

Project: Dixie Valley  
Hole 903-2

Location: 21N 35E 26 SW-1/4, NW-1/4, NW-1/4

Elevation: 3600'

Date Drilled: 5-10 - 5-11, & 5-14-79

Fluid: mud (bentonite)

Depth (m)	Description
Thickness*	
0-6m	
6-24m	Alluvial fan. Unconsolidated silt, sand, and pebbles.
24-30m	Minor amounts of clay probably authigenic. Fine through
30-33m	medium sand is subangular to subrounded. Coarse sand
33-39m	and pebbles is subangular to angular.
39-48m	Material is lithic fragments of mixed silicic volcanic: Rhyolitic and Dacitic lava flows, tuffs, and welded tuffs.
48-54m	
78-90m	
	*Thickness is here intended to represent relative distribution of clast sizes and gradation of clasts. i.e. the interval from 54-78m coarsens down column. These are not lithologically different in composition, nor do they imply depositional events.
	Sun exposure: Well exposed on west sloping alluvial fan.
	Vegetation: Sparse covering, desert xerophytes.
	Ø -scan : Background (160-180cps)
	Remarks : This hole was re-drilled to replace leaky PVC pipe. Initially the driller tried to clean his mud drilled hole with air. Hot water was blown back to the surface at this time. Driller reported temperature was "too hot to hold your hand in." Less subjectively, this water was probably in excess of 45°C.

Location: 21N 35E 22 SW-1/4 NW-1/4 SW-1/4

Elevation: 3440'

Date Drilled: 5-20-79

Depth (m)	Description
Thickness	
0-6m	Black, very coarse lithic sand with moderately well rounded pebbles (1-2cm) of fluvial character.
6-24m	Gray-green fine-medium sand with moderately well rounded pebbles (1-2cm). Minor clay matrix shown by cohesive, round and platy cutting returns. f.-m. sand 90%, pebbles ~ 10%. Possibly deltaic or lacustrine.
24-30m	Angular lithic sand and pebbles (v. cse. sand - 2cm). f. & m. sand < 10%
30-36m	Angular lithic sand and pebbles (v. cse. sand - 2cm), 50%. f. & m. sand, 50%.
36-90m	Angular lithic gravel, predominantly < 1cm, 90%. Total sand, ~ 10%.
	Lithic fragments are of mixed silicic volcanic flows, tuffs, and welded tuffs. Composition is generally dacitic and rhyolitic, although much of the samples is fine grain or aphanitic.
	Sun Exposure: Well exposed, flat, playa surface.
	Vegetation: No vegetation in vicinity of hole. Nearby sparse desert xerophytes.
	γ -scan: Background (160-180cps)
	Remarks: Artesian water encountered at 51m on first attempt to drill hole by All-Terrain Drilling. Second attempt used heavier mud and water conditions were not determined. Artesian flowed at 3-5 gpm.

Project: Dixie Valley  
Hole 903-4

Location: 21N 35E 36 SW NW

Elevation: 4160'

Date Drilled: 5-17-76

Fluid: air

Depth (m)	Description
Thickness	
0-70m	Silt, sand, gravel, and boulders. Gravels constitute 80%.
70-90m	Sand and silt
Sun exposure:	Broad east-west valley.
Vegetation:	Short grass and brush.
γ -scan :	None

Project: Dixie Valley  
Hole 903-5

Location: 20N 35E 1 N-1/2 NE-1/4

Elevation: 4560'

Date Drilled: 5-18 - 5-19-79

Fluid: air

Depth (m)	Description
Thickness	
0-24m	Silt, sand, and gravel size lithic debris to 1cm (and probably larger in situ). Silt and sand ~50%. Gravel ~50%. Composition predominantly light brown to brick red rhyodacite containing white plag phenocrysts, 1-3mm.
24-90m	Poorly sorted lithic (volcanic) sands. Silt - cse. sand and pebble to 5mm. Minor clay content, 1%. Lithra material is gray-black porphyritic andesite with plagioclase phenocrysts < 1mm. White fine grain sandstone and various other silicic volcanic debris. 90% of material smaller than coarse sand. Ratio's of lithic debris varying but volcanic material generally > 90%.
Sun exposure:	Broad, East-West Valley
Vegetation:	Short grass, sparse
D - scan:	Background (160-180cps)

