

SCIENTIFIC OBSERVATION HOLE PROJECT

SOH 1 Well

VISUAL CORE DESCRIPTIONS  
Volume 2A

February 1991

Compiled by  
S. Rene Evans, Elizabeth A. Novak and Frank A. Trusdell

Puna Research Center  
P.O. Box 1488  
Pahoa, Hawaii 96778

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## EXPLANATORY NOTES

The enclosed visual core descriptions (sheet A) were compiled by the core logging staff at the Puna Research Center, Hawaii. Members of the staff who described drillcore from the Scientific Observation Hole #1 are Rene Evans, Elizabeth Novak and Frank Trusdell. Comments and suggestions were provided by John Deymonaz and Tonto Drilling Crew. Marth Sykes contributed preliminary XRD mineral identifications.

Volume 2A of the core descriptions contains descriptions for the core obtained from 1570 to 3045 feet of the Scientific Observation Hole #1. Each page of this volume corresponds to a box of core and a page in volumes 1B or 2B. When possible, boxes were filled with ten feet of drillcore. Each large fragment of core was marked with an up arrow. Wood blocks noted by the drillers mark the footage at the end of each core run.

Visual descriptions of the cores are based on observations of hand specimens. Therefore, for some of the mineral species and the more subtle metamorphic textures, field identifications might not be accurate (e.g. phillipsite versus natrolite, laumontite, etc.). We would appreciate being informed of any errors or inconsistencies in these descriptions.

Rene S. Evans  
January 1992

CORE LOG

BOX # 161

HOLE # 1

Sheet A

Depth range 478.85 to 482.51 meters

Depth range 1570 to 1582 feet

Logger's Name EN

Page 1

Type of Sample: Flow 1-3 Intrusive \_\_\_\_\_ Ash \_\_\_\_\_ Breccia \_\_\_\_\_ Red Bed \_\_\_\_\_

Number of Units in Box 3 Clk/Rubble \_\_\_\_\_ Carbonate \_\_\_\_\_ Pillow/Hyaloclast \_\_\_\_\_

Fill in blanks below by using the appropriate unit number.

PRIMARY FEATURES						SECONDARY FEATURES		COMMENTS	
Phyric	1	2	3	4	5	6	Phenocryst replacements		2' lost core possible neg. molds 1st 60cm of bot
mega (>.5 mm)	✓	✓	✓				Olv -> Clay		
micro (<.5 mm)	✓	✓	✓				Iddingsite		
Aphyric							Plag -> Clay		
Vesicles: %	20	20	20				Zeolite		
Shape	SR	SR	SR				Groundmass		
Size(x)	2mm	2mm	2mm				Chlorite		
							Smectite		
PHENOCRYSTS (Original mineralogy)							Fracture	1570 ← phh #1 1573 } phh #2 1576 } phh #3 1582	
Olivine >5%							Secondary/Alteration Min:		
1-5%	1	1	1				Smectite		
<1%							Calcite		
Phenos							Zeolite		
mph	✓	✓	✓				white fibrous		
ol-plag							green		
Comments	<u>unalt</u>						blue		
Plagioclase							Analcime		
>5%							Chabazite		
1-5%							MgOH		
<1%	✓	✓	✓				Silica		
Rhombs							Amorphous		
Blades/laths	✓	✓	✓				Chalcedony		
mph							Crystals		
Comments							Pyrite		
Augite %							Epidote		
GROUNDMASS (original)							Gypsum		
Aphanitic	✓	✓	✓				Anhydrite		
Feldspathic							Chalcopyrite		
Diktytaxitic							Limonite		
							Hematite		
							Other (describe)		

CRITICAL FEATURES (description of units or features by number)

1) phh, mesicular 20%, 2mm; Olivine mph 1%, unalt;  
 plag blades & laths <1%, in a lt. gray aphan mtr  
 2,3) phh, lith as above

CORE LOG

BOX # 152

HOLE # 1

Sheet A

Depth range 482.51 to 486.17 meters

Depth range 1582 to 1594 feet

Logger's Name EN

Page 1

Type of Sample: Flow 1, 2 Intrusive \_\_\_\_\_ Ash \_\_\_\_\_ Breccia \_\_\_\_\_ Red Bed \_\_\_\_\_

Number of Units in Box 2 Clk/Rubble \_\_\_\_\_ Carbonate \_\_\_\_\_ Pillow/Hyaloclast \_\_\_\_\_

Fill in blanks below by using the appropriate unit number.

PRIMARY FEATURES						SECONDARY FEATURES		COMMENTS	
Phyric	1	2	3	4	5	6			
mega (>.5 mm)	✓						Phenocryst replacements	2' loof coa 1.75cm duinite xenolith 40cm thru #1	
micro (<.5 mm)	✓	✓					Olv -> Clay _____		
							Iddingsite _____		
Aphyric							Plag -> Clay _____		
							Zeolite _____		
Vesicles: %	15	20					Groundmass		
Shape	SR	SR					Chlorite _____		
Size (x 2mm)	2mm	2mm					Smectite _____		
PHENOCRYSTS (Original mineralogy)							Fracture		
Olivine	>5%						Secondary/Alteration Min.		
	1-5%	✓					Smectite _____		
	<1%		✓				Calcite _____		
Phenos							Zeolite _____		
mph	✓	✓					white fibrous _____		
ol-plag	✓						green _____		
							blue _____		
Comments							Analcime _____		
Plagioclase							Chabazite _____		
	>5%						MgOH _____		
	1-5%						Silica _____		
	<1%	✓					Amorphous _____		
Rhombs							Chalcedony _____		
Blades/laths	✓						Crystals _____		
mph							Pyrite _____		
Comments							Epidote _____		
Augite	%						Gypsum _____		
							Anhydrite _____		
GROUNDMASS (original)							Chalcopryrite _____		
Aphanitic	✓	✓					Limonite _____		
Feldspathic							Hematite _____		
Diktytaxitic							Other (describe) _____		

CRITICAL FEATURES (description of units or features by number)

1594

- 1) ph#1, mesoclastic 20%, 2mm; olivine mph & ol plag in tuss <math>\Sigma</math> 1%, unalt.; plag blades & laths <math><1\%</math>, in a lt. gray aphan mtr.
- 2) trans, mesoclastic 20%, 2mm; olivine mph & plag blades & laths <math>\Sigma</math> <math><1\%</math>, in a lt. gray aphan mtr. 45cm of unit at contact is therm alt dk red gray.

CORE LOG

BOX # 158

HOLE # 1

Sheet A

Depth range 486.17 to 489.37 meters

Depth range 1594 to 1604.5 feet

Logger's Name EN

Page 1

Type of Sample: Flow 1, 2 Intrusive \_\_\_\_\_ Ash \_\_\_\_\_ Breccia \_\_\_\_\_ Red Bed \_\_\_\_\_

Number of Units in Box 2 Clk/Rubble \_\_\_\_\_ Carbonate \_\_\_\_\_ Pillow/Hyaloclast \_\_\_\_\_

Fill in blanks below by using the appropriate unit number.

PRIMARY FEATURES						SECONDARY FEATURES		COMMENTS																																																																
Phyric	1	2	3	4	5	6	Phenocryst replacements		0.5' lost core																																																															
mega (>.5 mm)	✓						Olv -> Clay _____																																																																	
micro (<.5 mm)	✓	✓					Iddingsite _____																																																																	
Aphyric							Plag -> Clay _____																																																																	
							Zeolite _____																																																																	
Vesicles: %	20	30					Groundmass																																																																	
Shape	SP SR						Chlorite _____																																																																	
Size (x Ø mm < 1 mm)							Smectite _____																																																																	
PHENOCRYSTS (Original mineralogy)							<table border="1"> <tr> <td rowspan="2">Fracture</td> <td rowspan="2">Vesicle</td> <td>Secondary/Alteration Min.</td> </tr> <tr> <td>Smectite _____</td> </tr> <tr> <td></td> <td></td> <td>Calcite _____</td> </tr> <tr> <td></td> <td></td> <td>Zeolite _____</td> </tr> <tr> <td></td> <td></td> <td>white fibrous _____</td> </tr> <tr> <td></td> <td></td> <td>green _____</td> </tr> <tr> <td></td> <td></td> <td>blue _____</td> </tr> <tr> <td></td> <td></td> <td>Analcime _____</td> </tr> <tr> <td></td> <td></td> <td>Chabazite _____</td> </tr> <tr> <td></td> <td></td> <td>MgOH _____</td> </tr> <tr> <td></td> <td></td> <td>Silica _____</td> </tr> <tr> <td></td> <td></td> <td>Amorphous _____</td> </tr> <tr> <td></td> <td></td> <td>Chalcedony _____</td> </tr> <tr> <td></td> <td></td> <td>Crystals _____</td> </tr> <tr> <td></td> <td></td> <td>Pyrite _____</td> </tr> <tr> <td></td> <td></td> <td>Epidote _____</td> </tr> <tr> <td></td> <td></td> <td>Gypsum _____</td> </tr> <tr> <td></td> <td></td> <td>Anhydrite _____</td> </tr> <tr> <td></td> <td></td> <td>Chalcopyrite _____</td> </tr> <tr> <td></td> <td></td> <td>Limonite _____</td> </tr> <tr> <td></td> <td></td> <td>Hematite _____</td> </tr> <tr> <td></td> <td></td> <td>Other (describe) _____</td> </tr> </table>	Fracture		Vesicle	Secondary/Alteration Min.	Smectite _____			Calcite _____			Zeolite _____			white fibrous _____			green _____			blue _____			Analcime _____			Chabazite _____			MgOH _____			Silica _____			Amorphous _____			Chalcedony _____			Crystals _____			Pyrite _____			Epidote _____			Gypsum _____			Anhydrite _____			Chalcopyrite _____			Limonite _____			Hematite _____			Other (describe) _____
Fracture	Vesicle	Secondary/Alteration Min.																																																																						
		Smectite _____																																																																						
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		Zeolite _____																																																																						
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1-5%																																																																								
<1%	✓	✓																																																																						
Phenos mph	✓	✓																																																																						
ol-plag	✓																																																																							
Comments																																																																								
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Rhombs																																																																								
Blades/laths mph																																																																								
Comments																																																																								
Augite %																																																																								
GROUNDMASS (original)																																																																								
Aphanitic	✓	✓																																																																						
Feldspathic																																																																								
Diktytaxitic																																																																								

CRITICAL FEATURES (description of units or features by number)

1594  
4/1596  
TRANS #1  
TRANS #2  
1604.5

- 1) trans, vesicular 20%, 2mm; olivine mph & ol-plag inters < 1%, unalt.; in a lt. gray aphan mtr. Top rubble is therm alt. dk. red gray.
- 2) trans, lith as above

CORE LOG

BOX # 154 HOLE # 1 Sheet A  
 Depth range 489.37 to 492.57 meters Depth range 1604.5 to 1614 feet  
 Logger's Name EN Page 1  
 Type of Sample: Flow 1, 2 Intrusive \_\_\_\_\_ Ash \_\_\_\_\_ Breccia \_\_\_\_\_ Red Bed \_\_\_\_\_  
 Number of Units in Box 2 Clk/Rubble \_\_\_\_\_ Carbonate \_\_\_\_\_ Pillow/Hyaloclast \_\_\_\_\_  
 Fill in blanks below by using the appropriate unit number.

PRIMARY FEATURES						SECONDARY FEATURES		COMMENTS	
Phyric	1	2	3	4	5	6	Phenocryst replacements		
mega (>.5 mm)	✓	✓					Olv -> Clay _____		
micro (<.5 mm)	✓	✓					Iddingsite _____		
Aphyric							Plag -> Clay _____		
							Zeolite _____		
Vesicles: %	<u>20</u>	<u>20</u>					Groundmass	Fracture Vesicle	
Shape	<u>R</u>	<u>SR</u>					Chlorite _____		
Size(x)	<u>5mm</u>	<u>2mm</u>					Smectite _____		
PHENOCRYSTS (Original mineralogy)									
Olivine >5%							Secondary/Alteration Min.		
Olivine 1-5%	✓						Smectite _____		
Olivine <1%		✓					Calcite _____		
Phenos mph	✓	✓					Zeolite _____		
ol-plag	✓						white fibrous _____		
Comments									green _____
Plagioclase >5%							blue _____		
Plagioclase 1-5%	✓						Analcime _____		
Plagioclase <1%							Chabazite _____		
Rhombs							MgOH _____		
Blades/laths mph	✓						Silica _____		
Blades/laths mph	✓						Amorphous _____		
Comments									Chalcedony _____
Augite %							Crystals _____		
							Pyrite _____		
GROUNDMASS (original)								Epidote _____	
Aphanitic	✓	✓					Gypsum _____		
Feldspathic							Anhydrite _____		
Diktytaxitic							Chalcopyrite _____		
							Limonite _____		
							Hematite _____		
							Other (describe) _____		

CRITICAL FEATURES (description of units or features by number) 1614

- 1) trans, vesicular 20%, 5mm; olivine mph & ol-plag inters <math>\Sigma</math> 1%; plag blades, laths & mph <math>\Sigma</math> 3%, in a lt. gray aphan mtrx.
- 2) trans, vesicular 20%, 2mm; olivine mph <math><1\%</math>, in a lt. gray aphan mtrx.

CORE LOG

BOX # 155

HOLE # 1

Sheet A

Depth range 492.27 to 496.54 meters

Depth range 1614 to 1628 feet

Logger's Name FT

Page 1

Type of Sample: Flow 1, 2 Intrusive Ash Breccia Red Bed

Number of Units in Box 2 Clk/Rubble Carbonate Pillow/Hyaloclast

Fill in blanks below by using the appropriate unit number.

PRIMARY FEATURES							SECONDARY FEATURES		COMMENTS
Phyric	1	2	3	4	5	6	Phenocryst replacements		
mega (>.5 mm)	✓	✓					Olv -> Clay		
micro (<.5 mm)	✓	✓					Iddingsite		
Aphyric							Plag -> Clay		
							Zeolite		
Vesicles: %	15						Groundmass		
Shape	SPSP	SPSA					Chlorite		
Size(x)	1	<1					Smeectite		
PHENOCRYSTS (Original mineralogy)							Fracture	Vesicle	
Olivine >5%							Secondary/Alteration Min.		
1-5%		3-5					Smeectite		
<1%	✓						Calcite		
Phenos	✓	✓					Zeolite		
mph	✓	✓					white fibrous		
ol-plag							green		
Comments								blue	
Plagioclase							Analcime		
>5%							Chabazite		
1-5%							MgOH		
<1%		✓					Silica		
Rhombs		✓					Amorphous		
Blades/laths		✓					Chalcedony		
mph							Crystals		
Comments								Pyrite	
Augite %							Epidote		
							Gypsum		
GROUNDMASS (original)							Anhydrite		
Aphanitic							Chalcopyrite		
Feldspathic	✓	✓					Limonite		
Diktytaxitic							Hematite		
							Other (describe)		

CRITICAL FEATURES (description of units or features by number)

- 1) phh w/ <1% Olivine as phenocrysts, mph in a lt gray feldspathic matrix.
- 2) A'a + clinker w/ 3-5% Olivine as phenocrysts, mph and <1% Plagioclase as Rhombs, laths in a lt gray feldspathic matrix.

CORE LOG

BOX # 156

HOLE # 1

Sheet A

Depth range 496.54 to 499.59 meters

Depth range 1628 to 1638 feet

Logger's Name FT

Page 1

Type of Sample: Flow 1, 2 Intrusive \_\_\_\_\_ Ash \_\_\_\_\_ Breccia \_\_\_\_\_ Red Bed \_\_\_\_\_

Number of Units in Box 2 Clk/Rubble \_\_\_\_\_ Carbonate \_\_\_\_\_ Pillow/Hyaloclast \_\_\_\_\_

Fill in blanks below by using the appropriate unit number.

PRIMARY FEATURES						SECONDARY FEATURES		COMMENTS
Phyric	1	2	3	4	5	6	Phenocryst replacements	
mega (>.5 mm)	✓	✓					Ol -> Clay _____	
micro (<.5 mm)	✓	✓					Iddingsite _____	
Aphyric							Plag -> Clay _____	
							Zeolite _____	
Vesicles: %	<u>7</u>	<u>20</u>					Groundmass	
Shape	<u>SR-SA</u>	<u>SR-SA</u>					Chlorite _____	
Size(x)	<u>&lt;1</u>	<u>2</u>					Smectite _____	
PHENOCRYSTS (Original mineralogy)							Secondary/Alteration Min.	
Olivine	>5%	<u>10-12</u>					Smectite _____	
	1-5%	<u>3</u>					Calcite _____	
	<1%						Zeolite _____	
Phenos	✓	✓					white fibrous _____	
mph	✓	✓					green _____	
ol-plag							blue _____	
Comments _____							Analcime _____	
Plagioclase							Chabazite _____	
	>5%						MgOH _____	
	1-5%						Silica _____	
	<1%						Amorphous _____	
Rhombs							Chalcedony _____	
Blades/laths							Crystals _____	
mph							Pyrite _____	
Comments _____							Epidote _____	
Augite	%						Gypsum _____	
GROUNDMASS (original)							Anhydrite _____	
Aphanitic							Chalcopyrite _____	
Feldspathic	✓	✓					Limonite _____	
Diktytaxitic							Hematite _____	
							Other (describe) _____	

CRITICAL FEATURES (description of units or features by number)

- 1) a 2' Flow w/ 3% Olivine phenocrysts, mph in a lt gray feldspathic matrix.
- 2) a 2' flow, minor clinker w/ 10-12% Olivine phenocrysts, mph in a gray feldspathic matrix.



CORE LOG

BOX # 157

HOLE # 1

Sheet A

Depth range 499.59 to 503.55 meters

Depth range 1639 to 1651 feet

Logger's Name EM

Page 1

Type of Sample: Flow 1,2 Intrusive \_\_\_\_\_ Ash \_\_\_\_\_ Breccia \_\_\_\_\_ Red Bed \_\_\_\_\_

Number of Units in Box 2 Clk/Rubble \_\_\_\_\_ Carbonate \_\_\_\_\_ Pillow/Hyaloclast \_\_\_\_\_

Fill in blanks below by using the appropriate unit number.

PRIMARY FEATURES						
Phyric	1	2	3	4	5	6
mega (>.5 mm)	✓	✓				
micro (<.5 mm)	✓	✓				

Aphyric \_\_\_\_\_

Vesicles: %	<u>10</u>	<u>20</u>				
Shape	<u>ER</u>	<u>SA</u>				
Size(x)	<u>2mm</u>	<u>2mm</u>				

PHENOCRYSTS (Original mineralogy)

Olivine >5%		<u>15</u>				
1-5%	<u>3</u>					
<1%						
Phenos	✓	✓				
mph	✓	✓				
ol-plag						

Comments \_\_\_\_\_

Plagioclase

>5%						
1-5%						
<1%						
Rhombs						
Blades/laths						
mph						

Comments \_\_\_\_\_

Augite % \_\_\_\_\_

GROUNDMASS (original)

Aphanitic	✓	✓				
Feldspathic						
Diktytaxitic						

SECONDARY FEATURES

Phenocryst replacements  
 Oliv -> Clay #2  
 Iddingsite \_\_\_\_\_  
 Plag -> Clay \_\_\_\_\_  
 Zeolite \_\_\_\_\_

Groundmass

Chlorite \_\_\_\_\_  
 Smectite \_\_\_\_\_

Fracture  
 Vesicle

Secondary/Alteration Min.

Smectite \_\_\_\_\_  
 Calcite \_\_\_\_\_  
 Zeolite \_\_\_\_\_  
 white fibrous \_\_\_\_\_  
 green \_\_\_\_\_  
 blue \_\_\_\_\_  
 Analcime \_\_\_\_\_  
 Chabazite \_\_\_\_\_  
 MgOH \_\_\_\_\_  
 Silica \_\_\_\_\_  
 Amorphous \_\_\_\_\_  
 Chalcedony \_\_\_\_\_  
 Crystals \_\_\_\_\_  
 Pyrite \_\_\_\_\_  
 Epidote \_\_\_\_\_  
 Gypsum \_\_\_\_\_  
 Anhydrite \_\_\_\_\_  
 Chalcopyrite \_\_\_\_\_  
 Limonite \_\_\_\_\_  
 Hematite \_\_\_\_\_  
 Other (describe) \_\_\_\_\_

COMMENTS

3' loot core

1639

pkh #1

1643

TRANS #2

olivine phenos 15%

1651

CRITICAL FEATURES (description of units or features by number)

- 1) trans, vesicular 10%, 2mm; olivine phenos & mph  $\approx$  3% unalt.; in a lt. gray aphan mtr.
- 2) trans, vesicular 20%, 2mm; olivine phenos & mph  $\approx$  3% at top contact increase to 15% last 90cm of unit, 1st 30cm of this highly altered to tan clay, last 60cm unalt.; in a lt. gray aphan mtr.

CORE LOG  
 SDX # 158 HOLE # 1 Sheet A  
 Depth range 503.56 to 505.69 meters Depth range 1651 to 1658 feet  
 Logger's Name FT Page 1  
 Type of Sample: Flow 1-4 Intrusive \_\_\_\_\_ Ash \_\_\_\_\_ Breccia \_\_\_\_\_ Red Bed \_\_\_\_\_  
 Number of Units in Box 4 Clk/Rubble \_\_\_\_\_ Carbonate \_\_\_\_\_ Pillow/Hyaloclast \_\_\_\_\_  
 Fill in blanks below by using the appropriate unit number.

PRIMARY FEATURES

Phyric	1	2	3	4	5	6
mega (>.5 mm)	✓	✓	✓	✓		
micro (<.5 mm)	✓	✓	✓	✓		

Aphyric

--	--	--	--	--	--	--

Vesicles: % 10 20 20 20

Shape	<u>SA</u>	<u>SA</u>	<u>SA</u>	<u>SA</u>		
Size(x)	<u>&lt;1</u>	<u>2</u>	<u>&lt;1</u>	<u>1</u>		

PHENOCRYSTS (Original mineralogy)

Olivine	>5%	<u>10</u>	<u>10</u>	<u>5-7</u>		
	1-5%			<u>2</u>		
	<1%					
Phenos	mph	✓	✓	✓	✓	
ol-plag						

Plagioclase

>5%						
1-5%				<u>3</u>		
<1%						
Rhombs						
Blades/laths				✓		
mph				✓		

Augite

%						
---	--	--	--	--	--	--

GROUNDMASS (original)

Aphanitic						
Feldspathic	✓	✓	✓	✓		
Diktytaxitic						

SECONDARY FEATURES

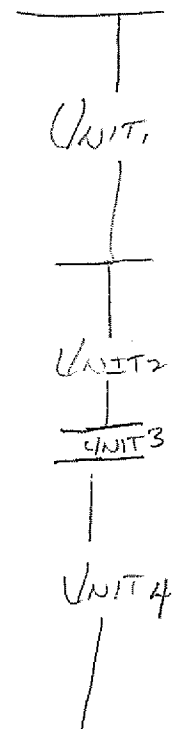
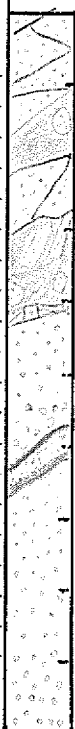
Phenocryst replacements  
 Oliv -> Clay \_\_\_\_\_  
 Iddingsite \_\_\_\_\_  
 Plag -> Clay \_\_\_\_\_  
 Zeolite \_\_\_\_\_

Groundmass

Chlorite \_\_\_\_\_  
 Smectite \_\_\_\_\_

	Fracture	Vesicle
Secondary/Alteration Min.		
Smectite		
Calcite		
Zeolite		
white fibrous		
green		
blue		
Analcime		
Chabazite		
MgOH		
Silica		
Amorphous		
Chalcedony		
Crystals		
Pyrite		
Epidote		
Gypsum		
Anhydrite		
Chalcopyrite		
Limonite		
Hematite		
Other (describe)		

COMMENTS  
 Contact 1 units  
 2 + 3 are welded



CRITICAL FEATURES (description of units or features by number)

- 1) Transited w/ 10% Olivine phenocrysts, mph in a lt bluish gray matrix
- 2) phk unit w/ 10% Olivine phenocrysts, mph in a gray feldspathic matrix
- 3) phk, 5-7% Olivine as phenocrysts, mph in a feldspathic gray -> thermally oxidized matrix
- 4) phk w/ 30% Plagioclase as laths, blades and micro laths, Olivine present at 20% as phenocryst, mph in a lt gray feldspathic matrix.

CORE LOG

BOX # 159 HOLE # 1 Sheet A  
 Depth range 505.69 to 508.74 meters Depth range 1658 to 1669 feet  
 Logger's Name EN Page 1  
 Type of Sample: Flow 1,3 Intrusive      Ash 2 Breccia      Red Bed       
 Number of Units in Box 3 Clk/Rubble      Carbonate      Pillow/Hyaloclast       
 Fill in blanks below by using the appropriate unit number.

PRIMARY FEATURES						SECONDARY FEATURES		COMMENTS
Phyric	1	2	3	4	5	6	Phenocryst replacements	
mega (>.5 mm)		-					Olv -> Clay <u>    </u>	
micro(<.5 mm)	✓		✓				Iddingsite <u>    </u>	
Aphyric							Plag -> Clay <u>    </u>	
							Zeolite <u>    </u>	
Vesicles: %	20	-	20				Groundmass	
Shape	SA		SA				Chlorite <u>    </u>	
Size(x)/mm			1mm				Smectite <u>    </u>	
PHENOCRYSTS (Original mineralogy)							Fracture	
Olivine	>5%						Vesicle	
	1-5%						Secondary/Alteration Min.	
	<1%	✓	✓				Smectite	
Phenos							Calcite	
	mph	✓	✓				Zeolite	
	ol-plag						white fibrous	
Comments <u>    </u>							green	
Plagioclase							blue	
	>5%						Analcime	
	1-5%						Chabazite	
	<1%	✓	✓				MgOH	
Rhombs							Silica	
Blades/laths	mph	✓	✓				Amorphous	
Comments <u>    </u>							Chalcedony	
Augite							Crystals	
	%						Pyrite	
GROUNDMASS (original)							Epidote	
	Aphanitic	✓	✓				Gypsum	
	Feldspathic						Anhydrite	
	Diktytaxitic						Chalcopryrite	
CRITICAL FEATURES (description of units or features by number)							Limonite	
							Hematite	
							Other (describe)	

- 1) pht, vesicular 20%, 1mm; olivine mph <1%, unalt; plag blades & laths <1%, in a lt. gray aphan mtr.
- 2) dark red ash consisting of altered glass; unaltered glass & occasional olivine & plag x-tals cemented into a competent unit.
- 3) pht, lith as in #1

CORE LOG

BOX # 160

HOLE # 1

Sheet A

Depth range 508.74 to 511.48 meters

Depth range 1668 to 1677 feet

Logger's Name EN

Page 1

Type of Sample: Flow 1-3 Intrusive \_\_\_\_\_ Ash \_\_\_\_\_ Breccia \_\_\_\_\_ Red Bed \_\_\_\_\_

Number of Units in Box 3 Clk/Rubble \_\_\_\_\_ Carbonate \_\_\_\_\_ Pillow/Hyaloclast \_\_\_\_\_

Fill in blanks below by using the appropriate unit number.

PRIMARY FEATURES							SECONDARY FEATURES			COMMENTS
Phyric	1	2	3	4	5	6	Phenocryst replacements			
mega (>.5 mm)							Olv -> Clay _____			
micro(<.5 mm)	✓	✓	✓				Iddingsite _____			
Aphyric							Plag -> Clay _____			
Vesicles: %	20	20	20				Zeolite _____			
Shape	SR	SR	SR				Groundmass			
Size(x)/mm/mm/mm							Chlorite _____			
							Smectite _____			
PHENOCRYSTS (Original mineralogy)							Fracture	Vesicle		
Olivine >5%							Secondary/Alteration Min.			
1-5%							Smectite _____			
<1%	✓	✓	✓				Calcite _____			
Phenos							Zeolite _____			
mph	✓	✓	✓				white fibrous _____			
ol-plag							green _____			
Comments								blue _____		
Plagioclase										
>5%							Analcime _____			
1-5%							Chabazite _____			
<1%	✓	✓	✓				MgOH _____			
Rhombs							Silica _____			
Blades/laths	✓	✓	✓				Amorphous _____			
mph							Chalcedony _____			
Comments								Crystals _____		
Augite										
%							Pyrite _____			
GROUNDMASS (original)										
Aphanitic	✓	✓	✓				Epidote _____			
Feldspathic							Gypsum _____			
Diktytaxitic							Anhydrite _____			
							Chalcopyrite _____			
							Limonite _____			
							Hematite _____			
							Other (describe) _____			

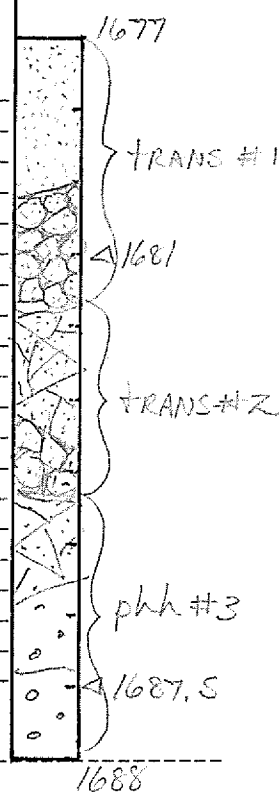
CRITICAL FEATURES (description of units or features by number)

- 1) phh, microlar 20%, 1mm; olivine mph <1%, unait.;  
plag blades & laths <1%, in a lt. gray aphan mtr.
- 2,3) phh, lith as above

CORE LOG

BOX # 161 HOLE # 1 Sheet A  
 Depth range 511.44 to 514.84 meters Depth range 1677 to 1688 feet  
 Logger's Name EN Page 1  
 Type of Sample: Flow \_\_\_\_\_ Intrusive \_\_\_\_\_ Ash \_\_\_\_\_ Breccia \_\_\_\_\_ Red Bed \_\_\_\_\_  
 Number of Units in Box \_\_\_\_\_ Clk/Rubble \_\_\_\_\_ Carbonate \_\_\_\_\_ Pillow/Hyaloclast \_\_\_\_\_  
 Fill in blanks below by using the appropriate unit number.

PRIMARY FEATURES						SECONDARY FEATURES		COMMENTS	
Phyric	1	2	3	4	5	6	Phenocryst replacements		1' lost core
mega (>.5 mm)							Olv -> Clay _____		
micro (<.5 mm)	✓	✓	✓				Iddingsite _____		
Aphyric							Plag -> Clay _____		
Vesicles: %	30	20	20				Zeolite _____		
Shape	SR	SA	SR				Groundmass		
Size(x)	1mm	1mm	1mm				Chlorite _____		
							Smectite _____		
PHENOCRYSTS (Original mineralogy)									
Olivine >5%							Fracture Vesicle Secondary/Alteration Min. Smectite _____ Calcite _____ Zeolite _____ white fibrous _____ green _____ blue _____ Analcime _____ Chabazite _____ MgOH _____ Silica _____ Amorphous _____ Chalcedony _____ Crystals _____ Pyrite _____ Epidote _____ Gypsum _____ Anhydrite _____ Chalcopryrite _____ Limonite _____ Hematite _____ Other (describe) _____		
1-5%									
<1%	✓	✓	✓						
Phenos mph	✓	✓	✓						
ol-plag									
Comments									
Plagioclase									
>5%									
1-5%									
<1%	✓	✓	✓						
Rhombs									
Blades/laths mph	✓	✓	✓						
Comments									
Augite %									
GROUNDMASS (original)									
Aphanitic	✓	✓							
Feldspathic									
Diktytaxitic			✓						

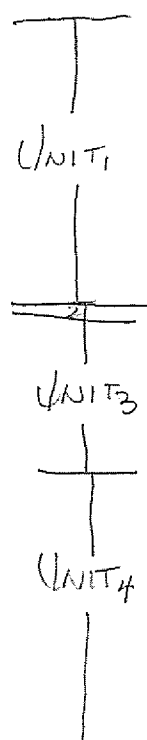


CRITICAL FEATURES (description of units or features by number)

- 1) trans, vesicular 30%, 1mm; olivine mph <1% unalt; plag blades & laths <1% in a lt. gray aphan mtr.
- 2) trans, lith as above
- 3) pht, vesicular 20%, 1mm; olivine mph <1%, unalt.; plag blades & laths <1% in a lt. gray slightly dkty. mtr. Contacts in 2 & 2 & 3 are zones of sand to gravel size clinker and rubble.

BOX # 162 <sup>84</sup> <sup>59</sup> CORE LOG HOLE # 1 Sheet A  
 Depth range 514 to 517 meters Depth range 1688 to 1697 feet  
 Logger's Name FT Page 1  
 Type of Sample: Flow 1,3,4 Intrusive      Ash 2 Breccia      Red Bed       
 Number of Units in Box 4 Clk/Rubble      Carbonate      Pillow/Hyaloclast       
 Fill in blanks below by using the appropriate unit number.

PRIMARY FEATURES						SECONDARY FEATURES		COMMENTS
Phyric	1	2	3	4	5	6	Phenocryst replacements	
mega (>.5 mm)	✓		✓	✓			Olv -> Clay <u>    </u>	
micro (<.5 mm)	✓		✓	✓			Iddingsite <u>    </u>	
Aphyric		✓					Plag -> Clay <u>    </u>	
							Zeolite <u>    </u>	
Vesicles: %	10	20	15				Groundmass	Fracture
Shape	R-SA	SP-SA	SC-SA				Chlorite <u>    </u>	
Size(x)	2	1	2				Smectite <u>    </u>	
PHENOCRYSTS (Original mineralogy)								
Olivine >5%				10-12%			Secondary/Alteration Min.	0
1-5%							Smectite <u>    </u>	
<1%	✓		✓				Calcite <u>    </u>	
Phenos	✓		✓	✓			Zeolite <u>    </u>	
mph	✓		✓	✓			white fibrous <u>    </u>	
ol-plag							green <u>    </u>	
Comments								blue <u>    </u>
Plagioclase								
>5%							Analcime <u>    </u>	ASH
1-5%	✓		3-4				Chabazite <u>    </u>	
<1%							MgOH <u>    </u>	
Rhombs			✓				Silica <u>    </u>	
Blades/laths	✓		✓				Amorphous <u>    </u>	
mph	✓						Chalcedony <u>    </u>	
Comments								Crystals <u>    </u>
Augite %								
GROUNDMASS (original)								
Aphanitic							Pyrite <u>    </u>	1695'
Feldspathic			✓	✓			Epidote <u>    </u>	
Diktytaxitic	✓						Gypsum <u>    </u>	
							Anhydrite <u>    </u>	
							Chalcopyrite <u>    </u>	
							Limonite <u>    </u>	
							Hematite <u>    </u>	
							Other (describe) <u>    </u>	



CRITICAL FEATURES (description of units or features by number)

- 1) Transitional Unit w/ 1% Plagioclase laths, micro laths in a lt gray diktytaxitic matrix
- 2) Ash, 2cm Thick, red, oxidized
- 3) phh w/ 3-4% Plagioclase as Rhombs, blades and micro laths and <1% Olivine as phenocrysts, mph in a lt gray feldspathic matrix
- 4) phh unit, Pteritic w/ 10-12% Olivine phenocrysts, mph in a lt bluish gray feldspathic matrix.

CORE LOG

BOX # 163

HOLE # 1

Sheet A

Depth range 517.58 to 520.94 meters

Depth range 1697 to 1708 feet

Logger's Name EN

Page 1

Type of Sample: Flow 1-3 Intrusive      Ash      Breccia      Red Bed     

Number of Units in Box 3 Clk/Rubble      Carbonate      Pillow/Hyaloclast     

Fill in blanks below by using the appropriate unit number.

PRIMARY FEATURES						SECONDARY FEATURES		COMMENTS	
Phyric	1	2	3	4	5	6	Phenocryst replacements		1' lost core
mega (>.5 mm)	✓						Olv → Clay		
micro (<.5 mm)	✓	✓	✓				Iddingsite		
Aphyric							Plag → Clay		
Vesicles: %	20	20	20				Zeolite		
Shape	SR	SA	SK				Groundmass		
Size (x) 2mm	<1	1mm					Chlorite		
							Smectite		
PHENOCRYSTS (Original mineralogy)							Fracture	1697 phh #1 phh #2 1702 1cm yellow ash phh #3 gray clay on fract. 1708	
Olivine >5%							Secondary/Alteration Min.		
Olivine 1-5%	3						Smectite		
Olivine <1%		✓	✓				Calcite		
Phenos mph	✓						Zeolite		
Phenos mph	✓	✓	✓				white fibrous		
Pl-plag							green		
Comments	unalt.						blue		
Plagioclase >5%							Analcime		
Plagioclase 1-5%							Chabazite		
Plagioclase <1%							MgOH		
Rhombs							Silica		
Blades/laths							Amorphous		
Blades/laths mph							Chalcedony		
Comments							Crystals		
Augite %							Pyrite		
Augite %							Epidote		
Augite %							Gypsum		
Augite %							Anhydrite		
Augite %							Chalcopryrite		
Augite %							Limonite		
Augite %							Hematite		
Augite %							Other (describe)		
GROUNDMASS (original)									
Aphanitic	✓	✓	✓						
Feldspathic									
Diktytaxitic									
CRITICAL FEATURES (description of units or features by number)									

- 1) phh, mesoculaw 20%, 2mm; olivine phenos c mph  $\Sigma$  3%, unalt; in a lt. gray aphan mtr.
- 2) phh, mesoculaw 20%, <1mm; olivine mph < 10%, unalt; in a gray aphan mtr. 1cm of yellow ash at 213 contact.
- 3) phh, lith as above. 1mm gray clay on fract at bottom of box.

CORE LOG

BOX # 164

HOLE # 1

Sheet A

Depth range 520.94 to 524.28 meters

Depth range 1709 to 1719 feet

Logger's Name FAJ

Page 1

Type of Sample: Flow 1 Intrusive \_\_\_\_\_ Ash \_\_\_\_\_ Breccia \_\_\_\_\_ Red Bed \_\_\_\_\_

Number of Units in Box 1 Clk/Rubble \_\_\_\_\_ Carbonate \_\_\_\_\_ Pillow/Hyaloclast \_\_\_\_\_

Fill in blanks below by using the appropriate unit number.

PRIMARY FEATURES							SECONDARY FEATURES		COMMENTS	
Phyric	1	2	3	4	5	6	Phenocryst replacements		1' lost core	
mega (>.5 mm)	✓						Olv -> Clay _____			
micro (<.5 mm)	✓						Iddingsite _____			
Aphyric							Plag -> Clay _____			
							Zeolite _____			
Vesicles: %	15						Groundmass			
Shape	R						Chlorite _____			
Size(x)	3mm						Smectite _____			
PHENOCRYSTS (Original mineralogy)							Fracture	Vesicle		
Olivine >5%							Secondary/Alteration Min.			
1-5%	1						Smectite _____	1708		
<1%							Calcite _____	Δ 1709		
Phenos	✓						Zeolite _____	← Aligned vesicles		
mph	✓						white fibrous _____			
ol-plag							green _____			
Comments								blue _____		
Plagioclase							Analcime _____			
>5%							Chabazite _____			
1-5%							MgOH _____			
<1%							Silica _____			
Rhombs							Amorphous _____			
Blades/laths							Chalcedony _____			
mph							Crystals _____			
Comments								Pyrite _____	phh #1	
Augite %							Epidote _____			
GROUNDMASS (original)								Gypsum _____		
Aphanitic	✓						Anhydrite _____			
Feldspathic							Chalcopryrite _____			
Diktytaxitic							Limonite _____			
							Hematite _____			
							Other (describe) _____			

CRITICAL FEATURES (description of units or features by number)

1) phh, vesicular 15%, 3mm; olivine phenos c mph < 1% at top contact increasing to 3% at bottom contact, in a lt. gray aphan mtrx.



CORE LOG  
 BOX # 165 HOLE # 1 Sheet A  
 Depth range 524.30 to 527.35 meters Depth range 1719 to 1729 feet  
 Logger's Name FT Page 1  
 Type of Sample: Flow 1,2 Intrusive \_\_\_\_\_ Ash \_\_\_\_\_ Breccia \_\_\_\_\_ Red Bed \_\_\_\_\_  
 Number of Units in Box 2 Clk/Rubble \_\_\_\_\_ Carbonate \_\_\_\_\_ Pillow/Hyaloclast \_\_\_\_\_  
 Fill in blanks below by using the appropriate unit number.

PRIMARY FEATURES						SECONDARY FEATURES		COMMENTS
Phyric	1	2	3	4	5	6	Phenocryst replacements	
mega (>.5 mm)	✓	✓					Olv -> Clay _____	
micro (<.5 mm)	✓	✓					Iddingsite _____	
Aphyric							Plag -> Clay _____	
							Zeolite _____	
Vesicles: %	25	20					Groundmass	Fracture Vesicle
Shape	SR-SA	SR-A					Chlorite _____	
Size(x)	1	<1					Smeectite _____	
PHENOCRYSTS (Original mineralogy)						Secondary/Alteration Min.		
Olivine >5%							Smeectite _____	
1-5%							Calcite _____	
<1%	✓						Zeolite _____	
Phenos mph	✓						white fibrous _____	
ol-plag							green _____	
Comments							blue _____	
Plagioclase >5%							Analcime _____	
1-5%							Chabazite _____	
<1%		✓					MgOH _____	
Rhombs		✓					Silica _____	
Blades/laths mph							Amorphous _____	
Comments							Chalcedony _____	
Augite %		<<<1					Crystals _____	
GROUNDMASS (original)							Pyrite _____	
Aphanitic		✓					Epidote _____	
Feldspathic	✓						Gypsum _____	
Diktytaxitic							Anhydrite _____	
							Chalcoppyrite _____	
							Limonite _____	
							Hematite _____	
							Other (describe) _____	

CRITICAL FEATURES (description of units or features by number)

- 1) Transitional, flow w/ <1% Olivine phenocrysts, mph in a bluish gray feldspathic matrix
- 2) phh flow w/ <1% Plagioclase as Rhombs and rare CPX in a bluish gray aphanitic matrix.

CORE LOG

BOX # Nole

HOLE # 1

Sheet A

Depth range 527.34 to 530.09 meters

Depth range 1729 to 1739 feet

Logger's Name EN

Page 1

Type of Sample: Flow 1-3 Intrusive \_\_\_\_\_ Ash \_\_\_\_\_ Breccia \_\_\_\_\_ Red Bed \_\_\_\_\_

Number of Units in Box 2 Clk/Rubble \_\_\_\_\_ Carbonate \_\_\_\_\_ Pillow/Hyaloclast \_\_\_\_\_

Fill in blanks below by using the appropriate unit number.

PRIMARY FEATURES							SECONDARY FEATURES		COMMENTS	
Phyric	1	2	3	4	5	6	Phenocryst replacements			1729': amorphous silica = (XRD) albite, diopside, clay. RE 1/8/92
mega (>.5 mm)							Olv -> Clay _____			
micro (<.5 mm)	✓	✓	✓				Iddingsite _____			
Aphyric							Plag -> Clay _____			
Vesicles: %	20	20	20				Zeolite _____			
Shape	CP	CP	CP				Groundmass			
Size(x)	2mm	2mm	2mm				Chlorite _____			
							Smectite _____			
PHENOCRYSTS (Original mineralogy)							Fracture	Vesicle		
Olivine >5%							Secondary/Alteration Min.			
Olivine 1-5%							Smectite _____			
Olivine <1%	✓	✓	✓				Calcite _____			
Phenos							Zeolite _____			
mph	✓	✓	✓				white fibrous _____			
ol-plag							green _____			
Comments							blue _____			
Plagioclase							Analcime _____			
Plagioclase >5%							Chabazite _____			
Plagioclase 1-5%							MgOH _____			
Plagioclase <1%	✓	✓	✓				Silica _____			
Rhombs							Amorphous _____			
Blades/laths	✓	✓	✓				Chalcedony _____			
mph							Crystals _____			
Comments							Pyrite _____			
Augite							Epidote _____			
Augite %							Gypsum _____			
GROUNDMASS (original)							Anhydrite _____			
Aphanitic	✓	✓	✓				Chalcopyrite _____			
Feldspathic							Limonite _____			
Diktytaxitic							Hematite _____			
							Other (describe) _____			

CRITICAL FEATURES (description of units or features by number)

- 1) phh, mesoclastic 20%, 2mm; olivine mph <1%, unalt; plag blades & laths <1%, in a lt. gray aphan mtr.
- 2,3) phh, lth as above.

CORE LOG

BOX # 167

HOLE # 1

Sheet A

Depth range 530.67 to 534.11 meters

Depth range 1732 to 1753 feet

Logger's Name EN

Page 1

Type of Sample: Flow 1,3,5 Intrusive \_\_\_\_\_ Ash 2,4 Breccia \_\_\_\_\_ Red Bed \_\_\_\_\_

Number of Units in Box \_\_\_\_\_ Clk/Rubble \_\_\_\_\_ Carbonate \_\_\_\_\_ Pillow/Hyaloclast \_\_\_\_\_

Fill in blanks below by using the appropriate unit number.

PRIMARY FEATURES						SECONDARY FEATURES		COMMENTS
Phyric	1	2	3	4	5	6	Phenocryst replacements	
mega (>.5 mm)							Olv -> Clay _____	
micro (<.5 mm)	✓		✓		✓		Iddingsite _____	
Aphyric							Plag -> Clay _____	
Vesicles: %	30	-	20	-	15		Zeolite _____	
Shape	R		SR		SR		Groundmass	
Size(x)	2mm		2mm		2mm		Chlorite _____	
							Smectite _____	
							Fracture	
							Vesicle	
PHENOCRYSTS (Original mineralogy)						Secondary/Alteration Min.		
Olivine >5%							Smectite _____	
1-5%					5		Calcite _____	
<1%	✓		✓				Zeolite _____	
Phenos mph	✓		✓		✓		white fibrous _____	
ol-plag							green _____	
Comments							blue _____	
Plagioclase							Analcime _____	
>5%							Chabazite _____	
1-5%							MgOH _____	
<1%	✓		✓		✓		Silica _____	
Rhombs							Amorphous _____	
Blades/laths mph	✓		✓		✓		Chalcedony _____	
Comments							Crystals _____	
Augite %							Pyrite _____	
GROUNDMASS (original)							Epidote _____	
Aphanitic	✓		✓		✓		Gypsum _____	
Feldspathic							Anhydrite _____	
Diktytaxitic							Chalcopyrite _____	
							Limonite _____	
							Hematite _____	
							Other (describe) _____	

CRITICAL FEATURES (description of units or features by number)

1753

- 1) phh, muscular 20%, 2mm; olivine mph <1%; unalt.; plag blades & laths <1% in a lt. gray aphan mtx.
- 2) red ash cemented into a competent unit
- 3) phh, lith as in #1
- 4) red ash cemented into a competent unit
- 5) phh, muscular 20%, 2mm; olivine phenos & mph <5%, unalt., in a lt. gray aphan mtx.

CORE LOG  
 BOX # 168 HOLE # 1 Sheet A  
 Depth range 534.67 to 538.02 meters Depth range 1753 to 1764 feet  
 Logger's Name TT Page 1  
 Type of Sample: Flow 1 Intrusive \_\_\_\_\_ Ash \_\_\_\_\_ Breccia \_\_\_\_\_ Red Bed \_\_\_\_\_  
 Number of Units in Box 1 Clk/Rubble 1 Carbonate \_\_\_\_\_ Pillow/Hyaloclast \_\_\_\_\_  
 Fill in blanks below by using the appropriate unit number.

PRIMARY FEATURES

Phyric	1	2	3	4	5	6
mega (>.5 mm)	✓					
micro (<.5 mm)	✓					

Aphyric \_\_\_\_\_

Vesicles: % 5  
 Shape SR-SA  
 Size(x) <1

PHENOCRYSTS (Original mineralogy)

Olivine	>5%	1-5%	<1%			
	<u>10-15</u>					
Phenos	mph					
	✓					
ol-plag						

Comments \_\_\_\_\_

Plagioclase

>5%	1-5%	<1%			
	<u>1-2</u>				
Rhombs					
Blades/laths	mph				
	✓				

Comments \_\_\_\_\_

Augite % \_\_\_\_\_

GROUNDMASS (original)

Aphanitic					
Feldspathic	✓				
Diktytaxitic					

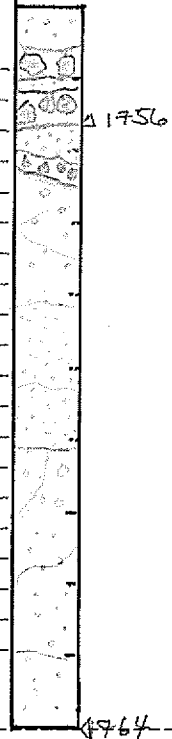
SECONDARY FEATURES

Phenocryst replacements	
Olv -> Clay	_____
Iddingsite	_____
Plag -> Clay	_____
Zeolite	_____

Groundmass  
 Chlorite \_\_\_\_\_  
 Smectite \_\_\_\_\_

Secondary/Alteration Min.	Fracture	Vesicle
Smectite		
Calcite		
Zeolite		
white fibrous		
green		
blue		
Analcime		
Chabazite		
MgOH		
Silica		
Amorphous		
Chalcedony		
Crystals		
Pyrite		
Epidote		
Gypsum		
Anhydrite		
Chalcoppyrite		
Limonite		
Hematite		
Other (describe)		

COMMENTS  
 11 reprinted here



CRITICAL FEATURES (description of units or features by number)

1) 2'2, PICRITIC, w/ 10-15% Olivine phenocrysts, mph and 1-2% Plagioclase as micro laths, laths in a lt gray feldspathic matrix

CORE LOG  
 BOX # 169 <sup>02</sup> HOLE # 77 Sheet A  
 Depth range 538 to 540 meters Depth range 1764 to 1773 feet  
 Logger's Name FT Page 1  
 Type of Sample: Flow 1, 3 Intrusive 4 Ash 2 Breccia \_\_\_\_\_ Red Bed \_\_\_\_\_  
 Number of Units in Box 4 Clk/Rubble \_\_\_\_\_ Carbonate \_\_\_\_\_ Pillow/Hyaloclast \_\_\_\_\_  
 Fill in blanks below by using the appropriate unit number.

PRIMARY FEATURES						
Phyric	1	2	3	4	5	6
mega (>.5 mm)	✓		✓	✓		
micro (<.5 mm)	✓		✓	✓		
Aphyric		-				
Vesicles: %	3	-	15	-		
Shape	SZ		SZ-SA			
Size(x)	<1		2			
PHENOCRYSTS (Original mineralogy)						
Olivine	>5% <u>10-12</u>		10			
	1-5%			3		
	<1%					
Phenos	✓		✓	✓		
mph	✓		✓	✓		
ol-plag						
Comments						
Plagioclase						
>5%						
1-5%	✓	2				
<1%						
Rhombs						
Blades/laths						
mph						
Comments	<u>macro zoned lots</u>					
Augite	%					
GROUNDMASS (original)						
Aphanitic			✓	✓		
Feldspathic	✓					
Diktytaxitic						

SECONDARY FEATURES	
Phenocryst replacements	
Olv -> Clay	
Iddingsite	
Plag -> Clay	
Zeolite	
Groundmass	
Chlorite	
Smectite	
	Fracture
	Vesicle
Secondary/Alteration Min.	
Smectite	
Calcite	
Zeolite	
white fibrous	
green	
blue	
Analcime	
Chabazite	
MgOH	
Silica	
Amorphous	
Chalcedony	
Crystals	
Pyrite	
Epidote	
Gypsum	
Anhydrite	
Chalcopyrite	
Limonite	
Hematite	
Other (describe)	

COMMENTS  
 1773': "gypsum" = (XRD)  
 plag + augite + tr. anhydrite  
 RE 1/8/92 f. fill?  
 1 800  
 368.7664



CRITICAL FEATURES (description of units or features by number)

- 1) a'z flow, <sup>Picritic</sup> w/ 10-12% Olivine phenocrysts, mph and 1-2% Plagioclase as microlaths, laths in a lt gray feldspathic matrix.
- 2) Ash, Black -> brick red
- 3) phh flow, picritic w/ 10% Olivine phenocrysts, mph in a thermally oxidized matrix
- 4) Dikelet w/ 3% Olivine mph in a black aphanitic matrix.

- XRD

CORE LOG

BOX # 170

HOLE # 1

Sheet A

Depth range 540.76 to 543.20 meters

Depth range 1773 to 1781 feet

Logger's Name EN

Page 1

Type of Sample: Flow 1 Intrusive 2 Ash      Breccia      Red Bed     

Number of Units in Box 2 Clk/Rubble      Carbonate      Pillow/Hyaloclast     

Fill in blanks below by using the appropriate unit number.

PRIMARY FEATURES							SECONDARY FEATURES		COMMENTS	
Phyric	1	2	3	4	5	6	Phenocryst replacements			<p>1773 ← phh #1</p> <p>1774</p> <p>dike #2</p> <p>1781</p>
mega (>.5 mm)	✓	✓					Olv → Clay <u>    </u>			
micro (<.5 mm)	✓	✓					Iddingsite <u>#1</u>			
Aphyric							Plag → Clay <u>    </u>			
Vesicles: %	20	—					Zeolite <u>    </u>			
Shape	SR						Groundmass			
Size(x)	2mm						Chlorite <u>    </u>			
							Smeectite <u>    </u>			
PHENOCRYSTS (Original mineralogy)							Fracture	Vesicle		
Olivine >5%							Secondary/Alteration Min.			
1-5%	5	1					Smeectite			
<1%							Calcite			
Phenos ✓	✓	✓					Zeolite			
mph ✓	✓	✓					white fibrous			
ol-plag							green			
Comments	alt. red #1							blue		
Plagioclase	unalt #2							Analcime		
>5%							Chabazite			
1-5%							MgOH			
<1%		✓					Silica			
Rhombs		✓					Amorphous			
Blades/laths		✓					Chalcedony			
mph							Crystals			
Comments								Pyrite		
Augite %							Epidote			
GROUNDMASS (original)								Gypsum		
Aphanitic	✓	✓					Anhydrite			
Feldspathic							Chalcopyrite			
Diktytaxitic							Limonite			
							Hematite			
							Other (describe)			

CRITICAL FEATURES (description of units or features by number)

- 1) phh, micular 20%, 2mm; olivine mph & phenos < 5%, alt red, in a dk red gray them. alt. aphan mtz.
- 2) dike, amsicular, olivine phenos & mph < 1%, unalt.; plag blades & laths < 1% in a lt. gray aphan. mtz.

CORE LOG

SDX # 171

HOLE # 1

Sheet A

Depth range 543.20 to 545.95 meters

Depth range 1781 to 1790 feet

Logger's Name FN

Page 1

Type of Sample: Flow 2 Intrusive 1,3 Ash      Breccia      Red Bed     

Number of Units in Box 3 Clk/Rubble      Carbonate      Pillow/Hyaloclast     

Fill in blanks below by using the appropriate unit number.

PRIMARY FEATURES						SECONDARY FEATURES		COMMENTS
Phyric	1	2	3	4	5	6	Phenocryst replacements	
mega (>.5 mm)	✓	✓	✓				Olv → Clay <u>    </u>	
micro (<.5 mm)	✓	✓	✓				Iddingsite <u>#2</u>	
Aphyric							Plag → Clay <u>    </u>	
							Zeolite <u>    </u>	
Vesicles: %	-	15	10				Groundmass	Fracture Vesicle
Shape		SR	R				Chlorite <u>    </u>	
Size(x)		2mm	<1mm				Smectite <u>    </u>	
PHENOCRYSTS (Original mineralogy)								
Olivine >5%							Secondary/Alteration Min.	1781 1782 dike #1 phh #2 dike #3 1790
1-5%		S	S				Smectite <u>    </u>	
<1%	✓						Calcite <u>    </u>	
Phenos	✓	✓	✓				Zeolite <u>    </u>	
mph	✓	✓	✓				white fibrous	
ol-plag							green	
Comments	<u>unalt #1,3</u>						blue	
Plagioclase	<u>alt red #2</u>						Analcime <u>    </u>	
>5%							Chabazite <u>    </u>	
1-5%			S				MgOH <u>    </u>	
<1%	✓						Silica <u>    </u>	
Rhombs							Amorphous <u>    </u>	
Blades/laths	✓		✓				Chalcedony <u>    </u>	
mph							Crystals <u>    </u>	
Comments							Pyrite <u>    </u>	
Augite %							Epidote <u>    </u>	
GROUNDMASS (original)								
Aphanitic	✓		✓				Gypsum <u>    </u>	
Feldspathic							Anhydrite <u>    </u>	
Diktytaxitic		✓					Chalcopyrite <u>    </u>	
							Limonite <u>    </u>	
							Hematite <u>    </u>	
							Other (describe) <u>    </u>	

CRITICAL FEATURES (description of units or features by number)

- 1) dike, anhedral, olivine phenocrysts mph  $\Sigma$  < 1%, unalt.; plag blades & laths  $\Sigma$  < 1% in a lt gray aphan mtr.
- 2) phh, mesocrystalline, 15%, 2mm; olivine phenocrysts mph  $\Sigma$  5% alt. red; in a gray somewhat dikty mtr.
- 3) dike, micromesocrystalline, 10%, < 1mm; olivine phenocrysts mph  $\Sigma$  5%, unalt.; plag blades & laths  $\Sigma$  5% in a dk gray aphan mtr.

CORE LOG

BOX # 172 HOLE # 1 Sheet A  
 Depth range 545.96 to 546.39 meters Depth range 1790 to 1796 feet  
 Logger's Name EN Page 1  
 Type of Sample: Flow 5 Intrusive 1,2,4 Ash 3 Breccia \_\_\_\_\_ Red Bed \_\_\_\_\_  
 Number of Units in Box 5 Clk/Rubble \_\_\_\_\_ Carbonate \_\_\_\_\_ Pillow/Hyaloclast \_\_\_\_\_  
 Fill in blanks below by using the appropriate unit number.

