

Forestry Suppliers, Inc.

1-800-647-5368

49354 Level Book

CONTENTS		
PAGE NO.	REFERENCE	DATE
1	Pre GSA Road Log Madison WI to Minneapolis	10/8
5	3rd Field Trip De Gray Lake	10/26
7	Geothermal Project AGS - Core probe	2/10/12

Road Log
Pre-GSA - Madison to Minneapolis
20 80's Previous night stay at Lowell Hall
Beautiful on Lake Mendota

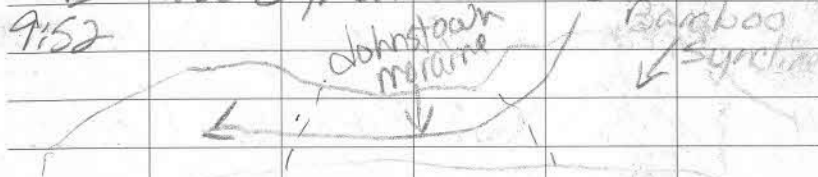
8:45 AM Stopped at UW Geology
Bldg to look at SIMS
(Secondary ion mass spectrometer)

9:15 Passed dolomite quarry
Hummocky terrain - nude
beach - Mazo beach

9:25 Descended to Wisconsin River
crossed Johnston moraine

9:37 Delaney's Surplus Sales and
Scrap metal artwork

9:39 Drove up southern limb of
Baraboo syncline



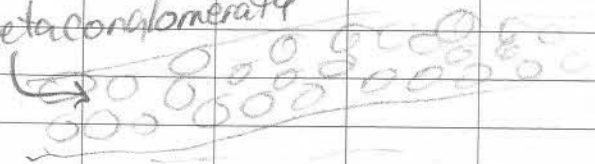
Glacial sediment
Aug 11th Near Devil's Lake state Park
Baraboo syncline limbs primarily
quartzite, Johnston moraine
contains glacial till from Canada
down through Michigan -
collection of most rock types

10/1/11

10:10 Parfrey's Glen

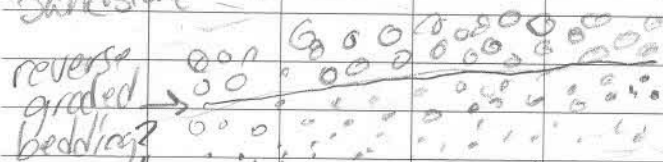
10/8/11

metaconglomerate



Sandstone →

reverse graded bedding?



or separate bedding event?

- interformational oligomitic conglomerate

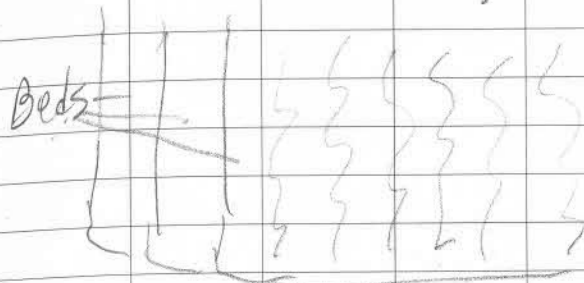
12:00 Devil's Lake State Park interbedded quartzite and conglomerate, thick bedded Cambrian sandstone above, dipping 25° to N.

1:30 Culver's in Baraboo - lunch order's Culver's Bacon Deluxe w/ chili cheese fries, sat next to Tim who ordered a single Butter burger, it was the first "green" Culver's bldg, solar panels - porous concrete - recycle a bldg materials tasty - but possibly ill-advised

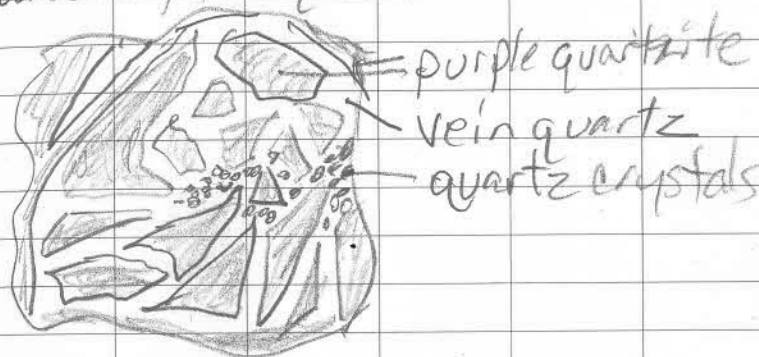
Environmental

10/8/11

2:38 Abelman's Gorge negative rippling - near vertical bedding

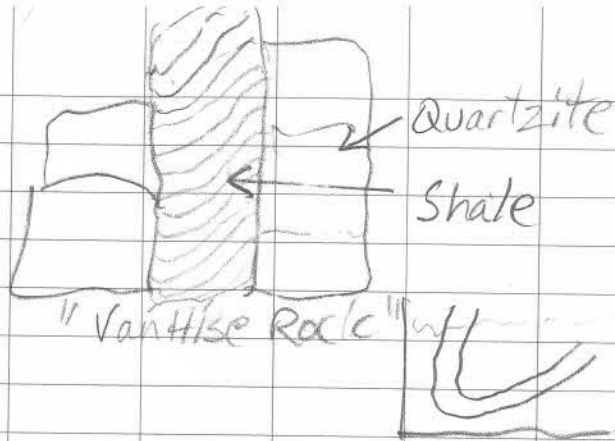


2:52 Fault Breccia - angular quartzite surrounded by vein and crystal quartz



3:01 Van Hise Rock slaty cleavage + spaced cleavage, near vertical beds of quartzite with shale between

10/8/11



EOD

Seal Field Trip 10/26/11 ^{Page}
De Gray Lake AR

Section Measurements 70-80
Rock type, grain size, bedding style, contacts, seal structure

Sec 1 180 cm interbedded sand + silt
1 - 7 1/2 cm sandstone beds
arenite 1-2 phi
3 1/2 - 6 cm shale - mud + silt
Cross beds, gradational contact,
ripple bed, tool + scour marks

Sec 2 88.5 massive bedded
grey wacke - grain 2-2.5 phi
load casts, sharp contact

Sec 3 43 cm interbedded shale
+ sandstone
shale 3-7 cm

Sandstone 2-5 cm wacke
3-2.5 phi

Sec 4 45.8 cm massive sandstone
3-2.5 phi arenite

10/20/11

Sec 5 28.5 cm interbedded shale + sandstone
1-3 cm arenite layers
3-2.5 phi
2-11 cm shale

Sec 6 120 cm arenite sandstone
2.5-2 phi

Sec 7 9 cm interbedded shale/sand
3-2.5 phi arenite

Sec 8 48.5 cm massive sandstone
3-2 phi wacke

Sec 9 40 cm interbedded slab/sand
3-1/2 cm sandstone
3-2.5 arenite
9-2.7 cm shale

Sec 10 19 1/2 cm arenite sandstone
3-2.5 phi
ripples, cross beds ripples

Total thickness 624.8 cm
EDD

Geothermal Project 2/10/12 ^{Page}

Core Probe - Day 1 start 9:30 am
holes drilled into top of core

Permit 21661 - Api - 307310065

Box # = 10810 through 10813

Hole 1 ≈ 10811 Reynolds ooite?

