

Water quality aspects from Spanish sites to support managed aquifer recharge (MAR) guidelines not based on maximum allowable concentration standards - *Aspetti sulla qualità dell'acqua in siti spagnoli di ricarica delle falde in condizioni controllate per valutare le linee guida a livello nazionale per evitare l'utilizzo delle concentrazioni massime ammissibili.*

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Supplementary file - File supplementare

Annex 1: chemical analysis tables - Appendice 1: tabelle di analisi chimiche

Careos canals (Barberá et al., 2018). (1)

		ma.s.l.	Discharge	EC (µS/cm)	Temperature	pH	TOC (mg/L)	Na (mg/L)	K (mg/L)	Ca (mg/L)	Mg (mg/L)	Alkalinity* (mg/L)	Cl (mg/L)	NO (mg/L)	SO (mg/L)
N1	Snow	2828	-	21	4.3	6.5	0.58	1.1	0.4	4.3	0.4	5	1.8	1	6.4
N2	Snow	2812	-	18	4.3	6.5	0.4	0.9	0.1	3.7	0.4	3.6	1.6	0.7	5.4
N3	Snow	2783	-	36	4.3	6.5	2.14	1.7	1.1	7.2	0.5	15.9	2.7	1	7.1
N4	Snow	2747	-	34	4.3	6.5	1.64	1.3	0.9	7.8	0.4	13.4	2.2	0.9	7.1
N5	Snow	2703	-	23	4.3	6.5	0.36	0.8	-	6	-	6.7	1.5	0.7	6.3
N6	Snow	2662	-	33	4.3	6.5	0.5	1	0.2	12.1	0.2	5.2	2	0.7	5.9
N7	Snow	2636	-	18	4.3	6.5	0.22	0.4	-	4.5	-	3.6	1.3	0.7	5.6
N8	Snow	2613	-	18	4.3	6.5	0.25	0.3	-	4.7	0.1	3.9	1.2	0.8	5
N9	Snow	2585	-	21	4.3	6.5	0.9	0.5	0.4	4.8	0.2	6.5	1.5	0.8	5.3
N10	Snow	2585	-	20	4.3	6.5	0.25	0.6	-	3.9	0.4	3.6	1.4	1.3	5.2
N11	Snow	2513	-	17	4.3	6.5	0.64	0.4	0.2	4	0.2	4.7	0.3	0.7	5
N12	Snow	2453	-	17	4.3	6.5	0.53	0.3	0.3	4	-	4.4	0.3	1.2	5
M1	Spring	2241	3	20	7.7	6.4	0.2	1.7	0.3	5.6	1.8	20.6	1.6	1.5	7.6
M2	Spring	2110	0.1	32	9.4	6.9	0.3	1.2	0.5	7.3	1.9	25.3	1.9	1.5	6.9
M3	Spring	2107	10	19	9.2	6.6	0.4	1.8	0.5	5.6	1.7	23.8	1.7	1.2	6.9
M4	Spring	2014	-	45	10.8	6.8	0.3	2.8	0.6	8.3	2.6	30.1	1.7	0.7	13.4
M5	Spring	2012	-	-	-	-	0.2	1.3	0.6	4.2	1.3	12.3	1.7	1.4	6.9
M6	Spring	1972	-	32.6	10.8	7	0.4	2	0.8	7.2	2.1	28	2	3.1	8.1
M7	Spring	1810	3	41	10.8	7.3	0.4	1.9	0.5	7.7	2.5	22.8	1.9	1.5	9.1
M8	Spring	1575	0.5	19	16.2	6.9	-	-	-	-	-	-	-	-	-
M9	Spring	1565	-	-	-	-	-	-	-	-	-	-	-	-	-
M10	Spring	1556	-	-	-	-	-	-	-	-	-	-	-	-	-
M11	Spring	1546	0.2	58	13.6	6.8	0.5	5.7	1	8.3	2.9	30	2.8	0.8	13.2
M12	Spring	1527	-	63	14.6	8	0.6	7.1	0.7	7.8	3.4	28.8	2.6	0.7	16.6
M13	Spring	1505	0	49.7	17.7	7	0.4	3.6	0.4	6	2.7	21.5	3.1	3.5	11.3
M14	Spring	1490	0.2	86	14.6	7	0.4	8.4	0.6	9.8	3.9	28.3	2.4	0.7	35.4
M15	Spring	1487	-	-	-	-	0.3	1.8	0.6	5.1	2	26.7	2	1.6	7.6
M16	Spring	1485	0	89	13.9	6.5	0.5	7.7	0.7	10.9	4.3	52.8	3.1	0.8	23.5
M17	Spring	1460	1.4	39.9	13.2	6.3	-	-	-	-	-	-	-	-	-
M18	Spring	1451	6.5	30	13.7	6.3	0.3	2	0.2	5.6	2.6	26.9	2.4	2.5	8.4
M19	Spring	1331	0.6	111	14.6	7.2	0.5	5.1	2.1	14.7	4.1	28.6	4.5	10	23
M20	Spring	1328	0.4	125.9	13.3	6.6	0.4	3.7	1.1	17.5	6	46.7	3	14.5	24.7
M21	Spring	1320	0.6	89.9	14.2	6.8	0.4	3.1	0.6	11.6	4.9	30.4	3.2	10.8	16.2
M22	Spring	1313	0.1	74.9	15.2	8	0.4	3.1	2.7	11.3	3.4	28.4	4.9	6.3	12
M23	Spring	1296	0.1	55	14.1	7.1	0.3	3.2	0.4	6.8	3.3	26	2.8	3.1	11.1
M24	Spring	1288	0.3	59.3	15.1	7.2	0.3	3.5	0.6	8.9	3.6	23.2	3	4.3	12.7
M25	Spring	1252	0.9	149.4	15.6	7.2	0.8	7.4	1.4	19.8	6.4	68.7	5	8.5	33.7
M26	Spring	1214	0.3	231	14.6	7.4	0.6	9.6	2.7	33.6	7.7	76.1	6.7	7.7	55.1

