

Northwest Research Obsidian Studies Laboratory

Results of XRF Studies: El Chayal Obsidian Source, Guatemala

Site	Specimen		Trace Element Concentrations											Ratios		Geochemical Source
	No.	Catalog No.	Zn	Pb	Rb	Sr	Y	Zr	Nb	Ti	Mn	Ba	Fe ₂ O ₃ ^T	Fe:Mn	Fe:Ti	
El Chayal	11	11	41 ± 6	21 3	155 3	153 7	20 3	107 7	11 2	799 96	516 47	895 13	0.65 0.11	13.0	28.1	El Chayal
El Chayal	12	12	46 ± 6	28 2	157 3	153 7	21 3	109 7	11 1	733 96	569 48	1012 13	0.72 0.11	12.7	33.3	El Chayal
El Chayal	13	13	39 ± 6	28 2	156 3	154 7	18 3	112 7	7 2	884 96	586 48	873 13	0.75 0.11	12.9	29.0	El Chayal
El Chayal	14	14	53 ± 6	21 2	149 3	146 7	19 3	112 7	11 2	619 96	482 47	973 14	0.60 0.11	13.1	33.8	El Chayal
El Chayal	15	15	41 ± 6	24 2	154 3	146 7	21 3	106 7	13 1	811 96	618 48	863 13	0.83 0.11	13.2	34.3	El Chayal
El Chayal	1	16	30 ± 9	32 4	149 4	151 7	24 3	110 7	7 2	635 96	558 48	964 13	0.71 0.11	12.9	38.0	El Chayal
El Chayal	2	17	48 ± 7	27 2	151 3	154 7	22 3	112 7	14 1	738 96	590 48	927 13	0.77 0.11	13.0	35.2	El Chayal
El Chayal	3	18	38 ± 7	25 3	154 3	149 7	20 3	110 7	11 2	662 96	503 47	904 13	0.61 0.11	12.6	32.0	El Chayal
El Chayal	4	19	48 ± 7	29 2	150 3	154 7	22 3	111 7	10 2	712 96	475 47	944 13	0.59 0.11	13.0	28.8	El Chayal
El Chayal	5	I10	38 ± 7	21 3	154 3	154 7	20 3	112 7	13 1	746 96	566 48	963 13	0.72 0.11	12.9	33.0	El Chayal
El Chayal	6	I11	47 ± 6	25 2	152 3	148 7	19 3	111 7	11 1	791 96	632 48	866 13	0.83 0.11	13.0	35.4	El Chayal
El Chayal	7	I12	40 ± 7	29 2	153 3	151 7	24 3	111 7	10 2	613 96	436 47	1016 14	0.52 0.11	13.0	30.1	El Chayal
El Chayal	8	I13	34 ± 6	26 2	146 3	149 7	22 3	107 7	11 1	823 96	633 48	874 13	0.85 0.11	13.2	34.6	El Chayal
El Chayal	9	I14	43 ± 6	23 2	147 3	145 7	19 3	108 7	11 2	763 96	529 48	881 13	0.71 0.11	13.7	31.9	El Chayal
El Chayal	10	I15	36 ± 6	25 2	146 3	147 7	22 3	106 7	9 2	825 96	590 48	917 13	0.76 0.11	12.9	31.3	El Chayal
El Chayal	11	I16	50 ± 6	27 2	151 3	154 7	22 3	110 7	13 1	895 96	562 48	911 13	0.74 0.11	13.3	28.2	El Chayal

All trace element values reported in parts per million; ± = analytical uncertainty estimate (in ppm). Iron content reported as weight percent oxide.
 NA = Not available; ND = Not detected; NM = Not measured.; * = Small sample.

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	No.	Catalog No.	Zn	Pb	Rb	Sr	Y	Zr	Nb	Ti	Mn	Ba	Fe ₂ O ₃ ^T	Fe:Mn	Fe:Ti	
El Chayal	12	I17	36 ± 6	26 2	145 3	141 7	18 3	109 7	11 1	776 96	588 48	931 13	0.77 0.11	13.1	33.7	El Chayal
El Chayal	13	I18	40 ± 6	24 2	139 3	143 7	21 3	107 7	13 1	716 96	539 48	809 13	0.70 0.11	13.2	33.3	El Chayal
El Chayal	14	I19	41 ± 6	21 2	145 3	149 7	19 3	109 7	7 2	764 96	540 48	874 13	0.69 0.11	13.1	31.1	El Chayal

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