MAP No. W-0018

STATE: Iowa	COMPANY: Bedford
COUNTY: Taylor	FARM: (City) Well — WELL NO.
T. / R.	CONTRACTOR: J.P. Miller Co.
	COMMENCED: 1908
	COMPLETED: 1909
	REMARKS: Sample Range 38'-2400'
ALTITUDE: 1095'	
PRODUCTION	

CASING RECORD

	10"
	8¼"
20"	6⅝"
15½"	5 3/16"
12½"	

SHOT QUARTS BETWEEN

FORM 186—For Sale by Mid-West Printing Co., Tulsa

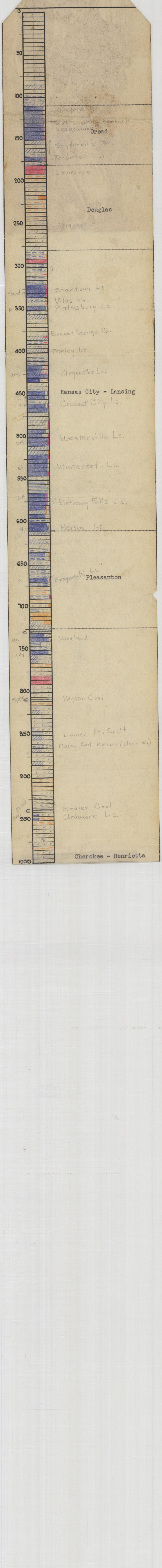
Drift (38')
38'
100
Fusulinids
200
Brn. sh.
300
Sphalerite zone
400
Ostracods
Fusulinids
500
Ostracods
Goniatite + Brach Sh.
Penn. (1312')
600
Sidero-dolo.
Mo. Series
Des./M. Ser.
Fusulinids
Ferro-dolo.
700
800
900
1000
Clastic dolo.
" "
1100
Conglomerate Dolo.
H2O 1180'-1228'
1200
glauc.
dolo. conc.
1300
1345'
3" Pipe to 1008'
1400
Chert 35%
1500
Chert 70-95%
5-45%
H2O 1560'-1589'
S.H. 298' - Salty
355'
Miss. (185')
1600
oolitic
sand
Sh.
1655'
Kinderhook
1690
1700
Dev. 130'
1800
1825'
1835'
Hematite colored
1900
Euhedral calc. romb.
Water
Silur (325')
2000
H2O 2020'-2168'
glauc.
N.S.
2100'
100
200
Sil. (250')
300
T.D. 2400'
400

MISSOURI BUREAU OF GEOLOGY & MINES, ROLLA, MO.

MO SURVEY Nº 4830	OWNER City of Bedford
COUNTY Taylor	FARM / WELL Nº
T 68 N / R 34 W	DRILLER
	DATE 1909
	ELEVATION / PRODUCTION
	SAMPLES STUDIED Hundhausen - Grohskopf

REMARKS

Samples from A. C. Trowbridge, May 1938.



El. of old Bedford city water well

= 1099.9 = 1100

Bedford

Extra analyses made on Dr. Testers suggestion —

1650 - 1655
1655 - 1660
1695 - 1700

Pannel

Punched FCH

WRD Exp. (CW)
Aug. 1964

Verified PMJ

U. S. DEPARTMENT OF THE INTERIOR — GEOLOGICAL SURVEY

Water Resources Division Well Schedule Form

MASTER CARD

Record by D. AARONSON Source of data FILE Date 8/2/65 Map COUNTY HWY 1:63,360

State IOWA [16] County (or town) TAYLOR [87]

Latitude: 40 40 02 N (deg min sec) Longitude: 094 42 41 (degrees min sec) Sequential number: 1

Lat-long accuracy: 2 T. 68 S, R. 34 W Sec. 26, SESE¼, NENW¼, SE ¼ 5

Local well number: 068 34 W 26 d b a d d Other number: W-0018 (B&M)

Local use: 00018 CITY 1 Owner or name: CITY WELL NO. 1

Owner or name: BEDFORD Address: BEDFORD, IA

Ownership: (C) County, (F) Fed Gov't, (M) City, (N) Corp or Co, (P) Private, (S) State Agency, (W) Water Dist [M]

Use of water: (A) Air cond, (C) Comm, (D) Dewatering, (F) Fire, (H) Dom, (I) Irr, (N) Ind, (P) F-S, (S) Stock, (T) Instit, (U) Unused [P]

Use of well: (A) Anode, (D) Drain, (G) Seismic, (O) Obs, (P) Oil-gas, (R) Recharge, (S) Spring, (T) Test, (U) Unused, (W) Withdraw, (X) Waste, (Z) Destroyed [W]

DATA AVAILABLE: Well data [5] Freq. W/L meas.: NONE [N] Field aquifer char.

Hyd. lab. data:

Qual. water data; type:

Freq. sampling: Pumpage inventory: yes no, period:

Aperture cards: yes

Log data: DRILLER'S LOG [D]

WELL-DESCRIPTION CARD

SAME AS ON MASTER CARD Depth well: 2400 ft 2400 Meas. rept. [6]

Depth cased: (first perf.) ft Casing type: ; Diam. in accuracy

Finish: (C) porous concrete, (F) gravel w. (perf.), (G) gravel w. (screen), (H) horiz. gallery, (O) open end, (P) perf., (S) screen, (T) sd. pt., (W) shored, (X) open hole, (Z) other

Method Drilled: (A) air rot, (B) bored, (C) cable, (D) dug, (H) hyd rot., (J) jetted, (P) air percussion, (R) reverse rotary, (T) trenching, (V) driven, (W) drive wash, (Z) other

Date Drilled: 1909 [9 0 9] Pump intake setting: ft

Driller: J. P. MILLER

Lift (type): (A) air, (B) bucket, (C) cent, (J) jet, (L) multiple, (cent.), (M) multiple, (turb.), (N) none, (P) piston, (R) rot, (S) submerg, (T) turb, (Z) other [D] Deep Shallow

Power (type): diesel, elec, gas, gasoline, hand, gas, wind; H.P. Trans. or meter no.

Descrip. MP LSD ft above below lsd, Alt. MP 1100

Alt. LSD: 1100 [1100] Accuracy: (source) ALTIMETER [7]

Water Level ft above below MP; Ft above below lsd Accuracy:

Date meas: Yield: gpm Method determined

Drawdown: ft Accuracy: Pumping period hrs

QUALITY OF WATER DATA: Iron ppm Sulfate ppm Chloride ppm Hard. ppm

Sp. Conduct K x 10^6 Temp. °F Date sampled

Taste, color, etc.

068-34W-26 dbadd

Well Number 40 40 02 (N/S) 034 42 71
d m s d m s

HYDROGEOLOGIC CARD

SAME AS ON MASTER CARD (1, 19)

Physiographic Province: CENTRAL LOWLAND 12 (20, 21) Section: DISSECTED TILL PLAIN E (22)

Drainage Basin: PLATTE 31C (23, 25) Subbasin: _____ (26)

Topo of well site: (D) local depression, (F) flat surface, (H) hilltop, (S) hillside, (T) terrace, (V) valley flat, _____ (27)

MAJOR AQUIFER: MISSISSIPPIAN (system) MIDDLE (series) M2 (28, 29) BURLINGTON LS (aquifer, formation, group) 0B (30, 31)

Lithology: COARSE LIMEST. 4V (32, 33) Origin: MARINE 6 (34) Aquifer Thickness: _____ ft

(35, 37) Length of well open to: _____ ft (38, 40) Depth to top of: 1570 ft 457 (41, 43)

MINOR AQUIFER: _____ (system) _____ (series) (44, 45) _____ (aquifer, formation, group) (46, 47)

Lithology: _____ (48, 49) Origin: _____ (50) Aquifer Thickness: _____ ft

(51, 53) Length of well open to: _____ ft (54, 56) Depth to top of: _____ ft (57, 59)

Intervals Screened: _____

Depth to consolidated rock: _____ ft (60, 63) Source of data: _____ (64)

Depth to basement: _____ ft (65, 68) Source of data: _____ (69)

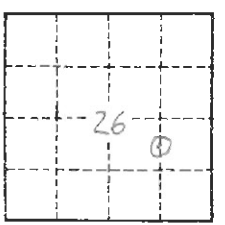
Surficial material: _____ (70, 71) Infiltration characteristics: POOR (72)

Coefficient Trans: _____ gpd/ft (73, 75) Coefficient Storage: _____ (76, 78)

Coefficient Perm: _____ gpd/ft^2; Spec cap: _____ gpm/ft; Number of geologic cards: _____ (79)

ASING:

NO INFORMATION



IOWA GEOLOGICAL SURVEY
In Cooperation with U. S. Geological Survey

W-6018

RECORD OF WELL

Location:

Town: Bedford (N E) (S W); County Taylor

C EL NW-SE sec. 26 T. 68 N., R. 34 W. Benton Twp.

Well name and number Bedford City well

Owner City Address

Tenant Address

Contractor J. P. Miller Address

Drillers

Drilling dates 1908-1909

Well data:

Elevations: Drilling curb 1100 feet; Land surface feet

Determined by H. G. N.

Topographic position

Total depth: Reported 2400 feet; Measured feet

Drilling method

Hole and casing data

(Give amount, size, kind, and depth of all casing; type and position of seals and packers; cementing; how finished--perforated pipe, screen, gravel pack, open hole, etc.)

Original depth to water ft. above below Date

Original elevation of water level ft.; Source of data

Sources of water: Principal 1570-1580 - Burlington; Others

Production data: Date _____

Static depth to water _____; Measuring point _____

Pumping level _____ at _____ g.p.m.

_____ _____

_____ _____

_____ _____

Specific capacity _____ g.p.m. per ft. drawdown; Temperature _____ °F.

Pump data: Type pump _____; Column. Dia. _____ Length _____

Cylinder or bowls: Dia. _____ Length _____; Suction pipe _____

Power _____; Airline _____

Estimated rate of production: _____ g.p.m. for _____ hrs. a day

Use of water _____

WATER ANALYSES (in parts per million)

Date sampled				
Sampled by				
Total solids				
Insoluble matter				
Alkalinity (Meo)				
Alkalinity (Phn)				
pH				
$Fe_2O_3+Mn_2O_3+Al_2O_3$				
Alkali as sodium				
Calcium				
Magnesium				
Iron (unfiltered)				
Manganese				
Nitrate				
Fluoride				
Chloride				
Sulphate				
Bicarbonate				
Hardness (ppm)				
Hardness (gpg)				

Remarks _____

Laboratory data: Sample storage location _____

Sample range _____ No. spls. _____ No. dupls & cond. _____

Spls. prepared by _____ Washed range _____ by _____

Driller's log and cond. _____

Insoluble residues: Prepared by _____ Studied by _____ Strip log _____

Microscopic study Huff, Mc Elwee strip log Huff, Mussini, Elwee

Gen. log _____ Correl. by Huff, Mussini, Elwee

WATER LEVEL DATA

Measuring point _____

Date	Depth to water	Altitude	Remarks

REMARKS

Water encountered — wet

1180-1228 — sandstone — 90

1560 - 1580 — 298 — Large amount of water salty?

1920 2005 — 265 (after pump test)

2020 - 2168 — salty

Bedford —

Water from 1570 – 1580

No's represent top of sample or interval in this well. (?)

W-0018 Hamilton

Name of Well Bedford Sheet No. 1

Depth Range 0-100 Scale: 1 inch=10 feet

Curbeker = 1098'

Log

0

C. AI.

38

Penn. (1322)

44

C. AI

50

C. AI. 55

C. AI. 65

75

Trenton

90

C. AI.

100

(?) ls. gray to wh; xln, fine to med grain Gray-blue calc sh. here as thin seams. Small pyrite specks in ls. Ramifying calcite structures in ls. Pyrite decomposed to Iron oxide and sulfur. Bl. Carb. Structures.

ls. gray-blue to wh; xln; fine to med; Soluble with 5% silt residue; Contains irregularly round calcite particles highly xln. Ramifying calcite structures.

Sls + sh; gray; Coarse silt; granular, compact, friable breaks into ang. blocks. 10-20% Colloidal clay residue from acid. Specks of iron stain.

Sls + sh; gray, Coarse silt, of qtz, with kaolin and undetermined fibrous low biref, grains. Similar to above.

Sls; gray; Coarse silt, granular, compact, Blocky. 5-10% kaolin-clay binding silt of mica, qtz.

Sls + sh; gray, Fine to coarse granular silt; Blocky to compact. Qtz, mica dominant minerals.

(Highly calc)

Sls + sh; gray-green, Very fine silt about 70%, 30% earthy kaolin cements silt; Rx. contains ~2mm. frag's of ls and d/o, likely from above. Rx is fine, compact to blocky.

to 105'

W-0018

Name of Well Bedford Sheet No. 2.

Depth Range 100-200 Scale: 1 inch=10 feet.

+0 90'

100 — Sls +sh; gray-green, highly calc, shaly siltstone finely laminated but breaks blocky and is compact. Fusulinids are quite common, possibly a calcitic spine of echinoderm Brach found.

105 — omit —

C. AI, 115 — Sls; gray; highly calc. shaly silt. Fine grained, compact Blocky. Abundant Fusulinids present. Composed of calcite.

Sls, dark gray, highly calc silt, Fine, compact. Contains numerous black pyritic concretionary structures. Traces of carbonaceous material.

120 — Ls; wh. to gr; shaly, Fusulinids common. Little pyrite

C. AI. Sh, gray; silty and highly calc, Fusulinids present.

125 — Sh, wh. to light gray - Silty and highly calc; Fine, compact, Blocky. Few stem-like calcite spicules(?).

130 — Sh and ls; wh. to gray; Wh. xln ls. and gray, compact sh; Fusulinids, crinoid stems, a possible Bryozoan frag's common, Sh. highly calc.

135 — Sh. and ls, gray to wh; ls. about 30%, Highly calc, sh; Fusulinids exceedingly abundant.

C. AI. 140 — Sh; wh. highly calc; fine, compact, slightly silty; Abundant Fusulinids very commonly chertified. Chert common, penetrated by pyrite.

145 — Sh; wh-gr. Earthy, slightly compacted, Blocky shale. Highly calc. Fusulinids abundant, Chert common.

150 — ls + sh; wh. Finely xln, massive ls with sh layers. Chert and chertified Fusulinids common. Cylindrical stem-like bodies present.

155 — Sls + sh, dark-gray; calc; Roughly laminated and slightly platy frags; No fossils.

omit

C. etc. 165 — Sh. with thin ls; slightly silty. gr. to wh; Frag's black platy liquitic material in sh's. Fusulinids present

170 — Sh with thin xln ls add'd layers, Sh green-gray; ls. wh. to buff, Authigenic pyrite in shales and dolomite.

omit 175 — ls and dolo; wh. to buff, shaly; ls, xln. massive. No Fusulinids.

180 — Sh.; dark gray; Fine, dense compact, breaks in smooth surfaces; Slightly calc; thin dolo layers. Crinoid stem 10 mm wide

~~CAI~~ 185 — Sh; deep Indian Red. Fine, dense, compact, hard; Slightly calc. Breaks with hackly fracture. Dolo. frag's from above.

190 — Sh, Indian Red, Same as above, Dolo and ls from above.

C 195 — Sh, Greenish-gray; Coarser sh. than above, Slightly interbedded with red sh. Sh. is slightly silty.

200

W-0018

Name of Well Bedford Sheet No. 3

Depth Range _____ Scale: 1 inch=10 feet.

	200	Sh; green-gray; Identical to above. Mica quite noticeable. Compact, blocky sh.
	205	Sh; green-gray; Same as above; Fine mica abundant.
omit	210	Sh, green-gray; Same as above, Slightly silty. Blocky to platy
	215	Sh, blue-gray; Fine colloidal clay; Breaks Blocky
	220	Sls; blue-gray; granular silt, largely qtz, mica.
c. etc	225	Sls; gray; Med to coarse silt; Mica abundant in relatively large flakes, probably authigenic. 1-2mm pyrite or marcasite concretions weathered to sulfur
	230	Sls; gray; fine; Qtz, mica abundant.
omit	235	Sls; gray Med, to Coarse, Pyritic concretions weathered to sulfur and iron oxide.
	240	Sls, gray, Coarse, Same as above.
c	245	Sls, gray, Coarse, Same as above. Bl and white micas and qtz most abundant.
	250	Sls, gray. Same as above.
	255	Sls, gray, Same. Only slightly calc.
omit	260	Sls. or sh; gray; Same as above, Finely laminated, somewhat platy silty silt.
	265	Sls or sh. Fine, gray, compact, slightly platy.
c	270	Sls. or sh. Fine, platy pure sh or very fine silt.
	275	Sls. or sh. Finer. Same otherwise.
	280	Sls or sh, Fine grained, Gray, Structureless, Crinoid stems lignitic coal fragments numerous
omit	285	Sls or sh, Fine grained Gray Platy; Rounded frag's bl. lignitic coal; Bl. pyrite concretions, Fusulinids.
	290	Sls. or sh Fine compact, Gray; Fusulinids abundant, Crinoid stems common One Bryozoan; Pyrite authigenic Chert cements pyrite.
c	295	Sh; Red, Fine grained, platy compact sh, Slightly silty No fossils.
	300	

W-0018

Name of Well Bedford Sheet No. 4

Depth Range 300-400 Scale: 1 inch=10 feet.