Core section ≈ 6 in

1 Annot 21661-1-11 - .17 ± .067 w/o silver

2 2nd core 21661-1-02* - 1.407 ± .067 w silver

Hole 2 ≈ 10812 core section ≈ 10 in

3 21661-1-12 - 2.378 ± .21 w silver

4 2nd core 21661-1-03 - 1.64 ± .1 "

EDD

* 21661-1-02 is same hole as 21661-1-11

Geothermal Proj 2/14/12

Core Probe Day 2 9:15 Am

New - thicker, shorter probe Warehouse

5/8" diameter, 2 1/2" length Cold 45°

Using Artic Silver

Permit 21661 Api - 307310065

Box 2 = 10810 - 10813

5 H 1 10810 side 6" fr top 4.037 ± .0219
depth orientation of hole w/ mc error

Box 5 = 10819 - 10822 Calcite, ooids?, pisoids?

6 H 1 10820 side 1" fr top -5.02 ± 0.1033

Box 8 = 10829 - 10833 less ooid mid Calcite xlls bottom

7 H 1 10829 top edge -15.9 ± 0.4

10 H 2 10829 side 8" fr top 7.944 ± .0588

8 H 3 10832.5 top 4" Probe w/ silver 1.6 ± .1856

Box 9 = 10833 - 10837 pisoids, dense, calcite

11 H 1 10835.5 side 2" fr top 3.68 ± .0099

12 H 2 10835 top edge 3.061 ± .0054

Styolite at top 10810

Box 2 Dense oolitic limestone, smaller ooids, distributed throughout, med gray/brownish - 10810 - 10813

Anhydrite

Box 5 2-3" thick ~~calcite~~ vein ≈ 1 foot down from top, larger ooids - poss pisoids, unusual inclusions - fossil-like



10819 - 10822

Day 2 (cont'd)

2/14/12

3:00 pm

retry on box 5 hole and 2 box 9 holes were conducted in workshop outside Jack's office, considerably warmer at 70°F

21661 502
Retry w/ 25" probe 3.059 ± .02 10

2/17/12

Box 2 - cont'd - no real visible ooids upon revisiting, fine grained limestone poss fossil gastropods, prominent styolite near top of interval, fine grained crystalline throughout, thin bed fossiliferous near center, thicker fossils

Box 8 less ooids near middle of this section, imbedded calcite crystals near bottom 10829 - 10833

Box 9 large pisoids ringed by dark organic looking material, dense dark grey, calcite crystals 10833 - 10837

EOD

Geothermal Project - Core
AGS Core Library - Warehouse

Annotation	Permit	Box#	Range	Depth	Orientation
1B	25837	1	3689- 3692	3690	top
26150 2 45	26150	2	8545- 8547	8545	side
26150 2 47	26150	2	8545- 8547	8547	bottom
26150 3 49	26150	3	8545- 8550	8549	side

25837 - All boxes muddy + shaly,
presence of organics (coal?), fissile +
laminated

26150 - Box 2 - crystalline limestone?
very fine grained, no visible ooids,
poss presence of shale, dolomitic?
slight reaction w/ HCl, shaly dolomite?
(when powdered)

2/15/12

Probe - Day 3 2/15/12

Pg 11

9:30 Am Cool - 50° F ish

11:45 Am

of hole	Probe	Compound	Conduct.	Error
edge	too fissile to drill			
6" fr top	2 1/2"	white	3.757	.01
Up	2 1/2"	white	2.612	.0052
2" fr top	2 1/2"	white	2.400	.0099

26150 - Box 3 - top half of box is
shale, ≈ 8549 begins limestone or
calcareous shale, presence of ooids
at bottom of section - Reynolds

EOD

Geothermal Project - Core
AGS Core Library - Warehouse

Annotation	Permit	Box #	Range	Depth	Orientation
26150 4 50 16	26150	4	8550- 8553	8550.5	top
26150 4 51 17	26150	4	8550- 8553	8551.5	side
26150 6 59 18	26150	6	8556- 8559	8559	side
	26150	8	8562- 8565	8565	side
26150 9 66 19	26150	9	8565- 8567	8566	side

26150 - Box 4 - oolitic limestone, larger pisoliths present throughout range, dark gray crystalline limestone, under microscope evidence of layered development of ooids + pisoids

26150 - Box 6 - oolitic with larger pisoliths, more matrix, finer chalky matrix, switch from more crystalline begins approximately 1" into interval, under scope finer ooidic texture, lighter

2/16/12 gray

Probe - Day 4 2/16/12 9:30am
Cool - 50's F 1:30pm

of Hole Probe Compound Conduct Error
edge 4" white 3.85 .0159

2 1/2" fr top 2 1/2" white 2.545 .0082

2" fr bottom 2 1/2" white 2.589 .0255

Top fissle to drill

center 2 1/2" white 3.94 .0455

26150 - Box 8 - fine grained at top of interval with no visible oolites, transitioning to crystalline oolitic limestone near end of range, stylolite prominent at top of interval - 8562

26150 - Box 9 - full interval crystalline w/ oolites throughout, some larger could be pisoliths as in previous samples

EOD

Geothermal Project - Core
AGS Core Library - Warehouse

Annotation	Permit	Box#	Range	Depth	Orientation
21661 20	21661	2	10810- 10813	10811	Top
21661 21	21661	2	10810- 10813	10812	Top
21661 22	21661	8	10829- 10833	10829	Top

21661 - Box 2 revisit - dense gray limestone
fine grained, non-collitic, prominent
stylite at top of interval and at 10811,
thin bed ($\approx 1''$) fossiliferous at 10811, thicker
fossiliferous bed ($\approx 3''$) at bottom of interval

21661 - Box 8 revisit - darker gray limestone,
fine grained near top of interval,
color lightens near mid interval, less
HCl reaction near mid, ~~poss~~ dolostone,
 $\approx 1''$ poss fossil bed at 10830, at 10833 large
crystals w/ no HCl reaction - anhydrite?

