

ARKANSAS RIVER

water, sediments,
&c.

Miscellaneous.

Native
Wines

List of

Loc. Nos.

~~...~~

Arkansas Geological Survey
Kettle Rock
Arkansas.

Sept. 10/89-

A
B
C
D
E
F
G
H
I
J
K
L
M
N
O
P
Q
R
S
T
U
V
W
Y
Z

Arkansas River Sediment (Collected by C.E. Taft) May 2, 1888.
Average of suspended matter from six bottles; analysis. pg 1. + 2.

Arkansas River temperature p. 3.

Arkansas river foam, 8

Analysis of A.R. Water

Arkansas river water Dec 20, 1888, 5; Aug 22, 1888, 4

Cynthiana wine 10

Dingle's Cynthiana wine 10

A
B
C
D
E
F
G
H
I
J
K
L
M
MC
N
O
P
Q
R
S
T
U
V
W
Y
Z

Foam of Ark. River p. 8.

E
F
G
H
I
J
K
L
M
MC
N
O
P
Q
R
S
T
U
V
W
Y
Z

Leaf Nos. list of 25-36, 39-40

I
J
K
L
M
MC
N
O
P
Q
R
S
T
U
V
W
Y
Z

Numbers, Tab. list of 25-39

M
MC
N
O
P
Q
R
S
T
U
V
W
Y
Z

Potter's Clay Akron Ohio Jr.

P
Q
R
S
T
U
V
W
Y
Z

Temperature of Ark. River p. 3.

Wine, Dreyer's 10

T
U
V
W
Y
Z

Analysis of Arkansas River sediment, from six bottles of water, collected by Mr. C. E. Taft, May. 2. 1888 (flood).

Analysis made from suspended matter determined in A. G. S. Laboratory, from average of six specimens taken from different places & depths of the river.

For loss on ignition, and alkali determination.

wt air dry sediment = 1.0055 gm.
 water = 3.3117% wt water lost at 110°-150°C = 0.0333 gm
 } wt sediment dried at 110°-150°C = 0.9722 gm

{ CO₂ + Organic matter } = 7.704% wt lost on ignition = 0.0749 gm.

Fused residue with ~~alkali carbonates~~.

Bi₂O₃ for Alkali determination.

wt d + NaCl + KCl = 15.82340 gm

wt dish = 15.79235

wt KCl + NaCl = 0.03105 gm.

KCl + NaCl = 0.03105 gm

KCl = 0.01014 "

wt NaCl = 0.02091 gm

wt ewe + K₂PtCl₆ = 22.1404

wt ewe = 22.1072

wt K₂PtCl₆ = 0.0332

wt Na₂O = 0.01109 gm

wt K₂O = 0.006409 gm

wt KCl = 0.01014 gm

Percent, K₂O = 0.659%
 Na₂O = 1.140%
 Total Alk. Oxides = 1.799%

loss on ignition = 7.704%
 CO₂ with Ca + Mg = 4.756%
 Organic matter = 2.948%

Ark. River Sediment (continued).

wt sediment dried at $110^{\circ}-15^{\circ}\text{C} = 2.6451 \text{ gm}$
 digested with concentrated HCl.

insol residue = 78.753%. wt insoluble residue = 2.08312 gm
 fused residue with Alkali carbonates.

$\text{SiO}_2 = 69.543\%$ wt $\text{SiO}_2 = 1.83951 \text{ gm}$

$\text{Fe}_2\text{O}_3 + \text{Al}_2\text{O}_3 = 16.1125\%$ wt $\text{Fe}_2\text{O}_3 + \text{Al}_2\text{O}_3 = 0.426184 \text{ gm}$
 (separated Fe_2O_3 from Al_2O_3 .)

$\text{Fe}_2\text{O}_3 = 4.4588\%$ wt $\text{Fe}_2\text{O}_3 = 0.11794 \text{ gm}$

$\text{Al}_2\text{O}_3 = 11.6537\%$

$\text{CaO} = 3.7087\%$ wt $\text{CaO} = 0.0981 \text{ gm}$

$\text{CaCO}_3 = 6.6227\%$

wt $\text{Mg}_2\text{P}_2\text{O}_7 = 0.12292 \text{ gm}$

$\text{MgO} = 1.6744\%$

wt $\text{MgO} = 0.04429 \text{ gm}$

$\text{MgCO}_3 = 3.5162\%$

Silica (SiO_2) = 69.533%

Ferric Oxide (Fe_2O_3) = 4.458 "

Alumina (Al_2O_3) = 11.653 "

Calcium Carbonate (CaCO_3) = 6.622 "

Magnesium Carbonate (MgCO_3) = 3.516 "

Potash (K_2O) = 0.659 "

Sodium Oxide (Na_2O) = 1.140 "

Organic matter = 2.948 "

Total = 100.529%

Temperature of Arkansas River,
taken 6:30 P.M., Aug. 24, 1888, middle of stream,
one quarter of a mile below upper bridge.

Temperature of the air = $77.33^{\circ} F$
Temp. water 5 ft below surface = $79.87^{\circ} F$
Temp. " at surface = $81.12^{\circ} F$

Temperature of river water from F. C. S. Laboratory Hydrant
Aug. ~~24~~ 25, 1888, 10 o'clock A.M.

Temp. of water = $81.0^{\circ} F$
Temp. of air = $81.4^{\circ} F$

The above are averages of a considerable
number of determinations, made with maximum &
minimum thermometers. J. P. Smith.

Aug. 22. 1888.

Arkansas River Water. Collected on Aug. 22. 1888, from hydant in A. G. Survey Laboratory, by R. N. Brackett. Stage of river (from U. S. Signal office)

2.4 Water slightly cloudy, but filtered clear through platted double thickness of German filter paper (No. 597).

Results as follows:

Total Solids: 54.6892 grains per gal. (70,000 grains)

Found	(grains per gal.)
Silica (SiO_2)	1.0185
Sulphuric acid (SO_4)	7.0890
Chlorine (Cl)	21.1600
Iron (Fe)	0.0213
Aluminium (Al)	0.0732
Calcium (Ca)	4.2774
Magnesium (Mg)	0.9421
Potassium (K)	0.4228
Sodium (Na)	14.5744
	<hr/> 49.5787

Carbonic acid,
calculated, CO_2 6.1018

	Probable combination	grains per gal.
Silica	(SiO_2)	1.0185
Ferrous Sulphate	(FeSO_4)	0.0577
Aluminium Sulphate	($\text{Al}_2(\text{SO}_4)_3$)	0.0306
Magnesium Sulphate	(MgSO_4)	4.7104
Calcium Sulphate	(CaSO_4)	0.9005
Sodium Sulphate	(Na_2SO_4)	3.2734
Sodium Chloride	(NaCl)	34.3023
Potassium Chloride	(KCl)	0.8152
Calcium Carbonate	(CaCO_3)	10.1697
		<hr/> 55.2828 g. per gal.

101.08% accounted for.

Analysis by R. N. Brackett & J. P. Smith.

Arkansas River Water.
Collected by R. N. Brackett, from A. G. Survey Laboratory
Hydrant, Dec. 20. 1888.