		ma.s.l.	Discharge	EC (µS/cm)	Temperature	pH	TOC (mg/L)	Na (mg/L)	K (mg/L)	Ca (mg/L)	Mg (mg/L)	Alkalinity* (mg/L)	Cl (mg/L)	NO (mg/L)	SO (mg/L)
G1	Spring(GGE)	1261	0.2	101	15.9	7.3	0.5	6.8	0.4	11.3	4.9	38.1	4.8	2.3	25
G2	Spring(GGE)	1252	0.9	149.4	15.6	7.2	0.8	7.4	1.4	19.8	6.4	68.7	5	8.5	33.7
G3	Spring(GGE)	1214	0.3	231	14.6	7.4	0.6	9.6	2.7	33.6	7.7	76.1	6.7	7.7	55.1
G4	Spring(GGE)	1176	0.1	1188	15.5	6.2	0.3	105.5	8.7	114.1	43.1	1101.9	33.4	0.7	83.8
P1	Pumpingwell	1810	-	91.4	13.6	8	0.1	6.7	0.7	13.7	4.3	52.2	1.8	0.7	11.1
P2	Pumpingwell	1647	-	56.6	13.7	6.6	0.1	3.6	0.6	6.6	3.3	16.4	3.3	7.8	17.7
P3	Pumpingwell	1647	-	51.1	12.9	6.8	0.1	1.8	0.5	7.2	3.8	20.7	2.5	0.7	24.2
S1	Surfacewater	2016	-	15	6.1	7.9	0.5	0.9	0.1	4.8	0.9	9.4	1.3	0.8	6.4
S2	Surfacewater	1998	51.4	17	11.3	-	-	-	-	-	-	-	-	-	-
S3	Surfacewater	1822	-	35	8.5	7.8	0.8	1.9	0.2	7.2	1.6	16.5	1.5	0.7	8.3
S4	Surfacewater	1441	80.7	26	11	-	0.5	3.7	0.2	9	3.1	25.9	1.9	0.7	10.8
S5	Surfacewater	1438	-	-	-	-	0.7	0.4	0.2	3.5	0.8	19.5	1.6	0.7	8.5
S6	Surfacewater	1202	-	-	-	-	-	-	-	-	-	-	-	-	-
S7	Surfacewater	1190	-	80	13.3	7.6	0.68	4.3	0.4	11.1	4.1	35.1	3	1	14.9
S8	Surfacewater	996	-	114	13.4	8	0.71	5.6	1.1	19.1	5.4	53.8	3	0.9	20.8

