 "DI PORTO EMPEDOCLE"

AMMODERNAMENTO E ADEGUAMENTO ALLA CAT. B DEL D.M. 5.11.2001
Dal km 44+000 allo svincolo con l'A19

PROGETTO DEFINITIVO

GRUPPO DI PROGETTAZIONE

ATI:

TECHNITAL s.p.a. (mandataria)

S.I.S. Studio di Ingegneria Stradale s.r.l.

DELTA Ingegneria s.r.l.

INFRATEC s.r.l Consulting Engineering

PROGIN s.p.a.

I RESPONSABILI DI PROGETTO

Dott. Ing. M. Raccosta

Ordine Ing. Verona n° A1885

Prof. Ing. A. Bevilacqua

Ordine Ing. Palermo n° 4058

Dott. Ing. M. Carlino

Ordine Ing. Agrigento n° A828

Dott. Ing. N. Troccoli

Ordine Ing. Potenza n° 836

Dott. Ing. S. Esposito

Ordine Ing. Roma n° 20837

IL GEOLOGO

INTEGRAZIONI PRESTAZIONI SPECIALISTICHE

Dott. Ing. M. Raccosta

VISTO:IL RESPONSABILE
DEL PROCEDIMENTO

VISTO:IL RESPONSABILE DEL
SERVIZIO PROGETTAZIONE

DATA

PROTOCOLLO

Dott. Ing. Massimiliano Fidenzi

Dott. Ing. Antonio Valente

IDROLOGIA ED IDRAULICA - Parte generale

Vallone Arenella III - Viadotto Arenella III

Tabulato di confronto Ante e Post Operam

CODICE PROGETTO		NOME FILE	REVISIONE	FOGLIO	SCALA:
LO407B D 0501		ID01-IDR-TC08.pdf			
CODICE ELAB.		T01ID01IDR TC08	B	DI	
D					
C					
B	REVISIONE a seguito istruttoria ANAS 19/03/07	Aprile 2007	A. Mita	F. Arciuli	C. Marro
A	EMISSIONE	Ottobre 2006	A. Mita	F. Arciuli	C. Marro
REV.	DESCRIZIONE	DATA	VERIFICATO RESP. TECNICO	CONTROLLATO RESP. D'ITINERARIO	APPROVATO RESP. DI SETTORE