T.S.	} wt dish + "T.S." = 15.80105	
7.5000 g. per gal, on water bath		wt dish = 15.79355
		<u>0.00750</u>

Four litres of slightly opalescent water used for
determination of all, save alkalis & sulphuric acid.

Silica, SiO_2 . 0.9014 grains per gallon	}	wt c. SiO_2 + ft. p.	= 15.1255
		" cruc	= <u>15.0739</u>
		SiO_2 + ft. p.	= 0.051600
		ft. p.	= <u>0.000085</u>
		SiO_2	= 0.051515

Calcium Ca. 0.5435 grains per gallon	}	wt c. CaO + ft. p.	= 15.52450
		wt cruc	= <u>15.44675</u>
		wt CaO + ft. p.	= 0.077750
		ft. p.	= <u>0.000116</u>
		wt CaO	= 0.077634 g.

Magnesium Mg. 0.1299 grains per gallon	}	wt c. $\text{Mg}_2\text{P}_2\text{O}_7$ + ft. p.	= 15.48127
		cruc	= <u>15.44680</u>
		$\text{Mg}_2\text{P}_2\text{O}_7$ + ft. p.	= 0.034470
		ft. p.	= <u>0.000116</u>
		$\text{Mg}_2\text{P}_2\text{O}_7$	= 0.034354

Aluminium Al. 0.0293 g. per gal.	}	wt c. $\text{Al}_2\text{O}_3 \cdot \text{Fe}_2\text{O}_3$ + ft. p.	= 15.0932
		cruc	= <u>15.0742</u>
Iron Fe. 0.1925 g. per gal.	}	Fe + Al. ox. + ft. p.	= 0.019000
		ft. p.	= <u>0.000116</u>
		Fe_2O_3 , Al_2O_3	= 0.018884
		Al_2O_3 --	= <u>0.003165</u>
		Fe_2O_3 ---	= 0.015719

over

1/2 Litre for Sulphuric acid, + the alkalis.

$$\text{wt conc} + \text{Ba SO}_4 = 21.74844$$

$$\text{SO}_4 \text{ Sulphuric acid} \quad \text{wt conc} = 21.73970$$

$$0.6195 \text{ grains per gallon} \quad \text{Ba SO}_4 = 0.01074$$

$$\text{wt K. } 1/2 \text{ litre} = 0.001984 \text{ grammes} \quad \text{wt dish} + \text{Chlorides} = 15.82435$$

$$= 0.2777 \text{ grains per gallon} \quad \text{wt dish} = 15.79355$$

$$\text{KCl} + \text{NaCl} = 0.03080$$

$$\text{wt Na. } 1/2 \text{ litre} = 0.010619 \text{ grammes.} \quad \text{wt KCl} = 0.00379$$

$$= 1.4866 \text{ grains per gal.} \quad \text{NaCl} = 0.02701$$

$$\text{wt K}_2\text{PtCl}_6 + \text{conc. funnel} = 29.21265$$

$$\text{wt conc. funnel} = 29.20020$$

$$\text{wt K}_2\text{PtCl}_6 = 0.01245$$

Found.

Found.		Atomic weights used
Silica (SiO ₂)	0.9014	Si 28
Sulphuric acid (SO ₄)	0.6195	S 32
Chlorine (Cl)	1.6769	Cl 35.46
Iron (Fe)	0.1925	Fe 56
Aluminium (Al)	0.0293	Al 27.5
Calcium (Ca)	0.5435	Ca 40
Magnesium (Mg)	0.1299	Mg 24
Potassium (K)	0.2777	K 39.13
Sodium (Na)	1.4866	Na 23.04
CO ₃ (calculated)	1.7848	

Redetermination of Total Solids:

$$\text{wt d + D.M. } 250 \text{ cc} = 15.82380$$

$$\text{Total Solids} \quad \text{wt dish} = 15.79307$$

$$8.6044 \text{ grains per gal. Int. D.M. } 250 \text{ cc} = 0.03073$$

9.33% is water of crystallization.

$$\text{Anhydrous total solids on water bath} = 7.8016 \text{ g. per gallon.}$$

Probable combination.	Grains per gallon
Silica - (SiO_2) - -	0.9014
Ferrous Sulphate (FeSO_4)	0.5225
Aluminium Sulphate ($\text{Al}_2(\text{SO}_4)_3$)	0.1827
Potassium Chloride (KCl)	0.5293
Sodium Chloride (NaCl)	2.3513
Magnesium Sulphate (MgSO_4)	0.1761
Sodium Carbonate (Na_2CO_3)	1.2905
Magnesium Carbonate (MgCO_3)	0.3356
Calcium Carbonate (CaCO_3)	1.3587
	<hr/>
	7.6481

98.03% of Total Solids accounted for.
R. N. Brackett.

8
Analysis of foam collected on Arkansas River,
by Mr. Chas. C. Taft, Nov. 16. 1888.

Aq. sol. of Foam,

Gave, H_2SO_4 , extremely faint reaction,
" , HCl , distinct reaction.
" , Fe , good reaction.

Evaporated aq. sol. to dryness; left yellow residue, which was odorless, but when treated with distilled water had a disagreeable odor (organic matter).

Tested aq. sol. with $FeSO_4 + H_2SO_4$ for HNO_3 , and found none.

Ignited the yellow residue (of aq. sol.) with Bunsen burner; it turned brown, & gave off white fumes, and an odor of burnt organic matter.

On further ignition it turned black, and finally all the black matter burned off leaving a residue partly white, & partly brown, (oxide of iron). Part treated with dil. HCl gave a flame reaction for Sodium & Potassium.

Part insol in water treated with conc. HCl & boiled some time:

I Solution, contained } Fe , considerable,
 } Mg , large quantity.

II insoluble in conc. HCl .

L~~o~~ No 283. Dengler's Native Wine, Cynthiaana,
F. Dengler, Hot Springs, Ark.

Sent by Col. Locke to Dr. J. C. Branner. July 22. 1889.

Distilled two portions of 100 cc each,
found percent of Alcohol 10.50%

- Lab No 38 - White natural Plaster Sulphur J.W. C. W. H. Mitchell
 Lab No 39 Pink " " " " " "
 " " 40 - Smiths Fork - Keaton Co., J.C.B.
 " " 41 - Montgomery Mine manganese clay, R.A. Pennington Collector.
 " " 42 - Sand in Birmingham clay pan J.B. Carter (J.C.B.)
 " " 43 - Hackitt City, McKenna Clay. (J.C.B.)
 " " 44 - Ind. Ter. line, Hartshorn coal mine clay, Doyle (J.C.B.)