Project: Dixie Valley  
Hole 903-6

Location: 21N 35E 13 NW-1/4 NW-1/4

Elevation: 3465'

Date Drilled: 4-23 - 4-24-79

Fluid: mud (bentonite)

Depth (m)	Description
Thickness	
0-7.5m	<p>Silt and fine-coarse sand. Fine sand moderately well rounded and ~ 95% quartz and ~ 5% Lithic material. Medium-coarse sand subangular-subrounded and 50% lithic material and 50% quartz.</p> <p>Silt, sand and gravel to 1cm. Silt and fine-medium sand ~ 50%. Coarse sand and gravel ~ 50%.</p> <p>Mud column standing at 6m below ground level.</p> <p>Lithic fragments are of mixed silicic volcanic flows, tuffs, and welded tuffs. Composition is dacitic or rhyolitic where phenocrysts are visible. Otherwise material is fine grain or aphanitic.</p>
Sun Exposure:	Well exposed at toe of alluvial fan.
Vegetation:	Sparse ground cover, desert xerophytes.
γ -scan:	Background (160-180cps)

Project: Dixie Valley  
Hole 903-7

NW NE S24 T21N R35E

Elevation: 3530'

Date Drilled: 5-9-79  
Fluid: mud

Depth (m)	Description
Thickness	
0-10m	Silt and wind blown sand
10-92m	Silt, sand and gravel. Lithic fragments of rhyolite.
Sun exposure:	Well exposed base of stable sand dune.
Vegetation:	Sparse, desert xerophytes.
J -scan:	Background 160-180cps.

Project: Dixie Valley  
Hole 903-8

Location: 21N 36E 18 E-1/2 NE-1/4

Elevation: 3685'

Date Drilled: 5-16-79

Fluid: mud(bentonite)

Depth (m)	Description
Thickness	
0-63m	Alluvial fan, unconsolidated silt, sand, and gravel. Coarsest cutting returns to 1.5cm, but in situ probably boulder. Clay content ~1%. Silt and sand < 10% in samples and probably < 20% throughout (in situ) except at 63-66m and at 84-87m where silt and sand ~ 50%.
63-66m	Lithic debris is aphanitic, fine grain, and porphyritic silicic volcanics: Dacite, Rhyolite.
66-84m	
84-87m	
87-90m	
	Sun Exposure: Well exposed on alluvial fan.
	Vegetation: Sparse desert xerophytes
	σ -scan: Background (160-180cps)

Location: 21N 36E 16 NW-1/4 NW-1/4 SW-1/4

Elevation: 3940'

Date Drilled: 4-8 - 4-10-79

Fluid: mud (Revert)

Depth (m)	Description
Thickness	
0-60m	<p>Alluvial fan. Unconsolidated silt, sand, and gravel. Silt and sand ~ 25%. Coarser material ~ 75%. Coarsest material at 0-6m, 18-20m, and 30-33m.</p> <p>Lithic content is pink, gray, green, brown, and yellow silicic flows and tuffs. Some more mafic material possibly indicated by darker colors i.e. andesite-basalt but very fine grain or aphanitic.</p> <p>Sun Exposure: Well exposed on west facing Alluvial fan.</p> <p>Vegetation: Sparse covering, desert xerophytes.</p> <p><math>\sigma</math>-scan: Background (160-180cps)</p>



Project: Dixie Valley  
Hole 903-10

Location: 21N 36E SW-1/4 SW-1/4 SE-1/4

Elevation: 4360'

Date Drilled: 5-16 - 5-17-79

Fluid: air

Depth (m)	Description
Thickness	
0-14m	Unconsolidated silt, sand, and gravel to 2cm, very angular. Silt-medium sand ~10%. Cse. sand and gravel ~ 90%. Sand composed of ~10% feldspar, ~10% lithic debris and biotite, ~ 80% quartz. Lithic debris is aphanitic, fine grain, and porphyritic docite and rhyotite.
14-84m	Gray, very angular lithic debris : silt-5mm. Lithology as above ratio's of silt and sand to coarser material varying:  14-23m 50%:50% 23-45m 90%:10% gravel:silt and sand 45-57m 50%:50% 57-84M 10%:90%
84-90m	As 57-84m. Aquifer
	Sun Exposure: Well exposed at base of Clan Alpine Mts.
	Vegetation: Sparse grass.
	-scan: Background (160-180cps)

