

## Appendix A

**INYO – TRAVERTINE #2** (Travertine#1 was drilled by USGS to a TD of ~250')

Coordinates of surface location:

7.5' quadrangle: Furnace Creek, CA

Surface elevation:

Total Depth (TD): 1340 feet

DEPTH	ROCK TYPE
0' – 15':	<p><b>0' = Top of Pleistocene Alluvium</b> Alluvium, poorly consolidated, med. brownish-gray, clasts mainly of: Bonanza King Formation (Fm): dark-to-med.-gray dolomite (dolo) + limestone (ls), silty interbeds Carrara Fm [Cc]: mixed dark rusty-brown siltstone (sltstn), greenish-gray shale (sh), and dark greenish-gray dolo Zabriskie Quartzite [Cz]: purplish-pink quartzite (qtzt) Wood Canyon Formation [ZCw]: Dark brown sltstn and lesser dirty fine-grained (fg) sandstone (ss), trace (tr) of orange dolo Abundances: Cbk&gt;Cz&gt;Cc&gt;&gt;ZCw -- This provenance stays basically the same to the base of the Funeral Fm – however, a few horizons include Tertiary very-fine-grained (vfg) tuffaceous sltstn or waterlain tuff → but these probably represent thin interbeds, not clasts. Paleozoic Sh and sltstn are underrepresented relative to abundance in outcrop source area owing to their incompetence – they get ground into clay, but it's unclear how much of this nature did, and how much the drill-bit did</p>
15' – 26.7':	<p><b>15' = Top Of Funeral Formation</b> Clayey alluvium, otherwise same-as-above (SAA), clay is light (lt) yellowish-tan</p>
26.7' – 80':	Alluvium as from 0' - 15'
80'- 100':	Alluvium, as above, but through this interval, size of chips decreases strongly downward, suggesting downward-increasing consolidation
100' – 140':	Alluvium, SAA, but ground up fine
140' – 145':	Alluvium, SAA, but clayey
145' – 275'	Alluvium, SAA, but only very slightly clayey →This was the major water-producing interval?

275' – 280':	Mixed claystone (just clay in sample) and alluvium - ~50/50, clay color is khaki
280' – 365':	Very pebbly claystone, same color as above
365' – 485':	Less pebbly claystone, a darker tan, here and below, mostly
485' – 500':	Clayey alluvium
500' – 525':	Alluvium, only slightly clayey
525' – 535':	Clayey alluvium
535' - 715':	Very clayey alluvium, ~50/50 mix
715' – 960':	Tan claystone, slightly pebbly, very ashy tuff at 832'?
960' – 975':	Alluvium, slightly clayey at base, some ashy tuff present
975' – 1020':	Pebbly claystone
1020' – 1035':	<b>1020' = Top of Furnace Creek Formation (?)</b> Claystone
1035' – 1225':	Pebbly claystone
1225' – 1230':	Clayey conglomerate, mix of Paleozoic and Tertiary volcanic clasts
1230' – 1310':	Very slightly pebbly claystone
1310' – 1340':	Slightly pebbly claystone, lighter tan than above

**INY0 – BLM#1 and BLM #1A Note: BLM#1A Log the same as BLM #1 to 640'**

UTM coordinates of surface location: 0547-590E + 4028-494N

7.5' quadrangle: Franklin Well, NV-CA

Surface elevation:

Total Depth (TD):

DEPTH	ROCK TYPE
0' – 105':	<b>Top of Quaternary Alluvium</b> Alluvium, mix of lithologies, including several Paleozoic Carbonates, mostly late Paleozoic, and Tertiary lithologies, including Kelley's Well LS, Red SS member of Amargosa Valley Fm, and trace of tuffs from top of LS member of Amargosa Valley Fm; Tertiary clasts, esp. Red SS member increase in abundance with depth
105' – 122.5':	Alluvium as above, but with abundant yellow sandstone and yellow clay (which could be a paleosol developed on underlying bedrock)
122.5'	<b>Angular Unconformity:</b> alluvium above is untilted; units below probably tilted ~25-30 degrees, based on exposures ~0.5 km to south
122.5' – 210':	<b>Eroded Top of Bat Mountain Formation</b> Sandstone, mostly fg, volcanoclastic, color alternates between light to medium red-orange to yellow-ochre, with sparse pebbles mostly of Paleozoic rocks, mainly carbonates and lesser qtz, pebbles increase in abundance downward, plus there is a concentration of these at 170'-175'. Minor ashy waterlain tuff mixed in at 185'-190'; several other much lesser ashy tuffs occur mostly as traces of greenish yellow chips mixed in here and there
210' – 250':	Conglomerate with volcanoclastic sandstone matrix, color varies as above, pebble types as above, trace greenish tuffaceous fg ss interbeds, sparse waterlain tuff chips mixed in at 225-230 and 235-240, pebble-ss ratio decreases near base, so that it is a very pebbly sandstone at the base – overall, it is gently coarsening upward sequence.
250' – 325':	SAA, another coarsening upward sequence of ss matrix conglomerate grading down to very pebbly ss