TABELLA DI CONFRONTO ANTE - POST OPERAM

HEC-RAS														Tempo di ritorno Tr = 50 anni			
River: Vallone Arenella III																	
River (Fiume)	River Station (Sezione)	Q Total (Portata) [m ³ /s]	Min Ch El (Q.ta fondo) [m.s.m.]	W.S. Elev. (Peto libero) [m.s.m.]	Crit. W.S. (Alt. critica) [m.s.m.]	Mann Wid (Scabrezza) [m ^{1/3} s ⁻¹]	W.S. (Trante) [m]	Vel Chnl (Velocità) [m/s]	Flow Area (Area sez. liquida) [m ²]	Top Width (Largh. Superf.) [m]	Froude # Chl (n° Froude) [m]	Shear Total (Tens. Trascinam.) [N/m ²]	W.P. Total (Cont. Bagn.) [m]	E.G. Slope (Pend. Energia) [m/m]	R Idr. (R Idraulico) [m]		
Vallone Arenella III	64 A.O.	174.13	302.00	304.60	304.15	0.035	2.60	2.66	81.49	55.82	0.59	47.45	56.55	0.003358	1.441		
Vallone Arenella III	64 P.O.	174.13	302.00	304.56	304.25	0.035	2.56	2.96	73.07	52.42	0.66	66.47	57.26	0.005312	1.276		
Variazioni % = (PO - AO)/AO							-1.54	11.28		-6.09		40.08					
Vallone Arenella III	65 A.O.	174.13	302.73	304.69	304.69	0.035	1.96	3.64	55.60	48.62	0.97	111.20	48.82	0.009956	1.139		
Vallone Arenella III	65 P.O.	174.13	302.73	304.76	304.76	0.035	2.03	3.71	55.12	46.56	0.95	118.69	49.45	0.010857	1.115		
Variazioni % = (PO - AO)/AO							3.57	1.92		-4.24		6.74					
Vallone Arenella III	66 A.O.	174.13	302.79	305.28		0.035	2.49	1.91	117.90	72.19	0.42	26.01	72.55	0.001632	1.625		
Vallone Arenella III	66 P.O.	174.13	302.79	305.35		0.035	2.56	1.96	114.03	66.85	0.42	25.01	73.35	0.00164	1.555		
Variazioni % = (PO - AO)/AO							2.81	2.62		-7.40		-3.84					
Vallone Arenella III	67 A.O.	174.13	302.81	305.27		0.035	2.46	2.31	96.27	66.62	0.52	36.21	66.83	0.002564	1.441		
Vallone Arenella III	67 P.O.	174.13	302.81	305.36		0.035	2.55	2.32	95.98	65.22	0.51	40.25	69.67	0.002979	1.378		
Variazioni % = (PO - AO)/AO							3.66	0.43		-2.10		11.16					
Vallone Arenella III	68 A.O.	174.13	302.73	305.19	305.03	0.035	2.46	3.37	61.13	48.12	0.88	101.74	48.50	0.008231	1.260		
Vallone Arenella III	68 P.O.	174.13	302.73	305.31	305.06	0.035	2.58	3.28	63.60	47.27	0.81	93.89	49.82	0.0075	1.277		
Variazioni % = (PO - AO)/AO							4.88	-2.67		-1.77		-7.72					
Vallone Arenella III	69 A.O.	174.13	302.88	304.68	305.15	0.035	1.80	5.77	35.45	35.80	1.73	338.07	36.11	0.035117	0.982		
Vallone Arenella III	69 P.O.	174.13	302.88	304.68	305.15	0.035	1.80	5.77	35.46	35.80	1.73	337.90	36.11	0.035094	0.982		
Variazioni % = (PO - AO)/AO							0.00	0.00		0.00		-0.05					
Vallone Arenella III	70 A.O.	174.13	302.83	305.90	305.90	0.035	3.07	3.96	44.08	28.33	1.00	158.03	29.11	0.010643	1.514		
Vallone Arenella III	70 P.O.	174.13	302.83	305.90	305.90	0.035	3.07	3.96	44.04	28.31	1.00	158.35	29.10	0.010669	1.513		
Variazioni % = (PO - AO)/AO							0.00	0.00		-0.07		0.20					
Vallone Arenella III	71 A.O.	174.13	304.06	305.51	306.27	0.035	1.45	7.75	24.05	32.68	2.67	648.88	32.81	0.090281	0.733		
Vallone Arenella III	71 P.O.	174.13	304.06	305.51	306.27	0.035	1.45	7.76	24.04	32.67	2.67	649.19	32.81	0.090334	0.733		
Variazioni % = (PO - AO)/AO							0.00	0.13		-0.03		0.05					
Vallone Arenella III	72 A.O.	174.13	304.31	307.83	308.53	0.035	3.52	6.91	25.21	9.32	1.34	463.63	13.33	0.025005	1.891		
Vallone Arenella III	72 P.O.	174.13	304.31	307.84	308.53	0.035	3.53	6.88	25.30	9.33	1.33	460.05	13.35	0.024766	1.895		
Variazioni % = (PO - AO)/AO							0.28	-0.43		0.11		-0.77					
Vallone Arenella III	73 A.O.	174.13	304.36	310.40	308.64	0.035	6.04	2.10	124.85	283.72	0.46	22.99	136.18	0.002558	0.917		
Vallone Arenella III	73 P.O.	174.13	304.36	310.40	308.64	0.035	6.04	2.12	123.91	283.42	0.46	23.25	136.09	0.002604	0.911		
Variazioni % = (PO - AO)/AO							0.00	0.95		-0.11		1.13					
