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Date Logged	Sample Number	Depth Interval (feet bgs) From	Depth Interval (feet bgs) To	Comments
6/17/2005	13P-87.0-90.0-D	87.00	90.00	87 ft - Top, vesicular basalt flow. HCl reaction to caliche along fractures & CaCO3 in vesicles.
6/17/2005	13P-90.0-95.0-D	90.00	95.00	Note 1-1.5 mm blebs of 5YR 5/6 material (oxidized olivine?). Vesicles to 5 mm.
6/17/2005	13P-95.0-100.0-D	95.00	100.00	Fewer vesicles, denser rock: 87 ft to 97 ft is flow top.
6/18/2005	13P-100.0-105.0-D	100.00	105.00	No vesicles - dense very fine-grained basalt. 87 ft to 135 ft = BASALT FLOW.
6/18/2005	13P-105.0-110.0-D	105.00	110.00	105 ft to 107.5 ft - Mostly void - recovered a couple of ounces of very vesicular basalt (aa) for archival.
6/18/2005	13P-110.0-115.0-D	110.00	115.00	107.5 ft - Top, underlying basalt flow - vesicular, brown, etc. Only vesicles react to 10% HCl.
6/18/2005	13P-115.0-120.0-D	115.00	120.00	Vesicular, some lined with weakly reactive mineral (dolomite?).
6/18/2005	13P-120.0-125.0-D	120.00	125.00	Olivine, relatively fresh, yellowish caste. Vesicles are lined with a nonreactive, N-6 color mineral.
6/19/2005	13P-125.0-130.0-D	125.00	130.00	
6/19/2005	13P-130.0-132.5-D	130.00	132.50	Void at 132.5 ft-135 ft, no recovery from 135 ft-162.5 ft. Sample is being blown "out into that void at 132 ft." Refer to the Alluvium Logging Form for the remainder of the alluvium stratigraphy.
6/19/2005	13P-260.0-265.0-D	260.00	265.00	
6/19/2005	13P-265.0-270.0-D	265.00	270.00	260 ft-297 ft: Lithic fragments, subangular to subrounded, coated with caliche. Looks like alluvium.
6/19/2005	13P-270.0-275.0-D	270.00	275.00	Thin (probably 3-4 mm) brown (5YR 5/6) claystone, looks varved, probably lacustrine, with sand.
6/19/2005	13P-275.0-280.0-D	275.00	280.00	Thin (probably 3-4 mm) brown (5YR 5/6) claystone, looks varved, probably lacustrine, with sand.
6/19/2005	13P-280.0-285.0-D	280.00	285.00	
6/19/2005	13P-285.0-290.0-D	285.00	290.00	
6/19/2005	13P-290.0-295.0-D	290.00	295.00	Clasts of 3 tuffs, >1 cm, subangular to (mostly) subrounded, caliche coated, looks like alluvium.
6/19/2005	13P-295.0-300.0-D	295.00	300.00	297.5 ft: contact with orange (5YR 5/6) clay-altered tuff.
6/20/2005	13P-300.0-305.0-D	300.00	305.00	297 ft-422 ft: Airfall tuff, argillized, reworked.
6/20/2005	13P-305.0-310.0-D	305.00	310.00	
6/20/2005	13P-310.0-315.0-D	310.00	315.00	
6/20/2005	13P-315.0-320.0-D	315.00	320.00	320 ft-340 ft: drilling data and sample density data not recorded due to field error.
6/20/2005	13P-320.0-325.0-D	320.00	325.00	First few samples slightly moist from cleaning out the hole yesterday…rock looks like sandstone.
6/20/2005	13P-325.0-330.0-D	325.00	330.00	Volcaniclastic sandstone - note well-sorted and rounded grains, 0.5-1 mm, clayey.
6/20/2005	13P-330.0-335.0-D	330.00	335.00	Strongly argillized. Note wellsorted and rounded grains, 0.5-1 mm, clayey.
6/20/2005	13P-335-0-340.0-D	335.00	340.00	Sand?, as in 325 ft-335 ft, strongly argillized - probably reworked tuff.
6/20/2005	13P-340.0-345.0-D	340.00	345.00	Note pumice clasts, 10YR 8/2, to 25 mm.
6/20/2005	13P-345.0-350.0-D	345.00	350.00	
6/20/2005	13P-350.0-355.0-D	350.00	355.00	Most (75%) of sample passes a #10 sieve, much of the rest floats, is pumiceous.
6/20/2005	13P-355.0-360.0-D	355.00	360.00	Pumice - 10%+ of sample floats.
6/20/2005	13P-360.0-365.0-D	360.00	365.00	365 ft-375 ft: Grey (5YR 6/1) reworked ashy tuff.

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Date Logged	Sample Number	Depth Interval (feet bgs) From	Depth Interval (feet bgs) To	Comments
6/20/2005	13P-365.0-370.0-D	365.00	370.00	Trace, clear feldspar, 1 pumice clast…mostly ashy fines.
6/20/2005	13P-370.0-375.0-D	370.00	375.00	99% of the tuff passes the 10-12 mesh sample washing screen. Looks reworked.
6/20/2005	13P-375.0-380.0-D	375.00	380.00	Contaminated sample - note uphole materials.