- 325' – 505': Conglomerate with red volcanoclastic ss matrix, pebble –to-ss ratio significantly greater than above at top, but grades down into a sandier conglomerate at base, so it is another coarsening upward sequence overall
- 505' – 625': Sandstone, fine- to medium-grained, red, only slightly pebbly, except as noted below, with a few green ash partings here and there; more consolidated than the rocks above; more pebbly at 555'-560'; gritty at 565'-570' and 580'-595'; gets finer and lighter in color (more orange) in bottom 25 feet.
- 625' – 630': **Top of Kelley's Well Limestone**  
Kelley's Well LS mixed with ss, above, which may represent lag – check well log for actual top.
- 630' – 665': Freshwater Limestone, microcrystalline, ivory to light pink; sometimes light gray, with some minor red ss and pebbly interbeds, esp from 655-665
- 665' – 680': Red sandstone interbed in Kelly's Well LS; actually mixed sandstone and limestone in cuttings, looks like ss above
- 680' – 805': Freshwater limestone, as above, pinkish ivory, very solid (unmixed) in this interval
- 805' – 815': **Top Of Red Sandstone Member of Amargosa Valley Fm**  
Waterlain tuff with some mixed-in much lesser red ss, tuff has quartz, 2 feldspars, biotite, Fe-Ti-oxides, pale greenish-white
- 815' – 820': Sandstone, dark red, coarse, volcanoclastic, has pebbles of Paleozoic rocks-- carbonates>black chert=quartzite
- 820' – 830': Waterlain tuff as above; sandstone above may simply be a parting within a single, rather thick tuff
- 830' – 915': Sandstone, as above, but with abundant large biotite grains as part of the coarse sandstone, pebbly with clasts as described above, fines downward in general; silty ss from 880'-890' and from 900'-905'
- 915' – 920': Sandstone, much as above but finer and very tuffaceous

- 920' – 960': Non-pebbly, dark red, medium-to-coarse-grained volcaniclastic ss, with coarser ss interbeds from 950'-960'
- 960' – 975': Conglomerate with dark red biotite-rich volcaniclastic sandstone matrix, probably has cobbles as well as pebbles based on the size of the chips – these clasts include black chert, quartzite, some carbonates, and conspicuously, dense medium purplish-red rhyolite lava (or very densely welded ash-flow tuff lacking obvious fiamme) – as clasts
- 975' – 990': Non-pebbly medium-to-fine grained dark red volcaniclastic sandstone
- 990' – 1000': Same as 960'-975', above
- 1000' – 1060': Mixed medium-to-coarse-grained ss and siltstone, both dark red and volcaniclastic, biotite-rich
- 1060' – 1070': Conglomerate with dark red coarse-to fine-grained volcaniclastic sandstone matrix, clasts of quartzite and black chert mainly
- 1070' – 1075': Clayey, medium-grained, only slightly pebbly, dark red, volcaniclastic sandstone
- 1075' – 1080': Conglomerate, with red ss matrix, mostly quartzite and black chert clasts, tr interbedded white ashy tuff
- 1080' – 1120': Dark red sltstn, with a few pebbly horizons, mainly from 1085'-1090', calcareous, esp. from 1095-1100, tuffaceous-volcaniclastic throughout
- 1120' – 1130': Light red-orange sltstn, very calcareous
- 1130' – 1145': Limestone, dense, pink, freshwater, with medium red shaly interbeds
- 1145' – 1155': Red siltstone and interbedded claystone, calcareous
- 1155' – 1165': Limestone, dense, ivory to lt. Gray, freshwater
- 1165' – 1170': Claystone, slightly purplish red-brown
- 1170' – 1180': Sandstone, fine-grained, calcareous, tan-gray tuffaceous