~~Lab No 23-44 vacant Dec. 29, 1890~~
RNB

~~Lab No 33-44 inclusive~~
Feb. 3 '91

Lab Nos vacant ⁴¹⁻ 39-44 inclusive
March 21, 1891

Note 7 m. west of Forest school - used by the school. ←

- | | | | |
|-------------|--|-----------|--------|
| Lab no. 23- | "438 Dylle in creek w. of Bains home" | J.F.W. | (None) |
| " " 24- | "287 hill back of John Moore's." | J.F.W. | (None) |
| " " 25 | "Siderite papulose e. of D. Thornton's home" | J.F.W. | (None) |
| " " 26 | "Red label Dylle Hot Springs" | J.F.W. | (None) |
| " " 27 | "Pisolite II. N.W. N.E. Sec. 9, 1S, 12W. | J.F.B. | (None) |
| " " 28 | "Pisolite A. N.W. SW. " " " | J.F.B. | (None) |
| " " 29 | "Pisolite C N.E. NW. " " " | J.F.B. | (None) |
| " " 30 | "Manganese ^{silicate} Plano Co., Texas. | R.A. J.F. | (None) |
| " " 31 | "Limestone 36-18N., 13W. | J.F.W. | RNB |
| " " 32 | " " Carey Creek | J.F.W. | RNB |
| " " 33 | Monticellite - Williams Pt. | | |
| " " 34 | Manganese ore - Pulaski Co. - Compact - Penrose | | |
| " " 35 | Poor Manganese ore - Pulaski Co. Penrose | | |
| " " 36 | Lyons Co limestone - J.C. Hopkins | | |
| " " 37 | Dylle - Ward's Quarry - J.F.W. | | |

List of Laboratory Numbers.

Lab. No.	Location	Address
1	San. anal. well	206 Centre st
4	San. anal. well	521 W. Third st. h. Rock.
2	"	506 State st.
3	"	506 Centre st.
5	"	(p) State House yard
6	"	Mulligan and Bailey
7	"	Peabody school
8	"	Mulligan - 2nd Spring st.
9	"	St. Steele school
10	"	Scott st school
11	"	206 Centre st.
12	"	Sherman st school
13	"	Opp Forest Grove school
14	"	506 State st.
15	"	Creston State house
16	"	NE on Spring 11th st.
17	"	504 Centre st.
18	"	St. Marshall
19	"	St. Johns College
20	"	Peabody school
21	"	St. Steele school
22	"	St. Steele school
23	"	St. Steele school
24	"	St. Steele school
25	"	St. Steele school
26	"	St. Steele school
27	"	St. Steele school
28	"	St. Steele school
29	"	St. Steele school
30	"	St. Steele school
31	"	St. Steele school
32	"	St. Steele school
33	"	St. Steele school
34	"	St. Steele school

List of holes (continued)

Dab NO.	35	San. anal. well	ne. cor Spring	45 th St.
"	36	"	Dr. H. H. Hales	8 th + 10 th Sts.
"	37	"	St. John's College	Rock
"	38	"	Ark. School for the Blind	"
"	39	"	Se. Scott	10 th St.
"	40	Vacant	Ark. River	near St. I. Mt. bridge
"	41	Vacant	Ark. river	"
"	42	Vacant	Ark. river	at mag boat.
"	43	"	well	near Scott's Fifth St.
"	44	"	"	Ark. Female College
"	45	"	Plant. Trapp's	St. South Supply
"	46	Complete	Mammeth Spring water.	Fulton Co.
"	47	"	Griffin Spring water.	White C.
"	48	"	Deacy Spring water.	"
"	49	"	Darling Spring water	St. Nebo
"	50	"	Ark. River water.	"
"	51	"	Chocolate Clay	Dardanelle
"	52	Partial	Rocky Comfort Clay	(Dollanville) Light
"	53	"	"	" - yellow warts.
"	54	Complete	Clay under choc. clay	Dardanelle.
"	55	"	Red river	Clay
"	56	Partial	Rocky Comfort clay	JCS Col. 32, 128. 32w
"	57	"	Rocky Comfort clay	(JCS Col) 21, 128. 32w
"	58	"	Rocky Comfort clay	(JCS Col) 20, 128. 32w
"	59	"	Rocky Comfort clay	(JCS Col) 32, 128. 32w.
"	60	"	Sticky Slough clay	(JCS) 32, 118., 28w.
"	61	"	Clay sur of ne. of section	36, 118., 29w. JCS,
"	62	"	Clay on road S. of Hope	Ark (JCS)
"	63	"	Clay sec. 21, 118., 28w.	(JCS)
"	64	"	Calc. clay. nor. gne. sec.	36, 118., 29w. (JCS)
"	65	"	Clay sec. 20, 118., 28w.	(JCS)
"	66	"	Red Slough Clay	sec. 32, 118., 28w.
"	67	"	Clay	sec. 34, 118., 29w. (JCS)
"	68	"	Clay near Poleon Walker's	sec. 20, 118., 28w. (JCS)
"	69	"	Clay sec. 13, 118., 29w.	(Stinson's) (JCS)
"	70	"	Brownston clay	Senior Co., (JCS)

71	Complete anal.	Clay Ranchois quarry	J.C.B.
72	"	(No. 1 Call) marl white C.	
73	"	(No. 2 Call) marl, St. Francis Co.	
74	"	(No. 4 Call) Greensand marl	"
75	"	(No. 6 Call) marl, Jefferson Co.	
76	"	marl Clark Co., (R. Hill, Col.) Macon	
77	"	"Blue" marl Clark Co., High Bluff (R. Hill)	
78	"	Shell marl Clark Co., Okalona (R. Hill)	
79	"	Greensand marl Hempstead Co., Wadington (R. Hill)	
80	"	"	"
81	"	Chalk, white cliff, Tattle River Co.	(R. Hill)
82	"	Rotten limestone, Hempstead Co., Burston	(R. Hill)
83	"	Chalk, Rocky Comfort - Little River Co.	(R. Hill)
84	"	Chalk, Conaugh series, Burack Co. Tenn.	
85	Quartz spec for Zinnel fossils	Brownsville (from pipe)	
86	Partial	Greensand Tattle River Co., Morris Ferry	(R. Hill)
87	"	Bat Guano, Independence Co., Ark.	
88	"	Chalk Rocky Comfort, S. of town equally	(J.C.B.)
89	"	"	"
90	"	"	"
91	"	"	"
92	"	White cliff Tunica	(J.C.B.)
93	"	"	(light color) (J.C.B.)
94	"	"	(dark color) (J.C.B.)
95	"	"	white cliffs below chalk, (J.C.B.)
96	"	"	Base of white cliff (J.C.B.)
97	"	"	(J.C.B.)
98	Complete	Clay H. Smith Ketchum Iron Co's Shays	(J.C.B.)
99	"	Crawford Co., the Peude H. Smith	(J.C.B.)
100	"	Red Nova cutite Hot Spring, Fulton	
101	"	Pike Co., Perisothite	(J.C.B.)
102	"	Gray Blue Sycamore Little Rock	(J.C.B.)
103	"	White Nova cutite Hot Spg.	(J.C.B.)
104	"	Eleuthite Sycamore, Maquokere	(J.C.B.)
105	"	Gray sycamore Little Rock	(J.C.B.)
106	"	Vein of Eleuthite sycamore Maquokere	(J.C.B.)

Lab No 107 - Determination of Min. Hot Springs.