300 — Sls and sh, gray to red-gray; Coarser than sh. above. Dominantly gr. sh; silty, with some Red sh. Non-calc

305 — Sls and sh. gray + some red sh. Platy; poorly layered silt and sh; Crinoid stems present.

310 — C — Sh, gray, very fine grained, kaolin-like; compact but structureless. Pyrite concretions weathered.

315 — Sh, gray, Slightly silty; Brach. shells very small.

320 — Sh and ls. gray. Fine gray sh interbedded with thin buff ls. & dolo.

325 — C — ls, wh, xln, wholly soluble, fossil structures present, Thin green sh. from above or interbedded.

330 — ls. and sh: wh to green; ls, xln, wholly soluble, gr. sh is fine compact.

335 — ls, wh, xln, compact massive, wholly soluble. thin blue-gr. sh interbedded.

omit 340 — Sh, gr. to dark-gr, Slightly silty, Somewhat calc; Black pyritic concretionary structures. Coal frags.

345 — ls, wh. to buff; xln, granular, massive, Interbedded with thin sh. Green sh frag's rare from thin sh. beds. Pyrite replaces ls. in small euhedral grains.

350 — ls; wh. xln, wholly soluble; Calcite and aragonite cleavage frag's.

355 — Sls; gray; fine, compact, poorly laminated; Non-calc

C 360 — Sls; gray, fine, compact almost talcy, platy Non-calc, mica very abundant, Some anthigenic probably.

365 — Sls, gray to dark gray, compact, fine, somewhat shaly, 1-2mm Sphalerite frag's coated by dolomite. Dark pyrite associated with dolomite.

omit 370 — Resinous Bl. Sphalerite is purple and yel. + purple portion is slightly pleo. Purple and yellow sphalerite.

375 — Sls, gray, compact, somewhat shaly.

380 — Sls, gray compact, laminated, platy to blocky; slightly shaly

Sls + sh, gray. Some thin platy red and green sh. interbedded. Bl. fibrous lignitic carbonaceous material.

C 385 — Sh, gray to red, interbedded silty gr. sh + red + gr fine platy sh. Calcareous. Lignitic material.

390 — Sh and sls, gr, red, and green, Same as above.

omit 395 — Sls and sh; red, Same as above except color.

400

W-0018

Name of Well Bedford Sheet No. 5

Depth Range _____ Scale: 1 inch=10 feet.

	400	Sh. and sls, red to red-gray; Calc. Calcite Bryozoan, fine grained, glassy, rounded calcite frags.
C	405	Sh. and sls; gray; fine, compact; Some bl. lignitic material.
	410	Sh. and sls, gray and red, fine, compact, Rounded ls. frags. Sh. is calc. Minute pyrite grains in sh.
omit	415	Sh. and sls, gr. and red, fine, compact, Non calc sh's.
	420	ls. and interbedded green & red sh. ls. wh. and xln, wholly soluble; Sh fine, compact.
W C	425	ls. and interbedded sh. as above. Hard. Bl. dense glassy frags undent-fied. Not Coal.
	430	ls with some thin gr. sh. layers. Crinoid stems numerous, Ls. wh. xln. hard.
	435	ls, wh, xln, compact, thin sh, interbedded. Crinoid stems numerous. Some pyrite.
G	440	sls. and sh; gray to dark gray Compact to earthy, Fine silt and shale. Bl. chitinous Ostracod.
	445	sls + sh, gr; Same as above but more shaly. Numerous Bl. chitinous Ostracods. Crinoids.
omit	450	ls. and interbedded gray and green sh. Bl. Ostracods in sh.
	455	Sh and sls, calc., gray, earthy.
BF	460	Sh and sls, calc. gray, to gray-green; Blocky to earthy structureless.
C	465	ls. wh. xln, soluble, Fusulinids very abundant. elongated and fat types.
	470	ls, wh, xln, soluble, pure. No Forams
omit	475	Sh. gray, silty, fine, compact to platy Non-calc
	480	Sh and sls, gray As above Non-calc
C	485	Sh and sls gray, Same as above. Non calc
	490	Sh. and sls, gray Same as above. Bryozoan fragment Small calc specks
	495	Sh. calc. gray; Hard, very compact slightly slaty.
	500	

Name of Well Bedford, W-0018 Sheet No. 6

Depth Range 500 Scale: 1 inch=10 feet.

500	C	ls, wh, pure, finely xln. completely soluble. Thin platy gray sh interbedded.
505		ls, wh, pure, xln, thin shales interbedded.
510	C	ls, wh. to gr. xln not compact, breaks easily little shale present
516		Sh or sts. fine, laminated, knobby. Non calc
520	omit	ls+sh, gr. Hard, platy compact, Calc, Bl. chitinous Ostracods.
525		ls or sh.; about 50% soluble, sh. residue. Hard platy.
530		ls, shaly wh, platy, compact, hard.
535	C	ls., wh, hard, massive, Fusulinids present
540		ls, wh, xln, hard, massive, Abundant pyrite and grains in ls as replacement
545		ls, wh., powdery earthy; Somewhat shaly.
550	omit	Sh, Black to dark gray; fine grained sh, Highly calc. Carbonaceous.
555		Sh. Gray-Black; fine; Calc. much a above.
560	C	Sh. gray; Same as above. Calc Bl coal or lignite frag's.
565		Sh + ls. interbedded, wh. to gr. soft, earthy to laminated Shale. Thin black lignitic frags.
570	C	ls. + sh. interbedded, wh. to gray, earthy to compact.
575		ls, wh, xln, hard, massive, Fossiliferous, Terebratuloids One Goniatite. See capsule. One Bryozoan
580	C	ls, wh, xln, hard, massive. Soluble, pure ls. pyrite common, few feldspars from authigenic xls.
585		Sh and sts, gr to gr-bl; Silty sh; Highly calc.
590	omit	Sh. and ls; gray to wh; interbedded probably in thin layers.
595		Sts. and sh. - gr. to gr-bl; calc shaly silt; Interbedded thin ls.

Name of Well Bedford W0018 Sheet No. 7

Depth Range _____ Scale: 1 inch=10 feet.

600 — ls, and sh. interbedded. ls. wh to buff xln; Abundant small round pyrite concretionary aggregates. Sh light green to gray, compact.

C 605 — Sh and ls, interbedded; light but dolo; gray to green sh; As above

610 — ls with thin sh; wh ls, gray sh; Massive, compact xln ls.

omit 615 — Sh, black, fine, dense, laminated, highly carbonaceous. Calc' frag's from above.

620 — Sh. and thin ls; Sh gray + fine grained; ls. wh. to buff contains abundant green silicate, either glauconite or glauconite. Thin carbonaceous shale present

625 — Sh, gr, fine, compact, Contains rounded abraded 1-4 mm. Granules of siderite dolomite stained by deep green problematical compound.

X C 630 — green Fe stained. dolo. about 20% of Rx.

Sh, red-gr, to light Br. fine compact, Contains green abraded granules as above. Brgzeen fragment

635 — Sh: gr to gr-green; calc lenses. Rounded and abraded hard green-dolo-to siderite-dolo granules and pebbles.

C 640 — ls, and dolo, thin interbedded green shales, Brgu zeen fossils common. One Ostracod (in capsule) Crinoid stems present, Fusulinids abundant Pyrite.

omit 645 — Sh. ; gray to gray-green. Fine, slightly silty, Calc.

650 — Sh, gray. As above, Highly calc.

655 — Sh. gray to gray-black. carbonaceous bl sh interlaminated, Pyrite nodules almost completely reduced to Sulfur and limonite. Crinoids.

C 660 — Sh and siltstone, Calc; dark-gray, laminated, compact.

665 — Sh ; gr; as above, Calc; Fusulinids both elongate and fat.

omit 670 — Sh, gray, As above. Rounded dolo or Ferro-dolo granules present.

675 — Sh or Shaly. ls, marly, wh. to light gray.

680 — Sh. or marl; wh, to gray, As above, But is more platy.

C 685 — Sh or marl, silty. wh. to gray. Same as above.

690 — Sh or marl, silty. Wh. Same.

omit 695 — Sh; dark gray, Calc; thin platy, laminated. Less calc than above marls.

W-0018

Name of Well Bedford Sheet No. 8

Depth Range 700-800 Scale: 1 inch=10 feet.

omit	700	Sh. gr. to wh; Fine, silty, Highly calc. due to Coarse silt of calcite.
	705	Sh. bl to gr; fine compact carbonaceous, slightly calc. Interbedded with gray sh like above.
A.I. Do not crush!	710	Ss, wh. to gray; Dominantly ±1/8 mm. A to a. shapes. Qtz dominant, Muscovite abundant. Bl. minerals and Bl. carbonaceous frag. common
C. AI.	715	Ss + sts; wh. to gray; Same as above. Silt of qtz more abundant. Thin interbedded gray fine shale
omit	720	ls or dolo, wh. to gray, Silty, About 10% qtz silt. Thin sh. layers.
	725	Sh, dark gray to Bl; carbonaceous; slightly calcareous platy, laminated
C	730	Shs. Black carbonaceous interb'd. with gr dole silty sh. Thin fissile, lignitic coal or carbonaceous seams.
omit	735	Shs, Thin platy bl carbonaceous interb'd with blocky gray non-calc. silty sh. Thin xlnls. lenses rare.
	740	ls and sh; ls wh. to gr, xln, massive; Sh. bl. slaty, thin laminated.
C	745	Sh and interb'd. ls, gray to green-gray; Sh. blocky breaks with hackly fracture, highly calc, and fossiliferous.
C	750	Shs; gray and Red, Interb'd, gray and red sh, fine, compacted poorly laminated; calc.
omit	755	ls and sh; wh. xln ls; bl. thin laminated hard sh with poorly laminated gray sh.
	760	Sh; gray and dark gray, Calc. thin laminated black carbonaceous and gray sh.
	765	Sh, green-gray; thin laminated to blocky. Calcareous
	770	Sh; greenish-gray, Blocky, Calcareous.
C	775	Sh; green-gray
	780	Sh; green-gray; Blocky, Thin bl. lignitic or carbonaceous layers. Highly calc.
omit	785	Sh; green-gray Blocky, to laminated Same as above. Bl. carb. layers. Calc
	790	Sh; alternate red-br. to bl. Hard thin laminated carbonaceous sh (slaty) Only slightly calc.
C	795	Sh; interbedded red-br and gray sh. Same as above.

Name of Well Bedford W-0018 Sheet No. 9

Depth Range 800-90 Scale: 1 inch=10 feet.

↑	800	Sh; gr to green-gray Interbedded with platy hard ~~bl~~ bl. carbonaceous slaty sh. Highly calc gray sh.
C	805	Sh, gray; Same as above. Highly calc, almost marl.
	810	Sh, choc br bl, silty, Highly calc; Interbedded with gr. sh
omit	815	Sh, gr. to green-gray, silty, Calc. Blocky
	820	Sh. gray to green-blue; silty. Highly calc Almost marl; Bl. slaty carb. sh occasional.
C	825	Sh, gray to green-gr, Calc, Blocky to platy Sh. Marly
	830	Sh, gray; Highly calc, thinly laminated to Blocky
	835	Sh; gray to dark-gray; plastic sticky marly sh. Carbonaceous layers; Pyritic concretions
omit	840	Sh, gray; interbd. with thin slaty bl carbonaceous sh, gray sh is calc and marly.
	845	Sh. gray; Same as 845 thin red sh. stains.
	850	Sh, gray and red; Interbedded Gr and Red sh. Only slightly calc. Thin bl. layers.
C	855	Sh, Bl. carbonaceous, thinly laminated sh interbd with wh. to. gray calc. sh (about 15 %)
	860	Sh; wh. to gr; platy Calc, almost marly Thin bl. slaty sh interbd. (5 %)
omit	865	Sh; wh. to g. Same as 860
	870	Sh; wh, gr, gr. green and red, interbd; Calc, platy to blocky sh.
	875	Sh; wh to gr, to bl; Platy to blocky calc; Little bl. sh interbd.
C	880	Sh; gray to green and red; Hackly, blocky to platy fine slightly calc sh. Pyritic concretions,
	885	Sh; gray to bl; Interbd. gray calc sh. with slaty bl. carbonaceous sh.
omit	890	Sh; gray to white. Platy, to hackly and thinly laminated. Slightly calc.
C	895	Sh; gray; breaks with smooth faces, hackly fracture sometimes platy. Slightly calc. Numerous small bl carbonaceous streaks.

W-0018

Name of Well Bedford Sheet No. 10

Depth Range 900-1000 Scale: 1 inch=10 feet.

900 N.S.

Sh; gray and green, interbd. with slaty bl. carbonaceous sh. Highly calc.

910

Sh; gray to green-gray; Highly calc.; platy, to blocky; Silty sh, contains qtz, mica silt.

C 915

Sh; gray; finer and less silty than 910. platy, poorly laminated. Highly calc

920

Sh; gray; Similar to 915. Chalky and highly calc; Minute wh. mica developed along laminations

omit 925

Sh; lead-gray; Darker than 920; less calc than 920. Swells up in liquids.

930

Sh, lead-gray to dark gray; only slightly calc; Breaks with hackly to blocky structure, rough laminations

C 935

Sh, dark gray; thin laminated platy; carbonaceous Non-calc. Swells in liquid and disintegrates.

940

Sh; very dark gr to bl. Non-calc, highly carbonaceous; Thin, fissile carb. layers in gray sh. Hard Coal fragments

945

Sh; dark to lead-gray; Only slightly calc; Poorly laminated to blocky; 1-3mm a to lobe c. gray dolo. clastic granules, slightly polished.

omit 950

Sh; light gray to wh. interbd. fine gray sh. and wh. sh's comprising 20-25% fine qtz sand and coarse silt. Both types sh. are slightly calc

955

Sh; light to dark gray; Silty, slightly calc. Similar to above (950) Less wh. silty sh. present.

C 960

Sh; gray to yel-gray, ~~Maroon zone present~~ Only slightly calc, disintegrates easily in liquids. 1-5 mm. polished hard gray dolo granules.

965

Sh; gray to wh; Thinly laminated interbd, wh and gray sh. Slightly calc. Sample includes Gry sh - carb. (coal) zone, underclay -

N.S.

C 980

Sh; gray; Interbedded gr. and blue-gray, ~~silty sh.~~ Slightly calc. ~~1-4mm polished dolo or stero-dol. granules numerous.~~ Gry-blk carb sh. Green sh. wh-underclay

985

Sh and ~~slc~~; interbedded gray, bl. gray wh Shales and ~~shaly Siltstones; Slightly calc~~ Grn. mica sh - depaup. Pyrite, gastropod fauna.

990

Sh; and. sh, gray to wh; interbedded, Thin, slaty black carbonaceous sh. about 5%

omit 995

Sh, gray to black, interbd; Non-calc slightly silty gray sh and hard slaty carbonaceous shale.

Hamilton

Name of Well Bedford W-0018 Sheet No. 11

Depth Range 1000-1100 Scale: 1 inch=10 feet.

