

Well Name GMF 31-17  
 Latitude  
 Longitude  
 TVD ft 8787

Bulk XRD mineralogy = Predominant M= Major m= Minor <m= <5wt%							
Depth ft	Cristobal.	Quartz	Plagioclase	K-Spar	Calcite/ Aragonite	Clinopxn/ Orthoprxn	Actinolite/ Hornblend
800-10	24	1	33	7	/Tr	1. / 1	0/0
1100-10		Tr	31	2?	0/ 1	8 / Tr	
1300-10		Tr	26		0 / 3	1 / Tr	
1790-1800	25	6	15	26	1	Tr	
2100-20	5?	16	30	10	2. / 1		
2300-20		22	26	15	2		
2840-60		10	26	5	12		
3240-60		13	25	13	3	7	
3870-80		10	23	10	1		
4220-30		15	31	15	1	1	Tr
4480-90		8	26	4		1	
4940-50		6	27	8	Tr	11	3
5230-40		12	28	9	Tr	13	3
5320-30		8	24	14		1?	2
5780-90		11	23	4			5
6080-90		11	23	6			5
6560-70		4	35	5			12
7020-30		8	22	8			3
7450-60		24	26	17			1
8030-40		2	35	4		Tr	14
8090-8100		1	38	3		15	4
8250-60		17	40	26		1	1. / 4
8787		3	30	8		17	1
8420		1	46	2		19	
8422		18	35	14		Tr	1. / 3

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Bulk XRD mineralogy IM= Predominant M= Major m= Minor <m= <5wt%

Depth ft	Epidote	Sphene & Leucoxene Union	Magnetite & Ilmanite Union	Hematite	Notes
800-10	Tr	5	1	12	
1100-10		11	4	4	
1300-10		9	5	7	
1790-1800		5	1	2	
2100-20	Tr	13	Tr		
2300-20	1	6		1	
2840-60	8	11		2	
3240-60	6	7	5	3	
3870-80	26	9		2	
4220-30	13	7	2		
4480-90	16	12	1	2	
4940-50	8	11	4	2	
5230-40	8	9	5	1	
5320-30	26	9		Tr	
5780-90	23	13	1		
6080-90	17	10	2	Tr	
6560-70	9	7	8		
7020-30	18	11	4		
7450-60	3	*11	1		* ? Very fine grained
8030-40	2	5	11		
8090-8100	1	3	9		
8250-60	1		3		
8787	Tr	10	6		
8420		2?	9		
8422	2	2	7		

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Bulk XRD mineralogy = Predominant M= Major m= Minor <m= <5wt%							
Depth ft	Pyrite	Anhydrite	Wairakite/ Analcime	Smectite	Chlorite & Smectite Union	Illite & Smactite Union	Biotite
800-10	0	0	0 / Tr	12			
1100-10			0 / Tr	17			
1300-10			0 / Tr	22			
1790-1800	3			8	1		
2100-20	4			4	3		
2300-20	3		Tr	4	1	12	
2840-60	Tr		7		11	2	
3240-60			2		4		Tr
3870-80	3	Tr	2	1	12		
4220-30	3		4		5	2	
4480-90	3	1	3		11	1	
4940-50	1	Tr	1		7		
5230-40	Tr				5		
5320-30	Tr	Tr			5		
5780-90	Tr				7		
6080-90	1	Tr			12		
6560-70	1				8		
7020-30	Tr				16		
7450-60	Tr				7		
8030-40	1				8		3
8090-8100	1				3	5	4
8250-60					4		
8787					2	5	8
8420	Tr					5	4
8422	Tr				4		13

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Bulk XRD				
Depth ft	Talc	Amorphous or unidentified	Other	Notes
800-10			*3	*Geothite
1100-10		*22		*mostly glass
1300-10		*27		*mostly glass
1790-1800		7	*Tr	*Laumontite? In qrt vein
2100-20		12		
2300-20		7		
2840-60		6		
3240-60		12		
3870-80			*1	*Prehnite
4220-30			*1	*Prehnite
4480-90		11		
4940-50		11		
5230-40	Tr	6	*1	*Drill Steel
5320-30		10	*Tr	*Drill Steel
5780-90		13		
6080-90		14		
6560-70		11		
7020-30		10		
7450-60		10		* ? Very fine grained
8030-40	1	14		
8090-8100	4	9		
8250-60		3		
8787		10		
8420	5	7		
8422			1	Apatite

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Clay XRD								
depth ft	Smectite	* Chlorite & Chlorite-Smectite Union	Chlorite	Mixed layer chlorite-Smectite	Mixed layer illite-Smectite	Biotite	Talc	* Mostly chlorite but may contain some chlorite rich (80-90%) chlorite-smectite
800-10	100							^ may include some illite or ioamica.
1100-10	100							
1300-10	100							
1790-1800	98	2						
2100-20	32	68						
2300-20	23	2			75			
2840-60	Tr	78			^22			
3240-60		100						
3870-80	10	90						
4220-30	1	53			46			
4480-90			100					
4940-50	4	96						
5230-40			64	34			2	
5320-30		100			Tr		Tr	
5780-90		100						
6080-90	1	99						
6560-70		100						
7020-30		98		2				
7450-60		86		14				
8030-40		80		6		#14	Tr	
8090-8100		22		24		19	35	
8250-60		66		34				
8787		29		35		#23	13	
8420		11		21		19	49	
8422		15		7		78		

# may include some mixed layer ill-smec.

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Clay XRD					
depth ft	Actinolite	% Chl in layered chl / Smec	% Ill. in layered Ill. / Smec	Basal Spacing (A) of A.D. Smectite	Ch.-Smec. ordered superlattice
800-10				14.7	
1100-10				15	
1300-10				14.7	
1790-1800				13.8	
2100-20					
2300-20			70	14.3	
2840-60			90		
3240-60					
3870-80				12.8	Tr
4220-30			90		
4480-90					
4940-50					
5230-40	Tr				Tr
5320-30	Tr				Tr
5780-90	/				
6080-90	/				
6560-70	/				
7020-30	Tr				
7450-60	Tr				
8030-40	/				
8090-8100	/				
8250-60					
8787	Tr				/
8420					/
8422	Tr				