- 1180' – 1190': Similar to above, but much more calcareous, a marl
- 1190' – 1205': Siltstone, purplish-brown, calcareous
- 1205' – 1210': Sandstone, very arkosic and biotite-rich, med. red
- 1210' – 1215': Claystone, med. greenish-gray, very calcareous
- 1215' – 1275': Interbedded siltstone and lesser fine-grained arkosic (tuffaceous) sandstone, mostly brownish-red, but greenish from 1240'-1245', clayey from 1250'-1255', and coarser (medium-grained ss) from 1255'-1265'
- 1275' – 1335': **Apx T/ Limestone Member of Amargosa Valley Fm**  
Mostly clayey, silty limestone, lt gray, with numerous thin interbeds of calcareous fg ss and siltstn
- 1335' – 1345': Similar to above but more siltstn and ss (~50-50 w/ LS)
- 1345' – 1385': Sandstone, fg, reddish-purple, very tuffaceous, with pebbles of dense rhyolite from 1355'-1360', and finer-grained = mostly siltstone from 1370'-1375'
- 1385' – 1390': Siltstone, purplish-red
- 1390' – 1395': As above, with ashy tuff interbeds
- 1395' – 1420': Tuff, vapor-phase altered, lavender, with abundant qtz, 2 fsps, biotite, Fe-Ti oxides.
- 1420' – 1425': Same tuff as above, but moderately welded in this interval much denser, light reddish purple
- 1425' – 1440': Same tuff as above but less welded to nonwelded (at base), mostly lavender
- 1440' – 1445': Mixed lt greenish-gray nonwelded tuff and fg ss, purplish-red
- 1445' – 1450': Sandstone, lt. purplish-red, tuffaceous
- 1450' – 1455': Same as above, but siltstone
- 1455' – 1460': Gritstone or conglomerate, clasts are mostly dense lt. reddish-purple rhyolite

- 1460' – 1505': Siltstone, very tuffaceous, lavender-gray, with interbeds of claystone and fg sandstone
- 1505' – 1510': Freshwater limestone, ivory, dense
- 1510' – 1520': Tuff, off-white, nonwelded, rhyolitic, phenocrysts of qtz, fsp, Fe-Ti oxides>biotite
- 1520' – 1530': Siltstone, very tuffaceous, lavender-gray, with lt. green coatings on fracture surfaces
- 1530' – 1550': Tuff, nonwelded, off-white with greenish cast, silicified in top 10 feet, rhyolitic
- 1550' – 1585': Siltstone, purplish-brown, probably tuffaceous but too fine-grained to tell
- 1585' – 1595': Tuff, nonwelded, off-white, rhyolitic w/ conspicuous biotite
- 1595' – 1610': Siltstone, purplish-brown
- 1610' – 1625': Siltstone, light gray
- 1625' – 1635': Tuff, lt. green, nonwelded, w/ conspicuous biotite
- 1635' – 1665': Siltstone, purplish-brown, interbeds of fg ss increase in abundance downward
- 1665' – 1675': Tuff, nonwelded, off-white, rhyolitic
- 1675' – 1680': Siltstone, purplish-brown
- 1680' – 1695': Tuff, nonwelded, very lt. gray
- 1695' – 1715': Siltstone, purplish-brown and lt. gray
- 1715' – 1725': Tuff, nonwelded, off-white, rhyolitic
- 1725' – 1730': Siltstone, lt. greenish gray
- 1730' – 1735': Sandstone, fg, green, very tuffaceous
- 1735' – 1745': Siltstone, purplish-brown
- 1745' – 1750': Tuff, nonwelded, off-white, very ashy