PRIMARY FEATURES						
Phyric	1	2	3	4	5	6
mega (>.5 mm)	✓	✓	-	✓	✓	
micro (<.5 mm)	✓	✓		✓	✓	
Aphyric			✓			
Vesicles: %	10	-	-	-	15	
Shape	R				SA	
Size(x) / (mm)					2mm	

PHENOCRYSTS (Original mineralogy)						
Olivine >5%						
1-5%	5			5	5	
<1%						
Phenos ✓				✓	✓	
mph ✓				✓	✓	
ol-plag						
Comments	<u>unalt</u>					

Plagioclase						
>5%						
1-5%	5			5	5	
<1%						
Rhombs						
Blades/laths ✓				✓	✓	
mph						
Comments						

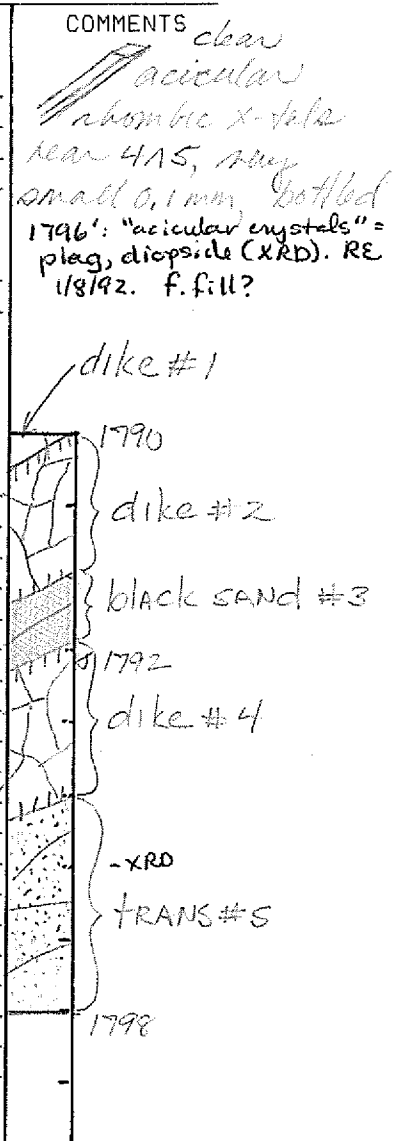
Augite %						

GROUNDMASS (original)						
Aphanitic	✓	✓	-	✓	✓	
Feldspathic						
Diktytaxitic						

SECONDARY FEATURES	
Phenocryst replacements	
Olv -> Clay	
Iddingsite	
Plag -> Clay	
Zeolite	
Groundmass	
Chlorite	
Smectite	

Secondary/Alteration Min.	
Smectite	
Calcite	
Zeolite	
white fibrous	
green	
blue	
Analcime	
Chabazite	
MgOH	
Silica	
Amorphous	
Chalcedony	
Crystals	
Pyrite	
Epidote	
Gypsum	
Anhydrite	
Chalcopyrite	
Limonite	
Hematite	
Other (describe)	



CRITICAL FEATURES (description of units or features by number)

- 1) dike, micromesicular, 10%, 1mm; olivine phenos & mph & 5%, unalt; plag blades & laths & 5% in a dk gray aphan mtr.
- 2) dike, avascular, aphan. dk gray basalt.
- 3) black sand, very fine vitrics, olivine & plag x-tals
- 4) dike, micromes. 10%, <1mm; lith as in #1
- 5) trans., mesicular 15%, 2mm; lith as in #1



CORE LOG

BOX # 173

HOLE # 1

Sheet A

Depth range 547.78 to 551.44 meters

Depth range 1796 to 1808 feet

Logger's Name EN

Page 1

Type of Sample: Flow 1,3 Intrusive 2,4 Ash        Breccia        Red Bed       

Number of Units in Box 4 Clk/Rubble        Carbonate        Pillow/Hyaloclast       

Fill in blanks below by using the appropriate unit number.

PRIMARY FEATURES						SECONDARY FEATURES		COMMENTS
Phyric	1	2	3	4	5	Phenocryst replacements		
mega (>.5 mm)	✓	✓		✓		Olv → Clay <u>      </u>		
micro (<.5 mm)	✓	✓		✓		Iddingsite <u>      </u>		
Aphyric			✓			Plag → Clay <u>      </u>		
Vesicles: %	15	10	15	10		Zeolite <u>      </u>		
Shape	SA	R	R	P		Groundmass		
Size(x)/mm	<1	3mm	<1			Chlorite <u>      </u>		
						Smectite <u>      </u>		
PHENOCRYSTS (Original mineralogy)								
Olivine >5%								
1-5%	5	5		5				
<1%								
Phenos	✓	✓		✓				
mph	✓	✓		✓				
ol-plag								
Comments	<u>unalt</u>							
Plagioclase								
>5%								
1-5%	5	5		5				
<1%								
Rhombs	✓	✓		✓				
Blades/laths	✓	✓		✓				
mph								
Comments								
Augite								
%								
GROUNDMASS (original)								
Aphanitic	✓	✓		✓				
Feldspathic								
Diktytaxitic								
Secondary/Alteration Min.								
Smectite								
Calcite								
Zeolite								
white fibrous								
green								
blue								
Analcime								
Chabazite								
MgOH								
Silica								
Amorphous								
Chalcedony								
Crystals								
Pyrite								
Epidote								
Gypsum								
Anhydrite								
Chalcopyrite								
Limonite								
Hematite								
Other (describe)								

CRITICAL FEATURES (description of units or features by number)

- 1) trans, micular 15%, 2mm; Olivine phenos & mph  $\Sigma$  5%, unalt.; plag blades & laths  $\Sigma$  5% in a gray aphan mtr. Cont. is clinker w dusting of red ash.
- 2) dike, micromicular 10%, <1mm; Olivine phenos & mph  $\Sigma$  5%, unalt.; plag blades & laths  $\Sigma$  5% in a gray aphan mtr.
- 3) trans, micular 15%, 3mm; lith as in #1 in a slightly dikty mtr.
- 4) dike lith as in #2

CORE LOG

BOX # 174

HOLE # 1

Sheet A

Depth range 550.83 to 553.88 meters

Depth range 1806 to 1816 feet

Logger's Name EA

Page 1

Type of Sample: Flow 1-3 Intrusive \_\_\_\_\_ Ash \_\_\_\_\_ Breccia \_\_\_\_\_ Red Bed \_\_\_\_\_

Number of Units in Box 3 Clk/Rubble \_\_\_\_\_ Carbonate \_\_\_\_\_ Pillow/Hyaloclast \_\_\_\_\_

Fill in blanks below by using the appropriate unit number.

PRIMARY FEATURES							SECONDARY FEATURES		COMMENTS
Phyric	1	2	3	4	5	6	Phenocryst replacements		
mega (>.5 mm)							Olv -> Clay _____		
micro (<.5 mm)							Iddingsite _____		
Aphyric	✓	✓	✓				Plag -> Clay _____		
							Zeolite _____		
Vesicles: %	15	20	20				Groundmass		
Shape	SL	SR	SR				Chlorite _____		
Size(x)	1mm	2mm	2mm				Smectite _____		
PHENOCRYSTS (Original mineralogy)							Fracture	Vesicle	
Olivine >5%							Secondary/Alteration Min.		
Olivine 1-5%							Smectite _____	TRANS #1	
Olivine <1%							Calcite _____		
Phenos mph							Zeolite _____		
ol-plag							white fibrous _____		
Comments								green _____	
								blue _____	phk #2
Plagioclase >5%							Analcime _____		
Plagioclase 1-5%							Chabazite _____		
Plagioclase <1%							MgOH _____		
Rhombs							Silica _____	phk #3	
Blades/laths mph							Amorphous _____		
Comments							Chalcedony _____		
								Crystals _____	
Augite %							Pyrite _____		
								Epidote _____	
GROUNDMASS (original)								Gypsum _____	
Aphanitic		✓	✓				Anhydrite _____		
Feldspathic							Chalcopyrite _____		
Diktytaxitic	✓						Limonite _____		
								Hematite _____	
								Other (describe) _____	

CRITICAL FEATURES (description of units or features by number)

1816

- 1) trans, amsicular, dikty. 1st 10cm of unit, changes to mesicular 15%, 1mm last 15cm, lt. gray aphyric basalt.
- 2) phk, mesicular 20%, 2mm, aphyric lt gray aptan basalt.
- 3) phk, lith as above.

CORE LOG

BOX # 175

HOLE # 1

Sheet A

Depth range 553.88 to 556.32 meters

Depth range 1816 to 1824 feet

Logger's Name CAI

Page 1

Type of Sample: Flow 1, 2 Intrusive \_\_\_\_\_ Ash \_\_\_\_\_ Breccia \_\_\_\_\_ Red Bed \_\_\_\_\_

Number of Units in Box 2 Clk/Rubble \_\_\_\_\_ Carbonate \_\_\_\_\_ Pillow/Hyaloclast \_\_\_\_\_

Fill in blanks below by using the appropriate unit number.

PRIMARY FEATURES							SECONDARY FEATURES		COMMENTS	
Phyric	1	2	3	4	5	6	Phenocryst replacements			<p><i>possible branch mold at 182</i></p>
mega (>.5 mm)							Olv -> Clay _____			
micro (<.5 mm)							Iddingsite _____			
Aphyric		✓	✓				Plag -> Clay _____			
							Zeolite _____			
Vesicles: %	15	20					Groundmass			
Shape	SL	SR					Chlorite _____			
Size(x)	1mm	2mm					Smectite _____			
PHENOCRYSTS (Original mineralogy)							Fracture	Vesicle		
Olivine >5%							Secondary/Alteration Min.			
1-5%							Smectite _____			
<1%							Calcite _____			
Phenos							Zeolite _____			
mph							white fibrous _____			
ol-plag							green _____			
Comments								blue _____		
Plagioclase							Analcime _____			
>5%							Chabazite _____			
1-5%							MgOH _____			
<1%							Silica _____			
Rhombs							Amorphous _____			
Blades/laths							Chalcedony _____			
mph							Crystals _____			
Comments								Pyrite _____		
Augite %							Epidote _____			
							Gypsum _____			
							Anhydrite _____			
							Chalcopyrite _____			
GROUNDMASS (original)							Limonite _____			
Aphanitic		✓					Hematite _____			
Feldspathic							Other (describe) _____			
Diktytaxitic		✓								

CRITICAL FEATURES (description of units or features by number)

- 1) phh, anisicular except for 5cm at top and bottom of unit (15%, 2mm) aphyric dikty lt. gray basalt.
- 2) phh, vesicular 20%, 2mm; aphyric aphan lt. gray basalt. 1st 30cm of unit is then alt to dk red gray.

CORE LOG  
 BOX # 176 HOLE # 1 Sheet A  
 Depth range 556.32 to 558.76 meters Depth range 1824 to 1832 feet  
 Logger's Name PT Page 1  
 Type of Sample: Flow 1-2 Intrusive \_\_\_\_\_ Ash \_\_\_\_\_ Breccia \_\_\_\_\_ Red Bed \_\_\_\_\_  
 Number of Units in Box 2 Clk/Rubble \_\_\_\_\_ Carbonate \_\_\_\_\_ Pillow/Hyaloclast \_\_\_\_\_  
 Fill in blanks below by using the appropriate unit number.

PRIMARY FEATURES						SECONDARY FEATURES		COMMENTS
Phyric	1	2	3	4	5	6	Phenocryst replacements	
mega (>.5 mm)	✓	✓					Olv -> Clay _____	
micro(<.5 mm)	✓	✓					Iddingsite _____	
Aphyric							Plag -> Clay _____	
Vesicles: %	20	15					Zeolite _____	
Shape	SR	SR					Groundmass	
Size(x)	1	2					Chlorite _____	
							Smectite _____	
							Fracture	
							Vesicle	
PHENOCRYSTS (Original mineralogy)						Secondary/Alteration Min.		
Olivine >5%							Smectite	
1-5%	2						Calcite	
<1%		✓					Zeolite	
Phenos	✓	✓					white fibrous	
mph	✓	✓					green	
ol-plag							blue	
Comments							Analcime	
							Chabazite	
Plagioclase							MgOH	
>5%							Silica	
1-5%							Amorphous	
<1%							Chalcedony	
Rhombs							Crystals	
Blades/laths							Pyrite	
mph							Epidote	
Comments							Gypsum	
Augite %							Anhydrite	
							Chalcopyrite	
GROUNDMASS (original)							Limonite	
Aphanitic							Hematite	
Feldspathic	✓	✓					Other (describe)	
Diktytaxitic								

CRITICAL FEATURES (description of units or features by number)

- 1) phk w/ 2% Olivine as microphenocrysts, Phenocrysts in a lt gray feldspathic matrix.
- 2) phk w/ <1% Olivine as microphenocrysts, Phenocrysts in a lt gray crystalline, feldspathic matrix

2° MINERALS: Blue Stain, Smectite

CORE LOG

BOX # 177

HOLE # 1

Sheet A

Depth range 559.76 to 561.20 meters

Depth range 1832 to 1840 feet

Logger's Name EN

Page 1

Type of Sample: Flow 1,2 Intrusive \_\_\_\_\_ Ash \_\_\_\_\_ Breccia \_\_\_\_\_ Red Bed \_\_\_\_\_

Number of Units in Box 2 Clk/Rubble \_\_\_\_\_ Carbonate \_\_\_\_\_ Pillow/Hyaloclast \_\_\_\_\_

Fill in blanks below by using the appropriate unit number.

PRIMARY FEATURES						SECONDARY FEATURES		COMMENTS
Phyric	1	2	3	4	5	6	Phenocryst replacements	
mega (>.5 mm)							Olv -> Clay _____	
micro(<.5 mm)							Iddingsite _____	
Aphyric	✓	✓					Plag -> Clay _____	
							Zeolite _____	
Vesicles: %	<u>20</u>	<u>30</u>					Groundmass	
Shape	<u>SR</u>	<u>SR</u>					Chlorite _____	
Size(x)	<u>2mm</u>	<u>2mm</u>					Smectite _____	
PHENOCRYSTS (Original mineralogy)							Fracture	
Olivine >5%							Vesicle	
Olivine 1-5%								
Olivine <1%							Secondary/Alteration Min.	
Phenos mph							Smectite _____	
ol-plag							Calcite _____	
Comments							Zeolite _____	
Plagioclase >5%							white fibrous _____	
Plagioclase 1-5%							green _____	
Plagioclase <1%							blue _____	
Rhombs							Analcime _____	
Blades/laths mph							Chabazite _____	
Comments							MgOH _____	
Augite %							Silica _____	
GROUNDMASS (original)							Amorphous _____	
Aphanitic	✓	✓					Chalcedony _____	
Feldspathic							Crystals _____	
Diktytaxitic	✓						Pyrrite _____	
							Epidote _____	
							Gypsum _____	
							Anhydrite _____	
							Chalcopyrite _____	
							Limonite _____	
							Hematite _____	
							Other (describe) _____	

CRITICAL FEATURES (description of units or features by number)

- 1) phh, vesicular 20%, 2mm; aphyric, dikty area 60cm thru unit 30cm long, aphyric lt. gray basalt.
- 2) phh, vesicular 30%, 2mm; aphyric thru. a lt. reddish gray basalt.

CORE LOG  
 BOX # 178 HOLE # 1 Sheet A  
 Depth range 561.2 to 563.64 meters Depth range 1840 to 1848 feet  
 Logger's Name FT Page 1  
 Type of Sample: Flow 1, 2 Intrusive \_\_\_\_\_ Ash \_\_\_\_\_ Breccia \_\_\_\_\_ Red Bed \_\_\_\_\_  
 Number of Units in Box 2 Clk/Rubble \_\_\_\_\_ Carbonate \_\_\_\_\_ Pillow/Hyaloclast \_\_\_\_\_  
 Fill in blanks below by using the appropriate unit number.

PRIMARY FEATURES							SECONDARY FEATURES			COMMENTS
Phyric	1	2	3	4	5	6	Phenocryst replacements			
mega (>.5 mm)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>					Olv -> Clay _____			
micro (<.5 mm)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>					Iddingsite _____			
Aphyric							Plag -> Clay _____			
Vesicles: %	<u>10</u>	<u>15</u>					Zeolite _____			
Shape	<u>SR</u>	<u>SR</u>					Groundmass			
Size(x)	<u>2</u>	<u>1</u>					Chlorite _____			
							Smectite _____			
PHENOCRYSTS (Original mineralogy)										
Olivine >5%							Secondary/Alteration Min.			
1-5%	<input checked="" type="checkbox"/>						Smectite <input checked="" type="checkbox"/>			
<1%		<input checked="" type="checkbox"/>					Calcite _____			
Phenos	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>					Zeolite _____			
mph	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>					white fibrous _____			
ol-plag							green _____			
Comments								blue <input checked="" type="checkbox"/>		
							Analcime _____			
Plagioclase							Chabazite _____			
>5%							MgOH _____			
1-5%							Silica			
<1%							Amorphous _____			
Rhombs							Chaicedony _____			
Blades/laths							Crystals _____			
mph							Pyrite _____			
Comments								Epidote _____		
Augite %							Gypsum _____			
							Anhydrite _____			
GROUNDMASS (original)							Chalcopyrite _____			
Aphanitic							Limonite _____			
Feldspathic							Hematite _____			
Diktytaxitic	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>					Other (describe) _____			

CRITICAL FEATURES (description of units or features by number)

- 1) phh unit w/ 3% Olivine phenocrysts, mph in a lt gray feldspathic matrix.
- 2) phh unit w/ <1% Olivine phenocrysts, mph in a lt gray feldspathic matrix.

2° Minerals: blueschist, Smectite

CORE LOG

BOX # 079

HOLE # 1

Sheet A

Depth range 563.64 to 566.69 meters

Depth range 1848 to 1858 feet

Logger's Name EN

Page 1

Type of Sample: Flow 42 Intrusive \_\_\_\_\_ Ash \_\_\_\_\_ Breccia \_\_\_\_\_ Red Bed \_\_\_\_\_

Number of Units in Box 2 Clk/Rubble \_\_\_\_\_ Carbonate \_\_\_\_\_ Pillow/Hyaloclast \_\_\_\_\_

Fill in blanks below by using the appropriate unit number.

PRIMARY FEATURES						SECONDARY FEATURES		COMMENTS
Phyric	1	2	3	4	5	6	Phenocryst replacements	
mega (>.5 mm)							Olv -> Clay _____	
micro(<.5 mm)		✓					Iddingsite _____	
Aphyric	✓						Plag -> Clay _____	
							Zeolite _____	
Vesicles: %	<u>15</u>	<u>20</u>					Groundmass	
Shape	<u>R</u>	<u>SA</u>					Chlorite _____	
Size(x)	<u>1mm</u>	<u>2mm</u>					Smectite _____	
PHENOCRYSTS (Original mineralogy)							Secondary/Alteration Min.	
Olivine >5%							Smectite _____	
1-5%							Calcite _____	
<1%		✓					Zeolite _____	
Phenos mph		✓					white fibrous _____	
ol-plag							green _____	
Comments	<u>alt. iridescent blue-green</u>						blue _____	
Plagioclase							Analcime _____	
>5%							Chabazite _____	
1-5%							MgOH _____	
<1%							Silica _____	
Rhombs							Amorphous _____	
Blades/laths mph							Chalcedony _____	
Comments							Crystals _____	
Augite %							Pyrite _____	
							Epidote _____	
GROUNDMASS (original)							Gypsum _____	
Aphanitic	✓	✓					Anhydrite _____	
Feldspathic							Chalcopyrite _____	
Diktytaxitic							Limonite _____	
							Hematite _____	
							Other (describe) <u>blue veen</u> ✓	

CRITICAL FEATURES (description of units or features by number)

- 1) phh, vesicular 15%, 1mm; aphyric aphanitic lt. gray basalt.
- 2) phh, vesicular 20%, 2mm; Olivine mph < 1% alt iridescent blue-green, in a lt. gray aphan mtk.

CORE LOG  
 BOX # 180 HOLE # 1 Sheet A  
 Depth range 566.69 to 569.44 meters Depth range 1858 to 1867 feet  
 Logger's Name FT Page 1  
 Type of Sample: Flow ✓ Intrusive \_\_\_\_\_ Ash \_\_\_\_\_ Breccia \_\_\_\_\_ Red Bed \_\_\_\_\_  
 Number of Units in Box 2 Clk/Rubble \_\_\_\_\_ Carbonate \_\_\_\_\_ Pillow/Hyaloclast \_\_\_\_\_  
 Fill in blanks below by using the appropriate unit number.

PRIMARY FEATURES						SECONDARY FEATURES		COMMENTS
Phyric	1/	2/	3	4	5	6	Phenocryst replacements	
mega (>.5 mm)	✓	✓					Olv -> Clay _____	
micro (<.5 mm)	✓	✓					Iddingsite _____	
Aphyric							Plag -> Clay _____	
Vesicles: %	15	15					Zeolite _____	
Shape							Groundmass	
Size(x)	1	2					Chlorite _____	
PHENOCRYSTS (Original mineralogy)							Smectite _____	
Olivine >5%	10	10-12					Calcite _____	
Olivine 1-5%							Zeolite _____	
Olivine <1%							white fibrous _____	
Phenos mph	✓	✓					green _____	
ol-plag							blue _____	
Comments _____							Analcime _____	
Plagioclase							Chabazite _____	
>5%							MgOH _____	
1-5%							Silica _____	
<1%							Amorphous _____	
Rhombs							Chalcedony _____	
Blades/laths mph							Crystals _____	
Comments _____							Pyrite _____	
Augite %							Epidote _____	
GROUNDMASS (original)							Gypsum _____	
Aphanitic							Anhydrite _____	
Feldspathic							Chalcopryrite _____	
Diktytaxitic	✓						Limonite _____	
							Hematite _____	
							Other (describe) _____	

CRITICAL FEATURES (description of units or features by number)

- 1) phh w/ 10% Olivine microphenocrysts, phenocrysts in a lt gray diktytaxitic matrix.
- 2) phh unit w/ 10-12% Olivine phenocrysts, microphenocrysts in a lt gray diktytaxitic matrix.

2 Minerals: Blue Stain, Smectite



CORE LOG  
 BOX # 181 HOLE # 1 Sheet A  
 Depth range 569<sup>44</sup> to 572<sup>18</sup> meters Depth range 1867 to 1876 feet  
 Logger's Name FT Page 1  
 Type of Sample: Flow 1-3 Intrusive \_\_\_\_\_ Ash \_\_\_\_\_ Breccia \_\_\_\_\_ Red Bed \_\_\_\_\_  
 Number of Units in Box 3 Clk/Rubble \_\_\_\_\_ Carbonate \_\_\_\_\_ Pillow/Hyaloclast \_\_\_\_\_  
 Fill in blanks below by using the appropriate unit number.

PRIMARY FEATURES						SECONDARY FEATURES		COMMENTS
Phyric	1	2	3	4	5	6	Phenocryst replacements Olv -> Clay _____ Iddingsite _____ Plag -> Clay _____ Zeolite _____	
mega (>.5 mm)	✓	✓	✓					
micro (<.5 mm)	✓	✓	✓				Groundmass Chlorite _____ Smectite _____	
Aphyric								
Vesicles: %	15	10	15				Fracture Vesicle	
Shape								
Size(x)	2	2	1				Secondary/Alteration Min. Smectite _____ Calcite _____ Zeolite _____ white fibrous _____ green _____ blue _____ Analcime _____ Chabazite _____ MgOH _____ Silica _____ Amorphous _____ Chalcedony _____ Crystals _____ Pyrite _____ Epidote _____ Gypsum _____ Anhydrite _____ Chalcopyrite _____ Limonite _____ Hematite _____ Other (describe) _____	
PHENOCRYSTS (Original mineralogy)								
Olivine >5%	✓	8 <sup>10</sup>	8-10	8-10				
1-5%								
<1%								
Phenos	✓	✓	✓					
mph	✓	✓	✓					
ol-plag								
Comments _____								
Plagioclase								
>5%								
1-5%								
<1%								
Rhombs								
Blades/laths								
mph								
Comments								
Augite % _____								
GROUNDMASS (original)								
Aphanitic								
Feldspathic								
Diktytaxitic	✓	✓	✓					

CRITICAL FEATURES (description of units or features by number)

1) phk flows w/ 8-10% Olivine microphenocrysts in a diktytaxitic Mg gray matrix.

2 Minerals: SMECTITE, Blue stain

CORE LOG

BOX # 182 HOLE # 1 Sheet A  
 Depth range 512.16 to 514.92 meters Depth range 1876 to 1885 feet  
 Logger's Name EM Page 1  
 Type of Sample: Flow 1, 2 Intrusive 3 Ash \_\_\_\_\_ Breccia \_\_\_\_\_ Red Bed \_\_\_\_\_  
 Number of Units in Box 3 Clk/Rubble \_\_\_\_\_ Carbonate \_\_\_\_\_ Pillow/Hyaloclast \_\_\_\_\_  
 Fill in blanks below by using the appropriate unit number.

PRIMARY FEATURES						SECONDARY FEATURES		COMMENTS
Phyric	1	2	3	4	5	6	Phenocryst replacements	
mega (>.5 mm)							Olv -> Clay _____	pht #1
micro (<.5 mm)	✓	✓					Iddingsite _____	
Aphyric			✓				Plag -> Clay _____	1882
							Zeolite _____	
Vesicles: %	20	20					Groundmass	1885
Shape	SR	SR					Chlorite _____	
Size(x)							Smectite _____	
PHENOCRYSTS (Original mineralogy)							Fracture	Vesicle
Olivine	>5%							
	1-5%	✓	✓				Smectite _____	
	<1%						Calcite _____	
Phenos							Zeolite _____	
	mph	✓	✓				white fibrous _____	
	ol-plag						green _____	
Comments	<u>alt. iridescent blue-green</u>							
Plagioclase	>5%						blue _____	
	1-5%						Analcime _____	
	<1%						Chabazite _____	
Rhombs							MgOH _____	
Blades/laths							Silica _____	
	mph						Amorphous _____	
Comments							Chalcedony _____	
Augite	%						Crystals _____	
GROUNDMASS (original)								
Aphanitic		✓	✓	✓			Pyrite _____	
Feldspathic							Epidote _____	
Diktytaxitic							Gypsum _____	
							Anhydrite _____	
							Chalcopryrite _____	
							Limonite <u>#2 #3</u> _____	
							Hematite _____	
							Other (describe) _____	
							<u>blue veen</u> ✓	

CRITICAL FEATURES (description of units or features by number)

- 1) pht, vesicular 20%, 2mm; olivine mph 1% alt. iridescent blue green, in a lt. gray aphan mtr.
- 2) pht, lith as above, unit is thm. alt. brick red.
- 3) dike, aphyric, aphyric lt. gray basalt.

CORE LOG

BOX # 183

HOLE # 1

Sheet A

Depth range 574.97 to 577.67 meters

Depth range 1885 to 1894 feet

Logger's Name EM

Page 1

Type of Sample: Flow 1,3,5 Intrusive 2 Ash 4 Breccia \_\_\_\_\_ Red Bed \_\_\_\_\_

Number of Units in Box 5 Clk/Rubble \_\_\_\_\_ Carbonate \_\_\_\_\_ Pillow/Hyaloclast \_\_\_\_\_

Fill in blanks below by using the appropriate unit number.

PRIMARY FEATURES							SECONDARY FEATURES		COMMENTS	
Phyric	1	2	3	4	5	6	Phenocryst replacements			
mega (>.5 mm)	✓	-	✓	-			Olv → Clay _____			
micro (<.5 mm)	✓		✓		✓		Iddingsite _____			
Aphyric				-			Plag → Clay _____			
							Zeolite _____			
Vesicles: %	15	-	15	-	15		Groundmass			
Shape	R		R		SA		Chlorite _____			
Size(x)	3mm		3mm		1mm		Smectite _____			
PHENOCRYSTS (Original mineralogy)							Fracture	Vesicle		
Olivine >5%							Secondary/Alteration Min.			
1-5%	1		1		5		Smectite _____		1885	
<1%							Calcite _____		phh #1	
Phenos mph	✓		✓		✓		Zeolite _____			
ol-plag							white fibrous _____			
Comments								green _____		
							blue _____			SILL #2
Plagioclase							Analcime _____			phh #3
>5%							Chabazite _____			
1-5%							MgOH _____			
<1%							Silica _____			
Rhombs							Amorphous _____			ASH #4
Blades/laths							Chalcedony _____			
mph							Crystals _____			
Comments								Pyrite _____		
							Epidote _____			
Augite %							Gypsum _____			1892
							Anhydrite _____			
GROUNDMASS (original)							Chalcopyrite _____			phh #5
Aphanitic		✓		-	✓		Limonite _____			
Feldspathic							Hematite _____			
Diktytaxitic	✓		✓				Other (describe)			1894
							blue mineral ✓			

CRITICAL FEATURES (description of units or features by number)

- 1) phh, mesicular 15%, 3mm; olivine mph 1%, unalt; in a lt. gray dikty mtr.
- 2) sill, anesicular, aphyric lt. gray basalt.
- 3) phh, lith as in #1
- 4) ash, brick red at upper contact, grades to med gray with mes. clasts at bottom contact
- 5) phh, mesicular 20%, 1mm; olivine mph 5% in a gray →

aphan mtr.

1-183

CORE LOG

BOX # 184

HOLE # 1

Sheet A

Depth range 571.57 to 580.41 meters

Depth range 1894 to 1903 feet

Logger's Name EH

Page 1

Type of Sample: Flow 1, 2 Intrusive \_\_\_\_\_ Ash \_\_\_\_\_ Breccia \_\_\_\_\_ Red Bed \_\_\_\_\_

Number of Units in Box 2 Clk/Rubble \_\_\_\_\_ Carbonate \_\_\_\_\_ Pillow/Hyaloclast \_\_\_\_\_

Fill in blanks below by using the appropriate unit number.

PRIMARY FEATURES							SECONDARY FEATURES		COMMENTS
Phyric	1	2	3	4	5	6	Phenocryst replacements		
mega (>.5 mm)							Olv -> Clay _____		
micro(<.5 mm)	✓	✓					Iddingsite _____		
Aphyric							Plag -> Clay _____		
Vesicles: %	15	15					Zeolite _____		
Shape	SA	SA					Groundmass		
Size(x)/mm/mm							Chlorite _____		
							Smectite _____		
PHENOCRYSTS (Original mineralogy)							Fracture		
Olivine >5%							Vesicle		
1-5%	5	5					Secondary/Alteration Min.		
<1%							Smectite _____		
Phenos mph	✓	✓					Calcite _____		
ol-plag							Zeolite _____		
Comments	unalt								
Plagioclase							white fibrous _____		
>5%							green _____		
1-5%							blue _____		
<1%							Analcime _____		
Rhombs							Chabazite _____		
Blades/laths							MgOH _____		
mph							Silica _____		
Comments									
Augite %							Amorphous _____		
GROUNDMASS (original)							Chalcedony _____		
Aphanitic	✓	✓					Crystals _____		
Feldspathic							Pyrite _____		
Diktytaxitic							Epidote _____		
							Gypsum _____		
							Anhydrite _____		
							Chalcopryrite _____		
							Limonite _____		
							Hematite _____		
							Other (describe) _____		

CRITICAL FEATURES (description of units or features by number)

- 1) trans, vesicular 15%, 1mm; Olivine mph 5%, unalt; in a lt. gray aphan mtr.
- 2) phh, lth as above. Unit is slightly therm alt. lt. pinkish gray.

CORE LOG

BOX # 185

HOLE # 1

Sheet A

Depth range 380.41 to 502.85 meters

Depth range 1903 to 1911 feet

Logger's Name EN

Page 1

Type of Sample: Flow 1-3 Intrusive 4 Ash      Breccia      Red Bed     

Number of Units in Box 4 Clk/Rubble      Carbonate      Pillow/Hyaloclast     

Fill in blanks below by using the appropriate unit number.

PRIMARY FEATURES						SECONDARY FEATURES		COMMENTS
Phyric	1	2	3	4	5	6	Phenocryst replacements	
mega (>.5 mm)				✓			Olv -> Clay <u>    </u>	
micro (<.5 mm)	✓	✓	✓	✓			Iddingsite <u>1-3</u>	
Aphyric							Plag -> Clay <u>    </u>	
							Zeolite <u>    </u>	
Vesicles: %	20	20	20	5			Groundmass	
Shape	SR	SR	SR	R			Chlorite <u>    </u>	
Size(x)/mm/mm/mm	<1mm	<1mm	<1mm	<1mm			Smectite <u>    </u>	
PHENOCRYSTS (Original mineralogy)								
Olivine >5%							Secondary/Alteration Min.	
1-5%	5	5	5				Smectite <u>    </u>	
<1%							Calcite <u>    </u>	
Phenos							Zeolite <u>    </u>	
mph	✓	✓	✓				white fibrous <u>    </u>	
ol-plag							green <u>    </u>	
Comments	<u>alt. red 50%</u>						blue <u>    </u>	
Plagioclase							Analcm <u>    </u>	
>5%							Chabazite <u>    </u>	
1-5%				5			MgOH <u>    </u>	
<1%							Silica <u>    </u>	
Rhombs							Amorphous <u>    </u>	
Blades/laths				✓			Chalcedony <u>    </u>	
mph							Crystals <u>    </u>	
Comments	<u>    </u>						Pyrite <u>    </u>	
Augite %							Epidote <u>    </u>	
							Gypsum <u>    </u>	
GROUNDMASS (original)							Anhydrite <u>    </u>	
Aphanitic	✓	✓	✓	✓			Chalcopyrite <u>    </u>	
Feldspathic							Limonite <u>    </u>	
Diktytaxitic							Hematite <u>    </u>	
							Other (describe) <u>    </u>	

CRITICAL FEATURES (description of units or features by number)

- 1) phh, mesicular 20%, 1mm; olivine mph 5%, 50% alt. red; in a lt. gray aphan mtr.
- 2-3) phh, lith as above
- 4) sill, micromesicular 5%, <1mm; plag blades & laths Σ 5% in a dk gray aphan mtr.

CORE LOG

BOX # 186

HOLE # 1

Sheet A

Depth range 582.95 to 585.60 meters

Depth range 1911 to 1920 feet

Logger's Name EAJ

Page 1

Type of Sample: Flow 1,2 Intrusive \_\_\_\_\_ Ash \_\_\_\_\_ Breccia \_\_\_\_\_ Red Bed \_\_\_\_\_

Number of Units in Box 2 Clk/Rubble \_\_\_\_\_ Carbonate \_\_\_\_\_ Pillow/Hyaloclast \_\_\_\_\_

Fill in blanks below by using the appropriate unit number.

PRIMARY FEATURES							SECONDARY FEATURES		COMMENTS	
Phyric	1	2	3	4	5	6	Phenocryst replacements			
mega (>.5 mm)							Olv -> Clay _____			
micro (<.5 mm)	✓	✓					Iddingsite <u>1,2</u>			
Aphyric							Plag -> Clay _____			
Vesicles: %	<u>20</u>	<u>20</u>					Zeolite _____			
Shape	<u>SR</u>	<u>SR</u>					Groundmass			
Size(x) /mm /mm							Chlorite _____			
							Smectite _____			
PHENOCRYSTS (Original mineralogy)							Fracture	Vesicle		
Olivine >5%							Secondary/Alteration Min.			
1-5%	<u>5</u>	<u>5</u>					Smectite _____			
<1%							Calcite _____			
Phenos							Zeolite _____			
mph	✓	✓					white fibrous _____			
ol-plag							green _____			
Comments	<u>alt red 50%</u>							blue _____		
Plagioclase								Analcime _____		
>5%							Chabazite _____			
1-5%							MgOH _____			
<1%							Silica _____			
Rhombs							Amorphous _____			
Blades/laths							Chalcedony _____			
mph							Crystals _____			
Comments								Pyrite _____		
Augite								Epidote _____		
%							Gypsum _____			
GROUNDMASS (original)								Anhydrite _____		
Aphanitic	✓	✓					Chalcoppyrite _____			
Feldspathic							Limonite _____			
Diktytaxitic							Hematite _____			
							Other (describe) _____			

CRITICAL FEATURES (description of units or features by number)

- 1) phk, vesicular 20%, 1mm; olivine mph 5%, 50% alt. red, in a lt. gray aphan mtr.
- 2) aa, lth as above

CORE LOG  
 BOX # 187 HOLE # 1 Sheet A  
 Depth range 586.60 to 586.65 meters Depth range 1920 to 1930 feet  
 Logger's Name EN Page 1  
 Type of Sample: Flow 1,2 Intrusive \_\_\_\_\_ Ash \_\_\_\_\_ Breccia \_\_\_\_\_ Red Bed \_\_\_\_\_  
 Number of Units in Box 2 Clk/Rubble \_\_\_\_\_ Carbonate \_\_\_\_\_ Pillow/Hyaloclast \_\_\_\_\_  
 Fill in blanks below by using the appropriate unit number.

PRIMARY FEATURES							SECONDARY FEATURES		COMMENTS
Phyric	1	2	3	4	5	6	Phenocryst replacements		
mega (>.5 mm)							Olv -> Clay _____		
micro (<.5 mm)	✓	✓					Iddingsite _____		
Aphyric							Plag -> Clay _____		
Vesicles: %	5	25					Zeolite _____		
Shape	SR	SR					Groundmass		
Size(x)	2mm	2mm					Chlorite _____		
							Smectite _____		
PHENOCRYSTS (Original mineralogy)							Fracture	Vesicle	
Olivine >5%							Secondary/Alteration Min.		
1-5%	3	3					Smectite _____		
<1%							Calcite _____		
Phenos							Zeolite _____		
mph	✓	✓					white fibrous _____		
ol-plag							green _____		
Comments	<u>alt red</u>							blue _____	
Plagioclase							Analcime _____		
>5%							Chabazite _____		
1-5%							MgOH _____		
<1%							Silica _____		
Rhombs							Amorphous _____		
Blades/laths							Chalcedony _____		
mph							Crystals _____		
Comments								Pyrite _____	
Augite %							Epidote _____		
GROUNDMASS (original)							Gypsum _____		
Aphanitic	✓	✓					Anhydrite _____		
Feldspathic							Chalcopyrite _____		
Diktytaxitic							Limonite _____		
							Hematite _____		
							Other (describe) _____		

CRITICAL FEATURES (description of units or features by number)

- 1) aa, micular 5%, 2mm; Olivine mph 3%, alt red, in a lt. gray aphan mtr.
- 2) trans, micular 25%, 2mm; lth as above



CORE LOG  
 BOX # 188 HOLE # 1 Sheet A  
 Depth range 588.65 to 591.70 meters Depth range 1930 to 1940 feet  
 Logger's Name FT Page 1  
 Type of Sample: Flow 1-3 Intrusive      Ash      Breccia      Red Bed       
 Number of Units in Box 3 Clk/Rubble      Carbonate      Pillow/Hyaloclast       
 Fill in blanks below by using the appropriate unit number.

PRIMARY FEATURES						SECONDARY FEATURES		COMMENTS
Phyric	1	2	3	4	5	6	Phenocryst replacements	
mega (>.5 mm)	✓	✓	✓				Olv → Clay <u>    </u>	
micro (<.5 mm)	✓	✓	✓				Iddingsite <u>    </u>	
Aphyric							Plag → Clay <u>    </u>	
							Zeolite <u>    </u>	
Vesicles: %	10	25	25				Groundmass	Fracture Vesicle
Shape	SPCH	SR	SPCH				Chlorite <u>    </u>	
Size(x)	<1	1	1				Smectite <u>    </u>	
PHENOCRYSTS (Original mineralogy)							Secondary/Alteration Min.	
Olivine >5%		7					Smectite <u>    </u>	
1-5%	5						Calcite <u>    </u>	
<1%			✓				Zeolite <u>    </u>	
Phenos	✓	✓	✓				white fibrous <u>    </u>	
mph	✓	✓	✓				green <u>    </u>	
ol-plag							blue <u>    </u> ✓	
Comments							Analcime <u>    </u>	
Plagioclase							Chabazite <u>    </u>	
>5%							MgOH <u>    </u>	
1-5%							Silica <u>    </u>	
<1%							Amorphous <u>    </u>	
Rhombs							Chalcedony <u>    </u>	
Blades/laths							Crystals <u>    </u>	
mph							Pyrite <u>    </u>	
Comments							Epidote <u>    </u>	
Augite %							Gypsum <u>    </u>	
GROUNDMASS (original)							Anhydrite <u>    </u>	
Aphanitic			✓				Chalcopyrite <u>    </u>	
Feldspathic	✓	✓					Limonite <u>    </u>	
Diktytaxitic							Hematite <u>    </u>	
							Other (describe) <u>    </u>	

CRITICAL FEATURES (description of units or features by number)

- 1) phk unit w/ 5% Olivine microphenocrysts, phenocrysts in a lt gray feldspathic lt gray matrix.
- 2) phk unit w/ 7% Olivine microphenocrysts, phenocrysts in a lt gray feldspathic matrix.
- 3) phk unit w/ <1% Olivine microphenocrysts in a thermally oxidized matrix

2° Minerals & Blue Stain

CORE LOG

BOX # 189 HOLE # 1 Sheet A  
 Depth range 591.70 to 594.14 meters Depth range 1940 to 1948 feet  
 Logger's Name EN Page 1  
 Type of Sample: Flow 2,3 Intrusive 1 Ash      Breccia      Red Bed       
 Number of Units in Box 3 Clk/Rubble      Carbonate      Pillow/Hyaloclast       
 Fill in blanks below by using the appropriate unit number.

PRIMARY FEATURES						SECONDARY FEATURES		COMMENTS
Phyric	1	2	3	4	5	6	Phenocryst replacements	
mega (>.5 mm)	✓						Olv → Clay <u>    </u>	
micro (<.5 mm)	✓						Iddingsite <u>    </u>	
Aphyric							Plag → Clay <u>    </u>	
							Zeolite <u>    </u>	
Vesicles: %	-	20	5				Groundmass	
Shape		SP	SR				Chlorite <u>    </u>	
Size(x)		2mm	2mm				Smectite <u>    </u>	
PHENOCRYSTS (Original mineralogy)							Fracture	
Olivine >5%							Secondary/Alteration Min.	
1-5%		3	3				Smectite <u>    </u>	
<1%							Calcite <u>    </u>	
Phenos							Zeolite <u>    </u>	
mph		✓	✓				white fibrous <u>    </u>	
ol-plag							green <u>    </u>	
Comments								blue <u>    </u>
Plagioclase							Analcime <u>    </u>	
>5%							Chabazite <u>    </u>	
1-5%	5						MgOH <u>    </u>	
<1%							Silica <u>    </u>	
Rhombs							Amorphous <u>    </u>	
Blades/laths	✓						Chalcedony <u>    </u>	
mph							Crystals <u>    </u>	
Comments								Pyrite <u>    </u>
Augite %							Epidote <u>    </u>	
GROUNDMASS (original)							Gypsum <u>    </u>	
Aphanitic	✓	✓	✓				Anhydrite <u>    </u>	
Feldspathic							Chalcopryrite <u>    </u>	
Diktytaxitic							Limonite <u>    </u>	
							Hematite <u>    </u>	
							Other (describe) <u>    </u>	

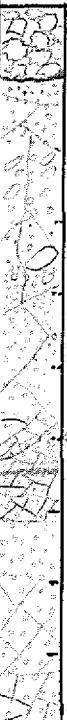
CRITICAL FEATURES (description of units or features by number)

- 1) sill, ammicular; plag blades & laths 5% in a dk gray aphan mtr.
- 2) aa, vesicular 20%, 2mm; olivine mph 3% alt. red, in a lt. gray aphan mtr.
- 3) aa, vesicular 5%, 2mm; lith as above

CORE LOG  
 BOX # 190 HOLE # 1 Sheet A  
 Depth range 594.14 to 596.58 meters Depth range 1948 to 1956 feet  
 Logger's Name FT Page 1  
 Type of Sample: Flow 1, 2 Intrusive 3 Ash \_\_\_\_\_ Breccia \_\_\_\_\_ Red Bed \_\_\_\_\_  
 Number of Units in Box 3 Clk/Rubble \_\_\_\_\_ Carbonate \_\_\_\_\_ Pillow/Hyaloclast \_\_\_\_\_  
 Fill in blanks below by using the appropriate unit number.

PRIMARY FEATURES					
Phyric	1	2	3	4	5
mega (>.5 mm)	✓	✓			
micro (<.5 mm)	✓	✓			
Aphyric			✓		
Vesicles: %	15	20	-		
Shape	SR	SR			
Size(x)	1	1			
PHENOCRYSTS (Original mineralogy)					
Olivine >5%					
1-5%		5			
<<1%	✓				
Phenos	✓	✓			
mph	✓	✓			
ol-plag	✓				
Comments _____					
Plagioclase					
>5%					
1-5%					
<1%	✓				
Rhombs					
Blades/laths					
mph					
Comments _____					
Augite %					
GROUNDMASS (original)					
Aphanitic	✓				
Feldspathic					
Diktytaxitic		✓			

SECONDARY FEATURES	
Phenocryst replacements	
Olv -> Clay	
Iddingsite	
Plag -> Clay	
Zeolite	
Groundmass	
Chlorite	
Smectite	
Fracture	
Vesicle	
Secondary/Alteration Min.	
Smectite	
Calcite	
Zeolite	
white fibrous	
green	
blue	✓
Analcime	
Chabazite	
MgOH	
Silica	
Amorphous	
Chalcedony	
Crystals	
Pyrite	
Epidote	
Gypsum	
Anhydrite	
Chalcopyrite	
Limonite	
Hematite	
Other (describe)	

COMMENTS  
 8' here  


CRITICAL FEATURES (description of units or features by number)

- 1) 2 1/2 w/ <1% Plagioclase laths, microlaths and <<1% olivine phenocrysts, mph and ol-plag intergrowths in an aphanitic gray to bl gray in color. (rare)
- 2) Transitional unit w/ 5% Olivine microphenocrysts, rare phenocryst in a bl gray diktytaxitic matrix.
- 3) Dike glass fragments found  
 2° Minerals: Blue stain

BOX # 191

CORE LOG

HOLE # 504 #1

Sheet A

Depth range 596.6 to 599.9 meters

Depth range 1956 to 1967 feet

Logger's Name RE

Page 1

Type of Sample: Flow 1-4 Intrusive Ash Breccia Red Bed

Number of Units in Box 4 Clk/Rubble Carbonate Pillow/Hyaloclast

Fill in blanks below by using the appropriate unit number.

1146°C  
42200°F  
1130's etc.

PRIMARY FEATURES						
	1	2	3	4	5	6
Phyric						
mega (>.5 mm)	✓		✓	✓		
micro (<.5 mm)	✓	✓	✓	✓		
Aphyric						
Vesicles: %	20	25	26	5		
Shape	S-SK	S-SK	S-SK	S-SK		
Size(x)	<1mm	<1mm	<1mm	1mm		

PHENOCRYSTS (Original mineralogy)

Olivine >5%						
1-5%	1-3	1-2		1		
<1%			✓			
Phenos	✓	✓	✓	✓		
mph	✓	✓	✓	✓		
ol-plag			<1%			

Comments ol-plag intergrowths

Plagioclase

>5%						
1-5%		3				
<1%	✓		✓			
Rhombs						
Blades/laths						
mph	✓	✓	✓			

Comments

Augite

GROUNDMASS (original)

Aphanitic			✓			
Feldspathic		✓				
Diktytaxitic	✓			✓		

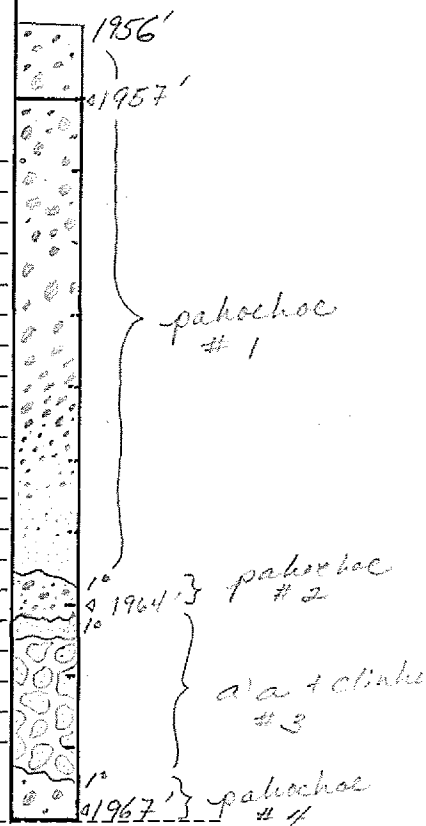
SECONDARY FEATURES

Phenocryst replacements	
Olv -> Clay	
Iddingsite	
Plag -> Clay	
Zeolite	
Groundmass	
Chlorite	
Smectite	

	Fracture	Vesicle
Secondary/Alteration Min.		
Smectite		
Calcite		
Zeolite		
white fibrous		
green		
blue		
Analcime		
Chabazite		
MgOH		
Silica		
Amorphous		
Chalcedony		
Crystals		
Pyrite		
Epidote		
Gypsum		
Anhydrite		
Chalcopyrite		
Limonite		
Hematite		
Other (describe)		

COMMENTS

1' lost core.  
Sampled dike  
glass from  
bits 1956'-1957'  
Dike in vicinity, but  
not in box.



CRITICAL FEATURES (description of units or features by number)

- 1) pahoehoe, w/ 1-3% olivine phenos + mph and <1% plagioclase mph in a microcrystalline diktytaxitic grey matrix. Dike glass sampled from bits 1956'-1957' 1° texture at lower contact.
- 2) pahoehoe<sub>2</sub> w/ 1-2% olivine phenos + mph and 3% plagioclase mph in a dark grey feldspathic matrix. Thermal oxydation along fractures and 1° textures at top + bottom contact.
- 3) a'a<sub>3</sub> w/ <1% olivine phenos + mph, <1% ol-plag intergrowths, and <1% plag mph in a red aphanitic matrix. Thermally oxydized. Clinker. Tiny vesicles.

D.T.O. = Plagioclase turn over

4) porphole of 1% olivine phenos + mpx in a light grey  
diktaxitic matrix.

2° mins: obs. visible a light blue coating along fractures +  
vesicles in upper unit.

1-191

CORE LOG  
 BOX # 192 HOLE # 1 Sheet A  
 Depth range 599.94 to 603.60 meters Depth range 1967 to 1979 feet  
 Logger's Name FT Page 1  
 Type of Sample: Flow 1-2 Intrusive \_\_\_\_\_ Ash \_\_\_\_\_ Breccia \_\_\_\_\_ Red Bed \_\_\_\_\_  
 Number of Units in Box 2 Clk/Rubble \_\_\_\_\_ Carbonate \_\_\_\_\_ Pillow/Hyaloclast \_\_\_\_\_  
 Fill in blanks below by using the appropriate unit number.

PRIMARY FEATURES						SECONDARY FEATURES		COMMENTS
Phyric	1	2	3	4	5	6	Phenocryst replacements	
mega (>.5 mm)	✓	✓					Olv -> Clay _____	
micro (<.5 mm)	✓	✓					Iddingsite _____	
Aphyric							Plag -> Clay _____	
Vesicles: %	5	7					Zeolite _____	
Shape	SR	SR					Groundmass	
Size(x)	4	2					Chlorite _____	
							Smectite _____	
							Fracture	
							Vesicle	
PHENOCRYSTS (Original mineralogy)						Secondary/Alteration Min.		
Olivine >5%							Smectite _____	
1-5%	✓	✓					Calcite _____	
<1%							Zeolite _____	
Phenos	✓	✓					white fibrous _____	
mph	✓	✓					green _____	
ol-plag							blue _____	
Comments							Analcime _____	
Plagioclase							Chabazite _____	
>5%							MgOH _____	
1-5%							Silica _____	
<1%							Amorphous _____	
Rhombs							Chalcedony _____	
Blades/laths							Crystals _____	
mph							Pyrite _____	
Comments							Epidote _____	
Augite %							Gypsum _____	
GROUNDMASS (original)							Anhydrite _____	
Aphanitic							Chalcopyrite _____	
Feldspathic							Limonite _____	
Diktytaxitic	✓	✓					Hematite _____	
							Other (describe) _____	

CRITICAL FEATURES (description of units or features by number)

1-2) 2' units w/ 50% Olivine microphenocrysts, phenocrysts in a lt gray diktytaxitic matrix

BOX # 193 CORE LOG HOLE # 1 Sheet A  
 Depth range 603 to 607<sup>26</sup> meters Depth range 1979 to 1991 feet  
 Logger's Name FT Page 1  
 Type of Sample: Flow 1,2 Intrusive \_\_\_\_\_ Ash \_\_\_\_\_ Breccia \_\_\_\_\_ Red Bed \_\_\_\_\_  
 Number of Units in Box 2 Clk/Rubble \_\_\_\_\_ Carbonate \_\_\_\_\_ Pillow/Hyaloclast \_\_\_\_\_  
 Fill in blanks below by using the appropriate unit number.

PRIMARY FEATURES						
Phyric	1	2	3	4	5	6
mega (>.5 mm)	✓	✓				
micro (<.5 mm)	✓	✓				
Aphyric						
Vesicles: %	<u>25/15</u>					
Shape	<u>S/S/10A</u>					
Size(x)	<u>&lt;1</u>	<u>1</u>				

PHENOCRYSTS (Original mineralogy)						
Olivine >5%						
1-5%	✓ <u>3</u>					
<1%		✓				
Phenos	✓	✓				
mph	✓	✓				
ol-plag						

Comments \_\_\_\_\_

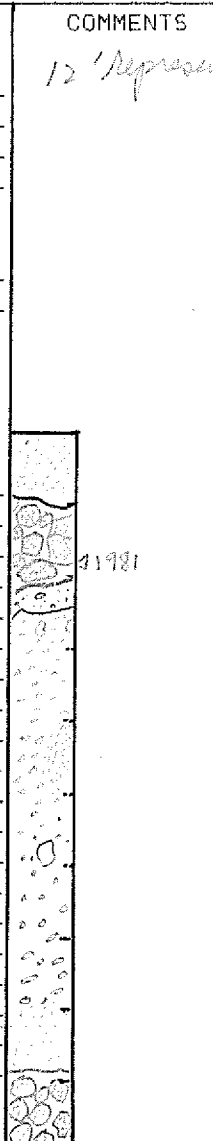
Plagioclase						
>5%						
1-5%	✓ <u>2</u>					
<1%		✓				
Rhombs						
Blades/laths	✓					
mph	✓	✓				

Augite % \_\_\_\_\_

GROUNDMASS (original)						
Aphanitic	✓					
Feldspathic		✓				
Diktytaxitic						

SECONDARY FEATURES	
Phenocryst replacements	
Olv -> Clay	
Iddingsite	
Plag -> Clay	
Zeolite	
Groundmass	
Chlorite	
Smectite	

Secondary/Alteration Min.	Fracture	Vesicle
	Smectite	✓
Calcite		
Zeolite		
white fibrous		
green		
blue	✓	✓
Analcime		
Chabazite		
MgOH		
Silica		
Amorphous		
Chalcedony		
Crystals		
Pyrite		
Epidote		
Gypsum		
Anhydrite		
Chalcopyrite		
Limonite		
Hematite		
Other (describe)		



CRITICAL FEATURES (description of units or features by number)

- 1) 2'2 w/ 3% Olivine phenocrysts, mph and 29% Plagioclase as laths microphenocrysts in a gray aphanitic matrix
- 2) 2'2 w/ <1% Olivine as phenocrysts, mph and Plagioclase as microphenocrysts and laths in a lt gray feldspathic matrix.

2 Minerals: Blue Stain, Smectite

CORE LOG

BOX # 194

HOLE # 1

Sheet A

Depth range 607.25 to 610.91 meters

Depth range 1991 to 2003 feet

Logger's Name EN

Page 1

Type of Sample: Flow 1 Intrusive 2 Ash \_\_\_\_\_ Breccia \_\_\_\_\_ Red Bed \_\_\_\_\_

Number of Units in Box EN Clk/Rubble \_\_\_\_\_ Carbonate \_\_\_\_\_ Pillow/Hyaloclast \_\_\_\_\_

Fill in blanks below by using the appropriate unit number.

PRIMARY FEATURES							SECONDARY FEATURES		COMMENTS	
Phyric	1	2	3	4	5	6	Phenocryst replacements			2' lost core
mega (>.5 mm)							Olv -> Clay _____			
micro (<.5 mm)	✓	✓					Iddingsite #/ _____			
Aphyric							Plag -> Clay _____			
Vesicles: %	20	-					Zeolite _____			
Shape	SR						Groundmass			
Size(x)	2mm						Chlorite _____			
							Smectite _____			
PHENOCRYSTS (Original mineralogy)							Fracture	Vesicle		
Olivine >5%							Secondary/Alteration Min.		1991	
1-5%	1	1					Smectite _____		TRANS #1	
<1%							Calcite _____			
Phenos mph	✓	✓					Zeolite _____			
ol-plag							white fibrous _____			
Comments								green _____		
							blue _____			1996
Plagioclase >5%							Analcime _____			diKE #2
1-5%							Chabazite _____			
<1%							MgOH _____			
Rhombs							Silica _____			
Blades/laths mph							Amorphous _____			
Comments								Chalcedony _____	1997	
							Crystals _____			
Augite %							Pyrite _____			
							Epidote _____			
							Gypsum _____			
GROUNDMASS (original)										
Aphanitic	✓	✓					Anhydrite _____			
Feldspathic							Chalcopyrite _____			
Diktytaxitic							Limonite _____			
							Hematite _____			
							Other (describe)			
							blue veins			
CRITICAL FEATURES (description of units or features by number)									2003	

- 1) trans, vesicular 20%, 2mm; olivine mph 10%, partially altered red, in a lt. gray aphan mtr.
  - 2) dike, araucular, olivine mph 10%, unalt.; in a lt. gray aphan mtr.
- Dike/flow contact is lost at core run boundary.



BOX # 195 CORE LOG HOLE # SOH#1 Sheet A  
 Depth range 610.9 to 613.1 meters Depth range 2003 to 2010 feet  
 Logger's Name RE Page 1  
 Type of Sample: Flow      Intrusive 1 Ash      Breccia      Red Bed       
 Number of Units in Box 1 Clk/Rubble      Carbonate      Pillow/Hyaloclast       
 Fill in blanks below by using the appropriate unit number.

PRIMARY FEATURES						SECONDARY FEATURES		COMMENTS
Phyric	1	2	3	4	5	6	Phenocryst replacements	
mega (>.5 mm)	✓						Olv -> Clay <u>    </u>	
micro (<.5 mm)	✓						Iddingsite <u>    </u>	
Aphyric							Plag -> Clay <u>    </u>	
Vesicles: %							Zeolite <u>    </u>	
Shape							Groundmass	
Size(x)							Chlorite <u>    </u>	
							Smectite <u>    </u>	
PHENOCRYSTS (Original mineralogy)								
Olivine >5%							Fracture	Vesicle
1-5%	1							
<1%							Secondary/Alteration Min.	
Phenos	✓						Smectite <u>    </u>	
mph							Calcite <u>    </u>	
ol-plag							Zeolite <u>    </u>	
Comments							white fibrous <u>    </u>	
							green <u>    </u>	
							blue <u>    </u>	
							Analcime <u>    </u>	
							Chabazite <u>    </u>	
							MgOH <u>    </u>	
							Silica <u>    </u>	
							Amorphous? <u>✓</u>	
							Chalcedony <u>    </u>	
							Crystals <u>    </u>	
							Pyrite <u>    </u>	
							Epidote <u>    </u>	
							Gypsum <u>    </u>	
							Anhydrite <u>    </u>	
							Chalcopyrite <u>    </u>	
							Limonite <u>    </u>	
							Hematite <u>✓</u>	
							Other (describe) <u>    </u>	

CRITICAL FEATURES (description of units or features by number)

1) dike, w/ 1% olivine phenos and 3% plag. rhombs & laths in a med. blue-grey matrix. Highly fractured & broken avascular

2° min: amorphous quartz (bluish-coating) along fractures hematite in lower 1' of unit, along fractures.

BOX # 196 CORE LOG HOLE # 1 Sheet A  
 Depth range 613.05 to 615.49 meters Depth range 2010 to 2018 feet  
 Logger's Name FT Page 1  
 Type of Sample: Flow \_\_\_\_\_ Intrusive  Ash \_\_\_\_\_ Breccia \_\_\_\_\_ Red Bed \_\_\_\_\_  
 Number of Units in Box 1 Clk/Rubble \_\_\_\_\_ Carbonate \_\_\_\_\_ Pillow/Hyaloclast \_\_\_\_\_  
 Fill in blanks below by using the appropriate unit number.