Probe - Day 5 2/17/12 9:30 AM
Temp in warehouse 54.8 F office 69.8 F
52% humidity 38%

of hole	Probe	Compound	Conduct	Error
edge	4"	white	3.619	.1417
edge	4"	white	7.508	.3172
edge	2 1/2"	white	1.495	.0178

Probe 1/2"
cut, old
compound

EOD


Geothermal Project - Core probe
AGS Core Library - Warehouse

Box 3
21661 - 10812 - 10815 - gray limestone
finegrained, definite petroleum
smell, poss fossil remnants - mollusc
or gastropod, small section of
anhydrite at 10813, pisoliths
near bottom of interval

21661 - Box 4 - 10815 - 10818 - fine grained
gray limestone, pisoliths throughout
interval, some larger & more irregular,
poss fossil remnants

21661 - Box 6 - 10821 - 10825 - lighter
gray limestone, presence of oxides,
large pisoliths throughout interval
down to 10823, more oolitic at top
of interval, 10823 - 10825 presence
of darker crystals, poss organic
material, does react w HCl

2/21/12

Day 6 2/21/12 1:20pm
Coming off cold,  60's 3:30 pm
poor altitude

21661 - Box 7 - 10825 - 10829 - darker
gray limestone, sulfuric smell with
acid, pisoliths and dark apparent
organic matter near bottom of
section, oolitic near top of
interval, crystalline near bottom

21661 - Box 9 - 10833 - 10837 - dark gray
crystalline limestone, pisoliths
stylolite at 10836 apparently filled
with organics (dark)

21661 - Box 10 - 10837 - 10838 - dark
gray crystalline with large
pisoliths

First part of day at warehouse spent
revisiting boxes from 21661 that we
hadn't gone through on previous days,
see notations of lithology above,
Did two holes from Box 1 on 2/21/12,
results at top of next page, finished
chart on Day 7 2/22/12

Day 6 - can't + Day 7 2/21/12

+ 2/22/12

Annotation	Permit	Box#	Range	Depth	Orientation
25774100 25	25774	1	9398- 9406	9400	bottom
25774101 EOD 2/21/12 ↗	25774	1	9398- 9406	9402	side
25774103 26	25774	1	9398- 9406	9403	top
25774206 26	25774	2	9406- 9415	9406	side
25774210 26	25774	2	9406- 9415	9410	top
25774211 26	25774	2	9406- 9415	9411	bottom

25774 - Box 1 - first ~3' red shale transitioning to shaly dolostone, second 3' dolostone → into dark gray limestone ~ 9402, third 3' fine grained limestone, no visible voids - grainstone

25774 - Box 2 - first 3' fine grained limestone dark gray grainstone, second 3' transitioning from grainstone to more oolitic + crystalline at ~ 9410, third 3' crystalline oolitic/lime dark gray, very little mud, laminations present from ~ 9410 - end of interval. Disoliths present ~ 9410 - end of int

start temp 68°F 32% humidity

end temp 71°F 34% humidity

2/21/12

start 68°F 35% hum ^{end} 69.8°F 34% + 2/22/12

of hole	Probe	Compound	Conduct	Error	2/21/12
up S edge	2 1/2"	white	2.333	.0089	red shale
2" fr top	2 1/2"	white	3.416	.0088	transition dolo-lime
edge	4"	silver	5.476	.2611	2/22/12 fine grain lime
center	2 1/2"	white	3.603	.0141	grainstone
edge	4"	silver	1.27	.0912	oolitic grainstone
up fr edge	2 1/2"	silver	2.525	.0037	oolitic grainstone
					EOD 2/22/12

25774 - Box 3 - 9415-9423 - finer grained at top of interval, first 3' interbedded fine grained grainstone with darker oolitic/pisolitic grainstone, ~ 9416-9417, in fine grainstone dark flecks of apparently organic material present, second 3' one small bed of oolitic/pisolitic grainstone near 9418, most of this section is fine grainstone w/ interspersed dark flecks of organics, third 3' almost all fine grainstone, bed of dark organics at bottom of interval ~ 2" thick ~ 9423

Geothermal Project - Core Probe

AGS Core Library - Warehouse

Annotation	Permit	Box#	Range	Depth	Orientation
25774 316 39	25774	3	9415-9423	9416	side


25774 4 30	25774	4	9423-9432	9425	top
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25774 4 30 31	25774	4	9423-9432	9430	bottom
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25774 - Box 3 - see previous page, primarily fine grained grainstone, small section oolitic/pisolitic crystalline

25774 - Box 4 - first 3' fine grainstone with organic fill in pressure solution pathways, $\approx 1/2$ " crystalline oolitic/pisolitic bed at ≈ 9425 , second 3' grainstone w/ organics in press sol paths, third 3' more prevalent organics, larger sections crumbly black coal-like substance, poss sediment deformation structure ≈ 9425 , 9427 + 9429

Day 8 9:30 AM - 11:30 AM 2/23/12

Start 68° 38% humid
End 70° 38%  70's

of Hole	Probe	Compound	Conduct	Error	
3" fr top	2 1/2"	white	5.095	.1243	transition oolitic to grainstone

edge	2 1/2"	white	3.181	.0324	through oolite into grainstone
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up f edge	2 1/2"	white	2.906	.0111	grainstone w/ organics
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25774 - Box 5 - 9431 - 9440 - fine grain grainstone w/ organic fill in pressure solution pathways at start of interval, transition - interbedded crystalline oolitic ≈ 9433 , Crystalline oolitic 9433 - 9437, returns to fine grain grainstone ≈ 9439 , presence of large stylolite ≈ 9437 and small stylolite at ≈ 9440 , stylolites present in finer grained material, crystalline material has ooids + pisoliths throughout, poss voids in crystalline from weathering of ooids, heavily organic at top of interval

2/27/12

Geothermal Project - Core Probe

AGS Core Library - Warehouse

Annotable Permit	Box	Range	Depth	Orientation
27575 199	27575	5296-5299	5299	side

27575 202	27575	5299-5302	5302	side
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27575 305	27575	5302-5306	5305	side
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27575 302	"	"	"	"
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27575 510	27575	5308.5-5314	5310	side
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27575 721	27575	5319-5324	5321	side
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27575 722	27575	5319-5324	5322	bottom
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27574 - Box 6 - 9440-9446 - first 3' fine grained grainstone, several sections of stylolites ~ 9441-9442, very small ooids, lacking pisoliths, second 3' very small amount of pisoliths at top of interval, transitioning to more crystalline by middle of interval ~ 9444

27575 - Box 1 - 5296-5299 - pinkish ^{sucrosic} calcitic poss limestone, reacts w/ HCl, grainstone, parallel bedding near top, pressure solution pathways throughout interval, poss anhydrite section ~ 5297, somewhat ~~sandy~~ texture, presence of color due to iron?

sugar

 Day 9 +10
 Start 71° 28% humidity

70's + 2/28/12

2/27/12

☀ 70's

of Hole	Probe	Compound	Conduct	Error
center	2 1/2"	white	2.240	.0061

center	2 1/8"	white	2.609	.0072	more of compound used
			EOD	2/27/12	

5" fr top	2 1/2"	white	10.68	.2267	redr. 1" hole reused compound hole may have been hot
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"	2 1/8"	white	1.464	.0103	refun 3/1/12
2" fr top	2 1/8"	white	1.942	.0070	

center	2 1/2"	silver	1.180	.0050	protruding 1/2" fr hole
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up	2 1/2"	white	2.098	.0179	
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27575 - Box 2 - 5299-5302 - pinkish grainstone, laminations + pressure solution pathways throughout the interval, cross laminations near top, sucrositic texture EOD 2/27/12

27575 - Box 3 - 5302-5306 - pinkish fine grainstone at very top of interval, transitions into dolomite-grainstone just before 5303, very slight HCl reaction when powdered, sucrositic texture

27575 - Box 4 - 5306-5308.5 - similar pinkish dolomite-grainstone with sucrositic texture throughout interval

2/28/12

Cont'd →

Geothermal Project - Core Probe

2/28/12

27575 - Box 5 - 5308.5 - 5314 - reddish dolo-grainstone at very top of interval transitioning into pinkish lime grainstone for a small section around 5309, back to pinkish dolo-grainstone until \approx 5310 transitions abruptly to whiter colored crystalline limestone, plentiful stylolites throughout limestone, begins transition to sucrosic limestone at very end of interval \approx 5314

27575 - Boxes 6 through 8 - whitish colored sucrosic limestone, grainstone w/ very tiny ooids, plentiful stylolites throughout entire interval, very similar in texture and appearance to pinkish grainstone above in section, poss decrease in iron to explain color changes?

