LSNReviews

From: Lietai Yang [ltyang@cnwra.swri.edu]
Sent: Tuesday, April 25, 2006 11:10 AM
To: Roberto Pabalan
Subject: RE: Dust composition
Attachments: NADP_Death_Valley_Data_Rev1.xls

Bobby,

Enclosed is the original spreadsheet. There are web links to the data for each year.

I looked through the data in the table. It appears that the data in the table are good. The ratio in the text is wrong. Thanks for spotting the error.

-Lietai

-----Original Message-----
From: Bobby Pabalan [mailto:rpabalan@cnwra.swri.edu]
Sent: Tuesday, April 25, 2006 9:39 AM
To: Lietai Yang
Subject: FW: Dust composition

-----Original Message-----
From: Lietai Yang [mailto:ltyang@cnwra.swri.edu]
Sent: Friday, November 05, 2004 3:10 PM
To: Roberto Pabalan
Subject: Dust composition

Bobby,

The following two tables are from the short write-up (enclosed). The reference should be citable.

-Lietai

REHEIS, MARITH C.,* JAMES R. BUDAHN, and PAUL J. LAMOTHE , Geochimica et Cosmochimica Acta, Vol. 66, No. 9, pp. 1569–1587, 2002

Table 1 Comparison of selected elements between processed (salts and organics removed), unprocessed, and soluble-fraction of dust samples collected at Owens Valley, California (Reheis, 2002).

		Fe	Ca	Na	K	Mg	Ba	Li	P	Pb	Rb	Sr	Zn
Sample number	Sample Type	wt%					Ppm						

T62-0595	proc.	2.8	7.3	2.9	3.6		1180				136	1070	4080
T62-0595	unproc.	2.4	5.1	2.1	9.2	2.6	1054	414	540	65	116	843	3240
T62-0595	salts	0	0.6	#	35	0	26	3	92	0	1	22	17
T62-1095	proc.	1.9	5.7	2.2	13		532				87	774	4250
T62-1095	salts	0	0.7	#	33	0	45	37	380	1	3	49	64
T-62-0599	unproc.	2.2	4.4	2	14	2.3	560	305	570	44	110	600	245

Detection limit exceeded by amount of element present.

Table 3, Summary of the soluble constituents in the wet precipitation samples collected at Death Valley, California in recent years

Concentration in Wet Precipitation									
Year	Mg	Ca	K	Na	NH4	NO3	Cl	SO4	pH
	mg/L								
2000	0.58	0.066	0.023	0.22	0.82	1.9	0.3	0.74	6.49
2001	0.18	0.019	0.022	0.097	0.69	1.51	0.15	0.53	5.46
2002	2.91	0.191	0.145	1.114	1.1	4.31	0.83	2.27	6.2
Average	1.223	0.092	0.063	0.477	0.870	2.573	0.427	1.180	6.050
	mM								
2000	0.024	0.002	0.001	0.010	0.051	0.031	0.008	0.008	
2001	0.007	0.000	0.001	0.004	0.043	0.024	0.004	0.006	
2002	0.120	0.005	0.004	0.048	0.069	0.070	0.023	0.024	
Average	0.050	0.002	0.002	0.021	0.054	0.042	0.012	0.012	
Deposition from Wet Precipitation									
	kg/ha								
Year	Mg	Ca	K	Na	NH4	NO3	Cl	SO4	
2000	0.26	0.029	0.01	0.098	0.37	0.85	0.13	0.33	
2001	0.11	0.011	0.013	0.058	0.41	0.9	0.09	0.32	
2002	0.2	0.013	0.01	0.078	0.08	0.3	0.06	0.16	
Average	0.190	0.018	0.011	0.078	0.287	0.683	0.093	0.270	
	mole/ha								
2000	10.700	0.725	0.256	4.261	23.125	13.710	3.667	3.434	
2001	4.527	0.275	0.332	2.522	25.625	14.516	2.539	3.330	
2002	8.230	0.325	0.256	3.391	5.000	4.839	1.693	1.665	
Average	7.819	0.442	0.281	3.391	17.917	11.022	2.633	2.810	

Source: National Atmospheric Deposition Program (NRSP-3)/National Trends Network. (2004). NADP Program Office, Illinois State Water Survey, 2204 Griffith Dr., Champaign, IL 61820, Website: http://nadp.sws.uiuc.edu Downloaded May 17, 2004.

Properties Page

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Disposition-notification-to: ltyang@cnwra.swri.edu
Received: from TOTO ([129.162.200.59])
by rogain.cnwra.swri.edu (Sun ONE Messaging Server 6.0 (built Oct 29 2003))
with ESMTP id <0IYA00C1UA78FY40@rogain.cnwra.swri.edu> for
rpabalan@cnwra.swri.edu; Tue, 25 Apr 2006 10:11:33 -0500 (CDT)
Date: Tue, 25 Apr 2006 10:10:06 -0500
From: Lietai Yang <ltyang@cnwra.swri.edu>
Subject: RE: Dust composition
In-reply-to:

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QBgCJBcRcKAAAAQAAAAzOwqi6tSV0W3X6QNx/REIQEAAAAA@cnwra.swri.edu>
To: rpabalan@cnwra.swri.edu
Message-id: <019a01c6687a$56c381f0$3bc8a281@cnwra.swri.edu>
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X-Mailer: Microsoft Outlook 8.5, Build 4.71.2173.0
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boundary="Boundary_(ID_YnWuuTvmfJwdXNFe5udHHw)"
Importance: Normal
X-Priority: 3 (Normal)
X-MSMail-priority: Normal
Original-recipient: rfc822;rpabalan@cnwra.swri.edu