	1000	Sh, gray and white interbedded; finer than 995, slightly calc, 1-3mm. brown polished frag's undetermined.
c	1005	Sh, gray, interbed'd with 10% bl. carbonaceous sh.
	1010	Sh, gray to br-gray; silty, only slightly calc. thinly laminated.
	1015	Sh, gray, interbed'd with thin slaty bl. shale. Gray sh is calc and slightly silt, to 10% Calc.
omit	1020	Sh and slt. 80% dark gray thinly bedded sh with interlayered silty wh. calc sh. 1% limonite cemented silt aggregates. 5-10% gray, polished clay gram.
	1025	Sh, wh. to gray, silty, calc, interbed with 2% ± thin black slaty sh. 2% dolo granules
c	1030	Sh, gray; slightly calc; hackly to blocky fracture.
	1035	Sls, wh. to light gray; slightly calc, very thin shaly seams interlayered; Qtz, mica silt
omit	1040	Sh, dark-gray, carbonaceous, thinly laminated shale carbonaceous.
	1045	Sh, dark gray to black; carbonaceous, locally calc; thinly laminated, compact. (simply sh)?
c	1050	Sh; dark gray to choc-gray, carbonaceous, Non-calc. interbed with calc light-gray sh.
	1055	Sh, dark-gray, highly carbonaceous, non-calc. 10-20% wh. calc silty sh. interlayered.
N.S.	1060	Sh, dark gray to bl, highly carbonaceous, fissile, non-calc
c	1070	Sh, dark gray, carbonaceous, non-calc, blocky.
	1075	Sh, light to dark-gray, interbed with, fine, dense, black carbonaceous sh. (60%)
omit	1080	Sh, gray to bl.; 80% bl. fine, dense, fissile, carbonaceous sh, with 20% light. gr. calc. sh.
	1085	Sh, bl. and wh.; 90% bl. earthy carbonaceous non-calc, with 10% wh, kaolin-like non-calc. sh.
c	1090	Sh, bl. and gr. Similar to 1085 but bl. sh is more blocky. Remarkably calc. streaks.
N.S.	1095	Sh, bl. to deep lead-gray; Non-calc, highly carbonaceous, fissile. Pyritic concretions.

W-0018

Name of Well Bedford Sheet No. 12

Depth Range 1100-1200 Scale: 1 inch=10 feet.

C 1105 — Sh, light and dark gray, fissile, Non-calc, with very thin wh. silt layer

1110 omit — Shs bl and dark to light gray; interb'd, white sh. slightly silty. All Non-calc

1115 — Conglomerate, fine; dark gray to bl; Largely coarse sand and 10% 2-6mm frags. A to C, abraded particles. 1/2mm. Br. Fe. dolo. concretions 50% of sand. Clastic sh and sls dolo. and pyrite, Br. t. and clear qtz sand comprise 50%.

1120

C 1125 — Sh. Interb'd gr. and bl. thin carbonaceous types.

Sh, dark gray, Non-calc, fissile, laminated; Contains 5% + Br, hard, A to C gritted Fe-dolo frags (1-4mm)

1130 — Sh, dark and light gray; highly calc, interb'd gray non-calc. with wh. calc. shales.

omit 1135 — Sh, gray, slightly calc. blocky to platy sh.

1140 — Sh, dark gray; calc; thin laminated with 1/2-1mm thick ferro-dolo layers and 1-2mm concretions

C 1145 — Sh, dark gray, calc, Same as 1140.

1150 — Sh, dark gray to black, Calc, carbonaceous.

1155 — Sh, dark gray to black, Same as 1150

omit 1160 — Conglomerate fine, gray to black, - Composed of A to C. Bl. slaty sh. frags, qtz. sand, ferro-dolo, concretions

1165 — Sh, dark gray to black, fine, fissile, carbonaceous, Slightly calc. sh.

C 1170 — Sh, dark gray, calc, blocky, to platy shale. Pyrite abundant.

1175 omit — Sh, dark gray to bl., calc, carbonaceous. thin laminated to blocky. Pyrite or marcasite in large concretion gray masses.

Water → 1178 — Conglomerate; gray to bl, fine to 4cm. clastic frags Sand is 1/8mm. qtz, sh frags, bl. pimply slates and pimply slates as clastic frags.

A.I.(8)

1185 — Sandstone, Uniform size 1/8-1/16mm; white, qtz dominant, Sand A. to a. and secondarily enlarged.

1190 — Ss. white Same as 1185, Slaty sh clastic pebbles and Lime concretions from above pimply slates.

A.I.(8)

1195 — Ss and sh wh to bl; Bl. fine slaty sh interb'd in fine tomed sand.

W-0018

Name of Well Bedford Sheet No. 13

Depth Range _____ Scale: 1 inch=10 feet.

1200		Ss. white. Uniform ¼-mm; qtz sec. enlarged, pyrite, dark sulfide (choloc pyrite) Bl. minerals abundant. Sh pebbles from above.
A.I. (9) 1205		Ss white Mo/gr. ⅛-¼ ⅛-¼ P. Sub; A to a shapes Qtz frosted and sec. enlarged. Qtz dominant. Pyrite and sulfides bl. minerals. 1-6 mm. pebbles; slaty bl. shiny Sh. and coal 10%.
1210		Ss. white. Identical to 1205 But muscovite and deep green glauconite in sand.
1215		Ss white. Same as 1205 .5% Bl. slate frags, 10% of ss is ⅛-1mm. Large grains abraded.
omit. 1220		Sh, gray and black, platy, fine laminated, interb'd gray and black slaty shales.
A.I. (8) 1225		Ss. and Sh, gray to wh. interb'd. 30% Sh, 70% fine sand and coarse silt, Qtz, Mica, pyrite and sulfides abundant.
Water → [1228]		
1230		Ss. and Sh, gray-bl; 50% sand coarse silt, 50% fine, thinly laminated bl fissile, shiny slaty sh.
1235		Ss, and s/s, wh. to gray, fine sand and coarse silt equal. 20% Rx is slaty, bl. sh.
1240		Ss and sh; wh. to gray, Ss 30% ½-¼, 50% ¼-⅛. A to C. shapes, Qtz, mica, dominant. Bl. min's common Bl. slate 10% interb'd.
omit 1245		Ss, and Sh, wh to bl; Ss. 30% ½-1mm; 50% ¼-⅛mm Qtz, Mica, pyrite, Br. Fe-ddo concretions dominant. Bl. slate 10%
1250		S/s and Ss, gray; 60% coarse silt; 30% ½-1mm qtz, Br. Fe-ddo concretions. 10% Interb'd Slate.
(1) C. A.I. 1255		S/s and fine Ss; Wh; Qtz dominant. Bl. min's. Silt aggregates, concretions.
1260 N.S.		S/s. and Sand; Coarse silt 70%, Fine sand 30% Minerals as above. Shapes a. to C. and abraded.
C 1270		S/s, gray to buff; A. to a. qtz sand. Siltstone aggregates. 5% Bl. sh. interb'd.
1275		S/s, gray to yel-buff; Qtz. dominant. a. to C. shapes. pyrite very abundant.
C 1280		S/s, buff to gray; Coarse s/s containing qtz, mica. 5% Bl. sh. interb'd.
1285 N.S.		S/s; buff to yel-buff; Coarse s/s. 10% sand of abraded Qtz and Bl. minerals.
omit 1295		S/s. Yel. to buff; Med to Coarse s/s. Largely qtz.

W.-0018

Name of Well Bedford Sheet No. 14

Depth Range 1300-1400 Scale: 1 inch=10 feet.

1300		Ss; buff, 60% 1/4-1/2; 30% 1/8-1/4; 10% 1/2-1mm. Shapes A to low C. polished, frosted qtz. Few sulfides.
W.S. (5) 1305		Ss; buff, 70% 1/4-1/2; a to C shapes, Otz, chert, clastic bl. slate, pyrite and sulfides abundant.
1310		Ss, wh; 80+% 1/16-1/32; Some silt Qtz, dominant 10% interbedded bl. slate. Highly carbonaceous.
1315 omit		Ss, gray, pepper and salt; 70% Fine ss, 30% Coarse s/s.
1320		
1325		Ss and s/s; 60±% Fine sand; 40% coarse silt. Qtz. dominant. Abundant pyrite and other sulfides.
W S (8) 1330		Ss. and s/s. 80% Fine sand; a. to C shapes; Otz, dominant
1335		Ss and sl; gray; Fine sand 60%, silt 35%, Bl. sh or slate frag's 10%. Otz dominant mineral.
1340		Ss. and sh Interbedded; 60% fine ss, 40% Bl. carbonaceous slate
Penn 1345		Sh. and ls; Bl. and wh; 55% Bl. carbonaceous slaty sh. interbd with xln wh. ls.
Miss' C 1350		Sh. and ls, Bl. and wh; 70% Bl. slaty carb. sh. interbedded with ls.
1355		Sh. + ls. + ss. Pepper and Salt color, Bl. slaty sh. 40%; wh. xln. ls. 40%; fine qtz. ss. 20%
Penn. (1322) 1360 omit		ls. + sh. pepper + salt color; Interbed'd wh. xln ls and thin slaty bl. sh.
elev-2262 Miss. (4 8-) 1365		ls. + sh, pepper and salt, 70% wh. xln. ls; 30% Bl. slaty sh. interbedded - Pyrite concretions abundant.
C 1370		ls; white, fine, massive, xln; 80% ls; 10% Bl. sh. interb'd; 10% ss. 1/2-1mm. clear, abraded, a to low r. qtz. sand. pyrite, chalcopyrite, and selenite abundant.
N S. 1375		
C 1380		ls, sh, and sand; wh. to bl; 40% xln. wh ls; 40% Bl. slaty sh. 20% 1/2-1 mm clear a. to r. qtz. Abundant pyrite
1385		ls, ss. and sh; gray to black; Similar to above. Pyrite and sulfides very abundant. 1/2-1m chert oolites in sand.
AI (3) 1390 omit		Ss. and sh, wh. to cream; Bl. slaty sh. 30% interb'd with 70% ss. 1/2-1/2 of pure, hard dolo in C to low r. shapes.
1395		Dolo, sh. and ss, gray to cream; Oolitic xln massive; 15% Bl. slaty sh; 15-20% dolo & oolite sand.
C		

W-0018

Name of Well Bedford Sheet No. 15

Depth Range 1300-1400 Scale: 1 inch=10 feet.

c	1400	Dolo, sh. and ss; Dolo xln, buff 60%, Bl slaty sh 10%, 40% 1/8-1/4 mm, a. to C. shapes. clear qtz. Pyrite very abundant.
c	1405	Dolo and ss, 60% wh. to cream dolo; 25% 1/4 mm a. to. qtz. sand, 15% Bl. slaty sh.
omit	1410	Sh dolo. and ss. gray to buff, massive, xln dolo, replaced by abundant pyrite. 15% Bl. slaty sh; 20% 1/4-1/2 mm qtz ss. A to a shapes.
	1415	Dolo and ls; gray to buff; 5% Bl. slaty sh. interbedded 5% 1/8 mm qtz. sand.
c	1420	Dolo, gray to buff, 5% qtz. sand. Pyrite and sulfides abundant. 5% Bl slaty shale. Milk-chert.
	1425	Dolo, ls. and chert interbedded; gray to bl. 60% Buff dolo, 10% wh xly. ls; 20% milk wh. chert 10% Bl. shale Authigenic qtz. xls.
omit.	1430	ls, chert and sh, buff ls, Bl. Slate; Chert 40%, Shale 5% Interbedded with ls; Abundant pyrite replacing dolo/ls.
	1435	dolo. and ls; buff; 15-20% Milk chert replacing dolo. 10% interbedded Bl. carb. slate.
	1440	dolo and ls buff to gray; 15% Bl slate; 10% 1/8 mm qtz sand.
c	1445	dolo and ls, buff, xln; massive, Small specks glauconite granules, 20% Bl. Slaty shale. 5-10% Milk chert.
	1450	dolo and sh, buff to wh dolo, Bl. slaty shale (40%) interbedded Abundant pyrite
omit	1455	dolo and sh, wh to buff xln cherty dolo, interb'd with 35% Bl. slaty sh. Abundant pyrite and other sulfides.
	1460	dolo. and calc chert; dark brown resinous dolo, with 25% calc-chert interlayered 20% Bl. Slaty sh. interb'd. Pyrite & chalcopyrite in dolo.
	1465	dolo and cherty ls; deep resinous br; wh. cherty ls about 35%. 15% Interb'd Bl. carb. sh.
c	1470	dolo; buff to brown; Highly chertified dolo, contains fu sulfids, 10% Bl. slaty sh interbd. Pyrite and sulfides abundant.
	1475	dolo, buff, Same as above. Less chert.
	1480	dolo and sh, buff to brown chertified dolo; Interb'd with 40% Bl, slaty, carb. sh.
c	1485	Sh, Bl, carbonaceous, slaty shale. Thin dolo (10%) interbedded.
omit.	1490	Sh, Bl, carb, slaty shale. 10% thin white chertified dolo.
c	1495	Dolo, sand, sh.; Buff xln. dolo 40%, Sh 30%, Sand 30% of clear a. to C. abraded qtz.

Sh-Bl, soluble

W-0018

Name of Well Bedford Sheet No. 16

Depth Range 1500-1600 Scale: 1 inch=10 feet.

	1500	Chert and dolo, 90% translucent, ~~clear~~ milky chert with limm. & elongate inclusions. 10% dolo and cherty-tified dolo.
c (?)	1505	Chert and dolo, 90% chert as in 1510 5% Bl. and gray shale
	1510	Chert and dolo chert replaces dolo and is interbed with dolo
omit	1515	Chert and ls. Wh. to buff; 70% chert, 30% Dolo sh frags.
	1520	Chert and ls. As No 1515 Abundant pyrite.
c (?)	1525	Chert and ls, wh, Interbedded gray sh. 5%. Pyrite and sulfides abundant. 5% gray shale.
	1530	ls and chert, wh. to gray. 10% gray interbed shale, Chert and sulfides + edge ls. Chert (40%)
omit	1535	ls. and chert; wh. to gray; ls. xln wh; chert 30%, milky white. Pyrite and sulfides. abundant.
	1540	ls. and chert, wh. to gray, chert about 40%. 5% Bl. and gray shale.
	1545	ls. and chert, wh. to gray. Same as above Chert ± 30%
c	1550	ls. and chert, wh. to gray. Same as 1540. Milk white chert 40%.
	1555	ls. and chert, wh. to gray, 45% milk white chert
Water, strong flow 1560-1580	1560	Chert and ls; wh. to gray; 60% Milk white chert, 35% ls, 5% Bl. Slty sh.
d (?)	1585	Chert, and ls, or calc chert, wh. to gray, Brittle, white to milky chert. 95%.
	1590	Chert, 100% milk wh. chert, slightly calc.
omit	1595	ls. and chert, wh. to milk-white; chert milk white about 30%.

W-0018

Name of Well Bedford Sheet No. 17

Depth Range 1600-1700 Scale: 1 inch=10 feet.

	1600	Chert and calc chert, wh; Hard, flinty milk-white chert. About 5% wh. xln. ls.
C	1605	ls. and chert. wh. to buff. slightly Iron-oxide stained chert, milky white, about 45%.
	1610	ls and calc-chert. Same as 1605. Chert 45%-50% wh. xln ls. silicified.
	1615	ls; wh. cherty and sandy. Fine qtz sand about 10%.
omit	1620	ls, wh. to buff, cherty.
	1625	ls, wh. to buff, slightly Fe, O3 stained. 1% qtz. silt. Little chert
C	1630	ls, buff, xln. highly iron oxide stained. Little chert.
	1635	ls, buff, xln, iron stained; About 5% chert
	1640	ls, buff to brown iron stained. No chert. 1-5% Coarse qtz silt as residue.
omit	1645	ls, wh, xln, calcitic, wholly soluble, Oolitic, Made up of about 50% ½-¼ mm oölites.
1.R	1650	ls. gray, soluble; 1-4% milky chert.
C 1.R.	1655	ls. wh. to gray soluble No chert, Minute pyrite and sulfides abundant.
elev-562'	1660	ls, gray to yel-buff, 15% ⅛-¼ qtz sand. ls. interbed with 10% gray-green shale.
	1665	Sh, gray to blue-gray, fine, blocky to plastic, slightly calc
Top 1660 Maple Mill Base 1690	1670	Sh, gray-blue, Same as 1665
	1675	Sh, gray-blue, Same as 1665. Calc
	1680	Sh. gray-blue. Same as 1665
C	1685	Sh gray-blue Blocky to laminated. Slightly calc.
Base of Kinderhook @ 1690' Top of Dev-	1690	Sh, gray-blue. Same as 1665
omit IR(3)	1695	ls, buff, xln, fine grained, calc-chert about 15%

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Name of Well Bedford Sheet No. 18

Depth Range 1700 - 1800 Scale: 1 inch=10 feet.

