

Table A1. Chemical compositions of magnetite standards analyzed by an electron microprobe

(wt %)	Mgt_08BI-12	Mgt_90LP12	Mgt_90LP5	Mgt_98LH7	Mgt_P2-670
MgO	0.03	0.68	1.28	1.14	1.00
Al ₂ O ₃	0.14	0.42	1.85	1.54	0.63
TiO ₂	0.10	0.03	0.14	4.97	3.00
Cr ₂ O ₃	0.00	0.01	0.00	0.09	0.04
ZnO	0.03	0.02	0.02	0.13	0.39
V ₂ O ₃	0.01	0.00	0.01	0.35	0.33
MnO	0.43	2.27	4.43	0.66	9.25
Fe ₃ O ₄	99.27	96.57	92.28	91.11	85.37

Table A2. Chemical compositions of pyrite and pyrrhotite standards analyzed by an electron microprobe

(wt %)	Pyrite*	Pyrrhotite*
	Py_Bal-4-13B	Po_North-Bend
C	-	-
O	-	-
Mg	-	-
S	53.59	39.08
Ca	-	-
Mn	0.01	-
Fe	47.33	60.85
Ni	-	-
Cu	0.01	-
Zn	-	0.02

* Data were published in d'Abzac et al. (2013).

Table A3. Iron isotope compositions of the standards used in study by solution nebulization analysis

(‰)	$\delta^{56}\text{Fe}$	2 s.d.	$\delta^{57}\text{Fe}$	2 s.d.	n
Mgt_08BI-12	0.32	0.05	0.51	0.09	8
Mgt_90LP12	-0.52	0.04	-0.74	0.08	12
Mgt_90LP5	-0.43	0.07	-0.63	0.11	4
Mgt_98LH7	0.05	0.03	0.09	0.05	4
Mgt_P2-670	-0.08	0.07	-0.12	0.11	4
Py_Bal-4-13B	-1.38	0.07	-2.01	0.11	31
Po_North-Bend	-0.26	0.02	-0.35	0.14	5
Fe metal (Alfa Aesar)	0.01	0.05	0.05	0.12	4

Table A4. Iron isotope results for fs-LA

Sample	$\delta^{56}\text{Fe}$ (‰)	$\delta^{57}\text{Fe}$ (‰)	Total Fe intensity (V)	Proportion of Fe intensity relative to bracketing std	H ₂ O uptake rate (μl/min)	Percentage of Fe intensity relative to dry-LA	Bracketing standard	Date of Analysis
Mineral-phase-matched Analysis								
Dry-LA								
Mgt_08BI-12	0.39	0.51	8.294	1.00	—	—	Mgt_08BI-12	15-Apr-15
Mgt_08BI-12	0.31	0.53	8.229	0.98	—	—	Mgt_08BI-12	15-Apr-15
Mgt_08BI-12	0.23	0.56	8.379	1.00	—	—	Mgt_08BI-12	15-Apr-15
Mgt_08BI-12	0.25	0.42	8.108	1.01	—	—	Mgt_08BI-12	15-Apr-15
Mgt_08BI-12	0.29	0.43	8.232	1.06	—	—	Mgt_08BI-12	15-Apr-15
Mgt_08BI-12	0.35	0.66	8.097	1.04	—	—	Mgt_08BI-12	15-Apr-15
Mgt_08BI-12	0.32	0.45	7.326	0.94	—	—	Mgt_08BI-12	15-Apr-15
Mgt_08BI-12	0.22	0.45	7.455	0.97	—	—	Mgt_08BI-12	15-Apr-15
Mgt_08BI-12	0.22	0.48	7.428	0.96	—	—	Mgt_08BI-12	15-Apr-15
Mgt_08BI-12	0.36	0.56	20.356	1.04	—	—	Mgt_08BI-12	6-Oct-15
Mgt_08BI-12	0.39	0.57	19.161	1.02	—	—	Mgt_08BI-12	6-Oct-15
Mgt_08BI-12	0.41	0.59	18.831	1.02	—	—	Mgt_08BI-12	6-Oct-15
Mgt_08BI-12	0.33	0.47	15.719	1.00	—	—	Mgt_08BI-12	7-Oct-15
Mgt_08BI-12	0.28	0.42	15.364	1.00	—	—	Mgt_08BI-12	7-Oct-15
Mgt_08BI-12	0.29	0.43	15.285	1.01	—	—	Mgt_08BI-12	7-Oct-15
Mgt_08BI-12	0.29	0.50	12.903	1.07	—	—	Mgt_08BI-12	7-Oct-15
Mgt_08BI-12	0.28	0.50	12.569	1.06	—	—	Mgt_08BI-12	7-Oct-15
Mgt_08BI-12	0.30	0.52	12.523	1.05	—	—	Mgt_08BI-12	7-Oct-15
Mgt_08BI-12	0.29	0.46	8.277	1.01	—	—	Mgt_08BI-12	21-Dec-16
Mgt_08BI-12	0.31	0.50	8.083	1.01	—	—	Mgt_08BI-12	21-Dec-16
Mgt_08BI-12	0.35	0.67	8.080	0.99	—	—	Mgt_08BI-12	21-Dec-16
Mgt_08BI-12	0.33	0.67	8.195	0.99	—	—	Mgt_08BI-12	21-Dec-16
Mgt_08BI-12	0.41	0.62	7.653	0.98	—	—	Mgt_08BI-12	21-Dec-16
Mgt_08BI-12	0.39	0.66	7.814	1.02	—	—	Mgt_08BI-12	21-Dec-16
Mgt_08BI-12	0.42	0.68	7.626	1.01	—	—	Mgt_08BI-12	21-Dec-16
Mgt_08BI-12	0.28	0.45	10.106	1.00	—	—	Mgt_08BI-12	22-Dec-16
Mgt_08BI-12	0.36	0.57	10.302	1.02	—	—	Mgt_08BI-12	22-Dec-16
Mgt_08BI-12	0.34	0.49	10.173	1.01	—	—	Mgt_08BI-12	22-Dec-16
Mgt_90LP5	-0.31	-0.39	6.714	0.88	—	—	Mgt_08BI-12	15-Apr-15
Mgt_90LP5	-0.29	-0.33	6.758	0.88	—	—	Mgt_08BI-12	15-Apr-15
Mgt_90LP5	-0.37	-0.38	6.965	0.90	—	—	Mgt_08BI-12	15-Apr-15
Mgt_90LP5	-0.42	-0.47	6.840	0.90	—	—	Mgt_08BI-12	15-Apr-15
Mgt_90LP5	-0.37	-0.51	6.739	0.88	—	—	Mgt_08BI-12	15-Apr-15
Mgt_90LP5	-0.28	-0.37	6.728	0.88	—	—	Mgt_08BI-12	15-Apr-15
Mgt_90LP5	-0.31	-0.41	15.872	0.92	—	—	Mgt_08BI-12	6-Oct-15
Mgt_90LP5	-0.36	-0.57	15.577	0.91	—	—	Mgt_08BI-12	6-Oct-15
Mgt_90LP5	-0.33	-0.53	15.261	0.90	—	—	Mgt_08BI-12	6-Oct-15
Mgt_90LP5	-0.29	-0.30	11.233	0.94	—	—	Mgt_08BI-12	7-Oct-15
Mgt_90LP5	-0.28	-0.50	10.982	0.93	—	—	Mgt_08BI-12	7-Oct-15
Mgt_90LP5	-0.28	-0.39	11.025	0.94	—	—	Mgt_08BI-12	7-Oct-15
Mgt_90LP5	-0.27	-0.45	6.801	0.89	—	—	Mgt_08BI-12	21-Dec-16
Mgt_90LP5	-0.30	-0.58	6.730	0.90	—	—	Mgt_08BI-12	21-Dec-16
Mgt_90LP5	-0.29	-0.36	6.701	0.89	—	—	Mgt_08BI-12	21-Dec-16
Mgt_90LP12	-0.46	-0.63	7.377	0.94	—	—	Mgt_08BI-12	15-Apr-15
Mgt_90LP12	-0.51	-0.72	7.252	0.93	—	—	Mgt_08BI-12	15-Apr-15
Mgt_90LP12	-0.54	-0.76	7.116	0.92	—	—	Mgt_08BI-12	15-Apr-15
Mgt_90LP12	-0.50	-0.74	7.220	0.94	—	—	Mgt_08BI-12	15-Apr-15
Mgt_90LP12	-0.52	-0.59	7.369	0.94	—	—	Mgt_08BI-12	15-Apr-15
Mgt_90LP12	-0.49	-0.82	7.180	0.91	—	—	Mgt_08BI-12	15-Apr-15
Mgt_90LP12	-0.48	-0.67	16.571	0.98	—	—	Mgt_08BI-12	6-Oct-15
Mgt_90LP12	-0.42	-0.59	16.353	0.97	—	—	Mgt_08BI-12	6-Oct-15
Mgt_90LP12	-0.46	-0.64	16.320	0.97	—	—	Mgt_08BI-12	6-Oct-15
Mgt_90LP12	-0.51	-0.76	7.212	0.94	—	—	Mgt_08BI-12	21-Dec-16
Mgt_90LP12	-0.49	-0.76	7.177	0.94	—	—	Mgt_08BI-12	21-Dec-16
Mgt_90LP12	-0.46	-0.64	7.239	0.95	—	—	Mgt_08BI-12	21-Dec-16
Mgt_98LH7	0.26	0.43	6.739	0.88	—	—	Mgt_08BI-12	15-Apr-15
Mgt_98LH7	0.20	0.28	6.418	0.85	—	—	Mgt_08BI-12	15-Apr-15
Mgt_98LH7	0.17	0.28	6.806	0.90	—	—	Mgt_08BI-12	15-Apr-15
Mgt_98LH7	0.14	0.27	7.013	0.91	—	—	Mgt_08BI-12	15-Apr-15
Mgt_98LH7	0.15	0.31	6.711	0.88	—	—	Mgt_08BI-12	15-Apr-15
Mgt_98LH7	0.09	0.18	6.834	0.90	—	—	Mgt_08BI-12	15-Apr-15
Mgt_98LH7	0.36	0.60	15.142	0.92	—	—	Mgt_08BI-12	6-Oct-15
Mgt_98LH7	0.34	0.45	15.292	0.93	—	—	Mgt_08BI-12	6-Oct-15
Mgt_98LH7	0.40	0.61	15.244	0.93	—	—	Mgt_08BI-12	6-Oct-15
Mgt_98LH7	0.21	0.28	14.213	0.87	—	—	Mgt_08BI-12	6-Oct-15
Mgt_98LH7	0.17	0.34	14.514	0.87	—	—	Mgt_08BI-12	6-Oct-15
Mgt_98LH7	0.26	0.41	14.768	0.89	—	—	Mgt_08BI-12	6-Oct-15
Mgt_98LH7	0.16	0.33	10.754	0.91	—	—	Mgt_08BI-12	7-Oct-15
Mgt_98LH7	0.25	0.33	11.438	0.97	—	—	Mgt_08BI-12	7-Oct-15