" " 108 -

"	"	109 -	Complete anal.	Shale Akron Ohio (C. E. Clapp)
"	"	110 -	"	Shale Higginville Ark. (J.C.B.)
"	"	111 -	"	Ark. River water, Dec. 20/88. (R.C.B.)
"	"	112 -	"	Regge soil St. Francis Co. (R.C.B.)
"	"	113 -	"	Surface soil Prairie Goodwin (R.C.B.)
"	"	114 -	"	soil Prairie Goodwin (R.C.B.)
"	"	115 -	"	Bottom soil Prairie Goodwin (R.C.B.)
"	"	116 -	"	"Hard Pan" Prairie Goodwin (R.C.B.)
"	"	117 -	"	Clay Ft. Smith Frisco Ky. (J.C.B.)
✓	"	118 -	Partial	Water, Watahula Spring Franklin Co. (Ar.)
"	"	119 -	Complete	Kethia Spring, Hempstead Co. (J.C.B.)
"	"	120 -	Proximate	Coal Reclatz's drift Franklin Co. (A.W.)
"	"	121 -	"	" Moomaw's pit, Sebastian Co. (A.W.)
"	"	122 -	"	" Shewis' pit, Franklin Co. (A.W.)
"	"	123 -	"	" Sullivan & Bolser's pit, Crawford Co. (A.W.)
"	"	124 -	"	" Carnall's drift, Sebastian Co. (A.W.)
"	"	125 -	"	" Widow Wath's slope, " " (A.W.)
"	"	126 -	"	" Petty's slope, " " (A.W.)
"	"	127 -	"	" Boegwin & Reutzle shaft, " " (A.W.)
"	"	128 -	"	" Kansas & Texas Coal Co. Hackett City (A.W.)
"	"	129 -	"	" Gwynn's drift, Sebastian Co. (A.W.)
"	"	130 -	"	" Clairborne's pit, " " (A.W.)
"	"	131 -	"	" Huntington slope, " " (A.W.)
"	"	132 -	"	" McConnell's shaft " " (A.W.)
"	"	133 -	"	" Hawkreaver's well (A.W.)
"	"	134 -	"	" Liguite Van Sichel mine Orachata. (Full)
"	"	135 -	"	Coal Oulka Coal, Coal Hill Johnson Co. (A.W.)
"	"	136 -	"	" Stewell & Co. " " " " (A.W.)
"	"	137 -	"	" Philpott shaft Johnson Co. (A.W.)
"	"	138 -	"	" On the slope, Pope Co. (A.W.)
"	"	139 -	"	" Mason's drift, Johnson Co. (A.W.)
"	"	140 -	"	" Stewell & Co. Eureka, Johnson Co. (A.W.)
"	"	141 -	"	" Felker slope, Coal Hill (A.W.)
"	"	142 -	"	" Fourche Mt. Eagle Gap S. Jones.

Lab No. 143	- Proximate anal.	Coal	Barley Shaft, Logan Co.	(A.W)
" " 144	- " "	"	Greenwood Shaft	(A.W)
" " 145	- " "	"	Shinn mine, Pope Co.	(G.S. Harris)
" " 146	- " "	"	Gaves's bank,	(A.W)
" " 147	- " "	"	Page's shaft,	(A.W)
" " 148	- " "	"	Sam Carlan's	(A.W)
" " 149	- " "	"	Pound Mt., White Co.	(J.C.B.)
" " 150	- Assay for Gold & Silver	Pyrites	Peter's well	(J.C.B.)
" " 151	- " "	Copper (malachite in ore)		(S.W. Dale)
" " 152	- Exam. odor	Ark. River water		(R.F.B)
" " 153	- " water for boilers		Searcy	(J.S. Skellern)
" " 154	- " Gating - rock		Saline Co.	(S.P. Brush)
" " 155	- " meliferous pyrites		Saline Co.	(Hopkins)
" " 156	- " Pyrites &c		Clark Co.	(C.P. McGumrey)
" " 157	- " Chert			(J.C.B)
" " 158	- " Spec. from Gypsum Bluff			(R.F. Hill)
" " 159	- " barytes		Polk Co.	(A.W)
" " 160	- " white psidolite			(J.C.B)
" " 161	- Partial anal.	Greensand		(R.F. Hill)
" " 162	- Alkalies in	Blue Ly.	T. Beck.	(J.C.B.)
" " 163	- Assay - nickel		Rabbit Foot mine	(J.B. Constock)
" " 164	- Assay - spec.		(Alfred Huh.)	
" " 165	- Partial - anal.	Ark. river sediment		(C.E. Saff)
" " 166	- San. anal. water		Hempstead Co.,	(John Wilson Jr)
" " 167	- Qual. anal.	concretion clay	under choc. clay	(J.C.B)
" " 168	- Deten. sand		" " " "	(J.C.B)
" " 169	- Assay	"Black Mud"	Hot Springs,	(D. Greaves)
" " 170	- Deten. sediment	Ark. river water,	hydrant.	(R.F.B)
" " 171	- Assay iron ore,		Johnson Co.	(H.J. Freeman) (A.W)
" " 172	- " " " "		" "	(J. Caldwell) (A.W)
" " 173	- Complete anal.	Clay	J.H. Smith Sp. Ketchan Co	(J.C.B)
" " 174	- " " " "		Pondus Harrison's Brick yd	(J.C.B)
" " 175	- " " " "		Psyll. brick yd J.H. Smith	(J.C.B)
" " 176	- Proximate		Lequite Van Sickle mine	(A.W)
" " 177	- " " " "		Beach drift Onacheta Co.	(A.W)
" " 178	- " " " "		Ark drift, Canada Couls	(A.W)

✓	Trab. No.	179	Shewanite anal. Moly. Coal Run Mt. White Co., (JCS)
"	"	180	Qual. anal. Aru. river water Oct 3, 1887 (C.R.V.)
"	"	181	Determ. sand in soil (R.C.C.)
"	"	182	Sp. gr. M. river sed. near Grotto May 2, 1888 (C.R.V.)
"	"	183	Sp. gr. " " " river bank. Nov 13, 1888 (R.C.C.)
"	"	184	Complete anal. Clay "Fl" St. Smith (JCS)
"	"	185	Qual. anal. ore (1051) (F.B.C.)
"	"	186	" " " (1014) "
"	"	187	" " " (1015) "
"	"	188	" " " (1016) "
"	"	189	" " " (1017) "
"	"	190	" " " (1028 + 1029) "
"	"	191	" " " (1033) "
"	"	192	" " " (1034) "
"	"	193	" " " (1035) "
"	"	194	" " " (1040) "
"	"	195	" " " (1061) "
"	"	196	" " " (1080) "
"	"	197	" " " (1089) "
"	"	198	" " " (1090) "
"	"	199	" " " (1094) "
"	"	200	" " " (1022) "
"	"	201	" " " (1030) "
"	"	202	" " " (1087) "
"	"	203	" " " (1133) "
"	"	204	" " " (1134) "
"	"	205	" " " (1108) "
"	"	206	" " " (1109) "
"	"	207	" " " (1111) "
"	"	208	" " " (1112) "
"	"	209	" " " (1114) "
"	"	210	" " " (1119) "
"	"	211	" " " (1127) "
"	"	212	" " " (1032) "
"	"	213	" " " (1103 + 1104) "
"	"	214	" " " (1106 + 1107) "