6/20/2005	13P-380.0-385.0-D	380.00	385.00	Airfall tuff, arenaceous texture (open, porous). Tuff is relatively homogenous.
6/20/2005	13P-385.0-390.0-D	385.00	390.00	Samples are moist and very fine from 385 ft-425 ft. Ashy fines dominate.
6/20/2005	13P-390.0-395.0-D	390.00	395.00	Decomposed/altered ash - 95%+ passes the 10 mesh sample sieve.
6/20/2005	13P-395.0-400.0-D	395.00	400.00	Note floating pumice clasts.
6/20/2005	13P-400.0-405.0-D	400.00	405.00	
6/20/2005	13P-405.0-410.0-D	405.00	410.00	
6/20/2005	13P-410.0-415.0-D	410.00	415.00	Clear calcite rhombohedrae to 2 mm.
6/20/2005	13P-415.0-420.0-D	415.00	420.00	
6/20/2005	13P-420.0-425.0-D	420.00	425.00	422 ft - CONTACT with orange HCl reactive clay-altered unit - looks tuffaceous, resembles claystone.
6/20/2005	13P-425.0-430.0-D	425.00	430.00	Claystone? Earthy, probably airfall tuff (ash) that is clay-altered probably reworked.
6/20/2005	13P-430.0-435.0-D	430.00	435.00	433.72 ft - 6/21/05 1008 hours - sound water level. 433.52 ft. 1019 - 2nd sounder.
6/20/2005	13P-435.0-440.0-D	435.00	440.00	Plugged off - inject water to clear center tube - wet sample. Intense clay.
6/20/2005	13P-440.0-445.0-D	440.00	445.00	Clay-altered tuff - note white pumice clasts to 10 mm.
6/20/2005	13P-445.0-450.0-D	445.00	450.00	Brown tuff, weakly argillized, reactive (due to through-going CaCO3 veinlets). 445 ft to 455 ft.
6/20/2005	13P-450.0-455.0-D	450.00	455.00	Euhedral biotite (1 crystal) 450 ft-510 ft: rounded white volcanic clasts, resemble pumice.
6/20/2005	13P-455.0-460.0-D	455.00	460.00	Extremely clayey - probably 40% clay.
6/20/2005	13P-460.0-465.0-D	460.00	465.00	Not so clayey, but w/10-15% white calcite (amygdales?)
6/20/2005	13P-465.0-470.0-D	465.00	470.00	Very clayey, ~ 30% clay. 465 ft-510 ft = intensely argillized tuff, probably reworked.
6/20/2005	13P-470.0-475.0-D	470.00	475.00	Very clayey. 465 ft-510 ft = intensely argillized tuff, probably reworked.
6/20/2005	13P-475.0-480.0-D	475.00	480.00	Very clayey. 465 ft-510 ft = intensely argillized tuff, probably reworked.
6/20/2005	13P-480.0-485.0-D	480.00	485.00	Very clayey. Density data not recorded for 485 ft-495 ft (sample weights) due to field error.
6/21/2005	13P-485.0-490.0-D	485.00	490.00	6/21/05 - perched water? Sample is wet, after the hole sat open all night.
6/21/2005	13P-490.0-495.0-D	490.00	495.00	485 ft-500 ft: samples are very clayey, so "goopy" that they have to sit for 2-3 hours to settle.
6/21/2005	13P-495.0-500.0-D	495.00	500.00	
6/21/2005	13P-500.0-505.0-D	500.00	505.00	Sample has obvious splitter contamination.
6/21/2005	13P-505.0-510.0-D	505.00	510.00	Clay-altered tuff with CaCO3 blebs (amygdules?) to 1 cm. Sample density data not reported.
6/21/2005	13P-510.0-515.0-D	510.00	515.00	Fine-grained tuff-silicified? - resembles quartzite from 515 ft to 530 ft and tuff has sucrosic texture.
6/21/2005	13P-515.0-520.0-D	515.00	520.00	The geophysical log indicates ledges at 512 ft, 525 ft and 530 ft.

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Date Logged	Sample Number	Depth Interval (feet bgs) From	To	Comments
6/21/2005	13P-520.0-525.0-D	520.00	525.00	
6/21/2005	13P-525.0-530.0-D	525.00	530.00	Density data not recorded for this interval.
6/21/2005	13P-530.0-535.0-D	530.00	535.00	530 ft to 625 ft: extremely clayey, difficult to drill, difficult samples to process.
6/21/2005	13P-535.0-540.0-D	535.00	540.00	Clayey. Vfg airfall tuff? Few lithics - weak CaCO3 (cement) a few white CaCO3 blebs to 6 mm.
6/21/2005	13P-540.0-545.0-D	540.00	545.00	This could also be a claystone…wet goopy "overflowing" samples - discontinue sample weights.
6/21/2005	13P-545.0-550.0-D	545.00	550.00	545 ft: discontinue weighing samples for sample density data, 545 ft - on: argillized, with local zones of well-sorted sand and occasional (clasts?) of milky zeolitized pumice.
6/21/2005	13P-550.0-555.0-D	550.00	555.00	From 550 ft-600 ft, samples are so "goopy" they have to sit for an hour or so to settle.
6/21/2005	13P-555.0-560.0-D	555.00	560.00	This sample will not settle, has the consistency of meringue (claystone?).