Cobre las cruces mine (Baquero et al., 2016). (2)

Group	Ca mg/L	Mg mg/L	Na mg/L	K mg/L	CO ₃ ⁻ mg/L	CO ₃ mg/L	Cl mg/L	SO ₄ mg/L	NO ₃ mg/L	As mg/L	Ba mg/L	B mg/L	EC mg/L	pH mg/L	TSD mg/L	Si mg/L	Cu mg/L
Groundwater	31	12	722	10	358	0	871	14	2.1	10	5.7	1.8	3413	8.2	1744	14.3	0.0025
Treated groundwater	<2.5	<3.7	122	<2	106	0	138	<5	2	1	0.4	1.4	400	7.8	362	2.4	0.001

Guadiana MAR canal (Fernández Escalante, 2015) (3)

Group	Site	Ca ²⁺	Mg ²⁺	Na ⁺	K ⁺	HCO ₃ ⁻	CO ₃ ⁻	Cl ⁻	SO ₄ ²⁻	NO ₃ ⁻	TDS (mg/L)
MAR	Guadiana	108.06	18.24	21.98	1.98	243.07	0	34.19	102.9	12.47	543
Well1	Guadiana2	42.7	8.3	34.4	4.4	22.6	0	123.7	15	5.8	257
Well5	Guadiana3	160	48.65	16.9	2.5	292.65	0	50.1	285.7	22.58	
Well13	Guadiana4	121.7	25.9	19.9	1.52	290.5	0	58.57	93	28.58	
Well22	Guadiana5	412.8	194.5	255	86.2	1487	0	96.16	1106	0	
Well25	Guadiana6	207	93.1	34.8	2.88	231.8	0	73.1	650.2	0	

Canal de Isabel II ASR sites (Nogueras et al., 2019) (4)

Parameter	Casilla Valverde Bis			FE-1 R		
	Before MAR	Recovery water from the recharge borehole	Water extracted in the down-flow extraction borehole	Before MAR	Recovery water from the recharge borehole	Water extracted in the down-flow extraction borehole
Conductivity (µS/cm)	219	149	317	260	220	431
pH	7.8	8.78	8	7.49	7.26	8.15
As (µg/l)	7.5	< 2.5	17	7.2	< 2.5	36.1
THMs (µg/l)	0	35	1.7	0	11.9	2.1
Nitrate (mg/l)	2.8	0.3	3.4	4.8	5.6	2.6

Los Arenales MAR sites Santiuste (Fernández, 2005b) (5a)

site	Na (mg/l)	K (mg/l)	Ca (mg/l)	Mg (mg/l)	Cl (mg/l)	HCO ₃ (mg/l)	CO ₃ (mg/l)	SO ₄ (mg/l)	NO ₃ (mg/l)	NO ₂ (mg/l)	COND	pH	FACIES
VOLTOYA 02	31.54	2.23	70.54	1.95	39	247.74	0	2.19	2.71	N/A	N/A	N/A	HCO ₃ -Ca
AGUA DE LLUVIA	1.29	0.18	4.81	1.95	4.86	23.19	0	2.75	2.84	0.62	40	6.84	HCO ₃ -Ca
AGUA RECARGA Feb 03	13	2	16	3	13	76	< 8	< 3	2	8.7	191	8.0	Ca-Na-Mg-HCO ₃ -Cl
POLO FRIO SO 03	38	4	102	22	48	302	< 8	27	103	33	829	7.8	Ca-Mg-HCO ₃
POLO FRIO O2	30	3	110	18	96	243	< 8	35	82	21	932	8.1	Ca-Na-HCO ₃ -Cl