PRIMARY FEATURES							SECONDARY FEATURES		COMMENTS	
Phyric	1	2	3	4	5	6	Phenocryst replacements			8' feet here
mega (>.5 mm)	<input checked="" type="checkbox"/>						Olv -> Clay _____			
micro (<.5 mm)	<input checked="" type="checkbox"/>						Iddingsite _____			
Aphyric							Plag -> Clay _____			
Vesicles: %							Zeolite _____			
Shape							Groundmass			
Size(x)							Chlorite _____			
							Smectite _____			
PHENOCRYSTS (Original mineralogy)							Fracture	Vesicle		
Olivine >5%							Secondary/Alteration Min.			
1-5%							Smectite <input checked="" type="checkbox"/>			
<1%	<input checked="" type="checkbox"/>						Calcite _____			
Phenos	<input checked="" type="checkbox"/>						Zeolite _____			
mph	<input checked="" type="checkbox"/>						white fibrous _____			
ol-plag							green _____			
Comments								blue _____	2012	
Plagioclase								Analcime _____		
>5%							Chabazite _____			
1-5%							MgOH _____			
<1%	<input checked="" type="checkbox"/>						Silica _____			
Rhombs							Amorphous _____			
Blades/laths	<input checked="" type="checkbox"/>						Chalcedony _____			
mph	<input checked="" type="checkbox"/>						Crystals _____			
Comments								Pyrite _____	2014	
Augite %								Epidote _____		
							Gypsum _____			
GROUNDMASS (original)								Anhydrite _____		
Aphanitic							Chalcopyrite _____			
Feldspathic	<input checked="" type="checkbox"/>						Limonite _____			
Diktytaxitic							Hematite <input checked="" type="checkbox"/>			
							Other (describe) _____			

CRITICAL FEATURES (description of units or features by number)

1) Dike w/ <1% Olivine as phenocrysts, mph and <1% Plagioclase as laths, microlaths in a gray feldspathic matrix.

2° Minerals Hematite staining, Smectite

BOX # 194 CORE LOG HOLE # SOH #1 Sheet A  
 Depth range 615.5 to 617.8 meters Depth range 2018 to 2025.5 feet  
 Logger's Name RE Page 1  
 Type of Sample: Flow      Intrusive 1 Ash      Breccia      Red Bed       
 Number of Units in Box 1 Clk/Rubble      Carbonate      Pillow/Hyaloclast       
 Fill in blanks below by using the appropriate unit number.

PRIMARY FEATURES						SECONDARY FEATURES		COMMENTS	
Phyric	1	2	3	4	5	6	Phenocryst replacements		
mega (>.5 mm)	<input checked="" type="checkbox"/>						Olv -> Clay <u>    </u>		
micro (<.5 mm)	<input checked="" type="checkbox"/>						Iddingsite <input checked="" type="checkbox"/>		
Aphyric							Plag -> Clay <u>    </u>		
Vesicles: %							Zeolite <u>    </u>		
Shape							Groundmass		
Size(x)							Chlorite <u>    </u>		
							Smectite <u>    </u>		
PHENOCRYSTS (Original mineralogy)									
Olivine >5%							Fracture	2018' } dike #1 2025.5'	
1-5%							Vesicle		
<1%	<input checked="" type="checkbox"/>						Secondary/Alteration Min.		
Phenos	<input checked="" type="checkbox"/>						Smectite <u>    </u>		
mph							Calcite <u>    </u>		
ol-plag							Zeolite <u>    </u>		
Comments <u>olivine altering iddingsite</u>							white fibrous <u>    </u>		
							green <u>    </u>		
							blue <u>    </u>		
							Analcime <u>    </u>		
Plagioclase									
>5%							Chabazite <u>    </u>		
1-5%	<input checked="" type="checkbox"/>						MgOH <u>    </u>		
<1%							Silica <u>    </u>		
Rhombs	<input checked="" type="checkbox"/>						Amorphous <input checked="" type="checkbox"/>		
Blades/laths	<input checked="" type="checkbox"/>						Chalcedony <u>    </u>		
mph							Crystals <u>    </u>		
Comments <u>    </u>							Pyrite <u>    </u>		
							Epidote <u>    </u>		
							Gypsum <u>    </u>		
Augite %									
							Anhydrite <u>    </u>		
GROUNDMASS (original)									
Aphanitic							Chalcopyrite <u>    </u>		
Feldspathic	<input checked="" type="checkbox"/>						Limonite <u>    </u>		
Diktytaxitic							Hematite <input checked="" type="checkbox"/>		
							Other (describe) <u>    </u>		

CRITICAL FEATURES (description of units or features by number)

Dike, w/ <1% olivine phenos and 1% plag. rhombs + laths  
 in med. grey feldspathic matrix. Fractured.

CORE LOG  
 BOX # 198 HOLE # 1 Sheet A  
 Depth range 617.78 to 622.51 meters Depth range 2025.5 to 2041 feet  
 Logger's Name FT Page 1  
 Type of Sample: Flow  Intrusive  Ash  Breccia  Red Bed   
 Number of Units in Box 1 Clk/Rubble  Carbonate  Pillow/Hyaloclast   
 Fill in blanks below by using the appropriate unit number.

PRIMARY FEATURES						SECONDARY FEATURES		COMMENTS
Phyric	1	2	3	4	5	6	Phenocryst replacements	
mega (>.5 mm)	<input checked="" type="checkbox"/>						Olv -> Clay _____	
micro (<.5 mm)	<input checked="" type="checkbox"/>						Iddingsite _____	
Aphyric							Plag -> Clay _____	
							Zeolite _____	
Vesicles: %	<u>1-4</u>						Groundmass	
Shape							Chlorite _____	
Size(x)							Smectite _____	
PHENOCRYSTS (Original mineralogy)							Fracture	Vesicle
Olivine >5%								
1-5%							Smectite _____	
<1%							Calcite _____	
Phenos							Zeolite _____	
mph							white fibrous _____	
ol-plag							green _____	
Comments							blue _____	42030.5
							Analcime _____	
Plagioclase							Chabazite _____	42036.5
>5%							MgOH _____	
1-5%	<u>5</u>						Silica _____	
<1%							Amorphous _____	
Rhombs							Chalcedony _____	
Blades/laths	<input checked="" type="checkbox"/>						Crystals _____	
mph	<input checked="" type="checkbox"/>						Pyrite _____	
Comments							Epidote _____	42040
							Gypsum _____	
Augite %							Anhydrite _____	
							Chalcopyrite _____	
GROUNDMASS (original)							Limonite _____	
Aphanitic							Hematite _____	
Feldspathic							Other (describe) _____	
Diktytaxitic								

CRITICAL FEATURES (description of units or features by number)

1) Dike microvesicular w/ 50% Plagioclase as blades, laths in a gray feldspathic matrix

BOX # 199

CORE LOG

HOLE # 1

Sheet A

Depth range 622.60 to 625.25 meters

Depth range 2041 to 2050 feet

Logger's Name EN

Page 1

Type of Sample: Flow 3 Intrusive 1,2 Ash Breccia Red Bed

Number of Units in Box 3 Clk/Rubble Carbonate Pillow/Hyaloclast

Fill in blanks below by using the appropriate unit number.

PRIMARY FEATURES							SECONDARY FEATURES		COMMENTS	
Phyric	1	2	3	4	5	6	Phenocryst replacements			
mega (>.5 mm)	✓	✓	✓				Olv -> Clay			
micro (<.5 mm)	✓	✓	✓				Iddingsite			
Aphyric							Plag -> Clay			
Vesicles: %	-	-	10				Zeolite			
Shape			R				Groundmass			
Size(x)			<1mm				Chlorite			
							Smectite			
PHENOCRYSTS (Original mineralogy)							Fracture	Vesicle		
Olivine >5%							Secondary/Alteration Min.			
Olivine 1-5%			1				Smectite			
Olivine <1%							Calcite			
Phenos mph			✓				Zeolite			
Phenos ol-plag			✓				white fibrous			
Comments	unalt.							green		
							blue			
Plagioclase								Analcime		
>5%							Chabazite			
1-5%	S	S					MgOH			
<1%							Silica			
Rhombs							Amorphous			
Blades/laths mph	✓	✓					Chalcedony			
Comments								Crystals		
							Pyrite			
Augite %								Epidote		
							Gypsum #2			
GROUNDMASS (original)								Anhydrite		
Aphanitic	✓	✓	✓				Chalcopyrite			
Feldspathic							Limonite			
Diktytaxitic							Hematite #2			
							Other (describe)			
							brick red stain			

CRITICAL FEATURES (description of units or features by number)

- 1) dike, anastomosing, plag blades & laths  $\approx$  3% increasing to 7% at contact in a lt. gray aphan mtr. Unit darkens near contact but shows no distinct glassy rind.
- 2) dike, lith as above
- 3) aa, micromes. 10%, <1mm; Olivine phenos & mph  $\approx$  10% in a dk. gray aphan mtr.

BOX # 200 CORE LOG HOLE # SOH#1 Sheet A  
 Depth range 625.3 to 627.7 meters Depth range 2050 to 2058 feet  
 Logger's Name RE Page 1  
 Type of Sample: Flow 1,3 Intrusive 2,4 Ash \_\_\_\_\_ Breccia \_\_\_\_\_ Red Bed \_\_\_\_\_  
 Number of Units in Box 4 Clk/Rubble \_\_\_\_\_ Carbonate \_\_\_\_\_ Pillow/Hyaloclast \_\_\_\_\_  
 Fill in blanks below by using the appropriate unit number.

PRIMARY FEATURES						SECONDARY FEATURES		COMMENTS
Phyric	1	2	3	4	5	6	Phenocryst replacements	
mega (>.5 mm)	✓	✓					Olv → Clay _____	
micro (<.5 mm)	✓	✓					Iddingsite _____	
Aphyric							Plag → Clay _____	
Vesicles: %	20%						Zeolite _____	
Shape	S-SA						Groundmass	
Size(x)	<1mm						Chlorite _____	
PHENOCRYSTS (Original mineralogy)							Smeectite _____	
Olivine >5%							Fracture	
1-5%	1-5						Vesicle	
<1%	✓						Secondary/Alteration Min.	
Phenos	✓						Smeectite _____	
mph	✓						Calcite _____	
ol-plag	✓						Zeolite _____	
Comments	<i>2 ol-plag interg.</i>						white fibrous _____	
Plagioclase							green _____	
>5%							blue _____	
1-5%	1-3						Analcime _____	
<1%	✓						Chabazite _____	
Rhombs	✓						MgOH _____	
Blades/laths	✓						Silica _____	
mph							Amorphous _____	
Comments							Chalcedony _____	
Augite							Crystals _____	
%							Pyrite _____	
GROUNDMASS (original)							Epidote _____	
Aphanitic	✓						Gypsum _____	
Feldspathic	✓						Anhydrite _____	
Diktytaxitic							Chalcopyrite _____	
							Limonite _____	
							Hematite _____	
							Other (describe) _____	

CRITICAL FEATURES (description of units or features by number)

- 1) pahoehoe flow, microphyric w/ <1% olivine mph in a med. grey feldspathic matrix. 20% vesicularity. Thermal oxidation along fractures.
- 2) dike<sub>2</sub> megaphyric w/ 1-5% olivine phenos & mph, <1% olivine-plag. intergrowths and 1-3% plagioclase rhombs & laths in a blue-grey aphanitic matrix. Glassy contact.
- 3) pahoehoe flow<sub>3</sub> like p.hk<sub>1</sub>.
- 4) dike<sub>4</sub> like dike<sub>2</sub>.

CORE LOG

BOX # 201 HOLE # 1 Sheet A  
 Depth range 627.69 to 630.13 meters Depth range 2058 to 2066 feet  
 Logger's Name EN Page 1  
 Type of Sample: Flow      Intrusive 1, 2 Ash      Breccia      Red Bed       
 Number of Units in Box 2 Clk/Rubble      Carbonate      Pillow/Hyaloclast       
 Fill in blanks below by using the appropriate unit number.

PRIMARY FEATURES							SECONDARY FEATURES		COMMENTS
Phyric	1	2	3	4	5	6	Phenocryst replacements		
mega (>.5 mm)	✓	✓					Olv -> Clay		
micro (<.5 mm)	✓	✓					Iddingsite		
Aphyric							Plag -> Clay		
							Zeolite		
Vesicles: %							Groundmass		
Shape							Chlorite		
Size(x)							Smectite		
PHENOCRYSTS (Original mineralogy)							Fracture	Vesicle	
Olivine >5%							Secondary/Alteration Min.		2058
1-5%							Smectite		
<1%							Calcite		2059
Phenos							Zeolite		2060
mph							white fibrous		} dike #1
ol-plag							green		
Comments							blue		
							Analcime		
Plagioclase							Chabazite		2061.5
>5%							MgOH		
1-5%	5	5					Silica		2064.5
<1%							Amorphous		} blk. glass frags & (?) drilling mud dike #2
Rhombs							Chalcedony		
Blades/laths	✓	✓					Crystals		
mph							Pyrite		
Comments							Epidote		
Augite %							Gypsum		
							Anhydrite		
GROUNDMASS (original)									2066
Aphanitic	✓	✓					Chalcopyrite		
Feldspathic							Limonite		
Diktytaxitic							Hematite		
							Other (describe)		
							blue repair		

CRITICAL FEATURES (description of units or features by number)

- 1) dike, anisicular, plag blades & laths  $\Sigma$  5% in a lt. gray aphan mtr.
  - 2) dike, lith as above
- Contact (?) btwn. units consists of  $\approx$  10cm blk glass frags cemented by gray clay (drilling mud, ?) (bottled)

CORE LOG

BOX # 202

HOLE # 1

Sheet A

Depth range 630.13 to 632.57 meters

Depth range 2066 to 2074 feet

Logger's Name EM

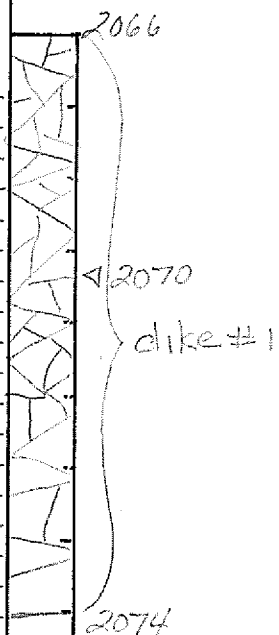
Page 1

Type of Sample: Flow  Intrusive  Ash  Breccia  Red Bed

Number of Units in Box 1 Clk/Rubble  Carbonate  Pillow/Hyaloclast

Fill in blanks below by using the appropriate unit number.

PRIMARY FEATURES							SECONDARY FEATURES		COMMENTS
Phyric	1	2	3	4	5	6	Phenocryst replacements		
mega (>.5 mm)	✓						Olv -> Clay _____		
micro (<.5 mm)	✓						Iddingsite ✓ <u>20%</u>		
Aphyric							Plag -> Clay _____		
							Zeolite _____		
Vesicles: %	-						Groundmass		
Shape							Chlorite _____		
Size(x)							Smectite _____		
PHENOCRYSTS (Original mineralogy)							Fracture	Vesicle	
Olivine >5%							Secondary/Alteration Min.		
1-5%	1						Smectite _____		
<1%							Calcite _____		
Phenos mph	✓						Zeolite _____		
ol-plag							white fibrous _____		
Comments	<u>20% alt. red</u>								
Plagioclase							green _____		
>5%							blue _____		
1-5%	3						Analcime _____		
<1%							Chabazite _____		
Rhombs							MgOH _____		
Blades/laths mph	✓						Silica _____		
Comments									
Augite %							Amorphous _____		
							Chalcedony _____		
GROUNDMASS (original)							Crystals _____		
Aphanitic	✓						Pyrite _____		
Feldspathic							Epidote _____		
Diktytaxitic							Gypsum _____		
							Anhydrite _____		
							Chalcopyrite _____		
							Limonite _____		
							Hematite _____		
							Other (describe) _____		



CRITICAL FEATURES (description of units or features by number)

1) dike, aresicular, olivine mph 1%, 20% alt. red; plag blades & laths  $\leq$  3%, in a lt. gray aphan. mtr.



CORE LOG  
 BOX # 203 HOLE # 1 Sheet A  
 Depth range 632.57 to 637.71 meters Depth range 2074 to 2081 feet  
 Logger's Name FT Page 1  
 Type of Sample: Flow  Intrusive  Ash  Breccia  Red Bed   
 Number of Units in Box 1 Clk/Rubble  Carbonate  Pillow/Hyaloclast   
 Fill in blanks below by using the appropriate unit number.

PRIMARY FEATURES						SECONDARY FEATURES		COMMENTS
Phyric	1	2	3	4	5	6	Phenocryst replacements	
mega (>.5 mm)	<input checked="" type="checkbox"/>						Olv -> Clay	
micro (<.5 mm)	<input checked="" type="checkbox"/>						Iddingsite	
Aphyric							Plag -> Clay	
Vesicles: %	<input checked="" type="checkbox"/>						Zeolite	
Shape							Groundmass	
Size(x)							Chlorite	
							Smectite	
							Fracture	
							Vesicle	
PHENOCRYSTS (Original mineralogy)						Secondary/Alteration Min.		
Olivine >5%							Smectite	
1-5%	<input checked="" type="checkbox"/>						Calcite	
<1%							Zeolite	
Phenos	<input checked="" type="checkbox"/>						white fibrous	
mph	<input checked="" type="checkbox"/>						green	
ol-plag							blue	
Comments							Analcime	
							Chabazite	
							MgOH	
							Silica	
							Amorphous	
							Chalcedony	
							Crystals	
							Pyrite	
							Epidote	
							Gypsum	
							Anhydrite	
							Chalcopyrite	
							Limonite	
							Hematite	
							Other (describe)	

CRITICAL FEATURES (description of units or features by number)

Dike w/ 390 Plagioclase as laths, blades, micro laths and ~2% Olivine phenocrysts, mph all in a lt gray feldspathic matrix

2° Minerals: Blue stain, Smectite

CORE LOG

BOX # 204

HOLE # 1

Sheet A

Depth range 634.70 to 637.14 meters

Depth range 2081 to 2089 feet

Logger's Name EA

Page 1

Type of Sample: Flow      Intrusive / Ash      Breccia      Red Bed     

Number of Units in Box 1 Clk/Rubble      Carbonate      Pillow/Hyaloclast     

Fill in blanks below by using the appropriate unit number.

PRIMARY FEATURES						SECONDARY FEATURES		COMMENTS
Phyric	1	2	3	4	5	6	Phenocryst replacements	
mega (>.5 mm)	✓						Olv -> Clay <u>    </u>	
micro (<.5 mm)	✓						Iddingsite ✓ <u>20%</u>	
Aphyric							Plag -> Clay <u>    </u>	
Vesicles: %							Zeolite <u>    </u>	
Shape							Groundmass	
Size(x)							Chlorite <u>    </u>	
							Smeectite <u>    </u>	
							Fracture	
							Vesicle	
PHENOCRYSTS (Original mineralogy)						Secondary/Alteration Min.		
Olivine >5%							Smeectite <u>    </u>	
1-5%	1						Calcite <u>    </u>	
<1%							Zeolite <u>    </u>	
Phenos							white fibrous <u>    </u>	
mph	✓						green <u>    </u>	
ol-plag							blue <u>    </u>	
Comments	<u>20% alt. red</u>						Analcime <u>    </u>	
							Chabazite <u>    </u>	
Plagioclase							MgOH <u>    </u>	
>5%							Silica <u>    </u>	
1-5%	3						Amorphous <u>    </u>	
<1%							Chalcedony <u>    </u>	
Rhombs							Crystals <u>    </u>	
Blades/laths	✓						Pyrite <u>    </u>	
mph							Epidote <u>    </u>	
Comments							Gypsum <u>#1</u>	
							Anhydrite <u>    </u>	
Augite %							Chalcopyrite <u>    </u>	
							Limonite <u>    </u>	
GROUNDMASS (original)							Hematite <u>    </u>	
Aphanitic	✓						Other (describe)	
Feldspathic							<u>blue mepur</u>	
Diktytaxitic								

CRITICAL FEATURES (description of units or features by number)

D) dike, anisicular, olivine mph 1%, 20% alt. red; plag blades & laths  $\Sigma$  3%, in a lt. gray aphan mtr.

CORE LOG  
 BOX # 205 HOLE # 1 Sheet A  
 Depth range 637.15 to 639.28 meters Depth range 2089 to 2096 feet  
 Logger's Name FT Page 1  
 Type of Sample: Flow \_\_\_\_\_ Intrusive  Ash \_\_\_\_\_ Breccia \_\_\_\_\_ Red Bed \_\_\_\_\_  
 Number of Units in Box 1 Clk/Rubble \_\_\_\_\_ Carbonate \_\_\_\_\_ Pillow/Hyaloclast \_\_\_\_\_  
 Fill in blanks below by using the appropriate unit number.

PRIMARY FEATURES						SECONDARY FEATURES		COMMENTS
Phyric	1	2	3	4	5	6	Phenocryst replacements	
mega (>.5 mm)	<input checked="" type="checkbox"/>						Olv -> Clay _____	
micro (<.5 mm)	<input checked="" type="checkbox"/>						Iddingsite _____	
Aphyric							Plag -> Clay _____	
Vesicles: %							Zeolite _____	
Shape							Groundmass	
Size(x)							Chlorite _____	
							Smectite _____	
							Fracture	
							Vesicle	
PHENOCRYSTS (Original mineralogy)						Secondary/Alteration Min.		
Olivine >5%							Smectite <input checked="" type="checkbox"/>	
1-5%	<input checked="" type="checkbox"/>						Calcite _____	
<1%							Zeolite _____	
Phenos	<input checked="" type="checkbox"/>						white fibrous _____	
mph	<input checked="" type="checkbox"/>						green _____	
ol-plag							blue <input checked="" type="checkbox"/>	
Comments							Analcime _____	
							Chabazite _____	
							MgOH _____	
							Silica _____	
							Amorphous _____	
							Chalcedony _____	
							Crystals _____	
							Pyrite _____	
							Epidote _____	
							Gypsum _____	
							Anhydrite _____	
							Chalcopyrite _____	
							Limonite _____	
							Hematite _____	
							Other (describe) _____	

CRITICAL FEATURES (description of units or features by number)

1) Dike w/ 4% Plagioclase as blades, laths and microlaths and 3% Olivine phenocrysts, mph in a lt gray feldspathic matrix

2° Minerals: Blue stain, Smectite

CORE LOG  
 BOX # 206 HOLE # 1 Sheet A  
 Depth range 639.28 to 641.72 meters Depth range 2096 to 2104 feet  
 Logger's Name FT Page 1  
 Type of Sample: Flow  Intrusive  Ash  Breccia  Red Bed   
 Number of Units in Box 1 Clk/Rubble  Carbonate  Pillow/Hyaloclast   
 Fill in blanks below by using the appropriate unit number.

PRIMARY FEATURES						SECONDARY FEATURES		COMMENTS	
Phyric	1	2	3	4	5	6	Phenocryst replacements		8' here
mega (>.5 mm)	<input checked="" type="checkbox"/>						Olv -> Clay		
micro (<.5 mm)	<input checked="" type="checkbox"/>						Iddingsite		
Aphyric							Plag -> Clay		
Vesicles: %							Zeolite		
Shape							Groundmass		
Size(x)							Chlorite		
							Smectite		
PHENOCRYSTS (Original mineralogy)									
Olivine >5%							Fracture Vesicle Secondary/Alteration Min. Smectite <input checked="" type="checkbox"/> Calcite Zeolite white fibrous green blue <input checked="" type="checkbox"/> Analcime Chabazite MgOH Silica Amorphous Chalcedony Crystals Pyrite Epidote Gypsum Anhydrite Chalcopyrite Limonite Hematite Other(describe)		
1-5%	<input checked="" type="checkbox"/>	3							
<1%									
Phenos	<input checked="" type="checkbox"/>								
mph	<input checked="" type="checkbox"/>								
ol-plag									
Comments									
Plagioclase									
>5%									
1-5%	<input checked="" type="checkbox"/>	4							
<1%									
Rhombs									
Blades/laths	<input checked="" type="checkbox"/>								
mph	<input checked="" type="checkbox"/>								
Comments									
Augite %									
GROUNDMASS (original)									
Aphanitic									
Feldspathic	<input checked="" type="checkbox"/>								
Diktytaxitic									

CRITICAL FEATURES (description of units or features by number)

1) Dike w/ 4% Plagioclase as laths, blades + micro laths and 3% Olivine as phenocrysts, mph in a lt gray feldspathic matrix.

2° Mineral: Smectite, Blue stain

CORE LOG

BOX # 207

HOLE # 1

Sheet A

Depth range 141.72 to 143.85 meters

Depth range 2104 to 2111 feet


Logger's Name EN

Page 1

Type of Sample: Flow      Intrusive 1 Ash      Breccia      Red Bed     

Number of Units in Box 1 Clk/Rubble      Carbonate      Pillow/Hyaloclast     

Fill in blanks below by using the appropriate unit number.

PRIMARY FEATURES							SECONDARY FEATURES		COMMENTS	
Phyric	1	2	3	4	5	6	Phenocryst replacements			<div style="text-align: right;"> <p>2104</p>  <p>2107</p> <p>dike #1</p> <p>2111</p> </div>
mega (>.5 mm)	✓						Olv -> Clay <u>    </u>			
micro (<.5 mm)	✓						Iddingsite <u>20%</u>			
Aphyric							Plag -> Clay <u>    </u>			
							Zeolite <u>    </u>			
Vesicles: %							Groundmass			
Shape							Chlorite <u>    </u>			
Size(x)							Smectite <u>    </u>			
PHENOCRYSTS (Original mineralogy)							Fracture	Vesicle		
Olivine >5%							Secondary/Alteration Min.			
1-5%	1						Smectite			
<1%							Calcite			
Phenos							Zeolite			
mph	✓						white fibrous			
ol-plag							green			
Comments	<u>20% alt. red</u>									
Plagioclase										
>5%							blue			
1-5%	3						Analcime			
<1%							Chabazite			
Rhombs							MgOH			
Blades/laths	✓						Silica			
mph							Amorphous			
Comments								Chalcedony		
Augite								Crystals		
%							Pyrite			
GROUNDMASS (original)								Epidote		
Aphanitic	✓						Gypsum			
Feldspathic							Anhydrite			
Diktytaxitic							Chalcopryrite			
								Limonite		
								Hematite		
								Other (describe)		
								<u>blue woven</u>		

CRITICAL FEATURES (description of units or features by number)

1) dike, anastomosing, olivine mph 10%, 20% alt. red.; plag blades & laths  $\Sigma$  3%, in a lt. gray aphan mtr.

CORE LOG  
 BOX # 208 HOLE # 1 Sheet A  
 Depth range 643.86 to 645.99 meters Depth range 2111 to 2118 feet  
 Logger's Name FT Page 1  
 Type of Sample: Flow  Intrusive  Ash  Breccia  Red Bed   
 Number of Units in Box 1 Clk/Rubble  Carbonate  Pillow/Hyaloclast   
 Fill in blanks below by using the appropriate unit number.

PRIMARY FEATURES						SECONDARY FEATURES		COMMENTS
Phyric	1	2	3	4	5	6	Phenocryst replacements	
mega (>.5 mm)	<input checked="" type="checkbox"/>						Olv -> Clay	
micro (<.5 mm)	<input checked="" type="checkbox"/>						Iddingsite	
Aphyric							Plag -> Clay	
Vesicles: %	<input checked="" type="checkbox"/>						Zeolite	
Shape							Groundmass	
Size(x)							Chlorite	
							Smectite	
							Fracture	
							Vesicle	
PHENOCRYSTS (Original mineralogy)						Secondary/Alteration Min.		
Olivine >5%							Smectite <input checked="" type="checkbox"/>	
1-5%	<input checked="" type="checkbox"/>						Calcite	
<1%							Zeolite	
Phenos	<input checked="" type="checkbox"/>						white fibrous	
mph	<input checked="" type="checkbox"/>						green	
ol-plag							blue <input checked="" type="checkbox"/>	
Comments							Analcime	
							Chabazite	
							MgOH	
							Silica	
							Amorphous	
							Chalcedony	
							Crystals	
							Pyrite	
							Epidote	
							Gypsum	
							Anhydrite	
							Chalcopyrite	
							Limonite	
							Hematite	
							Other (describe)	

CRITICAL FEATURES (description of units or features by number)

1) Dike of 3% Olivine as phenocrysts, mph and 3% Plagioclase as blades, laths, microlaths in a lt gray feldspathic matrix.

2° Mineral: Blue stain; SMECTITE

CORE LOG

BOX # 209

HOLE # 1

Sheet A

Depth range 711.11 to 646.48 meters

Depth range 2118 to 2126 feet

Logger's Name FAI

Page 1

Type of Sample: Flow  Intrusive  Ash  Breccia  Red Bed

Number of Units in Box 1 Clk/Rubble  Carbonate  Pillow/Hyaloclast

Fill in blanks below by using the appropriate unit number.

PRIMARY FEATURES						SECONDARY FEATURES		COMMENTS	
Phyric	1	2	3	4	5	6	Phenocryst replacements		
mega (>.5 mm)	✓						Olv -> Clay _____		
micro(<.5 mm)	✓						Iddingsite <u>20%</u>		
Aphyric							Plag -> Clay _____		
Vesicles: %	-						Zeolite _____		
Shape							Groundmass		
Size(x)							Chlorite _____		
							Smectite _____		
PHENOCRYSTS (Original mineralogy)									
Olivine >5%							Secondary/Alteration Min.		
1-5%	1						Smectite _____		
<1%							Calcite _____		
Phenos							Zeolite _____		
mph	✓						white fibrous _____		
ol-plag							green _____		
Comments	<u>20% alt red</u>						blue _____		
Plagioclase							Analcime _____		
>5%							Chabazite _____		
1-5%	3						MgOH _____		
<1%							Silica _____		
Rhombs							Amorphous _____		
Blades/laths	✓						Chalcedony _____		
mph							Crystals _____		
Comments							Pyrite _____		
Augite %							Epidote _____		
							Gypsum _____		
GROUNDMASS (original)							Anhydrite _____		
Aphanitic	✓						Chalcopyrite _____		
Feldspathic							Limonite _____		
Diktytaxitic							Hematite _____		
							Other (describe)		
							<u>blue brown</u>		

CRITICAL FEATURES (description of units or features by number)

1) dike, aresicular, olivine mph 1%, 20% alt red; plag blades & rhombs  $\Sigma$  3%, in a lt. gray aphan mtr.

CORE LOG  
 BOX # 210 HOLE # 1 Sheet A  
 Depth range 648.43 to 650.72 meters Depth range 2126 to 2133.5 feet  
 Logger's Name FT Page 1  
 Type of Sample: Flow  Intrusive  Ash  Breccia  Red Bed   
 Number of Units in Box 1 Clk/Rubble  Carbonate  Pillow/Hyaloclast   
 Fill in blanks below by using the appropriate unit number.

PRIMARY FEATURES						SECONDARY FEATURES		COMMENTS
Phyric	1	2	3	4	5	6	Phenocryst replacements	7.5' here
mega (>.5 mm)	<input checked="" type="checkbox"/>						Olv -> Clay	
micro (<.5 mm)	<input checked="" type="checkbox"/>						Iddingsite	
Aphyric							Plag -> Clay	
Vesicles: %							Zeolite	
Shape							Groundmass	
Size(x)							Chlorite	
PHENOCRYSTS (Original mineralogy)								
Olivine >5%							Fracture	Vesicle
1-5%	<input checked="" type="checkbox"/>	3						
<1%							Secondary/Alteration Min.	
Phenos	<input checked="" type="checkbox"/>						Smeectite	A 2127
mph	<input checked="" type="checkbox"/>						Calcite	
ol-plag							Zeolite	
Comments							white fibrous	
Plagioclase							green	
>5%							blue	
1-5%	<input checked="" type="checkbox"/>	3					Analcime	
<1%							Chabasite	
Rhombs							MgOH	
Blades/laths	<input checked="" type="checkbox"/>						Silica	
mph	<input checked="" type="checkbox"/>						Amorphous	
Comments							Chalcedony	
Augite %							Crystals	
GROUNDMASS (original)								
Aphanitic							Pyrite	
Feldspathic	<input checked="" type="checkbox"/>						Epidote	
Diktytaxitic							Gypsum	
							Anhydrite	
							Chalcoppyrite	
							Limonite	
							Hematite	
							Other (describe)	

CRITICAL FEATURES (description of units or features by number)

1) Dike w/ 3% Olivine phenocrysts, mph and 3% Plagioclase as blades, laths and micro laths in a H gray feldspathic matrix.

2° Minerals: Smeectite, Blue stain, white Zeolite



CORE LOG

BOX # 211

HOLE # 1

Sheet A

Depth range 650.72 to 653.31 meters

Depth range 2133.5 to 2142 feet

Logger's Name EA1

Page 1

Type of Sample: Flow \_\_\_\_\_ Intrusive 1,2 Ash \_\_\_\_\_ Breccia \_\_\_\_\_ Red Bed \_\_\_\_\_

Number of Units in Box 2 Clk/Rubble \_\_\_\_\_ Carbonate \_\_\_\_\_ Pillow/Hyaloclast \_\_\_\_\_

Fill in blanks below by using the appropriate unit number.

PRIMARY FEATURES						SECONDARY FEATURES		COMMENTS
Phyric	1	2	3	4	5	6	Phenocryst replacements	
mega (>.5 mm)	✓	✓					Olv -> Clay _____	
micro (<.5 mm)	✓	✓					Iddingsite <u>#1 20%</u>	
Aphyric							Plag -> Clay _____	
Vesicles: %							Zeolite _____	
Shape							Groundmass	
Size(x)							Chlorite _____	
PHENOCRYSTS (Original mineralogy)							Smectite _____	
Olivine >5%							Calcite _____	
1-5%	1	2					Zeolite _____	
<1%							white fibrous _____	
Phenos		✓					green _____	
mph	✓	✓					blue _____	
ol-plag							Analcime _____	
Comments	<u>20% alt. red</u>							Chabazite _____
Plagioclase	<u>#2, unalt</u>							MgOH _____
>5%							Silica _____	
1-5%	3	2					Amorphous _____	
<1%							Chalcedony _____	
Rhombs							Crystals _____	
Blades/laths	✓	✓					Pyrite _____	
mph							Epidote _____	
Comments								Gypsum _____
Augite %							Anhydrite _____	
GROUNDMASS (original)							Chalcopyrite _____	
Aphanitic	✓	✓					Limonite _____	
Feldspathic							Hematite _____	
Diktytaxitic							Other (describe)	
							<u>blue mesh</u>	

CRITICAL FEATURES (description of units or features by number)

- 1) dike, *ammiscular*, olivine mph 10%, 20% alt. red; plag blades & laths  $\approx$  3%, in a lt. gray aphan mtr.
- 2) dike, *ammiscular*, olivine phenos & mph  $\approx$  2%, unalt., plag blades & laths  $\approx$  2%, in a dk gray aphan mtr.

CORE LOG  
 BOX # 212 <sup>31</sup> HOLE # 1 Sheet A  
 Depth range 653 to 655.90 meters Depth range 2142 to 2150.5 feet  
 Logger's Name FT Page 1  
 Type of Sample: Flow      Intrusive 1, 2 Ash      Breccia      Red Bed       
 Number of Units in Box 2 Clk/Rubble      Carbonate      Pillow/Hyaloclast       
 Fill in blanks below by using the appropriate unit number.

PRIMARY FEATURES						SECONDARY FEATURES		COMMENTS	
Phyric	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Phenocryst replacements			
mega (>.5 mm)						Olv -> Clay <u>    </u>			
micro (<.5 mm)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>				Iddingsite <u>    </u>			
Aphyric						Plag -> Clay <u>    </u>			
Vesicles: %	<u>    </u>	<u>    </u>				Zeolite <u>    </u>			
Shape						Groundmass			
Size(x)						Chlorite <u>    </u>			
						Smeectite <u>    </u>			
PHENOCRYSTS (Original mineralogy)						Fracture	Vesicle		
Olivine >5%						Secondary/Alteration Min.			
1-5%	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>				Smeectite <u>    </u>			
<1%						Calcite <u>    </u>			
Phenos mph	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>				Zeolite <u>    </u>			
ol-plag						white fibrous <u>    </u>			
Comments	<u>    </u>					green <u>    </u>			
						blue <u>    </u>			
Plagioclase						Analcime <u>    </u>			
>5%						Chabazite <u>    </u>			
1-5%	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>				MgOH <u>    </u>			
<1%						Silica <u>    </u>			
Rhombs						Amorphous <u>    </u>			
Blades/laths mph	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>				Chalcedony <u>    </u>			
Comments	<u>    </u>					Crystals <u>    </u>			
						Pyrite <u>    </u>			
Augite %						Epidote <u>    </u>			
						Gypsum <u>    </u>			
GROUNDMASS (original)						Anhydrite <u>    </u>			
Aphanitic						Chalcopryrite <u>    </u>			
Feldspathic	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>				Limonite <u>    </u>			
Diktytaxitic						Hematite <u>    </u>			
						Other (describe) <u>    </u>			

CRITICAL FEATURES (description of units or features by number)

- 1) Dike w/ 3% Olivine as phenocrysts, mph and 3% Plagioclase blades, laths in a gray feldspathic matrix
  - 2) Dike w/ 4% Olivine phenocrysts (some large = 5mm), mph and 1% Plagioclase as laths, blades in a gray feldspathic matrix.
- 2 Minerals: Limonite, Blue Stain

CORE LOG

BOX # 213

HOLE # 1

Sheet A

Depth range 1658.90 to 1658.19 meters

Depth range 2150.5 to 2158 feet

Logger's Name EN

Page 1

Type of Sample: Flow  Intrusive  Ash  Breccia  Red Bed

Number of Units in Box 1 Clk/Rubble  Carbonate  Pillow/Hyaloclast

Fill in blanks below by using the appropriate unit number.

PRIMARY FEATURES							SECONDARY FEATURES			COMMENTS
Phyric	1	2	3	4	5	6	Phenocryst replacements			
mega (>.5 mm)	<input checked="" type="checkbox"/>						Olv -> Clay _____			
micro (<.5 mm)	<input checked="" type="checkbox"/>						Iddingsite _____			
Aphyric							Plag -> Clay _____			
							Zeolite _____			
Vesicles: %							Groundmass			
Shape							Chlorite _____			
Size(x)							Smectite _____			
PHENOCRYSTS (Original mineralogy)										
Olivine >5%							Fracture	Vesicle		
Olivine 1-5%	<input checked="" type="checkbox"/>									Secondary/Alteration Min.
Olivine <1%							Smectite _____			
Phenos mph	<input checked="" type="checkbox"/>						Calcite _____			
ol-plag							Zeolite _____			
Comments	_____									
Plagioclase >5%							white fibrous _____			
Plagioclase 1-5%	<input checked="" type="checkbox"/>						green _____			
Plagioclase <1%							blue _____			
Rhombs							Analcime _____			
Blades/laths mph	<input checked="" type="checkbox"/>						Chabazite _____			
Comments	_____									
Augite %							MgOH _____			
GROUNDMASS (original)										
Aphanitic	<input checked="" type="checkbox"/>						Silica _____			
Feldspathic							Amorphous _____			
Diktytaxitic							Chalcedony _____			
							Crystals _____			
							Pyrite _____			
							Epidote _____			
							Gypsum _____			
							Anhydrite _____			
							Chalcopyrite _____			
							Limonite _____			
							Hematite _____			
							Other (describe)			
							<i>blue mesh</i>			

CRITICAL FEATURES (description of units or features by number)

1) dike, amsicular, olivine mph 1%, unact.; plag blades & laths 3%, in a lt. gray aphan mtr

CORE LOG

BOX # 214

HOLE # 1

Sheet A

Depth range 658.19 to 660.93 meters

Depth range 2158 to 2167 feet

Logger's Name EN

Page 1

Type of Sample: Flow  Intrusive  Ash  Breccia  Red Bed

Number of Units in Box 1 Clk/Rubble  Carbonate  Pillow/Hyaloclast

Fill in blanks below by using the appropriate unit number.

PRIMARY FEATURES							SECONDARY FEATURES		COMMENTS	
Phyric	1	2	3	4	5	6	Phenocryst replacements			
mega (>.5 mm)	✓						Olv -> Clay			
micro(<.5 mm)	✓						Iddingsite			
Aphyric							Plag -> Clay			
Vesicles: %	-						Zeolite			
Shape							Groundmass			
Size(x)							Chlorite			
							Smectite			
							Fracture			
							Vesicle			
PHENOCRYSTS (Original mineralogy)							Secondary/Alteration Min.			
Olivine >5%							Smectite			
1-5%	1						Calcite			
<1%							Zeolite			
Phenos							white fibrous			
mph	✓						green			
ol-plag							blue			
Comments								Analcime		
							Chabazite			
Plagioclase								MgOH		
>5%							Silica			
1-5%	3						Amorphous			
<1%							Chalcedony			
Rhombs							Crystals			
Blades/laths	✓						Pyrite			
mph							Epidote			
Comments								Gypsum		
							Anhydrite			
Augite %								Chalcopyrite		
							Limonite			
GROUNDMASS (original)								Hematite		
Aphanitic	✓						Other (describe)			
Feldspathic							blue mineral			
Diktytaxitic										

CRITICAL FEATURES (description of units or features by number)

1) dike, aresicular, olivine mph 1%, unalt; plag blades & laths Σ 3%, in a lt. gray aphan mtr.

CORE LOG  
 BOX # 215 HOLE # 1 Sheet A  
 Depth range 660.94 to 663.68 meters Depth range 2167 to 2176 feet  
 Logger's Name FT Page 1  
 Type of Sample: Flow 2 Intrusive 1 Ash      Breccia      Red Bed       
 Number of Units in Box 2 Clk/Rubble      Carbonate      Pillow/Hyaloclast       
 Fill in blanks below by using the appropriate unit number.

PRIMARY FEATURES						SECONDARY FEATURES		COMMENTS
Phyric	1	2	3	4	5	6	Phenocryst replacements	
mega (>.5 mm)	✓	✓					Olv -> Clay <u>    </u>	
micro (<.5 mm)	✓	✓					Iddingsite <u>    </u>	
Aphyric							Plag -> Clay <u>    </u>	
Vesicles: %		15					Zeolite <u>    </u>	
Shape		sp-5					Groundmass	
Size(x)		1					Chlorite <u>    </u>	
PHENOCRYSTS (Original mineralogy)							Smeectite <u>    </u>	
Olivine >5%	✓	4					Calcite <u>    </u>	
1-5%	✓						Zeolite <u>    </u>	
<1%							white fibrous <u>    </u>	
Phenos	✓	✓					green <u>    </u>	
mph	✓	✓					blue <u>    </u> ✓	
ol-plag							Analcime <u>    </u>	
Comments							Chabazite <u>    </u>	
Plagioclase							MgOH <u>    </u>	
>5%	✓						Silica <u>    </u>	
1-5%	2						Amorphous <u>    </u>	
<1%							Chalcedony <u>    </u>	
Rhombs							Crystals <u>    </u>	
Blades/laths	✓						Pyrite <u>    </u>	
mph	✓						Epidote <u>    </u>	
Comments							Gypsum <u>    </u>	
Augite %							Anhydrite <u>    </u>	
GROUNDMASS (original)							Chalcopyrite <u>    </u>	
Aphanitic	✓						Limonite <u>    </u>	
Feldspathic							Hematite <u>    </u>	
Diktytaxitic		✓					Other (describe) <u>    </u>	

CRITICAL FEATURES (description of units or features by number)

- 1) Dike w/ 5% Olivine phenocrysts, mph and 2% Plagioclase as blades, laths and microlaths in a gray aphanitic matrix.
- 2) phh w/ 7% Olivine phenocrysts, mph in a gray diktytaxitic matrix.

2 Minerals & Blue Stain

CORE LOG

BOX # 216

HOLE # 1

Sheet A

Depth range 663.68 to 666.42 meters

Depth range 2176 to 2185 feet

Logger's Name FAI

Page 1

Type of Sample: Flow 1 Intrusive \_\_\_\_\_ Ash \_\_\_\_\_ Breccia \_\_\_\_\_ Red Bed \_\_\_\_\_

Number of Units in Box 1 Clk/Rubble \_\_\_\_\_ Carbonate \_\_\_\_\_ Pillow/Hyaloclast \_\_\_\_\_

Fill in blanks below by using the appropriate unit number.

PRIMARY FEATURES							SECONDARY FEATURES		COMMENTS	
Phyric	1	2	3	4	5	6	Phenocryst replacements			
mega (>.5 mm)	✓						Olv -> Clay _____			
micro (<.5 mm)	✓						Iddingsite _____			
Aphyric							Plag -> Clay _____			
							Zeolite _____			
Vesicles: %	<u>20</u>						Groundmass			
Shape	<u>R</u>						Chlorite _____			
Size(x)	<u>3mm</u>						Smectite _____			
PHENOCRYSTS (Original mineralogy)							Fracture	Vesicle		
Olivine >5%							Secondary/Alteration Min.			
1-5%	✓						Smectite _____			
<1%							Calcite _____	✓		
Phenos	✓						Zeolite _____			
mph	✓						white fibrous _____			
ol-plag							green _____			
Comments	_____							blue _____		
Plagioclase								Analcime _____		
>5%							Chabazite _____			
1-5%							MgOH _____			
<1%							Silica _____			
Rhombs							Amorphous _____			
Blades/laths							Chalcedony _____			
mph							Crystals _____			
Comments	_____							Pyrite _____		
Augite %								Epidote _____		
							Gypsum _____			
GROUNDMASS (original)								Anhydrite _____		
Aphanitic	✓						Chalcopyrite _____			
Feldspathic							Limonite _____			
Diktytaxitic							Hematite _____			
							Other (describe) _____			

CRITICAL FEATURES (description of units or features by number)

1) trans, vesicular 20%, 3mm; olivine phenos c mph  
 < 5%, unalt.; in a gray aphan mtr. ←

BOX # 217 CORE LOG HOLE # 1 Sheet A  
 Depth range 666.43 to 669.48 meters Depth range 2185 to 2195 feet  
 Logger's Name AT Page 1  
 Type of Sample: Flow  Intrusive  Ash  Breccia  Red Bed   
 Number of Units in Box 1 Clk/Rubble  Carbonate  Pillow/Hyaloclast   
 Fill in blanks below by using the appropriate unit number.

PRIMARY FEATURES						SECONDARY FEATURES		COMMENTS
Phyric	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Phenocryst replacements		
mega (>.5 mm)						Olv -> Clay		
micro (<.5 mm)	<input checked="" type="checkbox"/>					Iddingsite		
Aphyric						Plag -> Clay		
Vesicles: %	<u>12</u>					Zeolite		
Shape	<u>SP</u>					Groundmass		
Size(x)	<u>2</u>					Chlorite		
						Smectite		
PHENOCRYSTS (Original mineralogy)						Fracture	Vesicle	
Olivine >5%	<u>8-10</u>					Secondary/Alteration Min.		
1-5%						Smectite		
<1%						Calcite		
Phenos	<input checked="" type="checkbox"/>					Zeolite		
mph	<input checked="" type="checkbox"/>					white fibrous		
ol-plag						green		
Comments						blue		
Plagioclase						Analcime		
>5%						Chabazite		
1-5%						MgOH		
<1%						Silica		
Rhombs						Amorphous		
Blades/laths						Chalcedony		
mph						Crystals		
Comments						Pyrite		
Augite						Epidote		
						Gypsum		
GROUNDMASS (original)						Anhydrite		
Aphanitic						Chalcopyrite		
Feldspathic	<input checked="" type="checkbox"/>					Limonite		
Diktytaxitic						Hematite		
						Other (describe)		

CRITICAL FEATURES (description of units or features by number)

1) phk unit w/ 8-10% Olivine phenocrysts, mph in a gray - lt gray feldspathic matrix.

2° Minerals

CORE LOG

BOX # 219

HOLE # 1

Sheet A

Depth range 669.47 to 672.07 meters

Depth range 2195 to 2203.5 feet

Logger's Name EN

Page 1

Type of Sample: Flow 1 Intrusive \_\_\_\_\_ Ash \_\_\_\_\_ Breccia \_\_\_\_\_ Red Bed \_\_\_\_\_

Number of Units in Box 1 Clk/Rubble \_\_\_\_\_ Carbonate \_\_\_\_\_ Pillow/Hyaloclast \_\_\_\_\_

Fill in blanks below by using the appropriate unit number.

PRIMARY FEATURES							SECONDARY FEATURES		COMMENTS	
Phyric	1	2	3	4	5	6	Phenocryst replacements			
mega (>.5 mm)	✓						Olv -> Clay _____			
micro (<.5 mm)	✓						Iddingsite _____			
Aphyric							Plag -> Clay _____			
							Zeolite _____			
Vesicles: %	3						Groundmass			
Shape	R						Chlorite _____			
Size(x)	3mm						Smectite _____			
PHENOCRYSTS (Original mineralogy)							Fracture	Vesicle		
Olivine >5%							Secondary/Alteration Min.			
1-5%	5						Smectite _____			
<1%							Calcite _____			
Phenos ✓							Zeolite _____			
mph ✓							white fibrous _____			
ol-plag							green _____			
Comments	<u>slightly altered</u>							blue _____		
Plagioclase								Analcime _____		
>5%							Chabazite _____			
1-5%							MgOH _____			
<1%							Silica _____			
Rhombs							Amorphous _____			
Blades/laths							Chalcedony _____			
mph							Crystals _____			
Comments								Pyrite _____		
Augite %								Epidote _____		
							Gypsum _____			
GROUNDMASS (original)								Anhydrite _____		
Aphanitic	✓						Chalcopyrite _____			
Feldspathic							Limonite _____			
Diktytaxitic	✓						Hematite _____			
							Other (describe) _____			

CRITICAL FEATURES (description of units or features by number)

1) trans, vesicular 3%, 3mm; olivine phenos & mph  $\approx$  5%, slightly altered toward blue-green iridescence, in a gray, slightly dikty. mtr.



BOX # 219 CORE LOG  
 Depth range 672 to 674 meters HOLE # 1 Sheet A  
 Depth range 2203 to 2213 feet  
 Logger's Name FT Page 1  
 Type of Sample: Flow 1, 2 Intrusive \_\_\_\_\_ Ash \_\_\_\_\_ Breccia \_\_\_\_\_ Red Bed \_\_\_\_\_  
 Number of Units in Box 2 Clk/Rubble \_\_\_\_\_ Carbonate \_\_\_\_\_ Pillow/Hyaloclast \_\_\_\_\_  
 Fill in blanks below by using the appropriate unit number.

PRIMARY FEATURES						SECONDARY FEATURES		COMMENTS
Phyric	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
mega (>.5 mm)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
micro (<.5 mm)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Aphyric	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Vesicles: %	<u>3</u>	<u>10</u>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Shape	<u>2-5R</u>	<u>5R</u>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Size(x)	<u>3</u>	<u>1</u>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
PHENOCRYSTS (Original mineralogy)						Fracture		
Olivine >5%	<u>5-7</u>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1-5%	<u>5</u>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<1%	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Phenos	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
mph	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
ol-plag	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Comments						<input type="checkbox"/>	<input type="checkbox"/>	
Plagioclase	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
>5%	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1-5%	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<1%	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Rhombs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Blades/laths	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
mph	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Comments						<input type="checkbox"/>	<input type="checkbox"/>	
Augite	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
GROUNDMASS (original)						Secondary/Alteration Min.		
Aphanitic	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Feldspathic	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Diktytaxitic	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
						Smeectite	<input checked="" type="checkbox"/>	
						Calcite	<input type="checkbox"/>	
						Zeolite	<input type="checkbox"/>	
						white fibrous	<input type="checkbox"/>	
						green	<input type="checkbox"/>	
						blue	<input type="checkbox"/>	
						Analcime	<input type="checkbox"/>	
						Chabasite	<input type="checkbox"/>	
						MgOH	<input type="checkbox"/>	
						Silica	<input type="checkbox"/>	
						Amorphous	<input type="checkbox"/>	
						Chalcedony	<input type="checkbox"/>	
						Crystals	<input type="checkbox"/>	
						Pyrite	<input type="checkbox"/>	
						Epidote	<input type="checkbox"/>	
						Gypsum	<input type="checkbox"/>	
						Anhydrite	<input type="checkbox"/>	
						Chalcopyrite	<input type="checkbox"/>	
						Limonite	<input type="checkbox"/>	
						Hematite	<input type="checkbox"/>	
						Other (describe)	<input type="checkbox"/>	

CRITICAL FEATURES (description of units or features by number)

1) phh, dense core w/ 5-7% Olivine phenocrysts, mph in a lt gray well crystallized, feldspathic matrix.

2) phh unit w/ 5% Olivine phenocrysts and abundant mph in an aphanitic thermally oxidized matrix.

2° Minerals: Smeectite

CORE LOG

BOX # 220

HOLE # 1

Sheet A

Depth range 674.96 to 677.71 meters

Depth range 2213 to 2222 feet

Logger's Name EN

Page 1

Type of Sample: Flow 1,3 Intrusive \_\_\_\_\_ Ash 2 Breccia \_\_\_\_\_ Red Bed \_\_\_\_\_

Number of Units in Box 3 Clk/Rubble \_\_\_\_\_ Carbonate \_\_\_\_\_ Pillow/Hyaloclast \_\_\_\_\_

Fill in blanks below by using the appropriate unit number.

PRIMARY FEATURES							SECONDARY FEATURES		COMMENTS
Phyric	1	2	3	4	5	6	Phenocryst replacements		
mega (>.5 mm)	✓	-	✓				Olv -> Clay _____		
micro (<.5 mm)	✓		✓				Iddingsite _____		
Aphyric							Plag -> Clay _____		
Vesicles: %	<u>20</u>	-	-				Zeolite _____		
Shape	<u>SR</u>						Groundmass		
Size(x)/mm							Chlorite _____		
							Smectite _____		
PHENOCRYSTS (Original mineralogy)							Fracture	Vesicle	
Olivine >5%							Secondary/Alteration Min.		
1-5%	<u>S</u>						Smectite _____		
<1%							Calcite _____		
Phenos	✓						Zeolite _____		
mph	✓						white fibrous _____		
ol-plag							green _____		
Comments	<u>alt iridescent</u>							blue _____	
Plagioclase							Analcime _____		
>5%							Chabazite _____		
1-5%			<u>S</u>				MgOH _____		
<1%							Silica _____		
Rhombs							Amorphous _____		
Blades/laths			✓				Chalcedony _____		
mph							Crystals _____		
Comments								Pyrite _____	
Augite							Epidote _____		
							Gypsum _____		
							Anhydrite _____		
							Chalcoppyrite _____		
							Limonite _____		
							Hematite _____		
							Other (describe) _____		
GROUNDMASS (original)									
Aphanitic	✓	-	✓						
Feldspathic									
Diktytaxitic									

CRITICAL FEATURES (description of units or features by number)

- 1) phh, microlite 20%, 1mm; olivine phenos & mph  $\leq$  5%, alt. iridescent blue-green; in a thin. alt. brick red aphan mtx.
- 2) brick red ash, sand sized red and black volcanic glass frags.
- 3) aa, ammicular, plag blades & laths  $\leq$  5% in a gray aphan mtx.

BOX # 221

CORE LOG

HOLE # 1

Sheet A

Depth range 677.71 to 680.15 meters

Depth range 2722 to 2730 feet

Logger's Name FT

Page 1

Type of Sample: Flow  Intrusive  Ash  Breccia  Red Bed

Number of Units in Box 1 Clk/Rubble  Carbonate  Pillow/Hyaloclast

Fill in blanks below by using the appropriate unit number.

PRIMARY FEATURES						SECONDARY FEATURES		COMMENTS
Phyric	1	2	3	4	5	6	Phenocryst replacements	
mega (>.5 mm)	<input checked="" type="checkbox"/>						Olv -> Clay	
micro (<.5 mm)	<input checked="" type="checkbox"/>						Iddingsite	
Aphyric							Plag -> Clay	
Vesicles: %	<u>5</u>						Zeolite	
Shape	<u>SD-SA</u>						Groundmass	
Size(x)	<u>2</u>						Chlorite	
							Smectite	
							Fracture	
							Vesicle	
PHENOCRYSTS (Original mineralogy)						Secondary/Alteration Min.		
Olivine >5%	<u>5-7</u>						Smectite	
Olivine 1-5%							Calcite	
Olivine <1%							Zeolite	
Phenos	<input checked="" type="checkbox"/>						white fibrous	
mph	<input checked="" type="checkbox"/>						green	
ol-plag							blue	
Comments							Analcime	
							Chabazite	
Plagioclase							MgOH	
>5%							Silica	
1-5%							Amorphous	
<1%							Chalcedony	
Rhombs							Crystals	
Blades/laths							Pyrite	
mph							Epidote	
Comments							Gypsum	
							Anhydrite	
Augite %							Chalcopyrite	
							Limonite	
GROUNDMASS (original)							Hematite	
Aphanitic							Other (describe)	
Feldspathic	<input checked="" type="checkbox"/>							
Diktytaxitic								

CRITICAL FEATURES (description of units or features by number)

1) a'a flow, Top w/ welded clinker, has 5-7% Olivine phenocrysts mph in a dense core, Hgray in color, feldspathic in nature.

2° Minerals: Smectite

CORE LOG

BOX # 222

HOLE # 1

Sheet A

Depth range 680.15 to 682.89 meters

Depth range 2230 to 2239 feet

Logger's Name EN

Page 1

Type of Sample: Flow 1 Intrusive \_\_\_\_\_ Ash \_\_\_\_\_ Breccia \_\_\_\_\_ Red Bed \_\_\_\_\_

Number of Units in Box 1 Clk/Rubble \_\_\_\_\_ Carbonate \_\_\_\_\_ Pillow/Hyaloclast \_\_\_\_\_

Fill in blanks below by using the appropriate unit number.

PRIMARY FEATURES						SECONDARY FEATURES		COMMENTS	
Phyric	1	2	3	4	5	6	Phenocryst replacements		
mega (>.5 mm)	✓						Olv -> Clay _____		
micro (<.5 mm)	✓						Iddingsite _____		
Aphyric							Plag -> Clay _____		
							Zeolite _____		
Vesicles: %	5						Groundmass		
Shape	SR						Chlorite _____		
Size(x)/mm							Smectite _____		
PHENOCRYSTS (Original mineralogy)							Fracture	2230 2231 aa #1 2239	
Olivine >5%							Secondary/Alteration Min.		
1-5%	1						Smectite _____		
<1%							Calcite _____		
Phenos mph	✓						Zeolite _____		
ol-plag							white fibrous _____		
Comments	<u>alt iridescent</u>						green _____		
Plagioclase >5%							blue _____		
1-5%							Analcime _____		
<1%	✓						Chabazite _____		
Rhombs							MgOH _____		
Blades/laths mph	✓						Silica _____		
Comments							Amorphous _____		
Augite %							Chalcedony _____		
GROUNDMASS (original)							Crystals _____	aa #1 2239	
Aphanitic	✓						Pyrite _____		
Feldspathic							Epidote _____		
Diktytaxitic	✓						Gypsum _____		
							Anhydrite _____		
							Chalcopyrite _____		
							Limonite _____		
							Hematite _____		
							Other (describe) _____		

CRITICAL FEATURES (description of units or features by number)

1) aa, vesicular 5%, 1mm; olivine mph 1%, alt. iridescent blue-green; in a gray slightly dikty matrix. Plag blades & laths E. <1%

CORE LOG

BOX # 223

HOLE # 1

Sheet A

Depth range 682.89 to 685.94 meters

Depth range 2239 to 2249 feet

Logger's Name EN

Page 1

Type of Sample: Flow 1 Intrusive \_\_\_\_\_ Ash \_\_\_\_\_ Breccia \_\_\_\_\_ Red Bed \_\_\_\_\_

Number of Units in Box 1 Clk/Rubble \_\_\_\_\_ Carbonate \_\_\_\_\_ Pillow/Hyaloclast \_\_\_\_\_

Fill in blanks below by using the appropriate unit number.