Mgt_98LH7	0.30	0.54	12.576	1.07	—	—	Mgt_08BI-12	7-Oct-15
Mgt_98LH7	0.20	0.35	6.845	0.90	—	—	Mgt_08BI-12	21-Dec-16
Mgt_98LH7	0.32	0.57	6.791	0.88	—	—	Mgt_08BI-12	21-Dec-16
Mgt_98LH7	0.28	0.46	6.704	0.87	—	—	Mgt_08BI-12	21-Dec-16
Mgt_P2-670	0.13	0.38	6.423	0.84	—	—	Mgt_08BI-12	15-Apr-15
Mgt_P2-670	0.14	0.29	6.386	0.83	—	—	Mgt_08BI-12	15-Apr-15
Mgt_P2-670	0.07	0.19	6.429	0.84	—	—	Mgt_08BI-12	15-Apr-15
Mgt_P2-670	0.17	0.37	6.458	0.85	—	—	Mgt_08BI-12	15-Apr-15
Mgt_P2-670	0.08	0.06	6.396	0.84	—	—	Mgt_08BI-12	15-Apr-15
Mgt_P2-670	0.10	0.12	6.466	0.85	—	—	Mgt_08BI-12	15-Apr-15
Mgt_P2-670	0.35	0.55	13.084	0.79	—	—	Mgt_08BI-12	6-Oct-15
Mgt_P2-670	0.19	0.31	14.567	0.90	—	—	Mgt_08BI-12	6-Oct-15
Mgt_P2-670	0.13	0.18	13.412	0.83	—	—	Mgt_08BI-12	6-Oct-15
Mgt_P2-670	0.08	0.14	14.218	0.87	—	—	Mgt_08BI-12	6-Oct-15
Mgt_P2-670	0.03	0.17	10.438	0.89	—	—	Mgt_08BI-12	7-Oct-15
Mgt_P2-670	0.10	0.10	10.226	0.88	—	—	Mgt_08BI-12	7-Oct-15
Mgt_P2-670	0.08	0.14	10.377	0.89	—	—	Mgt_08BI-12	7-Oct-15
Mgt_P2-670	0.09	0.15	6.429	0.84	—	—	Mgt_08BI-12	21-Dec-16
Mgt_P2-670	0.00	0.14	6.430	0.85	—	—	Mgt_08BI-12	21-Dec-16
Mgt_P2-670	0.02	0.06	6.454	0.85	—	—	Mgt_08BI-12	21-Dec-16
Py_Bal-4-13B	-1.38	-1.99	12.857	1.00	—	—	Py_Bal-4-13B	23-Dec-16
Py_Bal-4-13B	-1.36	-2.05	12.584	0.99	—	—	Py_Bal-4-13B	23-Dec-16
Py_Bal-4-13B	-1.37	-1.99	12.621	1.01	—	—	Py_Bal-4-13B	23-Dec-16
Py_Bal-4-13B	-1.26	-1.84	14.438	0.98	—	—	Py_Bal-4-13B	10-Mar-17
Py_Bal-4-13B	-1.25	-1.85	14.792	1.01	—	—	Py_Bal-4-13B	10-Mar-17
Py_Bal-4-13B	-1.25	-1.83	14.236	0.98	—	—	Py_Bal-4-13B	10-Mar-17
Py_Bal-4-13B	-1.32	-2.02	14.696	1.01	—	—	Py_Bal-4-13B	10-Mar-17
Py_Bal-4-13B	-1.35	-2.04	14.839	1.03	—	—	Py_Bal-4-13B	10-Mar-17
Py_Bal-4-13B	-1.37	-1.93	14.653	1.02	—	—	Py_Bal-4-13B	10-Mar-17
Py_Bal-4-13B	-1.31	-2.09	14.612	1.02	—	—	Py_Bal-4-13B	10-Mar-17
Py_Bal-4-13B	-1.34	-2.00	13.359	1.00	—	—	Py_Bal-4-13B	10-Mar-17
Py_Bal-4-13B	-1.37	-2.00	13.367	1.01	—	—	Py_Bal-4-13B	10-Mar-17
Py_Bal-4-13B	-1.42	-2.02	13.293	1.00	—	—	Py_Bal-4-13B	10-Mar-17
Py_Bal-4-13B	-1.37	-1.92	13.319	1.01	—	—	Py_Bal-4-13B	10-Mar-17
Py_Bal-4-13B	-1.37	-1.96	13.080	0.99	—	—	Py_Bal-4-13B	10-Mar-17
Py_Bal-4-13B	-1.45	-2.08	13.098	0.99	—	—	Py_Bal-4-13B	10-Mar-17
Py_Bal-4-13B	-1.38	-2.02	13.352	1.01	—	—	Py_Bal-4-13B	10-Mar-17
Py_Bal-4-13B	-1.45	-2.03	12.952	0.98	—	—	Py_Bal-4-13B	10-Mar-17
Py_Bal-4-13B	-1.37	-2.04	13.126	0.99	—	—	Py_Bal-4-13B	10-Mar-17
Py_Bal-4-13B	-1.33	-1.99	12.885	0.98	—	—	Py_Bal-4-13B	10-Mar-17

Wet-LA

Mgt_08BI-12	0.36	0.44	8.026	1.00	10.6	83.6%	Mgt_08BI-12	22-Dec-16
Mgt_08BI-12	0.30	0.46	8.157	1.01	10.6	83.6%	Mgt_08BI-12	22-Dec-16
Mgt_08BI-12	0.35	0.67	8.206	1.01	10.6	83.6%	Mgt_08BI-12	22-Dec-16
Mgt_90LP5	-0.42	-0.52	5.899	0.94	28.0	56.7%	Mgt_08BI-12	16-Apr-15
Mgt_90LP5	-0.39	-0.53	5.684	0.91	28.0	56.7%	Mgt_08BI-12	16-Apr-15
Mgt_90LP5	-0.39	-0.52	5.731	0.93	28.0	56.7%	Mgt_08BI-12	16-Apr-15
Mgt_90LP5	-0.47	-0.60	7.626	0.90	10.6	83.6%	Mgt_08BI-12	22-Dec-16
Mgt_90LP5	-0.52	-0.64	7.461	0.88	10.6	83.6%	Mgt_08BI-12	22-Dec-16
Mgt_90LP5	-0.41	-0.40	7.410	0.88	10.6	83.6%	Mgt_08BI-12	22-Dec-16
Mgt_90LP12	-0.40	-0.58	5.631	0.93	28.0	56.7%	Mgt_08BI-12	16-Apr-15
Mgt_90LP12	-0.57	-0.78	5.958	0.99	28.0	56.7%	Mgt_08BI-12	16-Apr-15
Mgt_90LP12	-0.58	-0.68	5.904	0.96	28.0	56.7%	Mgt_08BI-12	16-Apr-15
Mgt_90LP12	-0.43	-0.74	8.066	0.95	10.6	83.6%	Mgt_08BI-12	22-Dec-16
Mgt_90LP12	-0.47	-0.79	8.193	0.96	10.6	83.6%	Mgt_08BI-12	22-Dec-16
Mgt_90LP12	-0.48	-0.78	7.973	0.94	10.6	83.6%	Mgt_08BI-12	22-Dec-16
Mgt_98LH7	0.12	0.23	5.416	0.87	28.0	56.7%	Mgt_08BI-12	16-Apr-15
Mgt_98LH7	0.15	0.07	5.565	0.89	28.0	56.7%	Mgt_08BI-12	16-Apr-15
Mgt_98LH7	0.11	0.18	4.684	0.75	28.0	56.7%	Mgt_08BI-12	16-Apr-15
Mgt_98LH7	0.10	0.14	7.552	0.90	10.6	83.6%	Mgt_08BI-12	22-Dec-16
Mgt_98LH7	0.10	0.22	7.498	0.88	10.6	83.6%	Mgt_08BI-12	22-Dec-16
Mgt_98LH7	0.09	0.24	7.222	0.85	10.6	83.6%	Mgt_08BI-12	22-Dec-16
Mgt_P2-670	-0.05	-0.05	5.488	0.87	28.0	56.7%	Mgt_08BI-12	16-Apr-15
Mgt_P2-670	-0.13	-0.20	5.434	0.86	28.0	56.7%	Mgt_08BI-12	16-Apr-15
Mgt_P2-670	0.03	-0.05	5.361	0.85	28.0	56.7%	Mgt_08BI-12	16-Apr-15
Mgt_P2-670	-0.08	-0.10	7.123	0.84	10.6	83.6%	Mgt_08BI-12	22-Dec-16
Mgt_P2-670	-0.13	-0.11	7.157	0.85	10.6	83.6%	Mgt_08BI-12	22-Dec-16
Mgt_P2-670	-0.10	-0.11	7.078	0.84	10.6	83.6%	Mgt_08BI-12	22-Dec-16

Non-mineral-phase-matched Analysis

Dry-LA

Mgt_08BI-12	-0.60	-0.80	18.611	1.20	—	—	Py_Bal-4-13B	6-Oct-15
Mgt_08BI-12	-0.70	-1.04	18.408	1.01	—	—	Py_Bal-4-13B	6-Oct-15
Mgt_08BI-12	-0.60	-0.93	18.662	1.04	—	—	Py_Bal-4-13B	6-Oct-15
Mgt_08BI-12	-0.57	-0.84	11.970	0.92	—	—	Py_Bal-4-13B	7-Oct-15
Mgt_08BI-12	-0.55	-0.72	12.103	0.93	—	—	Py_Bal-4-13B	7-Oct-15