6/21/2005	13P-560.0-565.0-D	560.00	565.00	Begin injecting water at 15 gpm +/-. 565 ft-600 ft: Note 50% very fine-grained sand, which passes the 10-12 mesh sieve.
6/21/2005	13P-565.0-570.0-D	565.00	570.00	
6/21/2005	13P-570.0-575.0-D	570.00	575.00	
6/21/2005	13P-575.0-580.0-D	575.00	580.00	
6/21/2005	13P-580.0-585.0-D	580.00	585.00	
6/21/2005	13P-585.0-590.0-D	585.00	590.00	Note well-sorted, strongly-reactive, very weakly-cemented sandy cement.
6/21/2005	13P-590.0-595.0-D	590.00	595.00	Claystone.
6/21/2005	13P-595.0-600.0-D	595.00	600.00	Claystone.
6/21/2005	13P-600.0-605.0-D	600.00	605.00	600 ft-625 ft. Intense argillization overprints everything, protolith indeterminate: ash-fall?
6/21/2005	13P-605.0-610.0-D	605.00	610.00	Weathering is interpreted as moderate from 600 ft-700ft, may be variable, but moderate is best interpretation.
6/21/2005	13P-610.0-615.0-D	610.00	615.00	Reworked tuff, extremely clayey.
6/21/2005	13P-615.0-620.0-D	615.00	620.00	Driller says that it got harder and is making more water at 620 ft-625 ft.
6/21/2005	13P-620.0-625.0-D	620.00	625.00	Hook up/power up booster. Psi can go from 375 ft-500 ft or so, volume from 1100 to 1800 cfm.
6/21/2005	13P-625.0-630.0-D	625.00	630.00	Cement chunks to 20 mm. 625 ft-690 ft clay-altered tuff (best hypothesis) white clayey (zeolite?) clasts.
6/21/2005	13P-630.0-635.0-D	630.00	635.00	Cement chunks to 20 mm. 625 ft-690 ft clay-altered tuff (best hypothesis), white clayey (zeolite?) clasts, probably reworked.
6/21/2005	13P-635.0-640.0-D	635.00	640.00	Cement chunks to 20 mm. 625 ft-690 ft clay-altered tuff (best hypothesis), white clayey (zeolite?) clasts, probably reworked.
6/21/2005	13P-640.0-645.0-D	640.00	645.00	Cement chunks to 20 mm. 625 ft-690 ft clay-altered tuff (best hypothesis), white clayey (zeolite?) clasts, probably reworked.
6/21/2005	13P-645.0-650.0-D	645.00	650.00	Cement chunks to 20 mm. 625 ft-690 ft clay-altered tuff (best hypothesis), white clayey (zeolite?) clasts, probably reworked.
6/21/2005	13P-650.0-655.0-D	650.00	655.00	Same: reworked very fine grained (airfall?) tuff, few lithics, clay-altered.
6/21/2005	13P-655.0-660.0-D	655.00	660.00	Same: reworked very fine grained (airfall?) tuff, few lithics, clay-altered.
6/21/2005	13P-660.0-665.0-D	660.00	665.00	Same: reworked very fine grained (airfall?) tuff, few lithics, clay-altered.
6/21/2005	13P-665.0-670.0-D	665.00	670.00	Same: reworked very fine grained (airfall?) tuff, few lithics, clay-altered.
6/21/2005	13P-670.0-675.0-D	670.00	675.00	Same: reworked very fine grained (airfall?) tuff, few lithics, clay-altered.

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6/21/2005	13P-675.0-680.0-D	675.00	680.00	Same: reworked very fine grained (airfall?) tuff, few lithics, clay-altered.
6/21/2005	13P-680.0-685.0-D	680.00	685.00	Same: reworked very fine grained (airfall?) tuff, few lithics, clay-altered.
6/21/2005	13P-685.0-690.0-D	685.00	690.00	Same: reworked very fine grained (airfall?) tuff, few lithics, clay-altered.
6/21/2005	13P-690.0-695.0-D	690.00	695.00	690 ft-700 ft: intense argillization masks protolith. Airfall tuff is best guess.
6/21/2005	13P-695.0-700.0-D	695.00	700.00	Sample is slightly grayer, is more sand than clay. Still, it is strongly argillized.
6/21/2005	13P-700.0-705.0-D	700.00	705.00	
6/21/2005	13P-705.0-710.0-D	705.00	710.00	
6/21/2005	13P-710.0-715.0-D	710.00	715.00	7/25/05 Open hole log-hole bridged at 710 ft. On cleanout, yielded weakly bedded argillized tuff (proably airfall, probably from 695 ft).
6/21/2005	13P-715.0-720.0-D	715.00	720.00	
6/21/2005	13P-720.0-725.0-D	720.00	725.00	
6/21/2005	13P-725.0-730.0-D	725.00	730.00	725 ft-730 ft. All sand, possibly weakly-cemented sandstone. Note: clay-cemented zeolite breccia.
6/21/2005	13P-730.0-735.0-D	730.00	735.00	
6/21/2005	13P-735.0-740.0-D	735.00	740.00	735 ft - abrupt CONTACT with grey airfall tuff, probably reworked, with 5% oxy-bio.
