

UNOCAL GEOTHERMAL - DANIEL CARRIER

17-SERIES BULK XRD SAMPLE NO.		MINERALOGY, APPROX. WT.% <input checked="" type="checkbox"/> (or) RELATIVE ABUNDANCE <input type="checkbox"/>																								
		CRISTOBALITE	QUARTZ	PLAGIOCLASE	K-FELDSPAR	CAECITE	CLINOPTILOLITE	ORTHOPHAN	NOGAIKITE	EPIDOTE	STRENGE & LEUCOCONE UNDIV.	AMPHIBOLITE & LAMPROITE UNDIV.	HUMATE UNDIV.	PHYRITZ	AMPHIBOLITE	WATKINITE	AMPHIBOLITE	CHLORITE & CHLORITE-SMECT UNDIV.	ILLITE & ILLITE-SMECT UNDIV.		BIOTITE	TALC	APPROXIMATED OR BELOW DETECT.	OTHER		
800	17-1	24	1	33	7	TR	TR		TR	5	1	12			TR	12								3	GOETHITE	
1100	17-2		TR	31	2?	1	TR		TR	11	4	4			TR	17								22	MOSTLY GLASS	
1300	17-3		TR	26		3	TR			9	5	7			TR	22								27	MOSTLY GLASS	
1790	17-4	25	6	15	26	1	TR			5	1	2	3			8	1						7	TR	LAVMINTITE? IN QTR VEIN	
2100	17-5	5?	16	30	10	2	1		TR	13	TR		4			4	3							12		
2300	17-6		22	26	15	2			1	6		1	3		TR	4	1	12						7		
2840	17-7		10	26	5	12			8	11		2	TR		7		11	2						6		
3240	17-8		13	25	13	3	7		6	7	5	3			2		4		TR					12		
3870	17-9		10	23	10	1			26	9		2	3	TR	2	1	12								1	PREHNITE
4220	17-10		15	31	15	1	1	TR	13	7	2		3		4		5	2							1	PREHNITE
4480	17-11		8	26	4		1		16	12	1	2	X	1	3		11	1						11		
4940	17-12		6	27	8	TR	11	3	8	11	4	2	X	TR	1		7							11		
5230	17-13		12	28	9	TR	13	3	8	9	5	1	TR				5			TR			6	1	DRILL STEEL	
5320	17-14		8	24	14		1?	2	26	9		TR	TR	TR			5						10	TR	DRILL STEEL	
5780	17-15		11	23	4			5	23	13	1		TR				7							13		
6080	17-16		11	22	6			5	17	10	2	TR	1	TR			12							14		
6560	17-17		4	35	5			12	9	7	8						8							11		
7020	17-18		8	22	8			3	18	11	4		TR				16							10		
7540	17-19		24	26	17			1	3	11	1		TR				7							10	*? VERY FINE-GRAINED	
8030	17-20		2	35	4		TR	14	2	5	11		1				8		3	1			14			
8090	17-21		1	38	3		15	4	1	3	9		1				3	5	4	4			9			
8250	17-22		17	40	26		1	1	1		3						4							3		
8787	17-23		3	30	8		17	1	TR	10	6						2	5	8					10		
8420	17-24		1	46	2		19			2?	9		TR					5	4	5				7		
8423	17-25		18	35	14		TR	1/3	2	2	7		TR				4		13					1	1	AAATITE