	1700	ls. wh. to buff, slightly iron-stained, 10% calc. chert.
	1705	ls, wh to cream: pure, xln, fine, ls,
C	1710	ls, wh. to buff, pure, xln. fine ls. Same as 1705
	1715	ls, wh. to cream, wholly soluble, fine, xln.
omit	1720	ls, cream to buff, xln, 10% insoluble chert.
C	1725	ls, cream to buff, xln, massive. 15% calc-chert.
	1730	sh, light gray-blue to gray; highly calc sh or marl, 2-5% fine qtz. silt
omit	1735	ls, buff to brown; silty ls, with 2-5% calc-chert
	1740	ls, wh. to buff, xln, massive, 10% calc-chert and fine qtz. sand.
	1745	ls, wh. to cream, xln, slightly shaly. Little chert and fine sand.
C	1750	ls. wh. to buff, xln; 3-5% calc-chert, 10% fine sand. ls. slightly Fe. stained.
	1755	ls. wh. to buff. xln, Little calc-chert.
omit	1760	ls. wh to buff, xln, 5% fine qtz sand.
	1765	ls. wh, pure, xln fine grained, massive, 1-2% Insoluble calc-chert
	1770	ls, wh; Same as above. Very slightly cherty.
C	1775	ls. wh; Same as 1765. Highly pulverized under under drill. Little insoluble residue.
	1780	ls; wh. Identical to 1765
omit	1785	ls, wh. xln., No insoluble portion.
	1790	ls., buff, xln, massive, Little insoluble portion
C	1795	ls; wh. to buff; pure, xln. massive. Slight insoluble portion.

Name of Well Bedford W-0018 Sheet No. 19

Depth Range 1800-1900 Scale: 1 inch=10 feet.

1800		ls, wh. to buff; (Highly pulverized).
1805		ls, wh. to buff, Same as 1800
1810	C	ls, wh. to buff, Identical to 1800 2% Insoluble calc-chert.
1815		ls, wh. to buff, xln, med grained, 5% milky-white chert. Pyrite and sulfides abundant.
1820		ls. and d/o, wh. to buff, xln. massive, 2-4% qtz sand (1/8-1/2). 1-5% milky chert.
Base of Dev 1825' omit Top of Silurian 1825		Sh, Bright Indian Red; Hematite colored shale with 5-10% fine silt.
1830		Sh. and sls; Indian Red; Hematite 70% +, sls of soluble ls particles 30%
1835	C	Sh. and sls, Hematite Red Same as 1830, 10-15% soluble ls. silt.
~~Miss. (1840')~~ 1840		Sh and ls, Interbedded Hematite sh (60%) and thin xln. wh. ls.
~~Dev (300')~~ omit 1845		ls, wh, xln, Hematite stained ls. ls, ls wh, xln.
1850		ls, wh xln, Hematite colored. Same as 1845
1855	C	ls; wh, xln. Hematite colored. Same as 1845 but less Hematite
1860		ls, wh, xln, Hematite stained from sh. above. Pyrite and darker sulfides abundant.
1865		ls, wh xln, As 1860. Hematite colored.
omit 1870		ls, wh, xln, clear, oolitic, Same as 1860
1875		ls, wh, xln, Same as 1860.
1880	C	ls, wh. xln. Hematite colored. from sh. at 1875+
1885		ls, wh, xln, Hematite colored.
1890		ls, wh, xln, 70-80%, Hematite clay 30-20%.
1895 omit		ls, wh, xln, 80-90%, Hematite clay 20-10%

1360
485
1845

W-0018

Name of Well Bedford Sheet No. 20

Depth Range 1900-2000. Scale: 1 inch=10 feet.

1900

1/s, wh, xln, Slightly hematite stained.

1905

C

1/s, wh, xln, Only slightly red hematite colored

1910

1/s, wh, xln, slightly hematite colored.

1915

1/s, buff to brown, highly xln with euhedral authigenic 1/s rhombs.

omit or 1920

1/s, buff, highly xln. Same as 1915

1925

1/s, buff, highly xln, Same as 1915, Euhedral 1/s. xls. of fine sand. size. These are very abundant

1930

C

1/s, buff, highly xln, 40-50% coarse silt size calcite rhombs. Authigenic + cleavage frag's.

1935

1/s, buff. Same as 1930.

1940

1/s, buff, Same as 1930

omit

1945

1/s, buff, xln, finely pulverized. Appears to be a silt of cleavage frags calcite.

N.S.

C

1970

1/s. buff, xln, coarse silt size calcite frag's.

N.S.

Question if these are not elastic 1/s.? and are really sands

Water, 1920-2005'

to 2005'

W-0018

Name of Well Bedford Sheet No. 21

Depth Range 2000-2100 Scale: 1 inch=10 feet.

2000

2005

C 2009

2015

C 2020

2025

N.S.

C

2035

N.S.

C 2050

2055

N.S.

C 2070

2075

N.S.

C

2085

N.S.

to 2168' C

Water, 2020 - 2168'

ls, chalk-white, pure, completely soluble, slight fine silt. Completely and finely xln.

ls, wh. to buff, xln. granular, massive. wholly soluble

ls, buff, xln, granular Particle of coarse size wholly soluble calcite.

ls, buff, xln, granular, Particles as 2015 of siltsize

ls, wh. to light. buff, granular. Silt size particles. wholly soluble

ls, wh. to buff, granular, Same as 2025

ls. wh. to buff, granular, Same as 2045. Perfect cleavage and authigenic calcite.

ls, wh. to buff, granular, Same as 2045.

ls, wh. to light. gray, 10-20% wh. colloidal insoluble clay.

ls, buff, xln. granular, deep green glauconite abundant, slightly altered to iron-oxide.

ls. wh. to light. buff, glauconite, Same as 2075

nple F, scan (Holden)

W-0018

Name of Well Bedford Sheet No. 22

Depth Range 2100 - 2200 Scale: 1 inch=10 feet.

to 2020'

2100 C

2105

N.S.

2145 Dev. (3005') C

2150

Sil. (2950) 2155 C

2160

N.S.

2168

2170

C 2175

2180

omit 2185

2190

C 2195

ls, wh and buff, interbedded xln, granular, green glauconite abundant. Pyrite abundant.

ls, wh to buff, glauconite abundant.

ls, cream to buff, wholly soluble, slightly glauconitic.

ls, wh, pure, xln, massive clear calcitic. Wholly soluble.

ls, wh, pure xln. Same as 2150

ls wh. to buff, slightly Iron stained, xln, pure.

ls, wh, clear, xln. wholly soluble.

ls, buff, xln, cemented and stained by iron oxide

ls, deep buff to brown; wholly xln, granular, massive. Colored by iron oxide.

ls, deep buff, wholly xln, granular, massive, Breaks into perfect calcite rhombs.

ls, wh. to light buff, xln, massive.

ls, buff, xln, massive

ls, wh. to buff, xln. massive.

Name of Well Bedford W-0018 Sheet No. 23

Depth Range 2200-2300 Scale: 1 inch=10 feet.

2200		ls, cream to buff, xln, massive, wholly soluble.
2210		ls, wh, xln, pure, soluble ls.
omit 2215		ls, wh. xln, pure. soluble.
2220		ls, buff, iron-stained xln, soluble.
2225		ls, cream to buff; xln, soluble.
c 2230		ls. wh. xln, wholly soluble, ls.
2235		ls, wh. to cream, 10-20% insoluble fine silt
N.S.		
c 2245		ls, cream to buff, 5% insoluble silt.
2250		ls, cream; wholly soluble xln, massive
2255		ls; buff xln, massive, clear, wholly soluble
omit 2260		ls, buff to cream, xln, massive.
2265		ls, buff, to brown, xln, massive, iron stained wholly soluble ls.
c 2270		ls, cream, xln, clear, soluble.
2275		ls, cream to buff. xln. clear, calcitic.
2280		ls, wh. to cream, xln, clear, calcitic.
omit 2285		ls. wh, xln. clear, calcitic, wholly soluble.
2290		ls. wh. Same as 2285
2295		ls, wh. Same as 2285
N.S.		

W-0018

Name of Well Bedford Sheet No. 23

Depth Range 2300-2400 Scale: 1 inch=10 feet.

	2300	ls, wh to cream, xln, pure, wholly soluble calcitic ls.
C	2305	ls, wh. to cream, xln, pure ls. Same as 2300
—	2310	ls, wh. to cream, Same as 2300
omit	2315	ls, wh. to buff, xln. wholly soluble, Same as 2300
—	2320	ls. wh to cream, xln, Same as 2300
C	2325	ls. wh. to cream xln, Same as 2300 but more coarsely xln.
—	2330	ls, buff, xln, med to coarse grained, Iron oxide cements and stains ls.
omit	2335	ls, buff, xln, med to coarse, wholly soluble.
—	2340	ls, cream, xln. wholly soluble.
C	2345	ls, cream, xln, wholly soluble, Same as 2340
	2350	ls, cream, xln. Same as 2340
	2355	ls, cream, xln, iron stained, 5-10% insoluble wh. clay.
—	2360	ls. wh, xln wholly soluble.
C	2365	ls, buff, xln; 5% wh. insoluble silt.
—	2370	ls. buff to brown, xln, iron stained,
omit	2375	ls, buff to brown xln, iron stained. Wholly soluble.
—	2380	ls, wh and buff interbd. xln. Wholly soluble.
	2385	ls, wh and buff, interbd. xln Wholly soluble
	2390	ls, buff to brown xln, wholly soluble, slightly iron stained.
—	2395	ls, buff to cream, xln wholly soluble.

Sheet No. 1 Name of Well Red Lead Survey No. W-0012

Location Date Drilled Analyst Elias April 4, 1941

00

10

20

30

Ls. pale gray buff, v. fn. mu bed thin

35

40

44

Shale (silty) lt. gray + olivish gray, mu lam. soft

50

50

Sh. silty lt. gray micac. lam. ft

55

60

Sh. sh. silty, lt. gray g lam. soft

65

70

Sh. lt. gray mac. ft

75

80

Sh. lt. gray, nsl. greenish, lam soft 20% ls. nodular, med drab, v. fn.

90

90

Sh. lt. gray to avg. ls. pale gray buff, v. fn. to floury, crinoids, fusulinids

00

Sheet No. 2 Name of Well Redford Survey No. W-0018

Location Date Drilled Analyst Elias April 19 1991

00

100

Sh. lt. to med. olive gr. gy, v. fn. & flowy, foss.

105

Sh. v. sl. calc.; med. dk. lam. cac. 10% dk. gray

10

110

Ls. arg. (impur.) lt. gray, v. fn. + flowy, foss.-bracis. opinion

115

Sh. calc. ed. gray drab, non-lam, v. hd.

20

120

Ls. lt. drabish gray, foss., ostracods; 30% sh as in 115-120

Ls. pale to fn. fn. fusulinids, crinoids, Osagia covering fusulinids

30

Ls. lt. bluish gray, a cur. arg.

135

fusulinids, wale lt. fusulinids

40

sparse

50

med. gray, ... ed.

60

lt. brown fusulinids.

70

+ brown 20% sh. calc. med. gray-gray, non-lam

pa

80

foss. sh.

v. sl. calc. med. gray v. fn.

90

5% lt. gray 10% lt. drab arg. micaceous, hard, v. fn.

Sh. v. sl. silty, pale green gray, finely micac. poor lam.

195

Sh. v. sl. calc. silty, pale to lt. greenish gray, finely micac. poor to non-lam.

00

Sheet No. ..... Name of Well Redford ..... Survey No. W-0018

Location ..... Date Drilled ..... Analyst E April 3, 1941

00

10

10% ss. calc. v. fn. v. micac large muse. + biotite flakes, blk. spots, coherent

Ss. lt. gray, few black spots, v. fn. micac hard coherent sh. calc. lt. gray soft

5% ls. med. drab, v. fn. dense

20

Sh. sandy lt. gray, micac. soft poor lam. Some yellow for the well

calc.

Sh. ca gray micac. soft to sls. sandy, lt. gray micac.

30

Sh. lt. to lt. med. gray blk. specks

Sh. v. silty, lt. med. sl. drabish gray, blk. speckled, non lam. med hd. micac

40

Sh. silty

Ls. nodule lt. med gray fn. dense

Sh. silty in part, calc., lt. olivish gray, blk. Lingulas(?), non to poor lam. hd.

50

Sh. silty, ish gray, non to poorly lam. hd. micac

Sh. silty in part

60

Sh. lt. med. olivish gray, poor ed. hd, nely micac

70

Sh. lt. med. gray, poor lam. hd. + nely micac. ty in v. small part

10% sh. blk.; 5% ls. med. drab v. dense wh. fossils

80

Sh. v. calc. lt. med. gray non lam. hd. foss. - bracks. 10% ls. med. drab v. fn. foss.

Sh. v. calc. lt. sl. greenish gray, non lam. hd. bracks. crinoids (ls. flour?)

20% ls. lt. to med. drab v. fn. dense

90

Sh. sl. calc. med. maroon lam. soft 20% ls. sl. greenish gray med.

Sh. v. calc. lt. gray + sl. greenish gray, non lam. hd. bracks. crinoids

10% ls. lt. to med. gray + drabish gray v. fn.

00

Sheet No. 4 Name of Well Bedford Survey No. W-0018

Location Date Drilled Analyst Elias, April 8, 1941

Depth	Description
300	Sh. calc. [illegible] lt. gray, 5% maroon, lam. med. hd. [illegible] micac. in part
305	15% med. m[illegible] on, poor lam. med. hd. 5% ls. non-lam & med. drab gray, v. fn. [illegible]
310	Sh. calc. lt., sl. greenish in part, gray, lam. hd.; 25% ls. med. gray + drab, mott. v. fn. to fn, crinoids, bryozs. - Ambocelia et al 2% mare
	Ls. lt to med. [illegible] less., sm c [illegible]
	40% sh. calc [illegible] gree[illegible] gray, non lam. med. hd. 5%
320	Ls. lt. gray, v. fn, [illegible] l to [illegible] little fn. to m. c. trans.
325	Ls [illegible] on lt. fn. with streaks of fn. to med. trans. sh. reduced to [illegible]
330	
335	Sh. sl. calc. med. sl. drabish gray, lam. finely micac.
340	Ls. lt gray, fn. little med.; 10% sh. med. maroon lam. finely micac.
	3%
350	Sh. lt. to lt. med. gray, poor lam. med. hd.
355	Sh. calc. lt. med. gray, lam. micac.
360	
370	
375	30% sh. sl. calc. lt. green non-lam.
380	Sh. ca[illegible] gray, lam 10% green 375-80'; 25% sh. med. m. maroon poor lam. hd.
385	Sh. calc. lt. gray, m[illegible] [illegible] d green gray, poor lam. hd. fn. drab gray sh. with ostracodes
	10% ls. lt. gray hab, v. fn., crinoids
390	Sh. calc. med. maroon non-lam. hd. 5% lt. greenish gray
395	Sh. calc. lt. to med. maroon non lam.; 25% sh. v. calc. lt. v. sl. greenish gray, poor lam. less. - brachs.
400	

Sheet No. 5 Name of Well Redford Survey No. W-0018

Location Date Drilled Analyst Elias April 9, 1941

Sheet No. 6 Name of Well Bedford Survey No. W-0018

Location Date Drilled Analyst Elias Davila 1941

Depth	Description
500	Ls. flour, pale drabish gr
505	Ls. vab drabish gray, ostraco
10	Sh. calc. med. gray, poor lam. hd.
516	Sh. 5% blk. sh as v. small frags.
20	Sh. ext. sl. drabish gray, non lam
525	L flour (arg.?) pale sl. drabish
30	Ls. lt drabish gray, v. fn., fusulinid
535	pale to lt. sl. drabish gray, v. fn., ostracode
540	Ls. flour (arg.?) pale drab gray
	Sh. calc. dk. gray to blk., lam. to non lam. hd.
50	Sh. calc. lt. med. gray, non lam. hd. 10% dk. gray
555	
60	Sh. v. calc. lt. gray non lam. hd.
565	Ls. arg. pale gray, flowy or flour 10% sh. v. calc. lt. sl. greenish gray, lam. hd.
70	Ls pale to lt. gray + drabish gray, v. fn.
575	Ls. lt. drabish gray, v. fn.
80	Sh. calc. lt. med gray, 15% dk. med. gray, poor lam.
585	Sh. calc lt. gray + drabish gray non-lam. hd. 40% ls. lt. grayish drab, v. fn.
90	Sh. calc. lt. gray; 10% dk, non lam, hd.
595	Sh. calc. lt. greenish gray, some med. gray, non lam. hd. 40% ls. lt. drab + gray drab, v. fn.
600	

Sheet No. 7 Name of Well Bedford Survey No. W-0018

Location ..... Date Drilled ..... Analyst Elias Daniel 9.1941

00

Sh. v. sl. calc. [illegible], non-lam. hd., [illegible] drab v. fn.

605

Ls. lt. to lt. med. drab + drab gray, v. fn.

10

Sh. med. to dk. gray, little blk., poor lam.
calc

615

Sh. calc. lt. sl. olivish gray, non lam.