1750' – 1770':	Siltstone, lt. gray
1770' – 1790':	Limestone, freshwater, lt. gray, silty
1790' – 1795':	Claystone, med. gray
1795' – 1830':	Siltstone and lesser fg ss, interbedded, lt. greenish gray, all very tuffaceous
1830' – 1840':	Tuff, nonwelded, off-white
1840' – 1920':	Siltstone, lt. greenish gray
1920' – 1925':	Tuff, nonwelded, greenish white
1925' – 1950':	Siltstone, lt. greenish gray
1950' – 1955':	Tuff, nonwelded, greenish-white
1955' – 1990':	Siltstone, lt. greenish gray
1990' – 2000':	Mixed waterlain ashy white tuff and lt gray claystone
2000' – 2060':	Interbedded lt gray siltstone and claystone, very calcareous
2060' – 2065':	Tuff, nonwelded, greenish-white
2065' – 2135':	Lt greenish gray siltstone, very tuffaceous and calcareous to the point of being marly
2135' – 2230':	Mixed siltstone and lesser interbedded claystone, very tuffaceous, lt. green with a few pink layers
2230' – 2265':	SAA, but more and darker reddish layers
2265' – 2280':	SAA, but more clayey (or else getting totally pulverized by the drill bit)
2280' – 2360':	Interbedded fg ss and siltstn, med. gray with greenish and reddish, all very tuffaceous and calcareous
2360' – 2390':	SAA, but lt gray
2390' – 2395':	As above, but more tuffaceous

- 2395' – 2415': Siltstone, purplish-gray, tuffaceous and calcareous
- 2415': **Top of basal conglomerate of Amargosa Valley Formation**
- 2415' – 2440': Conglomerate, Paleozoic clasts from many formations all mixed up, mostly carbonates, in a dirty red sandstone matrix
- 2440': **Top of Paleozoic carbonate aquifer, formation unknown, but best guess is lower Cambrian (Nopah or Bonanza King Formation)**
- 2440' – 2780': Dolomite, mostly medium gray, microcrystalline, dense
- 2780' – 2900': Dolomite, light gray

**INYO – BLM#2**

UTM coordinates of surface location: 0545-282E + 4030-308N

7.5' quadrangle: East of Echo Canyon, NV-CA

Surface elevation:

Total Depth (TD): 2700 feet (so far)

0' 75':	Alluvium, unconsolidated, clasts mainly of various Paleozoic formations, and much lesser Tertiary sandstone
75':	<b>Gradational top of Amargosa Desert Basin fill with overlying recent alluvium</b>
75' – 215':	Clay, yellowish tan, contains some grit and small pebbles of various Paleozoic formations
215' – 220':	Alluvium, as above
220' – 505'	Clay, as above, contains some grit and small pebbles of various Paleozoic formations
505' – 550':	Claystone, as above (meaning gritty-pebbly), gray
550' – 605':	Claystone, as above, yellowish-tan
605' – 615':	Gritstone or gravel of Paleozoic clasts, in a yellow-tan claystone matrix
615' – 635':	Claystone, as above, yellowish-tan
635' – 760':	Claystone, as above, gray
760' – 780':	Claystone, as above, dark gray
780' – 950':	Claystone and interbedded siltstone, gray
950' – 970':	Clayey siltstone, gray
970' – 990':	Mixed claystone and siltstone, ~50-50, gray
990' – 1220':	Siltstone>claystone, gray, siltstn is distinct calcareous, and becomes increasingly so with depth to 1930'
1220'- 1225':	Interbedded Claystone>siltstone, brown-gray
1225' – 1295':	Interbedded Siltstone>claystone>fg tuffaceous sandstone, mostly gray, some lt. brown beds

- 1295' - 1325': SAA, but distinctly more consolidated from here down
- 1325' - 1330': Interbedded Claystone>siltstone, gray
- 1330' - 1410': Interbedded Siltstone>claystone=fg sandstone, gray
- 1410' - 1470': Fine-grained interbedded sandstone=siltstone>claystone, gray
- 1470' - 1560': SAA, but slightly more silty and yellowish-gray
- 1560' - 1700': Interbedded Siltstone>fg sandstone, gray
- 1700' - 1870': Fine-grained to vfg sandstone and subequal, interbedded siltstone, gray, sandstone is notably tuffaceous
- 1870' - 1875': Siltstone, gray, calcareous
- 1875': **Top of basal conglomerate of Amargosa Desert Basin fill**
- 1875' - 1930': Very mixed lithologies, indicates it is a conglomerate, clasts are mostly of Tertiary lithologies – sandstones and siltstones, and freshwater Ls, but also some Paleozoic quartzite – probably the Eureka Quartzite, and a few carbonate clasts
- 1930': **Unconformity: Erosional Top of a limestone – probably part of the Amargosa Valley Formation, perhaps correlative with one of the lower ones in Inyo-BLM#1: at 1505'-1510' or 1770'-1790', it cannot be correlative with the upper Amargosa Valley LS at 1130'-1165' in Inyo-BLM#1 because thick tuffs that underlie that LS are not present below**
- 1930' - 1985': Limestone, Ivory, sometimes very light green, with interbeds of gray and reddish-brown siltstone
- 1985' - 1990': Mixed green altered waterlain tuff, gray siltstone, and trace of freshwater limestone
- 1990' - 1995': Tuff, green altered, waterlain
- 1995' - 2040': Siltstone>fine-grained sandstone, gray with green ashy tuff interbeds