6/21/2005	13P-740.0-745.0-D	740.00	745.00	740 ft - CONTACT - back into pure orange brown claystone (to 770 ft), layered with brown reworked tuff.
6/21/2005	13P-745.0-750.0-D	745.00	750.00	740 ft-770 ft - mixed sandstone (or reworked tuff) and platy fissile claystone.
6/21/2005	13P-750.0-755.0-D	750.00	755.00	Same mixed lithologics. Note 30 mm subangular volcanic clast (Topopah?).
6/21/2005	13P-755.0-760.0-D	755.00	760.00	
6/21/2005	13P-760.0-765.0-D	760.00	765.00	
6/22/2005	13P-765.0-770.0-D	765.00	770.00	Claystone.
6/22/2005	13P-770.0-775.0-D	770.00	775.00	Euhedral gold-colored biotite cyrstals - 1.5 mm.
6/22/2005	13P-775.0-780.0-D	775.00	780.00	Claystone? Could be intensely argillized tuff from 775 ft-795 ft.
6/22/2005	13P-780.0-785.0-D	780.00	785.00	
6/22/2005	13P-785.0-790.0-D	785.00	790.00	White zeolitized pumice at 790 ft.
6/22/2005	13P-790.0-795.0-D	790.00	795.00	Sample is 50% sandstone, 50% claystone.
6/22/2005	13P-795.0-800.0-D	795.00	800.00	Mostly sandstone, very weakly cemented. CONTACT at 797 ft.
6/22/2005	13P-800.0-805.0-D	800.00	805.00	797 FT - CONTACT. 797 ft-861 ft: well-sorted and rounded quartz-sanidine sand. (95% of this interval passes #12 sifter sieve). Logged as sandstone on Non-Alluvium Logging Form.
6/22/2005	13P-805.0-810.0-D	805.00	810.00	Small sample, same as above, no sample to archive, only about 5 oz. for logging.
6/22/2005	13P-810.0-815.0-D	810.00	815.00	There is no matrix to log with an unconsolidated sand, use "porous" for matrix.
6/22/2005	13P-815.0-820.0-D	815.00	820.00	Sand derived from tuff, matrix washes away, leaving a residue of quartz and sanidine.
6/22/2005	13P-820.0-825.0-D	820.00	825.00	
6/22/2005	13P-825.0-830.0-D	825.00	830.00	

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6/22/2005	13P-830.0-835.0-D	830.00	835.00	835 ft-845 ft: very fine sand, well-sorted/rounded, 1 mm average. Sample has consistency of tomato soup - 99.9% passes 10 mesh sieve - held in suspension by clay??
6/22/2005	13P-835.0-840.0-D	835.00	840.00	
6/22/2005	13P-840.0-845.0-D	840.00	845.00	
6/22/2005	13P-845.0-850.0-D	845.00	850.00	Beautiful well-sorted, well-rounded quartz sanidine sand with clay.
6/22/2005	13P-850.0-855.0-D	850.00	855.00	
6/22/2005	13P-855.0-860.0-D	855.00	860.00	
6/22/2005	13P-860.0-865.0-D	860.00	865.00	CONTACT - nonreactive red silt/claystone, but w/50% contamination by quartz sand.
6/22/2005	13P-865.0-870.0-D	865.00	870.00	
6/22/2005	13P-870.0-875.0-D	870.00	875.00	90%+ claystone, which may be interbedded with weakly-cemented sandstone.
6/22/2005	13P-875.0-880.0-D	875.00	880.00	10-15% weakly-cemented reactive sandstone, rest is weakly reactive claystone.
6/22/2005	13P-880.0-885.0-D	880.00	885.00	Set up wet ("Anaconda") splitter, set "pies" for 50/50 split.
6/22/2005	13P-885.0-890.0-D	885.00	890.00	50/50 claystone/sand ratio in sample.
6/22/2005	13P-890.0-895.0-D	890.00	895.00	70/30 claystone/sand ratio in sample.
6/22/2005	13P-895.0-900.0-D	895.00	900.00	40/60 claystone/sand ratio in sample.
6/22/2005	13P-900.0-905.0-D	900.00	905.00	900 ft-950 ft: fissile clay - or siltstone, non-reactive, with 50% grey quartz sand (probably contamination) which passes #12 sieve.
6/22/2005	13P-905.0-910.0-D	905.00	910.00	50/30/20 Sand/claystone/white altered tuff. Sand may be derived from reworked tuff.
6/22/2005	13P-910.0-915.0-D	910.00	915.00	910 ft-930 ft: 60/40 claystone/sand.
6/22/2005	13P-915.0-920.0-D	915.00	920.00	910 ft-930 ft: 60/40 claystone/sand.
6/22/2005	13P-920.0-925.0-D	920.00	925.00	910 ft-930 ft: 60/40 claystone/sand.
6/22/2005	13P-925.0-930.0-D	925.00	930.00	910 ft-930 ft: 60/40 claystone/sand.
6/22/2005	13P-930.0-935.0-D	930.00	935.00	70/30 Sand/clay.
6/22/2005	13P-935.0-940.0-D	935.00	940.00	Tuff fragments (5PB 5/2), angular, to 1 cm.
6/22/2005	13P-940.0-945.0-D	940.00	945.00	Notice sharp layering (grey, brown, red) in buckets. Discrete layers? Winnowing? Sorting?