PRIMARY FEATURES						SECONDARY FEATURES		COMMENTS
Phyric	1	2	3	4	5	6	Phenocryst replacements	
mega (>.5 mm)	✓						Olv -> Clay _____	
micro (<.5 mm)	✓						Iddingsite _____	
Aphyric							Plag -> Clay _____	
Vesicles: %	3						Zeolite _____	
Shape	SR						Groundmass	
Size(x) 5mm							Chlorite _____	
							Smectite _____	
							Fracture	
							Vesicle	
PHENOCRYSTS (Original mineralogy)						Secondary/Alteration Min.		2239 2241 aa #1 gypsum X-TALS 2249
Olivine >5%							Smectite	
1-5%							Calcite	
<1%	✓						Zeolite	
Phenos							white fibrous	
mph	✓						green	
ol-plag							blue	
Comments							Analcime	
							Chabazite	
							MgOH	
							Silica	
							Amorphous	
							Chalcedony	
							Crystals	
							Pyrite	
							Epidote	
							Gypsum ✓	
							Anhydrite	
							Chalcopyrite	
							Limonite	
							Hematite	
							Other (describe)	

CRITICAL FEATURES (description of units or features by number)

1) aa, vesicular 3%, 5mm; olivine mph <1%; plag blades & laths <1% in a gray, slightly dkty mtr.

CORE LOG

BOX # 224

HOLE # 1

Sheet A

Depth range 685.94 to 686.69 meters

Depth range 2249 to 2258 feet

Logger's Name E.H.

Page 1

Type of Sample: Flow 1 Intrusive \_\_\_\_\_ Ash \_\_\_\_\_ Breccia \_\_\_\_\_ Red Bed \_\_\_\_\_

Number of Units in Box 1 Clk/Rubble \_\_\_\_\_ Carbonate \_\_\_\_\_ Pillow/Hyaloclast \_\_\_\_\_

Fill in blanks below by using the appropriate unit number.

PRIMARY FEATURES							SECONDARY FEATURES		COMMENTS	
Phyric	1	2	3	4	5	6	Phenocryst replacements			
mega (>.5 mm)	✓						Olv -> Clay _____			
micro(<.5 mm)	✓						Iddingsite _____			
Aphyric							Plag -> Clay _____			
							Zeolite _____			
Vesicles: %	<u>3</u>						Groundmass			
Shape	<u>SR</u>						Chlorite _____			
Size(x)	<u>3mm</u>						Smectite _____			
PHENOCRYSTS (Original mineralogy)							Fracture	Vesicle		
Olivine >5%							Secondary/Alteration Min.			
1-5%							Smectite _____			
<1%	✓						Calcite _____			
Phenos							Zeolite _____			
mph	✓						white fibrous _____			
ol-plag							green _____			
Comments	_____							blue _____		
Plagioclase								Analcime _____		
>5%							Chabazite _____			
1-5%							MgOH _____			
<1%	✓						Silica _____			
Rhombs							Amorphous _____			
Blades/laths	✓						Chalcedony _____			
mph							Crystals _____			
Comments	_____							Pyrite _____		
Augite %								Epidote _____		
							Gypsum _____			
GROUNDMASS (original)								Anhydrite _____		
Aphanitic							Chalcoppyrite _____			
Feldspathic							Limonite _____			
Diktytaxitic	✓						Hematite _____			
							Other (describe) _____			

CRITICAL FEATURES (description of units or features by number)

1) aa, vesicular, 3%, 3mm; olivine mph < 1%, plag. blades & laths < 1%, in a gray dikty mtr.

CORE LOG

BOX # 225

HOLE # 1

Sheet A

Depth range 688.19 to 691.43 meters

Depth range 2258 to 2267 feet

Logger's Name EN

Page 1

Type of Sample: Flow 1,2 Intrusive \_\_\_\_\_ Ash \_\_\_\_\_ Breccia \_\_\_\_\_ Red Bed \_\_\_\_\_

Number of Units in Box 2 Clk/Rubble \_\_\_\_\_ Carbonate \_\_\_\_\_ Pillow/Hyaloclast \_\_\_\_\_

Fill in blanks below by using the appropriate unit number.

PRIMARY FEATURES							SECONDARY FEATURES		COMMENTS	
Phyric	1	2	3	4	5	6	Phenocryst replacements			
mega (>.5 mm)	✓	✓					Olv -> Clay _____			
micro(<.5 mm)	✓	✓					Iddingsite _____			
Aphyric							Plag -> Clay _____			
Vesicles: %	3	30					Zeolite _____			
Shape	SR	R					Groundmass			
Size(x)	3mm/1mm						Chlorite _____			
							Smectite _____			
PHENOCRYSTS (Original mineralogy)							Fracture	Vesicle		
Olivine >5%							Secondary/Alteration Min.			
1-5%		5					Smectite _____			
<1%	✓						Calcite _____			
Phenos		✓					Zeolite _____			
mph	✓	✓					white fibrous _____			
ol-plag							green _____			
Comments	#2 unalt							blue _____		
Plagioclase								Analcime _____		
>5%							Chabazite _____			
1-5%							MgOH _____			
<1%	✓						Silica _____			
Rhombs							Amorphous _____			
Blades/laths	✓						Chalcedony _____			
mph							Crystals _____			
Comments								Pyrite _____		
Augite %								Epidote _____		
							Gypsum _____			
GROUNDMASS (original)								Anhydrite _____		
Aphanitic		✓					Chalcopyrite _____			
Feldspathic							Limonite _____			
Diktytaxitic	✓						Hematite _____			
							Other (describe) _____			

CRITICAL FEATURES (description of units or features by number)

1) aa, vesicular 3%, 3mm; olivine mph <1%, plag blades & laths Σ <1%, in a gray dkky mtr.

2) aa, vesicular, 30%, 1mm; olivine phenos & mph, unalt, Σ 5% in a therm alt. brick red aphan mtr.

CORE LOG

BOX # 226

HOLE # 1

Sheet A

Depth range 61.43 to 64.33 meters

Depth range 2267 to 2276.5 feet

Logger's Name EN

Page 1

Type of Sample: Flow 1 Intrusive \_\_\_\_\_ Ash \_\_\_\_\_ Breccia \_\_\_\_\_ Red Bed \_\_\_\_\_

Number of Units in Box 1 Clk/Rubble \_\_\_\_\_ Carbonate \_\_\_\_\_ Pillow/Hyaloclast \_\_\_\_\_

Fill in blanks below by using the appropriate unit number.

PRIMARY FEATURES						SECONDARY FEATURES		COMMENTS	
Phyric	1	2	3	4	5	6	Phenocryst replacements		<i>microscopic augite laths in qtz. mass</i>
mega (>.5 mm)	<input checked="" type="checkbox"/>						Olv -> Clay _____		
micro (<.5 mm)	<input checked="" type="checkbox"/>						Iddingsite _____		
Aphyric							Plag -> Clay _____		
Vesicles: %	<u>15</u>						Zeolite _____		
Shape	<u>SR</u>						Groundmass		
Size(x)	<u>3mm</u>						Chlorite _____		
							Smectite _____		
PHENOCRYSTS (Original mineralogy)							Fracture		
Olivine	>5%	<u>10</u>					Secondary/Alteration Min.		
	1-5%						Smectite _____		
	<1%						Calcite _____		
Phenos	<input checked="" type="checkbox"/>						Zeolite _____		
mph	<input checked="" type="checkbox"/>						white fibrous _____		
ol-plag	<input checked="" type="checkbox"/>						green _____		
Comments	<u>unalt.</u>						blue _____		
Plagioclase							Analcime _____		
	>5%						Chabazite _____		
	1-5%						MgOH _____		
	<1%						Silica _____		
Rhombs							Amorphous _____		
Blades/laths							Chalcedony _____		
mph							Crystals _____		
Comments							Pyrite _____		
Augite	%	<u>3</u>					Epidote _____		
GROUNDMASS (original)							Gypsum _____		
Aphanitic							Anhydrite _____		
Feldspathic							Chalcopyrite <input checked="" type="checkbox"/>		
Diktytaxitic	<input checked="" type="checkbox"/>						Limonite _____		
							Hematite _____		
							Other (describe) _____		

CRITICAL FEATURES (description of units or features by number)

1) aa, vesicular 15%, 3mm; olivine phenos, mph, ol-plag inters. 8-10%, unalt.; microscopic augite laths 3%; in a lt. gray dikty. mtr. These are altered plag laths.



PRIMARY FEATURES							SECONDARY FEATURES		COMMENTS	
Phyric	1	2	3	4	5	6	Phenocryst replacements			
mega (>.5 mm)	✓	✓	✓				Olv → Clay _____			
micro (<.5 mm)	✓	✓	✓				Iddingsite _____			
Aphyric							Plag → Clay _____			
Vesicles: %	20	20	20				Zeolite _____			
Shape	SR	SR	SR				Groundmass			
Size(x)/mm	1mm	1mm	1mm				Chlorite _____			
							Smectite _____			
PHENOCRYSTS (Original mineralogy)							Fracture	Vesicle		
Olivine >5%							Secondary/Alteration Min.			
1-5%	10	5	3				Smectite _____	2278.5		
<1%							Calcite _____	aa#1		
Phenos	✓	✓	✓				Zeolite _____			
mph	✓	✓	✓				white fibrous _____			
ol-plag							green _____			
Comments	alt iridescent, 2, 3								blue _____	
Plagioclase							Analcime _____		2283.5	
>5%							Chabazite _____			
1-5%							MgOH _____			
<1%		✓	✓				Silica _____			
Rhombs							Amorphous _____			
Blades/laths		✓	✓				Chalcedony _____			
mph							Crystals _____			
Comments								Pyrite _____		
Augite							Epidote _____	phh#2		
%							Gypsum _____			
							Anhydrite _____			
GROUNDMASS (original)								Chalcopyrite _____	phh#3	
Aphanitic	✓	✓					Limonite _____			
Feldspathic							Hematite _____			
Diktytaxitic	✓						Other (describe) _____	2287		

CRITICAL FEATURES (description of units or features by number)

- 1) aa, vesicular 20%, 1mm; olivine phenos & mph  $\leq$  10% unalt.; in a gray dikty mtr.
- 2) phh, vesicular 20%, 1mm; olivine phenos & mph  $\leq$  5% alt. iridescent, plag blades & laths  $\leq$  1% in a gray aphan mtr.
- 3) phh, vesicular 20%, 1mm; olivine phenos & mph  $\leq$  3% alt. iridescent, plag blades & laths  $\leq$  1% in a gray aphan mtr.

CORE LOG  
 BOX # 228 HOLE # 504 #1 Sheet A  
 Depth range 697.5 to 900.4 meters Depth range 2284 to 2296.5 feet  
 Logger's Name RE Page 1  
 Type of Sample: Flow 1 Intrusive      Ash      Breccia      Red Bed       
 Number of Units in Box 1 Clk/Rubble      Carbonate      Pillow/Hyaloclast       
 Fill in blanks below by using the appropriate unit number.

PRIMARY FEATURES						SECONDARY FEATURES		COMMENTS
Phyric	1	2	3	4	5	6		
mega (>.5 mm)	✓						Phenocryst replacements	
micro (<.5 mm)	✓						Olv -> Clay <u>    </u>	
Aphyric							Iddingsite <u>    </u>	
Vesicles: % <u>1-30</u>							Plag -> Clay <u>    </u>	
Shape <u>S-SA</u>							Zeolite <u>    </u>	
Size(x) <u>low</u>							Groundmass	
							Chlorite <u>    </u>	
							Smectite <u>    </u>	
							Fracture	
							Vesicle	
PHENOCRYSTS (Original mineralogy)						Secondary/Alteration Min.		
Olivine >5%							Smectite <u>    </u>	
1-5% <u>1-3</u>							Calcite <u>    </u>	
<1%							Zeolite <u>    </u>	
Phenos ✓							white fibrous <u>    </u>	
mph ✓							green <u>    </u>	
ol-plag <1%							blue <u>    </u>	
Comments <u>&lt;1% ol. plag. intergr.</u>							Analcime <u>    </u>	
							Chabazite <u>    </u>	
Plagioclase							MgOH <u>    </u>	
>5%							Silica <u>    </u>	
1-5% <u>1-3</u>							Amorphous <u>    </u>	
<1%							Chalcedony <u>    </u>	
Rhombs ✓							Crystals <u>    </u>	
Blades/laths ✓							Pyrite <u>    </u>	
mph ✓							Epidote <u>    </u>	
Comments <u>    </u>							Gypsum <u>    </u>	
							Anhydrite <u>    </u>	
Augite % <u>1-2</u>							Chalcopyrite <u>    </u>	
							Limonite <u>    </u>	
GROUNDMASS (original)							Hematite <u>    </u>	
Aphanitic							Other (describe) <u>    </u>	
Feldspathic								
Diktytaxitic ✓								

CRITICAL FEATURES (description of units or features by number)

*1) transitional flow w/ 1-3% olivine phenos + mph, 1-2% augite mic. laths, <1% olivine-plag. intergrowths, and 1-3% plag. rhombs, laths + mph in a diktytaxitic dark - light grey matrix.*

CORE LOG

BOX # 229

HOLE # 1

Sheet A

Depth range 700.42 to 703.33 meters

Depth range 2296.5 to 2306 feet

Logger's Name EN

Page 1

Type of Sample: Flow 1-3 Intrusive \_\_\_\_\_ Ash \_\_\_\_\_ Breccia \_\_\_\_\_ Red Bed \_\_\_\_\_

Number of Units in Box 3 Clk/Rubble \_\_\_\_\_ Carbonate \_\_\_\_\_ Pillow/Hyaloclast \_\_\_\_\_

Fill in blanks below by using the appropriate unit number.

PRIMARY FEATURES						SECONDARY FEATURES		COMMENTS	
Phyric	1	2	3	4	5	6	Phenocryst replacements		#1 microscopic augite laths <1% is altered plag.
mega (>.5 mm)	✓		✓				Olv → Clay _____		
micro (<.5 mm)	✓	✓	✓				Iddingsite _____		
Aphyric							Plag → Clay _____		
							Zeolite _____		
Vesicles: %	20	20	20				Groundmass		
Shape	SK	SK	SK				Chlorite _____		
Size(x)							Smectite _____		
PHENOCRYSTS (Original mineralogy)							Fracture		
Olivine >5%							Secondary/Alteration Min.		
Olivine 1-5%							Smectite _____		
Olivine <1%	✓		✓				Calcite _____		
Phenos mph	✓		✓				Zeolite _____		
Phenos ol-plag							white fibrous _____		
Phenos ol-plag							green _____		
Phenos ol-plag							blue _____		
Phenos ol-plag							Analcime _____		
Phenos ol-plag							Chabazite _____		
Phenos ol-plag							MgOH _____		
Phenos ol-plag							Silica _____		
Phenos ol-plag							Amorphous _____		
Phenos ol-plag							Chalcedony _____		
Phenos ol-plag							Crystals _____		
Phenos ol-plag							Pyrrite _____		
Phenos ol-plag							Epidote _____		
Phenos ol-plag							Gypsum _____		
Phenos ol-plag							Anhydrite _____		
Phenos ol-plag							Chalcopryrite _____		
Phenos ol-plag							Limonite #2		
Phenos ol-plag							Hematite _____		
Phenos ol-plag							Other (describe)		
Phenos ol-plag							blue mineral		

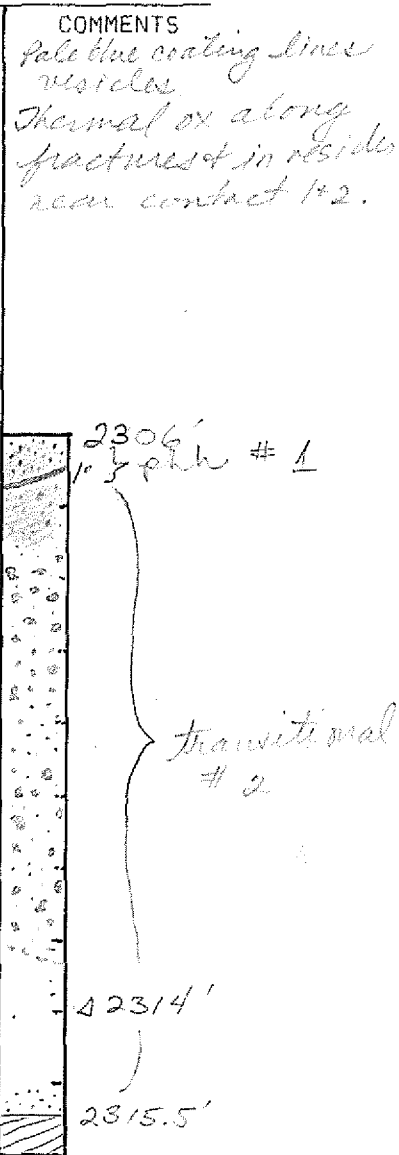
CRITICAL FEATURES (description of units or features by number)

- trans, mesicular 20%, 3mm; olivine mph <1%, unalt; plag blades, laths, mph  $\Sigma$  3% in a lt gray dikty mtr.
- ph, mesicular 20%, 3mm; pronouncedly feldspathic texture therm alt to lt. brick red.
- ph, mesicular 20%, 3mm; olivine mph <1%, unalt; plag blades, laths, mph 15% (!) in a feldspathic "felted" lt gray mtr.

CORE LOG  
 BOX # 230 HOLE # 50H#1 Sheet A  
 Depth range 703.3 to 706.2 meters Depth range 2306 to 2315.5 feet  
 Logger's Name RE Page 1  
 Type of Sample: Flow 1,2 Intrusive \_\_\_\_\_ Ash \_\_\_\_\_ Breccia \_\_\_\_\_ Red Bed \_\_\_\_\_  
 Number of Units in Box 2 Clk/Rubble \_\_\_\_\_ Carbonate \_\_\_\_\_ Pillow/Hyaloclast \_\_\_\_\_  
 Fill in blanks below by using the appropriate unit number.

PRIMARY FEATURES						
	1	2	3	4	5	6
Phyric						
mega (>.5 mm)						
micro (<.5 mm)	✓	✓				
Aphyric						
Vesicles: %	20% (1-3)					
Shape	P-SA S-SP					
Size(x)	< 1mm < 1mm					
PHENOCRYSTS (Original mineralogy)						
Olivine >5%						
1-5%						
<1%	✓	✓				
Phenos						
mph	✓	✓				
ol-plag						
Comments						
Plagioclase						
>5%						
1-5%	3					
<1%		✓				
Rhombs						
Blades/laths	✓	✓				
mph	✓	✓				
Comments						
Augite %						
GROUNDMASS (original)						
Aphanitic						
Feldspathic	✓	✓				
Diktytaxitic		✓				

SECONDARY FEATURES	
Phenocryst replacements	
Olv -> Clay	
Iddingsite	
Plag -> Clay	
Zeolite	
Groundmass	
Chlorite	
Smectite	
Fracture	
Vesicle	
Secondary/Alteration Min.	
Smectite	
Calcite	
Zeolite	
white fibrous	
green	
blue	
Analcime	
Chabazite	
MgOH	
Silica	
Amorphous	✓?
Chalcedony	
Crystals	
Pyrite	
Epidote	
Gypsum	
Anhydrite	
Chalcopyrite	
Limonite	
Hematite	
Other (describe)	



CRITICAL FEATURES (description of units or features by number)

- 1) pahoehoe, microphyric w/ <1% olivine mph and 3% plag. laths & mph in a feldspathic matrix.
- 2) transitional flow<sub>2</sub> microphyric w/ <1% olivine mph and <1% plag laths & mph in a microcrystalline med-ht. grey feldspathic - diktytaxitic matrix.

CORE LOG

BOX # 231

HOLE # 1

Sheet A

Depth range 706.23 to 706.82 meters

Depth range 2318.5 to 2324 feet

Logger's Name EN

Page 1

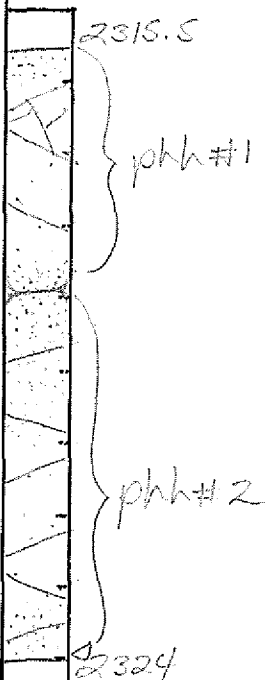
Type of Sample: Flow 1, 2 Intrusive \_\_\_\_\_ Ash \_\_\_\_\_ Breccia \_\_\_\_\_ Red Bed \_\_\_\_\_

Number of Units in Box 2 Clk/Rubble \_\_\_\_\_ Carbonate \_\_\_\_\_ Pillow/Hyaloclast \_\_\_\_\_

Fill in blanks below by using the appropriate unit number.

PRIMARY FEATURES						SECONDARY FEATURES		COMMENTS
Phyric	1	2	3	4	5	6		
mega (>.5 mm)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>						possible branch mold at 1A2
micro (<.5 mm)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>						4.5cm long pipe vesicles #1 at 1A
Aphyric								
Vesicles: %	<u>10</u>	<u>20</u>						
Shape	<u>R</u>	<u>R</u>						
Size(x) /mm	<u>2</u>	<u>mm</u>						
PHENOCRYSTS (Original mineralogy)								
Olivine >5%								
1-5%								
<1%	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>						
Phenos mph	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>						
ol-plag								
Comments								
Plagioclase								
>5%								
1-5%		<u>3</u>						
<1%								
Rhombs mph	<input checked="" type="checkbox"/>							
Blades/laths mph	<input checked="" type="checkbox"/>							
Comments								
Augite %								
GROUNDMASS (original)								
Aphanitic		<input checked="" type="checkbox"/>						
Feldspathic								
Diktytaxitic	<input checked="" type="checkbox"/>							
Secondary/Alteration Min.								
Smectite								
Calcite								
Zeolite								
white fibrous								
green								
blue								
Analcime								
Chabazite								
MgOH								
Silica								
Amorphous								
Chalcedony								
Crystals								
Pyrite								
Epidote								
Gypsum								
Anhydrite								
Chalcopyrite								
Limonite								
Hematite								
Other (describe)								

possible branch mold at 1A2  
4.5cm long pipe vesicles #1 at 1A



CRITICAL FEATURES (description of units or features by number)

- 1) pht, vesicular 10%, 1mm; olivine mph <1%, unalt.; in a gray dikty mtr.
- 2) pht, vesicular 20%, 2mm; olivine mph <1%, unalt.; plag rhombs, blades & laths  $\leq$  3% in a lt. gray aphan mtr. First 90cm of unit are therm alt. to lt. brick red.

CORE LOG  
 BOX # 232 HOLE # 501#1 Sheet A  
 Depth range 408.8 to 711.6 meters Depth range 2324 to 2333 feet  
 Logger's Name R9 Page 1  
 Type of Sample: Flow 1/2 Intrusive \_\_\_\_\_ Ash \_\_\_\_\_ Breccia \_\_\_\_\_ Red Bed \_\_\_\_\_  
 Number of Units in Box 2 Clk/Rubble \_\_\_\_\_ Carbonate \_\_\_\_\_ Pillow/Hyaloclast \_\_\_\_\_  
 Fill in blanks below by using the appropriate unit number.

PRIMARY FEATURES						SECONDARY FEATURES		COMMENTS	
Phyric	1	2	3	4	5	6	Phenocryst replacements		<i>Thermal oxidation at top of phk #2</i>
mega (>.5 mm)	/	/					Olv -> Clay _____		
micro (<.5 mm)	/	/					Iddingsite _____		
Aphyric							Plag -> Clay _____		
							Zeolite _____		
Vesicles: %	20	20					Groundmass		
Shape	S-S	S-S					Chlorite _____		
Size(x)	1mm	1mm					Smectite _____		
PHENOCRYSTS (Original mineralogy)							Fracture Vesicle	2324' } phk #1  } phk #2  2331'  2333'	
Olivine	>5%								
	1-5%	/					Smectite _____		
	<1%	/	/				Calcite _____		
Phenos	mph	/	/				Zeolite _____		
	ol-plag						white fibrous _____		
							green _____		
							blue _____		
							Analcime _____		
							Chabazite _____		
Comments _____									
Plagioclase									
	>5%						MgOH _____		
	1-5%						Silica _____		
	<1%	/	/				Amorphous _____		
	Rhombs						Chalcedony _____		
	Blades/laths						Crystals _____		
	mph	/	/				Pyrite _____		
							Epidote _____		
							Gypsum _____		
Comments _____									
Augite									
	%						Anhydrite _____		
GROUNDMASS (original)									
	Aphanitic						Chalcopyrite _____		
	Feldspathic	/	/				Limonite _____		
	Diktytaxitic	/	/				Hematite _____		
							Other (describe) _____		

CRITICAL FEATURES (description of units or features by number)

1) *porphyroclast, megaphyric w/ 10% olivine phenos and <1% plag mph in a med. grey feldspathic matrix.*

2) *porphyroclast, microphyric w/ <1% olivine mph and <1% plag. mph in a med. grey diktytaxitic matrix.*

CORE LOG

BOX # 233

HOLE # 50H#1

Sheet A

Depth range 711.6 to 714.6 meters

Depth range 2333 to 2343 feet

Logger's Name RE

Page 1

Type of Sample: Flow 1,2 Intrusive Ash Breccia Red Bed

Number of Units in Box 2 Clk/Rubble Carbonate Pillow/Hyaloclast

Fill in blanks below by using the appropriate unit number.

PRIMARY FEATURES					
Phyric	1	2	3	4	5
mega (>.5 mm)	✓	✓			
micro (<.5 mm)	✓				
Aphyric					
Vesicles: %	20	10%			
Shape	S-SAS-SR				
Size(x)	<1mm	<1mm			

PHENOCRYSTS (Original mineralogy)					
Olivine >5%					
1-5%					
<1%	✓	✓			
Phenos mph	✓	✓			
ol-plag					
Comments					

Plagioclase					
>5%					
1-5%					
<1%	✓				
Rhombs					
Blades/laths mph	✓				
Comments					

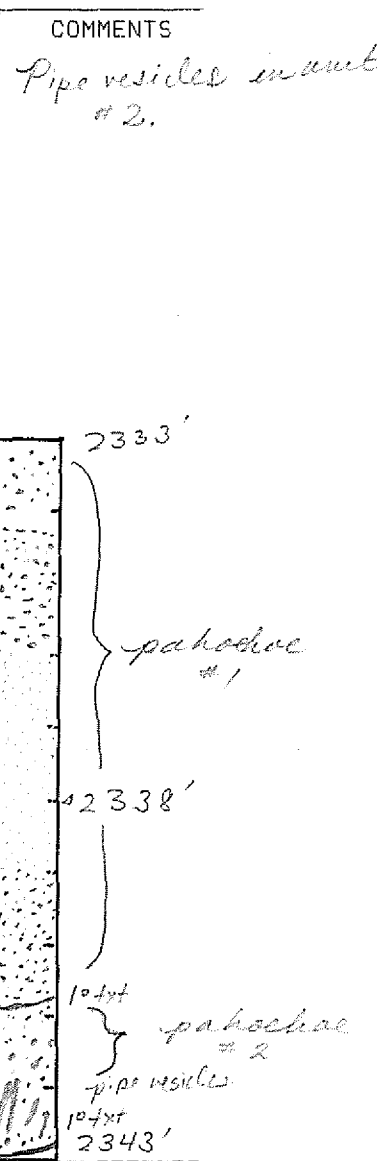
Augite %					

GROUNDMASS (original)					
Aphanitic					
Feldspathic	✓	✓			
Diktytaxitic					

SECONDARY FEATURES	
Phenocryst replacements	
Olv -> Clay	
Iddingsite	
Plag -> Clay	
Zeolite	
Groundmass	
Chlorite	
Smectite	

Secondary/Alteration Min.	Fracture	Vesicle
Smectite		
Calcite		
Zeolite		
white fibrous		
green		
blue		
Analcime		
Chabazite		
MgOH		
Silica		
Amorphous		
Chalcedony		
Crystals		
Pyrite		
Epidote		
Gypsum		
Anhydrite		
Chalcopyrite		
Limonite		
Hematite		
Other (describe)		



CRITICAL FEATURES (description of units or features by number)

- 1) pahochae, w/ <1% olivine phenos + mph and <1% plag. mph in a light grey feldspathic matrix. 20% vesicles overall.
- 2) pahochae, w/ <1% olivine phenos + mph in a red thermally oxidized feldspathic matrix. 10% vesicles including 52mm long pipe vesicles.

CORE LOG  
 BOX # 234 HOLE # 1 Sheet A  
 Depth range 714.67 to 717.06 meters Depth range 2343 to 2351 feet  
 Logger's Name FT Page 1  
 Type of Sample: Flow 1-3 Intrusive \_\_\_\_\_ Ash \_\_\_\_\_ Breccia \_\_\_\_\_ Red Bed \_\_\_\_\_  
 Number of Units in Box 3 Clk/Rubble \_\_\_\_\_ Carbonate \_\_\_\_\_ Pillow/Hyaloclast \_\_\_\_\_  
 Fill in blanks below by using the appropriate unit number.

PRIMARY FEATURES						SECONDARY FEATURES		COMMENTS	
Phyric	1	2	3	4	5	6	Phenocryst replacements		8' here
mega (>.5 mm)	✓	✓	✓				Olv → Clay _____		
micro (<.5 mm)	✓	✓	✓				Iddingsite _____		
Aphyric							Plag → Clay _____		
Vesicles: %	5	3	10				Zeolite _____		
Shape	SR	SR	SR				Groundmass		
Size(x)	1	2	2				Chlorite _____		
							Smectite _____		
PHENOCRYSTS (Original mineralogy)							Fracture		
Olivine	>5%	7	7				Vesicle		
	1-5%		2						
	<1%								
Phenos	mph	✓	✓	✓					
ol-plag									
Comments _____									
Plagioclase									
	>5%								
	1-5%								
	<1%	✓							
Rhombs									
Blades/laths	mph	✓							
Comments _____									
Augite %									
GROUNDMASS (original)									
Aphanitic									
Feldspathic	✓	✓	✓						
Diktytaxitic									
Secondary/Alteration Min.									
Smectite _____									
Calcite _____									
Zeolite _____									
white fibrous _____									
green _____									
blue _____						✓	✓		
Analcime _____									
Chabazite _____									
MgOH _____									
Silica _____									
Amorphous _____									
Chalcedony _____									
Crystals _____									
Pyrite _____									
Epidote _____									
Gypsum _____									
Anhydrite _____									
Chalcopyrite _____									
Limonite _____									
Hematite _____									
Other (describe) _____									

CRITICAL FEATURES (description of units or features by number)

- 1) phh unit w/ 7% Olivine mph and phenocrysts in a feldspathic, lt gray ground mass.
- 2) phh unit, w/ pipe vesicles and 7% Olivine microphenocrysts, phenocrysts and <1% Plagioclase micro laths in a lt gray feldspathic matrix
- 3) phh unit w/ 2% Olivine phenocrysts, mph in a lt bluish gray feldspathic matrix.

2° units: R. L. Stan.



CORE LOG  
 BOX # 235 HOLE # SOH#1 Sheet A  
 Depth range 717.1 to 719.8 meters Depth range 2351 to 2360 feet  
 Logger's Name RE Page 1  
 Type of Sample: Flow 1 Intrusive \_\_\_\_\_ Ash \_\_\_\_\_ Breccia \_\_\_\_\_ Red Bed \_\_\_\_\_  
 Number of Units in Box 1 Clk/Rubble \_\_\_\_\_ Carbonate \_\_\_\_\_ Pillow/Hyaloclast \_\_\_\_\_  
 Fill in blanks below by using the appropriate unit number.

PRIMARY FEATURES						SECONDARY FEATURES		COMMENTS
Phyric	1	2	3	4	5	6	Phenocryst replacements	
mega (>.5 mm)	✓						Olv -> Clay _____	
micro (<.5 mm)	✓						Iddingsite _____	
Aphyric							Plag -> Clay _____	
Vesicles: %	12						Zeolite _____	
Shape	S-SA						Groundmass	
Size(x)	<1mm						Chlorite _____	
							Smectite _____	
							Fracture	
							Vesicle	
PHENOCRYSTS (Original mineralogy)						Secondary/Alteration Min.		
Olivine	>5%	3-7					Smectite _____	
	1-5%						Calcite _____	
	<1%						Zeolite _____	
Phenos	✓						white fibrous _____	
mph	✓						green _____	
ol-plag							blue _____	
Comments							Analcime _____	
Plagioclase							Chabazite _____	
	>5%						MgOH _____	
	1-5%						Silica _____	
	<1%						Amorphous _____	
Rhombs							Chalcedony _____	
Blades/laths							Crystals _____	
mph							Pyrite _____	
Comments							Epidote _____	
Augite							Gypsum _____	
	%						Anhydrite _____	
GROUNDMASS (original)							Chalcopyrite _____	
Aphanitic							Limonite _____	
Feldspathic							Hematite _____	
Diktytaxitic	✓						Other (describe) _____	

CRITICAL FEATURES (description of units or features by number)

1) pahoehoe, flow w/ 3-7% olivine phenos + mph in a light grey diktytaxitic matrix

CORE LOG

BOX # 236

HOLE # 1

Sheet A

Depth range 719.80 to 724.07 meters

Depth range 2360 to 2374 feet

Logger's Name EN

Page 1

Type of Sample: Flow 1 Intrusive \_\_\_\_\_ Ash 2 Breccia \_\_\_\_\_ Red Bed \_\_\_\_\_

Number of Units in Box 2 Clk/Rubble \_\_\_\_\_ Carbonate \_\_\_\_\_ Pillow/Hyaloclast \_\_\_\_\_

Fill in blanks below by using the appropriate unit number.

PRIMARY FEATURES						SECONDARY FEATURES		COMMENTS	
Phyric	1	2	3	4	5	6		4' lost core	
mega (>.5 mm)	✓	-							
micro (<.5 mm)	✓								
Aphyric									
Vesicles: %	20	-							
Shape	R								
Size(x)/mm									
PHENOCRYSTS (Original mineralogy)									
Olivine >5%		-							
1-5%	5								
<1%									
Phenos mph	✓								
ol-plag									
Comments _____									
Plagioclase									
>5%		-							
1-5%									
<1%	✓								
Rhombs									
Blades/laths mph	✓								
Comments _____									
Augite %									
GROUNDMASS (original)									
Aphanitic		-							
Feldspathic									
Diktytaxitic	✓								
							Fracture		
							Vesicle		
							Secondary/Alteration Min.		
							Smeectite		
							Calcite		
							Zeolite		
							white fibrous		
							green		
							blue		
							Analcime		
							Chabazite		
							MgOH		
							Silica		
							Amorphous		
							Chalcedony		
							Crystals		
							Pyrite		
							Epidote		
							Gypsum		
							Anhydrite		
							Chalcopyrite		
							Limonite		
							Hematite		
							Other (describe)		
							blue breccia		

CRITICAL FEATURES (description of units or features by number)

2374

- 1) trans, mesoculaw 20%, 1mm; olivine mph 5%, unalt; plag blades & laths E < 1%, in a lt. gray dikty mtr.
- 2) ash and clinker, black and amber volcanic glass ash inter mixed with mesoculaw clinker and sand sized red lithics.

CORE LOG

BOX # 237

HOLE # 50H#1

Sheet A

Depth range 724.1 to 727.1 meters

Depth range 2344 to 2384 feet

Logger's Name RE

Page 1

Type of Sample: Flow 1 Intrusive      Ash      Breccia      Red Bed     

Number of Units in Box 1 Clk/Rubble 1 Carbonate      Pillow/Hyaloclast     

Fill in blanks below by using the appropriate unit number.

PRIMARY FEATURES						SECONDARY FEATURES		COMMENTS	
Phyric	1	2	3	4	5	6			
mega (>.5 mm)	/							Pipe vesicles.	
micro (<.5 mm)	/								
Aphyric									
Vesicles: %	<u>7-10</u>								
Shape	<u>R-A</u>								
Size(x)	<u>&lt;1mm</u>								
PHENOCRYSTS (Original mineralogy)									
Olivine >5%								2374' } transitional #1 2378.5' } pipe vesicles 2384'	
Olivine 1-5%	/								
Olivine <1%	/								
Phenos mph	/								
ol-plag									
Comments									
Plagioclase									
Plagioclase >5%									
Plagioclase 1-5%									
Plagioclase <1%									
Rhombs									
Blades/laths									
Blades/laths mph									
Comments									
Augite %									
GROUNDMASS (original)									
Aphanitic	/								
Feldspathic	/								
Diktytaxitic									
SECONDARY FEATURES									
Phenocryst replacements									
Olv -> Clay									
Iddingsite									
Plag -> Clay									
Zeolite									
Groundmass									
Chlorite									
Smectite									
Fracture									
Vesicle									
Secondary/Alteration Min.									
Smectite									
Calcite									
Zeolite									
white fibrous									
green									
blue									
Analcime									
Chabazite									
MgOH									
Silica									
Amorphous									
Chalcedony									
Crystals									
Pyrite									
Epidote									
Gypsum									
Anhydrite									
Chalcopyrite									
Limonite									
Hematite									
Other (describe)									

CRITICAL FEATURES (description of units or features by number)

1) transitional, flow w/ <1% olivine phenos + mph in a light grey aphanitic to feldspathic matrix. Rubble at the top. Pipe vesicles, vesicle segregation.

CORE LOG

BOX # 2391

HOLE # 1

Sheet A

Depth range 727.12 to 729.86 meters

Depth range 2384 to 2393 feet

Logger's Name EN

Page 1

Type of Sample: Flow 1 Intrusive      Ash      Breccia      Red Bed     

Number of Units in Box 1 Clk/Rubble      Carbonate      Pillow/Hyaloclast     

Fill in blanks below by using the appropriate unit number.

PRIMARY FEATURES							SECONDARY FEATURES		COMMENTS	
Phyric	1	2	3	4	5	6	Phenocryst replacements			
mega (>.5 mm)							Olv -> Clay			
micro (<.5 mm)	✓						Iddingsite			
Aphyric							Plag -> Clay			
Vesicles: %	10						Zeolite			
Shape	SA						Groundmass			
Size(x)	5mm						Chlorite			
							Smectite			
PHENOCRYSTS (Original mineralogy)							Fracture	Vesicle		
Olivine >5%							Secondary/Alteration Min.			
1-5%							Smectite			
<1%	✓						Calcite			
Phenos	✓						Zeolite			
mph	✓						white fibrous			
ol-plag							green			
Comments	analt									
Plagioclase										
>5%							blue			
1-5%							Analcime			
<1%							Chabazite			
Rhombs							MgOH			
Blades/laths							Silica			
mph							Amorphous			
Comments										
Augite %										
							Chalcedony			
GROUNDMASS (original)										
Aphanitic							Crystals			
Feldspathic	✓						Pyrite			
Diktytaxitic	✓						Epidote			
							Gypsum			
							Anhydrite			
							Chalcopyrite			
							Limonite			
							Hematite			
							Other (describe)			

CRITICAL FEATURES (description of units or features by number)

1) aa, mesicular 10%, 5mm; olivine mph <1%, unalt; in a lt. gray dikty. mtr.

CORE LOG

BOX # 239 HOLE # 1 Sheet A  
 Depth range 729.86 to 732.91 meters Depth range 2393 to 2403 feet  
 Logger's Name EN Page 1  
 Type of Sample: Flow 1, 2 Intrusive \_\_\_\_\_ Ash \_\_\_\_\_ Breccia \_\_\_\_\_ Red Bed \_\_\_\_\_  
 Number of Units in Box 2 Clk/Rubble \_\_\_\_\_ Carbonate \_\_\_\_\_ Pillow/Hyaloclast  
 Fill in blanks below by using the appropriate unit number.

PRIMARY FEATURES						SECONDARY FEATURES		COMMENTS
Phyric	1	2	3	4	5	6	Phenocryst replacements	
mega (>.5 mm)							Olv -> Clay _____	
micro (<.5 mm)	✓	✓					Iddingsite _____	
Aphyric							Plag -> Clay _____	
Vesicles: %	20	20					Zeolite _____	
Shape	SR	SR					Groundmass	
Size (x)	3mm	1mm					Chlorite _____	
							Smectite <u>#1</u> <u>15cm</u>	
							Fracture	
							Vesicle	
PHENOCRYSTS (Original mineralogy)						Secondary/Alteration Min.		
Olivine	>5%						Smectite _____	2393
	1-5%	5					Calcite _____	Alt to clay
	<1%	✓					Zeolite _____	TRANS #1
Phenos	mph	✓	✓				white fibrous _____	
	ol-plag						green _____	
Comments							blue _____	
							Analcime _____	
Plagioclase	>5%						Chabazite _____	
	1-5%						MgOH _____	
	<1%						Silica _____	
Rhombs							Amorphous _____	
Blades/laths							Chalcedony _____	
mph							Crystals _____	2399
Comments							Pyrite _____	
							Epidote _____	
Augite	%						Gypsum _____	
							Anhydrite _____	
							Chalcopyrite _____	
GROUNDMASS (original)							Limonite _____	
Aphanitic	✓	✓					Hematite _____	
Feldspathic							Other (describe) _____	
Diktytaxitic								

CRITICAL FEATURES (description of units or features by number) 2403

- 1) trans, micular 20%, 3mm; olivine mph <1%, unalt.; in a lt. gray aphan mtr
- 2) pht, micular 20%, 1mm; olivine mph 5%, unalt.; in a lt. gray aphan mtr.

CORE LOG  
 BOX # 240 HOLE # SOH#1 Sheet A  
 Depth range 732.9 to 735.7 meters Depth range 2403 to 2412 feet  
 Logger's Name RE Page 1  
 Type of Sample: Flow 1-3 Intrusive \_\_\_\_\_ Ash \_\_\_\_\_ Breccia \_\_\_\_\_ Red Bed \_\_\_\_\_  
 Number of Units in Box 3 Clk/Rubble \_\_\_\_\_ Carbonate \_\_\_\_\_ Pillow/Hyaloclast \_\_\_\_\_  
 Fill in blanks below by using the appropriate unit number.

PRIMARY FEATURES						SECONDARY FEATURES		COMMENTS
Phyric	1	2	3	4	5	6	Phenocryst replacements	
mega (>.5 mm)	✓	✓	✓				Olv -> Clay _____	
micro (<.5 mm)	✓	✓	✓				Iddingsite _____	
Aphyric							Plag -> Clay _____	
Vesicles: %	25	20	15				Zeolite _____	
Shape	S-SR	S-SR	S-SR				Groundmass	
Size(x)	<1mm	<1mm	<1mm				Chlorite _____	
PHENOCRYSTS (Original mineralogy)							Smeectite _____	
Olivine >5%							Fracture	
1-5%			1				Vesicle	
<1%	✓	✓					Secondary/Alteration Min.	
Phenos							Smeectite _____	
mph	✓	✓	✓				Calcite _____	
ol-plag							Zeolite _____	
Comments								white fibrous _____
Plagioclase							green _____	2403' phh #1 sandy phh #2 welded glass phh #3 2408' 2412'
>5%							blue _____	
1-5%							Analcime _____	
<1%	✓	✓	✓				Chabazite _____	
Rhombs							MgOH _____	
Blades/laths							Silica _____	
mph	✓	✓	✓				Amorphous _____	
Comments							Chalcedony _____	
Augite %							Crystals _____	
GROUNDMASS (original)							Pyrite _____	
Aphanitic							Epidote _____	
Feldspathic							Gypsum _____	
Diktytaxitic	✓	✓	✓				Anhydrite _____	
							Chalcopyrite _____	
							Limonite _____	
							Hematite _____	
							Other (describe) _____	

CRITICAL FEATURES (description of units or features by number)

- 1) pahoehoe, flow w/ <1% olivine mph and <1% plag. mph in a red thermally oxidized diktytaxitic matrix. "Sandy" <sup>lower</sup> boundary.
- 2) pahoehoe, flow w/ <1% olivine mph and <1% plag mph in a light grey diktytaxitic matrix. Welded glass at lower boundary.
- 3) pahoehoe, flow w/ 1% olivine mph and <1% plag. mph in a grey diktytaxitic matrix.

BOX # Bx 241 CORE LOG HOLE # 1 Sheet A  
 Depth range 735 to 738 meters Depth range 2412 to 2421 feet  
 Logger's Name FT Page 1  
 Type of Sample: Flow 1 Intrusive \_\_\_\_\_ Ash \_\_\_\_\_ Breccia \_\_\_\_\_ Red Bed \_\_\_\_\_  
 Number of Units in Box 2 Clk/Rubble \_\_\_\_\_ Carbonate \_\_\_\_\_ Pillow/Hyaloclast \_\_\_\_\_  
 Fill in blanks below by using the appropriate unit number.

PRIMARY FEATURES							SECONDARY FEATURES		COMMENTS	
Phyric	1	2	3	4	5	6	Phenocryst replacements			9' here
mega (>.5 mm)	✓	?					Olv -> Clay _____			
micro (<.5 mm)	✓	?					Iddingsite _____			
Aphyric							Plag -> Clay _____			
Vesicles: %	1	-					Zeolite _____			
Shape	SR	-					Groundmass			
Size(x)	<1						Chlorite _____			
							Smectite _____			
PHENOCRYSTS (Original mineralogy)							Fracture	Vesicle		
Olivine	>5%	✓ <sup>10-15</sup>					Secondary/Alteration Min.			
	1-5%						Smectite	✓		
	<1%						Calcite			
Phenos	mph	✓					Zeolite			
	ol-plag						white fibrous			
Comments								green		
							blue	✓		
Plagioclase	>5%						Analcime			
	1-5%						Chabazite			
	<1%						MgOH			
Rhombs							Silica			
Blades/laths	mph						Amorphous			
Comments								Chalcedony		
							Crystals			
Augite	%						Pyrite			
							Epidote			
GROUNDMASS (original)							Gypsum			
Aphanitic							Anhydrite			
Feldspathic	✓						Chalcopryrite			
Diktytaxitic							Limonite			
							Hematite			
							Other (describe)			

CRITICAL FEATURES (description of units or features by number)

- 1) phh, dense core w/ <sup>microvesicular</sup> 10-15% Olivine microphenocrysts in a well crystallized diktytaxitic matrix lt gray in color.
- 2) Hyaloclastite, volcanoclastic at v. end of core run

2° Mineral: Smectite

CORE LOG

BOX # 242

HOLE # 1

Sheet A

Depth range 738.41 to 741.30 meters

Depth range 2421 to 2430.5 feet

Logger's Name FT

Page 1

Type of Sample: Flow 1 Intrusive \_\_\_\_\_ Ash \_\_\_\_\_ Breccia \_\_\_\_\_ Red Bed \_\_\_\_\_

Number of Units in Box 2 Clk/Rubble \_\_\_\_\_ Carbonate \_\_\_\_\_ Pillow/Hyaloclast 2

Fill in blanks below by using the appropriate unit number.

PRIMARY FEATURES							SECONDARY FEATURES		COMMENTS
Phyric	1	2	3	4	5	6	Phenocryst replacements		
mega (>.5 mm)		✓					Olv -> Clay _____		
micro (<.5 mm)		✓					Iddingsite _____		
Aphyric							Plag -> Clay _____		
Vesicles: %		20					Zeolite _____		
Shape							Groundmass		
Size(x)							Chlorite _____		
							Smeectite _____		
							Fracture		
							Vesicle		
PHENOCRYSTS (Original mineralogy)							Secondary/Alteration Min.		
Olivine >5%		7-10					Smeectite _____		
1-5%							Calcite _____		
<1%							Zeolite _____		
Phenos mph		✓					white fibrous _____		
ol-plag		✓					green _____		
							blue _____		
Comments								Analcime _____	
							Chabazite _____		
Plagioclase							MgOH _____		
>5%							Silica _____		
1-5%							Amorphous _____		
<1%							Chalcedony _____		
Rhombs							Crystals _____		
Blades/laths mph							Pyrite _____		
Comments								Epidote _____	
							Gypsum _____		
Augite %							Anhydrite _____		
							Chalcopyrite _____		
GROUNDMASS (original)							Limonite _____		
Aphanitic		✓					Hematite _____		
Feldspathic		✓					Other (describe) _____		
Diktytaxitic									

CRITICAL FEATURES (description of units or features by number)

- 1) Hyaloclastite/Volcaniclastic consists of broken rock fragments.
- 2) phk w/ 7-10% Olivine phenocrysts, mph in a well crystallized feldspathic groundmass.
- 3) Hyaloclastite/Volcaniclastic, consists of black, vitreous, glassy fragments



CORE LOG

BOX # 243

HOLE # 1

Sheet A

Depth range 741.30 to 748.16 meters

Depth range 2430.5 to 2453 feet

Logger's Name EN

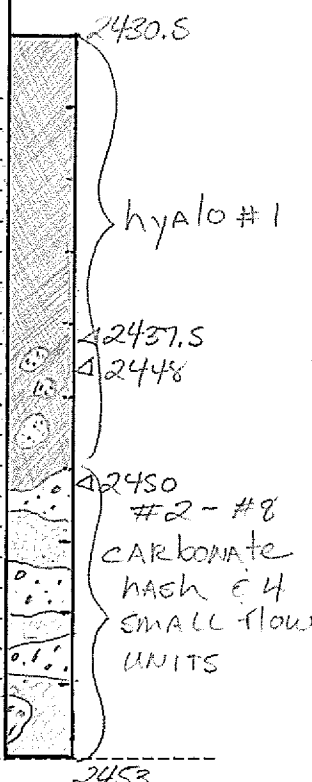
Page 1

Type of Sample: Flow 2, 4, 6 Intrusive \_\_\_\_\_ Ash \_\_\_\_\_ Breccia \_\_\_\_\_ Red Bed \_\_\_\_\_

Number of Units in Box 8 Clk/Rubble \_\_\_\_\_ Carbonate 3, 5, 7 Pillow/Hyaloclast 1

Fill in blanks below by using the appropriate unit number.

PRIMARY FEATURES						SECONDARY FEATURES		COMMENTS
Phyric	1	2	3	4	5	6	Phenocryst replacements	12.5' lost core
mega (>.5 mm)	-						Olv -> Clay _____	
micro (<.5 mm)		✓		✓		✓	Iddingsite _____	
Aphyric							Plag -> Clay _____	
Vesicles: %	-	10		10		10	Zeolite _____	
Shape		SR		SR		SR	Groundmass	
Size(x)		3mm		3mm		3mm	Chlorite _____	
PHENOCRYSTS (Original mineralogy)							Smectite _____	
Olivine >5%	-						Fracture	
1-5%		3		3		3	Vesicle	
<1%							Secondary/Alteration Min.	
Phenos mph		✓		✓		✓	Smectite _____	
ol-plag							Calcite _____	
Plagioclase							Zeolite _____	
>5%	-						white fibrous _____	
1-5%							green _____	
<1%							blue _____	
Rhombs							Analcime _____	
Blades/laths mph							Chabazite _____	
Augite %							MgOH _____	
GROUNDMASS (original)							Silica _____	
Aphanitic	-						Amorphous _____	
Feldspathic							Chalcedony _____	
Diktytaxitic		✓		✓		✓	Crystals _____	
CRITICAL FEATURES (description of units or features by number)							Pyrite _____	
							Epidote _____	
							Gypsum _____	
							Anhydrite _____	
							Chalcopyrite _____	
							Limonite _____	
							Hematite _____	
							Other (describe) _____	



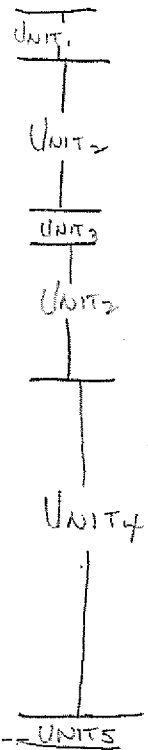
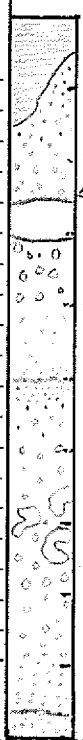
- 1) hyaloclastite, sand size black and amber volcanic glass cemented into a semi-competent unit by clay.
- 2-8) 4 small flow units separated by carbonate hash: flow; vesicular, 10%, 3mm; olivine mph 3%, unalt. in a lt. gray dikty mtr. Flows have covered an in situ carbonate hash which consists of 50% shells, shell frags, echinoderm spines and 50% hyaloclastite as in #1. There are no wave rounded clasts; casts of shells, etc. are embedded directly in flow units.

BOX # 244 CORE LOG HOLE # 1 Sheet A  
 Depth range 748.17 to 750.91 meters Depth range 2453 to 2462 feet  
 Logger's Name ET Page 1  
 Type of Sample: Flow 245 Intrusive \_\_\_\_\_ Ash \_\_\_\_\_ Breccia \_\_\_\_\_ Red Bed \_\_\_\_\_  
 Number of Units in Box 5 Clk/Rubble \_\_\_\_\_ Carbonate 3 Pillow/Hyaloclast 1  
 Fill in blanks below by using the appropriate unit number.

PRIMARY FEATURES						
	1	2	3	4	5	6
Phyric		✓		✓	✓	
mega (>.5 mm)		✓		✓	✓	
micro (<.5 mm)		✓		✓	✓	
Aphyric	—	—	—	—	—	—
Vesicles: %						
Shape						
Size(x)						
PHENOCRYSTS (Original mineralogy)						
Olivine >5%		7-10		7-10	7-10	
1-5%						
<1%						
Phenos mph	✓		✓	✓		
ol-plag						
Comments _____						
Plagioclase						
>5%						
1-5%						
<1%						
Rhombs						
Blades/laths mph						
Comments _____						
Augite %						
GROUNDMASS (original)						
Aphanitic		✓			✓	
Feldspathic				✓		
Diktytaxitic						

SECONDARY FEATURES	
Phenocryst replacements	
Olv -> Clay	
Iddingsite	
Plag -> Clay	
Zeolite	
Groundmass	
Chlorite	
Smectite	
Fracture	
Vesicle	
Secondary/Alteration Min.	
Smectite	✓
Calcite	
Zeolite	
white fibrous	
green	
blue	✓
Analcime	
Chabazite	
MgOH	
Silica	
Amorphous	
Chalcedony	
Crystals	✓
Pyrite	
Epidote	
Gypsum	
Anhydrite	
Chalcopyrite	
Limonite	
Hematite	
Other (describe)	

COMMENTS  
 9' core  
 QTZ vitals found  
 - only 3 vitals, all in  
 1 vug + loose  
 - The only occurrence??



CRITICAL FEATURES (description of units or features by number)

- 1) Hyaloclastite ~ 1/2 formerly black vitreous glass, 2nd 1/2 rock fragments of  $\bar{x} = 2$  mm
- 2) phk unit w/ 7-10% Olivine phenocrysts, mph in a dull bluish gray aphanitic matrix.
- 3) Carbonate sand, rock sand (90%:10%)
- 4) phk Unit w/ 7-10% Olivine phenocrysts, mph in a lt gray feldspathic matrix
- 5) phk unit w/ 7-10% Olivine phenocrysts in a dull bluish gray aphanitic matrix  
 70 Minerals: Blue Stain, Smectite, QTZ?

PRIMARY FEATURES

Phyric	1	2	3	4	5	6
mega (>.5 mm)	✓	✓	✓	✓		
micro (<.5 mm)	✓	✓	✓	✓		
Aphyric						
Vesicles: %	7	35	—	20		
Shape	S-SA	S-SP		S-SA		
Size(x)	<1mm	<1mm		<1mm		

SECONDARY FEATURES

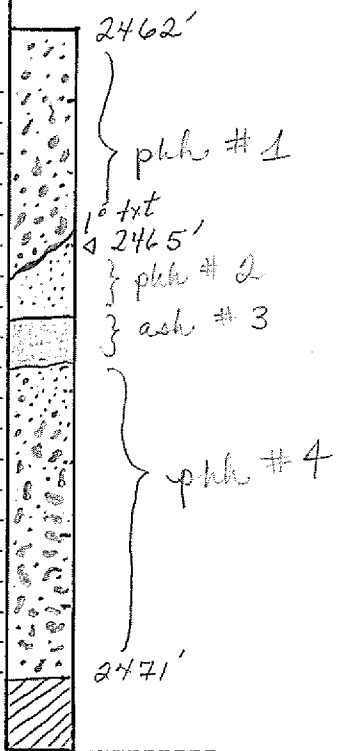
Phenocryst replacements	
Olv -> Clay	
Iddingsite	
Plag -> Clay	
Zeolite	
Groundmass	
Chlorite	
Smectite	

COMMENTS  
 Amorphous blue  
 quartz coating  
 vesicles in unit #1

PHENOCRYSTS (Original mineralogy)

Olivine	>5%				
	1-5%	3-5			
	<1%	✓	✓	✓	
Phenos	mph	✓	✓	✓	
	mph	✓	✓	✓	
ol-plag					
Comments					

Secondary/Alteration Min.	Fracture	
	Vesicle	
Smectite		
Calcite		
Zeolite		
white fibrous		
green		
blue		
Analcime		
Chabazite		
MgOH		
Silica		
Amorphous	✓	
Chalcedony		
Crystals		
Pyrite		
Epidote		
Gypsum		
Anhydrite		
Chalcopryrite		
Limonite		
Hematite		
Other (describe)		



Plagioclase

>5%				
1-5%	2			
<1%				
Rhombs				
Blades/laths	✓			
mph	✓			
Comments				

GROUNDMASS (original)

Aphanitic				
Feldspathic	✓			
Diktytaxitic		✓	✓	

CRITICAL FEATURES (description of units or features by number)

- 1) pahoehoe, flow w/ 3-5% olivine phenos & mph in a lt. grey feldspathic matrix. <sup>blue</sup> Amorph. qtz lining ves.
- 2) pahoehoe 2 flow w/ <1% olivine phenos & mph and 2% plag. laths & mph in a red thermally oxidized diktytaxitic matrix.
- 3) ash 3 w/ <1% <sup>free</sup> olivine phenos amongst <sup>red</sup> ash & black glass.
- 4) pahoehoe w/ <1% olivine mph in a lt. grey microcrystalline diktytaxitic matrix.

CORE LOG

BOX # 246

HOLE # 1

Sheet A

Depth range 753.65 to 756.40 meters

Depth range 2471 to 2480 feet

Logger's Name EN

Page 1

Type of Sample: Flow 1 Intrusive \_\_\_\_\_ Ash \_\_\_\_\_ Breccia \_\_\_\_\_ Red Bed \_\_\_\_\_

Number of Units in Box 1 Clk/Rubble \_\_\_\_\_ Carbonate \_\_\_\_\_ Pillow/Hyaloclast \_\_\_\_\_

Fill in blanks below by using the appropriate unit number.

