

VC-2A: Log of Core by Stephen Bell, 20 May, 1988

DEPTH (feet) m.	TEXTURES										GEOLOGY	DESCRIPTIONS
	ACCRETION		PUMICE		LITHICS		GLASS	WELDED				
	A	R	P	E	L	X						
10ft ↑ ↓											Coarse dense clasts in ashy matrix; explosion or landslide breccia. bedded in R + crystal-rich layers; ? primary or reworked <i>Redondo Cr. Rhyol.</i>	
											as above; explosion breccia or maybe tuff ring sequence? beds ~ horizontal: relationships obscure due to clayey alteration	
10m											- ? contact due to slight angular disconformity? Ashy sediments; possibly reworked tuff ring material. Contains Accret. lapilli (0.3 cm); bedded with dips up to 15°. <u>Might be surge deposit.</u>	
50'											lost core Accret. lapilli, fines poor ashy sediment; looks reworked Primary ash bed with accretionary lapilli: quite massive; phreatomag. tuff?	
20m											Very brecciated + altered along ? fracture zone. Landslide breccia or explosion breccia: coarse angular clasts	
											? nature of contact problematic - fault? at 71ft. White, fine-grained, non-welded ignimbrite; "flattening of some pumice clasts due to alteration. Pyritized; some grey, fine gr pumice. All fault gouge one flow unit: source ?? [Other possibility is that this is a pumiceous mud-flow]	
100' 30m											Large clasts of sandstone and welded ignimbrite; ML 5-10cm. Could be lithic concentration at base of flow unit. Quite matrix poor at 100'. > Matrix + small flame: moderately welded ignimbrite; smaller lithics	
											intense purple alteration - Moly possibly some flow unit boundaries in this ignimbrite marked by pumice and lithic concentration: textures masked by alteration and welding decreases; dip ~ 15°; mineralization extensive	
150'											zone of brecciation in greyish, moder. - w. c. welded ign. with low crystal content. > lithics ML 3-4cm ? flow unit boundary	
50m											same grey, partially welded ign with blotchy alteration and mineral filled fractures.	
											ign. poor in coarse pumice clasts; occasional lithics dip ~ 15° "UPPER TUFFS"	
200'											altered, brecciated zone same ignimbrite as above, bleached and altered.	
75m											White ignimbrite with > larger pumices; non-welded. No accret. lapilli: 220.2 Breccia of angular lithics (some andesite) and pumice up to 5cm. Some rounded cobbles. Matrix, but of ? ign. Either a debris flow deposit or a lithic rich ignimbrite. <u>Very altered.</u> Larger clasts and better sorted at base	
250'											256 S2 sandstone; bleached fine grained, fluvial sand mudstone crystal rich sandstone - reworked top of Upper Banderas ignimbrite.	
70'												

— contact between units (except flow units)
unit designation(?)

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	REC OVERLY		PUMICE		LITHICS		GMASS		WELDG			
	G	E	U	E	U	E						
540' 550'												Blotchy alteration in <u>Upper Bandelier welded ignimbrite (UBT)</u>
600'												
650' Zoom												More bleached, slightly less welded ignimbrite dip ~ 12-15°; a few fiamme; <u>sparse</u> lithics.
700'												grey UBT becomes < welded; altered pumices color change at 694 ft. pumices are white, lithics < 1cm. white incipiently welded ignimbrite; Dip ~ 25°
												? cooling unit break but no obvious flow unit boundaries
750'												ignimbrite slightly compacted - incipient welding color darkens, fiamme. Buff-brownish; high crystal content. dip ~ 30° densely welded, buff UBT; no large fiamme; ML = 1.2cm (sparse)
800' 810'												> in lithics w/ poorly vesicular, non porphyritic pumices.