Mgt_08BI-12	-0.33	-0.21	6.654	1.06	—	—	Py_Bal-4-13B	21-Dec-16
Mgt_08BI-12	-0.42	-0.40	6.534	1.05	—	—	Py_Bal-4-13B	21-Dec-16
Mgt_08BI-12	-0.35	-0.44	6.426	1.04	—	—	Py_Bal-4-13B	21-Dec-16
Mgt_08BI-12	-0.34	-0.47	12.136	0.98	—	—	Py_Bal-4-13B	23-Dec-16
Mgt_08BI-12	-0.32	-0.51	11.888	0.97	—	—	Py_Bal-4-13B	23-Dec-16
Mgt_08BI-12	-0.34	-0.50	11.797	0.97	—	—	Py_Bal-4-13B	23-Dec-16
Mgt_08BI-12	-0.36	-0.55	14.367	1.12	—	—	Py_Bal-4-13B	26-Dec-16
Mgt_08BI-12	-0.37	-0.60	14.161	1.11	—	—	Py_Bal-4-13B	26-Dec-16
Mgt_08BI-12	-0.36	-0.57	13.735	1.09	—	—	Py_Bal-4-13B	26-Dec-16
Mgt_08BI-12	-0.41	-0.62	13.917	1.05	—	—	Py_Bal-4-13B	27-Dec-16
Mgt_08BI-12	-0.46	-0.70	14.069	1.07	—	—	Py_Bal-4-13B	27-Dec-16
Mgt_08BI-12	-0.38	-0.59	13.915	1.06	—	—	Py_Bal-4-13B	27-Dec-16
Mgt_08BI-12	-0.72	-1.14	11.882	1.16	—	—	Py_Bal-4-13B	28-Dec-16
Mgt_08BI-12	-0.63	-1.15	12.228	1.18	—	—	Py_Bal-4-13B	28-Dec-16
Mgt_08BI-12	-0.64	-0.95	12.183	1.16	—	—	Py_Bal-4-13B	28-Dec-16
Mgt_08BI-12	-0.25	-0.44	11.335	1.01	—	—	Py_Bal-4-13B	29-Dec-16
Mgt_08BI-12	-0.27	-0.41	11.448	1.02	—	—	Py_Bal-4-13B	29-Dec-16
Mgt_08BI-12	-0.29	-0.46	11.723	1.04	—	—	Py_Bal-4-13B	29-Dec-16
Mgt_08BI-12	-0.42	-0.67	12.150	1.06	—	—	Py_Bal-4-13B	29-Dec-16
Mgt_08BI-12	-0.38	-0.58	12.083	1.05	—	—	Py_Bal-4-13B	29-Dec-16
Mgt_08BI-12	-0.38	-0.53	12.010	1.04	—	—	Py_Bal-4-13B	29-Dec-16
Mgt_08BI-12	-0.42	-0.48	8.636	0.92	—	—	Py_Bal-4-13B	29-Dec-16
Mgt_08BI-12	-0.43	-0.58	8.721	0.93	—	—	Py_Bal-4-13B	29-Dec-16
Mgt_08BI-12	-0.45	-0.67	8.901	0.95	—	—	Py_Bal-4-13B	29-Dec-16
Mgt_08BI-12	-0.26	-0.37	15.917	0.80	—	—	Py_Bal-4-13B	30-Dec-16
Mgt_08BI-12	-0.18	-0.18	15.628	0.79	—	—	Py_Bal-4-13B	30-Dec-16
Mgt_08BI-12	-0.19	-0.28	15.462	0.80	—	—	Py_Bal-4-13B	30-Dec-16
Mgt_08BI-12	-0.20	-0.16	12.485	0.89	—	—	Py_Bal-4-13B	30-Dec-16
Mgt_08BI-12	-0.16	-0.33	13.100	0.96	—	—	Py_Bal-4-13B	30-Dec-16
Mgt_08BI-12	-0.20	-0.34	12.905	0.96	—	—	Py_Bal-4-13B	30-Dec-16
Mgt_08BI-12	-0.59	-0.79	12.646	0.95	—	—	Py_Bal-4-13B	30-Dec-16
Mgt_08BI-12	-0.61	-0.87	12.756	0.95	—	—	Py_Bal-4-13B	30-Dec-16
Mgt_08BI-12	-0.59	-0.82	12.819	0.96	—	—	Py_Bal-4-13B	30-Dec-16
Mgt_08BI-12	-0.08	-0.03	17.579	0.93	—	—	Py_Bal-4-13B	2-Jan-17
Mgt_08BI-12	-0.05	-0.03	17.327	0.93	—	—	Py_Bal-4-13B	2-Jan-17
Mgt_08BI-12	-0.07	-0.12	17.424	0.94	—	—	Py_Bal-4-13B	2-Jan-17
Mgt_08BI-12	-0.03	-0.06	12.762	1.03	—	—	Py_Bal-4-13B	2-Jan-17
Mgt_08BI-12	-0.03	-0.07	12.816	1.05	—	—	Py_Bal-4-13B	2-Jan-17
Mgt_08BI-12	-0.03	0.07	12.681	1.04	—	—	Py_Bal-4-13B	2-Jan-17
Mgt_08BI-12	-0.50	-0.69	12.131	0.99	—	—	Py_Bal-4-13B	2-Jan-17
Mgt_08BI-12	-0.55	-0.70	11.865	0.96	—	—	Py_Bal-4-13B	2-Jan-17
Mgt_08BI-12	-0.52	-0.78	11.768	0.95	—	—	Py_Bal-4-13B	2-Jan-17
Mgt_08BI-12	-0.55	-0.82	23.220	1.08	—	—	Py_Bal-4-13B	27-Dec-16
Mgt_08BI-12	-0.56	-0.81	23.356	1.09	—	—	Py_Bal-4-13B	27-Dec-16
Mgt_08BI-12	-0.58	-0.83	22.753	1.07	—	—	Py_Bal-4-13B	27-Dec-16
Mgt_08BI-12	-0.42	-0.62	14.290	1.09	—	—	Py_Bal-4-13B	9-Mar-17
Mgt_08BI-12	-0.51	-0.73	14.472	1.10	—	—	Py_Bal-4-13B	9-Mar-17
Mgt_08BI-12	-0.52	-0.71	14.313	1.08	—	—	Py_Bal-4-13B	9-Mar-17
Mgt_08BI-12	0.08	0.16	13.711	0.95	—	—	Py_Bal-4-13B	9-Mar-17
Mgt_08BI-12	0.11	0.14	13.645	0.95	—	—	Py_Bal-4-13B	9-Mar-17
Mgt_08BI-12	0.10	0.14	13.456	0.94	—	—	Py_Bal-4-13B	9-Mar-17
Mgt_08BI-12	-0.35	-0.51	14.986	0.98	—	—	Py_Bal-4-13B	10-Mar-17
Mgt_08BI-12	-0.37	-0.59	14.967	0.99	—	—	Py_Bal-4-13B	10-Mar-17
Mgt_08BI-12	-0.41	-0.64	14.886	0.98	—	—	Py_Bal-4-13B	10-Mar-17
Mgt_08BI-12	-0.32	-0.40	11.487	1.01	—	—	Py_Bal-4-13B	11-Mar-17
Mgt_08BI-12	-0.28	-0.41	11.266	1.00	—	—	Py_Bal-4-13B	11-Mar-17
Mgt_08BI-12	-0.28	-0.40	11.346	1.01	—	—	Py_Bal-4-13B	11-Mar-17
Mgt_08BI-12*	-0.66	-0.88	7.857	1.02	—	—	Py_Bal-4-13B	5-Apr-17
Mgt_08BI-12*	-0.61	-0.99	7.664	0.97	—	—	Py_Bal-4-13B	5-Apr-17
Mgt_08BI-12*	-0.59	-0.98	8.608	1.08	—	—	Py_Bal-4-13B	5-Apr-17
Mgt_08BI-12*	-0.76	-1.07	9.132	1.00	—	—	Py_Bal-4-13B	6-Apr-17
Mgt_08BI-12*	-0.72	-1.05	9.397	1.02	—	—	Py_Bal-4-13B	6-Apr-17
Mgt_08BI-12*	-0.68	-1.07	9.259	1.00	—	—	Py_Bal-4-13B	6-Apr-17
Po_North-Bend	-0.65	-0.91	14.233	1.07	—	—	Py_Bal-4-13B	23-Dec-16
Po_North-Bend	-0.65	-0.95	13.863	1.05	—	—	Py_Bal-4-13B	23-Dec-16
Po_North-Bend	-0.58	-0.83	13.649	1.05	—	—	Py_Bal-4-13B	23-Dec-16
Po_North-Bend	-0.68	-0.98	14.186	1.07	—	—	Py_Bal-4-13B	26-Dec-16
Po_North-Bend	-0.69	-1.02	14.123	1.07	—	—	Py_Bal-4-13B	26-Dec-16
Po_North-Bend	-0.68	-1.05	14.322	1.08	—	—	Py_Bal-4-13B	26-Dec-16
Po_North-Bend	-0.74	-1.09	14.787	1.06	—	—	Py_Bal-4-13B	27-Dec-16
Po_North-Bend	-0.73	-1.01	14.974	1.08	—	—	Py_Bal-4-13B	27-Dec-16
Po_North-Bend	-0.70	-0.96	14.783	1.08	—	—	Py_Bal-4-13B	27-Dec-16
Po_North-Bend	-0.77	-1.13	13.160	1.16	—	—	Py_Bal-4-13B	28-Dec-16
Po_North-Bend	-0.72	-1.07	13.387	1.18	—	—	Py_Bal-4-13B	28-Dec-16
Po_North-Bend	-0.72	-1.07	13.107	1.15	—	—	Py_Bal-4-13B	28-Dec-16
Po_North-Bend	-0.67	-0.86	12.286	1.04	—	—	Py_Bal-4-13B	29-Dec-16

Po_North-Bend	-0.72	-0.99	12.185	1.05	—	—	Py_Bal-4-13B	29-Dec-16
Po_North-Bend	-0.74	-1.01	12.282	1.06	—	—	Py_Bal-4-13B	29-Dec-16
Po_North-Bend	-0.85	-1.32	12.073	1.03	—	—	Py_Bal-4-13B	29-Dec-16
Po_North-Bend	-0.83	-1.24	11.975	1.03	—	—	Py_Bal-4-13B	29-Dec-16
Po_North-Bend	-0.82	-1.17	12.341	1.06	—	—	Py_Bal-4-13B	29-Dec-16
Po_North-Bend	-0.69	-1.01	7.632	1.00	—	—	Py_Bal-4-13B	29-Dec-16
Po_North-Bend	-0.83	-1.29	7.806	1.01	—	—	Py_Bal-4-13B	29-Dec-16
Po_North-Bend	-0.87	-1.24	8.145	1.03	—	—	Py_Bal-4-13B	29-Dec-16
Po_North-Bend	-0.55	-0.76	18.202	0.96	—	—	Py_Bal-4-13B	30-Dec-16
Po_North-Bend	-0.55	-0.79	17.937	0.95	—	—	Py_Bal-4-13B	30-Dec-16
Po_North-Bend	-0.56	-0.92	18.090	0.96	—	—	Py_Bal-4-13B	30-Dec-16
Po_North-Bend	-0.37	-0.60	13.758	1.02	—	—	Py_Bal-4-13B	30-Dec-16
Po_North-Bend	-0.40	-0.56	13.426	0.99	—	—	Py_Bal-4-13B	30-Dec-16
Po_North-Bend	-0.41	-0.61	13.536	1.00	—	—	Py_Bal-4-13B	30-Dec-16
Po_North-Bend	-0.47	-0.63	19.061	1.08	—	—	Py_Bal-4-13B	2-Jan-17
Po_North-Bend	-0.51	-0.66	18.668	1.06	—	—	Py_Bal-4-13B	2-Jan-17
Po_North-Bend	-0.55	-0.72	18.814	1.06	—	—	Py_Bal-4-13B	2-Jan-17
Po_North-Bend	-0.55	-0.85	13.076	0.91	—	—	Py_Bal-4-13B	2-Jan-17
Po_North-Bend	-0.42	-0.62	11.685	0.93	—	—	Py_Bal-4-13B	2-Jan-17
Po_North-Bend	-0.44	-0.71	11.357	0.93	—	—	Py_Bal-4-13B	2-Jan-17
Po_North-Bend	-0.60	-0.83	13.019	1.05	—	—	Py_Bal-4-13B	2-Jan-17
Po_North-Bend	-0.52	-0.79	12.911	1.04	—	—	Py_Bal-4-13B	2-Jan-17
Po_North-Bend	-0.34	-0.47	13.522	1.08	—	—	Py_Bal-4-13B	2-Jan-17
Po_North-Bend	-0.43	-0.53	12.475	1.01	—	—	Py_Bal-4-13B	2-Jan-17
Po_North-Bend	-0.28	-0.35	12.803	1.02	—	—	Py_Bal-4-13B	2-Jan-17
Po_North-Bend	-0.76	-1.12	14.479	1.11	—	—	Py_Bal-4-13B	9-Mar-17
Po_North-Bend	-0.60	-0.82	13.623	1.04	—	—	Py_Bal-4-13B	9-Mar-17
Po_North-Bend	-0.67	-0.91	13.687	1.05	—	—	Py_Bal-4-13B	9-Mar-17
Po_North-Bend	-0.75	-1.12	15.960	1.07	—	—	Py_Bal-4-13B	10-Mar-17
Po_North-Bend	-0.67	-0.98	16.378	1.11	—	—	Py_Bal-4-13B	10-Mar-17
Po_North-Bend	-0.45	-0.68	16.045	1.09	—	—	Py_Bal-4-13B	10-Mar-17
Po_North-Bend	-0.72	-1.07	11.485	1.02	—	—	Py_Bal-4-13B	11-Mar-17
Po_North-Bend	-0.65	-0.99	11.313	1.01	—	—	Py_Bal-4-13B	11-Mar-17
Po_North-Bend	-0.72	-1.00	11.335	1.02	—	—	Py_Bal-4-13B	11-Mar-17
Po_North-Bend	-0.72	-1.09	25.576	1.06	—	—	Py_Bal-4-13B	27-Dec-16
Po_North-Bend	-0.67	-0.98	25.949	1.09	—	—	Py_Bal-4-13B	27-Dec-16
Po_North-Bend	-0.70	-0.94	25.652	1.10	—	—	Py_Bal-4-13B	27-Dec-16
Mgt_08BI-12	0.19	0.27	14.177	1.00	—	—	metal	10-Mar-17
Mgt_08BI-12	0.17	0.21	14.342	1.00	—	—	metal	10-Mar-17
Mgt_08BI-12	0.10	0.12	14.031	0.97	—	—	metal	10-Mar-17
Mgt_08BI-12	0.12	0.15	11.392	0.96	—	—	metal	11-Mar-17
Mgt_08BI-12	0.19	0.19	11.356	0.94	—	—	metal	11-Mar-17
Mgt_08BI-12	0.21	0.23	11.356	0.94	—	—	metal	11-Mar-17
Po_North-Bend	-0.17	-0.37	14.434	1.07	—	—	metal	9-Mar-17
Po_North-Bend	-0.27	-0.46	13.282	1.00	—	—	metal	9-Mar-17
Po_North-Bend	-0.21	-0.40	12.546	0.95	—	—	metal	9-Mar-17
Po_North-Bend	-0.09	-0.12	15.080	1.03	—	—	metal	10-Mar-17
Po_North-Bend	0.03	0.08	14.803	1.01	—	—	metal	10-Mar-17
Po_North-Bend	-0.23	-0.30	14.583	1.00	—	—	metal	10-Mar-17
Po_North-Bend	-0.19	-0.28	12.074	1.02	—	—	metal	11-Mar-17
Po_North-Bend	-0.20	-0.24	12.015	1.03	—	—	metal	11-Mar-17
Po_North-Bend	-0.20	-0.33	12.104	1.03	—	—	metal	11-Mar-17
Py_Bal-4-13B	-0.88	-1.32	14.678	1.03	—	—	metal	10-Mar-17
Py_Bal-4-13B	-0.76	-1.14	14.648	1.03	—	—	metal	10-Mar-17
Py_Bal-4-13B	-0.85	-1.25	14.808	1.04	—	—	metal	10-Mar-17
Py_Bal-4-13B	-0.96	-1.42	12.095	0.99	—	—	metal	11-Mar-17
Py_Bal-4-13B	-0.93	-1.40	11.917	0.99	—	—	metal	11-Mar-17
Py_Bal-4-13B	-0.83	-1.21	11.952	1.01	—	—	metal	11-Mar-17

