

Supplementary Table 1. Monument identification codes, GPS coordinates, and bottom of hole (BOH) data for secure well monuments.

MONUMENT ID	LATITUDE	LONGITUDE	BOH (logger, m)
CROMO1*	N 38°51.711'	W 122°24.856'	19.5
CROMO1,2	N 38°51.711'	W 122°24.866'	19.2
CROMO1,3	N 38°51.711'	W 122°24.867'	23.2
CROMO1,4	N 38°51.710'	W 122°24.868'	8.8
CROMO1,5	N 38°51.712'	W 122°24.850'	27.4
CROMO2**	N 38°51.724'	W 122°25.827'	23.0
CROMO2,2	N 38°51.725'	W 122°25.827'	14.9
CROMO2,3	N 38°51.726'	W 122°25.827'	34.6

\*Driller's depth for CROMO1 was 31.1m; this hole also collapsed at base.

\*\*Driller's depth for CROMO2 was 45.7 m; the hole was felt to collapse to some degree during withdrawal of the rig.

Supplementary Table 2. Mineral presence in core samples CROM01 (Core Shed Well) and CROM02 (Quarry Valley) as determined by XRD. Liz = lizardite, mag = magnetite, chlor = chlorite, trem = tremolite

**CROMO 1**

<u>Core</u>	<u>Depth (m)</u>	<u>Liz</u>	<u>Clay</u>	<u>Mag</u>	<u>Albite</u>	<u>Quartz</u>	<u>Chlor</u>	<u>Trem</u>	<u>Calcite</u>
CROM01 1	0.45		X	X	X	X			
CROM01 2	0.91		X	X	X	X			
CROM01 3	1.52		X	X	X	X			
CROM01 4	1.98		X	X	X	X			
CROM01 5	2.44	X	X	X	X	X			
CROM01 6	3.05	X	X	X	X	X			
CROM01 7	3.51	X	X	X	X	X			
CROM01 8	3.96	X	X	X	X	X			
CROM01 9	4.57	X	X	X	X	X			
CROM01 10	8.15	NA	NA	NA	NA	NA	NA	NA	
CROM01 11	8.61	X	X	X	X			X	
CROM01 12	9.02	X	X	X				X	X
CROM01 13	10.74	X	X	X				X	
CROM01 14	12.65	X	X	X				X	
CROM01 15	13.82	X		X					
CROM01 16	16.76	X	X	X					
CROM01 17	18.29	X	X	X					
CROM01 18	19.81	X	X	X					
CROM01 19	21.34	X		X					
CROM01 20	22.86	NA	NA	NA	NA	NA	NA	NA	
CROM01 21	22.86	X		X					
CROM01 22	24.38	X		X					
CROM01 23	25.91	X		X					
CROM01 24	27.43	X		X					
CROM01 25	27.97	X	X	X	X		X	X	X
CROM01 26	28.50	X			X		X	X	
CROM01 27	28.96	X			X		X	X	
CROM01 28	30.48						X		
CROM01 29	31.09				X			X	

Table 2(continued)

**CROMO 2**

Core	Depth (m)	Liz	Clay	Mag	Albite	Quartz	Chlor	Trem	Calcite
CROMO2 100	0.46	X		X					
CROMO2 101	0.91								
CROMO2 102	1.37	X		X					
CROMO2 103	5.03								
CROMO2 104	5.49	X		X					
CROMO2 105	6.10	X		X	X		X		
CROMO2 106	6.55	X		X					
CROMO2 107	7.01	X		X					
CROMO2 108	7.62	X		X					
CROMO2 109	8.08	X		X					
CROMO2 110	8.53	X		X					
CROMO2 111	9.14	X		X					
CROMO2 112	9.60	X		X					
CROMO2 113	10.06	X		X					
CROMO2 114	10.67	X		X					
CROMO2 115	10.92	X							
CROMO2 116	14.78	N/A	N/A	N/A	N/A	N/A			
CROMO2 117	15.24	X		X					
CROMO2 118	16.76	X		X					
CROMO2 119	18.29	X		X					
CROMO2 120	19.81		X						
CROMO2 121	21.34	X	X	X	X	X			
CROMO2 122	22.86	X		X					
CROMO2 123	24.38		X						
CROMO2 124	25.91		X						
CROMO2 125	27.43	X	X	X	X				
CROMO2 126	28.96	X	X	X	X	X			
CROMO2 127	30.48		X	X	X				
CROMO2 128	32.00	X	X	X	X	X			
CROMO2 129	33.53	X	X	X	X	X			
CROMO2 130	35.05				X	X	X		
CROMO2 131	36.58	X	X	X					
CROMO2 132	38.10	X		X					
CROMO2 133	39.62	X		X					
CROMO2 134	41.15	X		X					
CROMO2 135	42.67	X		X					
CROMO2 136	44.20	X		X					
CROMO2 137	45.72	X		X					



Supplementary Table 3. Bulk powder XRF data for Sr, Rb, Fe, Mn, Cr, V, and Ti. All data in ppm. Note error estimations are provided on a per analyte basis.