PRIMARY FEATURES							SECONDARY FEATURES			COMMENTS	
Phyric	1	2	3	4	5	6	Phenocryst replacements				
mega (>.5 mm)							Olv -> Clay				
micro (<.5 mm)	✓						Iddingsite				
Aphyric							Plag -> Clay				
							Zeolite				
Vesicles: %	<u>20</u>						Groundmass				
Shape	<u>SR</u>						Chlorite				
Size(x)	<u>2mm</u>						Smectite				
PHENOCRYSTS (Original mineralogy)											
Olivine >5%							Fracture	Vesicle	Secondary/Alteration Min.	2471	
1-5%											
<1%	✓						Smectite			total diameter bubble entrails	
Phenos mph	✓						Calcite				
ol-plag							Zeolite				
Comments	<u>unalt</u>										TRANS #1
Plagioclase >5%							white fibrous				
1-5%							green				
<1%							blue				
Rhombs							Analcime				
Blades/laths mph							Chabazite				
Comments											
Augite %							MgOH				
GROUNDMASS (original)											
Aphanitic							Silica				
Feldspathic							Amorphous				
Diktytaxitic	✓						Chalcedony				
							Crystals				
							Pyrite				
							Epidote				
							Gypsum				
							Anhydrite				
							Chalcopyrite				
							Limonite				
							Hematite				
							Other (describe)				
									2480		

CRITICAL FEATURES (description of units or features by number)

1) trans, vesicular 20%, 2mm; olivine mph < 1%, unalt; in a lt. gray dikty mtr.

CORE LOG  
 BOX # 247 HOLE # 1 Sheet A  
 Depth range 756.4 to 759.30 meters Depth range 2480 to 2489.5 feet  
 Logger's Name FT Page 1  
 Type of Sample: Flow 1 Intrusive \_\_\_\_\_ Ash \_\_\_\_\_ Breccia \_\_\_\_\_ Red Bed \_\_\_\_\_  
 Number of Units in Box 1 Clk/Rubble \_\_\_\_\_ Carbonate \_\_\_\_\_ Pillow/Hyaloclast \_\_\_\_\_  
 Fill in blanks below by using the appropriate unit number.

PRIMARY FEATURES						
	1	2	3	4	5	6
Phyric						
mega (>.5 mm)	✓					
micro (<.5 mm)	✓					
Aphyric						
Vesicles: %						
Shape						
Size(x)						

PHENOCRYSTS (Original mineralogy)						
Olivine >5%						
1-5%	✓					
<1%						
Phenos	✓					
mph	✓					
ol-plag						
Comments						

Plagioclase						
>5%						
1-5%						
<1%						
Rhombs						
Blades/laths						
mph	✓					
Comments						

Augite %						

GROUNDMASS (original)						
Aphanitic						
Feldspathic						
Diktytaxitic	✓					

SECONDARY FEATURES		
Phenocryst replacements		
Olv -> Clay		
Iddingsite		
Plag -> Clay		
Zeolite		
Groundmass		
Chlorite		
Smectite		
	Fracture	Vesicle
Secondary/Alteration Min.		
Smectite		
Calcite		
Zeolite		
white fibrous		
green		
blue		
Analcime		
Chabazite		
MgOH		
Silica		
Amorphous		
Chalcedony		
Crystals		
Pyrite		
Epidote		
Gypsum		
Anhydrite		
Chalcopyrite		
Limonite		
Hematite		
Other (describe)		

COMMENTS  
 9.5' here

← 2481

CRITICAL FEATURES (description of units or features by number)

1) phk unit, dense microvesicular core w/ 2-3% Olivine microphenocryst phenocrysts in a well crystallized lt gray diktytaxitic matrix. Microlaths of Plagioclase are common in the ground mass.

BOX # 248 CORE LOG HOLE # 1 Sheet A  
 Depth range 759.3 to 761.89 meters Depth range 2489.5 to 2498 feet  
 Logger's Name FT Page 1  
 Type of Sample: Flow 1-8 Intrusive \_\_\_\_\_ Ash \_\_\_\_\_ Breccia \_\_\_\_\_ Red Bed \_\_\_\_\_  
 Number of Units in Box 8 Clk/Rubble \_\_\_\_\_ Carbonate \_\_\_\_\_ Pillow/Hyaloclast \_\_\_\_\_  
 Fill in blanks below by using the appropriate unit number.

PRIMARY FEATURES							SECONDARY FEATURES		COMMENTS	
Phyric	1	2	3	4	5	6	Phenocryst replacements			
mega (>.5 mm)	✓	✓	✓	✓	✓	✓	Olv -> Clay _____			
micro (<.5 mm)	✓	✓	✓	✓	✓	✓	Iddingsite _____			
Aphyric							Plag -> Clay _____			
Vesicles: %	15	15	15	15	15	15	Zeolite _____			
Shape	SR	SR	SR	SR	SR	SR	Groundmass			
Size(x)	<1	2	2	2	2	2	Chlorite _____			
							Smectite _____			
PHENOCRYSTS (Original mineralogy)							Fracture	Vesicle		
Olivine >5%	✓	✓	✓	✓	✓	✓	Secondary/Alteration Min.			
1-5%	✓	✓	✓	✓	✓	✓	Smectite	✓		
<1%							Calcite			
Phenos mph	✓	✓	✓	✓	✓	✓	Zeolite			
ol-plag							white fibrous			
Comments							green			
Plagioclase >5%							blue	✓		
1-5%	✓	✓	✓	✓	✓	✓	Analcime			
<1%							Chabazite			
Rhombs							MgOH			
Blades/laths mph	✓	✓	✓	✓	✓	✓	Silica			
Comments							Amorphous			
Augite %							Chalcedony			
GROUNDMASS (original)							Crystals			
Aphanitic							Pyrite			
Feldspathic	✓	✓	✓	✓	✓	✓	Epidote			
Diktytaxitic	✓						Gypsum			
							Anhydrite			
							Chalcopyrite			
							Limonite			
							Hematite			
							Other (describe)			

CRITICAL FEATURES (description of units or features by number)

- 1) phh w/ 5-7% Olivine macrophenocrysts, phenocrysts in a well crystallized diktytaxitic matrix.
- 2-8) phh units w/ 1% Olivine phenocrysts, mph and 1% Plagioclase as laths micro laths in a thermally organized, feldspathic matrix.

2° Minerals: Smectite, blue stain, clay

CORE LOG

BOX # 249

HOLE # 1

Sheet A

Depth range 761.89 to 764.33 meters

Depth range 2498 to 2506 feet

Logger's Name EN

Page 1

Type of Sample: Flow 1, 2 Intrusive      Ash 2 Breccia      Red Bed     

Number of Units in Box 3 Clk/Rubble      Carbonate      Pillow/Hyaloclast     

Fill in blanks below by using the appropriate unit number.

PRIMARY FEATURES						SECONDARY FEATURES		COMMENTS
Phyric	1	2	3	4	5	6	Phenocryst replacements	
mega (>.5 mm)	✓	-	✓				Olv -> Clay <u>    </u>	
micro (<.5 mm)	✓		✓				Iddingsite <u>    </u>	
Aphyric							Plag -> Clay <u>    </u>	
							Zeolite <u>    </u>	
Vesicles: %	<u>20</u>	<u>4</u>	<u>20</u>				Groundmass	<div style="display: flex; justify-content: space-around;"> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">Fracture</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">Vesicle</div> </div>
Shape	<u>SP</u>		<u>SA</u>				Chlorite <u>    </u>	
Size(x)	<u>2mm</u>		<u>2mm</u>				Smectite <u>    </u>	
PHENOCRYSTS (Original mineralogy)								
Olivine >5%		-					Secondary/Alteration Min.	
1-5%	<u>3</u>						Smectite <u>    </u>	
<1%			✓				Calcite <u>    </u>	
Phenos							Zeolite <u>    </u>	
mph	✓		✓				white fibrous <u>    </u>	
ol-plag							green <u>    </u>	
Comments	<u>unalt.</u>						blue <u>    </u>	
Plagioclase							Analcime <u>    </u>	
>5%		-					Chabazite <u>    </u>	
1-5%	<u>3</u>		<u>1</u>				MgOH <u>    </u>	
<1%							Silica <u>    </u>	
Rhombs	✓		✓				Amorphous <u>    </u>	
Blades/laths	✓		✓				Chalcedony <u>    </u>	
mph							Crystals <u>    </u>	
Comments							Pyrite <u>    </u>	
Augite %							Epidote <u>    </u>	
GROUNDMASS (original)								
Aphanitic	✓	-					Gypsum <u>    </u>	
Feldspathic							Anhydrite <u>    </u>	
Diktytaxitic			✓				Chalcopyrite <u>    </u>	
							Limonite <u>    </u>	
							Hematite <u>    </u>	
							Other (describe)	
							<u>blue resin</u>	

CRITICAL FEATURES (description of units or features by number)

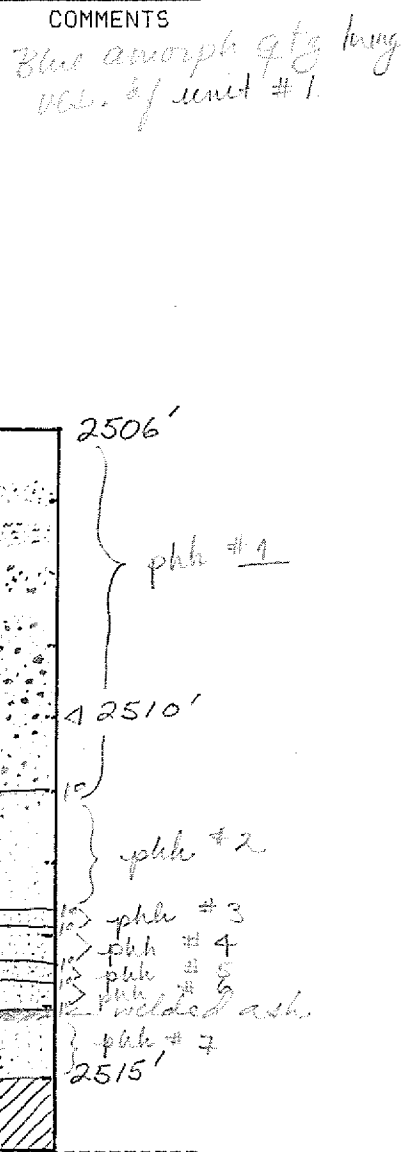
1) trans, vesicular 20%, 2mm; olivine mph 3%, unalt.; plag rhombs, blades & laths  $\approx$  30%; in a lt. gray aphan mtr.

2) ash, brown in color

3) trans, vesicular 20%, 2mm; olivine mph <1%, unalt.; plag rhombs, blades & laths  $\approx$  10% in a lt. gray dikty mtr.

PRIMARY FEATURES							
Phyric	1	2	3	4	5	6	7
mega (>.5 mm)	✓	✓					
micro (<.5 mm)	✓	✓					
Aphyric							
Vesicles: %	0-15	25-30	"	"	"	"	"
Shape	S-SA	SSR					
Size(x)	<1mm	<1mm					
PHENOCRYSTS (Original mineralogy)							
Olivine >5%							
1-5%	1						
<1%		✓					✓
Phenos mph	✓	✓					✓
ol-plag							
Comments _____							
Plagioclase							
>5%							
1-5%	2-5						
<1%		✓					✓
Rhombs		✓					
Blades/laths mph	✓	✓					✓
Comments _____							
Augite %							
GROUNDMASS (original)							
Aphanitic							
Feldspathic		✓	✓				✓
Diktytaxitic	✓	✓					

SECONDARY FEATURES	
Phenocryst replacements	
Olv -> Clay	
Iddingsite	
Plag -> Clay	
Zeolite	
Groundmass	
Chlorite	
Smectite	
Fracture	
Vesicle	
Secondary/Alteration Min.	
Smectite	
Calcite	
Zeolite	
white fibrous	
green	
blue	
Analcime	
Chabazite	
MgOH	
Silica	
Amorphous	✓
Chalcedony	
Crystals	
Pyrite	
Epidote	
Gypsum	
Anhydrite	
Chalcopyrite	
Limonite	
Hematite	
Other (describe)	



CRITICAL FEATURES (description of units or features by number)

- 1) pahoehoe, flow w/ 1% olivine phenos + mph and 2-5% plag. laths + mph in a lt. grey diktytaxitic matrix. Vesicularity 0-15%
  - 2-6) pahoehoe flows w/ <1% olivine mph and <1% plag. laths + mph in red thermally oxidized feldspathic - diktytaxitic matrixes. Vesicularity 25-30%.
  - 7) pahoehoe flow w/ <1% olivine mph and <1% plag. blades/laths in a grey feldspathic matrix. Welded ash on the upper contact
- 2° mins. <sup>Blue</sup> Amorphous gts lining ves. of unit #1



CORE LOG  
 BOX # 251 HOLE # 1 Sheet A  
 Depth range 767.08 to 769.82 meters Depth range 2515 to 2524 feet  
 Logger's Name FT Page 1  
 Type of Sample: Flow 1-3 Intrusive \_\_\_\_\_ Ash \_\_\_\_\_ Breccia \_\_\_\_\_ Red Bed \_\_\_\_\_  
 Number of Units in Box 3 Clk/Rubble \_\_\_\_\_ Carbonate \_\_\_\_\_ Pillow/Hyaloclast \_\_\_\_\_  
 Fill in blanks below by using the appropriate unit number.

PRIMARY FEATURES						SECONDARY FEATURES		COMMENTS	
Phyric	1	2	3	4	5	6	Phenocryst replacements		9' core
mega (>.5 mm)	✓	✓	✓				Olv -> Clay _____		
micro (<.5 mm)	✓	✓	✓				Iddingsite _____		
Aphyric							Plag -> Clay _____		
Vesicles: %	25	15	20				Zeolite _____		
Shape	SP	SP	SP				Groundmass		
Size(x)	2	1	1				Chlorite _____		
							Smectite _____		
PHENOCRYSTS (Original mineralogy)							Fracture		
Olivine	>5%	4	5-7	5-7			Vesicle		
	1-5%						Secondary/Alteration Min.		
	<1%						Smectite		
Phenos	mph	✓	✓	✓			Calcite		
	mph	✓	✓	✓			Zeolite		
	ol-plag						white fibrous		
							green		
							blue		
							Analcime		
Comments _____									
Plagioclase									
	>5%						Chabazite		
	1-5%						MgOH		
	<1%						Silica		
	Rhombs						Amorphous		
	Blades/laths						Chalcedony		
	mph						Crystals		
	Comments						Pyrite		
Augite %								Epidote	
GROUNDMASS (original)								Gypsum	
	Aphanitic						Anhydrite		
	Feldspathic	✓	✓	✓			Chalcopyrite		
	Diktytaxitic						Limonite		
							Hematite		
							Other (describe)		

CRITICAL FEATURES (description of units or features by number)

- 1) pth unit w/ 7% Olivine phenocrysts, mph in a lt gray feldspathic matrix
- 2-3) pth units w/ 5-7% Olivine microphenocrysts in a lt gray feldspathic matrix

2° Minerals: Blue Tan

CORE LOG

BOX # 252

HOLE # 1

Sheet A

Depth range 769.82 to 772.56 meters

Depth range 2524 to 2533 feet

Logger's Name EN

Page 1

Type of Sample: Flow 1-4 Intrusive \_\_\_\_\_ Ash \_\_\_\_\_ Breccia \_\_\_\_\_ Red Bed \_\_\_\_\_

Number of Units in Box 4 Clk/Rubble \_\_\_\_\_ Carbonate \_\_\_\_\_ Pillow/Hyaloclast \_\_\_\_\_

Fill in blanks below by using the appropriate unit number.

PRIMARY FEATURES						
Phyric	1	2	3	4	5	6
mega (>.5 mm)						
micro (<.5 mm)	✓	✓	✓	✓		
Aphyric						
Vesicles: %	<u>25</u>	<u>15</u>	<u>10</u>	<u>15</u>		
Shape	<u>SR</u>	<u>SR</u>	<u>SR</u>	<u>SA</u>		
Size(x)/mm	<u>3mm</u>	<u>3mm</u>	<u>&lt;1mm</u>	<u>3mm</u>		

PHENOCRYSTS (Original mineralogy)						
Olivine >5%						
1-5%						
<1%	✓	✓	✓	✓		
Phenos mph	✓	✓	✓	✓		
ol-plag						

Comments #2 alt red  
#1, 3, 4 unalt

Plagioclase						
>5%						
1-5%						
<1%						
Rhombs						
Blades/laths mph						
Comments						

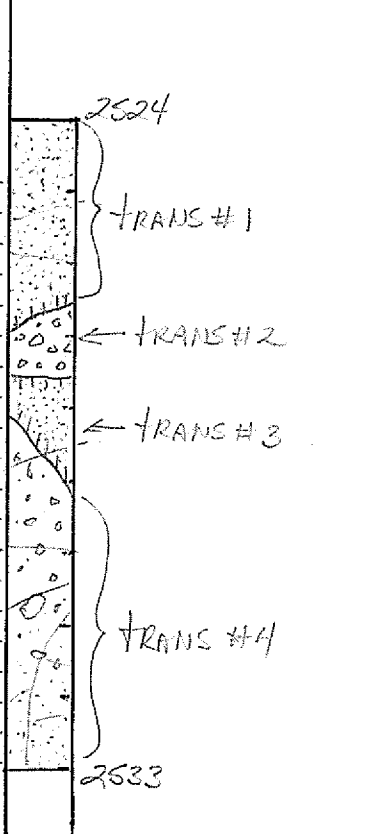
Augite						
%						

GROUNDMASS (original)						
Aphanitic						
Feldspathic						
Diktytaxitic	✓	✓	✓	✓		

SECONDARY FEATURES	
Phenocryst replacements	
Olv -> Clay	
Iddingsite	
Plag -> Clay	
Zeolite	
Groundmass	
Chlorite	
Smectite	

Secondary/Alteration Min.	
Smectite	
Calcite	
Zeolite	
white fibrous	
green	
blue	
Analcime	
Chabazite	
MgOH	
Silica	
Amorphous	
Chalcedony	
Crystals	
Pyrite	
Epidote	
Gypsum	
Anhydrite	
Chalcopyrite	
Limonite	
Hematite	
Other (describe)	<u>blue veser</u>

COMMENTS  
*all contacts are welded, units 2 & 3 may be lith picked up by a flow*



CRITICAL FEATURES (description of units or features by number)

- 1) Trans, mesoculaw 25%, 1mm; olivine mph < 1%, unalt; in a lt. gray dkky mtr.
- 2) Trans, mesoculaw 15%, 3mm; olivine mph < 1%, alt red; in a thrm alt. pinkish gray dkky mtr.
- 3) Trans, mesoculaw 10%, < 1mm; lith as in #1
- 4) Trans, mesoculaw 15%, 3mm; lith as in #1

CORE LOG  
 BOX # 253 of HOLE # 1 Sheet A  
 Depth range 772.26 to 775 meters Depth range 2532 to 2541 feet  
 Logger's Name FT Page 1  
 Type of Sample: Flow 1 Intrusive \_\_\_\_\_ Ash \_\_\_\_\_ Breccia \_\_\_\_\_ Red Bed \_\_\_\_\_  
 Number of Units in Box 1 Clk/Rubble \_\_\_\_\_ Carbonate \_\_\_\_\_ Pillow/Hyaloclast \_\_\_\_\_  
 Fill in blanks below by using the appropriate unit number.

PRIMARY FEATURES						SECONDARY FEATURES		COMMENTS
Phyric	1	2	3	4	5	6	Phenocryst replacements	
mega (>.5 mm)							Olv -> Clay _____	
micro (<.5 mm)	✓						Iddingsite _____	
Aphyric							Plag -> Clay _____	
Vesicles: %	3						Zeolite _____	
Shape	SR						Groundmass	
Size(x)	<1						Chlorite _____	
							Smeectite _____	
							Fracture	
							Vesicle	
PHENOCRYSTS (Original mineralogy)						Secondary/Alteration Min.		
Olivine >5%							Smeectite	✓
1-5%							Calcite	
<1%	✓						Zeolite	
Phenos							white fibrous	
mph	✓						green	
ol-plag							blue	✓
Comments							Analcime	
							Chabazite	
Plagioclase							MgOH	
>5%							Silica	
1-5%							Amorphous	
<1%							Chalcedony	
Rhombs							Crystals	
Blades/laths							Pyrite	
mph							Epidote	
Comments							Gypsum	
							Anhydrite	
Augite %							Chalcopyrite	
							Limonite	
GROUNDMASS (original)							Hematite	
Aphanitic							Other (describe)	
Feldspathic	✓							
Diktytaxitic								

CRITICAL FEATURES (description of units or features by number)

1) Dense phk core w/ <1% Olivine microphenocrysts in a lt gray well crystallized diktytaxitic matrix

2) Minerals: SMECTITE, Blue stain

BOX # 254 CORE LOG HOLE # 1 Sheet A  
 Depth range 775.01 to 777.75 meters Depth range 2541 to 2550 feet  
 Logger's Name FT Page 1  
 Type of Sample: Flow  Intrusive  Ash  Breccia  Red Bed   
 Number of Units in Box 1 Clk/Rubble  Carbonate  Pillow/Hyaloclast   
 Fill in blanks below by using the appropriate unit number.

PRIMARY FEATURES						SECONDARY FEATURES		COMMENTS
	1	2	3	4	5	6		
Phyric							Phenocryst replacements	9' here
mega (>.5 mm)	<input checked="" type="checkbox"/>						Olv -> Clay	
micro (<.5 mm)	<input checked="" type="checkbox"/>						Iddingsite	
Aphyric							Plag -> Clay	
Vesicles: %	<1						Zeolite	
Shape	R						Groundmass	
Size(x)	<1						Chlorite	
							Smectite	
PHENOCRYSTS (Original mineralogy)							Fracture	Vesicle
Olivine	>5%							
	1-5%	<input checked="" type="checkbox"/>					Smectite	
	<1%						Calcite	
Phenos	mph	<input checked="" type="checkbox"/>					Zeolite	
	ol-plag						white fibrous	
	Comments						green	
Plagioclase							blue	
	>5%						Analcime	
	1-5%						Chabazite	
	<1%						MgOH	
Rhombs							Silica	
Blades/laths	mph						Amorphous	
	Comments						Chalcedony	
Augite							Crystals	
	%						Pyrite	
GROUNDMASS (original)							Epidote	
	Aphanitic						Gypsum	
	Feldspathic						Anhydrite	
	Diktytaxitic	<input checked="" type="checkbox"/>					Chalcopyrite	
							Limonite	
							Hematite	
							Other (describe)	

CRITICAL FEATURES (description of units or features by number)

1) phh core, dense w/ 1% Olivine phenocrysts, mph in a well crystallized diktytaxitic matrix.

2° MINERALS: SMECTITE, BLUE STAIN

CORE LOG  
 BOX # 255 HOLE # SOH#1 Sheet A  
 Depth range 777.8 to 780.5 meters Depth range 2550 to 2559 feet  
 Logger's Name RE Page 1  
 Type of Sample: Flow      Intrusive      Ash      Breccia      Red Bed       
 Number of Units in Box 1 Clk/Rubble      Carbonate      Pillow/Hyaloclast       
 Fill in blanks below by using the appropriate unit number.

PRIMARY FEATURES

Phyric	1	2	3	4	5	6
mega (>.5 mm)						
micro (<.5 mm)	✓					
Aphyric						
Vesicles: %	3-5					
Shape	R-SR					
Size(x) <1mm						

PHENOCRYSTS (Original mineralogy)

Olivine >5%					
1-5%	1-3				
<1%					
Phenos	✓				
mph	✓				
ol-plag					
Comments					

Plagioclase

>5%					
1-5%					
<1%					
Rhombs					
Blades/laths					
mph					
Comments					

Augite %

1	2	3	4	5	6

GROUNDMASS (original)

Aphanitic					
Feldspathic					
Diktytaxitic	✓				

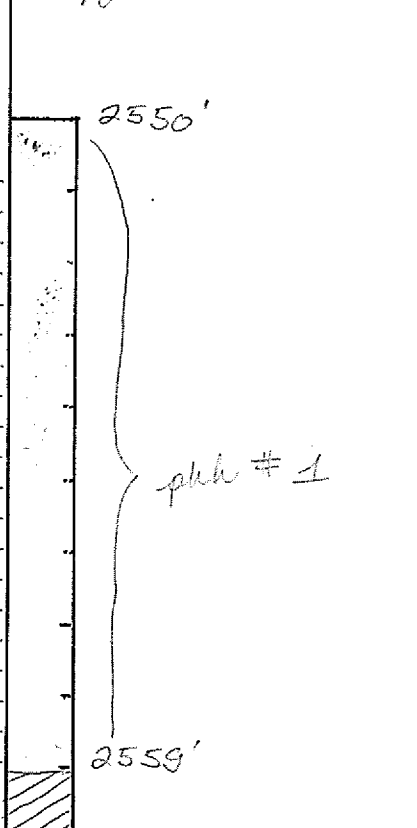
SECONDARY FEATURES

Phenocryst replacements	
Olv -> Clay	
Iddingsite	
Plag -> Clay	
Zeolite	
Groundmass	
Chlorite	
Smectite	

Secondary/Alteration Min.

Smectite	✓
Calcite	✓
Zeolite	
white fibrous	
green	
blue	
Analcime	
Chabazite	
MgOH	
Silica	
Amorphous	✓
Chalcedony	✓
Crystals	✓
Pyrite	✓
Epidote	
Gypsum	
Anhydrite	
Chalcopyrite	
Limonite	
Hematite	
Other (describe)	

COMMENTS  
*Smectite & blue amorphous quartz along fractures*  
*Also xstln of z + pyrite*



CRITICAL FEATURES (description of units or features by number)

1) pahoehoe, flow, dense w/ 1-3% olivine phenos & mph in a light grey microcrystalline diktytaxitic matrix.

2° mins: smectite, amorph & crystalline qtz, calcite, pyrite.

CORE LOG

BOX # 250 <sup>50</sup> HOLE # 1 Sheet A  
 Depth range 780.50 to 783.39 meters Depth range 2559 to 2568.5 feet  
 Logger's Name FT Page 1  
 Type of Sample: Flow  Intrusive \_\_\_\_\_ Ash \_\_\_\_\_ Breccia \_\_\_\_\_ Red Bed \_\_\_\_\_  
 Number of Units in Box 1 Clk/Rubble \_\_\_\_\_ Carbonate \_\_\_\_\_ Pillow/Hyaloclast \_\_\_\_\_  
 Fill in blanks below by using the appropriate unit number.

PRIMARY FEATURES	SECONDARY FEATURES	COMMENTS																																																																																											
Phyric mega (>.5 mm) <input checked="" type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> 6 micro (<.5 mm) <input checked="" type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> 6	Phenocryst replacements Oliv -> Clay _____ Iddingsite _____ Plag -> Clay _____ Zeolite _____	9.5' here																																																																																											
Aphyric _____	Groundmass Chlorite _____ Smectite _____																																																																																												
Vesicles: % <input checked="" type="checkbox"/> <1 Shape <u>R</u> Size(x) <input checked="" type="checkbox"/> <1	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;"></td> <td style="width: 50%; text-align: center;">Fracture</td> <td style="width: 50%;"></td> <td style="width: 50%; text-align: center;">Vesicle</td> </tr> <tr> <td colspan="4" style="text-align: center;">Secondary/Alteration Min.</td> </tr> <tr> <td>Smectite <input checked="" type="checkbox"/></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Calcite <input checked="" type="checkbox"/></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Zeolite _____</td> <td></td> <td></td> <td></td> </tr> <tr> <td>  white fibrous _____</td> <td></td> <td></td> <td></td> </tr> <tr> <td>  green _____</td> <td></td> <td></td> <td></td> </tr> <tr> <td>  blue <input checked="" type="checkbox"/></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Analcime _____</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Chabazite _____</td> <td></td> <td></td> <td></td> </tr> <tr> <td>MgOH _____</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Silica _____</td> <td></td> <td></td> <td></td> </tr> <tr> <td>  Amorphous _____</td> <td></td> <td></td> <td></td> </tr> <tr> <td>  Chalcedony _____</td> <td></td> <td></td> <td></td> </tr> <tr> <td>  Crystals _____</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Pyrite <input checked="" type="checkbox"/></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Epidote _____</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Gypsum _____</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Anhydrite _____</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Chalcopyrite _____</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Limonite _____</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Hematite _____</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Other (describe) _____</td> <td></td> <td></td> <td></td> </tr> </table>		Fracture		Vesicle	Secondary/Alteration Min.				Smectite <input checked="" type="checkbox"/>				Calcite <input checked="" type="checkbox"/>				Zeolite _____				white fibrous _____				green _____				blue <input checked="" type="checkbox"/>				Analcime _____				Chabazite _____				MgOH _____				Silica _____				Amorphous _____				Chalcedony _____				Crystals _____				Pyrite <input checked="" type="checkbox"/>				Epidote _____				Gypsum _____				Anhydrite _____				Chalcopyrite _____				Limonite _____				Hematite _____				Other (describe) _____			
		Fracture		Vesicle																																																																																									
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Other (describe) _____																																																																																													
PHENOCRYSTS (Original mineralogy)																																																																																													
Olivine >5% _____ 1-5% <input checked="" type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> 6 <1% _____ Phenos <input checked="" type="checkbox"/> mph <input checked="" type="checkbox"/> ol-plag _____																																																																																													
Comments _____																																																																																													
Plagioclase >5% _____ 1-5% _____ <1% _____ Rhombs _____ Blades/laths _____ mph _____																																																																																													
Comments _____																																																																																													
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GROUNDMASS (original)																																																																																													
Aphanitic _____																																																																																													
Feldspathic <input checked="" type="checkbox"/>																																																																																													
Diktytaxitic <input checked="" type="checkbox"/>																																																																																													

CRITICAL FEATURES (description of units or features by number)

1) phh dense core of flow w/ 2% Olivine phenocrysts, mph in a well crystallized diktytaxitic matrix.

2° MINERAL: SMECTITE, Blue stain, Pyrite

CORE LOG

BOX # 257

HOLE # 1

Sheet A

Depth range 763.39 to 766.29 meters

Depth range 2568.5 to 2576 feet

Logger's Name EN

Page 1

Type of Sample: Flow 1 Intrusive \_\_\_\_\_ Ash \_\_\_\_\_ Breccia \_\_\_\_\_ Red Bed \_\_\_\_\_

Number of Units in Box 1 Clk/Rubble \_\_\_\_\_ Carbonate \_\_\_\_\_ Pillow/Hyaloclast \_\_\_\_\_

Fill in blanks below by using the appropriate unit number.

PRIMARY FEATURES							SECONDARY FEATURES		COMMENTS	
Phyric	1	2	3	4	5	6	Phenocryst replacements			
mega (>.5 mm)	✓						Olv -> Clay _____			
micro (<.5 mm)	✓						Iddingsite _____			
Aphyric							Plag -> Clay _____			
Vesicles: %	20						Zeolite _____			
Shape	R						Groundmass			
Size(x) 2mm							Chlorite _____			
							Smectite _____			
PHENOCRYSTS (Original mineralogy)							Fracture	Vesicle		
Olivine >5%	7						Secondary/Alteration Min.			
1-5%							Smectite			
<1%							Calcite	✓		
Phenos	✓						Zeolite	✓		
mph	✓						white fibrous			
ol-plag							green			
Comments								blue		
Plagioclase							Analcime			
>5%							Chabazite			
1-5%							MgOH			
<1%							Silica			
Rhombs							Amorphous			
Blades/laths							Chalcedony			
mph							Crystals			
Comments								Pyrite		
Augite %							Epidote			
GROUNDMASS (original)							Gypsum			
Aphanitic							Anhydrite			
Feldspathic							Chalcopryrite			
Diktytaxitic	✓						Limonite			
							Hematite			
							Other (describe)	blue green		

CRITICAL FEATURES (description of units or features by number)

1) trans, top 50% of unit is aresicular, olivine phenos c mph  $\Sigma$  7%, unalt. in a lt gray dikty mtr which rapidly grades into mesicular, 20%, 2mm with olivine phenos c mph < 1%, unalt. in a lt. gray dikty mtr.

CORE LOG

BOX # 258

HOLE # 1

Sheet A

Depth range 786.29 to 790.86 meters

Depth range 2578 to 2593 feet

Logger's Name EAJ

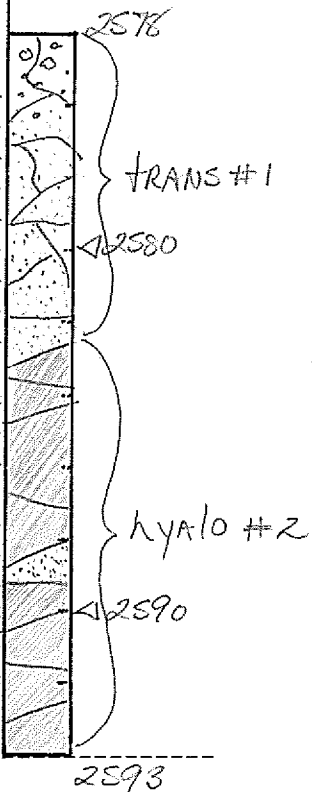
Page 1

Type of Sample: Flow 1 Intrusive \_\_\_\_\_ Ash \_\_\_\_\_ Breccia \_\_\_\_\_ Red Bed \_\_\_\_\_

Number of Units in Box 2 Clk/Rubble \_\_\_\_\_ Carbonate \_\_\_\_\_ Pillow/Hyaloclast 2

Fill in blanks below by using the appropriate unit number.

PRIMARY FEATURES							SECONDARY FEATURES			COMMENTS
Phyric	1	2	3	4	5	6	Phenocryst replacements			
mega (>.5 mm)		-					Olv -> Clay			
micro (<.5 mm)	✓						Iddingsite			
Aphyric							Plag -> Clay			
Vesicles: %	20	-					Zeolite			
Shape	R						Groundmass			
Size(x)	<1mm						Chlorite			
							Smectite			
PHENOCRYSTS (Original mineralogy)							Fracture	Vesicle		
Olivine >5%		-					Secondary/Alteration Min.			
1-5%							Smectite			
<1%	✓						Calcite			
Phenos							Zeolite			
mph	✓						white fibrous			
ol-plag							green			
Comments								blue		
Plagioclase							Analcime			
>5%		-					Chabazite			
1-5%							MgOH			
<1%							Silica			
Rhombs							Amorphous			
Blades/laths							Chalcedony			
mph							Crystals			
Comments								Pyrite		
Augite %							Epidote			
GROUNDMASS (original)								Gypsum		
Aphanitic							Anhydrite			
Feldspathic							Chalcopyrite			
Diktytaxitic	✓						Limonite			
							Hematite			
							Other (describe)			
							blue mesh			



CRITICAL FEATURES (description of units or features by number)

- 1) trans, micular 20%, <1mm; olvine mph <1%, unalt.; in a lt. gray dikty mtr.
- 2) hyaloclastite, black and amber sand sized volcanic glass and fine gravel size lithics (1-2cm d.) compressed into a competent unit.



CORE LOG

BOX # 259

HOLE # 1

Sheet A

Depth range 790.56 to 793.30 meters

Depth range 2592 to 2601 feet

Logger's Name EN

Page 1

Type of Sample: Flow 2 Intrusive \_\_\_\_\_ Ash \_\_\_\_\_ Breccia \_\_\_\_\_ Red Bed \_\_\_\_\_

Number of Units in Box 3 Ck/Rubble \_\_\_\_\_ Carbonate \_\_\_\_\_ Pillow/Hyaloclast 1,3

Fill in blanks below by using the appropriate unit number.

PRIMARY FEATURES							SECONDARY FEATURES		COMMENTS
Phyric	1	2	3	4	5	6	Phenocryst replacements		
mega (>.5 mm)	-		-				Olv -> Clay _____		
micro (<.5 mm)		✓					Iddingsite _____		
Aphyric							Plag -> Clay _____		
Vesicles: %	-	25	-				Zeolite _____		
Shape		R					Groundmass		
Size(x)		4mm					Chlorite _____		
							Smeectite _____		
							Fracture		
							Vesicle		
PHENOCRYSTS (Original mineralogy)							Secondary/Alteration Min.		
Olivine >5%							Smeectite _____		
1-5%							Calcite _____		
<1%		✓					Zeolite _____		
Phenos mph		✓					white fibrous _____		
ol-plag							green _____		
Comments								blue _____	
							Analcime _____		
Plagioclase							Chabazite _____		
>5%							MgOH _____		
1-5%							Silica _____		
<1%							Amorphous _____		
Rhombs							Chalcedony _____		
Blades/laths mph							Crystals _____		
Comments								Pyrite _____	
							Epidote _____		
Augite %							Gypsum _____		
							Anhydrite _____		
							Chalcopyrite _____		
GROUNDMASS (original)							Limonite _____		
Aphanitic		✓					Hematite _____		
Feldspathic							Other (describe) _____		
Diktytaxitic									

CRITICAL FEATURES (description of units or features by number)

- 1) hyaloclastite, fine sand size amber volcanic glass shards & coarse sand size blue gray (etched?) volcanic glass shards, which are black on fresh fracture, compacted into a competent unit.
- 2) phh, vesicular 25%, <1mm; olivine mph <10%, unalt.; in a lt. gray aphan mtr.
- 3) hyaloclastite, lith. as in #1

CORE LOG

BOX # 260

HOLE # 1

Sheet A

Depth range 793.30 to 797.57 meters

Depth range 2601 to 2615 feet

Logger's Name EN

Page 1

Type of Sample: Flow  Intrusive  Ash  Breccia  Red Bed

Number of Units in Box 1 Clk/Rubble  Carbonate  Pillow/Hyaloclast 1

Fill in blanks below by using the appropriate unit number.

PRIMARY FEATURES						SECONDARY FEATURES		COMMENTS
Phyric mega (>.5 mm)	1	2	3	4	5	6	Phenocryst replacements Olv -> Clay _____ Iddingsite _____ Plag -> Clay _____ Zeolite _____	4' loot core
micro (<.5 mm)							Groundmass Chlorite _____ Smectite _____	
Aphyric							Fracture _____ Vesicle _____	
Vesicles: % Shape _____ Size(x) _____							Secondary/Alteration Min. Smectite _____ Calcite _____ Zeolite _____ white fibrous _____ green _____ blue _____ Analcime _____ Chabazite _____ MgOH _____ Silica _____ Amorphous _____ Chalcedony _____ Crystals _____ Pyrite _____ Epidote _____ Gypsum _____ Anhydrite _____ Chalcopryrite _____ Limonite _____ Hematite _____ Other (describe) _____	
PHENOCRYSTS (Original mineralogy)								
Olivine >5% _____ 1-5% _____ <1% _____ Phenos mph _____ ol-plag _____								2601
Comments _____								
Plagioclase								
>5% _____ 1-5% _____ <1% _____ Rhombs _____ Blades/laths mph _____ Comments _____								hyalo #1
Augite % _____								
GROUNDMASS (original)								
Aphanitic _____ Feldspathic _____ Diktytaxitic _____								2610

CRITICAL FEATURES (description of units or features by number)

2615

1) hyaloclastite, sand size black & amber volcanic glass shards, occasional larger (5cm) vesicular, 20%, 1mm, basalt clasts compacted into a friable, somewhat competent unit.

CORE LOG

BOX # 261

HOLE # 1

Sheet A

Depth range 797.57 to 800.62 meters

Depth range 2615 to 2625 feet

Logger's Name ENI

Page 1

Type of Sample: Flow 2 Intrusive \_\_\_\_\_ Ash \_\_\_\_\_ Breccia \_\_\_\_\_ Red Bed \_\_\_\_\_

Number of Units in Box 2 Clk/Rubble \_\_\_\_\_ Carbonate \_\_\_\_\_ Pillow/Hyaloclast 1

Fill in blanks below by using the appropriate unit number.

PRIMARY FEATURES						SECONDARY FEATURES		COMMENTS
Phyric	1	2	3	4	5	6	Phenocryst replacements	
mega (>.5 mm)	-						Olv → Clay _____	
micro (<.5 mm)		✓					Iddingsite _____	
Aphyric							Plag → Clay _____	
Vesicles: %	-	30					Zeolite _____	
Shape		R					Groundmass	
Size(x)		<1mm					Chlorite _____	
PHENOCRYSTS (Original mineralogy)							Smeectite _____	
Olivine >5%							Calcite _____	
1-5%							Zeolite _____	
<1%		✓					white fibrous _____	
Phenos mph		✓					green _____	
ol-plag							blue _____	
Comments _____							Analcime _____	
Plagioclase							Chabazite _____	
>5%							MgOH _____	
1-5%							Silica _____	
<1%							Amorphous _____	
Rhombs							Chalcedony _____	
Blades/laths mph							Crystals _____	
Comments _____							Pyrite _____	
Augite %							Epidote _____	
GROUNDMASS (original)							Gypsum _____	
Aphanitic		✓					Anhydrite _____	
Feldspathic							Chalcopyrite _____	
Diktytaxitic							Limonite _____	
CRITICAL FEATURES (description of units or features by number)							Hematite _____	
							Other (describe) _____	

1) hyaloclastite, sand sized black and amber volcanic glass shards compacted into a friable somewhat competent unit

2) phh, vesicular 30%, <1mm; olivine mph <1%, unalt; in a gray aphan mtr.

CORE LOG  
 BDX # 262 HOLE # 1 Sheet A  
 Depth range 800.62 to 803.98 meters Depth range 2625 to 2636 feet  
 Logger's Name EN Page 1  
 Type of Sample: Flow 1 Intrusive \_\_\_\_\_ Ash \_\_\_\_\_ Breccia \_\_\_\_\_ Red Bed \_\_\_\_\_  
 Number of Units in Box 2 Clk/Rubble \_\_\_\_\_ Carbonate \_\_\_\_\_ Pillow/Hyaloclast 2  
 Fill in blanks below by using the appropriate unit number.

PRIMARY FEATURES						SECONDARY FEATURES		COMMENTS	
Phyric	1	2	3	4	5	6	Phenocryst replacements	1' lost core	
mega (>.5 mm)							Olv -> Clay _____		
micro (<.5 mm)	✓						Iddingsite _____		
Aphyric							Plag -> Clay _____		
Vesicles: %	30						Zeolite _____		
Shape	R						Groundmass		
Size (x < 1/mm)							Chlorite _____		
							Smectite _____		
							Fracture		
							Vesicle		
PHENOCRYSTS (Original mineralogy)						Secondary/Alteration Min.		2625	
Olivine >5%							Smectite _____	ph#1	
1-5%							Calcite _____		
<1%	✓						Zeolite _____		
Phenos mph	✓						white fibrous _____		
ol-plag							green _____		
Comments							blue _____		2629
Plagioclase >5%							Analcime _____		hyalo#2
1-5%							Chabazite _____		
<1%							MgOH _____		
Rhombs							Silica _____		
Blades/laths mph							Amorphous _____		
Comments							Chalcedony _____		
Augite %							Crystals _____		
GROUNDMASS (original)							Pyrite _____		
Aphanitic	✓						Epidote _____		
Feldspathic							Gypsum _____		
Diktytaxitic							Anhydrite _____		
							Chalcopyrite _____		
							Limonite _____		
							Hematite _____		
							Other (describe) _____		
CRITICAL FEATURES (description of units or features by number)								2636	

- 1) pth, vesicular 30%, <1mm; olivine mph <1%, unalt.; in a gray aphan. mtr.
- 2) hyaloclastite, sand sized black and amber volcanic glass shards compacted into a friable, somewhat competent unit.

CORE LOG

BOX # 263

HOLE # 1

Sheet A

Depth range 803.98 to 807.33 meters

Depth range 2636 to 2647 feet

Logger's Name EAI

Page 1

Type of Sample: Flow 2 Intrusive \_\_\_\_\_ Ash \_\_\_\_\_ Breccia \_\_\_\_\_ Red Bed \_\_\_\_\_

Number of Units in Box 3 Clk/Rubble \_\_\_\_\_ Carbonate \_\_\_\_\_ Pillow/Hyaloclast 1,3

Fill in blanks below by using the appropriate unit number.

PRIMARY FEATURES							SECONDARY FEATURES		COMMENTS	
Phyric	1	2	3	4	5	6	Phenocryst replacements			1' lost core
mega (>.5 mm)	-		-				Olv -> Clay _____			
micro (<.5 mm)		✓					Iddingsite _____			
Aphyric							Plag -> Clay _____			
Vesicles: %	-	30	-				Zeolite _____			
Shape		R					Groundmass			
Size(x)		<1mm					Chlorite _____			
							Smectite _____			
PHENOCRYSTS (Original mineralogy)							Fracture	Vesicle		
Olivine >5%							Secondary/Alteration Min.		2636	
1-5%							Smectite _____		hyalo #1	
<1%		✓					Calcite _____			
Phenos mph		✓					Zeolite _____			
ol-plag							white fibrous _____			
Comments								green _____		
Plagioclase							blue _____		2639	
>5%							Analcime _____		phh #2	
1-5%							Chabazite _____			
<1%							MgOH _____			
Rhombs							Silica _____			
Blades/laths mph							Amorphous _____			
Comments								Chalcedony _____		
Augite %							Crystals _____		2645	
							Pyrite _____		hyalo #3	
GROUNDMASS (original)							Epidote _____			
Aphanitic	-	✓	-				Gypsum _____			
Feldspathic							Anhydrite _____			
Diktytaxitic							Chalcopyrite _____			
							Limonite _____		2647	
							Hematite _____			
							Other (describe) _____			
							blue screen #2			

CRITICAL FEATURES (description of units or features by number)

- 1) hyaloclastite, sand sized black & amber volcanic glass shards compacted into a friable, somewhat competent unit.
- 2) phh, mesoclastic 30%, < 1mm; Olivine mph < 1%, unalt.; in a lt. gray aphan mtr
- 3) hyaloclastite, lith as in #1

CORE LOG

BOX # 264

HOLE # 1

Sheet A

Depth range 807.33 to 810.08 meters

Depth range 2647 to 2656 feet

Logger's Name EN

Page 1

Type of Sample: Flow  Intrusive  Ash  Breccia  Red Bed

Number of Units in Box 1 Clk/Rubble  Carbonate  Pillow/Hyaloclast 1

Fill in blanks below by using the appropriate unit number.

PRIMARY FEATURES						SECONDARY FEATURES		COMMENTS
Phyric	1	2	3	4	5	6	Phenocryst replacements	
mega (>.5 mm)	—						Olv -> Clay	
micro(<.5 mm)							Iddingsite	
Aphyric							Plag -> Clay	
Vesicles: %	—						Zeolite	
Shape							Groundmass	
Size(x)							Chlorite	
							Smectite	
							Fracture	
							Vesicle	
PHENOCRYSTS (Original mineralogy)							Secondary/Alteration Min.	
Olivine	>5%						Smectite	
	1-5%						Calcite	
	<1%						Zeolite	
Phenos							white fibrous	
mph							green	
ol-plag							blue	
Comments							Analcime	
							Chabazite	
Plagioclase							MgOH	
	>5%						Silica	
	1-5%						Amorphous	
	<1%						Chalcedony	
Rhombs							Crystals	
Blades/laths							Pyrite	
mph							Epidote	
Comments							Gypsum	
							Anhydrite	
Augite	%						Chalcopyrite	
							Limonite	
							Hematite	
GROUNDMASS (original)							Other (describe)	
Aphanitic	—							
Feldspathic								
Diktytaxitic								

CRITICAL FEATURES (description of units or features by number)

1) hyaloclastite, sand sized black and amber volcanic glass shards compacted into a friable somewhat competent unit.

CORE LOG  
 BOX # 265 HOLE # SOH#1 Sheet A  
 Depth range 810.1 to 814.7 meters Depth range 2656 to 2671 feet  
 Logger's Name RE Page 1  
 Type of Sample: Flow      Intrusive      Ash      Breccia      Red Bed       
 Number of Units in Box 2 Clk/Rubble      Carbonate      Pillow/Hyaloclast 1,2  
 Fill in blanks below by using the appropriate unit number.

PRIMARY FEATURES						
Phyric	1	2	3	4	5	6
mega (>.5 mm)	—	✓				
micro (<.5 mm)		✓				
Aphyric						
Vesicles: %	—	1/1				
Shape		2.5				
Size(x)		<1mm				
PHENOCRYSTS (Original mineralogy)						
Olivine >5%						
1-5%		1-3				
<1%						
Phenos		✓				
mph		✓				
ol-plag						
Comments _____						
Plagioclase						
>5%						
1-5%						
<1%						
Rhombs						
Blades/laths						
mph						
Comments _____						
Augite %						
GROUNDMASS (original)						
Aphanitic	—	✓				
Feldspathic		✓				
Diktytaxitic						

SECONDARY FEATURES	
Phenocryst replacements	
Olv -> Clay	
Iddingsite	
Plag -> Clay	
Zeolite	
Groundmass	
Chlorite	
Smectite	
Fracture	
Vesicle	
Secondary/Alteration Min.	
Smectite	
Calcite	
Zeolite	
white fibrous	
green	
blue	
Analcime	
Chabazite	
MgOH	
Silica	
Amorphous ?/2	
Chalcedony	
Crystals	
Pyrite	
Epidote	
Gypsum	
Anhydrite	
Chalcopyrite	
Limonite	
Hematite	
Other (describe)	

COMMENTS  
 END OF HQ CORE  
 2656'  
 Hyaloclastite # 1  
 42661'  
 pillow # 2  
 7' lost core  
 42671'

CRITICAL FEATURES (description of units or features by number)

- 1) hyaloclastite, sand sized black and amber volcanic glass shards w/ xenoliths of phyric pillow lava forming a friable, semi-competent unit.
- 2) pillow lava<sub>2</sub> w/ 1-3% olivine phenos and mph in a blue-grey aphanitic to feldspathic matrix. <sup>thick</sup> Amber/golden glass rind along contact. Moderately-highly fractured. ~1% of tiny <1mm vesicles, w/ occasional large voids, otherwise very dense.

CORE LOG  
 BOX # 266 HOLE # SOH#1 Sheet A  
 Depth range 814.7 to 815.9 meters Depth range 2671 to 2675 feet  
 Logger's Name RE Page 1  
 Type of Sample: Flow      Intrusive      Ash      Breccia      Red Bed       
 Number of Units in Box 1 Clk/Rubble      Carbonate      Pillow/Hyaloclast 1  
 Fill in blanks below by using the appropriate unit number.

PRIMARY FEATURES						SECONDARY FEATURES		COMMENTS
Phyric	1	2	3	4	5	6	Phenocryst replacements	PO CORE Commences.
mega (>.5 mm)	—						Olv -> Clay	
micro (<.5 mm)							Iddingsite	
Aphyric							Plag -> Clay	
Vesicles: %	—						Zeolite	
Shape							Groundmass	
Size(x)							Chlorite	
							Smectite	
							Fracture	
							Vesicle	
PHENOCRYSTS (Original mineralogy)						Secondary/Alteration Min.		
Olivine >5%							Smectite	} hyaloclastite #1
1-5%							Calcite	
<1%							Zeolite	
Phenos mph							white fibrous	
ol-plag							green	
Comments							blue	
							Analcime	
							Chabazite	
							MgOH	
							Silica	
Plagioclase								
>5%							Amorphous	} 2675'
1-5%							Chalcedony	
<1%							Crystals	
Rhombs							Pyrite	
Blades/laths mph							Epidote	
Comments							Gypsum	
							Anhydrite	
							Chalcopyrite	
							Limonite	
							Hematite	
Augite %								
GROUNDMASS (original)								
Aphanitic	—						Other (describe)	
Feldspathic								
Diktytaxitic								

CRITICAL FEATURES (description of units or features by number)

1) Hyaloclastite, composed of sand sized black and amber glass shards w/ xenolithic clasts of blue-grey dense flow (dike? pillow?) and microvesicular blue-grey flow (pillow? pahoehoe?). Clasts have thick black glass & <1% olivine phenos/mph. Unit is friable & semi-competent. Top 1' has desinitiated to sand.



CORE LOG  
 BOX # 267 HOLE # SOH#1 Sheet A  
 Depth range 815.9 to 817.1 meters Depth range 2675 to 2679 feet  
 Logger's Name RE Page 1  
 Type of Sample: Flow \_\_\_\_\_ Intrusive \_\_\_\_\_ Ash \_\_\_\_\_ Breccia \_\_\_\_\_ Red Bed \_\_\_\_\_  
 Number of Units in Box 1 Clk/Rubble \_\_\_\_\_ Carbonate \_\_\_\_\_ Pillow/Hyaloclast 1  
 Fill in blanks below by using the appropriate unit number.

PRIMARY FEATURES							SECONDARY FEATURES			COMMENTS
Phyric	1	2	3	4	5	6	Phenocryst replacements			
mega (>.5 mm)	✓						Olv -> Clay _____			
micro(<.5 mm)							Iddingsite _____			
Aphyric							Plag -> Clay _____			
Vesicles: %	✓						Zeolite _____			
Shape							Groundmass			
Size(x)							Chlorite _____			
							Smectite _____			
PHENOCRYSTS (Original mineralogy)							Fracture	Vesicle		
Olivine >5%							Secondary/Alteration Min.			
1-5%							Smectite _____			
<1%							Calcite _____			
Phenos							Zeolite _____			
mph							white fibrous _____			
ol-plag							green _____			
Comments								blue _____		
							Analcime _____			
Plagioclase								Chabazite _____		
>5%							MgOH _____			
1-5%							Silica			
<1%							Amorphous _____			
Rhombs							Chalcedony _____			
Blades/laths							Crystals _____			
mph							Pyrite _____			
Comments								Epidote _____		
							Gypsum _____			
Augite %								Anhydrite _____		
							Chalcopyrite _____			
GROUNDMASS (original)								Limonite _____		
Aphanitic	✓						Hematite _____			
Feldspathic							Other (describe) _____			
Diktytaxitic										

CRITICAL FEATURES (description of units or features by number)

1) hyaloclastite, composed of black and amber sand-sized glass shards w/ clasts of <sup>highly</sup> vesicular black glass (rare). Friable, semi-competent unit.

BOX # 268

CORE LOG

HOLE # SOH#1

Sheet A

Depth range 817.1 to 818.2 meters

Depth range 2679 to 2682.5 feet

Logger's Name RE

Page 1

Type of Sample: Flow  Intrusive  Ash  Breccia  Red Bed

Number of Units in Box 1 Clk/Rubble  Carbonate  Pillow/Hyaloclast

Fill in blanks below by using the appropriate unit number.

PRIMARY FEATURES							SECONDARY FEATURES		COMMENTS	
Phyric	1	2	3	4	5	6	Phenocryst replacements			
mega (>.5 mm)	—						Olv -> Clay			
micro (<.5 mm)							Iddingsite			
Aphyric							Plag -> Clay			
Vesicles: %	—						Zeolite			
Shape							Groundmass			
Size(x)							Chlorite			
							Smectite			
							Fracture			
							Vesicle			
PHENOCRYSTS (Original mineralogy)							Secondary/Alteration Min.			
Olivine >5%							Smectite			
1-5%							Calcite			
<1%							Zeolite			
Phenos							white fibrous			
mph							green			
ol-plag							blue			
Comments								Analcime		
							Chabazite			
Plagioclase							MgOH			
>5%							Silica			
1-5%							Amorphous			
<1%							Chalcedony			
Rhombs							Crystals			
Blades/laths							Pyrite			
mph							Epidote			
Comments								Gypsum		
							Anhydrite			
Augite %							Chalcopryrite			
							Limonite			
GROUNDMASS (original)							Hematite			
Aphanitic	—						Other (describe)			
Feldspathic										
Diktytaxitic										

CRITICAL FEATURES (description of units or features by number)

D) hyaloclastite composed of sand-sized black and amber glass shards supporting clasts of 35-45% vesicular aphyric, blue-grey aphanitic flow. Friable, semi-competent unit. All clasts + shards angular.

CORE LOG  
 BOX # 269 HOLE # SOA#1 Sheet A  
 Depth range 818.2 to 819.2 meters Depth range 2682.5 to 2686 feet  
 Logger's Name RL Page 1  
 Type of Sample: Flow      Intrusive      Ash      Breccia      Red Bed       
 Number of Units in Box 1 Clk/Rubble      Carbonate      Pillow/Hyaloclast 1  
 Fill in blanks below by using the appropriate unit number.

PRIMARY FEATURES							SECONDARY FEATURES		COMMENTS
Phyric	1	2	3	4	5	6	Fracture	Vesicle	
mega (>.5 mm)	—								
micro (<.5 mm)									
Aphyric									
Vesicles: %	—								
Shape									
Size(x)									
PHENOCRYSTS (Original mineralogy)									
Olivine >5%									
1-5%									
<1%									
Phenos mph									
ol-plag									
Comments									
Plagioclase									
>5%									
1-5%									
<1%									
Rhombs									
Blades/laths mph									
Comments									
Augite %									
GROUNDMASS (original)									
Aphanitic	—								
Feldspathic									
Diktytaxitic									
Secondary/Alteration Min.									
Smectite									
Calcite									
Zeolite									
white fibrous									
green									
blue									
Analcime									
Chabazite									
MgOH									
Silica									
Amorphous									
Chalcedony									
Crystals									
Pyrite									
Epidote									
Gypsum									
Anhydrite									
Chalcopyrite									
Limonite									
Hematite									
Other (describe)									

CRITICAL FEATURES (description of units or features by number)

1) hyaloclastite composed of sand-sized black and amber glass angular shards supporting an occasional clast of vesicular (30-35%) aphyric flow. Friable, semi-competent unit. Clasts & shards angular.

CORE LOG  
 BOX # 270 HOLE # S04#1 Sheet A  
 Depth range 819.2 to 820.5 meters Depth range 2686 to 2690 feet  
 Logger's Name RE Page 1  
 Type of Sample: Flow      Intrusive      Ash      Breccia      Red Bed       
 Number of Units in Box 1 Clk/Rubble      Carbonate      Pillow/Hyaloclast 1  
 Fill in blanks below by using the appropriate unit number.

PRIMARY FEATURES						SECONDARY FEATURES		COMMENTS
Phyric	1	2	3	4	5	6		
mega (>.5 mm)	—						Phenocryst replacements	2686' } hyaloclastite #4 2690'
micro (<.5 mm)							Olv -> Clay <u>    </u>	
Aphyric							Iddingsite <u>    </u>	
Vesicles: %	—						Plag -> Clay <u>    </u>	
Shape							Zeolite <u>    </u>	
Size(x)							Groundmass	
PHENOCRYSTS (Original mineralogy)							Chlorite <u>    </u>	
Olivine >5%							Smeectite <u>    </u>	
1-5%							Calcite <u>    </u>	
<1%							Zeolite <u>    </u>	
Phenos mph							white fibrous <u>    </u>	
ol-plag							green <u>    </u>	
Comments							blue <u>    </u>	
Plagioclase							Analcime <u>    </u>	
>5%							Chabazite <u>    </u>	
1-5%							MgOH <u>    </u>	
<1%							Silica <u>    </u>	
Rhombs							Amorphous <u>    </u>	
Blades/laths mph							Chalcedony <u>    </u>	
Comments							Crystals <u>    </u>	
Augite %							Pyrite <u>    </u>	
							Epidote <u>    </u>	
GROUNDMASS (original)							Gypsum <u>    </u>	
Aphanitic	—						Anhydrite <u>    </u>	
Feldspathic							Chalcoppyrite <u>    </u>	
Diktytaxitic							Limonite <u>    </u>	
							Hematite <u>    </u>	
							Other (describe) <u>    </u>	

CRITICAL FEATURES (description of units or features by number)

1) hyaloclastite composed of sand-sized black and amber angular glass shards supporting clasts of olivine phyric (1-2%) <sup>blue-green</sup> aphanitic flow w/ black -> golden glass rinds. Unit is friable and semi-competent.