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Mgt_08BI-12	0.05	0.10	6.934	0.99	10.6	80%	Py_Bal-4-13B	22-Dec-16
Mgt_08BI-12	0.11	0.23	6.883	0.99	10.6	80%	Py_Bal-4-13B	22-Dec-16
Mgt_08BI-12	0.03	0.05	7.079	1.01	10.6	80%	Py_Bal-4-13B	22-Dec-16
Mgt_08BI-12	0.21	0.47	6.802	1.03	21.0	58%	Py_Bal-4-13B	23-Dec-16
Mgt_08BI-12	0.29	0.54	6.892	1.05	21.0	58%	Py_Bal-4-13B	23-Dec-16
Mgt_08BI-12	0.17	0.30	6.889	1.05	21.0	58%	Py_Bal-4-13B	23-Dec-16
Mgt_08BI-12	0.25	0.52	8.463	1.01	10.0	70%	Py_Bal-4-13B	23-Dec-16
Mgt_08BI-12	0.14	0.43	8.182	0.97	10.0	70%	Py_Bal-4-13B	23-Dec-16
Mgt_08BI-12	0.31	0.42	8.284	0.98	10.0	70%	Py_Bal-4-13B	23-Dec-16
Mgt_08BI-12	0.28	0.56	5.398	1.19	39.2	38%	Py_Bal-4-13B	26-Dec-16
Mgt_08BI-12	0.37	0.38	5.323	1.17	39.2	38%	Py_Bal-4-13B	26-Dec-16
Mgt_08BI-12	0.31	0.37	5.459	1.18	39.2	38%	Py_Bal-4-13B	26-Dec-16
Mgt_08BI-12	0.02	0.01	11.402	1.09	4.5	82%	Py_Bal-4-13B	27-Dec-16
Mgt_08BI-12	0.01	-0.02	11.480	1.10	4.5	82%	Py_Bal-4-13B	27-Dec-16
Mgt_08BI-12	-0.03	-0.10	11.328	1.09	4.5	82%	Py_Bal-4-13B	27-Dec-16
Mgt_08BI-12	0.15	0.33	9.553	1.16	9.3	67%	Py_Bal-4-13B	27-Dec-16
Mgt_08BI-12	0.10	0.09	9.048	1.11	9.3	67%	Py_Bal-4-13B	27-Dec-16

Mgt_08BI-12	0.14	0.32	9.535	1.17	9.3	67%	Py_Bal-4-13B	27-Dec-16
Mgt_08BI-12	0.15	0.31	7.507	1.02	19.1	54%	Py_Bal-4-13B	27-Dec-16
Mgt_08BI-12	0.24	0.38	7.463	1.02	19.1	54%	Py_Bal-4-13B	27-Dec-16
Mgt_08BI-12	0.23	0.18	7.623	1.04	19.1	54%	Py_Bal-4-13B	27-Dec-16
Mgt_08BI-12	0.24	0.49	6.450	1.10	29.2	46%	Py_Bal-4-13B	27-Dec-16
Mgt_08BI-12	0.21	0.35	6.264	1.05	29.2	46%	Py_Bal-4-13B	27-Dec-16
Mgt_08BI-12	0.16	0.31	6.526	1.08	29.2	46%	Py_Bal-4-13B	27-Dec-16
Mgt_08BI-12	0.22	0.21	5.677	1.21	39.2	40%	Py_Bal-4-13B	27-Dec-16
Mgt_08BI-12	0.26	0.42	5.621	1.21	39.2	40%	Py_Bal-4-13B	27-Dec-16
Mgt_08BI-12	0.14	0.18	5.549	1.17	39.2	40%	Py_Bal-4-13B	27-Dec-16
Mgt_08BI-12	0.31	0.42	5.323	1.17	30.9	45%	Py_Bal-4-13B	28-Dec-16
Mgt_08BI-12	0.24	0.36	5.445	1.20	30.9	45%	Py_Bal-4-13B	28-Dec-16
Mgt_08BI-12	0.24	0.41	5.420	1.19	30.9	45%	Py_Bal-4-13B	28-Dec-16
Mgt_08BI-12	0.01	0.13	9.525	0.94	7.8	79%	Py_Bal-4-13B	28-Dec-16
Mgt_08BI-12	0.03	0.15	9.552	0.95	7.8	79%	Py_Bal-4-13B	28-Dec-16
Mgt_08BI-12	0.07	0.17	9.437	0.92	7.8	79%	Py_Bal-4-13B	28-Dec-16
Mgt_08BI-12	0.23	0.32	6.564	1.13	29.4	57%	Py_Bal-4-13B	29-Dec-16
Mgt_08BI-12	0.09	0.12	6.559	1.11	29.4	57%	Py_Bal-4-13B	29-Dec-16
Mgt_08BI-12	0.10	0.08	6.657	1.11	29.4	57%	Py_Bal-4-13B	29-Dec-16
Mgt_08BI-12	-0.01	-0.10	5.367	1.03	39.4	47%	Py_Bal-4-13B	29-Dec-16
Mgt_08BI-12	0.04	0.01	5.419	1.04	39.4	47%	Py_Bal-4-13B	29-Dec-16
Mgt_08BI-12	0.19	0.48	5.552	1.07	39.4	47%	Py_Bal-4-13B	29-Dec-16
Mgt_08BI-12	0.49	0.75	5.230	1.07	21.8	34%	Py_Bal-4-13B	30-Dec-16
Mgt_08BI-12	0.62	0.78	5.338	1.11	21.8	34%	Py_Bal-4-13B	30-Dec-16
Mgt_08BI-12	0.68	0.83	5.438	1.11	21.8	34%	Py_Bal-4-13B	30-Dec-16
Mgt_08BI-12	0.15	0.40	4.360	0.89	21.8	34%	Py_Bal-4-13B	30-Dec-16
Mgt_08BI-12	-0.03	0.01	4.791	0.99	21.8	34%	Py_Bal-4-13B	30-Dec-16
Mgt_08BI-12	0.34	0.52	4.735	0.98	21.8	34%	Py_Bal-4-13B	30-Dec-16
Mgt_08BI-12	0.16	0.43	4.734	0.98	21.8	34%	Py_Bal-4-13B	30-Dec-16
Mgt_08BI-12	0.51	0.84	4.733	1.00	21.8	34%	Py_Bal-4-13B	30-Dec-16
Mgt_08BI-12	0.18	0.14	4.743	1.00	21.8	34%	Py_Bal-4-13B	30-Dec-16
Mgt_08BI-12	0.26	0.56	4.753	0.99	21.8	34%	Py_Bal-4-13B	30-Dec-16
Mgt_08BI-12	0.22	0.38	5.024	0.98	17.3	56%	Py_Bal-4-13B	2-Jan-17
Mgt_08BI-12	0.24	0.48	5.141	1.01	17.3	56%	Py_Bal-4-13B	2-Jan-17
Mgt_08BI-12	0.21	0.41	5.303	1.04	17.3	56%	Py_Bal-4-13B	2-Jan-17
Mgt_08BI-12	0.34	0.56	6.647	1.17	22.6	45%	Py_Bal-4-13B	9-Mar-17
Mgt_08BI-12	0.35	0.57	6.301	1.10	22.6	45%	Py_Bal-4-13B	9-Mar-17
Mgt_08BI-12	0.30	0.50	6.566	1.15	22.6	45%	Py_Bal-4-13B	9-Mar-17
Mgt_08BI-12	0.43	0.71	5.390	0.99	26.3	39%	Py_Bal-4-13B	10-Mar-17
Mgt_08BI-12	0.24	0.36	5.423	1.00	26.3	39%	Py_Bal-4-13B	10-Mar-17
Mgt_08BI-12	0.30	0.62	5.197	0.95	26.3	39%	Py_Bal-4-13B	10-Mar-17
Mgt_08BI-12	0.34	0.40	10.101	1.00	3.1	78%	Py_Bal-4-13B	11-Mar-17
Mgt_08BI-12	0.28	0.42	10.056	0.98	3.1	78%	Py_Bal-4-13B	11-Mar-17
Mgt_08BI-12	0.19	0.31	9.801	0.95	3.1	78%	Py_Bal-4-13B	11-Mar-17
Mgt_08BI-12*	-0.05	-0.03	7.351	1.13	14.6	71%	Py_Bal-4-13B	6-Apr-17
Mgt_08BI-12*	-0.06	-0.01	7.785	1.19	14.6	71%	Py_Bal-4-13B	6-Apr-17
Mgt_08BI-12*	-0.07	0.05	7.669	1.17	14.6	71%	Py_Bal-4-13B	6-Apr-17
Mgt_08BI-12*	-0.04	-0.03	6.442	0.97	14.6	71%	Py_Bal-4-13B	6-Apr-17
Mgt_08BI-12*	-0.04	-0.12	6.326	0.95	14.6	71%	Py_Bal-4-13B	6-Apr-17
Mgt_08BI-12*	0.05	-0.05	6.768	1.02	14.6	71%	Py_Bal-4-13B	6-Apr-17
Mgt_08BI-12*	-0.08	-0.09	5.487	1.03	23.3	59%	Py_Bal-4-13B	6-Apr-17
Mgt_08BI-12*	0.03	0.08	5.573	1.05	23.3	59%	Py_Bal-4-13B	6-Apr-17
Mgt_08BI-12*	0.08	0.09	5.515	1.04	23.3	59%	Py_Bal-4-13B	6-Apr-17
Po_North-Bend	-0.26	-0.40	8.491	1.12	21.0	59%	Py_Bal-4-13B	23-Dec-16
Po_North-Bend	-0.22	-0.35	8.156	1.07	21.0	59%	Py_Bal-4-13B	23-Dec-16
Po_North-Bend	-0.11	-0.07	8.162	1.09	21.0	59%	Py_Bal-4-13B	23-Dec-16
Po_North-Bend	-0.28	-0.38	9.726	1.04	10.0	73%	Py_Bal-4-13B	23-Dec-16
Po_North-Bend	-0.30	-0.44	10.574	1.13	10.0	73%	Py_Bal-4-13B	23-Dec-16
Po_North-Bend	-0.32	-0.52	10.314	1.11	10.0	73%	Py_Bal-4-13B	23-Dec-16
Po_North-Bend	-0.22	-0.36	5.789	1.08	39.2	41%	Py_Bal-4-13B	26-Dec-16
Po_North-Bend	-0.23	-0.30	5.930	1.10	39.2	41%	Py_Bal-4-13B	26-Dec-16
Po_North-Bend	-0.25	-0.45	5.921	1.10	39.2	41%	Py_Bal-4-13B	26-Dec-16
Po_North-Bend	-0.23	-0.28	13.483	1.14	4.5	91%	Py_Bal-4-13B	27-Dec-16
Po_North-Bend	-0.25	-0.35	13.558	1.16	4.5	91%	Py_Bal-4-13B	27-Dec-16
Po_North-Bend	-0.32	-0.51	13.256	1.14	4.5	91%	Py_Bal-4-13B	27-Dec-16
Po_North-Bend	-0.25	-0.29	11.078	1.16	9.3	73%	Py_Bal-4-13B	27-Dec-16
Po_North-Bend	-0.34	-0.42	10.557	1.11	9.3	73%	Py_Bal-4-13B	27-Dec-16
Po_North-Bend	-0.24	-0.40	10.679	1.12	9.3	73%	Py_Bal-4-13B	27-Dec-16
Po_North-Bend	-0.15	-0.24	8.593	1.10	19.1	59%	Py_Bal-4-13B	27-Dec-16
Po_North-Bend	-0.31	-0.35	8.688	1.12	19.1	59%	Py_Bal-4-13B	27-Dec-16
Po_North-Bend	-0.29	-0.44	8.789	1.13	19.1	59%	Py_Bal-4-13B	27-Dec-16
Po_North-Bend	-0.37	-0.61	7.549	1.15	29.2	51%	Py_Bal-4-13B	27-Dec-16
Po_North-Bend	-0.29	-0.51	7.547	1.14	29.2	51%	Py_Bal-4-13B	27-Dec-16
Po_North-Bend	-0.26	-0.43	7.499	1.12	29.2	51%	Py_Bal-4-13B	27-Dec-16
Po_North-Bend	-0.28	-0.44	6.385	1.21	30.9	48%	Py_Bal-4-13B	28-Dec-16