N°	X	Y	Z	prof	FACIES	NAT	Na	K	Ca	Mg	Cl	HCO ₃ (mg/l)	CO ₃ (mg/l)	SO ₄ (mg/l)	NO ₃	NO ₂	NH ₃	B	P	H ₂ SiO ₃	Fe	Mn	CO ₂	C	pH	
AGUA RECARGA Feb 06				0		H	24.3	2.15	38.55	4.82	54.7	128.73		0.00	18.26	1.5	0.00	<0.04	0.00	<0.10	5.01	0.06	0.00	1.6	285.00	8.1

polo frio	pH	Cond	TDS	TOD	NO ₃	Th	Ta	FECHA
CABECERA	8.5	290	0.14	8.8	1.8	8	5	18/12/2002
SANCHON	8.8	290	0.13	10.6	5.3	8	6	19/12/2002
AGUA RECARGA Feb 06								12/02/2008
AGUA RECARGA Mar 07				8.9				06/03/2007

El Carracillo (Fernández and San Sebastián, 2021) (5b)

ID	Cond (µS/cm)	pH	Cl (mg/l)	SO ₄ (mg/l)	HCO ₃ (mg/l)	CO ₃ (mg/l)	NO ₃ (mg/l)	Na(mg/l)	Mg(mg/l)	Ca(mg/l)	K(mg/l)	NO ₂ (mg/l)	NH ₄ (mg/l)	B(mg/l)	PO ₄ (mg/l)	SiO ₂ (mg/l)	Fe(mg/l)	Mn(mg/l)	SS(mg/l)	TDS (mg/l)
A1	167	8.1	7.99	2.25	92.37	0	2.32	5.64	8.43	16.29	1.05	0.02	0.02	0	0.47	8.54	0.07	0	6.6	145.46
1a	166	8.4	8.72	2.48	89.94	2.39	2.75	5.88	6.51	19.47	0.98	0.01	0.01	0	0.69	8.6	0.07	0	7.6	148.5
1'c	260	8.9	18.17	22.96	97.24	10.76	12.15	12.96	9.16	29.8	3.15	0.18	0.14	0.02	0.76	0.74	0.04	0	19.5	218.23
1'O	278	8.7	19.62	29.52	114.25	3.59	14.83	13.68	6.02	37.35	3.71	0.31	0.05	0.01	0.95	6.2	0.06	0	14.86	250.15
9	823	8.3	66.14	84.8	292.92	20.32	78.99	40.2	29.64	104.49	13.72	0.36	0.07	0.08	2.71	4.11	0.01	0	1.6	738.56
2a	169	8.4	8.72	5.95	88.73	2.39	0.35	7.92	6.99	19.07	1.26	0.01	0.15	0.05	0.2	4.53	0.23	0	3.33	146.55
2h	183	8.9	10.17	3.22	87.51	8.37	2.16	6.84	4.82	26.62	1.75	0.1	0.25	0.02	1.32	5.77	0.1	0	14.4	159.02
3a	175	8.6	9.45	3.89	89.94	2.39	0.53	7.68	6.02	23.44	1.12	0.03	0.11	0.04	0.07	3.6	0.15	0	4	148.46
3f	181	8.2	7.27	4.31	104.53	0	0.85	6.36	7.47	21.06	1.33	0.06	0.09	0.01	0.06	2.15	0.14	0	43.5	155.69
5d	223	9	13.81	26.92	74.14	9.56	17.49	9.84	5.3	32.18	2.1	0.09	0.06	0.02	0.72	9.04	0.03	0	0.86	201.3
5e	454	8.9	36.34	73.92	137.35	10.76	40.23	25.8	9.88	62.77	5.81	0.23	0.08	0.04	1.34	1.31	0.02	0	2.33	405.88
5g	785	8.9	70.5	144.3	187.18	35.86	73.6	57	18.07	103.3	14.84	0.73	0.1	0.05	2.02	1.57	0.02	0	2	709.14
EA12	287	8.7	23.98	15.17	131.27	5.98	6.14	18.96	8.19	35.36	1.82	0.08	0.03	0	0.52	7.5	0.06	0	1	255.06