Borehole	Depth (m)	Sr	Sr Error	Rb	Rb Error	Fe	Fe Error	Mn	Mn Error	Cr	Cr Error	V	V Error	Ti	Ti Error
CROMO1	0.5	75	5	17	3	121120	862	2119	173	56	28	295	53	2598	133
CROMO1	0.9	174	7	43	4	62850	560	2149	150	409	29	135	44	3552	121
CROMO1	1.5	156	6	34	4	68577	558	1308	120	320	30	216	48	3403	128
CROMO1	2.0	101	4	20	2	25112	259	295	51	236	26	175	42	3352	112
CROMO1	2.4	105	5	26	3	33183	348	322	64	149	18	104	29	2207	77
CROMO1	3.1	116	5	25	3	54323	458	1038	105	1176	42	147	46	3465	126
CROMO1	3.5	170	6	31	3	56739	474	838	96	693	35	103	39	1832	101
CROMO1	4.0	64	4	10	2	64099	490	2747	148	1758	54	139	44	1641	109
CROMO1	4.6	538	11	18	3	66822	545	1177	121	1280	46	206	51	3779	138
CROMO1	8.2	113	5	< LOD	2	84036	593	1154	118	1474	54	130	54	3743	149
CROMO1	8.6	123	5	< LOD	2	65185	515	956	110	2060	56	104	38	955	92
CROMO1	9.0	184	7	< LOD	3	74545	574	2148	146	1221	46	121	43	2148	113
CROMO1	10.7	67	5	< LOD	3	68759	630	2245	166	420	28	166	40	3199	110
CROMO1	12.7	114	5	< LOD	2	65054	522	1204	120	1935	55	141	43	2280	114
CROMO1	13.8	41	3	< LOD	2	48629	409	773	90	1884	52	54	30	299	68
CROMO1	16.8	93	4	< LOD	2	52580	435	911	95	1351	46	65	32	337	74
CROMO1	18.3	113	5	< LOD	2	75711	535	990	106	1541	55	141	42	877	96
CROMO1	19.8	124	5	< LOD	2	53873	444	866	98	1827	52	85	34	752	81
CROMO1	21.3	55	3	< LOD	2	61354	466	925	103	2533	63	< LOD	49	148	75
CROMO1	22.9	74	4	< LOD	2	50545	419	986	99	1949	54	120	38	1277	94
CROMO1	24.4	38	3	< LOD	2	42905	377	731	82	1120	41	< LOD	42	114	61
CROMO1	25.9	52	3	< LOD	2	49707	413	703	88	1779	51	< LOD	44	202	65
CROMO1	27.4	170	6	5	2	70258	543	1815	129	244	30	208	52	4700	145
CROMO1	28.0	538	11	< LOD	3	69891	566	1409	122	< LOD	37	253	54	3780	146
CROMO1	29.0	334	8	< LOD	3	56193	484	1432	118	860	39	183	41	2289	108
CROMO1	30.5	194	6	< LOD	2	47998	422	1109	96	< LOD	34	194	39	1799	98

Supplementary Table 3 (continued). Bulk powder XRF data for Sr, Rb, Fe, Mn, Cr, V, and Ti. All data in ppm. Note error estimations are provided on a per analyte basis.