Vallone Arenella III	74 A.O.	174.13	304.46	310.57	308.13	0.035	6.11	0.81	367.16	336.95	0.13	2.64	176.74	0.00013	2.077		
Vallone Arenella III	74 P.O.	174.13	304.46	310.56	308.13	0.035	6.10	0.82	355.94	330.75	0.13	2.60	177.59	0.000132	2.004		
Variazioni % = (PO - AO)/AO							-0.16	1.23		-1.84		-1.52					
Vallone Arenella III	75 A.O.	174.13	303.58	310.57	307.48	0.035	6.99	0.91	308.83	282.71	0.14	3.52	142.32	0.000166	2.170		
Vallone Arenella III	75 P.O.	174.13	303.58	310.56	307.48	0.035	6.98	0.92	300.93	276.44	0.13	3.86	141.26	0.000185	2.130		
Variazioni % = (PO - AO)/AO							-0.14	1.10		-2.22		9.66					
Vallone Arenella III	76 A.O.	174.13	304.15	310.57	307.60	0.035	6.42	0.92	291.44	244.68	0.15	4.06	126.61	0.00018	2.302		
Vallone Arenella III	76 P.O.	174.13	304.15	310.56	307.74	0.035	6.41	0.89	271.90	238.40	0.14	5.52	133.04	0.000275	2.044		
Variazioni % = (PO - AO)/AO							-0.16	-3.26		-2.57		35.96					
Vallone Arenella III	77 A.O.	174.13	304.49	310.57	307.55	0.035	6.08	0.84	317.17	198.79	0.13	3.06	131.53	0.000129	2.411		
Vallone Arenella III	77 P.O.	174.13	304.49	310.57	307.55	0.035	6.08	0.86	307.61	194.85	0.13	3.08	134.25	0.000137	2.291		
Variazioni % = (PO - AO)/AO							0.00	2.38		-1.98		0.65					
Vallone Arenella III	78 A.O.	174.13	304.72	310.58	307.59	0.035	5.86	0.75	379.35	205.08	0.11	2.20	167.80	0.000099	2.261		
Vallone Arenella III	78 P.O.	174.13	304.72	310.58	307.70	0.035	5.86	0.72	364.00	201.66	0.11	2.88	174.59	0.000141	2.085		
Variazioni % = (PO - AO)/AO							0.00	-4.00		-1.67		30.91					
Vallone Arenella III	79 A.O.	174.13	304.74	310.57	307.88	0.035	5.83	0.95	260.99	152.07	0.15	3.63	124.71	0.000177	2.093		
Vallone Arenella III	79 P.O.	174.13	304.74	310.57	307.93	0.035	5.83	0.97	250.21	148.81	0.15	4.55	128.66	0.000239	1.945		
Variazioni % = (PO - AO)/AO							0.00	2.11		-2.14		25.34					
Vallone Arenella III	80 A.O.	174.13	305.09	310.58		0.035	5.49	0.95	246.84	88.94	0.15	4.16	97.53	0.000168	2.531		
Vallone Arenella III	80 P.O.	174.13	305.09	310.58		0.035	5.49	0.96	234.17	85.93	0.15	5.43	102.94	0.000243	2.275		
Variazioni % = (PO - AO)/AO							0.00	1.05		-3.38		30.53					
Vallone Arenella III	81 A.O.	174.13	306.00	310.58		0.035	4.58	0.96	253.20	104.05	0.15	4.36	106.09	0.000186	2.387		
Vallone Arenella III	81 P.O.	174.13	306.00	310.58		0.035	4.58	0.97	239.77	101.12	0.16	5.83	112.25	0.000278	2.136		
Variazioni % = (PO - AO)/AO							0.00	1.04		-2.82		33.72					
Vallone Arenella III	82 A.O.	174.13	306.00	310.59		0.035	4.59	0.92	262.72	117.06	0.15	4.77	126.84	0.000235	2.071		
Vallone Arenella III	82 P.O.	174.13	306.00	310.59		0.035	4.59	0.93	260.24	114.08	0.15	4.69	125.55	0.000231	2.073		
Variazioni % = (PO - AO)/AO							0.00	1.09		-2.55		-1.68					
Vallone Arenella III	83 A.O.	174.13	306.00	310.59		0.035	4.59	0.95	277.82	121.47	0.15	4.08	127.45	0.000191	2.180		
Vallone Arenella III	83 P.O.	174.13	306.00	310.59		0.035	4.59	0.93	279.11	121.64	0.15	4.45	127.09	0.000207	2.196		
Variazioni % = (PO - AO)/AO							0.00	-2.11		0.14		9.07					
Vallone Arenella III	84 A.O.	174.13	305.69	310.59		0.035	4.90	1.02	254.50	117.38	0.17	4.80	118.31	0.000227	2.151		
Vallone Arenella III	84 P.O.	174.13	305.69	310.59		0.035	4.90	1.02	250.43	114.48	0.17	4.68	118.29	0.000225	2.117		
Variazioni % = (PO - AO)/AO							0.00	0.00		-2.47		-2.50					
Vallone Arenella III	85 A.O.	174.13	305.83	310.60		0.035	4.77	1.12	211.28	101.23	0.21	7.51	102.52	0.000372	2.061		
Vallone Arenella III	85 P.O.	174.13	305.83	310.60		0.035	4.77	1.12	211.52	101.27	0.21	7.49	102.57	0.00037	2.062		
Variazioni % = (PO - AO)/AO							0.00	0.00		0.04		-0.27					