Tab. N ^o	Qual	anal.	ore	(No)	(Date)
215	Qual	anal.	ore	(1117 & 1118)	(7130)
216	"	"	"	(1022)	"
217	"	"	"	(1036)	"
218	"	"	"	(1164)	"
219	"	"	"	(1165)	"
220	"	"	"	(1120)	"
221	"	"	"	(1121)	"
222	"	"	"	(1091)	"
223	"	"	"	(1093)	"
224	"	"	"	(1041)	"
225	"	"	"	(1129)	"
226	Assay	one for	Gr. S.	(1011)	"
227	"	"	"	(1150)	"
228	"	"	"	(1003)	"
229	"	"	"	(1008)	"
230	"	"	"	(1021)	"
231	Sed.	disolved	with	Ark. river water	Oct 3/87 (C&J)
232	"	"	"	"	Oct 8/87
233	"	"	"	"	Nov. 8/87
234	"	"	"	"	Nov. 12/87
235	"	"	"	"	Dec. 7/87
236	"	"	"	"	Jan. 2/88
237	"	"	"	"	Jan. 13/88
238	"	"	"	"	Jan. 17/88
239	"	"	"	"	Feb. 4/88
240	"	"	"	"	Mar. 6/88
241	"	"	"	"	Mar. 9/88
242	"	"	"	"	Mar. 28/88
243	"	"	"	"	Apr. 9/88
244	"	"	"	"	Apr. 13/88
245	"	"	"	"	Apr. 14/88
246	"	"	"	"	Apr. 16/88
247	"	"	"	"	Apr. 18/88
248	"	"	"	"	Apr. 21/88
249	"	"	"	"	Apr. 28/88
250	"	"	"	"	Apr. 25/88

Lab. No.	251 - Sed. + dissolved matter	All river water	May 2 ^o / 88	(C.B.)
"	" 252 - " " " " " "	" " " " " "	May 3 ^o / 88	"
"	" 253 - " " " " " "	" " " " " "	May 21 / 88	"
"	" 254 - " " " " " "	" " " " " "	May 24 / 88	"
"	" 255 - " " " " " "	" " " " " "	June 15 / 88	"
"	" 256 - " " " " " "	" " " " " "	June 16 / 88	"
"	" 257 - " " " " " "	" " " " " "	June 18 / 88	"
"	" 258 - " " " " " "	" " " " " "	June 23 / 88	"
"	" 259 - " " " " " "	" " " " " "	June 27 / 88	"
"	" 260 - " " " " " "	" " " " " "	Aug. 18 / 88	"
"	" 261 - " " " " " "	" " " " " "	Aug. 29 / 88	"
"	" 262 - " " " " " "	" " " " " "	Sept. 4 / 88	"
"	" 263 - Complete anal.	Clay "C" Ft Smith		(J.C.B.)
"	" 264 - " "	Shale (Potter's clay)	Akron	(E.W. Claypole)
"	" 265 - " "	Shale Little Rock		(J.C. Branner)
"	" 266 - proximate analysis	Lignite, Goulet's Island		J.C.B.
"	" 267 complete anal.	clay Little Rock		W. Kennedy.
"	" 268 " "	shale Sect 6; 5 N; 10 W.		J.C. Branner.
"	" 269 " "	Ellington's Gas Well		J.P. Smith
"	" 270 " "	shale (Round Mt)		J.C. Branner.
"	" 271 " "	Kaolin (Pulaski Co.)		W. Kennedy.
"	" 272 qualitative anal of salts from	Shark's Cross Road		
"	"	Independence Co. H.P. H. Joblin, Batesville.		
"	" 273. Qual. anal.	Dickens Spring Mt Nels.		G.D. Harris
"	" 274. Partial anal.	Brown clay near Union Depot L.R.		W. Kennedy.
"	" 275. Quant. anal.	Natural Spring Water.		J.P. Smith
"	" 276 Complete anal.	Pottery clay.		W. Kennedy. (Benton)
"	" 277 " "	" " "		W. Kennedy. (")
"	" 278 " "	" " "		W. Kennedy (")
"	" 279 " "	" " "		W. Kennedy (Benton).
"	" 280 " "	clay Sweet Home Pulaski C.		W. Kennedy.
"	" 281 Partial	" " Little Rock		W. Kennedy.
"	" 282 Complete anal.	Dissintegrated syenite Sweet Home.		W. Kennedy.
"	" 283 natural wine -	Cynethium Alcohol.		
"	" 284 Qualitative test for Mn.			J.H. Means.
"	" 285 Qual. test of a slate for			T.C. Hopkins.
"	" 286 Complete anal.	"Soapstone" Clay		Maallevale J.C. Branner

- Lab No. 287. Limestone (Cyp.) Complete analysis Penrose.
- " " 288. Kaolin, section 16; 2S; 14W. (W. Kennedy).
- " " 289 Kaolin, section 15; 2S; 14W. (W. Kennedy).
- " " 290 "Melanite" J.C. Branner. *Iron ore* ? not melted
- " " 291 Limestone, crystalline, complete anal. (2) Dr. Penrose.
- " " 292 Limestone, cryst. (3) complete anal. Dr. Penrose R.A.F. Jr.
- " " 293 Limestone, cryst. (4) Complete anal. Penrose R.A.F. Jr.
- " " 294 Limestone, Cyp. (5) Complete anal. Penrose R.A.F. Jr.
- " " 295 Limestone Cyp. (6) Complete anal. R.A.F. Penrose Jr.
- " " 296 Limestone Cyp. (7) Complete anal. R.A.F. Penrose Jr.
- " " 297 Limestone Cyp. (8) Complete anal. R.A.F. Penrose Jr.
- " " 298 Water open well. Partial anal. Examination water. Cabot.
- " " 299 Button mine (9) Complete analysis. (R.A.F. Jr.)
- " " 300 Cason Property (10) ^{complete anal.} Sw. Sw 24-14-6 Button ore (R.A.F. Jr.)
- " " 301 Wren Property (11) ^{complete anal.} no. 4-14-7 (R.A.F. Penrose Jr.)
- " " 302 Cason Property (12) Complete analysis (R.A.F. Jr.)
- " " 303 Brooks mine drift. (13) Complete anal. R.A.F. Jr.
- " " 304 Mineral water & spring deposit, Hot Springs. (R.)
- " " 305 Woodsley's pottery clay, Benton. ^{complete anal.} Sect 1; 2S; 15W. Kennedy.
- " " 307 J.W. Hopkins sec 4, nw 1/4 sec 10, 15, 13 W. (Complete anal.) Kennedy.
- " " 306 Specimens for zinc J.P. Keil. J.C. Branner.
- " " 308 (Copper & Silver assay) Thor & H.F. Fletcher. Sept 23, 1889.
- " " 309. Iron determined in clay from bluff on White River. W. Kennedy.
- " " 310 - Qual. test of spec. from J.C.B. (Sept 30) for Zn. ^{botany for ZnCO₃}
- " " 311. Complete anal. Fire Clay, Chetenham Mo. (J.C. Branner.)
- " " 312 " " Pipe clay, " " (J.C. Branner.)
- " " 313 " " Limestone (30) (R.A.F. Penrose Jr.)
- " " 314. Sand determination in brick clay of Maj. Jesse Ross. (W. Kennedy)
- " " 315 " " clay from State ditch at Arkadelphia (W. Kennedy)
- " " 316. Complete anal. Kaolin Middle Pine Bluff Road. Sec 5, 18, 12W. (W. Kennedy.)
- " " 317 ~~Mn~~ ^{Iron} Manganese ^{J. Wm. Martin property} (R.A.F. Jr.) (14)
- " " 318 ~~Goconda Nevada~~ ^{Iron} ~~property~~ ^{Wm. Martin property} (R.A.F. Jr.)
- " " 319 " ~~Mn~~ ^{Iron} ~~property~~ ^{Wm. Martin property} (No 16) R.A.F. Jr.
- " " 320 " " Manganese bearing (?) sand Grubb property. R.A.F. Jr. No 17
- " " 321 " " Red Clay (No 18.) Brooks mine - shaft 1. R.A.F. Jr.
- " " 322 " " Purple black Mn. clay (No 19) R.A.F. Jr. Brooks mine.