Po_North-Bend	-0.11	-0.18	6.140	1.16	30.9	48%	Py_Bal-4-13B	28-Dec-16
Po_North-Bend	-0.22	-0.47	6.439	1.20	30.9	48%	Py_Bal-4-13B	28-Dec-16
Po_North-Bend	-0.31	-0.38	8.995	0.90	7.8	68%	Py_Bal-4-13B	28-Dec-16
Po_North-Bend	-0.42	-0.65	9.075	0.92	7.8	68%	Py_Bal-4-13B	28-Dec-16
Po_North-Bend	-0.32	-0.44	9.024	0.92	7.8	68%	Py_Bal-4-13B	28-Dec-16
Po_North-Bend	-0.36	-0.58	5.618	1.10	29.4	46%	Py_Bal-4-13B	29-Dec-16
Po_North-Bend	-0.54	-0.64	5.492	1.07	29.4	46%	Py_Bal-4-13B	29-Dec-16
Po_North-Bend	-0.49	-0.44	5.656	1.10	29.4	46%	Py_Bal-4-13B	29-Dec-16
Po_North-Bend	-0.26	-0.25	4.565	1.00	39.4	38%	Py_Bal-4-13B	29-Dec-16
Po_North-Bend	-0.20	-0.12	4.619	1.01	39.4	38%	Py_Bal-4-13B	29-Dec-16
Po_North-Bend	-0.20	-0.42	4.973	0.98	21.8	27%	Py_Bal-4-13B	30-Dec-16
Po_North-Bend	-0.49	-0.55	4.965	0.99	21.8	27%	Py_Bal-4-13B	30-Dec-16
Po_North-Bend	-0.63	-0.74	4.949	0.99	21.8	27%	Py_Bal-4-13B	30-Dec-16
Po_North-Bend	-0.34	-0.48	4.817	1.00	21.8	27%	Py_Bal-4-13B	30-Dec-16
Po_North-Bend	-0.16	-0.27	4.853	1.01	21.8	27%	Py_Bal-4-13B	30-Dec-16
Po_North-Bend	-0.22	-0.23	4.884	1.00	21.8	27%	Py_Bal-4-13B	30-Dec-16
Po_North-Bend	-0.27	-0.37	5.282	1.04	17.3	56%	Py_Bal-4-13B	2-Jan-17
Po_North-Bend	-0.35	-0.54	5.230	1.04	17.3	56%	Py_Bal-4-13B	2-Jan-17
Po_North-Bend	-0.23	-0.36	5.278	1.05	17.3	56%	Py_Bal-4-13B	2-Jan-17
Po_North-Bend	-0.17	-0.26	6.756	1.13	22.6	45%	Py_Bal-4-13B	9-Mar-17
Po_North-Bend	-0.29	-0.30	6.682	1.12	22.6	45%	Py_Bal-4-13B	9-Mar-17
Po_North-Bend	-0.48	-0.71	6.210	1.04	22.6	45%	Py_Bal-4-13B	9-Mar-17
Po_North-Bend	-0.38	-0.52	9.951	0.98	3.1	78%	Py_Bal-4-13B	11-Mar-17
Po_North-Bend	-0.31	-0.33	10.157	1.00	3.1	78%	Py_Bal-4-13B	11-Mar-17
Po_North-Bend	-0.38	-0.45	10.351	1.02	3.1	78%	Py_Bal-4-13B	11-Mar-17
Mgt_08BI-12	0.22	0.37	6.180	1.06	22.6	45%	metal	9-Mar-17
Mgt_08BI-12	0.33	0.58	6.300	1.09	22.6	45%	metal	9-Mar-17
Mgt_08BI-12	0.29	0.34	6.197	1.08	22.6	45%	metal	9-Mar-17
Mgt_08BI-12	0.28	0.52	5.402	0.97	26.3	39%	metal	10-Mar-17
Mgt_08BI-12	0.32	0.43	5.400	0.97	26.3	39%	metal	10-Mar-17
Mgt_08BI-12	0.19	0.35	5.477	0.97	26.3	39%	metal	10-Mar-17
Mgt_08BI-12	0.23	0.24	12.622	0.98	3.6	91%	metal	10-Mar-17
Mgt_08BI-12	0.28	0.32	12.919	1.00	3.6	91%	metal	10-Mar-17
Mgt_08BI-12	0.29	0.33	12.731	0.98	3.6	91%	metal	10-Mar-17
Mgt_08BI-12	0.30	0.52	9.737	1.00	3.1	78%	metal	11-Mar-17
Mgt_08BI-12	0.22	0.34	9.616	0.99	3.1	78%	metal	11-Mar-17
Mgt_08BI-12	0.38	0.49	9.881	1.02	3.1	78%	metal	11-Mar-17
Py_Bal-4-13B	-1.36	-2.13	5.431	0.98	26.3	39%	metal	10-Mar-17
Py_Bal-4-13B	-1.47	-2.32	5.384	0.95	26.3	39%	metal	10-Mar-17
Py_Bal-4-13B	-1.53	-2.37	5.559	0.97	26.3	39%	metal	10-Mar-17
Py_Bal-4-13B	-1.36	-2.11	14.006	1.06	3.6	91%	metal	10-Mar-17
Py_Bal-4-13B	-1.54	-2.25	14.144	1.06	3.6	91%	metal	10-Mar-17
Py_Bal-4-13B	-1.46	-2.19	14.074	1.06	3.6	91%	metal	10-Mar-17
Py_Bal-4-13B	-1.47	-2.23	10.063	1.11	3.1	78%	metal	11-Mar-17
Py_Bal-4-13B	-1.49	-2.27	9.939	1.08	3.1	78%	metal	11-Mar-17
Py_Bal-4-13B	-1.44	-2.19	10.080	1.09	3.1	78%	metal	11-Mar-17
Po_North-Bend	-0.37	-0.57	5.672	0.98	22.6	45%	metal	9-Mar-17
Po_North-Bend	-0.42	-0.64	5.506	0.94	22.6	45%	metal	9-Mar-17
Po_North-Bend	-0.26	-0.58	5.811	0.98	22.6	45%	metal	9-Mar-17
Po_North-Bend	-0.40	-0.54	5.396	0.95	26.3	39%	metal	10-Mar-17
Po_North-Bend	-0.40	-0.67	5.688	1.01	26.3	39%	metal	10-Mar-17
Po_North-Bend	-0.46	-0.68	5.412	0.96	26.3	39%	metal	10-Mar-17
Po_North-Bend	-0.39	-0.59	13.447	1.01	3.6	91%	metal	10-Mar-17
Po_North-Bend	-0.36	-0.61	13.397	1.00	3.6	91%	metal	10-Mar-17
Po_North-Bend	-0.42	-0.66	13.434	0.99	3.6	91%	metal	10-Mar-17
Po_North-Bend	-0.36	-0.66	9.474	1.03	3.1	78%	metal	11-Mar-17

*Analyses conducted at a fluence of ~0.6 J/cm². All other analyses were conducted at a fluence of ~1 J/cm².

Table A5. Iron isotope results for ns-LA

Sample	$\delta^{56}\text{Fe}$ (‰)	$\delta^{57}\text{Fe}$ (‰)	Total Fe intensity (V)	Proportion of Fe intensity relative to bracketing std	H ₂ O uptake rate (μl/min)	Percentage of Fe intensity relative to dry-LA	Bracketing standard	Date of Analysis
Mineral-phase-matched Analysis								
Dry-LA								
Mgt_08BI-12	0.36	0.51	20.194	1.00	—	—	Mgt_08BI-12	2-Sep-15
Mgt_08BI-12	0.34	0.50	20.196	1.00	—	—	Mgt_08BI-12	2-Sep-15
Mgt_08BI-12	0.36	0.56	20.116	1.01	—	—	Mgt_08BI-12	2-Sep-15
Mgt_08BI-12	0.39	0.63	19.953	1.02	—	—	Mgt_08BI-12	2-Sep-15
Mgt_08BI-12	0.10	0.25	17.955	0.98	—	—	Mgt_08BI-12	2-Sep-15
Mgt_08BI-12	0.22	0.32	18.471	0.99	—	—	Mgt_08BI-12	2-Sep-15
Mgt_08BI-12	0.12	0.31	18.192	0.97	—	—	Mgt_08BI-12	2-Sep-15
Mgt_08BI-12	-0.02	0.05	17.284	0.93	—	—	Mgt_08BI-12	2-Sep-15
Mgt_08BI-12	0.12	0.23	17.453	0.96	—	—	Mgt_08BI-12	2-Sep-15
Mgt_08BI-12	0.19	0.27	17.478	0.97	—	—	Mgt_08BI-12	2-Sep-15
Mgt_08BI-12	0.25	0.44	15.113	1.00	—	—	Mgt_08BI-12	2-Sep-15
Mgt_08BI-12	0.20	0.33	15.249	0.99	—	—	Mgt_08BI-12	2-Sep-15
Mgt_08BI-12	0.34	0.49	15.123	0.98	—	—	Mgt_08BI-12	2-Sep-15
Mgt_08BI-12	0.39	0.54	27.113	0.97	—	—	Mgt_08BI-12	3-Sep-15
Mgt_08BI-12	0.33	0.55	26.480	0.99	—	—	Mgt_08BI-12	3-Sep-15
Mgt_08BI-12	0.27	0.47	25.930	1.00	—	—	Mgt_08BI-12	3-Sep-15
Mgt_08BI-12	0.33	0.52	16.474	0.99	—	—	Mgt_08BI-12	3-Sep-15
Mgt_08BI-12	0.38	0.49	16.469	0.98	—	—	Mgt_08BI-12	3-Sep-15
Mgt_08BI-12	0.36	0.50	16.613	0.99	—	—	Mgt_08BI-12	3-Sep-15
Mgt_08BI-12	0.33	0.56	13.722	0.97	—	—	Mgt_08BI-12	7-Sep-15
Mgt_08BI-12	0.35	0.56	13.673	0.98	—	—	Mgt_08BI-12	7-Sep-15
Mgt_08BI-12	0.25	0.37	13.495	0.97	—	—	Mgt_08BI-12	7-Sep-15
Mgt_08BI-12	0.40	0.57	15.062	1.01	—	—	Mgt_08BI-12	8-Sep-15
Mgt_08BI-12	0.28	0.49	15.205	0.99	—	—	Mgt_08BI-12	8-Sep-15
Mgt_08BI-12	0.39	0.62	14.236	0.92	—	—	Mgt_08BI-12	8-Sep-15
Mgt_08BI-12	0.35	0.55	14.507	1.00	—	—	Mgt_08BI-12	8-Sep-15
Mgt_08BI-12	0.35	0.57	14.933	1.02	—	—	Mgt_08BI-12	8-Sep-15
Mgt_08BI-12	0.43	0.63	14.828	1.01	—	—	Mgt_08BI-12	8-Sep-15
Mgt_08BI-12	0.16	0.39	14.590	1.01	—	—	Mgt_08BI-12	8-Sep-15
Mgt_08BI-12	0.23	0.32	14.188	1.01	—	—	Mgt_08BI-12	8-Sep-15
Mgt_08BI-12	0.20	0.33	14.949	1.05	—	—	Mgt_08BI-12	8-Sep-15
Mgt_08BI-12	0.39	0.53	13.905	1.00	—	—	Mgt_08BI-12	9-Sep-15
Mgt_08BI-12	0.31	0.41	13.493	0.99	—	—	Mgt_08BI-12	9-Sep-15
Mgt_08BI-12	0.31	0.58	13.460	0.98	—	—	Mgt_08BI-12	9-Sep-15
Mgt_08BI-12	0.30	0.55	7.833	0.99	—	—	Mgt_08BI-12	21-Sep-15
Mgt_08BI-12	0.35	0.57	8.162	1.02	—	—	Mgt_08BI-12	21-Sep-15
Mgt_08BI-12	0.29	0.54	7.989	1.00	—	—	Mgt_08BI-12	21-Sep-15
Mgt_08BI-12	0.31	0.60	7.809	0.98	—	—	Mgt_08BI-12	21-Sep-15
Mgt_08BI-12	0.26	0.45	8.236	1.00	—	—	Mgt_08BI-12	21-Sep-15
Mgt_08BI-12	0.31	0.41	8.021	0.97	—	—	Mgt_08BI-12	21-Sep-15
Mgt_08BI-12	0.26	0.45	8.254	1.00	—	—	Mgt_08BI-12	24-Sep-15
Mgt_08BI-12	0.30	0.45	8.357	1.01	—	—	Mgt_08BI-12	24-Sep-15
Mgt_08BI-12	0.31	0.43	8.323	1.01	—	—	Mgt_08BI-12	24-Sep-15
Mgt_08BI-12	0.32	0.41	9.344	0.97	—	—	Mgt_08BI-12	7-Oct-15
Mgt_08BI-12	0.23	0.44	9.404	0.98	—	—	Mgt_08BI-12	7-Oct-15
Mgt_08BI-12	0.29	0.50	9.486	0.99	—	—	Mgt_08BI-12	7-Oct-15
Mgt_08BI-12	0.42	0.68	9.713	1.00	—	—	Mgt_08BI-12	7-Oct-15
Mgt_08BI-12	0.33	0.61	9.739	0.99	—	—	Mgt_08BI-12	7-Oct-15
Mgt_08BI-12	0.19	0.20	6.994	0.88	—	—	Mgt_08BI-12	7-Oct-15
Mgt_08BI-12	0.16	0.22	7.695	0.90	—	—	Mgt_08BI-12	7-Oct-15
Mgt_08BI-12	0.15	0.21	7.866	0.92	—	—	Mgt_08BI-12	7-Oct-15
Mgt_08BI-12	0.17	0.34	7.881	0.90	—	—	Mgt_08BI-12	7-Oct-15
Mgt_08BI-12	0.20	0.34	7.515	0.88	—	—	Mgt_08BI-12	7-Oct-15
Mgt_08BI-12	0.33	0.55	12.134	1.00	—	—	Mgt_08BI-12	11-Oct-15
Mgt_08BI-12	0.33	0.62	12.042	1.01	—	—	Mgt_08BI-12	11-Oct-15