20

Sh. calc. med. gray + maroonish gray, non-lam. hd.; 20% ls. lt. to med. drab maroon + green stained, v. fn.

625

Sh. calc. lt. maroonish brown, non-lam. hd.

30

630

Sh. v. calc. lt. green gray, 3% dk. gray, non-lam. hd. 10% lt. drab ls. mod. silty in part

635

Ls. lt. to med. drab, v. fn., crinoids, bryozoans

40

640

Sh. calc. lt. sl. greenish gray, non to poor lam, 10% sh. dk. gray

645

Sh. v. calc. lt. drabish gray, non-lam. – flow

50

650

Sh. calc. lt. gray, little maroon, gr. and yellow, 10% dk. gray, non-lam.

655

Sh. calc. lt. gray, greenish in part. 15% med. to dk. gray, sl. silty in small part

60

lt. gr. sh. blk. coaly

665

Sh. calc. lt. med. gray, non-lam. hd. 10% ls. lt. drab gray, v. fn.

70

670

Sh. ca[illegible] green[illegible] ay, non-lam. [illegible], micac[illegible]ish silty in part [illegible]% ls. lt. drab gray, v. fn.

675

Sh. calc. silty, lt. gray, flow

80

680

Sh. calc. silty, lt. gray, micac. non-lam [illegible] gr. muscovite flakes

685

Sh. lt. to lt. med. gray, poor lam.

90

690

Sh. sandy [illegible] (v. fn.) in small part, lt. v. sl. greenish gray, [illegible] lam., micac. in part.

695

Sh. calc. v. sandy (v. fn.), lt. gray, micac. non-lam

00

700

Sheet No. 8 Name of Well Redland Survey No. W-0018

Location ..... Date Drilled ..... Analyst Elias April 3 1941

Depth	Description
00	700 Sh. calc. ed. to dk. gray, poor
	705 Ss. calc. drabish gray, v. fn. aug. incoherent, silty in part
10	710
	715 Sls. calc. sandy, lt. drabish gray chert
20	720 Sh. v. calc. med. to dk. gray, lam.
	Sh. lt. to dk. gray, mott., lam. hd. 2% coal
30	730 Ls. lt. drab, v. fn.; 35% sh. v. calc. lt. v. sh. greenish gray, non lam. hd. 15% sh. dk. gray, lam. hd.
	735 Ls. v. dol. lt. drab, v
40	740 Sh. calc. lt. gray, non-lam.
	745 Sh. calc. lt. med. greenish gray 10% med. maroon, non lam. hd
50	750 Ls. dolomitic in part, lt. dk. fn. 20% sh. calc. med. greenish gray to dk. gray
	755 Sh. calc. med. gray, poor lam.; 10% sh. blk. lam.
60	760 Sh. sl. calc. sl. silty in part, lt. gray, v. sl. greenish in part, non lam
	765
70	
80	
90	
100	

Sheet No. ..... Name of Well ..... Survey No. W-0015

Location ..... Date Drilled ..... Analyst .....

Sheet No. ..... Name of Well ..... Survey No. W-0018

Location ..... Date Drilled ..... Analyst .....

1400

1410

20

1430

40

50

1460

1470

80

1490

1500

Sheet No. ..... Name of Well Redtail ..... Survey No. W-0018

Location ..... Date Drilled ..... Analyst M. Elia

00

10

20

30

40

50

60

70

80

90

00

Sheet No. ..... Name of Well Beeton Survey No. W-0018

Location Taylor Co. Date Drilled ..... Analyst ..... [illegible]

00

10

20

30

40

50

60

70

80

90

100

Sheet No. ..... Name of Well Bedford ..... Survey No. W-0012

Location ..... Date Drilled ..... Analyst .....

00

10

20

30

40

50

60

70

80

90

00

Sheet No. ..... Name of Well Bedford ..... Survey No. W-0018

Location Tan ..... Date Drilled ..... Analyst .....

00

10

20

30

40

50

60

70

80

1890

00

Sheet No. ..... Name of Well Bertha ..... Survey No. W-9018

Location Texas ..... Date Drilled ..... Analyst Elias

00

10

20

Dolo., slightly calc.

30

Dolo., slightly calc.

40

50

60

Dolo. v. slightly calc., [illegible]

70

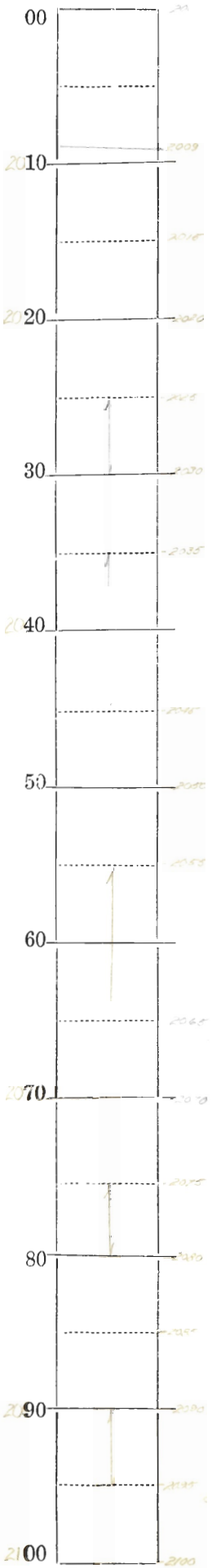
80

90

200

Sheet No. ..... Name of Well Redtail ..... Survey No. W-9018

Location Tawas ..... Date Drilled ..... Analyst M. Elias



[illegible] chalcedony;

[illegible] 1% green sh (glauconite?)

[illegible] reduced

[illegible]

[illegible] 5% green sh (glauconite

[illegible] 5% green sh (glauconite

[illegible] med. but lt., sh., sorted to sand, 95% salt (quartz?); 5% green sh (glauconite?)

Sheet No. ..... Name of Well Bedford ..... Survey No. W-0018

Location Ia ..... Date Drilled ..... Analyst M. Flow

2100
2105
2110
20
30
40
2145
2150
2160
70
2170
2180
2190
2195
2200

Sheet No. ..... Name of Well Bedford ..... Survey No. W-0018

Location Taylor Co. ..... Date Drilled ..... Analyst ..... [illegible]

Depth	Elevation	Description
2200	2200	No Sample
	2205	Do. do. 30 % 20 % [illegible]
10	2210	
	2215	
20	2220	some [illegible] 8% [illegible]
	2225	pyr. [illegible]
30	2230	pale almost white, reduced to silt, 30% [illegible]
	2235	No Sample
40	2240	Do. [illegible] reduced to silt. 8% [illegible]
	2245	white, slightly [illegible] reduced to 2% [illegible]
50	2250	[illegible]
	2255	[illegible]
60	2260	
	2265	
70	2270	
	2275	pale white, [illegible]
80	2280	1% magnetite
	2285	
90	2290	[illegible]
	2295	silt & shale
2300	2300	

Sheet No. ..... Name of Well Bedford ..... Survey No. WL-0018

Location 7 ..... Date Drilled ..... Analyst E

00	2300	
	2305	
10	2310	
	2315	
20	2320	lm, red; auhydrite
	2325	10"
2330	2330	
	2335	
2340	2340	
	2345	
2350	2350	Dn
	2355	
2360		
	2365	No sample
2370	2370	
	2375	
80	2380	
	2385	
2390		
	2395	
2400	2400'6" T.D.	

Gus Ryre

W-0018 [Mississippian only]

	Fluorite	Apatite	Chitin	Barite	Anhydrite	Celestite	Pyrite	Sphalerite	Zircon-zoned	Zircon-unzoned	Tourmaline-Green	Tourmaline-brown	Tourmaline-blue	Garnet	Leucoxene	Anatase	Titanite	Rutile	Ilmenite & Mag.	Limonite & Hematite	Glauconite	Hornblende	Tremolite	Mica	Chlorite	Epidote	Staurolite		Anhydrite	Chert	Clay aggregates	Feldspar	Glauconite	Gypsum	Muscovite	Quartz
Limestone sandy & shaly 1365-1390					C		F	X		X																			R		F	X				very C
Dolomite 1395-1480					R		F		X		X																		X	C	A	X				A
Shale 1480-1490					X		F	X		R	X				R	X	X		C			X								C	F	R				C
Dolomite 1500-1510				X	X		F			X	X									C										A	A	R				C
Limestone 1520-1560	X			X	X		F	X		X	X				R					C		X								A	C	R				C
Limestone 1600-1640					A		R													A										A	A					C
Shale 1660-1690	X				R		F	X		X	X				X							X									F					X
Limestone 1700-1780				X	X		C			X	X									F											F					R

DEEP WELL STUDY

Well No. W— 0018
Depth 35 (?) to 44
No. samples used 2
Analyst Tallow
Date 8/22/34

MECHANICAL ANALYSIS

A. Acid treatment (HCl 15 %)

1. Sample weight . . . . . 31.35 gm. 100.0% : 2. Wt. of F. P. 2.20
3. Wt. after solution, with filter paper . . . . . 8.82 gm.
4. Less wt. F. P. (2) . . . 2.20 gm.
5. Wt. Insol. Residue (3 minus 4) . . . . . 6.62 gm. 21.2 %
6. Wt. lost by solution (1 minus 5) . . . . . 24.73 gm. 78.8 %
7. To balance (5 plus 6) . . 31.35 gm. 100.0 %

B. Subsidation:

1. Original Wt. . . . . 6.62 gm. 100.0%
2. Cylinder (+1/32) 7.60 / 2.22 5.38 gm. 81.4 %
3. Jar (1/32—1/64) 2.53 / 2.27 .26 gm. 3.8 %
4. Drain . . . . . .98 gm. 4.8 %

C. Screen Analysis

SIZE	GRAMS	%
2 plus		
2–1 mm		
1–½ mm		
½–¼ mm		
¼–⅛ mm	1.59	29.6
⅛–1/16	3.77	70.4
Pan		
Total	5.36	100.0

MINERALOGICAL ANALYSIS

(Use opposite side of page for details of minerals)

Acet. Tetrabr. / Bromoform ..... Sp. gr. Size–Grade(s) 1/8-1/32 mm.

Analyst .....
Date .....

Wt. of sample . . . . 2.02 gm. 100.0% Shape Analysis:

Heavy Minerals . . . . .01 gm. % A % : a % : C %

Light Minerals . . . . gm. % r % : R %.

Minerals Identified; Heavy Concentrate — No. of Grains — Rel. %

Classification Grouping: Primary Minerals: % — Absol. %

Total 100%

Light Concentrate

Secondary Minerals: %

Total . . . . . 100% Total 100%

Revised Lithologic Description (from descriptive log and laboratory data).

DEEP WELL STUDY

Well No. W— 0018
Depth 44 to 55
No. samples used 2
Analyst 1
Date 8/22/54

MECHANICAL ANALYSIS

A. Acid treatment (HCl 15 %)

1. Sample weight . . . . . 25.00 gm. 100.0% : 2. Wt. of F. P. 2
3. Wt. after solution, with filter paper . . . . . 25.65 gm.
4. Less wt. F. P. (2) . . . 2 gm.
5. Wt. Insol. Residue (3 minus 4) . . . . . 23.7 gm. 93.5 %
6. Wt. lost by solution (1 minus 5) . . . . . 1.63 gm. 6.5 %
7. To balance (5 plus 6) . . 25.00 gm. 100.0 %

B. Subsidation:

1. Original Wt. . . . . 23.37 gm. 100.0%
2. Cylinder (+1/32) 9.63 / 2.23 7.40 gm. 31.6 %
3. Jar (1/32—1/64) 7.25 / 2.20 5.05 gm. 21.6 %
4. Drain . . . . . 1.092 gm. %

C. Screen Analysis

SIZE	GRAMS	%
2 plus		
2–1 mm		
1–½ mm	.17	2.3
½–¼ mm	.29	4.4
¼–⅛ mm	.12	1.5
⅛–1/16	.46	6.3
Pan	6.11	85.5
Total	7.15	100.0

MINERALOGICAL ANALYSIS

(Use opposite side of page for details of minerals)

Analyst
Date

Acet. Tetrabr. / Bromoform } Sp. gr. Size–Grade(s) 1/16 - 1/32 mm.

Wt. of sample . . . . 2.12 gm. 100.0%

Heavy Minerals . . . . 04 gm. %

Light Minerals . . . . gm. %

Shape Analysis:

A % : a % : C %

r % : R %.

Minerals Identified; Heavy Concentrate

No. of Grains	Rel. %

Classification Grouping: Primary Minerals: % — Absol. %

Total 100%

Light Concentrate

Secondary Minerals: %

Total 100%

Total 100%

Revised Lithologic Description (from descriptive log and laboratory data).

DEEP WELL STUDY

Well No. W— 0018
Depth 55 to 75
No. samples used 2
Analyst T
Date 8/22/38

MECHANICAL ANALYSIS

A. Acid treatment (HCl 15 %)

1. Sample weight . . . . . 30.00 gm. 100.0% : 2. Wt. of F. P. 2.29
3. Wt. after solution, with filter paper . . . . . 30.69 gm.
4. Less wt. F. P. (2) . . . 2.29 gm.
5. Wt. Insol. Residue (3 minus 4) . . . . . 28.40 gm. 94.7%
6. Wt. lost by solution (1 minus 5) . . . . . 1.60 gm. 5.3%
7. To balance (5 plus 6) . . 30.00 gm. 100.0%

B. Subsidation:

1. Original Wt. . . . . 28.40 gm. 100.0%
2. Cylinder (+1/32) 10.83 / 2.19 8.64 gm. 30.4%
3. Jar (1/32—1/64) 7.12 / 2.25 4.87 gm. 17.1%
4. Drain . . . . . 14.89 gm. 52.5%

C. Screen Analysis

SIZE	GRAMS	%
2 plus		
2–1 mm		
1–½ mm	.06	.7
½–¼ mm	.46	5.4
¼–⅛ mm	.82	9.7
⅛–1/16	2.08	24.6
Pan	5.05	59.6
Total	8.47	100.0

MINERALOGICAL ANALYSIS

(Use opposite side of page for details of minerals)

Acet. Tetrabr. / Bromoform ..... Sp. gr. Size–Grade(s) 1/8-1/16 mm.

Analyst .....
Date .....

Wt. of sample . . . . 2.06 gm. 100.0%

Heavy Minerals . . . . .04 gm. ....%

Light Minerals . . . . gm. ....%

Shape Analysis:

A....% : a....% : C....%

r ....% : R ....%.

Minerals Identified; Heavy Concentrate — No. of Grains — Rel. %

Total 100%

Light Concentrate

Classification Grouping: — Absol. %

Primary Minerals: ....%

Secondary Minerals: ....%

Total 100%

Total 100%

Revised Lithologic Description (from descriptive log and laboratory data).

DEEP WELL STUDY

Well No. W— 0017
Depth 90 to 105
No. samples used 2
Analyst 7
Date 7/22/24

MECHANICAL ANALYSIS

A. Acid treatment (HCl 15 %)

1. Sample weight . . . . . 29.52 gm. 100.0% : 2. Wt. of F. P. .....
3. Wt. after solution, with filter paper . . . . . 17.83 gm.
4. Less wt. F. P. (2) . . . 2.27 gm.
5. Wt. Insol. Residue (3 minus 4) . . . . . 15.56 gm. 52.7 %
6. Wt. lost by solution (1 minus 5) . . . . . 13.96 gm. 47.3 %
7. To balance (5 plus 6) . . 29.52 gm. 00.0 %

B. Subsidation:

1. Original Wt. . . . . 15.56 gm. 100.0%
2. Cylinder (+1/32) 0.60 / 2.37 8.23 gm. 52.9 %
3. Jar (1/32—1/64) 4.49 / 2.36 2.63 gm. . %
4. Drain . . . . . 4.70 gm. 30.2 %

C. Screen Analysis

SIZE	GRAMS	%
2 plus		
2–1 mm		
1–½ mm		
½–¼ mm		
¼+⅛ mm	3.74	45.6
⅛–1/16	4.46	54.4
Pan		
Total	8.20	100.0

MINERALOGICAL ANALYSIS

(Use opposite side of page for details of minerals)

Acet. Tetrabr. / Bromoform ..... Sp. gr. Size–Grade(s) 1/8–1/32 mm.

Analyst .....
Date .....

Wt. of sample . . . . 2.08 gm. 100.0%

Heavy Minerals . . . . 06 gm. ..... %

Light Minerals . . . . gm. ..... %

Shape Analysis:

A ..... % : a ..... % : C ..... %

r ..... % : R ..... %.