Full interval 5316 to 5327.5

Box 6 - 5316 to 5319

Box 7 - 5319 to 5324

Box 8 - 5324 to 5327.5

EOD 2/28/12

Day 10 + 11



70's

2/28/12



70's

3/1/12

3/1/12

27575 - Boxes 9 + 10 - sucrosic, light gray, oolitic grainstone, prevalent stylolites
Box 9 - 5327.5 - 5331 Box 10 - 5331 - 5334

27575 - Box 11 - 5334 - 5336.5 - sucrosic fine grained oolitic grainstone, begins to get darker around 5335, \approx 1" dark bed at \approx 5335.5, prevalent stylolites

27575 - Box 12 - 5336.5 - 5339.5 - sucrosic oolitic fine grained grainstone, section of interbedded dolomitic grainstone at the interval 5338 - 5339, prevalent stylolites

27575 - Box 13 - 5339.5 - 5343 - med gray lime transitioning from oolitic grainstone at top of interval to more crystalline at bottom, prevalent stylolites

27575 - Box 14 + 15 - med gray more crystalline lime, interbedded periodically with darker material, prevalent stylolites
Box 14 - 5343 - 5347 Box 15 - 5347 - 5352

3/1/12

Geothermal Project - Core Probe

AGS Core Library - Warehouse

Annotation	Permit	Box	Range	Depth	Orientation
27575 12 9	27575	12	5336.5 - 5339.5	5339	side

27575 15 0	27575	15	5347 - 5352	5349	side
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7270's 3/1/12

Day 11

71.60 36%

of hole	Probe	Compound	Conduct	Error	
3" fr bottom	2 1/2"	white	2.536	.0071	dolo Time
center	2 1/2"	white	1.850	.0067	crystalline

EOD

3/6/12

Geothermal Project - Core Probe

AGS Core Library - Warehouse

Annotation	Permit	Box #	Range	Depth	Orientation
28603 3 41	28603	3		9148	top
28603 1 42	28603	1		9141	top
28603 2 43	28603	2		9145	top
28603 11 4	28603	11		9174	bottom
28603 10 5	28603	10		9171	top
28603 17 6	28603	17		9195	bottom

28603 - Boxes 1-20 - 9141 to 9203

dark, dense, wackestone, ~~streak~~
 reaction w/ HCl, mud rich, dark
 gray to brownish, calcite filling
 pathways between beds, more
 competent at top of section,
 more brittle as of box 5, by box
 20 very fissile, some sections
 more crystalline than others
 poss more crystalline as deepens
 accounting for increased brittleness?

Day 12

start 71° 29% humid

☀ 70's

3/6/12

of hole	Probe	Compound	Conduct	Error	
edge	2 1/2"	white	2.655	.0065	Brown Dense
edge	2 1/2"	white	1.896	.0080	
edge	2 1/2"	white	2.566	.0105	
up @ angle	2 1/2"	white	1.676	.0081	at an angle 2 1/2" protrude
edge	2 1/2"	white	2.377	.0032	
up	2 1/2"	white	2.605	.0156	

EOD

Geothermal Project - Core Probe

AGS Core Library - Warehouse

Annotation	Permit	Box	Range	Depth	Orient	
25103	1	47	25103	1	4910 ⁺ 4913	4912 top

25103	2	48 49	25103	2	4913- 4915	4914 side
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25103	3	49	25103	3	4915- 4918	4917 side
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25103 - Box 1 + 2 - light gray to tan limestone, some crystal formation, crumbly texture, sucrosic?, friable, oolitic grains in muddy matrix, grainstone

25103 - Box 3 - transitioning to more crystalline grainstone, more competent, small sections of darker fill in solution pathways or laminations

Day 13

70° 34% humid

3/7/12

of hole	Probe	Compound	Conduct	Error
edge	2 1/2"	White	1.425	.0123

center	2 1/2"	White	1.542	.0095
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center	2 1/2"	White	1.611	.0076
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25103 - Boxes 4 to 9 - transitions to muddy wackestone near top of Box 4 interval, carries throughout remaining boxes, dark fill material in solution pathways throughout, inclusion of lighter colored roundish pebble-sized (to 3.5 cm) clasts, possibly rip-up clasts from soft-sediment deformation? clasts are rounded and seem to show stress axis deformation parallel to bedding, dark areas increase in Box 6 ~ 4925-4927

Geothermal Project - Core Probe

AGS Core Library - Warehouse

Annotation	Permit	Box	Range	Depth	Orient
25103 150	25103	7	4927.5-4930	4930	side
18345 151	18345	1	2122-2125	2122	top

18345 - Box 1 & 2 - 2122 to 2128 - coarse sandstone, gray to tan, less friable at top of interval, poss clay content at top of interval, no HCl reaction throughout interval, HCl beads at \approx 2125, low porosity, low clay content, planar bedding and laminations w/ some sections possible cross laminations, quartz ~~arenite~~ arenite - after closer exam, <2% mica, <5% dark material, grains 3/9/12 subangular

Day 14

Start 68° cooler 60% ~~of~~ 37% humidity 3/9/12

of hole	Probe	Compound	Conduct	Error
center	2 1/2"	white	1.826	.0187
edge	2 1/2"	white	2.669	.0783

18345 - Boxes 4-6 - 5185 to 5194 - first 6' of interval silty-shaly-limestone, poss dolomitic, med gray with darker laminations, some sections almost micritic, last 3' of interval transitioning from grainstone to more crystalline oolitic limestone

EOD

Geothermal Project - Core Probe
AGS Core Library - Warehouse

Annotation	Permit	Box	Range	Depth	Orientation
18345 4 ⁵²	18345	4	5185- 5188	5186	side
18345 6 ⁵³	18345	6	5191- 5194	5194	bottom
18345 10 ⁵⁴	18345	10	5203- 5204	5204	side
18345 12 ⁵⁵	18345	12	5209- 5212	5209	side
18345 14 ⁵⁶	18345	14	5215.5- 5218.5	5217	top
18345 17 ⁵⁷	18345	17	5224- 5227	5225	top
18345 18 ⁵⁸	18345	18	5227- 5230	5227	side