SUMMARY OF X-RAY DIFFRACTION ANALYSIS
 UNIVERSITY OF UTAH RESEARCH INSTITUTE, EARTH SCIENCE LABORATORY

S. Lutz

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17-SERIES CLAY XRD SAMPLE NO.	MINERALOGY, APPROX. WT.% <input checked="" type="checkbox"/> (or) RELATIVE ABUNDANCE <input type="checkbox"/>														* MOSTLY CHLORITE BUT MAY CONTAIN SOME CHLORITE-RICH (80-90%) CHLORITE-SMECTITE		
	SMECTITE <small>SMECTITE & MIXED-LAYER ILL-2M UNOIN</small>	CHLORITE	MIXED-LAYER CHLORITE-SMECT.	MIXED-LAYER ILLITE-SMECTITE	ILLITE	BIOTITE	TALC	ACTINOLITE	9% CHL IN M.L. CHL 50%	70% IL IN M.L. IL 50%	DIAPHRAGMATIC OF A.D. SMECTITE	14-3M ORDERED SUPERLATTICE					
17-1	100															14.7	
17-2	100															15.0	
17-3	100															14.7	
17-4	98	2														13.8	
17-5	32	68															
17-6	23	2		75					~70							14.3	
17-7	TR	78		22					~90								* MAY CONTAIN SOME ILLITE OR 10% MICA
17-8		100															
17-9	10	90													12.8	TR	
17-10	1	53		46					~90								
17-11			100														
17-12	4	96															
17-13			64	34			2	TR								TR	
17-14		100			TR		TR	TR								TR	
17-15		100						✓									
17-16	1	99						✓									
17-17		100						✓									
17-18		98		2				TR									
17-19		86		14				TR									
17-20		80		6		14	TR	✓									
17-21		22		24		19	35	✓									
17-22		66		34											✓		
17-23		29		35		23	13	TR							✓		* MAY INCLUDE SOME MIXED LAYERS IL-SM
17-24		11		21		19	49										
17-25		15		7		78		TR									



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17-SERIES	ROCK TYPES																				
	PHYTIC BASALT	ANDESITE	BASALT	DACITE	ANDESITE	PHYTIC DIORITE	PHYTIC DIORITE	MICRODIABASE	META-ANDESITE	META- BASALT	MICRO- DIORITE	FINE- XLN DIORITE	BIOTITE- XLN DIORITE	MICRO- DIORITE	VEP FRAGMENTS	GOUGE	MICRO- ARTEFACT	PHYTIC METADIORITE	DACITE	POST-DACITE ANDESITE	
17-1				M*					TR					TR							
17-2			MM												TR						
17-3	M _w	M _a	m												TR						
17-4	m	m	M ³	M ³											TR						
17-5	m	M	m	m																	
17-6			MM	m									M ³	M							ONE DACITE FRAG. CONTAINS GRAPHIC MICRO-GRAN
17-7			MM _w											M							
17-8	m	M	M	m					TR ^R					TR							
17-9	m	M _a	M ³						M ⁵					M							
17-10	m	m	MM	M ³					TR ⁵					TR	m						
17-11	m	M	m					TR						M							TR HIGH-T GREASE
17-12	M	M	TR	TR										TR							OPHITIC CRYSTALS IN ANDESITE
17-13			M ³	M ³	M									m							OPHITIC CRYSTALS IN ANDESITE
17-14	m	M	m	m	m									M							
17-15	m	M	m		m									M							
17-16		M	m?		m			TR						M							
17-17	MM	m	TR											m							
17-18	m	M			m									M	m?						
17-19		TR	MM ²	TR										m							GRANOPHYRE
17-20		MM _w												TR							
17-21		TR?						MM						TR							TR. DTF-BTE. HORNFELS TR. GRAPHIC GRANITE
17-22		TR						TR		MM				TR							
17-23								M													M - METADIABASE
17-24															M						M - METADIORITE
17-25										M											WITH BIOTITE
* PERLITIC, SOME W/ PIN POINT DEVITILIFICATION																			/ LOCALLY DEVELOPED GRANOBLASTIC REACTION		
② AMYGOLOIDAL																					
① ALSO POSSIBLY AMYGOLE FRAGMENTS																					
② PATCHY GRANOPHYRIC DEVITILIFICATION																					
③ COULD BE IN PART HYDROTHERMAL																					
X COULD BE GRANOPHYRIC PORTION OF DACITE																					
④ ⑤ COULD BE JUST DIFFERENT PARTS OF SAME ROCK																					
# POSSIBLY VERY FINE CRYSTALLINE MICRO DIORITE																					