Mgt_08BI-12	0.25	0.41	12.066	1.02	—	—	Mgt_08BI-12	11-Oct-15
Mgt_08BI-12	0.32	0.47	11.610	0.98	—	—	Mgt_08BI-12	11-Oct-15
Mgt_08BI-12	0.34	0.54	8.135	0.99	—	—	Mgt_08BI-12	13-Oct-15
Mgt_08BI-12	0.43	0.50	8.264	0.99	—	—	Mgt_08BI-12	13-Oct-15
Mgt_08BI-12	0.37	0.68	8.299	1.00	—	—	Mgt_08BI-12	13-Oct-15
Mgt_08BI-12	0.19	0.50	7.963	0.90	—	—	Mgt_08BI-12	13-Oct-15
Mgt_08BI-12	0.27	0.49	7.976	0.92	—	—	Mgt_08BI-12	13-Oct-15
Mgt_08BI-12	0.33	0.52	7.935	0.91	—	—	Mgt_08BI-12	13-Oct-15
Mgt_08BI-12	0.28	0.46	7.919	0.89	—	—	Mgt_08BI-12	13-Oct-15
Mgt_08BI-12	0.15	0.33	7.771	0.97	—	—	Mgt_08BI-12	13-Oct-15
Mgt_08BI-12	0.38	0.60	7.970	0.98	—	—	Mgt_08BI-12	13-Oct-15
Mgt_90LP5	-0.45	-0.69	13.786	0.90	—	—	Mgt_08BI-12	2-Sep-15
Mgt_90LP5	-0.37	-0.59	13.908	0.90	—	—	Mgt_08BI-12	2-Sep-15
Mgt_90LP5	-0.31	-0.44	13.984	0.92	—	—	Mgt_08BI-12	2-Sep-15
Mgt_90LP5	-0.45	-0.58	14.389	0.84	—	—	Mgt_08BI-12	3-Sep-15
Mgt_90LP5	-0.54	-0.76	14.208	0.82	—	—	Mgt_08BI-12	3-Sep-15
Mgt_90LP5	-0.55	-0.74	14.077	0.82	—	—	Mgt_08BI-12	3-Sep-15
Mgt_90LP5	-0.51	-0.83	10.444	0.79	—	—	Mgt_08BI-12	7-Sep-15
Mgt_90LP5	-0.41	-0.61	11.607	0.85	—	—	Mgt_08BI-12	7-Sep-15
Mgt_90LP5	-0.38	-0.56	11.671	0.86	—	—	Mgt_08BI-12	7-Sep-15
Mgt_90LP5	-0.42	-0.45	6.108	0.84	—	—	Mgt_08BI-12	21-Sep-15
Mgt_90LP5	-0.30	-0.33	6.053	0.84	—	—	Mgt_08BI-12	21-Sep-15
Mgt_90LP5	-0.44	-0.59	5.952	0.83	—	—	Mgt_08BI-12	21-Sep-15
Mgt_90LP5	-0.45	-0.66	7.311	0.89	—	—	Mgt_08BI-12	24-Sep-15
Mgt_90LP5	-0.39	-0.61	7.062	0.85	—	—	Mgt_08BI-12	24-Sep-15
Mgt_90LP5	-0.40	-0.50	7.308	0.88	—	—	Mgt_08BI-12	24-Sep-15
Mgt_90LP5	-0.42	-0.46	7.335	0.88	—	—	Mgt_08BI-12	24-Sep-15
Mgt_90LP5	-0.25	-0.34	6.873	0.90	—	—	Mgt_08BI-12	28-Sep-15
Mgt_90LP5	-0.30	-0.30	7.072	0.92	—	—	Mgt_08BI-12	28-Sep-15
Mgt_90LP5	-0.30	-0.48	7.079	0.91	—	—	Mgt_08BI-12	28-Sep-15
Mgt_90LP5	-0.27	-0.41	7.075	0.90	—	—	Mgt_08BI-12	28-Sep-15
Mgt_90LP5	-0.32	-0.42	10.841	0.94	—	—	Mgt_08BI-12	29-Sep-15
Mgt_90LP5	-0.18	-0.20	11.169	0.96	—	—	Mgt_08BI-12	29-Sep-15
Mgt_90LP5	-0.24	-0.29	11.011	0.93	—	—	Mgt_08BI-12	29-Sep-15
Mgt_90LP5	-0.25	-0.38	8.896	0.95	—	—	Mgt_08BI-12	7-Oct-15
Mgt_90LP5	-0.28	-0.33	8.911	0.94	—	—	Mgt_08BI-12	7-Oct-15
Mgt_90LP5	-0.30	-0.43	9.021	0.94	—	—	Mgt_08BI-12	7-Oct-15
Mgt_90LP5	-0.46	-0.58	11.365	0.80	—	—	Mgt_08BI-12	11-Oct-15
Mgt_90LP5	-0.39	-0.61	11.726	0.83	—	—	Mgt_08BI-12	11-Oct-15
Mgt_90LP5	-0.48	-0.67	11.823	0.83	—	—	Mgt_08BI-12	11-Oct-15
Mgt_90LP5	-0.35	-0.35	6.992	0.84	—	—	Mgt_08BI-12	13-Oct-15
Mgt_90LP5	-0.37	-0.48	6.969	0.84	—	—	Mgt_08BI-12	13-Oct-15
Mgt_90LP5	-0.38	-0.70	6.928	0.83	—	—	Mgt_08BI-12	13-Oct-15
Mgt_90LP12	-0.39	-0.61	15.005	0.98	—	—	Mgt_08BI-12	2-Sep-15
Mgt_90LP12	-0.39	-0.60	15.238	0.98	—	—	Mgt_08BI-12	2-Sep-15
Mgt_90LP12	-0.33	-0.51	15.200	0.99	—	—	Mgt_08BI-12	2-Sep-15
Mgt_90LP12	-0.72	-1.11	15.042	0.88	—	—	Mgt_08BI-12	3-Sep-15
Mgt_90LP12	-0.75	-1.20	15.034	0.87	—	—	Mgt_08BI-12	3-Sep-15
Mgt_90LP12	-0.79	-1.10	15.365	0.90	—	—	Mgt_08BI-12	3-Sep-15
Mgt_90LP12	-0.82	-1.23	11.844	0.87	—	—	Mgt_08BI-12	7-Sep-15
Mgt_90LP12	-0.78	-1.08	12.271	0.90	—	—	Mgt_08BI-12	7-Sep-15
Mgt_90LP12	-0.72	-1.07	11.982	0.88	—	—	Mgt_08BI-12	7-Sep-15
Mgt_90LP12	-0.61	-0.89	6.197	0.87	—	—	Mgt_08BI-12	21-Sep-15
Mgt_90LP12	-0.46	-0.70	6.450	0.90	—	—	Mgt_08BI-12	21-Sep-15
Mgt_90LP12	-0.53	-0.83	6.389	0.88	—	—	Mgt_08BI-12	21-Sep-15
Mgt_90LP12	-0.53	-0.73	7.908	0.95	—	—	Mgt_08BI-12	24-Sep-15
Mgt_90LP12	-0.45	-0.66	7.999	0.96	—	—	Mgt_08BI-12	24-Sep-15
Mgt_90LP12	-0.48	-0.73	7.873	0.95	—	—	Mgt_08BI-12	24-Sep-15
Mgt_90LP12	-0.40	-0.52	8.128	0.98	—	—	Mgt_08BI-12	24-Sep-15
Mgt_90LP12	-0.28	-0.42	7.774	1.03	—	—	Mgt_08BI-12	28-Sep-15
Mgt_90LP12	-0.28	-0.41	7.987	1.02	—	—	Mgt_08BI-12	28-Sep-15
Mgt_90LP12	-0.29	-0.50	7.911	1.01	—	—	Mgt_08BI-12	28-Sep-15