Minerals Identified; Heavy Concentrate — No. of Grains — Rel. %

Classification Grouping: — Absol. %

Primary Minerals: ..... %

Total 100%

Light Concentrate

Secondary Minerals: ..... %

Total . . . . . 100% Total 100%

Revised Lithologic Description (from descriptive log and laboratory data).

DEEP WELL STUDY

Well No. W— 001?
Depth 110 to 115
No. samples used 1
Analyst T
Date 8/22/24

MECHANICAL ANALYSIS

A. Acid treatment (HCl 15 %)

1. Sample weight . . . . . 6.00 gm. 100.0% : 2. Wt. of F. P. 2.2
3. Wt. after solution, with filter paper . . . . . 10.12 gm.
4. Less wt. F. P. (2) . . . 2.23 gm.
5. Wt. Insol. Residue (3 minus 4) . . . . . 7.89 gm. 30.3 %
6. Wt. lost by solution (1 minus 5) . . . . . 18.11 gm. 69.7 %
7. To balance (5 plus 6) . . 26.00 gm. 100.0 %

B. Subsidation:

1. Original Wt. . . . . 7.89 gm. 100.0%
2. Cylinder (+1/32) 7.43 2.21 5.22 gm. 66.2 %
3. Jar (1/32—1/64) 3.08 2.24 .84 gm. 10.6 %
4. Drain . . . . . 1.83 gm. 23.2 %

C. Screen Analysis

SIZE	GRAMS	%
2 plus		
2–1 mm		
1–½ mm		
½–¼ mm		
~~¼~~+⅛ mm	1.58	30.8
⅛–1/16	3.55	69.2
Pan		
Total	5.13	100.0

MINERALOGICAL ANALYSIS

(Use opposite side of page for details of minerals)

Acet. Tetrabr. / Bromoform } Sp. gr. Size–Grade(s) 1/8–1/32 mm.

Analyst
Date

Wt. of sample . . . . 2.17 gm. 100.0%

Heavy Minerals . . . . .04 gm. %

Light Minerals . . . . gm. %

Shape Analysis:

A % : a % : C %

r % : R %.

Minerals Identified; Heavy Concentrate — No. of Grains — Rel. %

Classification Grouping: Primary Minerals: % — Absol. %

Total 100%

Light Concentrate

Secondary Minerals: %

Total . . . . . 100% Total 100%

Revised Lithologic Description (from descriptive log and laboratory data).

DEEP WELL STUDY

Well No. W-- 0018
Depth 115 to 130
No. samples used 3
Analyst T
Date 8/22/34

MECHANICAL ANALYSIS

A. Acid treatment (HCl 15 %)

1. Sample weight . . . . . 36.62 gm. 100.0% : 2. Wt. of F. P. .26
3. Wt. after solution, with filter paper . . . . . 17.26 gm.
4. Less wt. F. P. (2) . . . .26 gm.
5. Wt. Insol. Residue (3 minus 4) . . . . . 16.00 gm. 43.6 %
6. Wt. lost by solution (1 minus 5) . . . . . 20.62 gm. 56.4 %
7. To balance (5 plus 6) . . 36.62 gm. 100.0 %

B. Subsidation:

1. Original Wt. . . . . 16.70 gm. 100.0%
2. Cylinder (+1/32) 11.15 / 2.31 8.84 gm. 55.3 %
3. Jar (1/32—1/64) 4.19 / 2.32 1.87 gm. 11. %
4. Drain . . . . . 5.29 gm. 33 %

C. Screen Analysis

SIZE	GRAMS	%
2 plus		
2–1 mm		
1–½ mm		
½–¼ mm		
¼–⅛ mm	4.70	53.1
⅛–1/16	4.15	46.9
Pan		
Total	8.85	100.0

MINERALOGICAL ANALYSIS

(Use opposite side of page for details of minerals)

Analyst
Date

Acet. Tetrabr. / Bromoform } Sp. gr. Size–Grade(s) 1/8-1/32 mm.

Wt. of sample . . . . 2.00 gm. 100.0%

Heavy Minerals . . . . .02 gm. %

Light Minerals . . . . gm. %

Shape Analysis:

A. %: a. %: C. %

r. %: R. %.

Minerals Identified; Heavy Concentrate — No. of Grains — Rel. %

Classification Grouping: Primary Minerals: %

Absol. %

Total 100%

Light Concentrate

Secondary Minerals: %

Total 100%

Total 100%

Revised Lithologic Description (from descriptive log and laboratory data).

DEEP WELL STUDY

Well No. W— 0018
Depth 130 to 145
No. samples used 3
Analyst T
Date 8/22/34

MECHANICAL ANALYSIS

A. Acid treatment (HCl 15 %)

1. Sample weight . . . . . 40.00 gm. 100.0% : 2. Wt. of F. P. 2.15
3. Wt. after solution, with filter paper . . . . . 11.21 gm.
4. Less wt. F. P. (2) . . . 2.15 gm.
5. Wt. Insol. Residue (3 minus 4) . . . . . 9.06 gm. 22.6 %
6. Wt. lost by solution (1 minus 5) . . . . . 30.94 gm. 77.4 %
7. To balance (5 plus 6) . . 40.00 gm. 100.0 %

B. Subsidation:

1. Original Wt. . . . . 9.06 gm. 100.0%
2. Cylinder (+1/32) 8.99 / 2.26 6.73 gm. 74.3 %
3. Jar (1/32—1/64) 3.09 / 2.31 .78 gm. 8.6 %
4. Drain . . . . . 1.55 gm. 17.1 %

C. Screen Analysis

SIZE	GRAMS	%
2 plus		
2–1 mm		
1–½ mm		
½–¼ mm		
~~¼~~ 1/8 mm	1.47	22.
1/8–1/16	5.10	77.7
Pan		
Total	6.57	100.0

MINERALOGICAL ANALYSIS

(Use opposite side of page for details of minerals)

Acet. Tetrabr. / Bromoform ..... Sp. gr. Size–Grade(s) 1/8 1/32 mm.

Analyst .....
Date .....

Wt. of sample . . . . 2.00 gm. 100.0%

Heavy Minerals . . . . .03 gm. ..... %

Light Minerals . . . . gm. ..... %

Shape Analysis:

A ..... % : a ..... % : C ..... %

r ..... % : R ..... %.

Minerals Identified; Heavy Concentrate — No. of Grains — Rel. %

Classification Grouping: — Absol. %

Primary Minerals: ..... %

Total 100%

Light Concentrate

Secondary Minerals: ..... %

Total . . . . . 100% Total 100%

Revised Lithologic Description (from descriptive log and laboratory data).

DEEP WELL STUDY

Well No. W— 0018
Depth 160 to 170
No. samples used 2
Analyst
Date 8/22/30

MECHANICAL ANALYSIS

A. Acid treatment (HCl 15 %)

1. Sample weight . . . . . 40.00 gm. 100.0% : 2. Wt. of F. P. 2
3. Wt. after solution, with filter paper . . . . . 26.2 gm.
4. Less wt. F. P. (2) . . . . gm.
5. Wt. Insol. Residue (3 minus 4) . . . . . 23.94 gm. 59.8 %
6. Wt. lost by solution (1 minus 5) . . . . . 16.06 gm. 40.2 %
7. To balance (5 plus 6) . . 40.00 gm. 100.0 %

B. Subsidation:

1. Original Wt. . . . . 23.94 gm. 100.0%
2. Cylinder (+1/32) 18.21 / 2.27 15.94 gm. 66.6 %
3. Jar (1/32—1/64) 5.27 / 2.29 2.96 gm. 12.4 %
4. Drain . . . . . 5.04 gm. 21.0 %

C. Screen Analysis

SIZE	GRAMS	%
2 plus		
2–1 mm		
1–½ mm	2.79	17.9
½–¼ mm	3.07	19.8
¼–⅛ mm	2.57	6.5
⅛–1/16	2.64	17
Pan	4.46	28.8
Total	15.53	100.0

MINERALOGICAL ANALYSIS

(Use opposite side of page for details of minerals)

Acet. Tetrabr. / Bromoform } Sp. gr. Size–Grade(s) 1/8–1/16 mm.

Analyst
Date

Wt. of sample . . . . 2.09 gm. 100.0%

Heavy Minerals . . . . 0.6 gm. %

Light Minerals . . . . gm. %

Shape Analysis:

A. %: a. %: C. %

r. %: R. %.

Minerals Identified; Heavy Concentrate — No. of Grains — Rel. %

Classification Grouping: Primary Minerals: % — Absol. %

Total 100%

Light Concentrate

Secondary Minerals: %

Total 100%

Total 100%

Revised Lithologic Description (from descriptive log and laboratory data).

DEEP WELL STUDY

Well No. W— 0018
Depth 170 to 90
No. samples used 2
Analyst
Date 8/22/34

MECHANICAL ANALYSIS

A. Acid treatment (HCl 15 %)

1. Sample weight . . . . . 40.00 gm. 100.0% : 2. Wt. of F. P. 2.21
3. Wt. after solution, with filter paper . . . . . 29.49 gm.
4. Less wt. F. P. (2) . . . 2.21 gm.
5. Wt. Insol. Residue (3 minus 4) . . . . . 27.28 gm. 68.2 %
6. Wt. lost by solution (1 minus 5) . . . . . 12.72 gm. 31.8 %
7. To balance (5 plus 6) . . 40.00 gm. 100.0 %

B. Subsidation:

1. Original Wt. . . . . 27.28 gm. 100.0%
2. Cylinder (+1/32) 14.47 / 2.17 / 06 — 14.00 gm. 51. %
3. Jar (1/32—1/64) 5.55 / 1.28 — 3.27 gm. 2. %
4. Drain . . . . . 10.01 gm. 37. %

C. Screen Analysis

SIZE	GRAMS	%
2 plus		
2–1 mm		
1–½ mm	2.77	20.
½–¼ mm	2.62	19.
¼–⅛ mm	1.63	8
⅛–1/16	3.91	28.5
Pan	2.80	23.1
Total	13.73	100.0

check

MINERALOGICAL ANALYSIS

(Use opposite side of page for details of minerals)

Acet. Tetrabr. / Bromoform } ..... Sp. gr. Size–Grade(s) 1/8–1/16 mm.

Analyst
Date

Wt. of sample . . . . 2.06 gm. 100.0%

Heavy Minerals . . . . 2.01 gm. %

Light Minerals . . . . gm. %

Shape Analysis:

A. % : a. % : C. %

r % : R %.

Minerals Identified; Heavy Concentrate — No. of Grains — Rel. %

Classification Grouping: Primary Minerals: % — Absol. %

Total 100%

Light Concentrate

Secondary Minerals: %

Total . . . . . 100% Total 100%

Revised Lithologic Description (from descriptive log and laboratory data).

DEEP WELL STUDY

Well No. W— 0018
Depth 190 to 205
No. samples used 3
Analyst T
Date 8/22/34

MECHANICAL ANALYSIS

A. Acid treatment (HCl 15 %)

1. Sample weight . . . . . 42.62 gm. 100.0% : 2. Wt. of F. P. 2.30
3. Wt. after solution, with filter paper . . . . . 37.91 gm.
4. Less wt. F. P. (2) . . . 2.30 gm.
5. Wt. Insol. Residue (3 minus 4) . . . . . 35.61 gm. 83.5 %
6. Wt. lost by solution (1 minus 5) . . . . . 7.01 gm. 16.5 %
7. To balance (5 plus 6) . . 42.62 gm. 100.0 %

B. Subsidation:

1. Original Wt. . . . . 35.61 gm. 100.0%
2. Cylinder (+1/32) 13.71 / 2.19 11.52 gm. 32.4%
3. Jar (1/32—1/64) 8.93 / 2.25 6.68 gm. 18.8 %
4. Drain . . . . . 17.41 gm. 48.8 %

C. Screen Analysis

SIZE	GRAMS	%
2 plus		
2–1 mm		
1–½ mm		
½–¼ mm		
~~¼~~+⅛ mm	3.03	26.8
⅛–1/16	2.78	24.6
Pan	5.49	48.6
Total	11.30	100.0

MINERALOGICAL ANALYSIS

(Use opposite side of page for details of minerals)

Acet. Tetrabr. / Bromoform } ..... Sp. gr. Size–Grade(s) 1/8–1/32 mm.

Analyst .....
Date .....

Wt. of sample . . . . 2.00 gm. 100.0%

Heavy Minerals . . . . 0 gm. ..... %

Light Minerals . . . . gm. ..... %

Shape Analysis:

A ..... % : a ..... % : C ..... %

r ..... % : R ..... %.

Minerals Identified; Heavy Concentrate — No. of Grains — Rel. %

Classification Grouping: Primary Minerals: ..... % — Absol. %

Total 100%

Light Concentrate

Secondary Minerals: ..... %

Total 100%

Total 100%

Revised Lithologic Description (from descriptive log and laboratory data).

DEEP WELL STUDY

Well No. W— 2018
Depth 215 to 230
No. samples used 3
Analyst T
Date 8/22/37

MECHANICAL ANALYSIS

A. Acid treatment (HCl 15 %)

1. Sample weight . . . . . 40.00 gm. 100.0% : 2. Wt. of F. P. 2.20
3. Wt. after solution, with filter paper . . . . . 36.93 gm.
4. Less wt. F. P. (2) . . . . gm.
5. Wt. Insol. Residue (3 minus 4) . . . . . 34.73 gm. 86.8 %
6. Wt. lost by solution (1 minus 5) . . . . . 5.27 gm. 13.2 %
7. To balance (5 plus 6) . . 40.00 gm. 100.0 %

B. Subsidation:

1. Original Wt. . . . . 34.73 gm. 100.0%
2. Cylinder (+1/32) 19.36 / 2.16 17.20 gm. 49.6 %
3. Jar (1/32—1/64) 8.52 / 2.26 6.26 gm. 18.0 %
4. Drain . . . . . 11.27 gm. 32.4 %

C. Screen Analysis

SIZE	GRAMS	%
2 plus		
2–1 mm		
1–½ mm	.82	4.8
½–¼ mm	.78	4.6
¼–⅛ mm	1.76	10.4
⅛–1/16	6.24	36.8
Pan	7.35	43.4
Total	16.95	100.0

MINERALOGICAL ANALYSIS

(Use opposite side of page for details of minerals)

Acet. Tetrabr. / Bromoform ..... Sp. gr. Size–Grade(s) ..... mm.

Analyst .....
Date .....

Wt. of sample . . . . gm. 100.0%

Heavy Minerals . . . . gm. ..... %

Light Minerals . . . . gm. ..... %

Shape Analysis:

A ..... % : a ..... % : C ..... %

r ..... % : R ..... %.

Minerals Identified; Heavy Concentrate — No. of Grains — Rel. %

Total 100%

Light Concentrate

Classification Grouping: Absol. %

Primary Minerals: ..... %

Secondary Minerals: ..... %

Total . . . . . 100% Total 100%

Revised Lithologic Description (from descriptive log and laboratory data).

DEEP WELL STUDY

Well No. W— 0012

Depth 240 to 255

No. samples used 3

Analyst T

Date 8/22/34

MECHANICAL ANALYSIS

A. Acid treatment (HCl 15 %)

1. Sample weight . . . . . 32.00 gm. 100.0% : 2. Wt. of F. P. 2.25
3. Wt. after solution, with filter paper . . . . . 34.9 gm.
4. Less wt. F. P. (2) . . . 2.25 gm.
5. Wt. Insol. Residue (3 minus 4) . . . . . 32.66 gm. 88.3 %
6. Wt. lost by solution (1 minus 5) . . . . . 4.34 gm. 11.7 %
7. To balance (5 plus 6) . . 37.00 gm. 100.0 %

B. Subsidation:

1. Original Wt. . . . . 32.66 gm. 100.0%
2. Cylinder (+1/32) 20.90 / 2.24 1.8.66 gm. 57.1 %
3. Jar (1/32—1/64) 5.22 / 2.32 2.90 gm. 8.9 %
4. Drain . . . . . 11.10 gm. 34.0 %

C. Screen Analysis

SIZE	GRAMS	%
2 plus		
2–1 mm		
1–½ mm	1.13	6.1
½–¼ mm	1.70	9.2
¼–⅛ mm	3.26	17.7
⅛–1/16	5.42	29.5
Pan	6.91	37.5
Total	18.42	100.0

MINERALOGICAL ANALYSIS

(Use opposite side of page for details of minerals)

Analyst .....

Date .....

Acet. Tetrabr. / Bromoform ..... Sp. gr. Size–Grade(s) ..... mm.