2040' – 2045':	SAA, but much more tuff
2045' – 2095':	Fine-grained sandstone> siltstone, mixed gray-green and lesser red, all very tuffaceous, esp. at 2070'-2075'
2095' – 2155':	Siltstone, mostly dark reddish brown, with some greenish tuffaceous interbeds
2155' – 2175':	SAA, but gray, and contains some fg sandstone interbeds
2175' – 2190':	Siltstone, mostly dark reddish brown, with some greenish tuffaceous interbeds
2190' – 2195':	SAA, but more of the greenish interbeds
2195' – 2205':	Siltstone, medium-dark gray
2205' – 2290':	Siltstone and lesser fg sandstone, mixed reddish brown, gray, and greenish-gray, which is more tuffaceous
2290' – 2295':	SAA, but with a few chips of freshwater limestone
2295' – 2315':	Siltstone, reddish brown, grading down to gray
2315' – 2320':	Limestone, ivory freshwater, mixed with reddish-brown siltstone
2320' – 2340':	Limestone, ivory freshwater
2340' – 2355':	Limestone, ivory freshwater, mixed with reddish-brown and gray siltstone
2355' – 2365':	Limestone, ivory freshwater
2365' – 2380':	Sandstone, dark reddish-brown, tuffaceous fg
2380' – 2400':	Mixed siltstone>fg ss>freshwater LS
2400' – 2435':	Siltstone, reddish brown, except 2420-2425, which is more greenish
2435' – 2455':	SAA, but grayish
2455' – 2460':	Sandstone, fg tuffaceous greenish gray, minor red siltstone
2460' – 2495':	Siltstone, gray>reddish bwn>>greenish gray, with minor

fine-grained sandstone

- 2495' – 2500': Sandstone, fg, very tuffaceous, med gray, lots of biotite
- 2500' – 2505': Siltstone>fg ss, both gray
- 2505' – 2510': Siltstone, dark reddish brown
- 2510' – 2515': SAA, with minor fg ss
- 2515' – 2520': Siltstone, gray and dark reddish brown
- 2520' – 2540': Siltstone>fg ss, both gray, become more greenish with depth
- 2540' – 2555': Siltstone, gray and dark reddish brown
- 2555' – 2560': Mixed freshwater LS, ivory and dark reddish brown siltstone
- 2560' – 2630': Siltstone, greenish gray to red-gray
- 2630' – 2690': Sandstone, fg to vfg, greenish gray, with lesser reddish-brown siltstone
- 2690' – 3309': Sandstone, green fg very tuffaceous, with minor reddish-brown siltstone

## NOTES ON FORMATIONS:

### **FUNERAL FM:**

Top is ~2 to ~1.6 Ma, youngs NW across Furnace Creek basin, and is the horizon at which the Furnace Creek fault and contractional folds of the basin are buried upsection.

Base youngs NW across Furnace Creek basin, and is ~4 Ma in the SE part of basin and ~3 Ma in the NW part.

Consists of alluvium mainly, with interbeds of playa claystone in the center of the Texas Syncline growth fold, alone.

Regionally, this is part of the Badwater Group.

### **FURNACE CREEK FM:**

Top is the base of the Funeral Fm.

Base varies from ~7.5 Ma just west of the Resting Spring Range, to ~6 Ma on the east flank of modern central Death Valley basin.

Consists of lake sediments with interbedded alluvium and lesser fluvial conglomerates.