Mgt_90LP12	-0.23	-0.44	7.940	1.03	—	—	Mgt_08BI-12	28-Sep-15
Mgt_90LP12	-0.50	-0.63	11.682	1.04	—	—	Mgt_08BI-12	29-Sep-15
Mgt_90LP12	-0.43	-0.62	11.303	1.00	—	—	Mgt_08BI-12	29-Sep-15
Mgt_90LP12	-0.41	-0.57	11.587	1.02	—	—	Mgt_08BI-12	29-Sep-15
Mgt_90LP12	-0.54	-0.76	11.376	1.00	—	—	Mgt_08BI-12	29-Sep-15
Mgt_98LH7	0.36	0.58	12.881	0.88	—	—	Mgt_08BI-12	2-Sep-15
Mgt_98LH7	0.34	0.63	12.783	0.88	—	—	Mgt_08BI-12	2-Sep-15
Mgt_98LH7	0.30	0.48	12.833	0.88	—	—	Mgt_08BI-12	2-Sep-15
Mgt_98LH7	0.04	0.07	14.196	0.84	—	—	Mgt_08BI-12	3-Sep-15
Mgt_98LH7	0.15	0.21	14.008	0.83	—	—	Mgt_08BI-12	3-Sep-15
Mgt_98LH7	0.12	0.20	13.975	0.83	—	—	Mgt_08BI-12	3-Sep-15
Mgt_98LH7	0.29	0.50	11.182	0.84	—	—	Mgt_08BI-12	7-Sep-15
Mgt_98LH7	0.21	0.52	11.197	0.84	—	—	Mgt_08BI-12	7-Sep-15
Mgt_98LH7	0.22	0.52	11.251	0.84	—	—	Mgt_08BI-12	7-Sep-15
Mgt_98LH7	-0.04	0.01	7.112	0.86	—	—	Mgt_08BI-12	24-Sep-15
Mgt_98LH7	0.09	0.36	7.181	0.86	—	—	Mgt_08BI-12	24-Sep-15
Mgt_98LH7	0.01	0.01	7.127	0.87	—	—	Mgt_08BI-12	24-Sep-15
Mgt_98LH7	0.15	0.29	6.563	0.82	—	—	Mgt_08BI-12	24-Sep-15
Mgt_98LH7	-0.15	-0.25	9.181	0.86	—	—	Mgt_08BI-12	29-Sep-15
Mgt_98LH7	-0.14	-0.18	9.460	0.86	—	—	Mgt_08BI-12	29-Sep-15
Mgt_98LH7	-0.15	-0.08	9.327	0.86	—	—	Mgt_08BI-12	29-Sep-15
Mgt_98LH7	0.11	0.37	7.903	0.84	—	—	Mgt_08BI-12	7-Oct-15
Mgt_98LH7	0.12	0.42	7.972	0.85	—	—	Mgt_08BI-12	7-Oct-15
Mgt_98LH7	0.19	0.25	7.818	0.83	—	—	Mgt_08BI-12	7-Oct-15
Mgt_98LH7	-0.10	-0.09	5.671	0.71	—	—	Mgt_08BI-12	13-Oct-15
Mgt_98LH7	-0.08	-0.20	5.690	0.72	—	—	Mgt_08BI-12	13-Oct-15
Mgt_98LH7	-0.17	-0.24	5.845	0.74	—	—	Mgt_08BI-12	13-Oct-15
Mgt_P2-670	0.15	0.28	13.303	0.90	—	—	Mgt_08BI-12	2-Sep-15
Mgt_P2-670	0.15	0.18	13.558	0.91	—	—	Mgt_08BI-12	2-Sep-15
Mgt_P2-670	0.14	0.31	13.154	0.89	—	—	Mgt_08BI-12	2-Sep-15
Mgt_P2-670	-0.64	-0.94	12.109	0.71	—	—	Mgt_08BI-12	3-Sep-15
Mgt_P2-670	-0.58	-0.89	12.178	0.72	—	—	Mgt_08BI-12	3-Sep-15
Mgt_P2-670	-0.61	-0.82	12.051	0.71	—	—	Mgt_08BI-12	3-Sep-15
Mgt_P2-670	-0.12	-0.20	10.831	0.84	—	—	Mgt_08BI-12	7-Sep-15
Mgt_P2-670	-0.09	-0.07	10.993	0.85	—	—	Mgt_08BI-12	7-Sep-15
Mgt_P2-670	-0.11	-0.15	11.361	0.86	—	—	Mgt_08BI-12	7-Sep-15
Mgt_P2-670	-0.28	-0.38	6.998	0.87	—	—	Mgt_08BI-12	24-Sep-15
Mgt_P2-670	-0.21	-0.36	6.865	0.83	—	—	Mgt_08BI-12	24-Sep-15
Mgt_P2-670	-0.08	-0.04	7.170	0.89	—	—	Mgt_08BI-12	24-Sep-15
Mgt_P2-670	-0.11	-0.14	6.912	0.86	—	—	Mgt_08BI-12	24-Sep-15
Mgt_P2-670	-0.23	-0.39	9.337	0.86	—	—	Mgt_08BI-12	29-Sep-15
Mgt_P2-670	-0.28	-0.29	9.629	0.88	—	—	Mgt_08BI-12	29-Sep-15
Mgt_P2-670	-0.31	-0.50	9.210	0.84	—	—	Mgt_08BI-12	29-Sep-15
Mgt_P2-670	-0.06	0.01	8.267	0.85	—	—	Mgt_08BI-12	7-Oct-15
Mgt_P2-670	0.09	0.08	8.272	0.87	—	—	Mgt_08BI-12	7-Oct-15
Mgt_P2-670	-0.03	-0.05	8.339	0.88	—	—	Mgt_08BI-12	7-Oct-15
Mgt_P2-670	-0.05	-0.06	6.984	0.84	—	—	Mgt_08BI-12	13-Oct-15
Mgt_P2-670	0.02	-0.07	7.000	0.85	—	—	Mgt_08BI-12	13-Oct-15
Mgt_P2-670	-0.05	-0.13	6.892	0.85	—	—	Mgt_08BI-12	13-Oct-15
Py_Bal-4-13B	-1.48	-2.15	21.859	1.00	—	—	Py_Bal-4-13B	3-Sep-15
Py_Bal-4-13B	-1.49	-2.16	21.822	1.01	—	—	Py_Bal-4-13B	3-Sep-15
Py_Bal-4-13B	-1.35	-2.03	20.793	0.98	—	—	Py_Bal-4-13B	3-Sep-15
Py_Bal-4-13B	-1.45	-2.11	21.312	1.01	—	—	Py_Bal-4-13B	3-Sep-15
Py_Bal-4-13B	-1.42	-2.08	23.330	1.04	—	—	Py_Bal-4-13B	3-Sep-15
Py_Bal-4-13B	-1.43	-2.01	22.803	0.99	—	—	Py_Bal-4-13B	3-Sep-15
Py_Bal-4-13B	-1.34	-1.97	22.609	0.98	—	—	Py_Bal-4-13B	3-Sep-15
Py_Bal-4-13B	-1.34	-1.98	22.699	1.01	—	—	Py_Bal-4-13B	3-Sep-15
Py_Bal-4-13B	-1.37	-2.05	22.357	0.99	—	—	Py_Bal-4-13B	3-Sep-15
Py_Bal-4-13B	-1.39	-2.08	22.369	0.98	—	—	Py_Bal-4-13B	3-Sep-15
Py_Bal-4-13B	-1.42	-2.10	15.768	0.99	—	—	Py_Bal-4-13B	8-Sep-15
Py_Bal-4-13B	-1.36	-1.92	15.762	0.98	—	—	Py_Bal-4-13B	8-Sep-15
Py_Bal-4-13B	-1.55	-2.31	16.067	1.03	—	—	Py_Bal-4-13B	8-Sep-15

Py_Bal-4-13B	-1.40	-2.08	15.929	1.04	–	–	Py_Bal-4-13B	8-Sep-15
Py_Bal-4-13B	-1.38	-2.07	15.503	0.99	–	–	Py_Bal-4-13B	8-Sep-15
Py_Bal-4-13B	-1.42	-2.06	15.416	0.99	–	–	Py_Bal-4-13B	8-Sep-15

Wet-LA

Mgt_08BI-12	0.24	0.50	8.051	1.01	6.9	78%	Mgt_08BI-12	9-Sep-15
Mgt_08BI-12	0.35	0.51	7.928	0.99	6.9	78%	Mgt_08BI-12	9-Sep-15
Mgt_08BI-12	0.31	0.52	7.958	1.01	6.9	78%	Mgt_08BI-12	9-Sep-15
Mgt_08BI-12	0.28	0.50	7.766	0.99	6.9	78%	Mgt_08BI-12	9-Sep-15
Mgt_08BI-12	0.42	0.63	7.830	1.00	6.9	78%	Mgt_08BI-12	9-Sep-15
Mgt_08BI-12	0.40	0.76	7.751	1.00	6.9	78%	Mgt_08BI-12	9-Sep-15
Mgt_08BI-12	0.22	0.25	8.029	1.00	6.9	78%	Mgt_08BI-12	9-Sep-15
Mgt_08BI-12	0.31	0.48	8.108	0.99	6.9	78%	Mgt_08BI-12	9-Sep-15
Mgt_08BI-12	0.24	0.34	8.095	0.99	6.9	78%	Mgt_08BI-12	9-Sep-15
Mgt_08BI-12	0.43	0.74	10.134	1.00	7.1	59%	Mgt_08BI-12	10-Sep-15
Mgt_08BI-12	0.38	0.53	10.207	1.00	7.1	59%	Mgt_08BI-12	10-Sep-15
Mgt_08BI-12	0.36	0.71	10.126	1.01	7.1	59%	Mgt_08BI-12	10-Sep-15
Mgt_08BI-12	0.15	0.18	9.776	0.97	7.1	59%	Mgt_08BI-12	10-Sep-15
Mgt_08BI-12	0.26	0.30	9.798	0.98	7.1	59%	Mgt_08BI-12	10-Sep-15
Mgt_08BI-12	0.35	0.50	9.692	1.00	7.1	59%	Mgt_08BI-12	10-Sep-15
Mgt_08BI-12	0.30	0.54	9.703	1.00	7.1	59%	Mgt_08BI-12	10-Sep-15
Mgt_08BI-12	0.30	0.39	9.481	0.98	7.1	59%	Mgt_08BI-12	10-Sep-15
Mgt_08BI-12	0.40	0.62	9.365	0.98	7.1	59%	Mgt_08BI-12	10-Sep-15
Mgt_08BI-12	0.21	0.25	9.652	1.01	7.1	59%	Mgt_08BI-12	10-Sep-15
Mgt_08BI-12	0.37	0.57	9.331	0.98	7.1	59%	Mgt_08BI-12	10-Sep-15
Mgt_08BI-12	0.70	0.96	8.492	1.11	7.7	59%	Mgt_08BI-12	11-Oct-15
Mgt_08BI-12	0.62	1.05	8.288	1.08	7.7	59%	Mgt_08BI-12	11-Oct-15
Mgt_08BI-12	0.54	0.98	8.361	1.09	7.7	59%	Mgt_08BI-12	11-Oct-15
Mgt_08BI-12	0.40	0.86	8.409	0.95	16.7	63%	Mgt_08BI-12	12-Oct-15
Mgt_08BI-12	0.22	0.52	8.688	1.01	16.7	63%	Mgt_08BI-12	12-Oct-15
Mgt_08BI-12	0.09	0.27	8.840	1.03	16.7	63%	Mgt_08BI-12	12-Oct-15
Mgt_08BI-12	0.81	1.28	5.724	1.00	16.7	63%	Mgt_08BI-12	12-Oct-15
Mgt_08BI-12	0.08	0.16	5.948	1.06	16.7	63%	Mgt_08BI-12	12-Oct-15
Mgt_08BI-12	0.18	0.23	5.776	1.03	16.7	63%	Mgt_08BI-12	12-Oct-15
Mgt_08BI-12	0.26	0.45	5.656	1.00	16.7	63%	Mgt_08BI-12	12-Oct-15
Mgt_08BI-12	0.07	0.15	5.004	0.90	16.7	63%	Mgt_08BI-12	12-Oct-15
Mgt_08BI-12	0.24	0.44	4.859	0.87	16.7	63%	Mgt_08BI-12	12-Oct-15
Mgt_08BI-12	0.27	0.22	5.037	0.91	16.7	63%	Mgt_08BI-12	12-Oct-15
Mgt_08BI-12	0.52	0.92	9.731	0.98	16.7	63%	Mgt_08BI-12	12-Oct-15
Mgt_08BI-12	-0.18	-0.23	10.143	1.02	16.7	63%	Mgt_08BI-12	12-Oct-15
Mgt_08BI-12	0.22	0.37	9.936	0.99	16.7	63%	Mgt_08BI-12	12-Oct-15
Mgt_08BI-12	0.54	0.80	9.201	1.02	16.7	63%	Mgt_08BI-12	12-Oct-15
Mgt_08BI-12	0.12	0.12	9.448	1.03	16.7	63%	Mgt_08BI-12	12-Oct-15
Mgt_08BI-12	0.79	1.08	9.101	0.99	16.7	63%	Mgt_08BI-12	12-Oct-15
Mgt_08BI-12	0.22	0.58	8.666	1.00	7.6	59%	Mgt_08BI-12	13-Oct-15
Mgt_08BI-12	0.39	0.58	8.432	0.98	7.6	59%	Mgt_08BI-12	13-Oct-15
Mgt_08BI-12	0.17	0.30	8.383	0.97	7.6	59%	Mgt_08BI-12	13-Oct-15
Mgt_08BI-12	0.19	0.46	7.566	0.89	7.6	59%	Mgt_08BI-12	13-Oct-15
Mgt_08BI-12	0.23	0.30	7.745	0.90	7.6	59%	Mgt_08BI-12	13-Oct-15
Mgt_08BI-12	0.23	0.37	7.728	0.90	7.6	59%	Mgt_08BI-12	13-Oct-15
Mgt_08BI-12	0.36	0.53	7.854	1.02	7.6	59%	Mgt_08BI-12	13-Oct-15
Mgt_08BI-12	0.54	0.74	7.894	1.01	7.6	59%	Mgt_08BI-12	13-Oct-15
Mgt_08BI-12	0.44	0.66	7.779	0.98	7.6	59%	Mgt_08BI-12	13-Oct-15
Mgt_90LP5	-0.52	-0.87	6.720	0.82	6.9	78%	Mgt_08BI-12	9-Sep-15
Mgt_90LP5	-0.43	-0.53	6.841	0.84	6.9	78%	Mgt_08BI-12	9-Sep-15
Mgt_90LP5	-0.49	-0.63	6.654	0.80	6.9	78%	Mgt_08BI-12	9-Sep-15
Mgt_90LP5	-0.72	-0.96	6.841	0.73	7.1	59%	Mgt_08BI-12	10-Sep-15
Mgt_90LP5	-0.58	-0.87	6.740	0.71	7.1	59%	Mgt_08BI-12	10-Sep-15
Mgt_90LP5	-0.76	-1.12	6.138	0.64	7.1	59%	Mgt_08BI-12	10-Sep-15
Mgt_90LP5	-0.17	-0.29	6.985	0.91	7.7	59%	Mgt_08BI-12	11-Oct-15
Mgt_90LP5	-0.11	-0.14	7.027	0.93	7.7	59%	Mgt_08BI-12	11-Oct-15
Mgt_90LP5	-0.18	-0.30	6.896	0.92	7.7	59%	Mgt_08BI-12	11-Oct-15