TABELLA DI CONFRONTO ANTE - POST OPERAM

HEC-RAS																
Tempo di ritorno Tr = 100 anni																
River	River Station	Q Total	Min Ch El	W.S. Elev.	Crit. W.S.	Mann Wtd	W.S.	Vel Chnl	Flow Area	Top Width	Froude # Chl	Shear Total	W.P. Total	E.G. Slope	R Idr.	
(Fiume)	(Sezione)	(Portata)	(Qia fondo)	(Pelo libero)	(Alt.critica)	(Scabrezza)	(Tirante)	(Velocità)	(Area sec. liquida)	(Largh. Superf.)	(n° Froude)	(Tens. Trascinam.)	(Cont. Bagn.)	(Pend. Energia)	(R Idraulico)	
		[m ³ /s]	[m.s.m.]	[m.s.m.]	[m.s.m.]	[m ^{1/3} .s ⁻¹]	[m]	[m/s]	[m ²]	[m]		[N/m ²]	[m]	[m/m]	[m]	
Vallone Arenella III	64 A.O.	202.97	302.00	304.72	304.28	0.035	2.72	2.90	87.83	56.97	0.63	55.44	57.73	0.003716	1.521	
Vallone Arenella III	64 P.O.	202.97	302.00	304.65	304.39	0.035	2.65	3.25	77.82	53.34	0.71	79.87	58.39	0.006111	1.333	
Variazioni %=(PO-AO)/AO							-2.57	12.07		-6.37		44.07				
Vallone Arenella III	65 A.O.	202.97	302.73	304.83	304.83	0.035	2.10	3.82	62.58	50.44	0.97	116.98	50.65	0.009655	1.236	
Vallone Arenella III	65 P.O.	202.97	302.73	304.90	304.90	0.035	2.17	3.88	62.01	48.42	0.96	126.01	51.63	0.010698	1.201	
Variazioni %=(PO-AO)/AO							3.33	1.57		-4.00		7.72				
Vallone Arenella III	66 A.O.	202.97	302.79	305.46		0.035	2.67	2.02	131.17	73.84	0.42	28.17	74.25	0.001626	1.767	
Vallone Arenella III	66 P.O.	202.97	302.79	305.53		0.035	2.74	2.08	126.34	68.51	0.43	27.24	75.78	0.001666	1.667	
Variazioni %=(PO-AO)/AO							2.62	2.97		-7.22		-3.30				
Vallone Arenella III	67 A.O.	202.97	302.81	305.45		0.035	2.64	2.43	108.39	69.89	0.52	38.34	70.12	0.002529	1.546	
Vallone Arenella III	67 P.O.	202.97	302.81	305.55		0.035	2.74	2.41	108.21	66.66	0.51	43.34	71.67	0.002927	1.510	
Variazioni %=(PO-AO)/AO							3.79	-0.82		-4.62		13.04				
Vallone Arenella III	68 A.O.	202.97	302.73	305.35	305.17	0.035	2.62	3.52	69.08	51.09	0.87	103.33	51.48	0.007852	1.342	
Vallone Arenella III	68 P.O.	202.97	302.73	305.48	305.22	0.035	2.75	3.43	71.72	50.39	0.80	97.23	53.29	0.007367	1.346	
Variazioni %=(PO-AO)/AO							4.96	-2.56		-1.37		-5.90				
Vallone Arenella III	69 A.O.	202.97	302.88	304.79	305.26	0.035	1.91	6.06	39.30	37.31	1.77	371.42	37.64	0.036271	1.044	
Vallone Arenella III	69 P.O.	202.97	302.88	304.79	305.26	0.035	1.91	6.06	39.31	37.31	1.77	371.31	37.64	0.036257	1.044	
Variazioni %=(PO-AO)/AO							0.00	0.00		0.00		-0.03				