18345 - Boxes 4+6 - see prev page descrip,
sample 52 - shaly grainstone, dolomitic
limestone, sample 53 - Crystalline limestone
oolitic

18345 - Boxes 7+8 - shaly dolomitic lime,
interbedded with more crystalline,
transitioning throughout interval,
med to dark gray, laminations of
darker material, transitioning from
shaly to more crystalline oolitic

Day 15+16 70.6 57% 80's 3/19/12
70-80 3/13/12

of hole	probe	Compound	Conduct	Error	
Center	2 1/2"	white	1.824	.0036	
up	2 1/2"	white	1.899	.0060	3/13/12 ↑ 3/19/12 ↓
center	2 1/2"	white	1.490	.0081	
center	2 1/2"	white	2.009	.0118	
edge	2 1/2"	white	1.543	.0046	red shale
edge	2 1/2"	white - reuse+add	3.346	.0109	shale/lime
2" fr top	2 1/2"	white - reuse+add	4.524	.0032	muddy lime

18345 - Box 10+11 - sucrosic oolitic lime,
organic material interspersed, Box
10 - darker gray to brown - more prevalent
organics, Box 11 - lighter gray - organics
in darker laminations, transitioning
to more of grainstone by end of interval

18345 - Box 12+13 - mud rich wackestone, poss
allochems, light gray, flecks of dark
organic material, mud cracks developing
throughout

Geothermal Project Day 16

AGS Core Library

3/19/12

18345- Box 14 to 17 - transitions from wackestone to reddish gray shale, planar and fissile, laminations of shale interbedded w/ lime in Box 17, at end of interval transitions to mud rich wackestone

18345- Box 18 + 19 - start of interval dense mud rich limestone wacke, transitions to gray shale within $\approx 1'$, gray shale throughout remaining interval, becoming more fissile by end of interval

3/19/12 EOD \uparrow

3/20/12 \downarrow

18345- Box 20 - 6323 to 6328 - dense, fine grained, non-porous sandstone, micas present, no HCl reaction, very fine. ~~arenite~~, pyrite + anhydrite, lithic arenite

18345- Box 21 - 6328 to 6332 - same as Box 20, getting more coarse, after further review, lithic arenite

18345- Box 22 - transitioning from coarse dense sand near top of interval to dense oolitic dolostone, strong reaction when powdered, very non-porous - 6332.5 - 6335.5

Geothermal Project Day 17

AGS Core Library

3/20/12

18345- Box 37 - 6389.5 to 6392 - dense dolostone petroliferous smell + ooze, dark flecks of poss organics, streaks of anhydrite

18345- Box 40 - 6398.5 to 6401 - very fine grained chalky lime, grainstone, some dark organics reacts easily, poss calcite grains

18345- Box 47 - 6421 to 6423 - transitioning from crystalline limestone at top of interval to fine grainstone near middle ≈ 6422 , some flecks of organics, petro smell and feel

18345- Box 48 - 6423.5 to 6425.5 - low porosity crystalline limestone interbedded with more porous and "sandy" lime, petroliferous smell and feel to more porous lime, crumbly weathering of porous beds

EOD 3/20/12

Geothermal Project - Core Probe

AGS Core Library + Warehouse

Annotation	Permit	Box	Range	Depth	Orientation
18345 20 9	18345	20	6325- 6328	6328	side
18345 20 0	18345	22	6322.5- 6325.5	6324	side
18345 40 1	18345	40	6398.5- 6401	6401	side
18345 47 2	18345	47	6421- 6423	6423	side
18345 48 3	18345	48	6423.5- 6425.5	6425.5	side
18345 70 4	18345	70	6488.5- 6490	6489	side
22027 1 65	22027	1	2490- 2496	2493	top
22027 10 7	22027	10	2537- 2539	2538	top
22027 7 66	22027	7	2519- 2525	2525	side
22549 1 68	22549	1	2488- 2491	2488	side
22549 6 69	22549	6	2506- 2510	2510	top
22549 11 0	22549	11	2530- 2535	2531	top

71.8° 57% 3/20/12
68° 60% 3/21/12
70.6° 58% 3/22/12

of hole	Probe	Compound	Conduct	Error	
center	2 1/2"	white	1.818	.0071	pyrite
center	2 1/2"	white	1.399	-.0097	oids
center	2 1/2"	white	1.364	.0092	Chalky 3/20↑
center	2 1/2"	white	2.248	.0071	3/21↓
center	2 1/2"	white - reuse + add	2.222	.0090	
center	2 1/2"	white	2.731	.0110	
edge	2 1/2"	white	1.263	.0192	
edge	2 1/2"	white	1.714	.0139	
center	2 1/2"	white - reuse + add	1.164	.0147	3/21↑ 3/22↓
center	2 1/2"	white	3.065	.0230	
edge	2 1/2"	white	3.261	.0091	
edge	2 1/2"	white	4.39	.0036	

Geothermal Project
AGS Core Library

Day 18
3/21/12

18345 - Box 58 - 6453.5 to 6456 - Crystalline limestone, med gray to brownish, fairly dense and porous, larger calcite crystals present

18345 - Box 70 - 6488.5 - 6490 - Crystalline near top of interval, transitions to grainstone at 6489, dense throughout, porous in lower 1/2, organics present, vugs present from poss solutioning of organics?, vugs being filled by calcite crystals

22007 - Box 1 to 9 - quartz arenite, ranging from fine to very fine grained, light tan to brown, rounded to sub-rounded grains, 2490 to 2537, possibly fining very slightly downward

22007 - Box 10 - 2537 to 2539 - very similar to Boxes 1-9, slightly darker color, fine grained quartz arenite, friable, dark tan to brown, rounded to subrounded grains

EOD 3/21/12

Geothermal Project
AGS Core Library

Day 19
3/22/12

22549 - Boxes 1 to 9 - 2488 to 2522 - mostly gray arenite, interbeds of reddish brown friable sandstone and shale, sandstones range from fine to very fine grained, predominantly fine, some poss organic residue in darker sandstone, gray sandstone appears to be more porous than reddish brown, all sandstones appear to be friable arenites of differing grain size

22549 - Box 10 - 2522 to 2526 - light gray to reddish tan friable quartz arenite, beds of light gray shale interspersed, near bottom of interval transitioning to dark reddish brown friable arenite with low porosity or permeability

22549 - Box 11 - dark brown friable quartz arenite, fine grained, black streaks throughout interval, poss organics, low porosity or permeability, returns to light gray arenite with good porosity at very end of interval

EOD 3/22/12

Geothermal Project Day 20
AGS Core Library 3/27/12

24755 - Boxes 1 to 4 - 2053 to 2064 - dark to med gray, fine to very fine grained, packstone to wackestone, sections of more competent, more competent sections have poss shell fragments + pisoliths, lighter colored allochems show poss compression deformation, muddy throughout interval, especially in less competent sections, good HCl reaction throughout, core probe sample taken at ~2063' - more competent w/ visible pisoliths and allochems