Pedrajas-Alcazarén N/P (5c)**The Arabayona MAR site N/P (6)****Zorrilla urban water buffer (Versteeg et al., 2021) (7)**

parameter		04/05/2019	04/10/2019	4/24/2019
Parámetros físicos				
Conductividad eléctrica (EC) in situ	µS/cm		373	
pH in situ	-		7	
Temperatura (pH) in situ	°C		12	
Turbidez	NTU	16.6	8.3	24
Sólidos suspendidos	mg/l	31	24	31
Macroquímica				
Cl	mg/l			
Na	mg/l	11.4	11.3	5.4
Ca	mg/l	42.8	50	24.6
K	mg/l	6.1	5.5	3.1
Mg	mg/l	6.4	5.6	2
Fe	µg/l	820	990	1650
Mn	µg/l	<100	<100	<100
HCO_{3}	mg/l	151.3	145.7	77.5
NH_{4}	mg/l	11.9	7	0.6
NO_{3}	mg/l	15.1	15.7	2.1
Total P	mg P/l	4	2.1	0.6
SO_{4}	mg/l	29.2	27.8	5.4
DOC	mg C/l			
Metales Pesados (disueltos)				
Zn	µg/l	990	<200	<200
Parámetros orgánicos				
Benzene	µg/l	<1.0	<1.0	<1.0
Ethylbenzene	µg/l	<1.0	<1.0	<1.0
Toluene	µg/l	<1.0	<1.0	<1.0
O-xylene	µg/l	<1.0	<1.0	<1.0
Xylene (m+p)	µg/l	<2.0	<2.0	<2.0
Aceites minerales	µg/l	500	440	900

Sant Vicenç dels Horst MAR site (Fajnorová et al., 2021) (8) DESSIN project

Name	Unit	Sand Filtere	P18	P13	P10	P21
Mercury (Hg)	µg/L	< 0,05	< 0,05	< 0,05	< 0,05	< 0,05
BTEX and Chlorinated solvents						
Benzene	µg/L	<0,5	<0,5	<0,5	<0,5	<0,5
Toluene	µg/L	<1	<1	<1	<1	<1
Etilbenzene	µg/L	<1	<1	<1	<1	<1
m+p-Xilene	µg/L	<1	<1	<1	<1	<1
o-Xilene	µg/L	<1	<1	<1	<1	<1
Trichlorethene (tri)	µg/L	<0,5	4,1	2,5	1,5	2
Tetrachlorethene (tetra)	µg/L	<0,5	4,3	1,8	5,9	0,92
1-2 Dichlorethane	µg/L	<0,5	<0,5	1	<0,5	1,3
1,1,1 Trichlorethane	µg/L	<1	<1	<1	<1	<1
Tri + Tetra	µg/L	<1	8,4	4,3	7,4	2,9
PAH (Polycyclic Aromatic Hidrocarbons)						
Nafthalene	µg/L	<0,025	<0,025	<0,025	<0,025	<0,025
Acenafthilene	µg/L	<0,025	<0,025	<0,025	<0,025	<0,025
Acenafthene	µg/L	<0,025	<0,025	<0,025	<0,025	<0,025
Fluorene	µg/L	<0,015	<0,015	<0,015	<0,015	<0,015
Fenanthrene	µg/L	<0,015	<0,015	<0,015	<0,015	<0,015
Anthracene	µg/L	<0,015	<0,015	<0,015	<0,015	<0,015
Fluoranthene	µg/L	<0,015	<0,015	<0,015	<0,015	<0,015
Pirene	µg/L	<0,015	<0,015	<0,015	<0,015	<0,015
Benzo(a)anthracene	µg/L	<0,015	<0,015	<0,015	<0,015	<0,015
Crisene	µg/L	<0,015	<0,015	<0,015	<0,015	<0,015
Benzo(b)fluoranthene	µg/L	<0,015	<0,015	<0,015	<0,015	<0,015
Benzo(k)fluoranthene	µg/L	<0,015	<0,015	<0,015	<0,015	<0,015
Indeno(1,2,3,c,d)pyrene	µg/L	<0,015	<0,015	<0,015	<0,015	<0,015
Dibenzo(a,h)anthracene	µg/L	<0,015	<0,015	<0,015	<0,015	<0,015
Benzo(g,h,i)perylene	µg/L	<0,015	<0,015	<0,015	<0,015	<0,015
Benzo(a)pyrene	µg/L	<0,005	<0,005	<0,005	<0,005	<0,005
Sum 4 PAH Directive 98/83/CE	µg/L	<0,06	<0,06	<0,06	<0,06	<0,06