Vallone Arenella III	70 A.O.	202.97	302.83	306.11	306.11	0.035	3.28	4.07	50.12	30.76	1.00	160.30	31.59	0.010301	1.587	
Vallone Arenella III	70 P.O.	202.97	302.83	306.10	306.10	0.035	3.27	4.08	50.09	30.75	1.00	160.54	31.57	0.010318	1.587	
Variazioni %=(PO-AO)/AO							-0.30	0.25		-0.03		0.15				
Vallone Arenella III	71 A.O.	202.97	304.06	305.56	306.41	0.035	1.50	8.51	25.65	33.71	2.87	770.67	33.85	0.103727	0.758	
Vallone Arenella III	71 P.O.	202.97	304.06	305.56	306.41	0.035	1.50	8.53	25.61	33.69	2.88	772.80	33.83	0.104084	0.757	
Variazioni %=(PO-AO)/AO							0.00	0.24		-0.06		0.28				
Vallone Arenella III	72 A.O.	202.97	304.31	308.89	309.46	0.035	4.58	5.59	39.45	51.57	0.97	158.91	31.42	0.012906	1.256	
Vallone Arenella III	72 P.O.	202.97	304.31	308.91	309.46	0.035	4.60	5.53	40.12	53.01	0.96	153.81	32.22	0.012593	1.245	
Variazioni %=(PO-AO)/AO							0.44	-1.07		2.79		-3.21				
Vallone Arenella III	73 A.O.	202.97	304.36	310.48	309.67	0.035	6.12	2.30	134.09	286.66	0.49	28.01	137.09	0.002921	0.978	
Vallone Arenella III	73 P.O.	202.97	304.36	310.47	309.67	0.035	6.11	2.32	132.74	286.21	0.50	28.46	136.96	0.002994	0.969	
Variazioni %=(PO-AO)/AO							-0.16	0.87		-0.16		1.61				
Vallone Arenella III	74 A.O.	202.97	304.46	310.66	308.20	0.035	6.20	0.90	384.20	340.14	0.14	3.29	178.74	0.000156	2.149	
Vallone Arenella III	74 P.O.	202.97	304.46	310.66	308.20	0.035	6.20	0.91	372.11	333.94	0.14	3.24	179.99	0.00016	2.067	
Variazioni %=(PO-AO)/AO							0.00	1.11		-1.82		-1.52				
Vallone Arenella III	75 A.O.	202.97	303.58	310.66	307.72	0.035	7.08	1.02	322.25	299.24	0.15	4.43	142.99	0.000201	2.254	
Vallone Arenella III	75 P.O.	202.97	303.58	310.66	307.72	0.035	7.08	1.02	313.59	290.22	0.15	4.88	142.31	0.000226	2.204	
Variazioni %=(PO-AO)/AO							0.00	0.00		-3.01		10.16				
Vallone Arenella III	76 A.O.	202.97	304.15	310.66	307.78	0.035	6.51	1.03	303.41	256.38	0.16	5.10	127.21	0.000218	2.385	
Vallone Arenella III	76 P.O.	202.97	304.15	310.66	307.91	0.035	6.51	0.99	283.16	249.90	0.16	6.90	134.02	0.000333	2.113	
Variazioni %=(PO-AO)/AO							0.00	-3.88		-2.53		35.29				
Vallone Arenella III	77 A.O.	202.97	304.49	310.67	307.70	0.035	6.18	0.94	329.86	220.39	0.14	3.85	133.27	0.000159	2.475	
Vallone Arenella III	77 P.O.	202.97	304.49	310.66	307.69	0.035	6.17	0.97	319.76	215.77	0.15	3.88	136.15	0.000168	2.349	