6/22/2005	13P-945.0-950.0-D	945.00	950.00	
6/22/2005	13P-950.0-955.0-D	950.00	955.00	950 ft-1200 ft: Well-sorted/rounded sands and moderately-rounded grains of tuff that resembles Tiva.
6/22/2005	13P-955.0-960.0-D	955.00	960.00	Note 1 cm cement chunk.
6/22/2005	13P-960.0-965.0-D	960.00	965.00	
6/22/2005	13P-965.0-970.0-D	965.00	970.00	
6/22/2005	13P-970.0-975.0-D	970.00	975.00	
6/22/2005	13P-975.0-980.0-D	975.00	980.00	975 ft-990 ft: Note angular chunks of greyish-purple (Tiva/Topapah?) welded tuff.
6/22/2005	13P-980.0-985.0-D	980.00	985.00	

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6/22/2005	13P-985.0-990.0-D	985.00	990.00	
6/22/2005	13P-990.0-995.0-D	990.00	995.00	
6/22/2005	13P-995.0-1000.0-D	995.00	1000.00	
6/22/2005	13P-1000.0-1005.0-D	1000.00	1005.00	1000 ft-1035 ft: Clay-altered (tuff?) much contaminated with well-sorted/rounded (uphole) sand.
6/22/2005	13P-1005.0-1010.0-D	1005.00	1010.00	
6/22/2005	13P-1010.0-1015.0-D	1010.00	1015.00	
6/22/2005	13P-1015.0-1020.0-D	1015.00	1020.00	
6/22/2005	13P-1020.0-1025.0-D	1020.00	1025.00	
6/22/2005	13P-1025.0-1030.0-D	1025.00	1030.00	
6/22/2005	13P-1030.0-1035.0-D	1030.00	1035.00	CONTACT clayey-inject 15 gpm to get through it.
6/22/2005	13P-1035.0-1040.0-D	1035.00	1040.00	Trouble with return-abundant clay. ROP slows, clay balls to 3 inches - inject 15 gpm to get through it.
6/22/2005	13P-1040.0-1045.0-D	1040.00	1045.00	Note 30 mm clast of light purplish, subangular welded tuff (Tiva?) - inject 15 gpm to get through it, and use a little foam.
6/23/2005	13P-1045.0-1050.0-D	1045.00	1050.00	1035 ft-1140 ft clay-altered tuff with relict quart and sparse feldspar crystals, trace oxybio and few pumice "ghosts."
6/23/2005	13P-1050.0-1055.0-D	1050.00	1055.00	Thick clay-argillized tuff - slice it to see quartz and sandinine crystal content. 1035 ft-1140 ft is intense clay.
6/23/2005	13P-1055.0-1060.0-D	1055.00	1060.00	We are taking a 10/24 sample; it is still large, zeolite clast-11 mm, due to uphole (sand) contamination.
6/23/2005	13P-1060.0-1065.0-D	1060.00	1065.00	Driller is having some problems with the intense (argillized tuff) clay…note pink zeolite clast.
6/24/2005	13P-1065.0-1070.0-D	1065.00	1070.00	1 % gold-colored biotite to 1 mm
6/24/2005	13P-1070.0-1075.0-D	1070.00	1075.00	50% sand - very clayey, slow ROP.
6/24/2005	13P-1075.0-1080.0-D	1075.00	1080.00	50% sand - very clayey, slow ROP.
6/24/2005	13P-1080.0-1085.0-D	1080.00	1085.00	50% sand - very clayey, log is of the majority of the fresh angular ashflow fragments.
6/24/2005	13P-1085.0-1090.0-D	1085.00	1090.00	50% sand - very clayey, fewer ashflow tuff clasts.
6/24/2005	13P-1090.0-1095.0-D	1090.00	1095.00	50% sand - log is of the clasts.
6/24/2005	13P-1095.0-1100.0-D	1095.00	1100.00	50% sand - log is of the ashflow clasts.
6/24/2005	13P-1100.0-1105.0-D	1100.00	1105.00	Clayey, slow ROP. Log is based on majority of fresh, angular ashflow chunks.
6/24/2005	13P-1105.0-1110.0-D	1105.00	1110.00	Clayey, slow ROP, clay is crystal-rich tuff, totally argillized matrix - log is based on this clay (reactive).
6/24/2005	13P-1110.0-1115.0-D	1110.00	1115.00	50/30/20 Sand/clay-altered tuff/ashflow tuff. Clay is 5YR 5/2, tuff is 5R 4/2.
6/24/2005	13P-1115.0-1120.0-D	1115.00	1120.00	1115 ft-1170 ft Note white (N-9) zeolitized (pumice?) clasts to 5 mm. Log based on clay component.
6/24/2005	13P-1120.0-1125.0-D	1120.00	1125.00	Unit appears to be intercalated clay-altered tuff and darker ashflows. Chatoyant sanidine to 2 mm.
6/24/2005	13P-1125.0-1130.0-D	1125.00	1130.00	Same, note white zeolite (altered pumice).
6/24/2005	13P-1130.0-1135.0-D	1130.00	1135.00	Same, note white zeolite (altered pumice).