CORE LOG  
 BOX # 271 HOLE # SOH#1 Sheet A  
 Depth range 820.5 to 821.5 meters Depth range 2690 to 2693.5 feet  
 Logger's Name RE Page 1  
 Type of Sample: Flow      Intrusive      Ash      Breccia      Red Bed       
 Number of Units in Box 1 Clk/Rubble      Carbonate      Pillow/Hyaloclast 1  
 Fill in blanks below by using the appropriate unit number.

PRIMARY FEATURES						SECONDARY FEATURES		COMMENTS
Phyric	1	2	3	4	5	6		
mega (>.5 mm)	<u>  </u>	<u>  </u>	<u>  </u>	<u>  </u>	<u>  </u>	<u>  </u>	Phenocryst replacements	2690' 2691' } hyaloclastite #1 2693.5'
micro (<.5 mm)	<u>  </u>	<u>  </u>	<u>  </u>	<u>  </u>	<u>  </u>	<u>  </u>	Olv -> Clay <u>    </u>	
Aphyric	<u>  </u>	<u>  </u>	<u>  </u>	<u>  </u>	<u>  </u>	<u>  </u>	Iddingsite <u>    </u>	
Vesicles: %	<u>  </u>	<u>  </u>	<u>  </u>	<u>  </u>	<u>  </u>	<u>  </u>	Plag -> Clay <u>    </u>	
Shape	<u>  </u>	<u>  </u>	<u>  </u>	<u>  </u>	<u>  </u>	<u>  </u>	Zeolite <u>    </u>	
Size(x)	<u>  </u>	<u>  </u>	<u>  </u>	<u>  </u>	<u>  </u>	<u>  </u>	Groundmass	
PHENOCRYSTS (Original mineralogy)							Chlorite <u>    </u>	
Olivine >5%	<u>  </u>	<u>  </u>	<u>  </u>	<u>  </u>	<u>  </u>	<u>  </u>	Smectite <u>    </u>	
1-5%	<u>  </u>	<u>  </u>	<u>  </u>	<u>  </u>	<u>  </u>	<u>  </u>	Calcite <u>    </u>	
<1%	<u>  </u>	<u>  </u>	<u>  </u>	<u>  </u>	<u>  </u>	<u>  </u>	Zeolite <u>    </u>	
Phenos	<u>  </u>	<u>  </u>	<u>  </u>	<u>  </u>	<u>  </u>	<u>  </u>	white fibrous <u>    </u>	
mph	<u>  </u>	<u>  </u>	<u>  </u>	<u>  </u>	<u>  </u>	<u>  </u>	green <u>    </u>	
ol-plag	<u>  </u>	<u>  </u>	<u>  </u>	<u>  </u>	<u>  </u>	<u>  </u>	blue <u>    </u>	
Comments	<u>    </u>							Analcime <u>    </u>
Plagioclase							Chabazite <u>    </u>	
>5%	<u>  </u>	<u>  </u>	<u>  </u>	<u>  </u>	<u>  </u>	<u>  </u>	MgOH <u>    </u>	
1-5%	<u>  </u>	<u>  </u>	<u>  </u>	<u>  </u>	<u>  </u>	<u>  </u>	Silica <u>    </u>	
<1%	<u>  </u>	<u>  </u>	<u>  </u>	<u>  </u>	<u>  </u>	<u>  </u>	Amorphous <u>    </u>	
Rhombs	<u>  </u>	<u>  </u>	<u>  </u>	<u>  </u>	<u>  </u>	<u>  </u>	Chalcedony <u>    </u>	
Blades/laths	<u>  </u>	<u>  </u>	<u>  </u>	<u>  </u>	<u>  </u>	<u>  </u>	Crystals <u>    </u>	
mph	<u>  </u>	<u>  </u>	<u>  </u>	<u>  </u>	<u>  </u>	<u>  </u>	Pyrite <u>    </u>	
Comments	<u>    </u>							Epidote <u>    </u>
Augite %							Gypsum <u>    </u>	
>5%	<u>  </u>	<u>  </u>	<u>  </u>	<u>  </u>	<u>  </u>	<u>  </u>	Anhydrite <u>    </u>	
1-5%	<u>  </u>	<u>  </u>	<u>  </u>	<u>  </u>	<u>  </u>	<u>  </u>	Chalcopryite <u>    </u>	
<1%	<u>  </u>	<u>  </u>	<u>  </u>	<u>  </u>	<u>  </u>	<u>  </u>	Limonite <u>    </u>	
Rhombs	<u>  </u>	<u>  </u>	<u>  </u>	<u>  </u>	<u>  </u>	<u>  </u>	Hematite <u>    </u>	
Blades/laths	<u>  </u>	<u>  </u>	<u>  </u>	<u>  </u>	<u>  </u>	<u>  </u>	Other (describe) <u>    </u>	
mph	<u>  </u>	<u>  </u>	<u>  </u>	<u>  </u>	<u>  </u>	<u>  </u>		
Comments	<u>    </u>							
GROUNDMASS (original)								
Aphanitic	<u>  </u>	<u>  </u>	<u>  </u>	<u>  </u>	<u>  </u>	<u>  </u>		
Feldspathic	<u>  </u>	<u>  </u>	<u>  </u>	<u>  </u>	<u>  </u>	<u>  </u>		
Diktytaxitic	<u>  </u>	<u>  </u>	<u>  </u>	<u>  </u>	<u>  </u>	<u>  </u>		

CRITICAL FEATURES (description of units or features by number)

1) Hyaloclastite composed of sand-sized black and amber glass shards and angular clasts of blue-grey aphanitic flow. Unit is friable, semi-competent.

CORE LOG  
 BOX # 272 HOLE # SOH#1 Sheet A  
 Depth range 821.5 to 822.6 meters Depth range 2693.5 to 2697 feet  
 Logger's Name RE Page 1  
 Type of Sample: Flow      Intrusive      Ash      Breccia      Red Bed       
 Number of Units in Box 1 Clk/Rubble      Carbonate      Pillow/Hyaloclast /  
 Fill in blanks below by using the appropriate unit number.

PRIMARY FEATURES							SECONDARY FEATURES		COMMENTS
Phyric	1	2	3	4	5	6	Phenocryst replacements		
mega (>.5 mm)	<u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	Olv -> Clay <u>    </u>		
micro (<.5 mm)	<u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	Iddingsite <u>    </u>		
Aphyric	<u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	Plag -> Clay <u>    </u>		
Vesicles: %	<u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	Zeolite <u>    </u>		
Shape	<u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	Groundmass		
Size(x)	<u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	Chlorite <u>    </u>		
	<u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	Smectite <u>    </u>		
	<u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	Fracture		
	<u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	Vesicle		
PHENOCRYSTS (Original mineralogy)							Secondary/Alteration Min.		
Olivine >5%	<u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	Smectite		
1-5%	<u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	Calcite		
<1%	<u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	Zeolite		
Phenos mph	<u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	white fibrous		
ol-plag	<u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	green		
Comments	<u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	blue		
	<u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	Analcime		
Plagioclase	<u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	Chabazite		
>5%	<u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	MgOH		
1-5%	<u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	Silica		
<1%	<u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	Amorphous		
Rhombs	<u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	Chalcedony		
Blades/laths	<u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	Crystals		
mph	<u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	Pyrite		
Comments	<u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	Epidote		
Augite %	<u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	Gypsum		
	<u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	Anhydrite		
GROUNDMASS (original)	<u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	Chalcopyrite		
Aphanitic	<u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	Limonite		
Feldspathic	<u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	Hematite		
Diktytaxitic	<u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	Other (describe)		

CRITICAL FEATURES (description of units or features by number)

1) Hyaloclastite composed of sand-sized black & amber glass shards and angular clasts of blue-grey aphanitic flow. Unit is friable, semi-competent.

CORE LOG  
 BOX # 273 HOLE # 301#1 Sheet A  
 Depth range 822.6 to 823.8 meters Depth range 2697 to 2701 feet  
 Logger's Name RE Page 1  
 Type of Sample: Flow      Intrusive      Ash      Breccia      Red Bed       
 Number of Units in Box 1 Clk/Rubble      Carbonate      Pillow/Hyaloclast 1  
 Fill in blanks below by using the appropriate unit number.

PRIMARY FEATURES						SECONDARY FEATURES		COMMENTS
Phyric	1	2	3	4	5	6	Phenocryst replacements	
mega (>.5 mm)	✓						Olv -> Clay <u>    </u>	
micro (<.5 mm)							Iddingsite <u>    </u>	
Aphyric							Plag -> Clay <u>    </u>	
Vesicles: %	✓						Zeolite <u>    </u>	
Shape							Groundmass	
Size(x)							Chlorite <u>    </u>	
							Smectite <u>    </u>	
							Fracture <u>    </u>	
							Vesicle <u>    </u>	
PHENOCRYSTS (Original mineralogy)						Secondary/Alteration Min.		
Olivine >5%							Smectite <u>    </u>	
1-5%							Calcite <u>    </u>	
<1%							Zeolite <u>    </u>	
Phenos mph							white fibrous <u>    </u>	
ol-plag							green <u>    </u>	
Comments							blue <u>    </u>	
							Analcime <u>    </u>	
Plagioclase							Chabazite <u>    </u>	
>5%							MgOH <u>    </u>	
1-5%							Silica <u>    </u>	
<1%							Amorphous <u>    </u>	
Rhombs							Chalcedony <u>    </u>	
Blades/laths mph							Crystals <u>    </u>	
Comments							Pyrite <u>    </u>	
							Epidote <u>    </u>	
Augite %							Gypsum <u>    </u>	
							Anhydrite <u>    </u>	
GROUNDMASS (original)							Chalcopyrite <u>    </u>	
Aphanitic	✓						Limonite <u>    </u>	
Feldspathic							Hematite <u>    </u>	
Diktytaxitic							Other (describe) <u>    </u>	

CRITICAL FEATURES (description of units or features by number)

1) hyaloclastite composed of sand-sized black and amber glass shards and angular clasts of blue-gray aphanitic flow. Unit is friable and semi-competent.

CORE LOG

BOX # 214

HOLE # 1

Sheet A

Depth range 823.8 to 824.87 meters

Depth range 2701 to 2704.5 feet

Logger's Name EN

Page 1

Type of Sample: Flow 2 Intrusive \_\_\_\_\_ Ash \_\_\_\_\_ Breccia \_\_\_\_\_ Red Bed \_\_\_\_\_

Number of Units in Box 3 Clk/Rubble \_\_\_\_\_ Carbonate \_\_\_\_\_ Pillow/Hyaloclast 1/3

Fill in blanks below by using the appropriate unit number.

PRIMARY FEATURES							SECONDARY FEATURES			COMMENTS	
Phyric	1	2	3	4	5	6	Phenocryst replacements			PQ box possible mold at 2703'	
mega (>.5 mm)	-	✓	-				Olv -> Clay				
micro (<.5 mm)		✓					Iddingsite				
Aphyric							Plag -> Clay				
							Zeolite				
Vesicles: %		25					Groundmass				
Shape		R					Chlorite				
Size(x)		1mm					Smectite				
PHENOCRYSTS (Original mineralogy)								Fracture			
Olivine >5%							Vesicle				
1-5%							Secondary/Alteration Min.				
<1%		✓					Smectite			2701	
Phenos mph		✓					Calcite			← hyalo #1	
ol-plag		✓					Zeolite			} phh #2	
Comments	unalt							white fibrous			
							green				
Plagioclase >5%							blue				
1-5%							Analcime			← hyalo #3	
<1%							Chabazite			2704.5	
Rhombs							MgOH				
Blades/laths mph							Silica				
Comments								Amorphous			
							Chalcedony				
Augite %							Crystals				
							Pyrite				
GROUNDMASS (original)							Epidote				
Aphanitic	-	✓	-				Gypsum				
Feldspathic							Anhydrite				
Diktytaxitic							Chalcopyrite				
							Limonite				
							Hematite				
							Other (describe)				

CRITICAL FEATURES (description of units or features by number)

1) hyaloclastite, fine gravel sized blue gray (etched?) volcanic glass, black on fresh fract, and sand sized amber volcanic glass compressed into a friable but competent unit.

2) phh, mesoclastic 25%, 1mm, olivine mph <1%, unalt.; in a lt. gray aphan mtr.

3) hyalo, lith as in #1



CORE LOG

BOX # 275

HOLE # 1

Sheet A

Depth range 824.87 to 825.94 meters

Depth range 2704.5 to 2708 feet

Logger's Name EN

Page 1

Type of Sample: Flow  Intrusive  Ash  Breccia  Red Bed

Number of Units in Box  Clk/Rubble  Carbonate  Pillow/Hyaloclast 1

Fill in blanks below by using the appropriate unit number.

PRIMARY FEATURES						SECONDARY FEATURES		COMMENTS
Phyric	1	2	3	4	5	6	Phenocryst replacements	
mega (>.5 mm)							Olv -> Clay	
micro (<.5 mm)							Iddingsite	
Aphyric							Plag -> Clay	
							Zeolite	
Vesicles: %							Groundmass	
Shape							Chlorite	
Size(x)							Smectite	
PHENOCRYSTS (Original mineralogy)							Secondary/Alteration Min.	
Olivine >5%							Smectite	
1-5%							Calcite	
<1%							Zeolite	
Phenos mph							white fibrous	
ol-plag							green	
Comments							blue	
Plagioclase							Analcime	
>5%							Chabazite	
1-5%							MgOH	
<1%							Silica	
Rhombs							Amorphous	
Blades/laths mph							Chalcedony	
Comments							Crystals	
Augite %							Pyrite	
							Epidote	
GROUNDMASS (original)							Gypsum	
Aphanitic							Anhydrite	
Feldspathic							Chalcopyrite	
Diktytaxitic							Limonite	
							Hematite	
							Other (describe)	

CRITICAL FEATURES (description of units or features by number)

1) hyaloclastite, fine gravel sized blue gray (etched?) volcanic glass, blk. on fresh fract., and sand sized amber volcanic glass compressed into a friable but competent unit. One lg. (6cm) vesicular basalt clast.

CORE LOG

BOX # 276

HOLE # 1

Sheet A

Depth range 825.94 to 827.16 meters

Depth range 2708 to 2712 feet

Logger's Name EN

Page 1

Type of Sample: Flow      Intrusive      Ash      Breccia      Red Bed     

Number of Units in Box 1 Clk/Rubble      Carbonate      Pillow/Hyaloclast 1

Fill in blanks below by using the appropriate unit number.

PRIMARY FEATURES							SECONDARY FEATURES		COMMENTS	
Phyric	1	2	3	4	5	6	Phenocryst replacements		PQ box	
mega (>.5 mm)							Olv -> Clay			
micro (<.5 mm)							Iddingsite			
Aphyric							Plag -> Clay			
							Zeolite			
Vesicles: %							Groundmass			
Shape							Chlorite			
Size(x)							Smectite			
PHENOCRYSTS (Original mineralogy)							Fracture	Vesicle		
Olivine >5%							Secondary/Alteration Min.			2708
Olivine 1-5%							Smectite		hyalo #1	
Olivine <1%							Calcite			
Phenos mph							Zeolite			
ol-plag							white fibrous			
Comments							green			
Plagioclase >5%							blue			
Plagioclase 1-5%							Analcime			
Plagioclase <1%							Chabazite			
Rhombs							MgOH			
Blades/laths mph							Silica			
Comments							Amorphous			
Augite %							Chalcedony			
GROUNDMASS (original)							Crystals		2712	
Aphanitic							Pyrite			
Feldspathic							Epidote			
Diktytaxitic							Gypsum			
							Anhydrite			
							Chalcopyrite			
							Limonite			
							Hematite			
							Other (describe)			

CRITICAL FEATURES (description of units or features by number)

1) hyaloclastite, fine gravel sized blue gray (etched?) volcanic glass, blk. on fresh fract., and sand sized amber volcanic glass compressed into a friable but competent unit.

CORE LOG

BOX # 277

HOLE # SOH#1

Sheet A

Depth range 227.0 to 227.8 meters

Depth range 2711.5 to 2717 feet

Logger's Name RE

Page 1

Type of Sample: Flow  Intrusive  Ash  Breccia  Red Bed

Number of Units in Box 1 Clk/Rubble  Carbonate  Pillow/Hyaloclast /

Fill in blanks below by using the appropriate unit number.

PRIMARY FEATURES						SECONDARY FEATURES		COMMENTS
Phyric	1	2	3	4	5	6	Phenocryst replacements	
mega (>.5 mm)	—						Olv -> Clay _____	
micro (<.5 mm)							Iddingsite _____	
Aphyric							Plag -> Clay _____	
Vesicles: %	—						Zeolite _____	
Shape							Groundmass	
Size(x)							Chlorite _____	
							Smectite _____	
							Fracture	
							Vesicle	
PHENOCRYSTS (Original mineralogy)						Secondary/Alteration Min.		
Olivine >5%							Smectite _____	
Olivine 1-5%							Calcite _____	
Olivine <1%							Zeolite _____	
Phenos mph							white fibrous _____	
ol-plag							green _____	
Comments _____							blue _____	
							Analcime _____	
Plagioclase >5%							Chabazite _____	
Plagioclase 1-5%							MgOH _____	
Plagioclase <1%							Silica _____	
Rhombs							Amorphous _____	
Blades/laths mph							Chalcedony _____	
Comments _____							Crystals _____	
							Pyrite _____	
Augite %							Epidote _____	
							Gypsum _____	
GROUNDMASS (original)								
Aphanitic	—						Anhydrite _____	
Feldspathic							Chalcopyrite _____	
Diktytaxitic							Limonite _____	
							Hematite _____	
							Other (describe) _____	

CRITICAL FEATURES (description of units or features by number)

1) *hyaloclastite composed of angular sand-sized black and amber glass shards and clasts of blue-grey aphanitic flow. Unit is friable and semi-competent.*

CORE LOG

BOX # 276 HOLE # 1 Sheet A  
 Depth range 828.68 to 830.21 meters Depth range 2717 to 2722 feet  
 Logger's Name EA Page 1  
 Type of Sample: Flow      Intrusive / Ash      Breccia      Red Bed       
 Number of Units in Box 1 Clk/Rubble      Carbonate      Pillow/Hyaloclast       
 Fill in blanks below by using the appropriate unit number.

PRIMARY FEATURES							SECONDARY FEATURES		COMMENTS
Phyric	1	2	3	4	5	6	Phenocryst replacements		1' lost core PQ core
mega (>.5 mm)	<input checked="" type="checkbox"/>						Olv -> Clay		
micro (<.5 mm)	<input checked="" type="checkbox"/>						Iddingsite		
Aphyric							Plag -> Clay		
Vesicles: %							Zeolite		
Shape							Groundmass		
Size(x)							Chlorite		
							Smeectite		
PHENOCRYSTS (Original mineralogy)							Fracture	Vesicle	
Olivine >5%							Secondary/Alteration Min.		2717
1-5%	<input checked="" type="checkbox"/>						Smeectite		dike #1
<1%							Calcite <input checked="" type="checkbox"/>		
Phenos mph	<input checked="" type="checkbox"/>						Zeolite		
ol-plag							white fibrous		
Comments							green		
							blue		
							Analcime		
							Chabazite		
							MgOH		
							Silica		
							Amorphous		
Plagioclase >5%							Chalcedony		2721
1-5%							Crystals		2722
<1%							Pyrite		
Rhombs							Epidote		
Blades/laths mph							Gypsum		
Comments							Anhydrite		
							Chalcopyrite		
Augite %							Limonite		
							Hematite		
GROUNDMASS (original)									
Aphanitic							Other (describe)		
Feldspathic							<i>blue mesh</i>		
Diktytaxitic	<input checked="" type="checkbox"/>								

CRITICAL FEATURES (description of units or features by number)

D) dike, anesicular, olivine mph 1%, unalt.; in a gray slightly dikty mtr.

CORE LOG

BOX # 279

HOLE # 1

Sheet A

Depth range 867.42 to 881.43 meters

Depth range 2722 to 2726 feet

Logger's Name EN

Page 1

Type of Sample: Flow      Intrusive 1 Ash      Breccia      Red Bed     

Number of Units in Box 1 Clk/Rubble      Carbonate      Pillow/Hyaloclast

Fill in blanks below by using the appropriate unit number.

PRIMARY FEATURES						SECONDARY FEATURES		COMMENTS
Phyric	1	2	3	4	5	6	Phenocryst replacements	PQ box           2722 dike #1 2726
mega (>.5 mm)	<input checked="" type="checkbox"/>						Olv -> Clay <u>    </u>	
micro (<.5 mm)	<input checked="" type="checkbox"/>						Iddingsite <u>    </u>	
Aphyric							Plag -> Clay <u>    </u>	
Vesicles: %							Zeolite <u>    </u>	
Shape							Groundmass	
Size(x)							Chlorite <u>    </u>	
							Smectite <u>    </u>	
							Fracture	
							Vesicle	
PHENOCRYSTS (Original mineralogy)						Secondary/Alteration Min.		
Olivine >5%							Smectite <u>    </u>	
1-5%							Calcite <input checked="" type="checkbox"/>	
<1%	<input checked="" type="checkbox"/>						Zeolite <u>    </u>	
Phenos mph	<input checked="" type="checkbox"/>						white fibrous <u>    </u>	
ol-plag							green <u>    </u>	
Comments <u>unalt.</u>							blue <u>    </u>	
							Analcime <u>    </u>	
							Chabazite <u>    </u>	
							MgOH <u>    </u>	
							Silica <u>    </u>	
							Amorphous <u>    </u>	
							Chalcedony <u>    </u>	
							Crystals <u>    </u>	
							Pyrite <u>    </u>	
							Epidote <u>    </u>	
							Gypsum <u>    </u>	
							Anhydrite <u>    </u>	
							Chalcopyrite <u>    </u>	
							Limonite <u>    </u>	
							Hematite <u>    </u>	
							Other (describe)	
							<u>blue mender</u>	

CRITICAL FEATURES (description of units or features by number)

1) dike, anhedral, olivine mph < 1%, unalt.; in a gray slightly dikty mtk.

CORE LOG  
 BOX # 280 HOLE # SO4#1 Sheet A  
 Depth range 831.4 to 832.5 meters Depth range 2726 to 2729.5 feet  
 Logger's Name RE Page 1  
 Type of Sample: Flow \_\_\_\_\_ Intrusive 1 Ash \_\_\_\_\_ Breccia \_\_\_\_\_ Red Bed \_\_\_\_\_  
 Number of Units in Box 1 Clk/Rubble \_\_\_\_\_ Carbonate \_\_\_\_\_ Pillow/Hyaloclast \_\_\_\_\_  
 Fill in blanks below by using the appropriate unit number.

PRIMARY FEATURES						
Phyric	1	2	3	4	5	6
mega (>.5 mm)	✓					
micro (<.5 mm)	✓					
Aphyric						
Vesicles: %						
Shape						
Size(x)						
PHENOCRYSTS (Original mineralogy)						
Olivine >5%						
1-5%	1-2%					
<1%						
Phenos	✓					
mph	✓					
ol-plag						
Comments _____						
Plagioclase						
>5%						
1-5%						
<1%						
Rhombs						
Blades/laths						
mph						
Comments _____						
Augite %						
GROUNDMASS (original)						
Aphanitic	✓					
Feldspathic						
Diktytaxitic						

SECONDARY FEATURES	
Phenocryst replacements	
Olv -> Clay	
Iddingsite	
Plag -> Clay	
Zeolite	
Groundmass	
Chlorite	
Smectite	
Fracture	
Vesicle	
Secondary/Alteration Min.	
Smectite	? ✓
Calcite	✓
Zeolite	
white fibrous	
green	
blue	
Analcime	
Chabazite	
MgOH	
Silica	
Amorphous	? ✓
Chalcedony	
Crystals	
Pyrite	
Epidote	
Gypsum	
Anhydrite	
Chalcopyrite	
Limonite	
Hematite	
Other (describe)	

COMMENTS  
 > flat, non-rhombic calcite  
 > blue amorph fracture coating - smectite or qtz  
 Pillow or DIKE?  
 2726'  
 dike # 1  
 2729.5'

CRITICAL FEATURES (description of units or features by number)

1) dike, with 1-2% olivine phenos & mph in a <sup>light</sup> blue-gray aphanitic matrix. Black glass present.

1° min: blue amorph min (quartz) and flat, non-rhombic calcite coating fractures.

CORE LOG

BOX # 281

HOLE # 1

Sheet A

Depth range 832.50 to 833.41 meters

Depth range 2729.5 to 2732.5 feet

Logger's Name EAI

Page 1

Type of Sample: Flow \_\_\_\_\_ Intrusive 1,2 Ash \_\_\_\_\_ Breccia \_\_\_\_\_ Red Bed \_\_\_\_\_

Number of Units in Box 2 Clk/Rubble \_\_\_\_\_ Carbonate \_\_\_\_\_ Pillow/Hyaloclast \_\_\_\_\_

Fill in blanks below by using the appropriate unit number.

PRIMARY FEATURES							SECONDARY FEATURES			COMMENTS
Phyric	1	2	3	4	5	6	Phenocryst replacements			PQ bot  2729.5 2730 dike #1  dike #2 2732 2732.5
mega (>.5 mm)	✓	✓					Olv -> Clay _____			
micro (<.5 mm)	✓	✓					Iddingsite _____			
Aphyric							Plag -> Clay _____			
Vesicles: %							Zeolite _____			
Shape							Groundmass			
Size(x)							Chlorite _____			
							Smectite _____			
PHENOCRYSTS (Original mineralogy)							Fracture	Vesicle		
Olivine >5%							Secondary/Alteration Min.			
1-5%		1					Smectite _____			
<1%	✓						Calcite _____	✓		
Phenos mph	✓	✓					Zeolite _____			
ol-plag							white fibrous _____			
Comments	<u>unalt</u>									
Plagioclase							green _____			
>5%							blue _____			
1-5%	1						Analcime _____			
<1%		✓					Chabazite _____			
Rhombs							MgOH _____			
Blades/laths mph	✓	✓					Silica _____			
Comments										
Augite %							Amorphous _____			
GROUNDMASS (original)										
Aphanitic							Chalcedony _____			
Feldspathic							Crystals _____			
Diktytaxitic	✓	✓					Pyrite _____			
							Epidote _____			
							Gypsum _____			
							Anhydrite _____			
							Chalcopyrite _____			
							Limonite _____			
							Hematite _____			
							Other (describe)			
							<u>blue veen</u>			

CRITICAL FEATURES (description of units or features by number)

- 1) dike, anisicular, olivine mph <1%, unalt.; plag blades & laths Σ 10%, in a gray slightly dikty mtr.
- 2) dike, anisicular, olivine mph 1%, unalt.; plag blades & laths Σ <10%, in a gray slightly dikty mtr.

CORE LOG  
 BOX # 282 HOLE # 504#1 Sheet A  
 Depth range 833.4 to 834.5 meters Depth range 2732.5 to 2736 feet  
 Logger's Name RE Page 1  
 Type of Sample: Flow \_\_\_\_\_ Intrusive 1 Ash \_\_\_\_\_ Breccia \_\_\_\_\_ Red Bed \_\_\_\_\_  
 Number of Units in Box 1 Clk/Rubble \_\_\_\_\_ Carbonate \_\_\_\_\_ Pillow/Hyaloclast \_\_\_\_\_  
 Fill in blanks below by using the appropriate unit number.

PRIMARY FEATURES						SECONDARY FEATURES		COMMENTS
Phyric	1	2	3	4	5	6	Phenocryst replacements	PQ box Pillow or Dike?
mega (>.5 mm)	✓						Olv -> Clay _____	
micro (<.5 mm)	✓						Iddingsite _____	
Aphyric							Plag -> Clay _____	
							Zeolite _____	
Vesicles: %	✓						Groundmass	
Shape							Chlorite _____	
Size(x)							Smectite _____	
PHENOCRYSTS (Original mineralogy)							Fracture	Vesicle
Olivine >5%						Secondary/Alteration Min.		
1-5% <u>1-2%</u>						Smectite _____	2732.5'	
<1%						Calcite <u>✓</u>	42733'	
Phenos <u>✓</u>						Zeolite _____	} dike #1	
mph <u>✓</u>						white fibrous _____		
ol-plag						green _____		
						blue _____		
Comments _____						Analcime _____	2736'	
Plagioclase						Chabazite _____		
>5%						MgOH _____		
1-5%						Silica _____		
<1%						Amorphous <u>blue</u>		
Rhombs						Chalcedony _____		
Blades/laths						Crystals _____		
mph						Pyrite _____		
Comments _____						Epidote _____		
Augite %						Gypsum _____		
						Anhydrite _____		
GROUNDMASS (original)						Chalcopyrite _____		
Aphanitic <u>✓</u>						Limonite _____		
Feldspathic						Hematite _____		
Diktytaxitic						Other (describe) _____		

CRITICAL FEATURES (description of units or features by number)

1) dike w/ 1-2% olivine phenos + mph in a blue-grey aphanitic matrix. Black glass present. Vesicular.

2° min: calcite, amorph blue gty (?)



CORE LOG

BOX # 283

HOLE # 1

Sheet A

Depth range 834.48 to 835.70 meters

Depth range 2736 to 2740 feet

Logger's Name EN

Page 1

Type of Sample: Flow      Intrusive 1 Ash      Breccia      Red Bed     

Number of Units in Box 2 Clk/Rubble      Carbonate      Pillow/Hyaloclast 2

Fill in blanks below by using the appropriate unit number.

PRIMARY FEATURES						SECONDARY FEATURES		COMMENTS
Phyric	1	2	3	4	5	6	Phenocryst replacements	
mega (>.5 mm)							Olv -> Clay	
micro (<.5 mm)	✓						Iddingsite	
Aphyric							Plag -> Clay	
Vesicles: %							Zeolite	
Shape							Groundmass	
Size(x)							Chlorite	
							Smeclite	
							Fracture	
							Vesicle	
PHENOCRYSTS (Original mineralogy)						Secondary/Alteration Min.		2736 dike #1 ← hyalo #2 2740
Olivine >5%							Smeclite	
1-5%	1						Calcite ✓	
<1%							Zeolite	
Phenos mph	✓						white fibrous	
ol-plag							green	
Comments							blue	
							Analcime	
Plagioclase >5%							Chabazite	
1-5%							MgOH	
<1%							Silica	
Rhombs							Amorphous	
Blades/laths mph							Chalcedony	
Comments							Crystals	
							Pyrite	
Augite %							Epidote	
							Gypsum	
GROUNDMASS (original)							Anhydrite	
Aphanitic							Chalcopyrite	
Feldspathic							Limonite	
Diktytaxitic	✓						Hematite	
							Other (describe)	
							blue cement	

CRITICAL FEATURES (description of units or features by number)

- 1) dike, anhedral, olivine mph 1%, unalt.; in a gray slightly dkty mtr.
- 2) hyaloclastite, fine gravel sized blue gray (etched?) volcanic glass, blk on fresh fract., and sand sized amber volcanic glass loose and incompetent.

CORE LOG  
 BOX # 284 HOLE # SOH#1 Sheet A  
 Depth range 836.7 to 840.3 meters Depth range 2740 to 2755 feet  
 Logger's Name RE Page 1  
 Type of Sample: Flow      Intrusive 2 Ash      Breccia      Red Bed       
 Number of Units in Box 2 Clk/Rubble      Carbonate      Pillow/Hyaloclast 1  
 Fill in blanks below by using the appropriate unit number.

PRIMARY FEATURES						SECONDARY FEATURES		COMMENTS
Phyric	1	2	3	4	5	6	Phenocryst replacements	
mega (>.5 mm)		✓					Olv -> Clay	
micro (<.5 mm)	—	✓					Iddingsite	
Aphyric							Plag -> Clay	
Vesicles: %	—	—					Zeolite	
Shape							Groundmass	
Size(x)							Chlorite	
							Smectite	
							Fracture	
							Vesicle	
PHENOCRYSTS (Original mineralogy)						Secondary/Alteration Min.		— drilled clastic 2750' } hyaloclastite # 1 } dike # 2 (or pillow?) 2755'
Olivine	>5%						Smectite	
	1-5%	1%					Calcite	
	<1%						Zeolite	
Phenos	mph	✓					white fibrous	
	ol-plag	✓					green	
Comments							blue	
Plagioclase	>5%						Analcime	
	1-5%						Chabazite	
	<1%						MgOH	
Rhombs							Silica	
Blades/laths	mph						Amorphous	
Comments							Chalcedony	
Augite	%						Crystals	
							Pyrite	
GROUNDMASS (original)							Epidote	
Aphanitic	—	✓					Gypsum	
Feldspathic							Anhydrite	
Diktytaxitic							Chalcopyrite	
							Limonite	
							Hematite	
							Other (describe)	

CRITICAL FEATURES (description of units or features by number)

1) Hyaloclastite composed of angular sand-sized black + amber glass shards and clasts of blue-grey aphanitic flow. Unit is friable + semi-competent. Drilled clasts (dike? rubble of pillow?)

2) dike w/ 1% olivine phenos + mph in a blue-grey aphanitic matrix. Black glass.

2° min: amorph. blue gtz(?)

CORE LOG  
 BOX # 285 HOLE # S011#1 Sheet A  
 Depth range 840.3 to 844.9 meters Depth range 2755 to 2770 feet  
 Logger's Name RS Page 1  
 Type of Sample: Flow      Intrusive 1 Ash      Breccia      Red Bed       
 Number of Units in Box 2 Clk/Rubble      Carbonate      Pillow/Hyaloclast 2  
 Fill in blanks below by using the appropriate unit number.

PRIMARY FEATURES						SECONDARY FEATURES		COMMENTS
Phyric	1	2	3	4	5	6	Phenocryst replacements	2755'
mega (>.5 mm)	/	-					Olv -> Clay	? ?
micro (<.5 mm)	/						Iddingsite	? ?
Aphyric							Plag -> Clay	? ?
							Zeolite	? ?
Vesicles: %	-	-					Groundmass	? ?
Shape							Chlorite	42758'
Size(x)							Smectite	} dike #1 (pillow?)
PHENOCRYSTS (Original mineralogy)							Fracture	? ?
Olivine >5%							Vesicle	? ?
1-5%	1-2						Secondary/Alteration Min.	? ?
<1%	/						Smectite	? ?
Phenos mph	/						Calcite	2 ?
ol-plag							Zeolite	? ?
Comments							white fibrous	? ?
Plagioclase							green	? ?
>5%							blue	42763'
1-5%							Analcime	? ?
<1%							Chabazite	? ?
Rhombs							MgOH	? ?
Blades/laths							Silica	? ?
mph							Amorphous <u>blue</u>	? ?
Comments							Chalcedony	? ?
Augite %							Crystals	? ?
GROUNDMASS (original)							Pyrite	? ?
Aphanitic	/	-					Epidote	? ?
Feldspathic							Gypsum	? ?
Diktytaxitic							Anhydrite	? ?
							Chalcopryrite	42768'
							Limonite	} hyaloclastite #2
							Hematite	? ?
							Other (describe)	2770'

CRITICAL FEATURES (description of units or features by number)

- 1) dike w/ 1-2% olivine phenos + mph in a blue-grey aphanitic matrix. Highly fractured. Black glass.
- 2) hyaloclastite composed of angular sand-sized (black and amber glass shards and clasts of avesicular phyric flow (pillow) and vesicular lowphyric (<1% flow. Friable & semi-competent.  
 2° mins: blue amorph. gty (?) coating fractures.

CORE LOG  
 BOX # 286 HOLE # 50H#1 Sheet A  
 Depth range 844.9 to 845.8 meters Depth range 2770 to 2773 feet  
 Logger's Name RE Page 1  
 Type of Sample: Flow      Intrusive 3 Ash      Breccia      Red Bed       
 Number of Units in Box 3 Clk/Rubble      Carbonate      Pillow/Hyaloclast 1,2  
 Fill in blanks below by using the appropriate unit number.

PRIMARY FEATURES						SECONDARY FEATURES		COMMENTS
Phyric	1	2	3	4	5	6	Phenocryst replacements	
mega (>.5 mm)	-	✓	-				Olv -> Clay	
micro (<.5 mm)							Iddingsite	
Aphyric			✓				Plag -> Clay	
Vesicles: %							Zeolite	
Shape							Groundmass	
Size(x)							Chlorite	
PHENOCRYSTS (Original mineralogy)							Smeectite	
Olivine >5%							Fracture	
1-5%		3-5					Vesicle	
<1%							Secondary/Alteration Min.	
Phenos mph		✓					Smeectite	
ol-plag							Calcite	
Comments								Zeolite
Plagioclase							white fibrous	<p>???</p>
>5%							green	
1-5%							blue	
<1%							Analcime	
Rhombs							Chabazite	
Blades/laths							MgOH	
mph							Silica	
Comments							Amorphous <i>blue</i> ✓	
Augite							Chalcedony	
%							Crystals	
GROUNDMASS (original)							Pyrite	
Aphanitic		✓	✓				✓ 2	
Feldspathic							Epidote	
Diktytaxitic							Gypsum	
							Anhydrite	
							Chalcopyrite	
							Limonite	
							Hematite	
							Other (describe)	

CRITICAL FEATURES (description of units or features by number)

- 1) hyaloclastite composed of sand-sized black & amber glass shards and angular clasts of blue-grey vesicular flow. Friable, semi-competent.
- 2) pillow lava w/ 3-5% olivine phenos & mph in a blue-grey aphanitic matrix. Golden-black <sup>fract</sup> glass rind. Fractures radiating <sup>perpendicular</sup> from contact. (Sure looks like the 'dike' unit above w/ 1-2% olv.!) ✓
- 3) dike, dense, avesicular, aphyric in a light grey aphanitic matrix. ✓

CORE LOG

BOX # 287

HOLE # SOA#1

Sheet A

Depth range 845.8 to 846.7 meters

Depth range 2773 to 2776 feet

Logger's Name RE

Page 1

Type of Sample: Flow  Intrusive  Ash  Breccia  Red Bed

Number of Units in Box 1 Clk/Rubble  Carbonate  Pillow/Hyaloclast

Fill in blanks below by using the appropriate unit number.

PRIMARY FEATURES						SECONDARY FEATURES		COMMENTS
Phyric	1	2	3	4	5	6		
mega (>.5 mm)	<input checked="" type="checkbox"/>						Phenocryst replacements	
micro (<.5 mm)							Olv -> Clay	
Aphyric	<input checked="" type="checkbox"/>						Iddingsite	
Vesicles: %	<input checked="" type="checkbox"/>						Plag -> Clay	
Shape							Zeolite	
Size(x)							Groundmass	
PHENOCRYSTS (Original mineralogy)							Chlorite	
Olivine >5%							Smeectite	
1-5%							Fracture	
<1%							Vesicle	
Phenos							Secondary/Alteration Min.	
mph							Smeectite	
ol-plag							Calcite	
Comments							Zeolite	
Plagioclase							white fibrous	
>5%							green	
1-5%							blue	
<1%							Analcime	
Rhombs							Chabazite	
Blades/laths							MgOH	
mph							Silica	
Comments							Amorphous	
Augite							Chalcedony	
%							Crystals	
GROUNDMASS (original)							Pyrite	
Aphanitic	<input checked="" type="checkbox"/>						Epidote	
Feldspathic							Gypsum	
Diktytaxitic							Anhydrite	
							Chalcopyrite	
							Limonite	
							Hematite	
							Other (describe)	

2773'  
 } dike #1  
 2776'

CRITICAL FEATURES (description of units or features by number)

1) dike, dense, aversicular, aphyric in a light grey aphanitic matrix. Very highly fractured. RQD will decrease w/ time. Pyrite along fractures.

2°: pyrite

BOX # 288

CORE LOG

HOLE # 504#1

Sheet A

Depth range 846.7 to 847.3 meters

Depth range 2776 to 2778.5 feet

Logger's Name RP

Page 1

Type of Sample: Flow \_\_\_ Intrusive / \_\_\_ Ash \_\_\_ Breccia \_\_\_ Red Bed \_\_\_

Number of Units in Box 1 Clk/Rubble \_\_\_ Carbonate \_\_\_ Pillow/Hyaloclast \_\_\_

Fill in blanks below by using the appropriate unit number.

PRIMARY FEATURES							SECONDARY FEATURES		COMMENTS	
Phyric	1	2	3	4	5	6	Phenocryst replacements			2776' } dike #1 2778.5'
mega (>.5 mm)							Olv -> Clay			
micro (<.5 mm)	✓						Iddingsite			
Aphyric							Plag -> Clay			
							Zeolite			
Vesicles: %	✓						Groundmass			
Shape							Chlorite			
Size(x)							Smectite			
PHENOCRYSTS (Original mineralogy)							Fracture	Vesicle		
Olivine >5%							Secondary/Alteration Min.			
1-5%							Smectite			
<1%	✓						Calcite			
Phenos							Zeolite			
mph	✓						white fibrous			
ol-plag <1%							green			
Comments								blue		
Plagioclase							Analcime			
>5%							Chabazite			
1-5%	✓						MgOH			
<1%							Silica			
Rhombs							Amorphous			
Blades/laths							Chalcedony			
mph	✓						Crystals			
Comments								Pyrite	✓	
Augite %							Epidote			
GROUNDMASS (original)								Gypsum		
Aphanitic	✓						Anhydrite			
Feldspathic							Chalcopyrite			
Diktytaxitic							Limonite			
							Hematite			
							Other (describe)			

CRITICAL FEATURES (description of units or features by number)

1) dike w/ 1% total % of olivine mph / ol-plag intergrowths / and plag mph in a light grey aphanitic matrix. Very highly fractured. Pyrite (✓) needles (flattened) in fractures.

BOX # 289

CORE LOG

HOLE # 504#1

Sheet A

Depth range 847.4 to 847.9 meters

Depth range 2778.5 to 2780 feet

Logger's Name RS

Page 1

Type of Sample: Flow  Intrusive  Ash  Breccia  Red Bed

Number of Units in Box 2 Clk/Rubble  Carbonate  Pillow/Hyaloclast 2

Fill in blanks below by using the appropriate unit number.

PRIMARY FEATURES						
	1	2	3	4	5	6
Phyric						
mega (>.5 mm)	/					
micro (<.5 mm)	/					
Aphyric						
Vesicles: %	<u>&lt;1%</u>					
Shape	<u>S-R</u>					
Size(x)	<u>1mm</u>					
PHENOCRYSTS (Original mineralogy)						
Olivine >5%						
1-5%	/					
<1%	/					
Phenos						
mph	/					
ol-plag						
Comments _____						
Plagioclase						
>5%						
1-5%	/					
<1%	/					
Rhombs						
Blades/laths	/					
mph	/					
Comments _____						
Augite %						
GROUNDMASS (original)						
Aphanitic	/					
Feldspathic						
Diktytaxitic						

SECONDARY FEATURES	
Phenocryst replacements	
Olv -> Clay	
Iddingsite	
Plag -> Clay	
Zeolite	
Groundmass	
Chlorite	
Smectite	
Fracture	
Vesicle	
Secondary/Alteration Min.	
Smectite	
Calcite	
Zeolite	
white fibrous	
green	
blue	
Analcime	
Chabazite	
MgOH	
Silica	
Amorphous <u>blue</u>	/
Chalcedony	
Crystals	
Pyrite	/
Epidote	
Gypsum	
Anhydrite	
Chalcopyrite	
Limonite	
Hematite	
Other (describe)	


COMMENTS

Dike:  
pyrite in a dark matrix halo

Sampled glass.

hyaloclastite #2

2778.5' } dike #1  
2780'



CRITICAL FEATURES (description of units or features by number)

1) dike w/ <1% total % olivine mph + plag mph in a light grey dense aphanitic matrix. <sup>micro</sup> Vesicularity <1%. Highly fractured, expands w/o lithostatic load. Black glass along contact. A golden glass xenolith near contact w/ #2.

2) hyaloclastite composed of sand-sized black & amber glass shards supporting angular clasts of golden glass & phyric pillow clasts. friable, semi-competent.

CORE LOG

BOX # 290

HOLE # SOH#1

Sheet A

Depth range 947.9 to 948.8 meters

Depth range 2780 to 2783 feet

Logger's Name RE

Page 1

Type of Sample: Flow  Intrusive  Ash  Breccia  Red Bed

Number of Units in Box 1 Clk/Rubble  Carbonate  Pillow/Hyaloclast

Fill in blanks below by using the appropriate unit number.

PRIMARY FEATURES						SECONDARY FEATURES		COMMENTS	
Phyric	1	2	3	4	5	6			
mega (>.5 mm)	/							2780' { dike #1 2782' 2783'	
micro (<.5 mm)	/								
Aphyric									
Vesicles: %	<1%								
Shape	S-R								
Size(x)	<1mm								
PHENOCRYSTS (Original mineralogy)									
Olivine	>5%								
	1-5%	/							
	<1%	/							
Phenos	mph	/							
	ol-plag								
Comments _____									
Plagioclase									
	>5%								
	1-5%	/							
	<1%	/							
Rhombs									
Blades/laths	mph	/							
Comments _____									
Augite	%								
GROUNDMASS (original)									
Aphanitic	/								
Feldspathic									
Diktytaxitic									
SECONDARY FEATURES								Fracture Vesicle	
Phenocryst replacements									
Olv -> Clay _____									
Iddingsite _____									
Plag -> Clay _____									
Zeolite _____									
Groundmass									
Chlorite _____									
Smectite _____									
Secondary/Alteration Min.									
Smectite _____									
Calcite _____									
Zeolite _____									
white fibrous _____									
green _____									
blue _____									
Analcime _____									
Chabazite _____									
MgOH _____									
Silica _____									
Amorphous _____									
Chalcedony _____									
Crystals _____									
Pyrite <input checked="" type="checkbox"/>									
Epidote _____									
Gypsum _____									
Anhydrite _____									
Chalcopyrite _____									
Limonite _____									
Hematite _____									
Other (describe) _____									

CRITICAL FEATURES (description of units or features by number)

D dike w/ <1% total % olivine mph and plag mph in a light grey dense microvesicular (<1%, <1mm) aphanitic matrix. V. highly fractured. Pyrite



CORE LOG  
 BOX # 291 HOLE # S04#1 Sheet A  
 Depth range 248.8 to 249.6 meters Depth range 2783 to 2785.5 feet  
 Logger's Name RE Page 1  
 Type of Sample: Flow      Intrusive 1 Ash      Breccia      Red Bed       
 Number of Units in Box 1 Clk/Rubble      Carbonate      Pillow/Hyaloclast       
 Fill in blanks below by using the appropriate unit number.

PRIMARY FEATURES						SECONDARY FEATURES		COMMENTS
Phyric	1	2	3	4	5	6	Phenocryst replacements	
mega (>.5 mm)	<input checked="" type="checkbox"/>						Olv -> Clay <u>    </u>	
micro (<.5 mm)							Iddingsite <u>    </u>	
Aphyric							Plag -> Clay <u>    </u>	
Vesicles: %	<u>    </u>						Zeolite <u>    </u>	
Shape							Groundmass	
Size(x)							Chlorite <u>    </u>	
							Smectite <u>    </u>	
							Fracture	
							Vesicle	
PHENOCRYSTS (Original mineralogy)						Secondary/Alteration Min.		
Olivine >5%							Smectite <u>    </u>	
1-5%							Calcite <u>    </u>	
<1%	<input checked="" type="checkbox"/>						Zeolite <u>    </u>	
Phenos mph	<input checked="" type="checkbox"/>						white fibrous <u>    </u>	
oi-plag							green <u>    </u>	
Comments							blue <u>    </u>	
							Analcime <u>    </u>	
Plagioclase							Chabazite <u>    </u>	
>5%							MgOH <u>    </u>	
1-5%							Silica <u>    </u>	
<1%	<input checked="" type="checkbox"/>						Amorphous <u>    </u>	
Rhombs							Chalcedony <u>    </u>	
Blades/laths	<input checked="" type="checkbox"/>						Crystals <u>    </u>	
mph	<input checked="" type="checkbox"/>						Pyrite <u>    </u> <input checked="" type="checkbox"/>	
Comments							Epidote <u>    </u>	
							Gypsum <u>    </u>	
Augite %							Anhydrite <u>    </u>	
							Chalcopyrite <u>    </u>	
GROUNDMASS (original)							Limonite <u>    </u>	
Aphanitic	<input checked="" type="checkbox"/>						Hematite <u>    </u>	
Feldspathic							Other (describe) <u>    </u>	
Diktytaxitic								

CRITICAL FEATURES (description of units or features by number)

1) dike w/ <1% total % olivine mph & plag. mph in a light grey dense, avicicular, aphanitic matrix. Very highly fractured. Pyrite.

CORE LOG  
 BOX # 292 HOLE # 50H#1 Sheet A  
 Depth range 849.6 to 850.3 meters Depth range 2785.5 to 2788 feet  
 Logger's Name RE Page 1  
 Type of Sample: Flow      Intrusive      Ash      Breccia      Red Bed       
 Number of Units in Box 1 Clk/Rubble      Carbonate      Pillow/Hyaloclast       
 Fill in blanks below by using the appropriate unit number.

PRIMARY FEATURES						SECONDARY FEATURES		COMMENTS																																										
Phyric	1	2	3	4	5	6	Phenocryst replacements		<div style="display: flex; justify-content: space-around;"> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">Fracture</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">Vesicle</div> </div> <div style="margin-top: 20px;">           Secondary/Alteration Min.           <table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td>Smeectite</td><td><input checked="" type="checkbox"/></td></tr> <tr><td>Calcite</td><td><input type="checkbox"/></td></tr> <tr><td>Zeolite</td><td><input type="checkbox"/></td></tr> <tr><td>white fibrous</td><td><input type="checkbox"/></td></tr> <tr><td>green</td><td><input type="checkbox"/></td></tr> <tr><td>blue</td><td><input type="checkbox"/></td></tr> <tr><td>Analcime</td><td><input type="checkbox"/></td></tr> <tr><td>Chabazite</td><td><input type="checkbox"/></td></tr> <tr><td>MgOH</td><td><input type="checkbox"/></td></tr> <tr><td>Silica</td><td><input type="checkbox"/></td></tr> <tr><td>Amorphous</td><td><input checked="" type="checkbox"/></td></tr> <tr><td>Chalcedony</td><td><input type="checkbox"/></td></tr> <tr><td>Crystals</td><td><input type="checkbox"/></td></tr> <tr><td>Pyrite</td><td><input checked="" type="checkbox"/></td></tr> <tr><td>Epidote</td><td><input type="checkbox"/></td></tr> <tr><td>Gypsum</td><td><input type="checkbox"/></td></tr> <tr><td>Anhydrite</td><td><input type="checkbox"/></td></tr> <tr><td>Chalcopyrite</td><td><input type="checkbox"/></td></tr> <tr><td>Limonite</td><td><input type="checkbox"/></td></tr> <tr><td>Hematite</td><td><input type="checkbox"/></td></tr> <tr><td>Other(describe)</td><td><input type="checkbox"/></td></tr> </table> </div>	Smeectite	<input checked="" type="checkbox"/>	Calcite	<input type="checkbox"/>	Zeolite	<input type="checkbox"/>	white fibrous	<input type="checkbox"/>	green	<input type="checkbox"/>	blue	<input type="checkbox"/>	Analcime	<input type="checkbox"/>	Chabazite	<input type="checkbox"/>	MgOH	<input type="checkbox"/>	Silica	<input type="checkbox"/>	Amorphous	<input checked="" type="checkbox"/>	Chalcedony	<input type="checkbox"/>	Crystals	<input type="checkbox"/>	Pyrite	<input checked="" type="checkbox"/>	Epidote	<input type="checkbox"/>	Gypsum	<input type="checkbox"/>	Anhydrite	<input type="checkbox"/>	Chalcopyrite	<input type="checkbox"/>	Limonite	<input type="checkbox"/>	Hematite	<input type="checkbox"/>	Other(describe)
Smeectite	<input checked="" type="checkbox"/>																																																	
Calcite	<input type="checkbox"/>																																																	
Zeolite	<input type="checkbox"/>																																																	
white fibrous	<input type="checkbox"/>																																																	
green	<input type="checkbox"/>																																																	
blue	<input type="checkbox"/>																																																	
Analcime	<input type="checkbox"/>																																																	
Chabazite	<input type="checkbox"/>																																																	
MgOH	<input type="checkbox"/>																																																	
Silica	<input type="checkbox"/>																																																	
Amorphous	<input checked="" type="checkbox"/>																																																	
Chalcedony	<input type="checkbox"/>																																																	
Crystals	<input type="checkbox"/>																																																	
Pyrite	<input checked="" type="checkbox"/>																																																	
Epidote	<input type="checkbox"/>																																																	
Gypsum	<input type="checkbox"/>																																																	
Anhydrite	<input type="checkbox"/>																																																	
Chalcopyrite	<input type="checkbox"/>																																																	
Limonite	<input type="checkbox"/>																																																	
Hematite	<input type="checkbox"/>																																																	
Other(describe)	<input type="checkbox"/>																																																	
mega (>.5 mm)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Ol -> Clay <u>    </u>																																											
micro(<.5 mm)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Iddingsite <u>    </u>																																											
Aphyric	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Plag -> Clay <u>    </u>																																											
Vesicles: %	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Zeolite <u>    </u>																																											
Shape	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Groundmass																																											
Size(x)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Chlorite <u>    </u>																																											
PHENOCRYSTS(Original mineralogy)																																																		
Olivine >5%	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>																																												
1-5%	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>																																												
<1%	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>																																												
Phenos mph	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>																																												
ol-plag	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>																																												
Comments <u>    </u>																																																		
Plagioclase																																																		
>5%	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>																																												
1-5%	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>																																												
<1%	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>																																												
Rhombs	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>																																												
Blades/laths mph	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>																																												
Comments <u>    </u>																																																		
Augite %																																																		
GROUNDMASS (original)																																																		
Aphanitic	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>																																												
Feldspathic	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>																																												
Diktytaxitic	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>																																												

CRITICAL FEATURES (description of units or features by number)

1) dike w/ <1% olivine mph & plag. mph in a light grey aphanitic matrix.

CORE LOG  
 BOX # 293 HOLE # 1 Sheet A  
 Depth range 850.34 to 850.95 meters Depth range 2788 to 2790 feet  
 Logger's Name FT Page 1  
 Type of Sample: Flow      Intrusive 1 Ash      Breccia      Red Bed       
 Number of Units in Box 1 Clk/Rubble      Carbonate      Pillow/Hyaloclast       
 Fill in blanks below by using the appropriate unit number.

PRIMARY FEATURES

Phyric	1	2	3	4	5	6
mega (>.5 mm)	✓					
micro (<.5 mm)	✓					
Aphyric						
Vesicles: %	<1					
Shape	R					
Size(x)	1					

PHENOCRYSTS (Original mineralogy)

Olivine >5%					
1-5%					
<<1%	✓				
Phenos	✓				
mph	✓				
ol-plag	✓				
Comments					

Plagioclase

>5%					
1-5%					
<<1%					
Rhombs					
Blades/laths	✓				
mph					
Comments					

Augite % <<1

GROUNDMASS (original)

Aphanitic				
Feldspathic				
Diktytaxitic	✓			

SECONDARY FEATURES

Phenocryst replacements	
Olv -> Clay	
Iddingsite	
Plag -> Clay	
Zeolite	
Groundmass	
Chlorite	
Smectite	

	Fracture	Vesicle
Secondary/Alteration Min.		
Smectite	✓	
Calcite		
Zeolite		
white fibrous		
green		
blue	✓	
Analcime		
Chabazite		
MgOH		
Silica		
Amorphous		
Chaicedony		
Crystals		
Pyrite	✓	
Epidote		
Gypsum		
Anhydrite		
Chalcopyrite		
Limonite		
Hematite		
Other (describe)	Yellow fracture fill fibrous Zeolite	

COMMENTS

2' reported  
3' measured

2788

2790

CRITICAL FEATURES (description of units or features by number)

1) dike, rare vesicles, Phenocrysts are <<1% olivine phenocrysts, mph and Olivine - plagioclase intergrowths. Plagioclase blades are present at <<1% and finally v. rare augite in a diktytaxitic H gray matrix.

2° Minerals: Blue stain, Smectite, Pyrite, Yellow fibrous Zeolite/Blasid



CORE LOG  
 BOX # 295 HOLE # SOA#1 Sheet A  
 Depth range 852 to 852.5 meters Depth range 2793.5 to 2795 feet  
 Logger's Name RE Page 1  
 Type of Sample: Flow      Intrusive 1 Ash      Breccia      Red Bed       
 Number of Units in Box 1 Clk/Rubble      Carbonate      Pillow/Hyaloclast       
 Fill in blanks below by using the appropriate unit number.

PRIMARY FEATURES

Phyric	1	2	3	4	5	6
mega (>.5 mm)						
micro (<.5 mm)	✓					
Aphyric						
Vesicles: %	<1%					
Shape	S-R					
Size(x)	<1mm					

PHENOCRYSTS (Original mineralogy)

Olivine	>5%					
	1-5%					
	<1%	✓				
Phenos	mph	✓				
	ol-plag					
Comments						

Plagioclase

>5%					
1-5%					
<1%					
Rhombs					
Blades/laths					
mph					
Comments					

Augite %

1	2	3	4	5	6

GROUNDMASS (original)

Aphanitic	✓				
Feldspathic	✓				
Diktytaxitic					

SECONDARY FEATURES

Phenocryst replacements	
Ol -> Clay	✓
Iddingsite	
Plag -> Clay	
Zeolite	
Groundmass	
Chlorite	
Smectite	

	Fracture	Vesicle
Secondary/Alteration Min.		
Smectite	✓	
Calcite		
Zeolite		
white fibrous		
green		
blue	blue?	
Analcime		
Chabazite		
MgOH		
Silica		
Amorphous	blue?	
Chalcedony		
Crystals		
Pyrite	✓	
Epidote		
Gypsum		
Anhydrite		
Chalcopyrite		
Limonite		
Hematite		
Other (describe)	Blue stain	

COMMENTS

*There is more rock in this box than recorded, fract. red & broken it measures 75cm*

2793.5'  
 } dike #1  
 2795'

CRITICAL FEATURES (description of units or features by number)

*1) dike w/ <1% olivine mph in a light grey aphanitic (dominantly) to feldspathic matrix. Highly fractured.*

*2° min: pyrite, smectite, blue stain.*

CORE LOG  
 BOX # 296 HOLE # 1 Sheet A  
 Depth range 852.48 to 853.89 meters Depth range 2795 to 2798 feet  
 Logger's Name FT Page 1  
 Type of Sample: Flow  Intrusive  Ash  Breccia  Red Bed   
 Number of Units in Box 1 Clk/Rubble  Carbonate  Pillow/Hyaloclast   
 Fill in blanks below by using the appropriate unit number.

PRIMARY FEATURES						SECONDARY FEATURES		COMMENTS
Phyric	1	2	3	4	5	6	Phenocryst replacements	
mega (>.5 mm)	<input checked="" type="checkbox"/>						Olv -> Clay	
micro (<.5 mm)	<input checked="" type="checkbox"/>						Iddingsite	
Aphyric							Plag -> Clay	
Vesicles: %	<u>&lt;&lt;1</u>						Zeolite	
Shape	<u>R</u>						Groundmass	
Size(x)	<u>1</u>						Chlorite	
							Smectite	
							Fracture	
							Vesicle	
PHENOCRYSTS (Original mineralogy)						Secondary/Alteration Min.		
Olivine	>5%						Smectite	
	1-5%						Calcite	
	<<1%	<input checked="" type="checkbox"/>					Zeolite	
Phenos		<input checked="" type="checkbox"/>					white fibrous	
mph							green	
ol-plag		<input checked="" type="checkbox"/>					blue	
Comments							Analcime	
							Chabazite	
Plagioclase	>5%						MgOH	
	1-5%						Silica	
	<<1%						Amorphous	
Rhombs							Chalcedony	
Blades/laths		<input checked="" type="checkbox"/>					Crystals	
mph							Pyrite	
Comments							Epidote	
Augite	%						Gypsum	
							Anhydrite	
GROUNDMASS (original)							Chalcopyrite	
Aphanitic							Limonite	
Feldspathic							Hematite	
Diktytaxitic		<input checked="" type="checkbox"/>					Other (describe)	
							Yellow fibrous Z	

CRITICAL FEATURES (description of units or features by number)

1) Dike, rare vesicles Olivine at <<1% as phenocrysts, mph and ol-plag intergrowths. Plagioclase found as blades <<1%. The matrix is well-crystallized, light gray in color and diktytaxitic.