Variazioni %=(PO-AO)/AO							-0.16	3.19		-2.10		0.78				
Vallone Arenella III	78 A.O.	202.97	304.72	310.68	307.72	0.035	5.96	0.84	395.48	221.10	0.13	2.76	170.60	0.000121	2.318	
Vallone Arenella III	78 P.O.	202.97	304.72	310.68	307.85	0.035	5.96	0.80	379.75	217.90	0.12	3.60	177.58	0.000172	2.138	
Variazioni %=(PO-AO)/AO							0.00	-4.76		-1.45		30.43				
Vallone Arenella III	79 A.O.	202.97	304.74	310.67	308.07	0.035	5.93	1.07	272.91	165.58	0.16	4.59	126.91	0.000218	2.150	
Vallone Arenella III	79 P.O.	202.97	304.74	310.67	308.11	0.035	5.93	1.09	261.75	162.30	0.17	5.78	131.04	0.000295	1.997	
Variazioni %=(PO-AO)/AO							0.00	1.87		-1.98		25.93				
Vallone Arenella III	80 A.O.	202.97	305.09	310.67		0.035	5.58	1.07	255.63	91.22	0.16	5.24	100.04	0.000209	2.555	
Vallone Arenella III	80 P.O.	202.97	305.09	310.67		0.035	5.58	1.09	242.63	88.20	0.17	6.85	105.63	0.000304	2.297	
Variazioni %=(PO-AO)/AO							0.00	1.87		-3.31		30.73				
Vallone Arenella III	81 A.O.	202.97	306.00	310.68		0.035	4.68	1.09	263.71	108.11	0.17	5.41	110.26	0.000231	2.392	
Vallone Arenella III	81 P.O.	202.97	306.00	310.68		0.035	4.68	1.10	250.02	105.19	0.17	7.26	116.63	0.000345	2.144	
Variazioni %=(PO-AO)/AO							0.00	0.92		-2.70		34.20				
Vallone Arenella III	82 A.O.	202.97	306.00	310.69		0.035	4.69	1.03	274.77	120.42	0.16	5.97	130.42	0.000289	2.107	
Vallone Arenella III	82 P.O.	202.97	306.00	310.69		0.035	4.69	1.04	271.95	117.44	0.17	5.87	129.33	0.000284	2.103	
Variazioni %=(PO-AO)/AO							0.00	0.97		-2.47		-1.68				
Vallone Arenella III	83 A.O.	202.97	306.00	310.69		0.035	4.69	1.07	290.38	125.69	0.17	5.05	131.88	0.000234	2.202	
Vallone Arenella III	83 P.O.	202.97	306.00	310.70		0.035	4.70	1.04	291.79	125.89	0.16	5.54	131.54	0.000255	2.218	
Variazioni %=(PO-AO)/AO							0.21	-2.80		0.16		9.70				
Vallone Arenella III	84 A.O.	202.97	305.69	310.69		0.035	5.00	1.15	266.60	121.49	0.19	5.92	122.42	0.000277	2.178	
Vallone Arenella III	84 P.O.	202.97	305.69	310.69		0.035	5.00	1.14	262.27	118.61	0.19	5.76	122.63	0.000275	2.139	
Variazioni %=(PO-AO)/AO							0.00	-0.87		-2.37		-2.70				
Vallone Arenella III	85 A.O.	202.97	305.83	310.70		0.035	4.87	1.25	221.86	102.95	0.23	9.22	104.26	0.000442	2.128	
Vallone Arenella III	85 P.O.	202.97	305.83	310.70		0.035	4.87	1.25	222.13	102.99	0.23	9.22	104.30	0.00044	2.130	
Variazioni %=(PO-AO)/AO							0.00	0.00		0.04		-0.22				