Wt. of sample . . . . gm. 100.0%

Heavy Minerals . . . . gm. ..... %

Light Minerals . . . . gm. ..... %

Shape Analysis:

A ..... % : a ..... % : C ..... %

r ..... % : R ..... %.

Minerals Identified; Heavy Concentrate — No. of Grains — Rel. %

Total 100%

Light Concentrate

Classification Grouping: Absol. %

Primary Minerals: ..... %

Secondary Minerals: ..... %

Total 100%

Total 100%

Revised Lithologic Description (from descriptive log and laboratory data).

DEEP WELL STUDY

Well No. W— 0018

Depth 265 to 280

No. samples used 3

Analyst T

Date 7/22/34

MECHANICAL ANALYSIS

A. Acid treatment (HCl 15 %)

1. Sample weight . . . . . 34.00 gm. 100.0% : 2. Wt. of F. P. .....
3. Wt. after solution, with filter paper . . . . . 33.62 gm.
4. Less wt. F. P. (2) . . . . gm.
5. Wt. Insol. Residue (3 minus 4) . . . . . 31.3 gm. 92.1 %
6. Wt. lost by solution (1 minus 5) . . . . . 2.67 gm. 7.9 %
7. To balance (5 plus 6) . . 34.00 gm. 100.0 %

B. Subsidation:

1. Original Wt. . . . . 31.33 gm. 100.0%
2. Cylinder (+1/32) 13.87 / 2.29 11.58 gm. 37.0 %
3. Jar (1/32—1/64) 7.49 / 2.29 5.20 gm. 16.6 %
4. Drain . . . . . 14.55 gm. 46.4 %

C. Screen Analysis

SIZE	GRAMS	%
2 plus		
2–1 mm		
1–½ mm		
½–¼ mm		
~~¼~~+⅛ mm	4.04	35.8
⅛–1/16	3.75	33.3
Pan	3.48	30.9
Total	11.27	100.0

MINERALOGICAL ANALYSIS

(Use opposite side of page for details of minerals)

Acet. Tetrabr. / Bromoform ..... Sp. gr. Size–Grade(s) ..... mm.

Analyst .....

Date .....

Wt. of sample . . . . gm. 100.0%

Heavy Minerals . . . . gm. ..... %

Light Minerals . . . . gm. ..... %

Shape Analysis:

A ..... % : a ..... % : C ..... %

r ..... % : R ..... %.

Minerals Identified; Heavy Concentrate — No. of Grains — Rel. %

Classification Grouping: Primary Minerals: ..... % — Absol. %

Total 100%

Light Concentrate

Secondary Minerals: ..... %

Total 100%

Total 100%

Revised Lithologic Description (from descriptive log and laboratory data).

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DEEP WELL STUDY

Well No. W— 0018
Depth 290 to 305
No. samples used 3
Analyst T
Date 8/24/34

MECHANICAL ANALYSIS

A. Acid treatment (HCl 15 %)

1. Sample weight . . . . . 43.00 gm. 100.0% : 2. Wt. of F. P. 2
3. Wt. after solution, with filter paper . . . . . 35.67 gm.
4. Less wt. F. P. (2) . . . 2 gm.
5. Wt. Insol. Residue (3 minus 4) . . . . . 33.0 gm. 77.7 %
6. Wt. lost by solution (1 minus 5) . . . . . 9.60 gm. 22.3 %
7. To balance (5 plus 6) . . 43.00 gm. 100.0 %

B. Subsidation:

1. Original Wt. . . . . 33.40 gm. 100.0%
2. Cylinder (+1/32) 16.75 2.77 14.47 gm. 43.3 %
3. Jar (1/32—1/64) 3.28 2.22 1.06 gm. 3.2%
4. Drain . . . . . 17.86 gm. 53.5%

C. Screen Analysis

SIZE	GRAMS	%
2 plus		
2–1 mm		
1–½ mm		
½–¼ mm		
¼–⅛ mm	6.07	42.6
⅛–1/16	4.12	29.0
Pan	4.03	28.4
Total	14.22	100.0

MINERALOGICAL ANALYSIS

(Use opposite side of page for details of minerals)

Analyst .....
Date .....

Acet. Tetrabr. / Bromoform } ..... Sp. gr. Size–Grade(s) ..... mm.

Wt. of sample . . . . gm. 100.0%

Heavy Minerals . . . . gm. ..... %

Light Minerals . . . . gm. ..... %

Shape Analysis:

A ..... % : a ..... % : C ..... %

r ..... % : R ..... %.

Minerals Identified; Heavy Concentrate — No. of Grains — Rel. %

Total 100%

Light Concentrate

Classification Grouping: — Absol. %

Primary Minerals: ..... %

Secondary Minerals: ..... %

Total . . . . . 100% Total 100%

Revised Lithologic Description (from descriptive log and laboratory data).

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DEEP WELL STUDY

Well No. W— 0018
Depth 305 to 320
No. samples used 3
Analyst T
Date 8/24/54

MECHANICAL ANALYSIS

A. Acid treatment (HCl 15 %)

1. Sample weight . . . . . 42.00 gm. 100.0% : 2. Wt. of F. P. 2.28
3. Wt. after solution, with filter paper . . . . . 32.24 gm.
4. Less wt. F. P. (2) . . . 2.28 gm.
5. Wt. Insol. Residue (3 minus 4) . . . . . 29.96 gm. 71.3 %
6. Wt. lost by solution (1 minus 5) . . . . . 12.04 gm. 28.7 %
7. To balance (5 plus 6) . . 42.00 gm. 100.0 %

B. Subsidation:

1. Original Wt. . . . . 29.96 gm. 100.0%
2. Cylinder (+1/32) 16.66 / 2.14 14.52 gm. 48.5 %
3. Jar (1/32—1/64) 7.52 / 2.22 5.25 gm. 17.5 %
4. Drain . . . . . 10.19 gm. 34.0 %

C. Screen Analysis

SIZE	GRAMS	%
2 plus		
2–1 mm		
1–½ mm	.82	5.8
½–¼ mm	.33	2.3
¼–⅛ mm	3.10	21.8
⅛–1/16	5.60	39.5
Pan	4.35	30.6
Total	14.20	100.0

MINERALOGICAL ANALYSIS

(Use opposite side of page for details of minerals)

Acet. Tetrabr. / Bromoform ..... Sp. gr. Size–Grade(s) ..... mm.

Analyst .....
Date .....

Wt. of sample . . . . gm. 100.0%

Heavy Minerals . . . . gm. ..... %

Light Minerals . . . . gm. ..... %

Shape Analysis:

A ..... % : a ..... % : C ..... %

r ..... % : R ..... %.

Minerals Identified; Heavy Concentrate — No. of Grains — Rel. %

Total 100%

Light Concentrate

Classification Grouping: — Absol. %

Primary Minerals: ..... %

Secondary Minerals: ..... %

Total 100%

Total 100%

Revised Lithologic Description (from descriptive log and laboratory data).

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DEEP WELL STUDY

Well No. W— 0018
Depth 320 to 235
No. samples used 3
Analyst T
Date 8/24/34

MECHANICAL ANALYSIS

A. Acid treatment (HCl 15 %)

1. Sample weight . . . . . 45.00 gm. 100.0%: 2. Wt. of F. P. 2.19
3. Wt. after solution, with filter paper . . . . . 12.96 gm.
4. Less wt. F. P. (2) . . . 2.19 gm.
5. Wt. Insol. Residue (3 minus 4) . . . . . 10.77 gm. 23.9 %
6. Wt. lost by solution (1 minus 5) . . . . . 34.23 gm. 76.1 %
7. To balance (5 plus 6) . . 45.00 gm. 100.0 %

B. Subsidation:

1. Original Wt. . . . . 0.73 gm. 100.0%
2. Cylinder (+1/32) 10.35 / 2.31 8.04 gm. 74.6 %
3. Jar (1/32—1/64) 3.17 / 2.32 1.85 gm. 17.2 %
4. Drain . . . . . .88 gm. 8.2 %

C. Screen Analysis

SIZE	GRAMS	%
2 plus		
2–1 mm		
1–½ mm		
½–¼ mm		
¼+⅛ mm	3.00	38.1
⅛–1/16	3.85	48.9
Pan	1.	13.0
Total	7.97	100.0

MINERALOGICAL ANALYSIS

(Use opposite side of page for details of minerals)

Analyst
Date

Acet. Tetrabr. / Bromoform } Sp. gr. Size–Grade(s) mm.

Wt. of sample . . . . gm. 100.0%

Heavy Minerals . . . . gm. %

Light Minerals . . . . gm. %

Shape Analysis:

A %: a %: C %

r %: R %.

Minerals Identified; Heavy Concentrate — No. of Grains — Rel. %

Total 100%

Light Concentrate

Classification Grouping: Absol. %

Primary Minerals: %

Secondary Minerals: %

Total 100%

Total 100%

Revised Lithologic Description (from descriptive log and laboratory data).

DEEP WELL STUDY

Well No. W— 001

Depth 350 to 365

No. samples used 3

Analyst T

Date 8/24/3[illegible]

MECHANICAL ANALYSIS

A. Acid treatment (HCl 15 %)

1. Sample weight . . . . . 40.00 gm. 100.0% : 2. Wt. of F. P. 2.30
3. Wt. after solution, with filter paper . . . . . 38.87 gm.
4. Less wt. F. P. (2) . . . 2.30 gm.
5. Wt. Insol. Residue (3 minus 4) . . . . . 26.57 gm. 66.4 %
6. Wt. lost by solution (1 minus 5) . . . . . 13.43 gm. 33.6 %
7. To balance (5 plus 6) . . 40.00 gm. 100.0 %

B. Subsidation:

1. Original Wt. . . . . 26.57 gm. 100.0%
2. Cylinder (+1/32) 16.61 / 2.38 14.23 gm. 53.[illegible] %
3. Jar (1/32—1/64) 8.51 / 2.37 6.14 gm. 23.[illegible] %
4. Drain . . . . . 6.20 gm. 23.3 %

C. Screen Analysis

SIZE	GRAMS	%
2 plus		
2–1 mm		
1–½ mm		
½–¼ mm		
¼+⅛ mm	3.46	24.6
⅛–1/16	7.36	52.4
Pan	3.22	23.0
Total	14.04	100.0

MINERALOGICAL ANALYSIS

(Use opposite side of page for details of minerals)

Analyst .....

Date .....

Acet. Tetrabr. / Bromoform } ..... Sp. gr. Size–Grade(s) 1/8–1/16 mm.

Wt. of sample . . . . .00 gm. 100.0%

Heavy Minerals . . . . .03 gm. ..... %

Light Minerals . . . . gm. ..... %

Shape Analysis:

A ..... % : a ..... % : C ..... %

r ..... % : R ..... %.

Minerals Identified; Heavy Concentrate — No. of Grains — Rel. %

Classification Grouping: Primary Minerals: ..... % — Absol. %

Total 100%

Light Concentrate

Secondary Minerals: ..... %

Total 100%

Total 100%

Revised Lithologic Description (from descriptive log and laboratory data).

DEEP WELL STUDY

Well No. W-- 0018
Depth 365 to 380
No. samples used 3
Analyst T
Date 8/24/24

MECHANICAL ANALYSIS

A. Acid treatment (HCl ..... %)

1. Sample weight . . . . . 40 gm. 100.0% : 2. Wt. of F. P. 2.19
3. Wt. after solution, with filter paper . . . . . 37.61 gm.
4. Less wt. F. P. (2) . . . 2.19 gm.
5. Wt. Insol. Residue (3 minus 4) . . . . . 35.32 gm. 88.3 %
6. Wt. lost by solution (1 minus 5) . . . . . 4.68 gm. 11.7 %
7. To balance (5 plus 6) . . 40.00 gm. 100.0 %

B. Subsidation:

1. Original Wt. . . . . 35.32 gm. 100.0%
2. Cylinder (+1/32) 18.26 / 2.23 16.03 gm. 45.4 %
3. Jar (1/32—1/64) 7.94 / 2.23 5.71 gm. 16.2 %
4. Drain . . . . . 13.58 gm. 38.4 %

C. Screen Analysis

SIZE	GRAMS	%
2 plus		
2–1 mm		
1–½ mm		
½–¼ mm		
¼+⅛ mm	7.17	44.8
⅛–1/16	3.82	23.3
Pan	5.01	.9
Total	16.00	100.0

MINERALOGICAL ANALYSIS

(Use opposite side of page for details of minerals)

Analyst .....
Date .....

Acet. Tetrabr. / Bromoform } ..... Sp. gr. Size–Grade(s) ..... mm.

Wt. of sample . . . . gm. 100.0%

Heavy Minerals . . . . gm. ..... %

Light Minerals . . . . gm. ..... %

Shape Analysis:

A ..... % : a ..... % : C ..... %

r ..... % : R ..... %.

Minerals Identified; Heavy Concentrate — No. of Grains — Rel. %

Total 100%

Light Concentrate

Classification Grouping: — Absol. %

Primary Minerals: ..... %

Secondary Minerals: ..... %

Total 100%

Total 100%

Revised Lithologic Description (from descriptive log and laboratory data).

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DEEP WELL STUDY

Well No. W— 0018
Depth 380 to 390
No. samples used 2
Analyst T
Date 8/24/34

MECHANICAL ANALYSIS

A. Acid treatment (HCl 15 %)

1. Sample weight . . . . . 40.6 gm. 100.0% : 2. Wt. of F. P. 2.23
3. Wt. after solution, with filter paper . . . . . 29.05 gm.
4. Less wt. F. P. (2) . . . 2.23 gm.
5. Wt. Insol. Residue (3 minus 4) . . . . . 26.82 gm. 67.2%
6. Wt. lost by solution (1 minus 5) . . . . . 13.18 gm. 32.8 %
7. To balance (5 plus 6) . . 40.00 gm. 100.0 %

B. Subsidation:

1. Original Wt. . . . . 26.82 gm. 100.0%
2. Cylinder (+1/32) 13.95 / 2.20 11.75 gm. 43.9 %
3. Jar (1/32—1/64) 6.61 / 2.18 4.43 gm. 16.5 %
4. Drain . . . . . 10.64 gm. 39.6 %

C. Screen Analysis

SIZE	GRAMS	%
2 plus		
2–1 mm		
1–½ mm		
½–¼ mm		
+⅛ mm	6.05	5.09
⅛–1/16	2.42	20.4
Pan	3.35	28.7
Total	11.82	100.0

MINERALOGICAL ANALYSIS

(Use opposite side of page for details of minerals)

Analyst
Date

Acet. Tetrabr. / Bromoform } Sp. gr. Size–Grade(s) mm.

Wt. of sample . . . . gm. 100.0%

Heavy Minerals . . . . gm. %

Light Minerals . . . . gm. %

Shape Analysis:

A % : a % : C %

r % : R %.

Minerals Identified; Heavy Concentrate — No. of Grains — Rel. %

Total 100%

Light Concentrate

Total 100%

Classification Grouping: — Absol. %

Primary Minerals: %

Secondary Minerals: %

Total 100%

Revised Lithologic Description (from descriptive log and laboratory data).

DEEP WELL STUDY

Well No. W— 2018

Depth 410 to 415

No. samples used 3

Analyst T

Date 8/24/30

MECHANICAL ANALYSIS

A. Acid treatment (HCl 15 %)

1. Sample weight . . . . . 40.00 gm. 100.0%: 2. Wt. of F. P. 2.20
3. Wt. after solution, with filter paper . . . . . 32.25 gm.
4. Less wt. F. P. (2) . . . 2.20 gm.
5. Wt. Insol. Residue (3 minus 4) . . . . . 30.05 gm. 75.2%
6. Wt. lost by solution (1 minus 5) . . . . . 9.95 gm. 24.8%
7. To balance (5 plus 6) . . 40.00 gm. 100.0%

Sample contaminated-thrown out

B. Subsidation:

1. Original Wt. . . . . gm. 100.0%
2. Cylinder (+1/32) gm. %
3. Jar (1/32—1/64) gm. %
4. Drain . . . . . gm. %

C. Screen Analysis

SIZE	GRAMS	%
2 plus		
2–1 mm		
1–½ mm		
½–¼ mm		
¼–⅛ mm		
⅛–1/16		
Pan		
Total		100.0

MINERALOGICAL ANALYSIS

(Use opposite side of page for details of minerals)

Acet. Tetrabr. / Bromoform ..... Sp. gr. Size–Grade(s) ..... mm.

Analyst

Date

Wt. of sample . . . . gm. 100.0%

Heavy Minerals . . . . gm. %

Light Minerals . . . . gm. %

Shape Analysis:

A. % : a. % : C. %

r % : R %.