Lab. No 323. ~~M~~ Manganese bearing sand (No 20). R.A.F.P.J.

- Lab. No 324, Complete anal. Decomposed Syenite (Sweet Home) J.C.B.
- " " 325 Complete anal. White clay, Ridgewood. J.C.B.
- " " 326 " " " " " " J.C.B.
- " " 327. Clay for white brick. Toronto, ~~Canada~~ Canada. Wm Kennedy.
- " " 328 " " Pottery clay, Sebastian Co. Wm Kennedy.
- " " 329 " " " " Van Buren, Wm Kennedy.
- " " 330 " " Ark. River, material supposed to make slip. W. Kennedy.
- " " 331 Kaolin Complete analysis Wm Kennedy. Am Japly hall.
(note 331 sent by Dr Brauner to J.C. Van Hook under no. 325.)
- " " 332 complete anal. Slip for Pottery, Albany. Wm Kennedy.
- " " 333 comp. anal. Reported Fire Clay. Wm Kennedy.
- " " 334 Clarksville Pottery clay Wm Kennedy.
- " " 335 partial anal. Crooked Creek, siliceous clay W. Kennedy.
- " " 336 John Foley, Pottery clay. W. Kennedy.
- " " 337. Climax Pottery clay W. Kennedy.
- " " 338 Stephenson's Pottery clay W. Kennedy.
- " " 339 Pottery clay, John Foley (Fire Clay) W. Kennedy.
- " " 340 Roe's Pottery clay, on old Boston Road W. Kennedy.
- " " 341 Siliceous clay, Washita Co. Camden Coal Co. A. Winslow.
- " " 342 ~~Not for~~ Climax fire brick & tile work bank. W. Kennedy.
- " " 343 Lower bed Climax tile & Pottery Co. W. Kennedy.
- " " 344 John Foley, slaty clay. W. Kennedy.
- " " 345 Stephenson's clay pit Brick clay. W. Kennedy.
- " " 346 Camden Lumber Co. Mill. Blue Clay. W. Kennedy.
- " " 347 Wm. Ross. Fire clay. W. Kennedy.
- " " 348 Clay overlying coal. Sec 31, 18N, 23W. W. Kennedy.
- " " 349. White clay, "Note book 100, pg. 79. J.C. Brauner"
- " " 350 Red clay, "Note book 100, pg. 75. J.C. Brauner."
- " " 351 Brown or gray Clay, Camden Coal Co. W. Kennedy.
- " " 352. Fire Clay. R.R. cut at Ozark. W. Kennedy.
- " " 353 Quartzite (No 1). West End of Quarry Mt. Hot Springs. L.S. Griswold.
- " " 354 Fine Washita, Sutton's quarry No 6 (and 2) L.S. Griswold.
- " " 355. S.E. 1/4 Sec. 29. 2S, 21W (and 3) L.S. Griswold.

- Lab. No. 356. Hard Washita. Barnes' big quarry (Anal 4) L. S. Griswold.
 " " 357. Red clay, Barnes' big quarry (Anal 5) L. S. Griswold.
 " " 358. Black Washita stone. Ten mile quarry. L. S. Griswold.
 " " 359. White Washita. Ten Mile quarry. L. S. Griswold.
 " " 360. Qual. anal. Water from Long Spring. Sect 19, N S, 24 W. J. C. Branner.
 " " 361. Clay from Spence Cr. (Anal 8) R. E. Call.
 " " 362. Clay from Harrisburg, (Hard pan clay Anal 10) R. E. Call.
 " " 363. Clay from Harrisburg, (Anal 14) R. E. Call.
 " " 364. Brick, from brick-yard at Panguald (Anal 15) R. E. Call.
 " " 365. Jonesboro, brick clay (Anal 16) R. E. Call.
 " " 366. Clay, Gainesville, ~~Truett~~ Truett Gravel Co. (Anal 19) R. E. Call.
 " " 367. Pink clay, Gainesville Ark. (Anal 20) R. E. Call.
 " " 368. Clay. R.R. cut of section. 3 mi N. of Jonesboro. (Anal 21) R. E. Call.
 " " 369. Gray Syenite. E 1/4 of N.E. 1/4, Sec. 28, 1 N, 12 W. (J. C. Branner).
 " " 370. Mottled Washita stone (Anal 8) L. S. Griswold.
 " " 371. Tertiary chert. Anal 9. L. S. Griswold.
 " " 372. Lignite, Butter, Clay County Ark. R. E. Call.
 " " 373. Black Arkansas stone. S.W. of S.E., sect 30, 28, 18 W. L. S. Griswold (10)
 " " 374. Gray Arkansas stone. Rockport saw-mill. (Anal 11) L. S. Griswold.
 " " 375. Complete anal. Reef-Rock, J. C. Branner.
 " " 376. Qual. Anal. Reef-rock, coating, J. C. Branner.
 " " 377. Comp. anal. "No. 75, series, Rep. J. C. Branner."
 " " 378. " " "Fd. soft calc. soil. J. C. Branner"
 " " 379. " " "Rapta, no. 78. J. C. Branner" (sol. matter).
 " " 380. Notebook 99, p. 26 Feb 3 1890. Bed B ^{Kaolin.} above hole J. C. Branner. Feb 10 1890. Sent J. C. Branner.
 " " 381. NW. of NW. of sec. 27, 1 N, 12 W. J. C. Branner. Clay sent S. J. C. Branner.
 " " 382. Complete analysis - Bolivian loess R. E. Call (no. 1). Soil.
 " " 383. Complete analysis - Paraguaid soil. R. E. Call (18).
 " " 384. Complete analysis - Harrisburg soil (17) R. E. Call
 " " 385. Complete analysis - Harrisburg soil (9) R. E. Call
 " " 386. Other - Mittleburg (4) R. E. Call
 " " 387. Complete analysis soil 1 mi. S.E. of Mariana R. E. Call
 " " 388. Complete anal. soil no 2 surface W. Manning.
 " " 389. Complete anal. soil no 3 surface timber soil Manning.
 " " 390. " " soil no 5 prairie subsol - Manning.
 " " 391. " " soil no 4 timber subsol " "