Project: Dixie Valley  
Hole 903-13

Location: 21N 36E 4 NW-1/4 SW-1/4 SE-1/4

Elevation: 3830'

Date Drilled: 5-15-79

Fluid: mud (bentonite)

Depth (m)	Description
Thickness	
0-90m	Alluvial fan. Unconsolidated silt, sand, and gravel. Little or no clay content. Silt and sand generally about 50% but varying.
	Lithic debris of mixed silicic volcanics, flows and tuffs. Composition: Rhyolitic and Dacitic Smaller clast sizes subrounded to subangular. Cse. sand to gravel size is angular.
	Coarses material as shown in column.
	Sun Exposure: Well exposed on alluvial fan.
	Vegetation: Sparse covering, desert xerophyte.
	σ -scan: Background (160-180cps)

Project: Dixie Valley  
Hole 903-14

Location:

Elevation: 3560'

Date Drilled: 5-20-79

Fluid: mud (bentonite)

Depth (m)	Description
Thickness	
0-40m	Alluvial fan, unconsolidated silt, sand, and gravel debris. Coarsest cutting returns to 4cm, but in situ probably larger to boulder. 90% $\leq$ 2cm. Clay $\sim$ 1%. Sand content $\sim$ 25% except at 40-50m and at 72-88m, $\sim$ 50%
40-50m	Lithic debris is aphanitic, fine grain, and porphyritic silicic volcanics: Dacite, Rhyolite. Both flow banded lava flows and tuffs.
50-72m	
72-88m	
88-90m	
<p>Sun Exposure: Well exposed on alluvial fan.</p> <p>Vegetation: Hole placed on road. Nearby sparse desert xerophytes.</p> <p><math>\gamma</math>-scan: Background (160-180cps)</p>	

Project: Dixie Valley  
Hole 903-15

Location: 21N 35E 1 SE-1/4 SE-1/4 SW-1/4

Elevation: 3460'

Date Drilled: 4-10 - 4-12-79

Fluid: mud (bentonite)

Depth (m)	Description
Thickness	
0-15m	
15-21m	Alluvial fan. Unconsolidated, poorly sorted lithic sands and gravel. Sand sizes about 50% quartz, 50% lithic material. Larger clast sizes exclusively lithic material. Lithic content is aphanitic fine grain and porphyritic silicic lavas and tuffs. Probable composition: Dacite, Rhyolite.
21-75m	Sand:Gravel ~ 50:50 except at 15-21m where gravel 75% Caving walls of hole at 9-18m indicate possible H <sub>2</sub> O.
	Sun Exposure: Well exposed at toe of alluvial fan.
	Vegetation: Sparse desert xerophytes.
	J -scan: Background (160-180cps)

Location: 21N 36E 25 SE-1/4 SW-1/4 SE-1/4

Elevation: 4640'

Date Drilled: 5-17-79

Fluid: 0-42m, air. 42M-TD air-foam.

Depth (m)	Description
Thickness	
0-6m	Unconsolidated alluvium. Rounded to subrounded silt, sand, and pebbles. 0-3m: silt 20%, sand 40%, pebbles 40% 3-6m: silt 30%, sand 65%, pebbles 5% Composed Rhyolitic flow and tuff. Minor clay.
6-54m	White, brown, and light green lithic and crystal tuffs. Crystals are: feldspars, quartz, and mica. Lithic fragments of Rhyolite.
54-90m	Lithic tuff and/or tuffaceous sands. Drill cuttings predominantly of sand size. Material is subrounded to subangular quartz and subangular to angular Rhyolitic lava. Biotite at 70-75m and 80-90m.
	Sun Exposure: In bottom of a deep canyon (E-W) Deep-Cow Canyon
	Vegetation: Sparse ground cover, desert xerophyte
	J -scan: 160-180 cps