EDD 3/27/12

Geothermal Project Day 21
AGS Core Library 3/28/12

28258 - Boxes 1 to 8 - Box 1 5760 to 5763, Boxes 2-8 6019 to 6098.8, similar through all 8 boxes, dense red shale predominant, some highly polished bedding planes - poss slaty shale? lo grade metamorphic? slickensides?, location of well near a known fault zone, streaks of gray shale and anhydrite present throughout

28258 - Boxes 9 to 12 - 6098.8 to 6114.5, Boxes 9 + 10, red shale with streaks of gray shale + anhydrite, Box 11 - 6109 to 6116.5, gray dense dolostone, crystalline w/ poss ooids, Box 12 gray shale throughout end of Buckner

28258 - Boxes 13 to 16 - 6114.5 to 6127, Box 13 - gray shale throughout, Box 14 - reddish sucrosic oolitic dolostone, pyrite and anhydrite inclusions, Boxes 15-16 - reddish highly-sucrosic oolitic lime grainstone

EDD 3/28/12

Geothermal Project - Core Probe

AGS Core Library & Warehouse

Annotation	Permit	Box	Range	Depth	Orient	of hole	Probe	Compound	Conduct	Error	
24755	471	24755	2062-2064	2063	top	edge	2 1/2"	white	2.652	.0153	3/27
28258	172	28258	5760-5763	5761	side	center	2 1/2"	white	3.924	.0059	3/28
28258	873	28258	6090-6098.8	6098	top	edge	2 1/2"	white reuse+add	5.160	.0134	through anhydrite beds
28258	114	28258	6108-6111.5	6108	side	center	2 1/2"	white reuse+add	4.004	.0091	chlo
28258	145	28258	6117.5-6121.5	6119	side	center	2 1/2"	white reuse+add	1.845	.0226	Sucrosic dolo
28258	156	28258	6121.5-6125	6125	side	center	2 1/2"	white reuse+add	1.389	.0079	Sucrosic lime
24087	177	24087	5760-5771	5770	top	edge	2 1/2"	white	1.455	.0056	3/29
24087	378	24087	5777-5783	5782	top	edge	2 1/2"	white	1.428	.0039	
24087	189	24087	5861.5-5868	5868	top	edge	2 1/2"	white	1.253	.0061	
24087	310	24087	5950-5956	5952	top	edge	2 1/2"	white reuse+add	1.628	.0041	
24227	181	24227	7932-7935	7933	top	edge	2 1/2"	white	2.580	.0166	4/3
24227	682	24227	7945-7951	7950	side	center	2 1/2"	white reuse+add	2.050	.0066	
24227	983	24227	7957-7958.5	7958	side	center	2 1/2"	white reuse+add	2.779	.0039	

70° 55%
72.8° 54%
71° 56%
72° 57%

3/27/12 80's
3/28/12 80's
3/29/12 80's
4/3/12 80's

Geothermal Project
AGS Core Library

Day 22
3/29/12

24087 - Boxes 1 to 32 - tannish sucrosic lime, fine grained grainstone, oolitic, weathers red, becomes less sucrosic by the end of the interval, stylolites throughout, druse calcite vugs interspersed, occasionally interbedded with darker material, poss organic matter in solution pathways or shale? - 5766 to 5956 - as texture loses sucrosic nature also becomes more fine-grained, very fine to the point of being chalky by the end of the interval, vugs more prominent in upper section, large irregular "clasts" of calcite in lower non-sucrosic section which appear to be fill from solution pathways

EOD 3/29/12

Geothermal Project
AGS Core Library

Day 23
4/3/12

24087 - Boxes 1 to 9 - 1932 to 1958.5, crystalline oolitic limestone, dense, interbedded w/ gray grainstone, stylolites present throughout, transitions at bottom of interval to darker brownish grainstone, organics present, petro residues, weathers red in some sections, dense gray crystalline sections oolitic with pisoliths and poss deformation of allochems, poss fossil remnants

EOD

Geothermal Project
AGS Core Library

Day 24
4/4/12

21198 - Boxes 1 to 4 - very fine grained non-reactive, gray with greenish banding, abundant pyrite crystals throughout, reddish inclusions possible garnet? dark flecks and blebs possible biotite? pyrite? EOD

4/5 Day 25

21198 - Boxes 5 to 19 - crystalline limestone, some oolitic sections, dense, transitions from light gray at top of interval to med and then dark gray to black by bottom of interval, stylolites present throughout

EOD

Geothermal Project
AGS Core Library

Day 26
4/9/12

26424 - Box 1 - shaly dolomitic wackestone to mudstone, interbedded light tan to med gray, laminations to very thin beds, some evidence of soft sediment deformation - 4276' to 4279'

26424 - Boxes 2 to 6 - transition at top of Box 2 to dolomitic packstone or grainstone, remainder of interval sucrosic oolitic limestone, very light tan to white, weathers reddish, presence of vugs and druze calcite

26424 - Boxes 7 to 13 - sucrosic oolitic limestone, tannish to white, weathers red, highly porous, similar lithology to Boxes 2 to 6

EOD

15 wells ↑
 Geothermal Project - Core Probe
 AGS Core Library & Warehouse

AnaSta	Permit	Box	Range	Depth	Orient
21198 2 84	21198	2		3939	side
21198 4 85	21198	4		3943	side
21198 10 86	21198	10	5044-5047	5044	side
21198 17 87	21198	17	5067-5070	5067	top
26424 1 88	26424	1	4276-4279	4277	top
26424 2 89	26424	2	4279-4282	4279	side
26424 5 90	26424	5	4290-4293	4292	side
26489 1 91	26489	1		7770	side
26489 7 92	26489	7		7789	side
26489 25 93	26489	25		7846	top
27520 1 94	27520	1	2130-2133	2130	top
27520 2 95	27520	2	2133-2136	2133	top
27370 3 96	27370	3	4375-4378	4376	side
27370 3 97	27370	3	4375-4378	4376	side
27370 5 98	27370	5	4381-4384	4384	top

70° 54% 4/10/12 70's
 68° 50% 4/11/12 60's
 71.5° 63% 4/4/12 70's
 70° 59% 4/5/12 80's
 69° 55% 4/9/12 80's

hole	Probe	Component	Conduct	Error	
edge	2 1/2"	White	1.274	.0035	4/4
center	2 1/2"	White reuse+add	1.558	.0095	
center	2 1/2"	White	3.811	.0135	4/5
edge	2 1/2"	White reuse+add	3.775	.0190	
edge	2 1/2"	White	4.117	.0144	4/9
center	2 1/2"	White reuse+add	3.162	.0067	Transition dolo-trinc
center	2 1/2"	White reuse+add	1.817	.0040	
center	2 1/2"	White	2.877	.0143	4/10
center	2 1/2"	White reuse+add	1.927	.0096	
edge	2 1/2"	White	1.857	.0074	
edge	2 1/2"	White reuse+add	3.799	.0635	
edge	2 1/2"	White	2.370	.0069	
center	2 1/2"	White	2.458	.0307	4/11
center	2 1/2"	White reuse+add	2.095	.0204	
edge	2 1/2"	White	2.667	.0063	