- Lab no 392 - dark gray soil. No 1 Fettle Timber soil W. Manning.
 Lab no 393 - Kaolin. Sec 19 S 5., 24 W J.B.
 Lab no 394 - Sand in Exps. G. Oakley, Ill. J.C.B.
 Lab no 395 - Iron ore NW 1/4 Sec. 1, 2 S., 14 W. Sabine Co. J.B.
 Lab no 396 - Iron ore NE. of SW. of section 24, 1 N., 14 W. Ratt J.B.
 Lab no 397 - Iron ore Iron Mt. Sec. 18, 2 N., 16 W. Ratt J.B.
 Lab no 398 - Iron ore N.W. of NE. Sec. 6, 3 S., 13 W. Turkey Iron Ratt J.B.
 Lab no 399 - Coke and coke next to Chllophorn.
 Lab no 400 - Complete analysis - ^{Sec. 30, 13 N., 7 W.} Limestone Crystalline J.C. Hopkins (No 3)
 Lab no 401 - " " Limestone S.E. S.E. Sec 6. 1 N. 11 W. J.C. Hopkins (No 5)
 Lab no 402 - " " " mid Sec. 4, 13 N., 6 W J.C. Hopkins (No 10)
 Lab no 403 - " " " N.E. Sec. 31, 15 N., 10 W. J.C. Hopkins (No 26)
 Lab no 404 - " " " NW SW. Sec 1, 16 N., 17 W. J.C. Hopkins (No 24)
 Lab no 405 - " " " Pinkin fork of mill C. J.C. Hopkins (No 64)
 Lab no 406 - " " " Gray in mill Creek J.C. Hopkins (No 65)
 Lab no 407 - Determin " of lime " light & dark gray equal parts. J.C. Hopkins (No 6)
 Lab no 408 - " " " " gray limestone (No 74) J.C.H.
 Lab no 409 - " " " " (No 68) J.C. Hopkins
 Lab no 410 - " " " Scintal red marble. J.C. Hopkins (No 67)
 Lab no 411 - Azulite L.R. locality Francis Williams -
 Lab no 412 (a) Limestone for lime. N.E. 21, 15 - 11 J.C. Hopkins (No 34)
 " " (b) " " " " " " " " " (34)
 " 413 " " " " " " " " " " (61)
 " 414 (a) " Coarse - Painter's Bluff top top - (23) J.C.H.
 " 414 (b) " fine - " " " " " "
 " 415 - Qual. test. McConnell's spring. -
 " 416 - Spec. from "Blue mud" J.C.B.
 " 417 Polishing Powder SE. of SW. of sec. 12, 4 S., 26 W. W.G.
 " 418 Inpho Boneca M - L. Exposed.
 " 419 Experiments with Chert (J.C. Branner)
 zinc mines, Gateria Kansas.
 " 420 Expts with - zinc - Joplin M. J.C. Branner
 " 421 Expts with stovaculite + Kolt K_2CO_3 . -
 " 422 Washed No 1 Grandprine Summit Pa National Kaolin Co
 " 423 Washed no 2 Grandprine Summit Pa National Kaolin Co.

- Lab No 424 Cude No 1 Brandywine Summit National Marble Co.
- " " 425 Cude No 2 Brandywine Summit Pa National Marble Co.
- " " 426 Decmp^d Clat? Upper Polk Bagon Independence Co. (R.A. J.P.P.)
- " " 427 " " Irons looking " " " " "
- " " 428 Pisolite (Madia) - N.E. 1/2 of N.E. 10 - 13W, 1S. (W. Meunier)
- " " 429 Pisolite Bek^{sta} 1931 + 1933 (J.C. Branner)
- " " 430 Pisolite Sta. 334 + 1/2 way to 3340. J.C. Branner
- " " 431 Pisolite Sta 4365 J.C. Branner
- " " 432 Manganese ore G.D. Keever place Independence Co. (R.A. J.P.P.)
- " " 433 " " Penn Place " " "
- " " 434a) Black Pisolite Sec. 3, 28, 14W J.C.B.
- " " 434b) Red P. slate Sec. 3, 28, 14W J.C.B.
- " " 435 Red Pisolite Sec. 9, 28, 14W J.C.B.
- ~~" " 436 (441) Manganese ore North Mt. Montgomery Co. R.A. J.P.P.~~
- ~~" " 437 (442) " Cassatot Mt. Polk Co. " "~~
- " " 438 Sept^{test} in prep. alum from (440) J.C.B.
- " " 439 - water 427 E 22nd St. J.C.B. Anal. anal.
- " " 440 Exp't. in preparation of alum (Bauxite) J.C.B.
- " " 441 Manganese ore North Mt. Montgomery Co. R.A. J.P.P.
- " " 442 " " Cassatot Mt. Polk Co. " "
- " " 443 ~~Rock - Manganese of ^{Alum} ^{Penrose} ^{D. Williams} (sent to W. Meunier)~~
- " " 436 - marble Red Carb. J.C. Hopkins Sent to W. Meunier.
- " " 437 " Rhode's mill " " " "
- " " 438 Ir. and Limestone " " " "
- " " 444 - Marble (100) J.C. Hopkins.
- " " 445 - Limestone (marble) (77) J.C. Hopkins
- " " 446 - " " (98) " "
- " " 447 - marble (101) " "
- " " 448 - " (110 1/2) " "
- " " 449 - Test for Strontium (112) " "
- " " 450. Mn ore Saponero, Colo. R.A. J.P.P. Jr. (Oct. 1901)
- " " 451. Lewis Lands Gunnison Co., Colo. R.A. J.P.P. Jr. (Oct. 1901)
- " " 452 - Steubens Valley, Colo. " (Oct. 1901)
- " " 453 - Red Rock Bay of San Francisco " (Oct. 1901)
- " " 454 - Sullivan Claim - Hot Spring Co. Ark " (Oct. 1901)
- " " 455 - Roneston - Recto. Claim Garland Co. R.A. J.P.P. Jr. (Oct. 1901)

Leaf No 456	Live Mt. Pike Co.	R. F. P. Jr.	Sent W. A. Noyes
" " 457	Bad Jones claim	"	" " " " " " " "
" " 458	Bad Jones claim	"	" " " " " " " "
" " 459	Fancy Hill Montgomery Co.	"	" " " " " " " "
" " 460	McKinley Mt.	"	" " " " " " " "
" " 461	Iron Peak Mt. Polk Co.	"	" " " " " " " "
" " 462	London Code	"	" " " " " " " "
" " 463	Manganese Mt.	"	" " " " " " " "
" " 464	Kawa - Kowda - for me	"	" " " " " " " "
" " 465	Black quartz stained - for me	"	" " " " " " " "
" " 464	Blk washita Longway L.S. Griswold.		
" " 465	Blk Arkansas L.S. Griswold.		
" " 464	Felspan - blue by. wash Bygman. JPS Collect	Sent Noyes Oct. 6 '90	
" " 465	Sta 378 - Coarser (Collect JCB)	"	" " "
" " 466	Sta 4779 Finer	"	" " "
" " 467	Blairstown - bit silicate? - (R. F. P. Jr)		
" " 468	Quartz crystals near Cadiz		
" " 469	Quartz crystal chips - (J.B. Comstock see Expts ^{sketches} ^{notes} in K017)		
" " 470	Richard's Mine 12 m. E of Tracy California. R. F. P. Jr		
" " 471	Galena Nevada. Manganese R. F. P. Jr.		
" " 472	Expos - actin water on silica (R. F. P. Jr)		
" " 473	Garnett - clay JCB. (sent Wash.)		
" " 474	Pulaski Co. Va on R. F. P. sent Wash.		
" " 475	Moulton's "granite" (J.W. J23) sent Wash.		
" " 476	Big Iron Spring, Hot Springs Coll'd by R. F. P.		
" " 477	Rector	"	" " " " " " " "
" " 478	Alum	"	" " " " " " " "
" " 479	Old Hale	"	" " " " " " " "
" " 480	Ral	"	" " " " " " " "
" " 481	Egg	"	" " " " " " " "
" " 482	Rockefeller Bottom Egg Sp	"	" " " " " " " "
" " 483	Magnoia Spig	"	" " " " " " " "
" " 484	Happy Hollow (East)	"	" " " " " " " "
" " 485	" " Chalybe	"	" " " " " " " "
" " 486	Hot Springs City water	"	" " " " " " " "