6/25/2005	13P-1135.0-1140.0-D	1135.00	1140.00	50/30/20 Sand (uphole contamination)/ashflow tuff/clay-altered crystal-rich tuff. 10R 6/6 zeolite (after pumice?).

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Date Logged	Sample Number	Depth Interval (feet bgs) From	To	Comments
6/25/2005	13P-1140.0-1145.0-D	1140.00	1145.00	60/40 Sand/welded ashflow tuff. (No clay to test). Tr, oxybio., 1 % gold-colored mafics to 1.5 mm
6/25/2005	13P-1145.0-1150.0-D	1145.00	1150.00	50/50 Sand/welded tuff. Chatoyant sanidine (<1%).
6/25/2005	13P-1150.0-1155.0-D	1150.00	1155.00	60/40 Sand/tuff: zeolites are white and pinkish (10R 6/6). 1150 ft-1160 ft -gravelly area that won't stay open upon re-entry.
6/25/2005	13P-1155.0-1160.0-D	1155.00	1160.00	50/50 Sand/tuff: zeolites are white & pinkish (10R 6/6). Note: tuff clast (10 mm) is sandstone matrix.
6/25/2005	13P-1160.0-1165.0-D	1160.00	1165.00	60/40 Sand/tuff: zeolites are white & pinkish (10R 6/6). 1160 ft-1220 ft sandstone, reactive, with tuff clasts to 1.5 cm.
6/25/2005	13P-1165.0-1170.0-D	1165.00	1170.00	50/50 Sand/tuff: zeolites are white & pinkish (10R 6/6). 1160 ft-1220 ft although a sandstone, the tuff clast parameters are also logged.
6/25/2005	13P-1170.0-1175.0-D	1170.00	1175.00	50/50 Sand/tuff: zeolites are white & pinkish (10R 6/6).
6/25/2005	13P-1175.0-1180.0-D	1175.00	1180.00	50/50 Sand/tuff: zeolites are white & pinkish 10R 6/6). Rate of Penetration increases, we are past the clays.
6/25/2005	13P-1180.0-1185.0-D	1180.00	1185.00	50/50 Sand/tuff No zeolites. Fresh Topopah (?). Angular chips to 2 cm.
6/25/2005	13P-1185.0-1190.0-D	1185.00	1190.00	40/60 Sand/tuff: 1% white zeolite (altered pumice?).
6/25/2005	13P-1190.0-1195.0-D	1190.00	1195.00	50/50 Sand/tuff: 1% white zeolite (altered pumice?).
6/25/2005	13P-1195.0-1200.0-D	1195.00	1200.00	40/60 Sand/tuff: 1% white zeolite (altered pumice?). Note tuff clast in sandstone fragment.
6/25/2005	13P-1200.0-1205.0-D	1200.00	1205.00	Fresh angular welded tuff clasts in coarse dirty (arkosic?) sandstone - best interpretation.
6/25/2005	13P-1205.0-1210.0-D	1205.00	1210.00	Multi-lithic sand - note 4-5% pink zeolite (after pumice) sand? Airfall tuff reworked?
6/25/2005	13P-1210.0-1215.0-D	1210.00	1215.00	Same, but with about 30% dark (Topopah?) welded tuff fragments.
6/27/2005	13P-1215.0-1220.0-D	1215.00	1220.00	Same, some sandstone-coated fragments, greater variety of volcanic clasts. Trace, chatoyant sanidine.
6/27/2005	13P-1220.0-1225.0-D	1220.00	1225.00	60/30/10 Coarse sand/tuff clasts/clay balls. Log is of the sand component.
6/27/2005	13P-1225.0-1230.0-D	1225.00	1230.00	40/50/10 Coarse sand/tuff clasts/clay balls. Clay is 5YR 8/1. Log is of the sand component.
6/27/2005	13P-1230.0-1235.0-D	1230.00	1235.00	50/50 Sand/angular tuff clasts. Log is of the sand component.
6/27/2005	13P-1235.0-1240.0-D	1235.00	1240.00	40/60 Sand/angular tuff clasts. Log is of the sand component. Trip to bit.
7/13/2005	13P-1240.0-1245.0-D	1240.00	1245.00	7/13/05 Resume after July 4th break, several breakdowns and safety standdown. Sandy "ooze," like Pablum.
7/13/2005	13P-1245.0-1250.0-D	1245.00	1250.00	Probably sandy clay - 8/24 split.
7/13/2005	13P-1250.0-1255.0-D	1250.00	1255.00	6/24 (1/4) split. Sand: well-sorted, volcaniclastic, with chunks of non-reactive sandstone to 1 cm.
7/13/2005	13P-1255.0-1260.0-D	1255.00	1260.00	Sand: well-sorted, mostly volcanic. Note coatings of finer non-reactive sand on Tiva clasts.
7/13/2005	13P-1260.0-1265.0-D	1260.00	1265.00	Sand: well-sorted, mostly volcanic. Buckets are layered: pebbles layered with medium to coarse sand.
7/13/2005	13P-1265.0-1270.0-D	1265.00	1270.00	Sand: well-sorted, mostly volcanic. Buckets are layered: pebbles layered with medium to coarse sand.
7/13/2005	13P-1270.0-1275.0-D	1270.00	1275.00	Sand: well-sorted, volcaniclastic.