Group	Site	Ca ²⁺	Mg ²⁺	Na ⁺	K ⁺	HCO ₃ ⁻	CO ₃ ⁻	Cl ⁻	SO ₄ ²⁻	NO ₃ ⁻
Source	Inf (Jan-15)	133	45	156	32	275	11.5	275	205	19.2
Groundwater (BSV-01)	ene-15	122	28	89	20	327	0	150	178	17.5
Groundwater (BSV-8.1)	ene-50	132	37	117	18	362	0	199	164	11.2
Groundwater (BSV-8.3)	ene-50	204	37	101	23	362	0	168	142	8.93
Groundwater (BSV-05)	ene-50	150	37	106	27	351	0	169	141	11.3
Groundwater (BSV-09)	ene-50	128	35	119	25	333	0	204	152	9.78
Groundwater (BSV-10)	ene-50	133	33	110	24	365	0	168	137	13.9

The Port de La Selva SAT-MAR site. Fajnorová et al., 2021) (9)

Parameter	Reclaimed water 14/11/2016	Reclaimed water 14/12/2016	Piezometer 2 4/10/2016	Piezometer 4 14/11/2016
TOC, mg/L	7.6	2.1	< 2.0	< 2.0
Total plaguicides Organ halogenates	< 0.010 µg/L	< 0.010 µg/L	< 0.010 µg/L	< 0.010 µg/L
Total plaguicides organophosphates	< 0.010 µg/L	< 0.010 µg/L	< 0.010 µg/L	< 0.010 µg/L
Triazines	Total< 0.010 µg/L Atraton 0.010 µg/L (0.1 µg/L) Terbutryn 0.037 µg/L (0.1 µg/L)	Total< 0.010 µg/L	Total< 0.010 µg/L	Total< 0.010 µg/L
Total HC	< 0.010 µg/L Naphthalene 0.022 µg/L (-)	< 0.010 µg/L	< 0.010 µg/L Naphthalene 0.020 µg/L (-)	< 0.010 µg/L
Volatile organic compounds	Sum THMs< 1.5 µg/L (100 µg/L)	Sum THMs< 1.5 µg/L (100 µg/L)	Sum THMs< 1.5 µg/L (100 µg/L)	Sum THMs< 1.5 µg/L (100 µg/L)

Resting analyses: N/P

Majorca. Experimental SAT-MAR site (EARSAC, 2019) (10)