- Lab. No. 487 - Dripping Spring (Grandm. Chase) - Coll. by R. N. B.
- " " 488 - Red Chalybeate " " "
- " " 489 Mountain Valley Water Coll. by E. S. Griswold.
- " " 490 - Feldspar from Grey Granite (Lab. No. 465 from Sta 3178)
300 ft same road to north from quarry 3 ft deep
Fouché Cove - J. Brown Collector.
- " " 491 - { Elaeolite Syenite from Nethercutts quarry
2 S., 14 W., NE quarter SE. quarter Sabine
Co., N.A. Drake Collector.
- " " 492 - Magnet Cove near Sta 15263 (317) (J.W.)
- " " 493 - Calcite Senator Redmine -
- " " 494 - specimens from Hon. S. C. Abbott.
- " " 495 - Iron Ore Hon. J. B. Green.
- " " 496 - specimens from Hon. Lawrence Russell.
- " " 497 - Union County Clay sent via N.P.C., Dec 1890
- " " 498 - Gray firsolite sent via N.P.C., Oct 13 '90
- " " 499 - Galena Bentonite Feb 20 '91
- " " 500 - Iron ore Senator Crowley -
- " " 501 - Mn Garnet (1) Kothmann mine Texas (Penrose)
- " " 502 - Mn ore Spiller mine, Texas (Penrose)
- " " 503 - Mn ore - Southern mine Ark. (Penrose)
- " " 504 - Mn Garnet (2) Kothmann mine, Texas (Penrose)
- " " 505 - Clay - Womack - Benton, Sabine Co. (J.C.B.)
- " " 506 - Mn ore Cimora mine Tex (Penrose R.A.P.)
- " " 507 - Iron ore - N. part Lafayette Co., (Hon. H. Sena) (J.C.B.)
- " " 508 - Clay Cleburne Co. (J.P. Foster) (J.C.B.)
- " " 509 - Rhodomite Sonora California (Penrose)
- " " 510 - Imported pulverized fuller's clay. (Olson)
- " " 511 - Ground fuller's clay 2 W. of S.E. of sec. 8 15, 13 W. near Alameda (Olson)
- " " 512 - Raw fuller's clay " " (Olson)
- " " 513 - Mn ore C. L. M. Co (Penrose)
- " " 514 - " " W. & M. Co (Penrose)
- " " 515 - " " C. L. M. Co. (Penrose)
- " " 516 - Red clay's N.E. - 24 - 1 N. - 14 W. (Penrose)
- " " 517 - Massicot (H.D.) Dup. Co. (J.C.B.)
- " " 518 - Alkalies in Feldspar, Polack Sulphur (J.W.)

Lab. No. 519 -

(J. F. Williams. Coll)

- " 520. water 95, 7 W. Sec. 20 Lincoln Co., (J. C. Hendrick. Coll)
- " 521 - El. h. dr. type "granite" March Mt. Reg., J. F. Williams
- " 522 - Howard Minwells No. 1 - Collector J. F. Means
- " 523 - " " " No. 2 " "
- " 524 - Carlsbad Spud salts - J. C. Brauner furnishes
- " 525 - Tarrant's Selby aperient " "
- " 526 - Armstrong Spring, White County, Coll. J. F. Means -
- " 527 - J. F. Mumfrees water, Coll. by water, Dix.
- " 528 - River clay - Mitchell Lumber Co. 20 1/4, Sec. 23, 1 W. 13 W
- " 529 - Deposit - Big Iron Bath House R. R.
- " 530 - Tufa - E. of Arlington Hotel - Hot Springs, Ark., R. R. B.
- " 531 - Coal - S. C. Martin, Pine Bluff, Ark.
- " 532 - Old Kentucky Coal Orchard salts J. C. B.
- " 533 - Total solids in 3 Polart Sulphur Springs. Collected J. F. Means.
- " 534 - Sec. 36, (S. E. 1/4 of the S. W. 1/4 of) near Howe's pottery. (R. E. Call)
- " 535 - Kaolin - pure - impure Boxley Newton Co. (J. C. B.)
- " 536 - Artesian well, Little River County, Ark. (Hale)
- " 537 - Eureka shale - green, J. C. Hopkins.
- " 538 - Eureka shale black, J. C. Hopkins
- " 539 - Clay limestone - Dallas Co., Ark. (R. A. F. Penrose Jr)
- 540 - well water 2201 Rock St., Little Rock, Ark. A. H. Leslie.
- 541 - Fin silica in black crystalline rock (J. C. B.)
- 542 - Decomp. product clay limestone - Dallas Co. Ark. (R. A. F. Penrose Jr)
- 543 - Glauconite - Dallas Co. Ark. (R. A. F. Penrose Jr)
- 544 - Decomp. product - Glauconite Dallas Co. Ark. (R. A. F. Penrose Jr)
- 545 - Limestone (No. 135) J. C. Hopkins, note book 137 pg. 59
- 546 - Limestone (No. 139) J. C. Hopkins, note book 138 pg. 13.
- 547 - material from Ash Cave Grav. analysis (No 153) J. C. Hopkins
- 548 - Iron ore 8 mi. n. of Newhensville, Lafayette Co., (R. A. F. Penrose Jr)
- 549 - " " " " " " " " " "
- 550 - " " Nevada Co., Good ore, (R. A. F. Penrose Jr)
- 551 - Yellow hematite 5 mi. n. of Camden, Madison Co. (R. A. F. Penrose Jr)
- 552 - Iron Brown's Conglomerate " " " "
- 553 - Iron ore "shaly ore" Nevada Co., R. A. F. Penrose Jr

- Lab. No.
- 554 - Earthy ore (iron) Oswald's Mill, Dallas Co., (Ra F. F. Jr)
- 555 - Glossy blk ore, " " " " "
- 556 - Rough Glauconite " " " " "
- 557 - Sandy ore Nevada Co. " " " " "
- 558 - Sandy ore from mines - Nevada Co. " " " " "
- 559 - Conglomerate ore - " " " " "
- 560 - Sandy ore Boyd Farm Lafayette Co. " " " " "
- 561 - Boyd Farm Lafayette Co. Shaly ore. " " " " "
- 562 - Rectifiers Clay - Niemeyer (J. C. Beall.) " " " " "
- 563 - Nearly white clay - bot well 20' deep. Sec. Cor Sec. 16, 45, 11 W. (D. J. S.)