7/13/2005	13P-1275.0-1280.0-D	1275.00	1280.00	Sand: well-sorted, volcaniclastic.
7/13/2005	13P-1280.0-1285.0-D	1280.00	1285.00	Sand: well-sorted, volcaniclastic.
7/13/2005	13P-1285.0-1290.0-D	1285.00	1290.00	Sand: well-sorted, volcaniclastic.
7/13/2005	13P-1290.0-1295.0-D	1290.00	1295.00	Sand: well-sorted, volcaniclastic. Note white and pink zeolites, 2-3%.

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Date Logged	Sample Number	Depth Interval (feet bgs) From	Depth Interval (feet bgs) To	Comments
7/13/2005	13P-1295.0-1300.0-D	1295.00	1300.00	Sand: well-sorted, volcaniclastic. Note white and pink zeolites, 2-3%.
7/13/2005	13P-1300.0-1305.0-D	1300.00	1305.00	1300 ft-1375 ft - Sandstone, volcanigenic, moderately sorted, with 1 ft to 3 ft lenses of clay-altered lithic tuff (10YR 6/2).
7/13/2005	13P-1305.0-1310.0-D	1305.00	1310.00	
7/13/2005	13P-1310.0-1315.0-D	1310.00	1315.00	Intense clay zone - inject 15 gpm against it - note 1 cm clasts of (Tiva?) volcanics in it…..
7/13/2005	13P-1315.0-1320.0-D	1315.00	1320.00	Intense clay zone - inject 15 gpm against it. 1-2 ft thick.
7/13/2005	13P-1320.0-1325.0-D	1320.00	1325.00	
7/13/2005	13P-1325.0-1330.0-D	1325.00	1330.00	
7/14/2005	13P-1330.0-1335.0-D	1330.00	1335.00	Gravel contamination - hole settled overnight 4/12: 1/3 split. Volcaniclastic sand with thick clay zone.
7/14/2005	13P-1335.0-1340.0-D	1335.00	1340.00	Well-sorted medium-grained volcaniclastic sand with clay (1 foot thick?) zone with lithic fragments.
7/14/2005	13P-1340.0-1345.0-D	1340.00	1345.00	Same, clay horizon(s) may be lithic (and locally pumiceous) argillized ashy zones.
7/14/2005	13P-1345.0-1350.0-D	1345.00	1350.00	Same, clay horizon(s) may be lithic (and locally pumiceous) argillized ashy zones.
7/14/2005	13P-1350.0-1355.0-D	1350.00	1355.00	Same: moderately-to well-sorted volcaniclastic sand with zones of clay-altered tuff.
7/14/2005	13P-1355.0-1360.0-D	1355.00	1360.00	Increasing clay-altered tephra - nearing top of a unit or event?
7/14/2005	13P-1360.0-1365.0-D	1360.00	1365.00	Multilithic (volcanic) sand, fragments appear to be a bit more angular. Still clayey.
7/14/2005	13P-1365.0-1370.0-D	1365.00	1370.00	Same, very clayey, medium sand, well-sorted and rounded.
7/14/2005	13P-1370.0-1375.0-D	1370.00	1375.00	Same, very clayey, medium sand, well-sorted and rounded.
7/14/2005	13P-1375.0-1380.0-D	1375.00	1380.00	No clay. Well-sorted and rounded volcaniclastic sand. 1-2% white and pink zeolites.
7/14/2005	13P-1380.0-1385.0-D	1380.00	1385.00	Intense clay. 60/40: clay/volcaniclastic sand with white and pink zeolites.
7/14/2005	13P-1385.0-1390.0-D	1385.00	1390.00	No clay. Well-sorted and rounded medium-grained volcaniclastic sand. ROP increases.
7/14/2005	13P-1390.0-1395.0-D	1390.00	1395.00	Minor clay, less than 6 inches thick, well-sorted and rounded medium-grained volcaniclastic sand. 1-2% zeolites.
7/14/2005	13P-1395.0-1400.0-D	1395.00	1400.00	Minor clay, less than 6 inches thick, well-sorted and rounded medium-grained volcaniclastic sand. 1-2% zeolites.
7/14/2005	13P-1400.0-1405.0-D	1400.00	1405.00	Clay (5YR 5/2) with volcaniclastic sand, well-sorted and moderately rounded. Clay is weakly reactive.
7/15/2005	13P-1405.0-1410.0-D	1405.00	1410.00	Sample is contaminated and large (2 buckets). Contamination is sand, sample is mostly clay.
7/15/2005	13P-1410.0-1415.0-D	1410.00	1415.00	Volcaniclastic sand, well-sorted and rounded, little clay. 10%+ 10R 7/4 clay, 1-2% white zeolite.
7/15/2005	13P-1415.0-1420.0-D	1415.00	1420.00	Volcaniclastic sand, well-sorted and rounded, little clay. 10%+ 10R 7/4 clay, 1-2% white zeolite.
7/15/2005	13P-1420.0-1425.0-D	1420.00	1425.00	Volcaniclastic sand, well-sorted and rounded, little clay 10% (or less) 10R 7/4 (pink) clay - looks like an altered ash.
7/15/2005	13P-1425.0-1430.0-D	1425.00	1430.00	Add a "pie" to the splitter. 5/24 recovery. Harder, much gravel, no clay.