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	REC OVERY		PUMICE		LITHICS		GLASS		WELDED			
	d	e	u	e	u	e						
810 250 m												Buff, welded UBT becomes less welded + > pumice-rich
850'												moderately welded, white-bleached ignimbrite scattered small lithics
900'												scattered large pumices (up to 3-4 cm) densely welded ignimbrite, with sparse fiamme up to 5-6 cm. dashes
950'												
300m												
1000'												> fiamme; all are replaced; some black-white banded ? relict glass: occurs lithics up to 3 cm (andesite)
1050'												slight decrease in welding 1049.6 flow unit boundary: dip of contact ~ 45° thin, non-sufficiently welded flow unit; fine grained. 1055 slight pumice fiamme concentration at top of flow unit becomes more welded over ~ 3-4 ft; deformation of clasts > fiamme increases in abundance grey, welded UBT
080'												

DEPTH (feet) M.	TEXTURES						GEOLOGY	DESCRIPTIONS	
	REC OVERLY		PUMICE		LITHICS	GLASS			WELDED
	G	E	G	E	G	E			G
1000'									
1100'								ML = 1.5 cm	
								grey, moderate - densely welded UBT with some glassy mat?..	
								sparse lithic content: resembles parts of welded	
								UBT outflow sheet	
								veined ignimbrite	
								Equivalent to thin flow units at base of Upper B.T.	
1150' 350m								greyish color turns to beige; still lithic poor	
								welding < to moderate: rapid changes in degree of welding	
								undeformed pumices with ? vapor phase alteration (overprinted by	
							1166	non-welded at base of UBT (later alteration) ignimbrite	
								"S3" sandstone: crystal rich. looks like reworked deposit, but v. ashy at base: might be unit "c" of Upper Banded plinian deposits.	
							1186		
1200'								slightly welded ignimbrite; fine grained, white - pinkish; could be intraplinian pyroclastic flow of UBT.	
								[note: no UBT plinian deposit units "A" yet should be ~ 3-4m thick here]	
								welding > to moderate; fiamme ML = 3 cm. becomes quite crystal rich but v. mineralized; fine grained.	
							1225	low density ign at base; still compacted: mod - incipient	
							1228	pumice + crystal-rich layer - fall or surge [welding]	
							*	altered, fiamme + crystal-rich ignimbrite; densely welded (or compacted via alteration); grey-pink; small lithics	
1250'								very altered; black horizon - origin? Not due to primary feature. bedded deposit of angular pumice, lithics + crystals = plinian fall unit	
								bedded ash unit - ? reworked top of lower Banded Tuff	
								Top of LBT: fine grained, white ignimbrite	
								with wispy fiamme. Bleached and altered; pore space	
								created by dissolution of crystals. Welding moderate	
								Lithic poor; some pumices up to 4cm. looks like lower	
1350'								Banded Tuff (LBT), except so lithic poor.	
400m									
								* This zone between 1225' and 1252' is possibly the UBT plinian with inter-bedded thin pyroclastic flows. However the whole zone shows deformed pumices but these may(?) be due to post alteration compaction and therefore be "pseudo-fiamme", giving the impression that these are a	
							a few > lithics	series of welded tuffs. They could be welded air fall tuffs but the clasts are rather small and thicknesses are modest.	
350'									

DEPTH (feet)	TEXTURES					GEOLOGY	DESCRIPTIONS
	REC OVERY	PUMICE	LITHICS	GRASS	WELDING		
	✓	✓	✓	✓	✓		
1350'							LBT white; pitted by alteration; moderately welded only MP + ML ~ 3cm : lithics > common as in outflow sheet ML ~ 5cm lithic-rich zone slight > in welding
1400'							lithic rich zone - ? base of flow unit. slightly > dense welding lithic increase in abundance
1450'							zone of lag-breccia - probably correlative to those in LBT outside caldera.
1500'							lithic-rich LBT with variable welding (? due to lithic content). rock is greenish
1550'							small lithic "pods". moderately welded
1600'							fine-grained, interbedded layers with compacted mini-fragments. could be a surge horizon. May be equivalent to one near base of LBT ign. in outflow sheet. welded ignimbrite with shear zones cutting through.
1620'							? fault zone — base of LBT is ~ here but can't be pinpointed in core: possibly masked by grey altered zone at 1596.7ft. grey welded ign with lithics: less altered than above ign. possibly lower Tuffs: small fragments + ? shards visible. welding moderate (= San Diego Canyon ign.)