2° Minerals : Blue stain, Smectite, Pyrite, white fibrous Zeolite, yellow fibrous Zeolite

CORE LOG

BOX # 297

HOLE # 1

Sheet A

Depth range 853.39 to 854.76 meters

Depth range 2796 to 2802.5 feet

Logger's Name EN

Page 1

Type of Sample: Flow  Intrusive  Ash  Breccia  Red Bed

Number of Units in Box 1 Clk/Rubble  Carbonate  Pillow/Hyaloclast

Fill in blanks below by using the appropriate unit number.

PRIMARY FEATURES							SECONDARY FEATURES			COMMENTS
Phyric	1	2	3	4	5	6	Phenocryst replacements			P.Q box 0.5' lost core
mega (>.5 mm)							Olv -> Clay			
micro (<.5 mm)	✓						Iddingsite			
Aphyric							Plag -> Clay			
Vesicles: %	-						Zeolite			
Shape							Groundmass			
Size(x)							Chlorite			
							Smeectite			
PHENOCRYSTS (Original mineralogy)										
Olivine >5%							Fracture	Vesicle		
Olivine 1-5%										
Olivine <1%	✓						Secondary/Alteration Min.			
Phenos mph	✓						Smeectite			
ol-plag							Calcite			
Comments							Zeolite			
							white fibrous			
							green			
							blue			
							Analcime			
							Chabazite			
							MgOH			
							Silica			
							Amorphous			
							Chalcedony			
							Crystals			
							Pyrite	✓		
							Epidote			
							Gypsum	?		
							Anhydrite			
							Chalcopyrite			
							Limonite			
							Hematite			
							Other (describe)			
								blue resin		

poss. gypsum needles & sulphur  
 flow & br fracta, may be ball, with many vesicles

CRITICAL FEATURES (description of units or features by number)

1) dike, aresicular, olivine mph <<1%, unalt.; in a lt. gray slightly dikty mtr.

BOX # 298

CORE LOG

HOLE # SCH#1

Sheet A

Depth range 854.6 to 855.8 meters

Depth range 2802.5 to 2806 feet

Logger's Name RC

Page 1

Type of Sample: Flow \_\_\_ Intrusive / \_\_\_ Ash \_\_\_ Breccia \_\_\_ Red Bed \_\_\_

Number of Units in Box 1 Clk/Rubble \_\_\_ Carbonate \_\_\_ Pillow/Hyaloclast \_\_\_

Fill in blanks below by using the appropriate unit number.

PRIMARY FEATURES							SECONDARY FEATURES		COMMENTS	
Phyric	1	2	3	4	5	6	Phenocryst replacements			
mega (>.5 mm)							Olv -> Clay <input checked="" type="checkbox"/>			
micro (<.5 mm)	<input checked="" type="checkbox"/>						Iddingsite			
Aphyric							Plag -> Clay			
Vesicles: %	<1%						Zeolite			
Shape	S-R						Groundmass			
Size(x)	<1mm						Chlorite			
							Smectite			
PHENOCRYSTS (Original mineralogy)							Fracture	Vesicle		
Olivine >5%							Secondary/Alteration Min.			
1-5%							Smectite	2802.5'		
<1%	<input checked="" type="checkbox"/>						Calcite			
Phenos							Zeolite			
mph	<input checked="" type="checkbox"/>						white fibrous	dike		
ol-plag							green			
Comments								blue	2805'	
Plagioclase							Analcime			
>5%							Chabazite			
1-5%							MgOH	2806'		
<1%							Silica			
Rhombs							Amorphous			
Blades/laths							Chalcedony			
mph							Crystals			
Comments								Pyrite		
Augite %							Epidote			
GROUNDMASS (original)							Gypsum			
Aphanitic	<input checked="" type="checkbox"/>						Anhydrite			
Feldspathic							Chalcopyrite			
Diktytaxitic							Limonite			
							Hematite			
							Other (describe)	blue <input checked="" type="checkbox"/>		

CRITICAL FEATURES (description of units or features by number)

1) dike w/ <1% olivine mph in a light grey aphanitic matrix. Microvesicular. Highly-moderately fractured.

2° min: pyrite, blue coating, smectite.



CORE LOG  
 BOX # 299 HOLE # 1 Sheet A  
 Depth range 855.83 to 856.75 meters Depth range 2809 to 2809 feet  
 Logger's Name FT Page 1  
 Type of Sample: Flow      Intrusive 1 Ash      Breccia      Red Bed       
 Number of Units in Box 1 Clk/Rubble      Carbonate      Pillow/Hyaloclast       
 Fill in blanks below by using the appropriate unit number.

PRIMARY FEATURES							SECONDARY FEATURES		COMMENTS
Phyric	1	2	3	4	5	6	Phenocryst replacements		3' reported
mega (>.5 mm)	✓						Olv -> Clay		
micro (<.5 mm)	✓						Iddingsite		
Aphyric							Plag -> Clay		
							Zeolite		
Vesicles: %							Groundmass		
Shape							Chlorite		
Size(x)							Smectite		
PHENOCRYSTS (Original mineralogy)									
Olivine >5%							Fracture	Vesicle	
1-5%									Secondary/Alteration Min.
<<1%	✓						Smectite	✓	
Phenos	✓						Calcite		
mph							Zeolite		
ol-plag	✓						white fibrous		
Comments								green	
							blue	✓	
Plagioclase							Analcime		
>5%							Chabazite		
1-5%							MgOH		
<<1%							Silica		
Rhombs							Amorphous		
Blades/laths	✓						Chalcedony		
mph							Crystals		
Comments								Pyrite	✓
							Epidote		
Augite %							Gypsum		
							Anhydrite		
GROUNDMASS (original)							Chalcopyrite		
Aphanitic							Limonite		
Feldspathic							Hematite		
Diktytaxitic	✓						Other (describe)		
							Yellow Fibrous		

CRITICAL FEATURES (description of units or features by number)

1) Dike w/ <1% Plagioclase laths, blades and d-plagioclase intergrowths  
 all <<1% all in a diktytaxitic lt gray matrix.

2° Minerals: Blue stain, Smectite, white fibrous Zeolite, Pyrite  
 Yellow " " "

CORE LOG

BOX # 300

HOLE # 1

Sheet A

Depth range 856.74 to 857.66 meters

Depth range 2809 to 2812 feet

Logger's Name EN

Page 1

Type of Sample: Flow      Intrusive 1 Ash      Breccia      Red Bed     

Number of Units in Box 1 Clk/Rubble      Carbonate      Pillow/Hyaloclast     

Fill in blanks below by using the appropriate unit number.

PRIMARY FEATURES						SECONDARY FEATURES		COMMENTS
Phyric	1	2	3	4	5	6	Phenocryst replacements	PQ box
mega (>.5 mm)	<input checked="" type="checkbox"/>						Olv -> Clay	
micro (<.5 mm)	<input checked="" type="checkbox"/>						Iddingsite	
Aphyric							Plag -> Clay	
Vesicles: %	<u>  </u>						Zeolite	
Shape							Groundmass	
Size(x)							Chlorite	
							Smectite	
							Fracture	
							Vesicle	
PHENOCRYSTS (Original mineralogy)						Secondary/Alteration Min.		
Olivine	>5%						Smectite	2809 dike #1 2812
	1-5%						Calcite	
	<1%	<input checked="" type="checkbox"/>					Zeolite	
Phenos	mph	<input checked="" type="checkbox"/>					white fibrous	
	ol-plag						green	
							blue	
							Analcime	
							Chabazite	
							MgOH	
							Silica	
Plagioclase						Amorphous		
	>5%						Chalcedony	
	1-5%						Crystals	
	<1%						Pyrite	<input checked="" type="checkbox"/>
	Rhombs						Epidote	
	Blades/laths						Gypsum	?
	mph						Anhydrite	
							Chalcopyrite	
							Limonite	
Augite						Hematite		
	%						Other (describe)	blue mineral
GROUNDMASS (original)								
	Aphanitic	<input checked="" type="checkbox"/>						
	Feldspathic							
	Diktytaxitic							

gray aphan mtrp

CRITICAL FEATURES (description of units or features by number)

1) dike, anhedral, olivine mph <<1%, unalt.; in a lt gray aphan mtrp.

CORE LOG

BOX # 301 HOLE # 1 Sheet A  
 Depth range 857.66 to 858.58 meters Depth range 2812 to 2815 feet  
 Logger's Name FT Page 1  
 Type of Sample: Flow  Intrusive  Ash  Breccia  Red Bed   
 Number of Units in Box 1 Clk/Rubble  Carbonate  Pillow/Hyaloclast   
 Fill in blanks below by using the appropriate unit number.

PRIMARY FEATURES	SECONDARY FEATURES	COMMENTS
Phyric mega (>.5 mm) <input checked="" type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> 6 micro (<.5 mm) <input checked="" type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> 6	Phenocryst replacements Oliv -> Clay _____ Iddingsite _____ Plag -> Clay _____ Zeolite _____	3' reported
Aphyric _____	Groundmass Chlorite _____ Smectite _____	
Vesicles: % _____ Shape _____ Size(x) _____	Fracture Vesicle	
PHENOCRYSTS (Original mineralogy)	Secondary/Alteration Min.	
Olivine >5% _____ 1-5% _____ <1% <input checked="" type="checkbox"/>	Smectite <input checked="" type="checkbox"/>	
Phenos <input checked="" type="checkbox"/> mph _____ ol-plag <input checked="" type="checkbox"/>	Calcite _____ Zeolite _____ white fibrous _____ green _____ blue <input checked="" type="checkbox"/>	
Comments _____	Analcime _____ Chabazite _____ MgOH _____	
Plagioclase	Silica _____ Amorphous _____ Chalcedony _____ Crystals _____	
>5% _____ 1-5% _____ <1% <input checked="" type="checkbox"/>	Pyrite <input checked="" type="checkbox"/>	
Rhombs _____ Blades/laths <input checked="" type="checkbox"/> mph _____ Comments _____	Epidote _____ Gypsum _____ Anhydrite _____ Chalcoppyrite _____	
Augite % _____	Limonite _____ Hematite _____ Other (describe) _____	
GROUNDMASS (original)		
Aphanitic _____		
Feldspathic _____		
Diktytaxitic <input checked="" type="checkbox"/>		

CRITICAL FEATURES (description of units or features by number)

1) Dike w/ <1% Plagioclase laths and <1% Olivine phenocrysts, mph in a lt. gray diktytaxitic matrix.

2° Minerals: Smectite, white fibrous Zeolite, Pyrite  
 Yellow " "  
 Blue stain.

CORE LOG  
 BOX # 302 HOLE # 504#1 Sheet A  
 Depth range 858.6 to 859.5 meters Depth range 2815 to 2818 feet  
 Logger's Name RE Page 1  
 Type of Sample: Flow \_\_\_\_\_ Intrusive 1 Ash \_\_\_\_\_ Breccia \_\_\_\_\_ Red Bed \_\_\_\_\_  
 Number of Units in Box 1 Clk/Rubble \_\_\_\_\_ Carbonate \_\_\_\_\_ Pillow/Hyaloclast \_\_\_\_\_  
 Fill in blanks below by using the appropriate unit number.

PRIMARY FEATURES						SECONDARY FEATURES		COMMENTS
Phyric	1	2	3	4	5	6	Phenocryst replacements	
mega (>.5 mm)							Olv -> Clay <input checked="" type="checkbox"/> ?	
micro (<.5 mm)	<input checked="" type="checkbox"/>						Iddingsite	
Aphyric							Plag -> Clay	
							Zeolite	
Vesicles: %	<u>&lt;1%</u>						Groundmass	
Shape	<u>S-R</u>						Chlorite	
Size(x)	<u>&lt;1mm</u>						Smectite	
PHENOCRYSTS (Original mineralogy)								
Olivine	>5%						Secondary/Alteration Min.	
	1-5%							
	<1%	<input checked="" type="checkbox"/>					Smectite <input checked="" type="checkbox"/>	2815'
Phenos	mph	<input checked="" type="checkbox"/>					Calcite	42816'
	ol-plag						Zeolite	
							white fibrous	
Comments							green	
							blue	2818'
							Analcime	
Plagioclase	>5%						Chabazite	
	1-5%						MgOH	
	<1%						Silica	
Rhombs							Amorphous	
Blades/laths	mph						Chalcedony	
							Crystals	
Comments							Pyrite <input checked="" type="checkbox"/>	
Augite	%						Epidote	
							Gypsum	
							Anhydrite	
GROUNDMASS (original)							Chalcopryrite	
Aphanitic	<input checked="" type="checkbox"/>						Limonite	
Feldspathic							Hematite	
Diktytaxitic							Other (describe)	
							<u>blue stain</u> <input checked="" type="checkbox"/>	

CRITICAL FEATURES (description of units or features by number)

1) dike w/ <1% olivine mph in a light grey aphanitic matrix. Microvesicular. Moderately - highly fractured.

2° mine: pyrite, blue stain, smectite

CORE LOG

BOX # 303

HOLE # 1

Sheet A

Depth range 859.49 to 860.25 meters

Depth range 2818 to 2820.5 feet

Logger's Name EN

Page 1

Type of Sample: Flow \_\_\_\_\_ Intrusive 1 Ash \_\_\_\_\_ Breccia \_\_\_\_\_ Red Bed \_\_\_\_\_

Number of Units in Box 1 Clk/Rubble \_\_\_\_\_ Carbonate \_\_\_\_\_ Pillow/Hyaloclast \_\_\_\_\_

Fill in blanks below by using the appropriate unit number.

PRIMARY FEATURES							SECONDARY FEATURES		COMMENTS
Phyric	1	2	3	4	5	6	Phenocryst replacements		PQ box
mega (>.5 mm)	<input checked="" type="checkbox"/>						Olv -> Clay _____		
micro(<.5 mm)	<input checked="" type="checkbox"/>						Iddingsite _____		
Aphyric							Plag -> Clay _____		
Vesicles: %	<input checked="" type="checkbox"/>						Zeolite _____		
Shape							Groundmass		
Size(x)							Chlorite _____		
							Smeectite _____		
							Fracture		
							Vesicle		
PHENOCRYSTS (Original mineralogy)							Secondary/Alteration Min.		
Olivine >5%							Smeectite <input checked="" type="checkbox"/>		
1-5%							Calcite _____		
<1%	<input checked="" type="checkbox"/>						Zeolite _____		
Phenos mph	<input checked="" type="checkbox"/>						white fibrous _____		
ol-plag							green _____		
Comments							blue _____		
							Analcime _____		
							Chabazite _____		
							MgOH _____		
							Silica _____		
Plagioclase							Amorphous		
>5%							Chalcedony _____		
1-5%							Crystals _____		
<1%							Pyrite <input checked="" type="checkbox"/>		
Rhombs							Epidote _____		
Blades/laths							Gypsum _____		
mph							Anhydrite ?		
Comments							Chalcoppyrite _____		
							Limonite _____		
Augite %							Hematite _____		
							Other (describe)		
GROUNDMASS (original)							blue mesh		
Aphanitic	<input checked="" type="checkbox"/>								
Feldspathic									
Diktytaxitic									

CRITICAL FEATURES (description of units or features by number)

1) dike, anhedral, olivine mph < 10%, unalt.; in a lt gray aphan mtr.

CORE LOG  
 BOX # 304 HOLE # 1 Sheet A  
 Depth range 860.25 to 861.02 meters Depth range 2820.5 to 2823 feet  
 Logger's Name FT Page 1  
 Type of Sample: Flow \_\_\_\_\_ Intrusive  Ash \_\_\_\_\_ Breccia \_\_\_\_\_ Red Bed \_\_\_\_\_  
 Number of Units in Box 1 Clk/Rubble \_\_\_\_\_ Carbonate \_\_\_\_\_ Pillow/Hyaloclast \_\_\_\_\_  
 Fill in blanks below by using the appropriate unit number.

PRIMARY FEATURES						SECONDARY FEATURES		COMMENTS
Phyric	1	2	3	4	5	6	Phenocryst replacements	
mega (>.5 mm)	<input checked="" type="checkbox"/>						Olv -> Clay _____	
micro (<.5 mm)	<input checked="" type="checkbox"/>						Iddingsite _____	
Aphyric							Plag -> Clay _____	
Vesicles: %							Zeolite _____	
Shape							Groundmass	
Size(x)							Chlorite _____	
PHENOCRYSTS (Original mineralogy)								
Olivine >5%							Fracture Vesicle Secondary/Alteration Min. Smectite <input checked="" type="checkbox"/> Calcite _____ Zeolite _____ white fibrous <input checked="" type="checkbox"/> green _____ blue <input checked="" type="checkbox"/> Analcime _____ Chabazite _____ MgOH _____ Silica _____ Amorphous _____ Chalcedony _____ Crystals _____ Pyrite <input checked="" type="checkbox"/> Epidote _____ Gypsum _____ Anhydrite _____ Chalcopyrite _____ Limonite _____ Hematite _____ Other (describe) Yellow-fibrous	
1-5%								
<1%	<input checked="" type="checkbox"/>							
Phenos	<input checked="" type="checkbox"/>							
mph								
ol-plag	<input checked="" type="checkbox"/>							
Comments								
Plagioclase								
>5%								
1-5%								
<1%	<input checked="" type="checkbox"/>							
Rhombs								
Blades/laths								
mph								
Comments								
Augite %								
GROUNDMASS (original)								
Aphanitic								
Feldspathic	<input checked="" type="checkbox"/>							
Diktytaxitic								

CRITICAL FEATURES (description of units or features by number)

1) Dike w/ <1% Plagioclase as blades and <1% Olplagioclase intergrowth and rare <sup>divine</sup> phenocrysts all in a lt gray -> charcoal gray feldspathic matrix

2<sup>o</sup> Minerals: Blue stain, Smectite, Pyrite  
 white -> yellow fibrous Zeolite.

CORE LOG

BOX # 305

HOLE # 1

Sheet A

Depth range 861.01 to 861.93 meters

Depth range 2823 to 2826 feet

Logger's Name FN

Page 1

Type of Sample: Flow  Intrusive  Ash  Breccia  Red Bed

Number of Units in Box 1 Clk/Rubble  Carbonate  Pillow/Hyaloclast

Fill in blanks below by using the appropriate unit number.

PRIMARY FEATURES							SECONDARY FEATURES			COMMENTS
Phyric	1	2	3	4	5	6	Phenocryst replacements			PQ dry  2823 } dike #1 2826
mega (>.5 mm)							Olv -> Clay			
micro (<.5 mm)	✓						Iddingsite			
Aphyric							Plag -> Clay			
Vesicles: %	✓						Zeolite			
Shape							Groundmass			
Size(x)							Chlorite			
							Smeectite			
PHENOCRYSTS (Original mineralogy)							Fracture	Vesicle		
Olivine >5%							Secondary/Alteration Min.			
1-5%							Smeectite	✓		
<1%	✓						Calcite			
Phenos mph	✓						Zeolite			
ol-plag							white fibrous			
Comments								green		
								blue		
Plagioclase >5%							Analcime			
1-5%							Chabazite			
<1%							MgOH			
Rhombs							Silica			
Blades/laths mph							Amorphous			
Comments								Chalcedony		
								Crystals		
Augite %							Pyrite	✓		
								Epidote		
GROUNDMASS (original)								Gypsum	?	
Aphanitic	✓						Anhydrite			
Feldspathic							Chalcoppyrite			
Diktytaxitic							Limonite			
								Hematite		
								Other (describe)		
								blue breccia		

CRITICAL FEATURES (description of units or features by number)

1) dike, anisular, olivine mph << 1%, unalt.; in a lt. gray aphan mtr.

CORE LOG  
 BOX # 306 HOLE # SOH#1 Sheet A  
 Depth range 861.9 to 862.7 meters Depth range 2826 to 2828.5 feet  
 Logger's Name RE Page 1  
 Type of Sample: Flow \_\_\_\_\_ Intrusive 1 Ash \_\_\_\_\_ Breccia \_\_\_\_\_ Red Bed \_\_\_\_\_  
 Number of Units in Box 1 Clk/Rubble \_\_\_\_\_ Carbonate \_\_\_\_\_ Pillow/Hyaloclast \_\_\_\_\_  
 Fill in blanks below by using the appropriate unit number.

PRIMARY FEATURES							SECONDARY FEATURES			COMMENTS
Phyric	1	2	3	4	5	6	Phenocryst replacements			
mega (>.5 mm)							Olv -> Clay <input checked="" type="checkbox"/>			
micro (<.5 mm)	<input checked="" type="checkbox"/>						Iddingsite _____			
Aphyric							Plag -> Clay _____			
							Zeolite _____			
Vesicles: %	<u>&lt;1%</u>						Groundmass			
Shape	<u>SR</u>						Chlorite _____			
Size(x)	<u>&lt;1mm</u>						Smectite _____			
PHENOCRYSTS (Original mineralogy)										
Olivine >5%							Secondary/Alteration Min.	Fracture	Vesicle	
1-5%										Smectite <input checked="" type="checkbox"/>
<1%	<input checked="" type="checkbox"/>						Calcite _____			2827'
Phenos							Zeolite _____			
mph	<input checked="" type="checkbox"/>						white fibrous _____			
ol-plag							green _____			2828.5'
Comments	_____									
Plagioclase							blue _____			
>5%							Analcime _____			
1-5%							Chabazite _____			
<1%							MgOH _____			
Rhombs							Silica _____			
Blades/laths							Amorphous _____			
mph							Chalcedony _____			
Comments	_____									
Augite							Crystals _____			
%							Pyrite <input checked="" type="checkbox"/>			
GROUNDMASS (original)										
Aphanitic	<input checked="" type="checkbox"/>						Epidote _____			
Feldspathic							Gypsum _____			
Diktytaxitic							Anhydrite _____			
							Chalcopryrite _____			
							Limonite _____			
							Hematite _____			
							Other (describe)			
							<u>blue stain</u> <input checked="" type="checkbox"/>			

CRITICAL FEATURES (description of units or features by number)

*1 dike w/ <1% olivine mph in a light grey aphanitic matrix. Microvesicular. Highly fractured.*



CORE LOG  
 BOX # 307 HOLE # 1 Sheet A  
 Depth range 862.69 to 863.46 meters Depth range 2828.3 to 2831 feet  
 Logger's Name FT Page 1  
 Type of Sample: Flow  Intrusive  Ash  Breccia  Red Bed   
 Number of Units in Box 1 Clk/Rubble  Carbonate  Pillow/Hyaloclast   
 Fill in blanks below by using the appropriate unit number.

PRIMARY FEATURES						SECONDARY FEATURES		COMMENTS
Phyric	1	2	3	4	5	6	Phenocryst replacements	
mega (>.5 mm)	<input checked="" type="checkbox"/>						Olv -> Clay	
micro (<.5 mm)	<input checked="" type="checkbox"/>						Iddingsite	
Aphyric							Plag -> Clay	
Vesicles: %	<input checked="" type="checkbox"/>						Zeolite	
Shape							Groundmass	
Size(x)							Chlorite	
							Smectite	
							Fracture	
							Vesicle	
PHENOCRYSTS (Original mineralogy)						Secondary/Alteration Min.		
Olivine >5%							Smectite <input checked="" type="checkbox"/>	
1-5%							Calcite	
<1%							Zeolite	
Phenos							white fibrous <input checked="" type="checkbox"/>	
mph							green	
ol-plag							blue <input checked="" type="checkbox"/>	
Comments							Analcime	
							Chabazite	
							MgOH	
							Silica	
							Amorphous	
							Chalcedony	
							Crystals	
							Pyrite <input checked="" type="checkbox"/>	
							Epidote	
							Gypsum	
							Anhydrite	
							Chalcopyrite	
							Limonite	
							Hematite	
							Other (describe)	

CRITICAL FEATURES (description of units or features by number)

1) Dike w/ <1% Plagioclase laths, micro laths and rare olivine phenocrysts in a lt gray feldspathic matrix.

2° Minerals: Smectite, white fibrous, blue stain, Pyrite, yellow

CORE LOG

BOX # 308 MOLE # 1 Sheet A  
 Depth range 863.45 to 864.37 meters Depth range 2831 to 2834 feet  
 Logger's Name EN Page 1  
 Type of Sample: Flow      Intrusive 1 Ash      Breccia      Red Bed       
 Number of Units in Box 1 Clk/Rubble      Carbonate      Pillow/Hyaloclast       
 Fill in blanks below by using the appropriate unit number.

PRIMARY FEATURES							SECONDARY FEATURES		COMMENTS
Phyric	1	2	3	4	5	6	Phenocryst replacements		
mega (>.5 mm)	✓						Olv -> Clay		
micro (<.5 mm)							Iddingsite		
Aphyric							Plag -> Clay		
Vesicles: %							Zeolite		
Shape							Groundmass		
Size(x)							Chlorite		
							Smeclite		
							Fracture		
							Vesicle		
PHENOCRYSTS (Original mineralogy)							Secondary/Alteration Min.		
Olivine >5%							Smeclite		
1-5%							Calcite		
<1%							Zeolite		
Phenos mph	✓						white fibrous		
ol-plag							green		
							blue		
Comments								Analcime	
							Chabazite		
Plagioclase							MgOH		
>5%							Silica		
1-5%							Amorphous		
<1%							Chalcedony		
Rhombs							Crystals		
Blades/laths mph							Pyrite	✓	
Comments								Epidote	
							Gypsum	2	
Augite %							Anhydrite		
							Chalcopyrite		
GROUNDMASS (original)							Limonite		
Aphanitic	✓						Hematite		
Feldspathic							Other (describe)		
Diktytaxitic							blue neen		

1. small nodules, white off center

CRITICAL FEATURES (description of units or features by number)

1) dike, anisecular, olivine mph < 1%, unalt.; in a lt. gray aphan mtr.

CORE LOG  
 BOX # 309 HOLE # S04#1 Sheet A  
 Depth range 864.4 to 865.6 meters Depth range 2834 to 2838 feet  
 Logger's Name RE Page 1  
 Type of Sample: Flow      Intrusive 1 Ash      Breccia      Red Bed       
 Number of Units in Box 2 Clk/Rubble      Carbonate      Pillow/Hyaloclast 2  
 Fill in blanks below by using the appropriate unit number.

PRIMARY FEATURES	SECONDARY FEATURES	COMMENTS
Phyric mega (>.5 mm) <u>  </u> <u>  </u> <u>  </u> <u>  </u> <u>  </u> <u>  </u> micro (<.5 mm) <u>  </u> <u>  </u> <u>  </u> <u>  </u> <u>  </u> <u>  </u>	Phenocryst replacements Olv -> Clay <u>    </u> Iddingsite <u>    </u> Plag -> Clay <u>    </u> Zeolite <u>    </u>	
Aphyric <u>    </u> <u>    </u> <u>    </u> <u>    </u> <u>    </u> <u>    </u>	Groundmass Chlorite <u>    </u> Smectite <u>    </u>	
Vesicles: % <u>&lt;1%</u> <u>  </u> <u>  </u> <u>  </u> <u>  </u> <u>  </u> Shape <u>S-R</u> <u>    </u> <u>    </u> <u>    </u> <u>    </u> <u>    </u> Size(x) <u>&lt;1mm</u> <u>    </u> <u>    </u> <u>    </u> <u>    </u> <u>    </u>	Fracture <u>    </u> <u>    </u> <u>    </u> <u>    </u> <u>    </u> <u>    </u> Vesicle <u>    </u> <u>    </u> <u>    </u> <u>    </u> <u>    </u> <u>    </u>	
PHENOCRYSTS (Original mineralogy)	Secondary/Alteration/Min.	
Olivine >5% <u>  </u> <u>  </u> <u>  </u> <u>  </u> <u>  </u> <u>  </u> 1-5% <u>  </u> <u>  </u> <u>  </u> <u>  </u> <u>  </u> <u>  </u> <1% <u>  </u> <u>  </u> <u>  </u> <u>  </u> <u>  </u> <u>  </u>	Smectite <u>  </u> <u>  </u> <u>  </u> <u>  </u> <u>  </u> <u>  </u> Calcite <u>  </u> <u>  </u> <u>  </u> <u>  </u> <u>  </u> <u>  </u> Zeolite <u>  </u> <u>  </u> <u>  </u> <u>  </u> <u>  </u> <u>  </u> white fibrous <u>  </u> <u>  </u> <u>  </u> <u>  </u> <u>  </u> <u>  </u> green <u>  </u> <u>  </u> <u>  </u> <u>  </u> <u>  </u> <u>  </u> blue <u>  </u> <u>  </u> <u>  </u> <u>  </u> <u>  </u> <u>  </u> Analcime <u>  </u> <u>  </u> <u>  </u> <u>  </u> <u>  </u> <u>  </u> Chabazite <u>  </u> <u>  </u> <u>  </u> <u>  </u> <u>  </u> <u>  </u> MgOH <u>  </u> <u>  </u> <u>  </u> <u>  </u> <u>  </u> <u>  </u>	2834' pillow #2 42836' dike #1
Phenos mph <u>  </u> <u>  </u> <u>  </u> <u>  </u> <u>  </u> <u>  </u> ol-plag <u>  </u> <u>  </u> <u>  </u> <u>  </u> <u>  </u> <u>  </u>	Silica <u>  </u> <u>  </u> <u>  </u> <u>  </u> <u>  </u> <u>  </u> Amorphous <u>  </u> <u>  </u> <u>  </u> <u>  </u> <u>  </u> <u>  </u> Chalcedony <u>  </u> <u>  </u> <u>  </u> <u>  </u> <u>  </u> <u>  </u> Crystals <u>  </u> <u>  </u> <u>  </u> <u>  </u> <u>  </u> <u>  </u> Pyrite <u>  </u> <u>  </u> <u>  </u> <u>  </u> <u>  </u> <u>  </u> Epidote <u>  </u> <u>  </u> <u>  </u> <u>  </u> <u>  </u> <u>  </u> Gypsum <u>  </u> <u>  </u> <u>  </u> <u>  </u> <u>  </u> <u>  </u> Anhydrite <u>  </u> <u>  </u> <u>  </u> <u>  </u> <u>  </u> <u>  </u> Chalcopyrite <u>  </u> <u>  </u> <u>  </u> <u>  </u> <u>  </u> <u>  </u> Limonite <u>  </u> <u>  </u> <u>  </u> <u>  </u> <u>  </u> <u>  </u> Hematite <u>  </u> <u>  </u> <u>  </u> <u>  </u> <u>  </u> <u>  </u> Other (describe) <u>  </u> <u>  </u> <u>  </u> <u>  </u> <u>  </u> <u>  </u> <i>blue stain</i> <u>  </u> <u>  </u> <u>  </u> <u>  </u> <u>  </u> <u>  </u>	2838'
Comments <u>    </u> <u>    </u> <u>    </u> <u>    </u> <u>    </u> <u>    </u>		
Plagioclase >5% <u>  </u> <u>  </u> <u>  </u> <u>  </u> <u>  </u> <u>  </u> 1-5% <u>  </u> <u>  </u> <u>  </u> <u>  </u> <u>  </u> <u>  </u> <1% <u>  </u> <u>  </u> <u>  </u> <u>  </u> <u>  </u> <u>  </u>		
Rhombs <u>  </u> <u>  </u> <u>  </u> <u>  </u> <u>  </u> <u>  </u> Blades/laths <u>  </u> <u>  </u> <u>  </u> <u>  </u> <u>  </u> <u>  </u> mph <u>  </u> <u>  </u> <u>  </u> <u>  </u> <u>  </u> <u>  </u>		
Comments <u>    </u> <u>    </u> <u>    </u> <u>    </u> <u>    </u> <u>    </u>		
Augite % <u>  </u> <u>  </u> <u>  </u> <u>  </u> <u>  </u> <u>  </u>		
GROUNDMASS (original)		
Aphanitic <u>  </u> <u>  </u> <u>  </u> <u>  </u> <u>  </u> <u>  </u>		
Feldspathic <u>  </u> <u>  </u> <u>  </u> <u>  </u> <u>  </u> <u>  </u>		
Diktytaxitic <u>  </u> <u>  </u> <u>  </u> <u>  </u> <u>  </u> <u>  </u>		

CRITICAL FEATURES (description of units or features by number)

- 1) dike w/ <1% olivine mph & <1% plag laths & mph in a light grey aphanitic matrix. Dense. Highly fractured. Pyrite <sup>blue stain</sup> along fractures
- 2) pillow w/ 5% olivine phenos + mph in a dark grey aphanitic matrix. Fractured but unbroken.

CORE LOG

BOX # 310 HOLE # 1 Sheet A  
 Depth range 865.59 to 868.03 meters Depth range 2836 to 2846 feet  
 Logger's Name EN Page 1  
 Type of Sample: Flow      Intrusive 1 Ash      Breccia      Red Bed       
 Number of Units in Box 1 Clk/Rubble      Carbonate      Pillow/Hyaloclast       
 Fill in blanks below by using the appropriate unit number.

PRIMARY FEATURES						SECONDARY FEATURES		COMMENTS
Phyric	1	2	3	4	5	6	Phenocryst replacements	PQ box 4' loot core
mega (>.5 mm)	<input checked="" type="checkbox"/>						Olv -> Clay <u>    </u>	
micro (<.5 mm)	<input checked="" type="checkbox"/>						Iddingsite <u>    </u>	
Aphyric							Plag -> Clay <u>    </u>	
Vesicles: %	<input checked="" type="checkbox"/>						Zeolite <u>    </u>	
Shape							Groundmass	
Size(x)							Chlorite <u>    </u>	
							Smectite <u>    </u>	
PHENOCRYSTS (Original mineralogy)							Fracture	
Olivine >5%							Vesicle	
1-5%							Secondary/Alteration Min.	
<1%	<input checked="" type="checkbox"/>						Smectite <u>    </u>	2838          2846 dike #1
Phenos mph	<input checked="" type="checkbox"/>						Calcite <u>    </u>	
ol-plag							Zeolite <u>    </u>	
Comments							white fibrous <u>    </u>	
Plagioclase							green <u>    </u>	
>5%							blue <u>    </u>	
1-5%							Analcime <u>    </u>	
<1%							Chabazite <u>    </u>	
Rhombs							MgOH <u>    </u>	
Blades/laths							Silica <u>    </u>	
mph							Amorphous <u>    </u>	
Comments							Chalcedony <u>    </u>	
Augite %							Crystals <u>    </u>	
GROUNDMASS (original)							Pyrite <input checked="" type="checkbox"/>	
Aphanitic	<input checked="" type="checkbox"/>						Epidote <u>    </u>	
Feldspathic							Gypsum <u>    </u>	
Diktytaxitic							Anhydrite <u>    </u>	
							Chalcopyrite <u>    </u>	
							Limonite <u>    </u>	
							Hematite <u>    </u>	
							Other (describe)	
							<u>blue seran</u>	

CRITICAL FEATURES (description of units or features by number)

1) dike, anhedral, olivine mph << 1%, unaltered; in a lt. gray aphan mtr

CORE LOG  
 BOX # 311 HOLE # 1 Sheet A  
 Depth range 868.03 to 870.47 meters Depth range 2846 to 2854 feet  
 Logger's Name FT Page 1  
 Type of Sample: Flow 1 Intrusive 1 Ash 1 Breccia 1 Red Bed 1  
 Number of Units in Box 3 Clk/Rubble 1 Carbonate 1 Pillow/Hyaloclast 23  
 Fill in blanks below by using the appropriate unit number.

PRIMARY FEATURES						SECONDARY FEATURES						COMMENTS	
Phyric	1	2	3	4	5	6	Phenocryst replacements						- all core below is in a 4' cardboard box  Pillow fragment 2846 2851
mega (>.5 mm)	✓	✓	✓				Olv -> Clay						
micro(<.5 mm)	✓	✓	✓				Iddingsite						
Aphyric							Plag -> Clay						
							Zeolite						
Vesicles: %	1	-	-				Groundmass						
Shape	R						Chlorite						
Size(x)							Smectite						
PHENOCRYSTS (Original mineralogy)						Secondary/Alteration Min.							
Olivine >5%							Smectite	✓	Fracture				
Olivine 1-5%	✓	✓					Calcite	✓	Vesicle				
Olivine <1%							Zeolite						
Phenos mph	✓	✓					white fibrous						
ol-plag							green						
Comments							blue	✓					
Plagioclase >5%							Analcime						
Plagioclase 1-5%							Chabazite						
Plagioclase <1%	✓						MgOH						
Rhombs							Silica						
Blades/laths mph							Amorphous						
Comments							Chalcedony						
Augite %							Crystals						
GROUNDMASS (original)							Pyrite	✓					
Aphanitic			✓				Epidote						
Feldspathic	✓	✓					Gypsum						
Diktytaxitic							Anhydrite						
							Chalcopyrite						
							Limonite						
							Hematite						
							Other (describe)						

CRITICAL FEATURES (description of units or features by number)

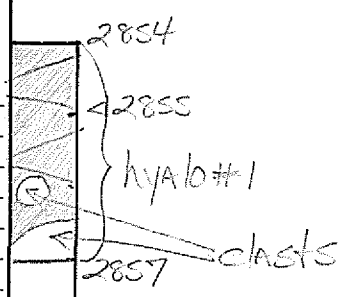
- 1) Dike w/ <1% Plagioclase laths and <<1% Olivine phenocrysts in a lt bluish gray matrix, feldspathic in texture.
- 2) Pillow Fragment, 4% Olivine mph in a feldspathic bluish gray matrix.
- 3) Hyaloclastite w/ 4% Olivine phenocrysts, mph in a fragmented glassy matrix.

2° Minerals: Smectite, Calcite, white fibrous Zeolite, blue stain  
 D... A...

CORE LOG

BOX # 312 HOLE # 1 Sheet A  
 Depth range 870.47 to 871.38 meters Depth range 2854 to 2857 feet  
 Logger's Name EN Page 1  
 Type of Sample: Flow      Intrusive      Ash      Breccia      Red Bed       
 Number of Units in Box 1 Clk/Rubble      Carbonate      Pillow/Hyaloclast 1  
 Fill in blanks below by using the appropriate unit number.

PRIMARY FEATURES						SECONDARY FEATURES		COMMENTS
Phyric	1	2	3	4	5	6		PQ box
mega (>.5 mm)	<input checked="" type="checkbox"/>							
micro (<.5 mm)								
Aphyric								
Vesicles: %	<input checked="" type="checkbox"/>							
Shape								
Size(x)								
PHENOCRYSTS (Original mineralogy)								
Olivine >5%								
1-5%								
<1%								
Phenos mph								
ol-plag								
Comments								
Plagioclase								
>5%								
1-5%								
<1%								
Rhombs								
Blades/laths mph								
Comments								
Augite %								
GROUNDMASS (original)								
Aphanitic	<input checked="" type="checkbox"/>							
Feldspathic								
Diktytaxitic								
SECONDARY FEATURES								
Phenocryst replacements								
Olv -> Clay								
Iddingsite								
Plag -> Clay								
Zeolite								
Groundmass								
Chlorite								
Smectite								
Secondary/Alteration Min.								
Smectite								
Calcite <input checked="" type="checkbox"/>								
Zeolite								
white fibrous								
green								
blue								
Analcime								
Chabazite								
MgOH								
Silica								
Amorphous								
Chalcedony								
Crystals								
Pyrite								
Epidote								
Gypsum								
Anhydrite								
Chalcopyrite								
Limonite								
Hematite								
Other (describe)								



CRITICAL FEATURES (description of units or features by number)

1) hyaloclastite, fine gravel sized blue gray (etched?) volcanic glass, blk on fresh fractures, and sand sized amber volcanic glass, loose to barely competent. Amesicular clasts, olive mph << 1% in a gray aphan mtr.

CORE LOG

BOX # 313 HOLE # SOH#1 Sheet A  
 Depth range 271.4 to 272.5 meters Depth range 2857 to 2860.5 feet  
 Logger's Name RF. Page 1  
 Type of Sample: Flow  Intrusive  Ash  Breccia  Red Bed   
 Number of Units in Box 1 Clk/Rubble  Carbonate  Pillow/Hyaloclast 1  
 Fill in blanks below by using the appropriate unit number.

PRIMARY FEATURES	SECONDARY FEATURES	COMMENTS																								
Phyric mega (>.5 mm) <table border="1" style="display: inline-table; border-collapse: collapse;"><tr><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td></tr><tr><td>—</td><td></td><td></td><td></td><td></td><td></td></tr></table> micro (<.5 mm) <table border="1" style="display: inline-table; border-collapse: collapse;"><tr><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td></tr></table>	1	2	3	4	5	6	—						1	2	3	4	5	6							Phenocryst replacements Olv -> Clay _____ Iddingsite _____ Plag -> Clay _____ Zeolite _____	
1	2	3	4	5	6																					
—																										
1	2	3	4	5	6																					
Aphyric <table border="1" style="display: inline-table; border-collapse: collapse;"><tr><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td></tr></table>	1	2	3	4	5	6																				
1	2	3	4	5	6																					
Vesicles: % Shape _____ Size(x) _____	Groundmass Chlorite _____ Smectite _____																									
PHENOCRYSTS (Original mineralogy)																										
Olivine >5% _____ 1-5% _____ <1% _____ Phenos _____ mph _____ ol-plag _____	Fracture Vesicle	Secondary/Alteration Min. Smectite _____ Calcite _____ Zeolite _____ white fibrous _____ green _____ blue _____ Analcime _____ Chabazite _____ MgOH _____ Silica _____ Amorphous _____ Chalcedony _____ Crystals _____ Pyrite _____ Epidote _____ Gypsum _____ Anhydrite _____ Chalcopyrite _____ Limonite _____ Hematite _____ Other (describe) _____																								
Comments _____																										
Plagioclase >5% _____ 1-5% _____ <1% _____ Rhombs _____ Blades/laths _____ mph _____ Comments _____		2857'																								
Augite % <table border="1" style="display: inline-table; border-collapse: collapse;"><tr><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td></tr></table>	1	2	3	4	5	6								2860.5'												
1	2	3	4	5	6																					
GROUNDMASS (original) Aphanitic <table border="1" style="display: inline-table; border-collapse: collapse;"><tr><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td></tr><tr><td>—</td><td></td><td></td><td></td><td></td><td></td></tr></table> Feldspathic _____ Diktytaxitic _____	1	2	3	4	5	6	—																			
1	2	3	4	5	6																					
—																										

CRITICAL FEATURES (description of units or features by number)

1) Hyaloclastite composed of sand-sized black + amber glass shards w/ angular to sub-rounded clasts of flow (3-7% olivine phenos in dark grey aphanitic matrix).  
 Friable, semi-competent.

CORE LOG

BOX # 314

HOLE # 1

Sheet A

Depth range 872.45 to 873.62 meters

Depth range 2860.5 to 2884 feet

Logger's Name EN

Page 1

Type of Sample: Flow      Intrusive      Ash      Breccia      Red Bed     

Number of Units in Box 2 Clk/Rubble      Carbonate      Pillow/Hyaloclast 1, 2

Fill in blanks below by using the appropriate unit number.

PRIMARY FEATURES							SECONDARY FEATURES		COMMENTS
Phyric	1	2	3	4	5	6	Phenocryst replacements		PO box 19.5' lost core
mega (>.5 mm)	/	✓					Olv -> Clay		
micro (<.5 mm)		✓					Iddingsite		
Aphyric							Plag -> Clay		
							Zeolite		
Vesicles: %	/						Groundmass		
Shape							Chlorite		
Size(x)							Smectite		
PHENOCRYSTS (Original mineralogy)							Fracture	Vesicle	
Olivine >5%							Secondary/Alteration Min.		2860.5 ← hyaloclast 2861 } pillow #2 2865 2871 2874 2877 2883.5 2884
Olivine 1-5%	/						Smectite		
Olivine <1%							Calcite #2		
Phenos mph	✓						Zeolite		
Phenos mph	✓						white fibrous		
ol-plag							green		
Comments <u>unalt</u>							blue		
Plagioclase >5%							Analcime		
Plagioclase 1-5%	/						Chabazite		
Plagioclase <1%							MgOH		
Rhombs	✓						Silica		
Blades/laths mph	✓						Amorphous		
Blades/laths mph							Chalcedony		
Comments							Crystals		
Augite %							Pyrite		
GROUNDMASS (original)							Pyrite		
Aphanitic	✓						Epidote		
Feldspathic							Gypsum		
Diktytaxitic							Anhydrite		
							Chalcopryrite		
							Limonite		
							Hematite		
							Other (describe)		
							<u>blue green</u>		

CRITICAL FEATURES (description of units or features by number)

- 1) hyaloclastite, fine gravel sized blue gray (etched?) volcanic glass, blk. on fresh fract., and sand sized amber volcanic glass compressed into a loosely competent unit.
- 2) pillow rubble, anhedral rounded clasts, olivine phenocr. mph 1%, unalt.; plag blades & laths  $\leq$  1% in a gray aphan mtr. Many show partial rinds of black or amber glass.



CORE LOG  
 BOX # 315 HOLE # 1 Sheet A  
 Depth range 879.62 to 880.54 meters Depth range 2884 to 2887 feet  
 Logger's Name FT Page 1  
 Type of Sample: Flow      Intrusive      Ash      Breccia      Red Bed       
 Number of Units in Box 1 Clk/Rubble      Carbonate      Pillow/Hyaloclast      ✓  
 Fill in blanks below by using the appropriate unit number.

PRIMARY FEATURES						
Phyric	1	2	3	4	5	6
mega (>.5 mm)	✓					
micro (<.5 mm)	✓					
Aphyric						
Vesicles: %	✓					
Shape						
Size(x)						
PHENOCRYSTS (Original mineralogy)						
Olivine >5%						
1-5%	✓					
<1%						
Phenos	✓					
mph	✓					
ol-plag						
Comments						
Plagioclase						
>5%						
1-5%						
<1%						
Rhombs						
Blades/laths						
mph						
Comments						
Augite %						
GROUNDMASS (original)						
Aphanitic	✓					
Feldspathic						
Diktytaxitic						

SECONDARY FEATURES	
Phenocryst replacements	
Olv -> Clay	
Iddingsite	
Plag -> Clay	
Zeolite	
Groundmass	
Chlorite	
Smectite	
Fracture	
Vesicle	
Secondary/Alteration Min.	
Smectite	
Calcite	
Zeolite	
white fibrous	
green	
blue	✓
Analcime	
Chabazite	
MgOH	
Silica	
Amorphous	
Chalcedony	
Crystals	
Pyrite	
Epidote	
Gypsum	
Anhydrite	
Chalcopyrite	
Limonite	
Hematite	
Other (describe)	

COMMENTS  
 3' here

CRITICAL FEATURES (description of units or features by number)

1) Hyaloclastite w/ Pillow fragments containing 5% Olivine phenocrysts, mph in a bluish gray aphanitic matrix. The Hyaloclastite consists of glassy fragments 20mm - 1mm average = 2mm.

2° MINERALS & Blue Stain

CORE LOG  
 BOX # 316 HOLE # 50H#1 Sheet A  
 Depth range 880.5 to 882.1 meters Depth range 2887 to 2892 feet  
 Logger's Name RE Page 1  
 Type of Sample: Flow      Intrusive      Ash      Breccia      Red Bed       
 Number of Units in Box 2 Clk/Rubble      Carbonate      Pillow/Hyaloclast 1,2  
 Fill in blanks below by using the appropriate unit number.

PRIMARY FEATURES							SECONDARY FEATURES			COMMENTS	
Phyric	1	2	3	4	5	6	Phenocryst replacements			<i>Pipe vesicles implew</i> <i>calcite rhombs</i> <i>along fractures</i>	
mega (>.5 mm)	✓	✓					Olv -> Clay				
micro (<.5 mm)	✓						Iddingsite				
Aphyric							Plag -> Clay				
Vesicles: %							Zeolite				
Shape							Groundmass				
Size(x)							Chlorite				
							Smectite				
							Fracture				
							Vesicle				
PHENOCRYSTS (Original mineralogy)							Secondary/Alteration Min.				
Olivine >5%	3-5						Smectite	✓		2887' lost core	
Olivine 1-5%							Calcite			2889' pillow #1	
Olivine <1%							Zeolite				
Phenos mph	✓						white fibrous				
ol-plag							green				
Comments							blue				
							Analcime				
Plagioclase											hyaloclastite #2
>5%							Chabazite				
1-5%							MgOH				
<1%							Silica				
Rhombs							Amorphous			2892'	
Blades/laths mph							Chalcedony				
Comments							Crystals				
							Pyrite	✓			
Augite %											
							Epidote				
GROUNDMASS (original)											
Aphanitic	✓						Gypsum				
Feldspathic							Anhydrite				
Diktytaxitic							Chalcopryrite				
							Limonite				
							Hematite				
							Other (describe)				
							<i>blue stain</i>	✓			

CRITICAL FEATURES (description of units or features by number)

1) pillow w/ 3-5% olivine phenos + mph in a med-dark grey aphanitic matrix. Fractured + broken. Black glass along contact w/ hyaloclastite. Pyrite, calcite, smectite, blue stain along fractures. Pipe vesicles present.

2) hyaloclastite composed of sand-sized black and amber glass shards supporting angular clasts of blue-grey phyric flow (pillow)

CORE LOG  
 BOX # 317 HOLE # 1 Sheet A  
 Depth range 882.06 to 883.59 meters Depth range 2892 to 2897 feet  
 Logger's Name FT Page 1  
 Type of Sample: Flow      Intrusive      Ash      Breccia      Red Bed       
 Number of Units in Box 1 Clk/Rubble      Carbonate      Pillow/Hyaloclast 1  
 Fill in blanks below by using the appropriate unit number.

PRIMARY FEATURES						SECONDARY FEATURES		COMMENTS	
Phyric	1	2	3	4	5	6	Phenocryst replacements		5' here / reported
mega (>.5 mm)	✓						Olv -> Clay		
micro (<.5 mm)	✓						Iddingsite		
Aphyric							Plag -> Clay		
Vesicles: %	<<1						Zeolite		
Shape	R						Groundmass		
Size(x)	2						Chlorite		
							Smectite		
							Fracture		
							Vesicle		
PHENOCRYSTS (Original mineralogy)						Secondary/Alteration Min.			
Olivine >5%							Smectite		✓
1-5%	5						Calcite		
<1%							Zeolite		
Phenos	✓						white fibrous		
mph	✓						green		
ol-plag							blue		✓
Comments							Analcime		
Plagioclase							Chabazite		
>5%							MgOH		
1-5%							Silica		
<1%							Amorphous		
Rhombs							Chalcedony		
Blades/laths							Crystals		
mph							Pyrite		
Comments							Epidote		
Augite %							Gypsum		
							Anhydrite		
GROUNDMASS (original)							Chalcopyrite		
Aphanitic	✓						Limonite		
Feldspathic							Hematite		
Diktytaxitic							Other (describe)		

CRITICAL FEATURES (description of units or features by number)

1) Hyaloclastite w/ Pillow fragments that have 5% Olivine phenocrysts, mph in a gray-bluish gray <sup>APHANITIC</sup> matrix. The Hyaloclastite consists of Black, vitreous glass and pillow/rock fragments.

2 Minerals: Blue Stain, SMECTITE

CORE LOG

BOX # 318

HOLE # 1

Sheet A

Depth range 882.59 to 884.80 meters

Depth range 2897 to 2901 feet

Logger's Name EN

Page 1

Type of Sample: Flow  Intrusive  Ash  Breccia  Red Bed

Number of Units in Box 1 Clk/Rubble  Carbonate  Pillow/Hyaloclast 1

Fill in blanks below by using the appropriate unit number.

PRIMARY FEATURES							SECONDARY FEATURES		COMMENTS	
Phyric	1	2	3	4	5	6	Phenocryst replacements		PQ box	
mega (>.5 mm)	✓						Olv → Clay			
micro (<.5 mm)	✓						Iddingsite			
Aphyric							Plag → Clay			
							Zeolite			
Vesicles: %							Groundmass			
Shape							Chlorite			
Size(x)							Smectite			
PHENOCRYSTS (Original mineralogy)							Fracture	Vesicle		
Olivine >5%							Secondary/Alteration Min.			2897
Olivine 1-5%							Smectite		hyalo #1	
Olivine <1%	/						Calcite			
Phenos mph							Zeolite			
ol-plag							white fibrous			
Comments							green			
Plagioclase >5%							blue			
Plagioclase 1-5%	/						Analcime			
Plagioclase <1%							Chabazite			
Rhombs							MgOH			
Blades/laths ✓							Silica			
Blades/laths mph							Amorphous			
Comments							Chalcedony			
Augite %							Crystals			
GROUNDMASS (original)							Pyrite			
Aphanitic	✓						Epidote			
Feldspathic							Gypsum			
Diktytaxitic							Anhydrite			
							Chalcopyrite			
							Limonite			
							Hematite			
							Other (describe)			

CRITICAL FEATURES (description of units or features by number)

1) hyaloclastite, fine gravel sized blue gray (etched?) volcanic glass, blk on fresh fract., and sand sized ambr volcanic glass compacted into a friable, barely competent unit. Clasts: aresicular, olivine phenos & mph  $\leq 1\%$  unalt; plag blades & laths  $\leq 10\%$  in a gray aphan mtr.

BOX # 319 CORE LOG HOLE # 1 Sheet A  
 Depth range 884.81 to 886.18 meters Depth range 2901 to 2905.5 feet  
 Logger's Name FT Page 1

Type of Sample: Flow  Intrusive  Ash  Breccia  Red Bed   
 Number of Units in Box 1 Clk/Rubble  Carbonate  Pillow/Hyaloclast   
 Fill in blanks below by using the appropriate unit number.

PRIMARY FEATURES						SECONDARY FEATURES		COMMENTS	
Phyric	1	2	3	4	5	6	Phenocryst replacements		4.5' here
mega (>.5 mm)	<input checked="" type="checkbox"/>						Olv -> Clay		
micro (<.5 mm)	<input checked="" type="checkbox"/>						Iddingsite		
Aphyric							Plag -> Clay		
Vesicles: %	<<1						Zeolite		
Shape	R						Groundmass		
Size(x)	<1						Chlorite		
							Smectite		
							Fracture		
							Vesicle		
PHENOCRYSTS (Original mineralogy)						Secondary/Alteration Min.			
Olivine	>5%						Smectite		<input checked="" type="checkbox"/>
	1-5%	3-5					Calcite		
	<1%						Zeolite		
Phenos							white fibrous		
mph							green		
ol-plag							blue		<input checked="" type="checkbox"/>
Comments							Analcime		
Plagioclase							Chabazite		
>5%							MgOH		
1-5%							Silica		
<1%							Amorphous		
Rhombs							Chalcedony		
Blades/laths							Crystals		
mph							Pyrite		
Comments							Epidote		
Augite	%						Gypsum		
							Anhydrite		
GROUNDMASS (original)							Chalcopyrite		
Aphanitic	<input checked="" type="checkbox"/>						Limonite		
Feldspathic							Hematite		
Diktytaxitic							Other (describe)		

CRITICAL FEATURES (description of units or features by number)

1) Hyaloclastite w/ Pillow Fragments containing 3-5% Olivine phenocrysts, microphenocrysts in a gray aphanitic matrix. Hyaloclastite is comprised of glassy fragments of rock

2<sup>o</sup> Minerals = Blue Stain, SMECTITE

CORE LOG  
 BOX # 320 HOLE # 504 #1 Sheet A  
 Depth range 886.2 to 887.1 meters Depth range 2905.5 to 2908.5 feet  
 Logger's Name RE Page 1  
 Type of Sample: Flow \_\_\_\_\_ Intrusive \_\_\_\_\_ Ash \_\_\_\_\_ Breccia \_\_\_\_\_ Red Bed \_\_\_\_\_  
 Number of Units in Box 1 Clk/Rubble \_\_\_\_\_ Carbonate \_\_\_\_\_ Pillow/Hyaloclast /  
 Fill in blanks below by using the appropriate unit number.

PRIMARY FEATURES						SECONDARY FEATURES		COMMENTS
Phyric	1	2	3	4	5	6	Phenocryst replacements	
mega (>.5 mm)	—						Olv -> Clay _____	
micro(<.5 mm)							Iddingsite _____	
Aphyric							Plag -> Clay _____	
							Zeolite _____	
Vesicles: %	—						Groundmass	
Shape							Chlorite _____	
Size(x)							Smectite _____	
PHENOCRYSTS (Original mineralogy)							Secondary/Alteration Min.	
Olivine >5%							Smectite _____	
1-5%							Calcite _____	
<1%							Zeolite _____	
Phenos mph							white fibrous _____	
ol-plag							green _____	
Comments _____							blue _____	
Plagioclase							Analcime _____	
>5%							Chabazite _____	
1-5%							MgOH _____	
<1%							Silica _____	
Rhombs							Amorphous _____	
Blades/laths mph							Chalcedony _____	
Comments _____							Crystals _____	
Augite %							Pyrite _____	
							Epidote _____	
GROUNDMASS (original)							Gypsum _____	
Aphanitic	—						Anhydrite _____	
Feldspathic							Chalcopryrite _____	
Diktytaxitic							Limonite _____	
							Hematite _____	
							Other (describe) _____	

CRITICAL FEATURES (description of units or features by number)

1) hyaloclastite composed of sand-sized black and amber glass shards supporting angular clasts of pillow lava (w/ 3-5% olivine phenos/mph in a blue-grey aphanitic matrix + <sup>thick</sup> golden/black glass rinds). Friable, competent.

CORE LOG

BOX # 321

HOLE # SoH #1

Sheet A

Depth range 887.1 to 888.2 meters

Depth range 2908.5 to 2912 feet

Logger's Name RE

Page 1

Type of Sample: Flow  Intrusive  Ash  Breccia  Red Bed

Number of Units in Box 1 Clk/Rubble  Carbonate  Pillow/Hyaloclast

Fill in blanks below by using the appropriate unit number.

PRIMARY FEATURES							SECONDARY FEATURES		COMMENTS	
Phyric	1	2	3	4	5	6	Phenocryst replacements			<div style="display: flex; align-items: center;"> <div style="writing-mode: vertical-rl; transform: rotate(180deg); border-left: 1px solid black; border-right: 1px solid black; padding: 0 5px;">Fracture</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg); border-left: 1px solid black; border-right: 1px solid black; padding: 0 5px;">Vesicle</div> <div style="margin-left: 10px;"> <p>2908.5'</p> <p>42910' } <i>hyaloclastite #1</i></p> <p>2912'</p> </div> </div>
mega (>.5 mm)	—						Olv -> Clay			
micro (<.5 mm)							Iddingsite			
Aphyric							Plag -> Clay			
							Zeolite			
Vesicles: %	—						Groundmass			
Shape							Chlorite			
Size(x)							Smectite			
PHENOCRYSTS (Original mineralogy)										
Olivine >5%							Secondary/Alteration Min.			
1-5%							Smectite			
<1%							Calcite			
Phenos							Zeolite			
mph							white fibrous			
ol-plag							green			
Comments								blue		
Plagioclase								Analcime		
>5%							Chabazite			
1-5%							MgOH			
<1%							Silica			
Rhombs							Amorphous			
Blades/laths							Chalcedony			
mph							Crystals			
Comments								Pyrite		
Augite %							Epidote			
GROUNDMASS (original)								Gypsum		
Aphanitic	—						Anhydrite			
Feldspathic							Chalcopyrite			
Diktytaxitic							Limonite			
							Hematite			
							Other (describe)			

CRITICAL FEATURES (description of units or features by number)

1) Hyaloclastite composed of sand-sized black and amber glass shards supporting angular clasts of amber/black glass and yellow lavas.