Borehole	Depth (m)	Sr	Sr Error	Rb	Rb Error	Fe	Fe Error	Mn	Mn Error	Cr	Cr Error	V	V Error	Ti	Ti Error
CROMO2	0.5	49	3	< LOD	2	45995	407	742	87	835	36	58	28	399	64
CROMO2	0.9	< LOD	2	< LOD	2	40844	365	551	73	592	27	31	20	< LOD	64
CROMO2	1.4	6	2	< LOD	2	52611	421	690	85	1497	47	62	28	< LOD	85
CROMO2	6.6	13	2	< LOD	2	54303	430	709	84	771	37	< LOD	38	< LOD	84
CROMO2	7.0	33	3	< LOD	2	48491	399	841	86	956	41	< LOD	46	402	71
CROMO2	6.1	13	2	< LOD	2	56531	439	624	86	1460	47	54	28	< LOD	88
CROMO2	6.6	21	2	< LOD	2	43454	377	598	76	706	34	46	25	220	55
CROMO2	7.0	11	2	< LOD	2	47846	399	584	79	895	39	< LOD	38	< LOD	82
CROMO2	7.6	9	2	< LOD	2	40759	354	708	79	1074	41	50	26	< LOD	78
CROMO2	8.1	14	2	< LOD	2	50937	428	623	85	1148	39	44	24	< LOD	76
CROMO2	8.5	13	2	< LOD	2	46077	390	637	81	1247	42	< LOD	38	< LOD	82
CROMO2	9.1	7	2	< LOD	2	63440	469	568	82	856	40	< LOD	42	< LOD	95
CROMO2	9.6	12	2	< LOD	2	42794	374	523	76	1303	38	< LOD	33	< LOD	69
CROMO2	10.1	9	2	< LOD	2	51565	416	707	87	1874	51	43	28	< LOD	89
CROMO2	10.7	11	2	< LOD	2	43180	367	762	82	1352	45	< LOD	40	< LOD	86
CROMO2	10.9	14	2	< LOD	2	51917	411	961	92	1308	46	< LOD	43	< LOD	91
CROMO2	15.2	15	2	< LOD	2	49684	401	532	76	844	38	< LOD	39	< LOD	83
CROMO2	16.8	17	2	< LOD	2	48072	395	698	81	802	37	< LOD	40	< LOD	83
CROMO2	18.3	39	3	< LOD	2	34664	328	1070	90	1217	41	< LOD	38	< LOD	83
CROMO2	19.8	480	9	< LOD	3	46082	387	1445	102	670	38	143	46	2406	121
CROMO2	21.3	447	9	9	2	60525	467	1444	113	1458	51	158	47	2058	120
CROMO2	22.9	309	7	< LOD	2	59767	448	1515	112	2227	63	98	42	810	101
CROMO2	24.4	479	9	11	2	58205	463	1160	111	2194	59	167	46	1920	115
CROMO2	25.9	469	10	< LOD	3	52349	450	1371	108	198	27	153	45	3175	124
CROMO2	27.4	272	7	43	4	56429	459	1288	105	292	27	242	46	3962	123
CROMO2	29.0	388	9	27	3	85300	586	1956	137	1404	56	230	62	3831	165
CROMO2	30.5	562	10	18	3	61254	480	1204	105	597	38	159	50	2990	134
CROMO2	32.0	351	8	46	4	61009	490	1364	110	62	27	251	56	4261	151
CROMO2	33.5	339	8	45	4	74521	555	1602	122	57	29	249	59	4478	160
CROMO2	35.1	407	9	27	3	50174	429	1197	101	370	31	163	48	3260	129
CROMO2	36.6	674	10	11	2	41952	371	1218	94	450	30	158	40	2313	104
CROMO2	38.1	32	3	< LOD	2	53032	417	750	93	2941	65	< LOD	45	169	65
CROMO2	39.6	15	2	< LOD	2	46986	390	511	74	768	36	< LOD	38	< LOD	85
CROMO2	41.1	14	2	< LOD	2	44132	372	442	70	827	36	< LOD	35	< LOD	78
CROMO2	42.7	11	2	< LOD	2	46199	381	605	79	1410	46	< LOD	42	< LOD	92
CROMO2	44.2	12	2	< LOD	2	48289	394	642	86	2450	57	< LOD	41	129	59
CROMO2	45.7	6	2	< LOD	2	35024	323	570	69	494	29	< LOD	32	67	45

Supplementary Table 4. Quality assurance report for water used during drilling, courtesy of purified water vendor, The Ice Water Company, Lakeport, CA.

<b>Analyte</b>	<b>Method</b>	<b>Result</b>	<b>Uncertainty</b>	<b>Units</b>
Alkalinity as CaCO <sub>3</sub>	SM2320B	40	3	mg/L
Bicarbonate as CaCO <sub>3</sub>	SM2320B	40	3	mg/L
Carbonate as CaCO <sub>3</sub>	SM2320B	ND	3	mg/L
Hydroxide as CaCO <sub>3</sub>	SM2320B	ND	3	mg/L
Bromate	EPA317	0.0019	0.001	mg/L
Chloride	EPA300	1.5	1	mg/L
Conductivity at 25°C	SM2510B	74	1	umhos/cm
pH	SM4500-H+B	7.7	1	pH units
pH temperature in °C	°C	22.3		
Total Dissolved Solids	SM2540C	67	1	mg/L
Turbidity	SM2130B	0.11	0.1	NTU
<b>Metals</b>				
Calcium	EPA200.7	5.9	0.1	mg/L
Magnesium	EPA200.7	2.5	0.1	mg/L
Sodium	EPA200.7	4.2	1	mg/L
Hardness as CaCO <sub>3</sub>	SM2340B	25	0.41	mg/L
<b>Organics</b>				
EDB and CBCP by GC-ECD	EPA504.1, EPA505	ND		
Organohalide Pesticides and PCBs by GC-ECD	EPA 505	ND		
Chlorinated Acid Herbicides by GC-ECD	EPA 515.3	ND		
Volatile Organics by GC-MS	EPA 524.2	ND		
Semi-Volatile Organics by GC-MS	EPA 525.2	ND		
Carbamates by HPLC	EPA 531.1	ND		
Glyphosate by HPLC	EPA 547	ND		
Endothall by GC-MS	EPA 548.1	ND		
Diquat by HPLC	EPA 549.2	ND		
Haloacetic Acids by GC-ECD	EPA552.2	ND		