7/15/2005	13P-1430.0-1435.0-D	1430.00	1435.00	Volcaniclastic rocks - medium to coarse, angular, in disaggregated matrix of poorly-cemented non-reactive well-sorted fine sand that passes 10/12 mesh sieve.
7/15/2005	13P-1435.0-1440.0-D	1435.00	1440.00	Volcaniclastic rocks - medium to coarse, angular, in disaggregated matrix of poorly-cemented non-reactive well-sorted fine sand that passes 10/12 mesh sieve.
7/15/2005	13P-1440.0-1445.0-D	1440.00	1445.00	Volcaniclastic rocks - medium to coarse, angular, in disaggregated matrix of poorly-cemented non-reactive well-sorted fine sand that passes 10/12 mesh sieve.
7/15/2005	13P-1445.0-1450.0-D	1445.00	1450.00	Volcaniclastic rocks - medium to coarse, angular, in disaggregated matrix of poorly-cemented non-reactive well-sorted fine sand that passes 10/12 mesh sieve.

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Date Logged	Sample Number	Depth Interval (feet bgs) From	Depth Interval (feet bgs) To	Comments
7/15/2005	13P-1450.0-1455.0-D	1450.00	1455.00	Volcaniclastic rocks, angular (probably broken by the bit), as above.
7/15/2005	13P-1455.0-1460.0-D	1455.00	1460.00	Angular volcanic clasts in moderately cemented, well-sorted and rounded non-reactive sandstone.
7/15/2005	13P-1460.0-1465.0-D	1460.00	1465.00	
7/15/2005	13P-1465.0-1470.0-D	1465.00	1470.00	
7/15/2005	13P-1470.0-1475.0-D	1470.00	1475.00	
7/15/2005	13P-1475.0-1480.0-D	1475.00	1480.00	Trace, pink clay-altered tuff (pumice?). Zeolitized?
7/15/2005	13P-1480.0-1485.0-D	1480.00	1485.00	Trace, pink clay-altered tuff (pumice?). Zeolitized?
7/20/2005	13P-1485.0-1490.0-D	1485.00	1490.00	
7/20/2005	13P-1490.0-1495.0-D	1490.00	1495.00	Bimodal: fine (less than 10-12 mesh) and coarse sand, weakly-cemented, with clasts of Topapah (?).
7/20/2005	13P-1495.0-1500.0-D	1495.00	1500.00	Bimodal: fine (less than 10-12 mesh) of course sand, trace, pink clayey tuff.
7/20/2005	13P-1500.0-1505.0-D	1500.00	1505.00	1500 ft-1522 ft: Same, bimodal (sand?) but with 22% pink (5YR 8/4) clay-altered tephra.
7/20/2005	13P-1505.0-1510.0-D	1505.00	1510.00	Same, 40% pink clay-altered tuff (color is based on wet unseived sample).
7/20/2005	13P-1510.0-1515.0-D	1510.00	1515.00	Same, 45% pink clay-altered tuff. Could be pre-Topopah bedded ashfall tuff (or altered prow).
7/20/2005	13P-1515.0-1520.0-D	1515.00	1520.00	Same, bimodal (50% is well-sorted/rounded, passes 10-12 mesh, 40% is coarse (to 10 mm) volcanics. 10% is cemented.
7/20/2005	13P-1520.0-1525.0-D	1520.00	1525.00	Contact (1522 ft), clay-altered tuff with brown (5YR 4/4) moderately-welded (ashflow?) tuff (Bullfrog? Topopah? Lower non-lith).
7/20/2005	13P-1525.0-1530.0-D	1525.00	1530.00	Same 20% passes sieve.
7/20/2005	13P-1530.0-1535.0-D	1530.00	1535.00	Same 20% passes sieve.
7/20/2005	13P-1535.0-1540.0-D	1535.00	1540.00	20% passes the 10-12 sieve, rest is angular chunks of silicified welded lithic tuff (Bullfrog?).
7/20/2005	13P-1540.0-1545.0-D	1540.00	1545.00	15% passes the 10-12 sieve.
7/20/2005	13P-1545.0-1550.0-D	1545.00	1550.00	20% passes the 10-12 sieve, rest is angular chunks of silicified welded lithic tuff (Bullfrog?), trace, clay-altered tuff (zeolitized?).
7/20/2005	13P-1550.0-1555.0-D	1550.00	1555.00	30% clean well-sorted sand, 60% (could be Bullfrog - lithic rich) angular volcanics to 15 cm and 10% pink (5YR 7/2) clay.
7/20/2005	13P-1555.0-1560.0-D	1555.00	1560.00	30% clean well-sorted sand, angular chunks of lithic-rich welded tuff (note flow-banding) clay.
7/20/2005	13P-1560.0-1565.0-D	1560.00	1565.00	30% clean well-sorted sand, angular chunks of lithic-rich welded tuff (note flow-banding) clay, looks like Bullfrog.
7/23/2005	13P-1565.0-1569.0-D	1565.00	1569.00	1565 ft-1569 ft: Clayey-sample washes/sieves down to clay balls with a little sand. Injecting approximately 5 gpm and CONDET to get through the clay and condition the hole. Sample contaminated with mud, clay, sand and CONDET residue.