Geothermal Project
AGS Core Library

Day 27
4/10/12

26489 - Boxes 1 to 7 - med to light gray
7768 to 7791, very eolitic to pisolitic
grainstone, poss fossil remnants,
stylolites throughout, poss more
crystalline at top of interval

26489 - Boxes 8 to 19 - refer to description
of Boxes 1 to 7

26489 - Boxes 20 to 25 - transitions into
crystalline limestone dense med
gray, pisoliths present throughout,
sizable sections of calcite forming
within bedding planes

26520 - Boxes 1 to 4 - muddy shaly dolo-
wackestone to mudstone, med-dark
gray, interbedded with fine grained
limestone, mudcracks throughout
interval, sections of darker organics
present, petroliferous residue

EOD

Geothermal Project
AGS Core Library

Day 28
4/11/12

26520 - Boxes 5 to 30 - 2142 to 2223 - same
as Boxes 1 to 4

26370 - Boxes 1 to 5 - alternating beds
dolomitic wackestone to mudstone,
more shaly in box 1 and 2, frequent
dark fill resembling stylolites, some
fossils present, by box 3 beginning
transition to more grainstone, box 4
alternating fossiliferous grainstone and
wackestone, highly porous, very
muddy at top of interval, by bottom
of interval fossiliferous grainstone,
stylolites forming along solution
pathways frequently along bedding
where lithology changes occur,
high energy flaser bedding in box
3

EOD

Geothermal Project
AGS Core Library

Day 29
4/17/12

27370 - Boxes 6 to 13 - Box 6 has some similar fossiliferous grainstone to Box 5, transitions to shaly dolomitic wackestone to mudstone, interbedded with limestone, mostly shaly, very little reaction in most sections even when powdered, sample taken from Box 11 mudstone with deposition indicative of high energy environ, sample from Box 13 laminated shale alternat light and dark.

20071 - Boxes 1 to 3 - oolitic grainstone, med gray to tan, porous, transitions to dark grey dense crystalline limestone at top of Box 3 interval, highly reactive

20071 - Boxes 4 to 11 - entire interval dark grey to black dense crystalline limestone, very dense, no visible petroleum residue, semi-porous to porous, veins of calcite occasionally present, very competent

EDD

Geothermal Project
AGS Core Library

Day 30
4/18/12

26677 - Boxes 1 to 3 - interbedded limestone and dolostone, grainstone, fine grained, weathering red, pyrite forming along solution pathways, 5469 - 5482, sample from Box 1 is more dolomitic, sample from Box 2 is lime, oomoldic porosity

EDD

Geothermal Project - Core Probe

AGS Core Library + Warehouse

Annotat ^g	Permit	Box	Range	Depth	Orien
27370 11 9 ¹⁰⁰	27370	11	4388-4401	4399	side
27370 13 0 ¹⁰¹	27370	13	4404-4406	4405	side
20071 2 01 ¹⁰²	20071	2	11281-11284	11282	top
20071 4 02 ¹⁰³	20071	4	11287-11290	11289	top
20071 11 3	20071	11	11308-11311	11310	top
26677 1 04 ¹⁰⁴	26677	1	5468-5472	5470	side
26677 2 05 ¹⁰⁵	26677	2	5472-5478	5478	top
28301 1 06 ¹⁰⁶	28301	1	5762-5765	5763	top
28301 11 7 ¹⁰⁷	28301	11	5793-5796	5793	top
28301 16 8	28301	16	5808-5811	5808	side
30929 1 09 ¹⁰⁹	30929	1	11093-11101	11095	side
30929 4 10 ¹¹¹	30929	4	11119-11128	11119	side
30929 5 11	30929	5	11128-11132	11130	side

67° 62% 4/17/12 80's
 64.40 59% 4/18/12 80's
 67° 57% 4/19/12 80's
 67° 50% 4/24/12 80's

as hole	Probe	Compound	Conduct	Error	
center	2 1/2"	white	3.415	.0117	4/17
center	2 1/2"	white	2.198	.0074	
edge	2 1/2"	white	2.362	.0110	oditic grainstone
edge	2 1/2"	white reuse+add	3.026	.0100	dense dark line
edge	2 1/2"	white reuse+add	2.513	.0052	↓
center	2 1/2"	white	3.360	.0153	4/18 Dolomitic grainstone
edge	2 1/2"	white reuse+add	1.056	.0109	limestone
edge	2 1/2"	white	5.066	.0126	4/19 red shale Buckner
edge	2 1/2"	white reuse+add	3.369	.0075	gray shale ↑ transition
center	2 1/2"	white	1.319	.0052	suicrasic lime
center	2 1/2"	white	3.726	.0025	4/24 dolomitic
center	2 1/2"	white reuse+add	2.407	.0060	crystalline
center	2 1/2"	white reuse+add	2.708	.0081	pisolitic crystalline oolitic

Geothermal Project
AGS Core Library

Day 31
4/19/12

28301 - Boxes 1 to 4 - 5762 to 5774 - dense red shale, probably Buckner, semi-porous, some minor interbeds of gray shale, some soft sediment deformation structures

28301 - Boxes 5 to 10 - 5774 to 5796 - dense gray shale, fairly homogenous, semi-porous, some laminations of darker gray, soft sediment deformation

28301 - Boxes 11 to 16 - 5796 to 5811 - transitions at top of Box 11 from gray shale to sucrosic lime grainstone, sucrosic lime throughout remainder of interval, oolitic and porous, weathering red, highly sucrosic, oomoldic porosity

EOD

Geothermal Project
AGS Core Library

Day 32
4/24/12

30929 - Boxes 1 & 2 - 11093 to 11110 - dolomitic grainstone from top of interval until \approx 11097, transitions to lime grainstone through remainder of interval, light to med gray, fine and dense

30929 - Boxes 3 to 5 - 11110 to 11132.5 - transitions from fine grainstone to oolitic crystalline limestone \approx 11115, large irregular pisoliths or oncoliths more prevalent mid interval, dark gray, dense, semi porous, smaller oolitic texture by end of interval

EOD

Geothermal Project
AGS Core Library

Day 33
5/1/12

21807 - Boxes 1 to 6 - mudstone to grainstone at top of interval, transitions to laminated dolostone at bottom of Box 1 through Box 2, Box 3 returns to interbedded mud and grainstones, highly reactive throughout remainder of interval

21807 - Boxes 7 to 12 - sections with blebs of anhydrite present in Boxes 7 & 8, dark crystalline lime interbedded with grainstone throughout the remainder of interval

EOD

Geothermal Project
AGS Core Library

Day 34
5/2/12

28591 - Box 1 - 8217 to 8225 - top of interval anhydrite w/ poss dolomitic matrix, large sections of anhydrite, fairly crystalline, transitions into sucrosic dolostone at mid interval ≈ 8220 , transitions to sucrosic limestone for remainder of interval ≈ 8223 , stylolites present in limestone, anhydrite "marble" ≈ 8219