	Na	K	Ca	Mg	Cl	HCO ₃	SO ₄	Fe	Cu	Al	Mn	NO ₃
MARÍA SALUD REGENERADA JUN12	311,6	43,7	79,0	40,9	378,8		117,3					0,46
MARÍA SALUD REGENERADA JUL12	266,00	41,68	98,18	40,40	385,60	312	224,85	0,01	<0,01	0,0581	0,1921	<0,1
MARÍA SALUD REGENERADA AGO12	354,10	48,32	33,79	43,28	439,00	394	167,80	<0,01	<0,01	0,0353	0,226	15,60

Sample ID	pH	EC	TR	Depth of Sampling	TDO	TDS	SS	TOC	Li	Na	K	Ca	Mg	Fe	Fe2+	Fe3+	Mn	Ba	Ag	Cu	Ni	Zn	Al	As	Hg	Cr	Cd	Rb	Pb	NH4	Cs	Sr	F	Cl	Br	HCO ₃	CO ₃	NO ₃	SO ₄	Br	SiO ₂	O ₂
SALLUD 1 22759 MAY13	7	2090	15	30	1347	4				94	5	201	86	20,7			0,28			<0,01	<0,01		0,07	<0,01	<0,01	<0,01	<0,01	<0,01						358	0,31	359	81,6	239	45,5			
SALLUD 1 22759 OCT13	7,2	2000	15			14				78	5	245	77	34			13			<0,01	<0,01		<0,01	<0,01	<0,01	<0,01	<0,01	<0,01						181	0,3	31	74,6	465	66,05			
SALLUD 2 101159 HUERTO AGO12	7,41	1600	15	8	781					170,6	10,56	130,2	58,23	<0,01			0,22			<0,01	<0,01	<0,01	<0,03	<0,01	<0,01	<0,01	<0,01	<0,01				1,7	0,17	105,2	0,4	390,4	29,9	39,6	0,28	9,81		
SALLUD 2 101159 HUERTO AGO13	7,42	1029	15	8	402					0,04	239,5	12,13	107,8	49,77	<0,01		0,25			<0,01	<0,01	<0,01	0,07	<0,01	<0,01	<0,01	<0,01	<0,01				0,19	224,97	0,27	305	39,51	155,17		5,6			
SALLUD 2 101159 HUERTO JUL12	7,52	1680	15	8	704					155,3	9,38	159,4	55	0,01			0,21			<0,01	<0,01	<0,01	0,01	<0,01	<0,01	<0,01	<0,01	<0,01				1,7	0,51	282,7	0,3	481,9	6,5	129,5	0,24	9,5		
SALLUD 2 101159 HUERTO JUL13	7,74	2036	15	8						235,8	12,14	137,8	48,75	<0,01			0,21			<0,01	<0,01	<0,01	0,01	<0,01	<0,01	<0,01	<0,01	<0,01				1,7	0,51	282,7	0,3	481,9	6,5	129,5	0,24	9,5		
SALLUD 2 101159 HUERTO OCT13	7,36	2215	15	8						0,04	270,1	11,91	184,3	56,84	0,01		0,59			0,01	<0,01	0,26	0,06	<0,01	<0,01	<0,01	<0,01	<0,01				2	<0,02	419,5	0,3	536,8	50,4	227	0,84	12,15		
SALLUD 3 84923 PR43 MAY13	7,13	2100	15	30	1341	4				106	9	205	72	17,7			0			<0,01	1		<0,01	<0,01	<0,01	<0,01	<0,01	<0,01						360	0,36	352	60,4	248	47,7			
SALLUD 3 84923 PR43 OCT13	7,13	2100	15	30	1341	4				104	10	244	76	10			4			<0,01	<0,01		<0,01	<0,01	<0,01	<0,01	<0,01	<0,01						361	0,4	356	66	325	47,27			
SALLUDMA0580	7	1770	15	30						<0,1	155	1,35	242	73						<0,01	<0,01		<0,01	<0,01	<0,01	<0,01	<0,01	<0,01						300	<3	79	498					

The Tenerife SAT-MAR pilot (11). N/P