Soluble constituents in the wet precipitation samples collected at Death Valley, California in recent years (mMole/kg)

Year	Mg	Ca	K	Na	NH4	NO3	Cl	SO4	pH
2000	0.0239	0.0017	0.0006	0.0096	0.0513	0.0306	0.0085	0.0077	
2001	0.0074	0.0005	0.0006	0.0042	0.0431	0.0244	0.0042	0.0055	
2002	0.1198	0.0048	0.0037	0.0484	0.0688	0.0695	0.0234	0.0236	
Average	0.0503	0.0023	0.0016	0.0207	0.0544	0.0415	0.0120	0.0123	

National Atmospheric Deposition Program (NRSP-3)/National Trends Network. (2004). NADP Program Office, Illinois State Water Survey, 2204 Griffith Dr., Champaign, IL 61820, Website: http://nadp.sws.uiuc.edu Downloaded May 17, 2004.

kg/ha

0.2											
0.013											
0.01											
0.078											
0.08											
0.3											
0.06											
0.16											
4.39E-05											
2.16E-04											

Annual

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Mg	Ca	K	Na	NH4	NO3	Cl	SO4	H(lab)	H(fld)	pH(lab)	pH(fld)
0.2	0.013	0.01	0.078	0.08	0.3	0.06	0.16	4.39E-05	2.16E-04		

mg/L

2.91											
0.191											
0.145											
1.114											
1.1											
4.31											
0.83											
2.27											
6.30E-04											
6.2											
3.09E-03											
5.51											

Annual

Mg	Ca	K	Na	NH4	NO3	Cl	SO4	H(lab)	H(fld)	pH(lab)	pH(fld)
2.91	0.191	0.145	1.114	1.1	4.31	0.83	2.27	6.30E-04	6.2	3.09E-03	5.51

File: NADP_Death_Valley_Data_Rev1.xls

MW	24.3	40	39.1	23	16	62	35.45	96.1		
Concentration in Wet Precipiation										
Year	Mg	Ca	K	Na	NH4	NO3	Cl	SO4	pH	
	mg/L									
2000	0.58	0.066	0.023	0.22	0.82	1.9	0.3	0.74	6.49	http://nadp.sws.uiuc.edu/ads/2000/CA95.pdf
2001	0.18	0.019	0.022	0.097	0.69	1.51	0.15	0.53	5.46	http://nadp.sws.uiuc.edu/ads/2001/CA95.pdf
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Average	1.223	0.092	0.063	0.477	0.870	2.573	0.427	1.180	6.050	
	mM									
2000	0.024	0.002	0.001	0.010	0.051	0.031	0.008	0.008		
2001	0.007	0.000	0.001	0.004	0.043	0.024	0.004	0.006		
2002	0.120	0.005	0.004	0.048	0.069	0.070	0.023	0.024		
Average	0.050	0.002	0.002	0.021	0.054	0.042	0.012	0.012		3.448513
Deposition from Wet Precipitation										
	kg/ha									
Year	Mg	Ca	K	Na	NH4	NO3	Cl	SO4		
2000	0.26	0.029	0.01	0.098	0.37	0.85	0.13	0.33		http://nadp.sws.uiuc.edu/ads/2002/CA95.pdf
2001	0.11	0.011	0.013	0.058	0.41	0.9	0.09	0.32		http://nadp.sws.uiuc.edu/ads/2001/CA95.pdf
2002	0.2	0.013	0.01	0.078	0.08	0.3	0.06	0.16		http://nadp.sws.uiuc.edu/ads/2002/CA95.pdf
Average	0.190	0.018	0.011	0.078	0.287	0.683	0.093	0.270		
	mole/ha									
2000	10.700	0.725	0.256	4.261	23.125	13.710	3.667	3.434		
2001	4.527	0.275	0.332	2.522	25.625	14.516	2.539	3.330		
2002	8.230	0.325	0.256	3.391	5.000	4.839	1.693	1.665		
Average	7.819	0.442	0.281	3.391	17.917	11.022	2.633	2.810		4.186204

National Atmospheric Deposition Program (NRSP-3)/National Trends Network. (2004). NADP Program Office, Illinois State Water Survey, 2204 Griffith Dr., Champaign, IL 61820, Website: http://nadp.sws.uiuc.edu
Downloaded May 17, 2004.

-----Original Message-----
From: Harlin, Karen [mailto:kharlin@uiuc.edu]
Sent: Tuesday, May 11, 2004 1:48 PM
To: Lietai Yang
Cc: Fringer, Joyce; Harlin, Karen
Subject: RE: NADP data, Analysis Method

Hello Lietai,

The samples from the National Trends Network are filtered through 0.45 micron filters prior to analysis, therefore, only soluble ions are measured.

Karen

Karen S. Harlin
Assistant Coordinator, National Atmospheric Deposition Program (NADP), Program Office
Director, Central Analytical Laboratory
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http://nadp.sws.uiuc.edu/cal

-----Original Message-----
From: Lietai Yang [mailto:ltyang@cnwra.swri.edu]
Sent: Tuesday, May 11, 2004 12:54 PM
To: Harlin, Karen
Subject: NADP data, Analysis Method

Dear Ms. Harlin,

I am working on a project related to the nuclear waste repository program. Currently, I am trying to under stand the aerosol properties near Yucca Mountain, particularly the soluble salts reported on your website. Are the data for Ca and Mg, K and Na from the soluble salts or the total amount, including the the content in the insoluble dust? Can I assume all the anions are from the soluble salts? I am studying the corrosiveness of these deposits if they fall on the surfaces of potential nuclear waste containers.

I look forward to your reply.

Thank you in advance

-Lietai Yang

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