TABELLA DI CONFRONTO ANTE - POST OPERAM

Tempo di ritorno Tr = 300 anni															
HEC-RAS		River: Vallone Arenella III													
River (Fiume)	River Station (Sezione)	Q Total (Portata) [m ³ /s]	Min Ch El (Qua fondo) [m.s.m.]	W.S. Elev. (Pelo libero) [m.s.m.]	Crit. W.S. (Alt.critica) [m.s.m.]	Mann Wtd (Scabrezza) [m ^{1/3} s ⁻¹]	W.S. (Tirante) [m]	Vel Chnl (Velocità) [m/s]	Flow Area (Area sec. liquida) [m ²]	Top Width (Largh. Superf.) [m]	Froude # Chl (n° Froude)	Shear Total (Tens. Trascinam.) [N/m ²]	W.P. Total (Cont. Bagn.) [m]	E.G. Slope (Pend. Energia) [m/m]	R Idr. (R Idrraulico) [m]
Vallone Arenella III	64 A.O.	365.33	302.00	305.44	304.95	0.035	3.44	3.62	132.51	70.34	0.68	71.95	71.33	0.003949	1.858
Vallone Arenella III	64 P.O.	365.33	302.00	305.47	305.06	0.035	3.47	3.77	125.15	70.84	0.70	90.45	77.77	0.005732	1.609
Variazioni % = (PO - AO)/AO							0.87	4.14		0.71		25.71			
Vallone Arenella III	65 A.O.	365.33	302.73	305.47	305.47	0.035	2.74	4.63	98.13	62.42	0.99	138.32	62.72	0.009016	1.565
Vallone Arenella III	65 P.O.	365.33	302.73	305.61	305.61	0.035	2.88	4.59	100.28	64.82	0.95	141.37	69.52	0.009994	1.442
Variazioni % = (PO - AO)/AO							5.11	-0.86		3.84		2.21			
Vallone Arenella III	66 A.O.	365.33	302.79	306.31		0.035	3.52	2.57	198.95	93.82	0.46	36.05	94.41	0.001745	2.107
Vallone Arenella III	66 P.O.	365.33	302.79	306.36		0.035	3.57	2.71	188.73	90.29	0.48	34.66	101.04	0.001892	1.868
Variazioni % = (PO - AO)/AO							1.42	5.45		-3.76		-3.86			
Vallone Arenella III	67 A.O.	365.33	302.81	306.30		0.035	3.49	2.91	173.75	87.84	0.53	45.04	88.42	0.002337	1.965
Vallone Arenella III	67 P.O.	365.33	302.81	306.41		0.035	3.60	2.84	171.30	87.32	0.51	50.25	95.76	0.002865	1.789
Variazioni % = (PO - AO)/AO							3.15	-2.41		-0.59		11.57			
Vallone Arenella III	68 A.O.	365.33	302.73	306.15	305.88	0.035	3.42	4.07	116.04	66.11	0.83	106.26	66.60	0.006219	1.742
Vallone Arenella III	68 P.O.	365.33	302.73	306.29	305.95	0.035	3.56	3.98	118.94	65.33	0.78	110.38	69.97	0.006621	1.700
Variazioni % = (PO - AO)/AO							4.09	-2.21		-1.18		3.88			
Vallone Arenella III	69 A.O.	365.33	302.88	305.27	305.97	0.035	2.39	7.20	59.09	44.22	1.91	511.61	44.62	0.039394	1.324
Vallone Arenella III	69 P.O.	365.33	302.88	305.27	305.98	0.035	2.39	7.20	59.05	44.21	1.91	512.68	44.61	0.039495	1.324
Variazioni % = (PO - AO)/AO							0.00	0.00		-0.02		0.21			
Vallone Arenella III	70 A.O.	365.33	302.83	307.05	307.05	0.035	4.22	4.45	93.88	62.54	0.89	103.49	63.47	0.007135	1.479
Vallone Arenella III	70 P.O.	365.33	302.83	307.07	307.07	0.035	4.24	4.40	94.77	60.15	0.87	104.89	61.26	0.006915	1.547
Variazioni % = (PO - AO)/AO							0.47	-1.12		-3.82		1.35			
Vallone Arenella III	71 A.O.	365.33	304.06	306.09	307.09	0.035	2.03	8.95	46.54	44.74	2.45	662.97	44.96	0.065307	1.035
Vallone Arenella III	71 P.O.	365.33	304.06	306.08	307.09	0.035	2.02	8.99	46.36	44.71	2.46	668.48	44.92	0.066061	1.032
Variazioni % = (PO - AO)/AO							-0.49	0.45		-0.07		0.83			
Vallone Arenella III	72 A.O.	365.33	304.31	310.33	310.48	0.035	6.02	4.35	121.99	283.71	0.95	106.35	127.15	0.011303	0.959
Vallone Arenella III	72 P.O.	365.33	304.31	310.36	310.48	0.035	6.05	4.23	127.87	287.85	0.92	101.29	129.69	0.010475	0.986
Variazioni % = (PO - AO)/AO							0.50	-2.76		1.46		-4.76			
Vallone Arenella III	73 A.O.	365.33	304.36	310.82	310.57	0.035	6.46	3.13	180.29	307.08	0.62	53.19	149.54	0.004499	1.206
Vallone Arenella III	73 P.O.	365.33	304.36	310.78	310.57	0.035	6.42	3.23	174.44	304.99	0.65	56.63	147.78	0.004892	1.180
Variazioni % = (PO - AO)/AO							-0.62	3.19		-0.68		6.47			