28591 - Box 2 - 8225 to 8233 - top of interval mostly sucrosic dolostone w/ interbeds of sucrosic limestone, ≈ 8230 transitioning to sucrosic lime throughout remainder, somewhat oolitic by end of interval

28591 - Boxes 3 to 6 - oolitic, pisolitic grainstone, stylolites throughout, transitions to more sucrosic by end of Box 4

28591 - Box 13 - 8325 to 8333 - dense gray fine grainstone, very prevalent stylolites with great amplitude (up to 4"), occasional anhydrite blebs

28591 - Box 20 - same as Box 13 - anhydrite

EOD

Geothermal Project - Core Probe

AGS Core Library + Warehouse

Annotat	Permit	Box	Range	Depth	Orient
¹¹² 21807 2 12	21807	2	10684-10686	10686	top
¹¹³ 21807 7 13	21807	7	10687-10699	10687	side
¹¹⁴ 21807 8 14	21807	8	10700-10703	10700	side
¹¹⁵ 21807 19 5	21807	19	10731-10733	10731	top
REDO 112					
¹¹⁶ 28591 1 16	28591	1	8217-8225	8217	side
¹¹⁷ 28591 1 17	28591	1	8217-8225	8222	side
REDO 116					
¹¹⁸ 28591 3 18	28591	3	8241-8250	8243	side
¹¹⁹ 28591 13 9	28591	13	8325-8323	8329	side
¹²⁰ 28591 20 0	28591	20	8432-8441	8441	side
¹²¹ 29667 1 21	29667	1	8011-8031	8028	side
¹²² 29667 23 2	29667	23	8215.5-8223.5	8218	side
¹²³ 29667 29 3	29667	29	8519-8528.5	8528	side
¹²⁴ 29667 30 4	29667	30	8528.5-8537	8531	top
REDO 124					

of hole	Probe	Compound	Conduct	Error	5/1
edge	2 1/2"	white	6.116	.0549	dolo
center	2 1/2"	white reuse+add	3.079	.0096	lime w/ poss anhydrite
center	2 1/2"	white reuse+add	3.084	.0037	"
edge	2 1/2"	white reuse+add	4.282	.0249	malstone redo of 21807 2 12
		white reuse+add	2.562	.0203	
center	2 1/2"	white	6.058	.0207	5/2 Crystalline anhydrite
center	2 1/2"	white reuse+add	3.035	.0035	dolo
		white reuse+add	3.928	.0055	redo of 28591 1 16
1" fr edge	2 1/2"	white reuse+add	3.503	-.0196	
center	2 1/2"	white reuse+add	2.935	.0070	
2" fr edge	2 1/2"	white reuse+add	2.435	.0051	
					5/3
center	2 1/2"	white	1.872	.0214	
center	2 1/2"	white reuse+add	1.485	.0144	
center	2 1/2"	white	1.654	.0126	5/4 Brown Cerise
edge	2 1/2"	white reuse+add	3.486	.0326	
	2 1/2"	white reuse+add	2.179	.0071	redo of 29667 30 4

10° 64% 5/1/12 ~~21~~ 80-90s
 10.4° 59% 5/2/12 ~~21~~ 80-90s
 22.4° 61% 5/3/12 ~~21~~ 80-90s
 73° 64% 5/4/12 ~~21~~ 80-90s

Geothermal Project
AGS Core Library

Day 35
5/3/12

29667- Boxes 1 to 9 - gray oolitic pisolitic
fine grainstone, prevalent stylolites
throughout, becoming more pisolitic
in Box 3, transitions to more sucrosic
+ porous by Box 7

29667- Box 16 - med gray oolitic pisolitic
fine grainstone, crystalline interbeds

29667- Box 23 to 27 - med gray oolitic
pisolitic grainstone, stylolites
present throughout - some amplitudes
of up to 4 inches, interbeds of
crystalline limestone, pyrite

EOD

Geothermal Project
AGS Core Library

Day 36
5/4/12

29667- Boxes 28 to 31 - 8514 to 8542 -
dark dense mudstone, dark gray to
black, some brown sections with poss
organic residue, occasional rare
beds of crystalline calcite that
appear to have formed along solution
pathways, occasional small stylolites,
probable Brown Dense

EOD

Geothermal Project
AGS Core Library

Day 37
5/8/12

29766 - Boxes 1 to 8 - 8602 to 8622
oolitic to pisolitic grainstone,
med gray, stylolites, interbedded
crystalline limestone, by middle of
interval transitioning to more
sucrosic, oolitic throughout, higher
porosity in lower sucrosic section

29766 - Box 20 - 8652.5 to 8654.5 - crystalline
limestone, large calcite sections, abundant
vugs + drusy calcite

29766 - Box 30 - 8679 to 8681 - dense brittle
fine grainston to crystalline limestone,
oolitic porosity

29766 - Box 44 - 8725 to 8727.5 - fine grainstone
med gray

EOD

Geothermal Project
AGS Core Library

Day 38
5/11/12

25837 - Boxes 1 to 5 - 3689 to 3702 -
muddy shaly sandstone, quartz
arenite, very fine grained, some
poss organics present, darker
laminations, poss flaser bedding

23829 - Boxes 1 to 6 - 7460 to 8716 - top
of interval red crystalline lime,
darker wavy laminations, some poss
dolomitic sections, poss fossil remnants,
stylolites as it transitions to gray
crystalline lime, \approx 8690 dense
light to med gray crystalline lime,
sections of calcite crystals, highly
fractured with iron rich fill

EOD

Geothermal Project - Core Probe
 AGS Core Library + Warehouse

Annot	Permit	Box	Range	Depth	Orient
29766 ¹²⁵ 225	29766	2	8607- 8605	8603	side
29766 ¹²⁶ 8 26	29766	8	8620- 8622	8621	side
REDO ¹²⁷ 29766 20 7	29766	20	8652.5- 8654.5	8654	side
29766 ¹²⁸ 44 8	29766	44	8725- 8725	8727.5	side
¹²⁹ 25837 2 29	25837	2	3692- 3694	3693	top
25837 ¹³⁰ 5 30	25837	5	3700- 3702	3701	side
23829 ¹³¹ 2 31	23829	2	7489- 7491	7489	top

114 6576 018112 2 70-80s
 71.4° 53% 5/11/12 70-80s

of hole	Probe	Compound	Conduct	Error	sls
center	2 1/2"	white	2.880	.0321	
1" fr edge	2 1/2"	white reuse+add	2.113	.0074	
1" fr edge	2 1/2"	white reuse+add	2.329	.0024	redo of 29766 225 crystalline calcite
center	2 1/2"	white reuse+add	2.471	.0081	
1" fr edge	2 1/2"	white reuse+add	1.784	.0101	5/11
center	2 1/2"	white	4.672	.0297	sandstone
1/2" fr edge	2 1/2"	white reuse+add	2.002	.0163	"
1/2" fr edge	2 1/2"	white	2.064	.0113	red x line line