CORE LOG  
 BOX # 322 HOLE # 1 Sheet A  
 Depth range 888.16 to 899.08 meters Depth range 2912 to 2915 feet  
 Logger's Name FT Page 1  
 Type of Sample: Flow      Intrusive      Ash      Breccia      Red Bed       
 Number of Units in Box 1 Clk/Rubble      Carbonate      Pillow/Hyaloclast ✓  
 Fill in blanks below by using the appropriate unit number.

PRIMARY FEATURES						
Phyric	1	2	3	4	5	6
mega (>.5 mm)	✓					
micro (<.5 mm)	✓					
Aphyric						
Vesicles: %	<<1					
Shape	R					
Size(x)						
PHENOCRYSTS (Original mineralogy)						
Olivine >5%						
1-5%	3-4					
<1%						
Phenos	✓					
mph	✓					
ol-plag						
Comments						
Plagioclase						
>5%						
1-5%						
<1%						
Rhombs						
Blades/laths						
mph						
Comments						
Augite %						
GROUNDMASS (original)						
Aphanitic	✓					
Feldspathic						
Diktytaxitic						

SECONDARY FEATURES	
Phenocryst replacements	
Olv -> Clay	
Iddingsite	
Plag -> Clay	
Zeolite	
Groundmass	
Chlorite	
Smectite	
Fracture	
Vesicle	
Secondary/Alteration Min.	
Smectite	✓
Calcite	
Zeolite	
white fibrous	
green	
blue	✓
Analcime	
Chabazite	
MgOH	
Silica	
Amorphous	
Chalcedony	
Crystals	
Pyrite	
Epidote	
Gypsum	
Anhydrite	
Chalcopyrite	
Limonite	
Hematite	
Other (describe)	

COMMENTS

3' reported

Pipe vesicles

2919

CRITICAL FEATURES (description of units or features by number)

1) Hyaloclastite w/ Pillow fragments w/ 3-4% Olivine phenocrysts mph in a gray aphanitic matrix.

2° Minerals: SMECTITE, Blue Stain



CORE LOG  
 BOX # 323 HOLE # SOH#1 Sheet A  
 Depth range 889.1 to 890.0 meters Depth range 2915 to 2918 feet  
 Logger's Name RE Page 1  
 Type of Sample: Flow  Intrusive  Ash  Breccia  Red Bed   
 Number of Units in Box 1 Clk/Rubble  Carbonate  Pillow/Hyaloclast  /  
 Fill in blanks below by using the appropriate unit number.

PRIMARY FEATURES						SECONDARY FEATURES		COMMENTS
Phyric	1	2	3	4	5	6	Phenocryst replacements	
mega (>.5 mm)	-						Olv -> Clay	
micro(<.5 mm)							Iddingsite	
Aphyric							Plag -> Clay	
Vesicles: %	-						Zeolite	
Shape							Groundmass	
Size(x)							Chlorite	
PHENOCRYSTS (Original mineralogy)							Smectite	
Olivine >5%							Secondary/Alteration Min.	
1-5%							Smectite	
<1%							Calcite	
Phenos mph							Zeolite	
ol-plag							white fibrous	
Comments							green	} hyaloclastite #1 2915' 2918'
Plagioclase							blue	
>5%							Analcime	
1-5%							Chabazite	
<1%							MgOH	
Rhombs							Silica	
Blades/laths mph							Amorphous	
Comments							Chalcedony	
Augite %							Crystals	
							Pyrite	
GROUNDMASS (original)							Epidote	
Aphanitic	-						Gypsum	
Feldspathic							Anhydrite	
Diktytaxitic							Chalcopyrite	
							Limonite	
							Hematite	
							Other (describe)	

CRITICAL FEATURES (description of units or features by number)

1) hyaloclastite composed of sand-sized black and amber glass shards supporting angular clasts (some > diameters of core) of pillow (w/ 3-5% olivine in a dark grey aphanitic matrix). Friable, semi-competent.

CORE LOG

BOX # 324

HOLE # 1

Sheet A

Depth range 889.99 to 891.21 meters

Depth range 2919 to 2922 feet

Logger's Name EN

Page 1

Type of Sample: Flow      Intrusive      Ash      Breccia      Red Bed     

Number of Units in Box 1 Clk/Rubble      Carbonate      Pillow/Hyaloclast 1

Fill in blanks below by using the appropriate unit number.

PRIMARY FEATURES							SECONDARY FEATURES		COMMENTS
Phyric	1	2	3	4	5	6	Phenocryst replacements		PQ py  } hyalo #1 2919 } 2922
mega (>.5 mm)	<input checked="" type="checkbox"/>						Olv -> Clay		
micro (<.5 mm)	<input checked="" type="checkbox"/>						Iddingsite		
Aphyric							Plag -> Clay		
Vesicles: %							Zeolite		
Shape							Groundmass		
Size(x)							Chlorite		
							Smectite		
							Fracture		
							Vesicle		
PHENOCRYSTS (Original mineralogy)							Secondary/Alteration Min.		
Olivine >5%							Smectite		
1-5%	<u>2</u>						Calcite		
<1%							Zeolite		
Phenos	<input checked="" type="checkbox"/>						white fibrous		
mph	<input checked="" type="checkbox"/>						green		
ol-plag							blue		
Comments	<u>unalt</u>								
Plagioclase									
>5%							Analcime		
1-5%							Chabazite		
<1%							MgOH		
Rhombs							Silica		
Blades/laths							Amorphous		
mph							Chalcedony		
Comments									
Augite %									
							Crystals		
GROUNDMASS (original)									
Aphanitic	<input checked="" type="checkbox"/>						Pyrite		
Feldspathic							Epidote		
Diktytaxitic							Gypsum		
							Anhydrite		
							Chalcopryrite		
							Limonite		
							Hematite		
							Other (describe)		

CRITICAL FEATURES (description of units or features by number)

1) hyaloclastite, fine grained (sieved blue gray (etched?)) volcanic glass, black on fresh fract., and sand sized ambr volcanic glass compacted, and cemented by clay, into a friable, loosely competent unit. Clasts: anisoclastic, olivine phenos. & mph  $\approx$  2%, unalt; in a gray aphan mtrx. Clasts are pillow frags. showing portions of ambr glass rinds.

CORE LOG

BOX # 325 HOLE # 1 Sheet A  
 Depth range 891.21 to 893.19 meters Depth range 2922 to 2928.5 feet  
 Logger's Name FT Page 1  
 Type of Sample: Flow      Intrusive      Ash      Breccia      Red Bed       
 Number of Units in Box 1 Clk/Rubble      Carbonate      Pillow/Hyaloclast   
 Fill in blanks below by using the appropriate unit number.

PRIMARY FEATURES						
	1	2	3	4	5	6
Phyric						
mega (>.5 mm)	<input checked="" type="checkbox"/>					
micro (<.5 mm)	<input checked="" type="checkbox"/>					
Aphyric						
Vesicles: %	<u>    </u>					
Shape						
Size(x)						
PHENOCRYSTS (Original mineralogy)						
Olivine >5%						
1-5% <u>3-5%</u>						
<1%						
Phenos <input checked="" type="checkbox"/>						
mph <input checked="" type="checkbox"/>						
ol-plag						
Comments						
Plagioclase						
>5%						
1-5%						
<1%						
Rhombs						
Blades/laths						
mph						
Comments						
Augite %						
GROUNDMASS (original)						
Aphanitic <input checked="" type="checkbox"/>						
Feldspathic						
Diktytaxitic						

SECONDARY FEATURES	
Phenocryst replacements	
Olv -> Clay	
Iddingsite	
Plag -> Clay	
Zeolite	
Groundmass	
Chlorite	
Smectite	
Fracture	
Vesicle	
Secondary/Alteration Min.	
Smectite <input checked="" type="checkbox"/>	
Calcite	
Zeolite	
white fibrous	
green	
blue <input checked="" type="checkbox"/>	
Analcime	
Chabazite	
MgOH	
Silica	
Amorphous	
Chalcedony	
Crystals	
Pyrite	
Epidote	
Gypsum	
Anhydrite	
Chalcopyrite	
Limonite	
Hematite	
Other (describe)	

COMMENTS  
 6.5' here / reported



A 2926, 2927 look to look


CRITICAL FEATURES (description of units or features by number)

1) Hyaloclastite w/ Pillow fragments, The Pillows have 3-5% Olivine phenocrysts, mph in a dark bluish gray aphanitic matrix. Matrix consists of Rock + black glassy fragments  $\leq 1\text{cm}$ .

2° Minerals: Blue stain, SMECTITE

CORE LOG

BOX # 326 HOLE # 1 Sheet A  
 Depth range 893.19 to 894.26 meters Depth range 2928.5 to 2932 feet  
 Logger's Name FT Page 1  
 Type of Sample: Flow      Intrusive      Ash      Breccia      Red Bed       
 Number of Units in Box 1 Clk/Rubble      Carbonate      Pillow/Hyaloclast 1  
 Fill in blanks below by using the appropriate unit number.

PRIMARY FEATURES	SECONDARY FEATURES	COMMENTS
Phyric mega (>.5 mm) <u>  1  </u> <u>  2  </u> <u>  3  </u> <u>  4  </u> <u>  5  </u> <u>  6  </u> micro (<.5 mm) <u>  1  </u> <u>  2  </u> <u>  3  </u> <u>  4  </u> <u>  5  </u> <u>  6  </u>	Phenocryst replacements Olv -> Clay <u>    </u> Iddingsite <u>    </u> Plag -> Clay <u>    </u> Zeolite <u>    </u>	3.5' here
Aphyric <u>    </u> <u>    </u> <u>    </u> <u>    </u> <u>    </u> <u>    </u>	Groundmass Chlorite <u>    </u> Smectite <u>    </u>	
Vesicles: % <u>&lt;1</u> Shape <u>SR</u> Size(x) <u>&lt;1</u>	Fracture Vesicle	
PHENOCRYSTS (Original mineralogy)	Secondary/Alteration Min.	
Olivine >5% <u>    </u> <u>    </u> <u>    </u> <u>    </u> <u>    </u> <u>    </u> 1-5% <u>3-5</u> <1% <u>    </u>	Smectite <u>  ✓  </u>	
Phenos <u>  ✓  </u>	Calcite <u>    </u>	
mph <u>  ✓  </u>	Zeolite <u>    </u>	
ol-plag <u>    </u> <u>    </u> <u>    </u> <u>    </u> <u>    </u> <u>    </u>	white fibrous <u>    </u>	
Comments <u>    </u>	green <u>    </u>	
Plagioclase	blue <u>  ✓  </u>	
>5% <u>    </u> <u>    </u> <u>    </u> <u>    </u> <u>    </u> <u>    </u>	Analcime <u>    </u>	
1-5% <u>    </u> <u>    </u> <u>    </u> <u>    </u> <u>    </u> <u>    </u>	Chabazite <u>    </u>	
<1% <u>    </u> <u>    </u> <u>    </u> <u>    </u> <u>    </u> <u>    </u>	MgOH <u>    </u>	
Rhombs <u>    </u> <u>    </u> <u>    </u> <u>    </u> <u>    </u> <u>    </u>	Silica <u>    </u>	
Blades/laths <u>    </u> <u>    </u> <u>    </u> <u>    </u> <u>    </u> <u>    </u>	Amorphous <u>    </u>	
mph <u>    </u> <u>    </u> <u>    </u> <u>    </u> <u>    </u> <u>    </u>	Chalcedony <u>    </u>	
Comments <u>    </u>	Crystals <u>    </u>	
Augite % <u>    </u> <u>    </u> <u>    </u> <u>    </u> <u>    </u> <u>    </u>	Pyrite <u>    </u>	
GROUNDMASS (original)	Epidote <u>    </u>	
Aphanitic <u>  ✓  </u>	Gypsum <u>    </u>	
Feldspathic <u>    </u> <u>    </u> <u>    </u> <u>    </u> <u>    </u> <u>    </u>	Anhydrite <u>    </u>	
Diktytaxitic <u>    </u> <u>    </u> <u>    </u> <u>    </u> <u>    </u> <u>    </u>	Chalcopryrite <u>    </u>	
	Limonite <u>    </u>	
	Hematite <u>    </u>	
	Other (describe) <u>    </u>	

CRITICAL FEATURES (description of units or features by number)

1) Hyaloclastite w/ Pillow fragments containing 3-5% Olivine phenocrysts, mph in a dark bluish gray aphanitic matrix.

2° Minerals: Smectite, Blue Stain

CORE LOG  
 BOX # 327 HOLE # 1 Sheet A  
 Depth range 894.26 to 896.09 meters Depth range 2932 to 2938 feet  
 Logger's Name FT Page 1

Type of Sample: Flow  Intrusive  Ash  Breccia  Red Bed   
 Number of Units in Box 1 Clk/Rubble  Carbonate  Pillow/Hyaloclast   
 Fill in blanks below by using the appropriate unit number.

PRIMARY FEATURES						
	1	2	3	4	5	6
Phyric						
mega (>.5 mm)	✓					
micro (<.5 mm)	✓					

Aphyric						
Vesicles: %	2					
Shape	SBSA					
Size(x)	<1					

PHENOCRYSTS (Original mineralogy)

Olivine >5%						
1-5%	3-5					
<1%						
Phenos	✓					
mph	✓					
ol-plag						
Comments						

Plagioclase

>5%						
1-5%						
<1%						
Rhombs						
Blades/laths						
mph						
Comments						

Augite %

--	--	--	--	--	--	--

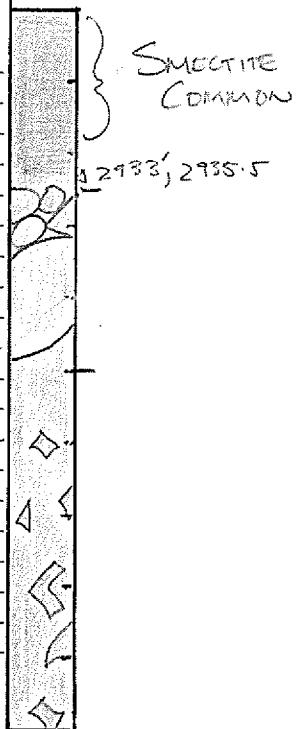
GROUNDMASS (original)

Aphanitic	✓					
Feldspathic						
Diktytaxitic						

SECONDARY FEATURES	
Phenocryst replacements	
Olv -> Clay	
Iddingsite	
Plag -> Clay	
Zeolite	
Groundmass	
Chlorite	
Smectite	

	Fracture	Vesicle
Secondary/Alteration Min.		
Smectite	✓	
Calcite		
Zeolite		
white fibrous		
green		
blue	✓	
Analcime		
Chabazite		
MgOH		
Silica		
Amorphous		
Chalcedony		
Crystals		
Pyrite		
Epidote		
Gypsum		
Anhydrite		
Chalcopyrite		
Limonite		
Hematite		
Other (describe)		

COMMENTS  
 6' here/reported



CRITICAL FEATURES (description of units or features by number)

1) Hyaloclastite w/ minor Pillow fragments, that have 3-5% Olivine phenocrysts, mph in a gray aphanitic matrix. The Pillow fragments are microvesicular. Hyaloclastite consists of rock + glassy fragments

2° Minerals: SMECTITE, Blue Stain.

CORE LOG

BOX # 328 HOLE # 1 Sheet A  
 Depth range 896.09 to 898.53 meters Depth range 2938 to 2946 feet  
 Logger's Name FT Page 1

Type of Sample: Flow  Intrusive  Ash  Breccia  Red Bed   
 Number of Units in Box 1 Clk/Rubble  Carbonate  Pillow/Hyaloclast   
 Fill in blanks below by using the appropriate unit number.

PRIMARY FEATURES						SECONDARY FEATURES		COMMENTS
Phyric	1	2	3	4	5	6	Phenocryst replacements	
mega (>.5 mm)	✓						Olv → Clay _____	
micro (<.5 mm)	✓						Iddingsite _____	
Aphyric							Plag → Clay _____	
							Zeolite _____	
Vesicles: %	2						Groundmass	
Shape	SR-SA						Chlorite _____	
Size(x)	<1						Smectite _____	
PHENOCRYSTS (Original mineralogy)								
Olivine	>5%						Fracture	
	1-5%	✓					Vesicle	
	<1%						Secondary/Alteration Min.	
Phenos	mph	✓					Smectite _____	
	ol-plag	✓					Calcite _____	
							Zeolite _____	
Comments							white fibrous _____	
Plagioclase								
	>5%						green _____	
	1-5%						blue ✓ _____	
	<1%						Analcime _____	
Rhombs							Chabazite _____	
Blades/laths							MgOH _____	
	mph						Silica _____	
Comments							Amorphous _____	
Augite								
	%						Chalcedony _____	
GROUNDMASS (original)								
Aphanitic	✓						Crystals _____	
Feldspathic							Pyrite _____	
Diktytaxitic							Epidote _____	
							Gypsum _____	
							Anhydrite _____	
							Chalcopyrite _____	
							Limonite _____	
							Hematite _____	
							Other (describe) _____	



2944, 2946

CRITICAL FEATURES (description of units or features by number)

1) Hyaloclastite w/ Pillow fragments containing 3-5% Olivine phenocrysts mph in a gray aphanitic matrix. The Hyaloclastite consists of rock + black glassy fragment.

2° Minerals: Blue Stain, Smectite

CORE LOG

BOX # 329

HOLE # 1

Sheet A

Depth range 896.53 to 901.12 meters

Depth range 2946 to 2954.5 feet

Logger's Name EN

Page 1

Type of Sample: Flow      Intrusive      Ash      Breccia      Red Bed     

Number of Units in Box 2 Clk/Rubble      Carbonate      Pillow/Hyaloclast 1,2

Fill in blanks below by using the appropriate unit number.

PRIMARY FEATURES							SECONDARY FEATURES		COMMENTS
Phyric	1	2	3	4	5	6	Phenocryst replacements		PQ box 4.5' lost core
mega (>.5 mm)		✓					Olv -> Clay		
micro (<.5 mm)		✓					Iddingsite		
Aphyric							Plag -> Clay		
							Zeolite		
Vesicles: %							Groundmass		
Shape							Chlorite		
Size(x)							Smectite		
PHENOCRYSTS (Original mineralogy)							Fracture	Vesicle	
Olivine >5%							Secondary/Alteration Min.		2946 ← NYA10#1
1-5%		1					Smectite		
<1%							Calcite	✓	2947
Phenos mph		✓					Zeolite		2949
ol-plag							white fibrous		2950
Comments								green	} pillow rubble #2
								blue	
								Analcime	
Plagioclase							Chabazite		2952
>5%							MgOH		2954.5
1-5%		1					Silica		
<1%							Amorphous		
Rhombs							Chalcedony		
Blades/laths mph		✓					Crystals		
Comments								Pyrite	
Augite %							Epidote		
							Gypsum		
GROUNDMASS (original)							Anhydrite		
Aphanitic		✓					Chalcopryrite		
Feldspathic							Limonite		
Diktytaxitic							Hematite		
								Other (describe)	
								blue green	

CRITICAL FEATURES (description of units or features by number)

- 1) hyaloclastite, fine granular blue gray volcanic glass, black on fresh fract, and sand sized ambr volcanic glass loose in the box. Clasts as below.
- 2) pillow rubble, amscutar, olivine mph & phenos  $\approx 1\%$ , unalt.; plag blades & laths  $\approx 1\%$  in a gray aphan mtx with portions of ambr glass rinds.

CORE LOG  
 BOX # 330 HOLE # 1 Sheet A  
 Depth range 901.12 to 902.04 meters Depth range 2954.5 to 2957.5 feet  
 Logger's Name FT Page 1  
 Type of Sample: Flow      Intrusive      Ash      Breccia      Red Bed       
 Number of Units in Box 1 Clk/Rubble      Carbonate      Pillow/Hyaloclast   
 Fill in blanks below by using the appropriate unit number.

PRIMARY FEATURES						SECONDARY FEATURES		COMMENTS	
Phyric	1	2	3	4	5	6	Phenocryst replacements		3' reported
mega (>.5 mm)	✓						Olv -> Clay		
micro (<.5 mm)	✓						Iddingsite		
Aphyric							Plag -> Clay		
Vesicles: %	1						Zeolite		
Shape	SP						Groundmass		
Size(x)	<1						Chlorite		
							Smectite		
							Fracture		
							Vesicle		
PHENOCRYSTS (Original mineralogy)						Secondary/Alteration Min.			
Olivine >5%	✓						Smectite		✓
1-5%	3-5						Calcite		
<1%							Zeolite		
Phenos	✓						white fibrous		
mph	✓						green		
ol-plag							blue		✓
Comments							Analcime		
Plagioclase							Chabazite		
>5%							MgOH		
1-5%							Silica		
<1%							Amorphous		
Rhombs							Chalcedony		
Blades/laths							Crystals		
mph							Pyrite		
Comments							Epidote		
Augite %							Gypsum		
							Anhydrite		
GROUNDMASS (original)							Chalcopyrite		
Aphanitic	✓						Limonite		
Feldspathic							Hematite		
Diktytaxitic							Other (describe)		

CRITICAL FEATURES (description of units or features by number)

1) Hyaloclastite w/ Pillow fragments that have 3-5% Olivine phenocrysts, mph in a lt gray to bluish gray aphanitic matrix. Hyaloclastite consists of rock + black glassy fragments.

2° MINERALS: Blue Stain Smectite.



CORE LOG

BOX # 321

HOLE # 1

Sheet A

Depth range 902.04 to 903.10 meters

Depth range 2957.5 to 2961 feet

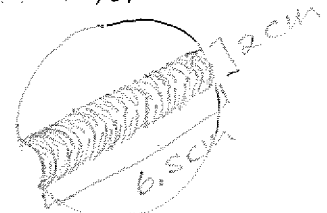
Logger's Name EN

Page 1

Type of Sample: Flow  Intrusive  Ash  Breccia  Red Bed

Number of Units in Box 2 Clk/Rubble  Carbonate  Pillow/Hyaloclast LP

Fill in blanks below by using the appropriate unit number.

PRIMARY FEATURES							SECONDARY FEATURES			COMMENTS
Phyric	1	2	3	4	5	6	Phenocryst replacements			
mega (>.5 mm)		✓					Olv -> Clay			
micro (<.5 mm)		✓					Iddingsite			
Aphyric							Plag -> Clay			
Vesicles: %							Zeolite			
Shape							Groundmass			
Size(x)							Chlorite			
							Smectite			
PHENOCRYSTS (Original mineralogy)										
Olivine >5%							Fracture		2957.5 } hyalo #1 ← pillow #2 A 2961	
Olivine 1-5%		1					Vesicle			
Olivine <1%							Secondary/Alteration Min.			
Phenos mph		✓					Smectite			
ol-plag		✓					Calcite	✓		
Comments							Zeolite			
							white fibrous			
							green			
							blue			
							Analcime			
Plagioclase										
>5%							Chabazite			
1-5%							MgOH			
<1%		1					Silica			
Rhombs							Amorphous	W/O		
Blades/laths		✓					Chalcedony			
mph							Crystals			
Comments							Pyrite			
							Epidote			
Augite %										
							Gypsum	W/O		
GROUNDMASS (original)										
Aphanitic		✓					Anhydrite			
Feldspathic							Chalcopyrite	W/O		
Diktytaxitic							Limonite			
							Hematite			
							Other (describe)	blue resin		

CRITICAL FEATURES (description of units or features by number)

1) hyaloclastite, fine gravel sized blue gray volcanic glass, black on fresh fracture, and sand sized amber volcanic glass compressed, and cemented by clay, into a friable but competent unit. Clasts as below.

2) pillow, aresicular, olivine mph & phenos < 1%, unalt.; plag blades & laths < 1% in a gray aphan mtr. Branch (?) mold at 2961'

CORE LOG  
 BOX # 332 HOLE # 1 Sheet A  
 Depth range 903.11 to 909.33 meters Depth range 2961 to 2965 feet  
 Logger's Name FT Page 1  
 Type of Sample: Flow      Intrusive      Ash      Breccia      Red Bed       
 Number of Units in Box 1 Clk/Rubble      Carbonate      Pillow/Hyaloclast   
 Fill in blanks below by using the appropriate unit number.

PRIMARY FEATURES						SECONDARY FEATURES		COMMENTS
Phyric	1	2	3	4	5	6	Phenocryst replacements	
mega (>.5 mm)	<input checked="" type="checkbox"/>						Olv -> Clay <u>    </u>	
micro (<.5 mm)	<input checked="" type="checkbox"/>						Iddingsite <u>    </u>	
Aphyric							Plag -> Clay <u>    </u>	
Vesicles: %	<u>    </u>						Zeolite <u>    </u>	
Shape							Groundmass	
Size(x)							Chlorite <u>    </u>	
							Smectite <u>    </u>	
							Fracture	
							Vesicle	
PHENOCRYSTS (Original mineralogy)						Secondary/Alteration Min.		
Olivine	>5%						Smectite <u>    </u>	
	1-5%	<input checked="" type="checkbox"/>					Calcite <u>    </u>	
	<1%						Zeolite <u>    </u>	
Phenos	mph	<input checked="" type="checkbox"/>					white fibrous <u>    </u>	
ol-plag							green <u>    </u>	
Comments	<u>    </u>						blue <u>    </u>	
							Analcime <u>    </u>	
Plagioclase	>5%						Chabazite <u>    </u>	
	1-5%						MgOH <u>    </u>	
	<1%						Silica <u>    </u>	
Rhombs							Amorphous <u>    </u>	
Blades/laths							Chalcedony <u>    </u>	
mph							Crystals <u>    </u>	
Comments	<u>    </u>						Pyrite <u>    </u>	
Augite	%						Epidote <u>    </u>	
GROUNDMASS (original)							Gypsum <u>    </u>	
Aphanitic							Anhydrite <u>    </u>	
Feldspathic							Chalcopyrite <u>    </u>	
Diktytaxitic							Limonite <u>    </u>	
							Hematite <u>    </u>	
							Other (describe) <u>    </u>	

CRITICAL FEATURES (description of units or features by number)

1) Hyaloclastite w/ Pillow Fragments w/ 3-5% Olivine phenocrysts  
 mph in a gray → bluish gray matrix, aphanitic.  
 Hyaloclastite consists of Rock + glass fragments.

2° Minerals: SMECTITE, Blue Stain, Pyrite, Calcite

CORE LOG  
 BOX # 334 HOLE # SOH#1 Sheet A  
 Depth range 905.2 to 906.2 meters Depth range 2968 to 2971 feet  
 Logger's Name RE Page 1  
 Type of Sample: Flow      Intrusive      Ash      Breccia      Red Bed       
 Number of Units in Box 1 Clk/Rubble      Carbonate      Pillow/Hyaloclast 1  
 Fill in blanks below by using the appropriate unit number.

PRIMARY FEATURES							SECONDARY FEATURES				COMMENTS
Phyric	1	2	3	4	5	6	Phenocryst replacements				
mega (>.5 mm)	-						Olv -> Clay				
micro (<.5 mm)							Iddingsite				
Aphyric							Plag -> Clay				
Vesicles: %	-						Zeolite				
Shape							Groundmass				
Size(x)							Chlorite				
							Smectite				
PHENOCRYSTS (Original mineralogy)											
Olivine >5%							Secondary/Alteration Min.				
1-5%								Smectite			
<1%							Calcite				
Phenos mph							Zeolite				
ol-plag							white fibrous				
Comments							green				
							blue				
							Analcime				
							Chabazite				
							MgOH				
							Silica				
							Amorphous				
							Chalcedony				
							Crystals				
							Pyrite	✓			
							Epidote				
							Gypsum				
							Anhydrite				
							Chalcopyrite				
							Limonite				
							Hematite				
							Other (describe)				

CRITICAL FEATURES (description of units or features by number)

1) hyaloclastite composed of sand-sized black and amber glass shards supporting angular clasts of thick black/amber glass and pillow lavas.

2° min: smectite, blue stain, pyrite

CORE LOG  
 BOX # 335 HOLE # 1 Sheet A  
 Depth range 906.16 to 907.07 meters Depth range 2971 to 2974 feet  
 Logger's Name FT Page 1  
 Type of Sample: Flow      Intrusive      Ash      Breccia      Red Bed       
 Number of Units in Box 1 Clk/Rubble      Carbonate      Pillow/Hyaloclast   
 Fill in blanks below by using the appropriate unit number.

PRIMARY FEATURES							SECONDARY FEATURES		COMMENTS
Phyric	1	2	3	4	5	6	Phenocryst replacements		3' here/reported
mega (>.5 mm)	<input checked="" type="checkbox"/>						Olv -> Clay		
micro (<.5 mm)	<input checked="" type="checkbox"/>						Iddingsite		
Aphyric							Plag -> Clay		
							Zeolite		
Vesicles: %	<<1						Groundmass		
Shape	S&SA						Chlorite		
Size(x)	<1						Smeectite		
PHENOCRYSTS (Original mineralogy)									
Olivine >5%	<input checked="" type="checkbox"/>						Fracture	Vesicle	
1-5%	3-5								
<1%							Secondary/Alteration Min.		
Phenos	<input checked="" type="checkbox"/>						Smeectite	<input checked="" type="checkbox"/>	
mph	<input checked="" type="checkbox"/>						Calcite		
ol-plag							Zeolite		
Comments							white fibrous		
							green		
							blue	<input checked="" type="checkbox"/>	
							Analcime		
							Chabazite		
							MgOH		
							Silica		
							Amorphous		
							Chalcedony		
							Crystals		
							Pyrite		
							Epidote		
							Gypsum		
							Anhydrite		
							Chalcopyrite		
							Limonite		
							Hematite		
							Other (describe)		

CRITICAL FEATURES (description of units or features by number)

1) Hyaloclastite w/ Pillow Fragments containing 3-5% Olivine phenocrysts, mph in a dark bluish gray <sup>aphanitic</sup> matrix. Hyaloclastite comprised of Rock + black glassy Fragments.

2° Minerals: SMECTITE, Blue Stain

PRIMARY FEATURES						
Phyric	1	2	3	4	5	6
mega (>.5 mm)	✓	—	✓			
micro (<.5 mm)	✓		✓			
Aphyric						
Vesicles: %	<1%	—	<1%			
Shape	S-R		S-R			
Size(x)	<1mm		<1mm			
PHENOCRYSTS (Original mineralogy)						
Olivine	>5%					
	1-5%	1-3	1-3			
	<1%					
Phenos	✓		✓			
mph	✓		✓			
ol-plag						
Comments						
Plagioclase						
	>5%					
	1-5%					
	<1%					
Rhombs						
Blades/laths						
mph						
Comments						
Augite	%					
GROUNDMASS (original)						
Aphanitic	✓	—	✓			
Feldspathic						
Diktytaxitic						

SECONDARY FEATURES	
Phenocryst replacements	
Olv -> Clay	✓
Iddingsite	
Plag -> Clay	
Zeolite	
Groundmass	
Chlorite	
Smectite	
Fracture	
Vesicle	
Secondary/Alteration Min.	
Smectite	
Calcite	✓
Zeolite	
white fibrous	
green	
blue	
Analcime	
Chabazite	
MgOH	
Silica	
Amorphous	
Chalcedony	
Crystals	
Pyrite	
Epidote	
Gypsum	
Anhydrite	
Chalcopyrite	
Limonite	
Hematite	
Other (describe)	blue stain ✓

COMMENTS

Excellent rhomb of calcite @ 2947'

2974' } pillow #1  
 } hyaloclastite #2  
 } pillow #3  
 <2977'

CRITICAL FEATURES (description of units or features by number)

- pillow lava w/ 1-3% olivine phenos & mph in a light grey microvesicular, aphanitic matrix. Thick black (→ golden) glass rind at contact.
- hyaloclastite composed of sand-sized black and amber glass shards supporting angular fragments of black/amber glass & pillow lava.
- pillow lava same as #1. 2° mins. Calcite, blue stain

CORE LOG  
 BOX # 337 907.99 HOLE # 1 Sheet A  
 Depth range 909.21 meters Depth range 2977 to 2981 feet  
 Logger's Name FT Page 1  
 Type of Sample: Flow  Intrusive  Ash  Breccia  Red Bed   
 Number of Units in Box 1 Clk/Rubble  Carbonate  Pillow/Hyaloclast   
 Fill in blanks below by using the appropriate unit number.

PRIMARY FEATURES						SECONDARY FEATURES		COMMENTS
Phyric	1	2	3	4	5	6	Phenocryst replacements	
mega (>.5 mm)	<input checked="" type="checkbox"/>						Olv -> Clay	
micro (<.5 mm)	<input checked="" type="checkbox"/>						Iddingsite	
Aphyric							Plag -> Clay	
Vesicles: %	2						Zeolite	
Shape	SP						Groundmass	
Size(x)	1						Chlorite	
							Smectite	
PHENOCRYSTS (Original mineralogy)							Fracture Vesicle Secondary/Alteration Min.	
Olivine	>5%	<input checked="" type="checkbox"/>						Smectite
	1-5%	3-5						Calcite
	<1%							Zeolite
Phenos	mph	<input checked="" type="checkbox"/>						white fibrous
ol-plag								green
Comments								blue
								Analcime
Plagioclase	>5%							Chabazite
	1-5%							MgOH
	<1%						Silica	
Rhombs							Amorphous	
Blades/laths	mph						Chalcedony	
Comments							Crystals	
Augite	%						Pyrite	
GROUNDMASS (original)							Epidote	
Aphanitic	<input checked="" type="checkbox"/>						Gypsum	
Feldspathic							Anhydrite	
Diktytaxitic							Chalcopryrite	
							Limonite	
							Hematite	
							Other (describe)	

CRITICAL FEATURES (description of units or features by number)

1) Hyaloclastite w/ Pillow Fragments w/ 3-5% Olivine phenocryst  
 mph in an aphanitic gray -> bluish gray matrix  
 Hyaloclastite is composed of rock + glassy fragments.

2° Minerals = SMECTITE, Blue Stain, Calcite

CORE LOG

BOX # 338 HOLE # 1 Sheet A  
 Depth range 909.21 to 910.43 meters Depth range 2981 to 2985 feet  
 Logger's Name FT Page 1

Type of Sample: Flow  Intrusive  Ash  Breccia  Red Sed   
 Number of Units in Box 1 Clk/Rubble  Carbonate  Pillow/Hyaloclast   
 Fill in blanks below by using the appropriate unit number.

PRIMARY FEATURES						SECONDARY FEATURES		COMMENTS	
Phyric	1	2	3	4	5	6	Phenocryst replacements		4' here
mega (>.5 mm)	<input checked="" type="checkbox"/>						Olv -> Clay		
micro (<.5 mm)	<input checked="" type="checkbox"/>						Iddingsite		
Aphyric							Plag -> Clay		
							Zeolite		
Vesicles: %	1						Groundmass		
Shape	30-50						Chlorite		
Size(x)	<1						Smectite		
PHENOCRYSTS (Original mineralogy)							Fracture		
Olivine	>5%						Secondary/Alteration Min.		
	1-5%	<input checked="" type="checkbox"/>					Smectite		
	<1%						Calcite		
Phenos		<input checked="" type="checkbox"/>					Zeolite		
mph		<input checked="" type="checkbox"/>					white fibrous		
ol-plag							green		
Comments							blue		
							Analcime		
Plagioclase	>5%						Chabazite		
	1-5%						MgOH		
	<1%						Silica		
Rhombs							Amorphous		
Blades/laths							Chalcedony		
mph							Crystals		
Comments							Pyrite		
Augite	%						Epidote		
							Gypsum		
GROUNDMASS (original)							Anhydrite		
Aphanitic	<input checked="" type="checkbox"/>						Chalcopyrite		
Feldspathic							Limonite		
Diktytaxitic							Hematite		
							Other (describe)		

CRITICAL FEATURES (description of units or features by number)

1) Hyaloclastite w/ Pillow Fragments w/ 3-5% Olivine as phenocrysts, mph in a gray to bluish gray aphanitic matrix. Some of the pillow fragments are vesicular ~ 10% throughout. Hyaloclastite consists of rock + glass fragments.

2° Minerals = Blue Stain, Smectite.

BOX # 339

CORE LOG

HOLE # 504-#1

Sheet A

Depth range 910.4 to 911.5 meters

Depth range 2985 to 2988.5 feet

Logger's Name RE

Page 1

Type of Sample: Flow \_\_\_\_\_ Intrusive \_\_\_\_\_ Ash \_\_\_\_\_ Breccia \_\_\_\_\_ Red Bed \_\_\_\_\_

Number of Units in Box 3 Clk/Rubble \_\_\_\_\_ Carbonate \_\_\_\_\_ Pillow/Hyaloclast 1, 2, 3.

Fill in blanks below by using the appropriate unit number.

PRIMARY FEATURES						
Phyric	1	2	3	4	5	6
mega (>.5 mm)	✓	✓	✓			
micro (<.5 mm)		✓				
Aphyric						
Vesicles: %	<1%					
Shape	S-R					
Size(x)	<1mm					

PHENOCRYSTS (Original mineralogy)					
Olivine >5%					
1-5%		1-2%			
<1%					
Phenos		✓			
mph		✓			
ol-plag					
Comments					

Plagioclase					
>5%					
1-5%					
<1%					
Rhombs					
Blades/laths					
mph					
Comments					

Augite					
%					

GROUNDMASS (original)					
Aphanitic					
Feldspathic		✓			
Diktytaxitic					

SECONDARY FEATURES	
Phenocryst replacements	
Olv -> Clay	
Iddingsite	
Plag -> Clay	
Zeolite	
Groundmass	
Chlorite	
Smectite	
Fracture	
Vesicle	
Secondary/Alteration Min.	
Smectite	✓
Calcite	✓
Zeolite	
white fibrous	
green	
blue	
Analcime	
Chabazite	
MgOH	
Silica	
Amorphous	
Chalcedony	
Crystals	
Pyrite	
Epidote	
Gypsum	
Anhydrite	
Chalcopryrite	
Limonite	
Hematite	
Other (describe)	blue stain ✓

COMMENTS

Excellent calcite rhombs in pillow fractures @ 2988

2985' } hyaloclast #1

42986' } pillow #2

2988.5' } hyaloclast #3

CRITICAL FEATURES (description of units or features by number)

- 1) hyaloclastite composed of sand-sized black and amber glass shards supporting angular clasts of <sup>thick</sup> black -> amber glass and pillow lava. Diable, semi-competent.
- 2) pillow lava w/ 1-2% olivine phenos & mph in a lt. gray feldspathic, microvesicular matrix. Highly fractured. Thick black -> golden glass rind.
- 3) hyaloclastite same as #1.



CORE LOG

BOX # 340

HOLE # 1

Sheet A

Depth range 911.49 to 912.56 meters

Depth range 2988.5 to 2992 feet

Logger's Name EN

Page 1

Type of Sample: Flow        Intrusive        Ash        Breccia        Red Bed       

Number of Units in Box 1 Clk/Rubble        Carbonate        Pillow/Hyaloclast 1

Fill in blanks below by using the appropriate unit number.

PRIMARY FEATURES							SECONDARY FEATURES		COMMENTS	
Phyric	1	2	3	4	5	6	Phenocryst replacements			
mega (>.5 mm)	✓						Olv -> Clay			
micro (<.5 mm)	✓						Iddingsite			
Aphyric							Plag -> Clay			
							Zeolite			
Vesicles: %	✓						Groundmass			
Shape							Chlorite			
Size(x)							Smeectite			
PHENOCRYSTS (Original mineralogy)							Fracture	Vesicle		
Olivine >5%							Secondary/Alteration Min.			
1-5%	✓						Smeectite			
<1%							Calcite	✓		
Phenos mph	✓						Zeolite			
ol-plag							white fibrous			
Comments								green		
							blue			
							Analcime			
							Chabazite			
							MgOH			
							Silica			
							Amorphous			
							Chalcedony			
							Crystals			
							Pyrite			
							Epidote			
							Gypsum			
							Anhydrite			
							Chalcopyrite			
							Limonite			
							Hematite			
							Other (describe)			
							<i>blue green</i>			

CRITICAL FEATURES (description of units or features by number)

1) *hyaloclastite, fine gravel sized blue gray volcanic glass, blk. on fresh fract, and sand sized ambr volcanic glass compacted and cemented by clay into a friable but competent unit. Clasts: amebicular, olivine mph & phenos  $\leq 10\%$ , unalt.; plag blades & laths  $\leq 1\%$ , in a gray aphan mtr. Clasts are pillow frag.*


CORE LOG  
 BOX # 341 HOLE # 1 Sheet A  
 Depth range 912.56 to 913.48 meters Depth range 2992 to 2995 feet  
 Logger's Name FT Page 1  
 Type of Sample: Flow      Intrusive      Ash      Breccia      Red Bed       
 Number of Units in Box 1 Clk/Rubble      Carbonate      Pillow/Hyaloclast ✓  
 Fill in blanks below by using the appropriate unit number.

PRIMARY FEATURES						SECONDARY FEATURES		COMMENTS
Phyric	1	2	3	4	5	6	Phenocryst replacements	3' here
mega (>.5 mm)	✓						Olv -> Clay	
micro (<.5 mm)	✓						Iddingsite	
Aphyric							Plag -> Clay	
Vesicles: %	<1						Zeolite	
Shape	SR-S*						Groundmass	
Size(x)	<1						Chlorite	
							Smectite	
PHENOCRYSTS (Original mineralogy)							Fracture Vesicle Secondary/Alteration Min. Smectite ✓ Calcite Zeolite white fibrous green blue ✓ Analcime Chabazite MgOH Silica Amorphous Chalcedony Crystals Pyrite Epidote Gypsum Anhydrite Chalcopyrite Limonite Hematite Other (describe)	
Olivine	>5%							
	1-5%	✓						
	<1%							
Phenos	mph	✓						
	ol-plag							
Comments								
Plagioclase								
	>5%							
	1-5%							
	<1%							
	Rhombs							
	Blades/laths							
	mph							
Comments								
Augite %								
GROUNDMASS (original)								
	Aphanitic	✓						
	Feldspathic							
	Diktytaxitic							

CRITICAL FEATURES (description of units or features by number)

1) Hyaloclastite w/ Pillow fragments w/ 3-5% Olivine phenocrysts  
 mph in a gray to bluish gray aphanitic matrix  
 Some Pillow fragments have vesicle [ ] at 10%  
 Hyaloclastite is comprised of rock + black glassy fragments.  
 2<sup>o</sup> Minerals: Blue Stain, Smectite

Type of Sample: Flow  Intrusive  Ash  Breccia  Red Bed   
 Number of Units in Box 1 Clk/Rubble  Carbonate  Pillow/Hyaloclast   
 Fill in blanks below by using the appropriate unit number.

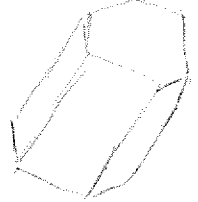
PRIMARY FEATURES							SECONDARY FEATURES			COMMENTS		
Phyric	1	2	3	4	5	6	Phenocryst replacements				2 types of 2° stable found 1 creamy opaque = Calcite, 2nd clear nice stal form believe to be Gypsum	
mega (>.5 mm)	✓						Olv -> Clay					
micro (<.5 mm)	✓						Iddingsite					
Aphyric							Plag -> Clay					
Vesicles: %	<1						Zeolite					
Shape	SR						Groundmass					
Size(x)							Chlorite					
							Smectite					
PHENOCRYSTS (Original mineralogy)							Vesicle Fill Fracture Fill	Secondary/Alteration Min.				
Olivine >5%	✓									Smectite		
Olivine 1-5%	7									Calcite	✓	
Olivine <1%										Zeolite		
Phenos mph	✓									white fibrous		
ol-plag										green		
Comments										blue		
Plagioclase >5%										Analcime		
Plagioclase 1-5%										Chabazite		
Plagioclase <1%										MgOH (blue)	✓	
Rhombs							Silica					
Blades/laths mph							Amorphous					
Comments							Chalcedony					
Augite %							Crystals					
GROUNDMASS (original)												
Aphanitic							Pyrite					
Feldspathic							Epidote					
Diktytaxitic							Gypsum	?				
							Anhydrite					
							Chalcopyrite					
							Limonite					
							Hematite					
							Other (describe)					

CRITICAL FEATURES (description of units or features by number)

1) Hyaloclastite w/ Pillow Fragments having 7% Olivine as microphenocrysts/phenocrysts in a dull gray aphanitic matrix

2°: Calcite, Gypsum(?), MgOH (Steel-blue coating)

PRIMARY FEATURES							SECONDARY FEATURES			COMMENTS
Phyric	1	2	3	4	5	6	Phenocryst replacements			
mega (>.5 mm)	✓						Olv -> Clay			
micro (<.5 mm)	✓						Iddingsite			
Aphyric							Plag -> Clay			
							Zeolite			
Vesicles: %	15						Groundmass			
Shape	SR						Chlorite			
Size(x)	<1mm						Smectite			
PHENOCRYSTS (Original mineralogy)							Fractures Fill	Vesicle Fill	Min.	PQ CORE 3000'
Olivine >5%						Secondary/Alteration				
Olivine 1-5%	3					Smectite				
Olivine <1%						Calcite	✓			
Phenos	✓					Zeolite				
mph	✓					white fibrous				
ol-plag						green				
Comments							blue			2' MIN
Plagioclase >5%						Analcime				3003'
Plagioclase 1-5%	5					Chabazite				
Plagioclase <1%						MgOH				
Rhombs						Silica				
Blades/laths						Amorphous				
mph	✓					Chalcedony				
Comments							Crystals			
Augite %						Pyrite				
GROUNDMASS (original)							Epidote			
Aphanitic	✓					Gypsum	7			
Feldspathic						Anhydrite				
Diktytaxitic						Chalcopryrite				
						Limonite				
						Hematite				
						Other (describe)				



PQ CORE  
3000'

2' MIN

3003'

3003'

CRITICAL FEATURES (description of units or features by number)

1) hyaloclastite, mesoclastic clasts, plag mph 5%, olivine pheno i mph 3%, olivine unalt. in a gray aphan. basalt matrix. Matrix of the unit consists of (1cm) small clasts as above, highly mesoclastic dk. blue gray glassy lithic frags, and fine, friable lt. golden gray hydrated glass sand. Some lg clasts have gypsum x-laths(?) and white calcite deposits.

Type of Sample: Flow  Intrusive  Ash  Breccia  Red Bed   
 Number of Units in Box 1 Clk/Rubble  Carbonate  Pillow/Hyaloclast   
 Fill in blanks below by using the appropriate unit number.

PRIMARY FEATURES							SECONDARY FEATURES			COMMENTS
Phyric	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Phenocryst replacements			
mega (>.5 mm)							Olv -> Clay			
micro (<.5 mm)	<input checked="" type="checkbox"/>						Iddingsite			
Aphyric							Plag -> Clay			
Vesicles: %	<u>&lt;1</u>						Zeolite			
Shape	<u>R</u>						Groundmass			
Size(x)	<u>&lt;1</u>						Chlorite			
							Smectite			
PHENOCRYSTS (Original mineralogy)										
Olivine >5%	<input checked="" type="checkbox"/>						Secondary/Alteration Min.	Fracture Fill	Vesicle Fill	
Olivine 1-5%										
Olivine <1%							Smectite			
Phenos	<input checked="" type="checkbox"/>						Calcite	<input checked="" type="checkbox"/>		
mph	<input checked="" type="checkbox"/>						Zeolite			
ol-plag							white fibrous			
Comments							green			
							blue			
							Analcime			
							Chabazite			
Plagioclase							MgOH	<input checked="" type="checkbox"/>		
>5%							Silica			
1-5%							Amorphous			
<1%							Chalcedony			
Rhombs							Crystals			
Blades/laths							Pyrite			
mph							Epidote			
Comments							Gypsum			
							Anhydrite			
Augite %							Chalcopryrite			
							Limonite			
							Hematite			
							Other (describe)			
GROUNDMASS (original)										
Aphanitic										
Feldspathic	<input checked="" type="checkbox"/>									
Diktytaxitic										

CRITICAL FEATURES (description of units or features by number)

1) Hyaloclastite w/ pillow fragments that have 7% <sup>olivine</sup> microphenocrysts, phenocrysts in a dense nearly black feldspathic matrix.

2° = Calcite, MgOH (blue staining)

PRIMARY FEATURES							SECONDARY FEATURES				COMMENTS
Phyric	1	2	3	4	5	6	Phenocryst replacements				
mega (>.5 mm)	<input checked="" type="checkbox"/>						Olv -> Clay				
micro (<.5 mm)	<input checked="" type="checkbox"/>						Iddingsite				
Aphyric							Plag -> Clay				
Vesicles: %	<1						Zeolite				
Shape	R						Groundmass				
Size(x)	<1						Chlorite				
							Smectite				
PHENOCRYSTS (Original mineralogy)											
Olivine >5%							Fracture Fill				pillow fragment
1-5%	<input checked="" type="checkbox"/>						Vesicle Fill				
<1%							Secondary/Alteration Min.				
Phenos	<input checked="" type="checkbox"/>						Smectite				
mph	<input checked="" type="checkbox"/>						Calcite	<input checked="" type="checkbox"/>			
ol-plag							Zeolite				
Comments								white fibrous			
							green				
							blue				
							Analcime				
							Chabazite				
							MgOH	<input checked="" type="checkbox"/>			
							Silica				
							Amorphous				
							Chalcedony				
							Crystals				
							Pyrite				
							Epidote				
							Gypsum				
							Anhydrite				
							Chalcopryrite				
							Limonite				
							Hematite				
							Other (describe)				

CRITICAL FEATURES (description of units or features by number)

1) Hyaloclastite w/ Pillow fragments and 5% divine phenocrysts, microphenocrysts in a dark gray feldspathic matrix.

90% Hyalo  
 10% Pillow frags

2° Minerals: Calcite, MgOH (staining)

Fill in blanks below by using the appropriate unit number.

PRIMARY FEATURES							SECONDARY FEATURES			COMMENTS
Phyric	1	2	3	4	5	6	Phenocryst replacements			
mega (>.5 mm)		✓					Olv -> Clay			
micro (<.5 mm)		✓					Iddingsite			
Aphyric	✓						Plag -> Clay			
							Zeolite			
Vesicles: %	<u>30</u>	-					Groundmass			
Shape	<u>SR</u>						Chlorite			
Size(x)/mm							Smectite			
PHENOCRYSTS (Original mineralogy)										
Olivine >5%							Fractures Fill			
1-5%		4					Vesicle Fill			
<1%							Secondary/Alteration Min.			
Phenos							Smectite			
mph		✓					Calcite	✓	✓	
ol-plag							Zeolite			
Comments								white fibrous		
							green			
Plagioclase							blue			
>5%							Analcime			
1-5%		3					Chabazite			
<1%							MgOH			
Rhombs							Silica			
Blades/laths							Amorphous			
mph		✓					Chaicedony			
Comments								Crystals		
							Pyrite			
Augite %							Epidote			
							Gypsum			
GROUNDMASS (original)							Anhydrite			
Aphanitic	✓	✓					Chalcopyrite			
Feldspathic							Limonite			
Diktytaxitic							Hematite			
							Other (describe)			

CRITICAL FEATURES (description of units or features by number)

1) hyaloclastite, matrix as above.  
 Clasts: vesicular (30%) flow? no visible phenos  
 25%  
 arcular (pillows?) 4% plag mph,  
 3% olivine mph, ol unalt.  
 both in an aphan gray mtrx.  
 Very little 2° min.

BOX # 347

CORE LOG

HOLE # 1

Sheet A

Depth range 918.96 to 919.88 meters

Depth range 3013 to 3016 feet

Logger's Name EAJ

Page 1

Type of Sample: Flow      Intrusive      Ash      Breccia      Red Bed     

Number of Units in Box 1 Clk/Rubble      Carbonate      Pillow/Hyaloclast ✓

Fill in blanks below by using the appropriate unit number.

PRIMARY FEATURES							SECONDARY FEATURES			COMMENTS
Phyric	1	2	3	4	5	6	Phenocryst replacements			
mega (>.5 mm)							Olv -> Clay			
micro (<.5 mm)	✓						Iddingsite			
Aphyric							Plag -> Clay			
							Zeolite			
Vesicles: %	6						Groundmass			
Shape	SR						Chlorite			
Size(x) /mm							Smectite			
PHENOCRYSTS (Original mineralogy)							Fracture Fill	Vesicle Fill	Min.	3016
Olivine	>5%									
	1-5%	4					Smectite			
	<1%						Calcite	✓		
Phenos							Zeolite			
mph	✓						white fibrous			
ol-plag							green			
Comments								blue		
Plagioclase	>5%						Analcime			
	1-5%	3					Chabazite			
	<1%						MgOH			
Rhombs							Silica			
Blades/laths							Amorphous			
mph	✓						Chaicedony			
Comments								Crystals		
Augite	%						Pyrite			
GROUNDMASS (original)								Epidote		
Aphanitic	✓						Gypsum			
Feldspathic							Anhydrite			
Diktytaxitic							Chalcopyrite			
							Limonite			
							Hematite			
							Other (describe)			

CRITICAL FEATURES (description of units or features by number)

1) hyaloclastite, matrix as above  
 Clasts 10%: sparsely ms. to anisiclow pillow frags  
 olivine mph (4%), plag mph 3% in a gray aphan  
 mtr.



PRIMARY FEATURES							SECONDARY FEATURES			COMMENTS
Phyric	1	2	3	4	5	6	Phenocryst replacements			
mega (>.5 mm)	<input checked="" type="checkbox"/>						Olv -> Clay			
micro (<.5 mm)	<input checked="" type="checkbox"/>						Iddingsite			
Aphyric							Plag -> Clay			
							Zeolite			
Vesicles: %	<1						Groundmass			
Shape	<u>R</u>						Chlorite			
Size(x)	<1						Smectite			
PHENOCRYSTS (Original mineralogy)										
Olivine >5%	<u>7</u>						Fractures			
1-5%							Fill			
<1%							Vesicle			
Phenos	<input checked="" type="checkbox"/>						Fill			
mph	<input checked="" type="checkbox"/>						Secondary/Alteration Min.			
ol-plag							Smectite			
Comments							Calcite	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<u>Pillow Frag</u>
Plagioclase							Zeolite			
>5%							white fibrous			
1-5%							green			
<1%							blue			
Rhombs							Analcime			
Blades/laths							Chabazite			
mph							MgOH			
Comments							Silica			
Augite %							Amorphous			
GROUNDMASS (original)							Chalcedony			
Aphanitic							Crystals			
Feldspathic	<input checked="" type="checkbox"/>						Pyrite			
Diktytactic							Epidote			
							Gypsum			
							Anhydrite			
							Chalcopryrite			
							Limonite			
							Hematite			
							Other (describe)			

CRITICAL FEATURES (description of units or features by number)

1) Hyaloclastite w/ Pillow Fragments having 7% olivine phenocrysts, micro-phenocrysts in a feldspathic matrix. The Hyaloclastites consists predominantly of quenched glass fragments + Vesicular glassy fragments.

Fill in blanks below by using the appropriate unit number.

PRIMARY FEATURES							SECONDARY FEATURES			COMMENTS	
Phyric	1	2	3	4	5	6	Phenocryst replacements				six feet of muscovite lost core between box 348 + 349.
mega (>.5 mm)							Oiv -> Clay				
micro (<.5 mm)	✓	✓					Iddingsite				
Aphyric							Plag -> Clay				
							Zeolite				
Vesicles: %							Groundmass				
Shape							Chlorite				
Size(x)							Smectite				
PHENOCRYSTS (Original mineralogy)							Fracture FILL Vesicle FILL Min.	RETURN TO HQ CORE 3027'			
Olivine >5%								Secondary/Alteration		← dike #1 hyalo #2 3036'	
Olivine 1-5%								Smectite			
Olivine <1%		✓						Calcite			
Phenos mph		✓						Zeolite			
ol-plag								white fibrous			
Comments									green		
Plagioclase >5%								blue			
Plagioclase 1-5%	1	3						Analcime			
Plagioclase <1%								Chabazite			
Rhombs							MgOH				
Blades/laths mph	✓	✓					Silica				
Comments								Amorphous			
Augite %							Chaicedony				
GROUNDMASS (original)								Crystals			
Aphanitic	✓	✓					Pyrite				
Feldspathic							Epidote				
Diktytaxitic							Gypsum				
							Anhydrite				
							Chalcopryrite				
							Limonite				
							Hematite				
							Other (describe)				

CRITICAL FEATURES (description of units or features by number)

- 1) dike, aresicular, plag mph 1% in a lt. gray aphan matrix.
- 2) hyalo clastite, matrix as above  
 Clasts 30%: aresicular (pillow frag) plag mph 3% in a gray aphan mtr.  
 vesicular 23% (flow frag) olivie mph 1% in a gray aphan mtr.

Type of Sample: Flow  Intrusive  Ash  Breccia  Red Bed   
 Number of Units in Box  Clk/Rubble  Carbonate  Pillow/Hyaloclast   
 Fill in blanks below by using the appropriate unit number.

PRIMARY FEATURES							SECONDARY FEATURES			COMMENTS
Phyric	1	2	3	4	5	6	Phenocryst replacements			
mega (>.5 mm)	<input checked="" type="checkbox"/>						Olv -> Clay			
micro (<.5 mm)	<input checked="" type="checkbox"/>						Iddingsite			
Aphyric							Plag -> Clay			
Vesicles: %	5						Zeolite			
Shape	R						Groundmass			
Size(x)	11						Chlorite			
							Smectite			
PHENOCRYSTS (Original mineralogy)							Fractures Fill	Vesicle Fill	Min.	Secondary/Alteration
Olivine >5%	5-7%					Smectite				
Olivine 1-5%						Calcite	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
Olivine <1%						Zeolite				
Phenos	<input checked="" type="checkbox"/>					white fibrous				
mph	<input checked="" type="checkbox"/>					green				
ol-plag						blue				
Comments							Analcime			<p>Small glassy Fragment</p>
Plagioclase >5%						Chabazite				
Plagioclase 1-5%						MgOH	<input checked="" type="checkbox"/>			
Plagioclase <1%						Silica				
Rhombs						Amorphous				
Blades/laths						Chalcedony				
mph						Crystals				
Comments							Pyrite			
Augite %						Epidote				
						Gypsum				
GROUNDMASS (original)							Anhydrite			
Aphanitic							Chalcopryrite			
Feldspathic	<input checked="" type="checkbox"/>						Limonite			
Diktytaxitic							Hematite			
							Other (describe)			

CRITICAL FEATURES (description of units or features by number)

1) Hyaloclastite w/ Pillow + subaerial flow Fragments: Ratio of Matrix to Clasts = 90:10  
 Hyaloclastite consists of vitreous, glassy fragments, sometimes (20-50%) vesicular.  
 The Pillows have 5-7% olivine as microphenocrysts, phenocrysts in a feldspathic matrix.  
 Flow nearly aphyric w/ <1% olivine as phenocrysts in a feldspathic matrix  
 2<sup>nd</sup> mineral is Calcite, MgOH (blue staining)