Vallone Arenella III	74 A.O.	365.33	304.46	311.13	308.75	0.035	6.67	1.33	468.43	349.80	0.20	7.26	185.63	0.000294	2.523
Vallone Arenella III	74 P.O.	365.33	304.46	311.11	308.75	0.035	6.65	1.36	451.47	343.48	0.20	7.28	188.57	0.00031	2.394
Variazioni % = (PO - AO)/AO							-0.30	2.26		-1.81		0.28			
Vallone Arenella III	75 A.O.	365.33	303.58	311.12	308.51	0.035	7.54	1.51	387.39	309.12	0.22	10.19	145.48	0.00039	2.663
Vallone Arenella III	75 P.O.	365.33	303.58	311.11	308.51	0.035	7.53	1.51	374.74	302.99	0.21	11.42	146.57	0.000456	2.557
Variazioni % = (PO - AO)/AO							-0.13	0.00		-1.98		12.07			
Vallone Arenella III	76 A.O.	365.33	304.15	311.12	308.51	0.035	6.97	1.55	361.49	294.27	0.23	11.68	130.12	0.000429	2.778
Vallone Arenella III	76 P.O.	365.33	304.15	311.11	308.56	0.035	6.96	1.46	337.66	288.16	0.22	15.55	138.71	0.000652	2.434
Variazioni % = (PO - AO)/AO							-0.14	-5.81		-2.08		33.13			
Vallone Arenella III	77 A.O.	365.33	304.49	311.14	308.34	0.035	6.65	1.44	393.15	306.09	0.21	8.77	141.90	0.000323	2.771
Vallone Arenella III	77 P.O.	365.33	304.49	311.12	308.34	0.035	6.63	1.49	379.94	302.58	0.21	8.87	145.46	0.000346	2.612
Variazioni % = (PO - AO)/AO							-0.30	3.47		-1.15		1.14			
Vallone Arenella III	78 A.O.	365.33	304.72	311.16	308.33	0.035	6.44	1.27	476.76	311.65	0.18	6.19	183.10	0.000242	2.604
Vallone Arenella III	78 P.O.	365.33	304.72	311.16	308.42	0.035	6.44	1.18	459.10	307.85	0.17	7.97	190.95	0.000338	2.404
Variazioni % = (PO - AO)/AO							0.00	-7.09		-1.22		28.76			
Vallone Arenella III	79 A.O.	365.33	304.74	311.13	308.68	0.035	6.39	1.65	333.16	237.75	0.24	10.60	139.43	0.000452	2.389
Vallone Arenella III	79 P.O.	365.33	304.74	311.13	308.76	0.035	6.39	1.66	320.12	233.21	0.24	13.47	144.36	0.000619	2.218
Variazioni % = (PO - AO)/AO							0.00	0.61		-1.91		27.08			
Vallone Arenella III	80 A.O.	365.33	305.09	311.14		0.035	6.05	1.71	300.97	104.66	0.25	11.90	114.53	0.000462	2.628
Vallone Arenella III	80 P.O.	365.33	305.09	311.14		0.035	6.05	1.72	286.53	101.62	0.25	15.74	121.02	0.000678	2.368
Variazioni % = (PO - AO)/AO							0.00	0.58		-2.90		32.27			
Vallone Arenella III	81 A.O.	365.33	306.00	311.16		0.035	5.16	1.70	320.01	128.15	0.25	11.60	130.86	0.000484	2.445
Vallone Arenella III	81 P.O.	365.33	306.00	311.16		0.035	5.16	1.68	305.36	125.38	0.25	15.64	138.35	0.000723	2.207
Variazioni % = (PO - AO)/AO							0.00	-1.18		-2.16		34.83			
Vallone Arenella III	82 A.O.	365.33	306.00	311.19		0.035	5.19	1.56	338.45	136.04	0.23	13.12	147.09	0.000581	2.301
Vallone Arenella III	82 P.O.	365.33	306.00	311.18		0.035	5.18	1.58	333.56	132.91	0.24	12.96	146.82	0.000582	2.272
Variazioni % = (PO - AO)/AO							-0.19	1.28		-2.30		-1.22			
Vallone Arenella III	83 A.O.	365.33	306.00	311.19		0.035	5.19	1.63	358.71	149.22	0.25	10.52	156.42	0.000468	2.293
Vallone Arenella III	83 P.O.	365.33	306.00	311.20		0.035	5.20	1.57	360.67	146.63	0.23	11.85	153.50	0.000514	2.350
Variazioni % = (PO - AO)/AO							0.19	-3.68		-1.74		12.64			
Vallone Arenella III	84 A.O.	365.33	305.69	311.18		0.035	5.49	1.74	331.67	141.99	0.27	12.29	142.95	0.00054	2.320
Vallone Arenella III	84 P.O.	365.33	305.69	311.19		0.035	5.50	1.74	325.84	139.09	0.27	11.92	144.13	0.000538	2.261
Variazioni % = (PO - AO)/AO							0.18	0.00		-2.04		-3.01			
Vallone Arenella III	85 A.O.	365.33	305.83	311.21		0.035	5.38	1.85	275.82	110.50	0.31	19.09	111.88	0.000789	2.465
Vallone Arenella III	85 P.O.	365.33	305.83	311.21		0.035	5.38	1.85	276.10	110.54	0.31	19.05	111.92	0.000787	2.467
Variazioni % = (PO - AO)/AO							0.00	0.00		0.04		-0.21			