Mgt_90LP5	-0.42	-0.52	4.697	0.80	16.7	63%	Mgt_08BI-12	12-Oct-15
Mgt_90LP5	-0.79	-0.93	4.756	0.86	16.7	63%	Mgt_08BI-12	12-Oct-15
Mgt_90LP5	-0.17	-0.08	4.526	0.81	16.7	63%	Mgt_08BI-12	12-Oct-15
Mgt_90LP5	-0.09	-0.17	4.627	0.83	16.7	63%	Mgt_08BI-12	12-Oct-15
Mgt_90LP5	-0.37	-0.50	7.999	0.76	16.7	63%	Mgt_08BI-12	12-Oct-15
Mgt_90LP5	-0.23	-0.25	8.044	0.78	16.7	63%	Mgt_08BI-12	12-Oct-15
Mgt_90LP5	-1.01	-1.35	8.309	0.83	16.7	63%	Mgt_08BI-12	12-Oct-15
Mgt_90LP5	-0.11	-0.04	10.701	0.94	16.7	63%	Mgt_08BI-12	12-Oct-15
Mgt_90LP5	-0.60	-0.92	11.137	0.81	16.7	63%	Mgt_08BI-12	12-Oct-15
Mgt_90LP5	-1.00	-1.57	11.306	0.81	16.7	63%	Mgt_08BI-12	12-Oct-15
Mgt_90LP5	-0.89	-1.23	5.923	0.69	7.6	59%	Mgt_08BI-12	13-Oct-15
Mgt_90LP5	-0.59	-0.97	5.934	0.70	7.6	59%	Mgt_08BI-12	13-Oct-15
Mgt_90LP5	-0.76	-1.10	5.738	0.68	7.6	59%	Mgt_08BI-12	13-Oct-15
Mgt_90LP5	-1.00	-1.33	5.215	0.61	7.6	59%	Mgt_08BI-12	13-Oct-15
Mgt_90LP5	-1.06	-1.58	5.083	0.60	7.6	59%	Mgt_08BI-12	13-Oct-15
Mgt_90LP5	-1.06	-1.65	5.208	0.61	7.6	59%	Mgt_08BI-12	13-Oct-15
Mgt_90LP5	-0.57	-0.82	6.588	0.78	7.6	59%	Mgt_08BI-12	13-Oct-15
Mgt_90LP5	-0.56	-0.71	6.587	0.78	7.6	59%	Mgt_08BI-12	13-Oct-15
Mgt_90LP5	-0.56	-0.70	6.791	0.80	7.6	59%	Mgt_08BI-12	13-Oct-15
Mgt_90LP12	-0.40	-0.59	6.907	0.86	6.9	78%	Mgt_08BI-12	9-Sep-15
Mgt_90LP12	-0.33	-0.37	7.179	0.88	6.9	78%	Mgt_08BI-12	9-Sep-15
Mgt_90LP12	-0.45	-0.80	7.247	0.88	6.9	78%	Mgt_08BI-12	9-Sep-15
Mgt_90LP12	-0.51	-0.62	8.097	0.87	7.1	59%	Mgt_08BI-12	10-Sep-15
Mgt_90LP12	-0.51	-0.64	7.943	0.83	7.1	59%	Mgt_08BI-12	10-Sep-15
Mgt_90LP12	-0.49	-0.80	8.057	0.85	7.1	59%	Mgt_08BI-12	10-Sep-15
Mgt_98LH7	-0.63	-0.83	6.215	0.76	6.9	78%	Mgt_08BI-12	9-Sep-15
Mgt_98LH7	-0.43	-0.54	6.115	0.74	6.9	78%	Mgt_08BI-12	9-Sep-15
Mgt_98LH7	0.07	0.04	7.028	0.86	7.6	59%	Mgt_08BI-12	13-Oct-15
Mgt_98LH7	0.20	0.05	7.232	0.89	7.6	59%	Mgt_08BI-12	13-Oct-15
Mgt_98LH7	0.27	0.29	7.093	0.88	7.6	59%	Mgt_08BI-12	13-Oct-15
Mgt_98LH7	-0.08	-0.14	6.735	0.80	7.6	59%	Mgt_08BI-12	13-Oct-15
Mgt_98LH7	-0.03	-0.05	6.997	0.83	7.6	59%	Mgt_08BI-12	13-Oct-15
Mgt_98LH7	-0.10	-0.19	6.601	0.78	7.6	59%	Mgt_08BI-12	13-Oct-15
Mgt_98LH7	-0.19	-0.12	6.409	0.78	6.9	78%	Mgt_08BI-12	9-Sep-15
Mgt_98LH7	-0.44	-0.43	7.804	0.82	7.1	59%	Mgt_08BI-12	10-Sep-15
Mgt_98LH7	-0.04	-0.18	7.829	0.83	7.1	59%	Mgt_08BI-12	10-Sep-15
Mgt_98LH7	-0.03	-0.02	7.505	0.80	7.1	59%	Mgt_08BI-12	10-Sep-15
Mgt_98LH7	0.31	0.71	8.578	0.85	16.7	63%	Mgt_08BI-12	12-Oct-15
Mgt_98LH7	0.05	0.18	8.637	0.87	16.7	63%	Mgt_08BI-12	12-Oct-15
Mgt_98LH7	-0.09	-0.16	8.928	0.88	16.7	63%	Mgt_08BI-12	12-Oct-15
Mgt_P2-670	-0.66	-1.00	6.001	0.72	6.9	78%	Mgt_08BI-12	9-Sep-15
Mgt_P2-670	-0.83	-1.09	6.164	0.75	6.9	78%	Mgt_08BI-12	9-Sep-15
Mgt_P2-670	-0.87	-1.17	6.095	0.75	6.9	78%	Mgt_08BI-12	9-Sep-15
Mgt_P2-670	-0.26	-0.22	7.797	0.83	7.1	59%	Mgt_08BI-12	10-Sep-15
Mgt_P2-670	-0.33	-0.40	7.849	0.82	7.1	59%	Mgt_08BI-12	10-Sep-15
Mgt_P2-670	-0.34	-0.49	7.874	0.83	7.1	59%	Mgt_08BI-12	10-Sep-15
Mgt_P2-670	-0.07	-0.18	4.645	0.86	16.7	63%	Mgt_08BI-12	12-Oct-15
Mgt_P2-670	0.06	0.11	4.514	0.86	16.7	63%	Mgt_08BI-12	12-Oct-15
Mgt_P2-670	-0.02	-0.01	4.441	0.86	16.7	63%	Mgt_08BI-12	12-Oct-15
Mgt_P2-670	-0.15	-0.18	12.330	0.90	16.7	63%	Mgt_08BI-12	12-Oct-15
Mgt_P2-670	-0.17	-0.22	6.841	0.81	7.6	59%	Mgt_08BI-12	13-Oct-15
Mgt_P2-670	-0.10	-0.30	6.683	0.80	7.6	59%	Mgt_08BI-12	13-Oct-15
Mgt_P2-670	-0.13	-0.23	6.753	0.81	7.6	59%	Mgt_08BI-12	13-Oct-15

Non-mineral-phase-matched Analysis

Dry-LA

Mgt_08BI-12	1.77	2.58	10.647	0.69	—	—	Py_Bal-4-13B	7-Sep-15
Mgt_08BI-12	1.88	2.80	11.073	0.71	—	—	Py_Bal-4-13B	7-Sep-15
Mgt_08BI-12	1.71	2.68	11.002	0.71	—	—	Py_Bal-4-13B	7-Sep-15
Mgt_08BI-12	1.63	2.46	14.076	0.88	—	—	Py_Bal-4-13B	8-Sep-15
Mgt_08BI-12	1.61	2.43	14.363	0.89	—	—	Py_Bal-4-13B	8-Sep-15
Mgt_08BI-12	1.53	2.36	13.849	0.87	—	—	Py_Bal-4-13B	8-Sep-15

Mgt_08BI-12	2.27	3.27	8.000	0.71	—	—	Py_Bal-4-13B	21-Sep-15
Mgt_08BI-12	2.20	3.31	7.867	0.79	—	—	Py_Bal-4-13B	21-Sep-15
Mgt_08BI-12	2.17	3.26	7.943	0.85	—	—	Py_Bal-4-13B	21-Sep-15
Mgt_08BI-12	2.21	3.32	7.856	0.85	—	—	Py_Bal-4-13B	21-Sep-15
Mgt_08BI-12	1.14	1.70	8.380	0.70	—	—	Py_Bal-4-13B	7-Oct-15
Mgt_08BI-12	1.22	2.02	8.181	0.76	—	—	Py_Bal-4-13B	7-Oct-15
Mgt_08BI-12	1.24	1.86	8.230	0.76	—	—	Py_Bal-4-13B	7-Oct-15
Mgt_08BI-12	1.46	2.25	7.985	0.92	—	—	Py_Bal-4-13B	13-Oct-15
Mgt_08BI-12	1.33	2.22	7.770	0.98	—	—	Py_Bal-4-13B	13-Oct-15
Mgt_08BI-12	1.38	2.13	7.777	0.98	—	—	Py_Bal-4-13B	13-Oct-15
Mgt_08BI-12	1.42	2.16	7.830	0.97	—	—	Py_Bal-4-13B	13-Oct-15

Wet-LA

Mgt_08BI-12	0.85	1.26	7.798	0.87	7.6	59%	Py_Bal-4-13B	13-Oct-15
Mgt_08BI-12	0.83	1.20	7.460	0.91	7.6	59%	Py_Bal-4-13B	13-Oct-15
Mgt_08BI-12	0.91	1.41	7.780	0.95	7.6	59%	Py_Bal-4-13B	13-Oct-15