Regionally, it is part of the Furnace Creek group, which also includes the Copper canyon Formation, and the Nova Fm, excluding a thin basal-most part, which is Navadu Group.

### **FILL OF AMARGOSA DESERT BASIN:**

In the BLM#2, the base is a fault or angular unconformity, but regionally the base is ~12 Ma, and this unit is part of the Navadu Group, which also includes the Artists Drive Fm, and a thin basalmost part of the Nova Fm, which should be reclassified as the Navadu Fm.

The top is erosional in the BLM#2, but it is probably ~6 Ma regionally, and is that horizon at which significant faulting and tilting in the basin are buried upsection.

Consists mainly of playa sediments and lesser interbedded alluvium.

### **BAT MTN FM:**

An idiosyncratic unit invented by Cemen et al (1999, GSA SP 333), found only at Bat Mtn. Regionally, the Bat Mtn Fm and Kelley's Well LS together are part of the Owshead Group, which varies from ~16 to ~14 Ma at the base (~14.5 in the SE Funeral Mtns) and is ~12 Ma at the top. Other parts of the Owshead Group are the Billie Mine Formation at the site of that name, most of what has been called the rocks of Pavits Spring on the NTS, the ~14-to~12-Ma syntectonic strata of the Owshead Mtns, Friedmann's (1999, GSA SP 333) "member 1" of the Shadow Valley basin and Kingston Range, and the ~16-to~12-Ma syntectonic fill of the Pahrump basin.

### **KELLEY'S WELL LIMESTONE:**

An idiosyncratic unit invented by Cemen et al (1999, GSA SP 333), found only at Bat Mtn. See above.

A very thick and pure freshwater limestone.

### **AMARGOSA VALLEY FORMATION:**

An idiosyncratic unit invented by Cemen et al (1999, GSA SP 333), found only at Bat Mtn. Has 3 members, as discussed below.

### **RED SANDSTONE MEMBER OF AMARGOSA VALLEY FORMATION:**

Base is a disconformity dated at 16 Ma. Top is the base of the Owshead group in this locale, but regionally may be as young as ~12 Ma, where the Owshead Group is absent.

Consist of pebbly red sandstones, in which the sandstone is typically mainly volcanoclastic and the pebbles are derived from Pz and latest Proterozoic quartzites, cherts, and carbonates, with lesser clasts of Tertiary volcanics and Mesozoic granitoids, especially the Hunter Mtn monzodiorite.

Regionally, this is part of the Hell's Gate Group, and is correlative with the Panuga Fm of the Cottonwood Mtns, the "green conglomerate" of the southern Grapevine Mtns, and the sediments that crop out along the Beatty Junction rd just south of Hell's gate.

### **LIMESTONE MEMBER OF AMARGOSA VALLEY FORMATION:**

This member and the one below are local lithologic facies of the Titus Group, which should be called the Titus Canyon Fm in the Funeral Mtns

area. Top is ~19 Ma at the youngest (frequently eroded to an older level). Thus, since the base of the overlying Hell's gate is ~16 Ma, the section from ~19 to ~16 Ma is missing on a regional basis at the disconformity that separates the Titus and Hell's gate Groups.

Base varies from >40 Ma in the southern Grapevine Mtns to ~30 Ma in the southern Funeral Mtns.

Although this unit includes limestone, it consists mainly of tuffaceous siltstones deposited in a lacustrine environment. Regionally, it consists mainly of fluvial and lesser lacustrine sediments.

#### **BASAL CONGLOMERATE OF AMARGOSA VALLEY FORMATION:**

This lithologic unit is the basal part of the Titus Canyon Fm, which as a whole is correlative with the Ubehebe Fm of the Cottonwood Mtns, and the Rocks of Winipi Wash in the Rock Valley area, on the southern NTS.

This basal lithologic unit is composed of well-lithified coarse alluvium.





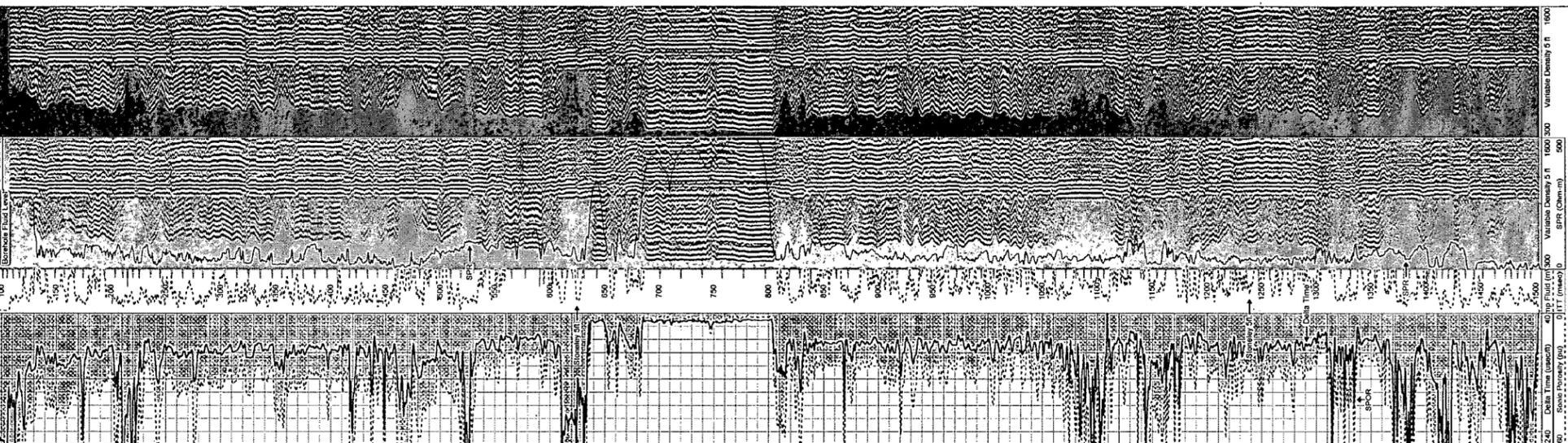
11623 SNC.PDF

<b>PACIFIC SURVEYS</b>		<b>SONIC VELOCITY VARIABLE DENSITY</b>	
Job No: 11623	Company LANG EXPLORATORY DRILLING	Well INYO-BLM#1	Field CLAY ROAD
	County INYO	State CA	
Location: CLAY ROAD, WEST OF HWY 127		Other Services: CALIFORNIA ELOG DEVIATION	
Log Measured From G.L.	Log Measured To G.L.	Log Measured From G.L.	Log Measured To G.L.
Run Number 10150004	Depth Driller 2129	Depth Logger 2113	Bottom Logged Interval 2113
Top Log Interval 17	Casing Outer 12.25 @ 41F	Bit Size 18.75"	Type Fluid in Hole WATER
Density / Viscosity N/A	pH / Fluid Loss N/A	Surf @ Meas Temp 114.4 @ 77F	Surf @ 3HT N/A
Time Circulation Stop 15:10	Time Logged on Bottom N/A	Max. Recorded Temperature N/A	Logbook Number PS-1
Location L.A.	Recorded by T. HOWARD	Witnessed by MIKE KING	

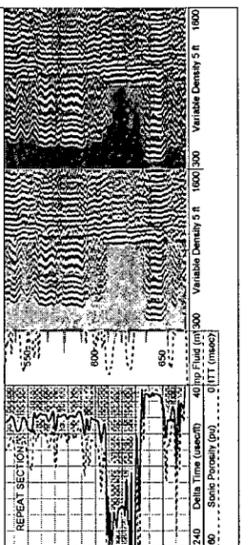
All interpretations are advisory based on data provided and are not a guarantee of accuracy or completeness of any information. We warrant that we will not, in the state of California, be held liable for any damages, including consequential damages, arising from any interpretation made by us based on the data provided to us by our client. This disclaimer is subject to our general terms and conditions which are available at our website: [www.pacificsurveys.com](http://www.pacificsurveys.com)

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Database File: 11623.dh  
Presentation Format: S.V.T.  
Created: Fri Oct 15 18:24:26 2004 by Log 0.2\_B4  
Changed by: Depth in Feet scaled 1850



Database File: 11623.dh  
Presentation Format: S.V.T.  
Created: Fri Oct 15 18:24:26 2004 by Log 0.2\_B4  
Changed by: Depth in Feet scaled 1850







11681 EL .pdf