Minerals Identified; Heavy Concentrate — No. of Grains — Rel. %

Total 100%

Light Concentrate

Classification Grouping: — Absol. %

Primary Minerals: %

Secondary Minerals: %

Total 100%

Total 100%

Revised Lithologic Description (from descriptive log and laboratory data).

DEEP WELL STUDY

Well No. W— 0018
Depth 430 to 435
No. samples used 3
Analyst T
Date 5/2-1/34

MECHANICAL ANALYSIS

A. Acid treatment (HCl 15 %)

1. Sample weight . . . . . 40 gm. 100.0% : 2. Wt. of F. P. 2.24
3. Wt. after solution, with filter paper . . . . . 16.57 gm.
4. Less wt. F. P. (2) . . . 2.24 gm.
5. Wt. Insol. Residue (3 minus 4) . . . . . 14.33 gm. 35.8 %
6. Wt. lost by solution (1 minus 5) . . . . . 25.67 gm. 64.2 %
7. To balance (5 plus 6) . . 40.00 gm. 100.0 %

B. Subsidation:

1. Original Wt. . . . . 14.33 gm. 100.0%
2. Cylinder (+1/32) 12.72 / 2.39 . 0.33 gm. 72.2 %
3. Jar (1/32—1/64) 3.32 / 2.33 . .99 gm. 6.9 %
4. Drain . . . . . 3.01 gm. 20.9 %

C. Screen Analysis 10.26

SIZE	GRAMS	%
2 plus		
2–1 mm		
1–½ mm		
½–¼ mm	4.19	41.9
¼–⅛ mm	2.05	20.5
⅛–1/16	1.9	19.3
Pan	.83	18.3
Total	10.0	100.0

MINERALOGICAL ANALYSIS

(Use opposite side of page for details of minerals)

Acet. Tetrabr. / Bromoform ..... Sp. gr. Size–Grade(s) ..... mm.

Analyst .....
Date .....

Wt. of sample . . . . gm. 100.0%

Heavy Minerals . . . . gm. ..... %

Light Minerals . . . . gm. ..... %

Shape Analysis:

A ..... % : a ..... % : C ..... %

r ..... % : R ..... %.

Minerals Identified; Heavy Concentrate — No. of Grains — Rel. %

Total 100%

Light Concentrate

Total 100%

Classification Grouping: — Absol. %

Primary Minerals: ..... %

Secondary Minerals: ..... %

Total 100%

Revised Lithologic Description (from descriptive log and laboratory data).

DEEP WELL STUDY

Well No. W— 2018

Depth 435 to 445

No. samples used 2

Analyst T

Date 7/24/20

MECHANICAL ANALYSIS

A. Acid treatment (HCl 15 %)

1. Sample weight . . . . . 40.00 gm. 100.0% : 2. Wt. of F. P. .....
3. Wt. after solution, with filter paper . . . . . 37.02 gm.
4. Less wt. F. P. (2) . . . 2.22 gm.
5. Wt. Insol. Residue (3 minus 4) . . . . . 35.80 gm. 89.5 %
6. Wt. lost by solution (1 minus 5) . . . . . 4.20 gm. 0.5 %
7. To balance (5 plus 6) . . 40.0 gm. 100.0 %

B. Subsidation:

1. Original Wt. . . . . 35.80 gm. 100.0%
2. Cylinder (+1/32) 15.58 / 2.26 13.32 gm. 37.2 %
3. Jar (1/32—1/64) 8.26 / 2.26 6.00 gm. 16.8 %
4. Drain . . . . . 16.48 gm. 46.0 %

C. Screen Analysis 13

SIZE	GRAMS	%
2 plus		
2–1 mm		
1–½ mm		
½–¼ mm	7.37	57.1
¼–⅛ mm	1.61	12.5
⅛–1/16	1.45	11.2
Pan	2.47	19.2
Total	12.90	100.0

MINERALOGICAL ANALYSIS

(Use opposite side of page for details of minerals)

Analyst .....

Date .....

Acet. Tetrabr. / Bromoform ..... Sp. gr. Size–Grade(s) ..... mm.

Wt. of sample . . . . gm. 100.0%

Heavy Minerals . . . . gm. ..... %

Light Minerals . . . . gm. ..... %

Shape Analysis:

A ..... % : a ..... % : C ..... %

r ..... % : R ..... %.

Minerals Identified; Heavy Concentrate — No. of Grains — Rel. %

Total 100%

Light Concentrate

Classification Grouping: — Absol. %

Primary Minerals: ..... %

Secondary Minerals: ..... %

Total 100%

Total 100%

Revised Lithologic Description (from descriptive log and laboratory data).

DEEP WELL STUDY

Well No. W— 0018

Depth 460 to 470

No. samples used

Analyst T

Date 8/24/34

MECHANICAL ANALYSIS

A. Acid treatment (HCl 15 %)

1. Sample weight . . . . . 40.00 gm. 100.0% : 2. Wt. of F. P. 2.23
3. Wt. after solution, with filter paper . . . . . 7.81 gm.
4. Less wt. F. P. (2) . . . 2.23 gm.
5. Wt. Insol. Residue (3 minus 4) . . . . . 5.58 gm. 13.9 %
6. Wt. lost by solution (1 minus 5) . . . . . 34.42 gm. 86.1 %
7. To balance (5 plus 6) . . 40.00 gm. 100.0 %

B. Subsidation:

1. Original Wt. . . . . 5.58 gm. 100.0%
2. Cylinder (+1/32) 6.78 / 2.28 4.50 gm. 80.6 %
3. Jar (1/32—1/64) 2.57 / 2.21 .36 gm. 6.5 %
4. Drain . . . . . 72 gm. 12.9 %

C. Screen Analysis

SIZE	GRAMS	%
2 plus		
2–1 mm		
1–½ mm		
½–¼ mm		
~~¼~~+⅛ mm	1.77	40.4
⅛–1/16	2.60	59.6
Pan		
Total	4.37	100.0

MINERALOGICAL ANALYSIS

(Use opposite side of page for details of minerals)

Acet. Tetrabr. / Bromoform ..... Sp. gr. Size–Grade(s) ..... mm.

Analyst

Date

Wt. of sample . . . . gm. 100.0%

Heavy Minerals . . . . gm. ..... %

Light Minerals . . . . gm. ..... %

Shape Analysis:

A ..... % : a ..... % : C ..... %

r ..... % : R ..... %.

Minerals Identified; Heavy Concentrate — No. of Grains — Rel. %

Total 100%

Light Concentrate

Classification Grouping: — Absol. %

Primary Minerals: ..... %

Secondary Minerals: ..... %

Total 100%

Total 100%

Revised Lithologic Description (from descriptive log and laboratory data).

DEEP WELL STUDY

Well No. W— 0018
Depth 480 to 495
No. samples used 3
Analyst T
Date 8/24/64

MECHANICAL ANALYSIS

A. Acid treatment (HCl 15 %)

1. Sample weight . . . . . 40.00 gm. 100.0% : 2. Wt. of F. P. .....
3. Wt. after solution, with filter paper . . . . . 28.06 gm.
4. Less wt. F. P. (2) . . . 2.31 gm.
5. Wt. Insol. Residue (3 minus 4) . . . . . 25.75 gm. 64.4 %
6. Wt. lost by solution (1 minus 5) . . . . . 14.25 gm. 35.6 %
7. To balance (5 plus 6) . . 40.00 gm. 100.0 %

B. Subsidation:

1. Original Wt. . . . . 25.75 gm. 100.0%
2. Cylinder (+1/32) 17.58 / 2.20 15.38 gm. 60.2 %
3. Jar (1/32—1/64) 5.16 / 2.39 2.77 gm. 10.5 %
4. Drain . . . . . 7.60 gm. 29.3 %

C. Screen Analysis 14.50

SIZE	GRAMS	%
2 plus		
2–1 mm		
1–½ mm		
½–¼ mm	7.97	55.3
¼–⅛ mm	2.00	13.9
⅛–1/16	1.78	12.4
Pan	2.65	18.4
Total	14.40	100.0

MINERALOGICAL ANALYSIS

(Use opposite side of page for details of minerals)

Acet. Tetrabr. / Bromoform ..... Sp. gr. Size–Grade(s) ..... mm.

Analyst .....
Date .....

Wt. of sample . . . . gm. 100.0%

Heavy Minerals . . . . gm. ..... %

Light Minerals . . . . gm. ..... %

Shape Analysis:

A ..... % : a ..... % : C ..... %

r ..... % : R ..... %.

Minerals Identified; Heavy Concentrate — No. of Grains — Rel. %

Total 100%

Light Concentrate

Total 100%

Classification Grouping: — Absol. %

Primary Minerals: ..... %

Secondary Minerals: ..... %

Total 100%

Revised Lithologic Description (from descriptive log and laboratory data).

DEEP WELL STUDY

Well No. W-- 0018
Depth 495 to 510
No. samples used 3
Analyst T
Date 8/24/34

MECHANICAL ANALYSIS

A. Acid treatment (HCl 15 %)

1. Sample weight . . . . . 45.00 gm. 100.0% : 2. Wt. of F. P. 4.17
3. Wt. after solution, with filter paper . . . . . 14.65 gm.
4. Less wt. F. P. (2) . . . 4.17 gm.
5. Wt. Insol. Residue (3 minus 4) . . . . . 10.48 gm. 23.3 %
6. Wt. lost by solution (1 minus 5) . . . . . 34.52 gm. 76.7 %
7. To balance (5 plus 6) . . 45.00 gm. 100.0 %

B. Subsidation:

1. Original Wt. . . . . 10.48 gm. 100.0%
2. Cylinder (+1/32) 10.29 2.27 8.02 gm. 76.6 %
3. Jar (1/32—1/64) 3.27 2.25 1.02 gm. 9.7 %
4. Drain . . . . . 1.44 gm. 13.7 %

C. Screen Analysis

SIZE	GRAMS	%
2 plus		
2–1 mm		
1–½ mm	.12	1.5
½–¼ mm	1.10	14.0
¼–⅛ mm	1.90	24.2
⅛–1/16	2.22	28.3
Pan	2.51	32.0
Total	7.85	100.0

MINERALOGICAL ANALYSIS

(Use opposite side of page for details of minerals)

Acet. Tetrabr. Bromoform ..... Sp. gr. Size–Grade(s) ..... mm.

Analyst .....
Date .....

Wt. of sample . . . . gm. 100.0%

Heavy Minerals . . . . gm. ..... %

Light Minerals . . . . gm. ..... %

Shape Analysis:

A ..... % : a ..... % : C ..... %

r ..... % : R ..... %.

Minerals Identified; Heavy Concentrate — No. of Grains — Rel. %

Total 100%

Light Concentrate

Total 100%

Classification Grouping: — Absol. %

Primary Minerals: ..... %

Secondary Minerals: ..... %

Total 100%

Revised Lithologic Description (from descriptive log and laboratory data).

DEEP WELL STUDY

Well No. W— 0018

Depth 510 to 576

No. samples used

Analyst T

Date 8/25/2d

MECHANICAL ANALYSIS

A. Acid treatment (HCl 15 %)

1. Sample weight . . . . . 39.55 gm. 100.0% : 2. Wt. of F. P. 2.31
3. Wt. after solution, with filter paper . . . . . 39.14 gm.
4. Less wt. F. P. (2) . . . 2.3 gm.
5. Wt. Insol. Residue (3 minus 4) . . . . . 36.77 gm. 92.8 %
6. Wt. lost by solution (1 minus 5) . . . . . 2.78 gm. 7.2 %
7. To balance (5 plus 6) . . 39.55 gm. 100.0 %

B. Subsidation:

1. Original Wt. . . . . 36.77 gm. 100.0%
2. Cylinder (+1/32) 25.29 / 2.20 23.09 gm. 62.8 %
3. Jar (1/32—1/64) 6.33 / 2.24 4.09 gm. 11. %
4. Drain . . . . . 9.59 gm. 26. %

C. Screen Analysis

SIZE	GRAMS	%
2 plus		
2–1 mm		
1–½ mm		
½–¼ mm		
~~¼~~+⅛ mm	9.68	41.9
⅛–1/16	5.18	22.6
Pan	8.00	35.5
Total	22.86	100.0

S.G.P. not Valid

MINERALOGICAL ANALYSIS

(Use opposite side of page for details of minerals)

Acet. Tetrabr. / Bromoform ..... Sp. gr. Size–Grade(s) 1/8–1/16 mm.

Analyst

Date

Wt. of sample . . . . 2.04 gm. 100.0%

Heavy Minerals . . . . .04 gm. %

Light Minerals . . . . gm. %

Shape Analysis:

A. % : a. % : C. %

r % : R %.

Minerals Identified; Heavy Concentrate — No. of Grains — Rel. %

Classification Grouping: — Absol. %

Primary Minerals: %

Total 100%

Light Concentrate

Secondary Minerals: %

Total 100%

Total 100%

Revised Lithologic Description (from descriptive log and laboratory data).

DEEP WELL STUDY

Well No. W-- 2018

Depth 530 to 545

No. samples used 3

Analyst T

Date 8/29/3?

MECHANICAL ANALYSIS

A. Acid treatment (HCl 15 %)

1. Sample weight . . . . . 45.00 gm. 100.0%: 2. Wt. of F. P. 2.29
3. Wt. after solution, with filter paper . . . . . 8.65 gm.
4. Less wt. F. P. (2) . . . 2.29 gm.
5. Wt. Insol. Residue (3 minus 4) . . . . . 6.36 gm. 14.0 %
6. Wt. lost by solution (1 minus 5) . . . . . 38.64 gm. 86.0 %
7. To balance (5 plus 6) . . 45.00 gm. 100.0 %

B. Subsidation:

1. Original Wt. . . . . 6.36 gm. 100.0%
2. Cylinder (+1/32) 7.65 / 2.22 5.43 gm. 85.3 %
3. Jar (1/32—1/64) 2.24 / 1.99 .25 gm. 4.0 %
4. Drain . . . . . .68 gm. 10.7 %

C. Screen Analysis

SIZE	GRAMS	%
2 plus		
2–1 mm		
1–½ mm		
½–¼ mm	2.32	43.4
¼–⅛ mm	1.58	29.6
⅛–1/16	.86	16.1
Pan	.58	10.9
Total	5.34	100.0

MINERALOGICAL ANALYSIS

(Use opposite side of page for details of minerals)

Acet. Tetrabr. / Bromoform ..... Sp. gr. Size–Grade(s) ..... mm.

Analyst .....

Date .....

Wt. of sample . . . . gm. 100.0%

Heavy Minerals . . . . gm. ..... %

Light Minerals . . . . gm. ..... %

Shape Analysis:

A ..... %: a ..... %: C ..... %

r ..... %: R ..... %.

Minerals Identified; Heavy Concentrate — No. of Grains — Rel. %

Total 100%

Light Concentrate

Classification Grouping: — Absol. %

Primary Minerals: ..... %

Secondary Minerals: ..... %

Total 100%

Total 100%

Revised Lithologic Description (from descriptive log and laboratory data).

DEEP WELL STUDY

Well No. W— 0018

Depth 555 to 565

No. samples used 2

Analyst T

Date 8/24/3d

MECHANICAL ANALYSIS

A. Acid treatment (HCl 15 %)

1. Sample weight . . . . . 45.00 gm. 100.0% : 2. Wt. of F. P. 2.29
3. Wt. after solution, with filter paper . . . . . 29.50 gm.
4. Less wt. F. P. (2) . . . 2.29 gm.
5. Wt. Insol. Residue (3 minus 4) . . . . . 27.21 gm. 60.6 %
6. Wt. lost by solution (1 minus 5) . . . . . 17.79 gm. 39.4 %
7. To balance (5 plus 6) . . 45.00 gm. 100.0 %

B. Subsidation:

1. Original Wt. . . . . 27.21 gm. 100.0%
2. Cylinder (+1/32) 20.06 / 2.26 . . . 17.80 gm. 69.1 %
3. Jar (1/32—1/64) 5.22 / 2.26 . . . 2.96 gm. 10.9 %
4. Drain . . . . . 5.45 gm. 20.0 %

C. Screen Analysis

SIZE	GRAMS	%
2 plus		
2–1 mm		
1–½ mm		
½–¼ mm	9.93	57.2
¼–⅛ mm	2.68	15.4
⅛–1/16	2.16	12.4
Pan	2.61	15.0
Total	17.38	100.0

MINERALOGICAL ANALYSIS

(Use opposite side of page for details of minerals)

Acet. Tetrabr. / Bromoform ..... Sp. gr. Size–Grade(s) ..... mm.

Analyst .....

Date .....

Wt. of sample . . . . gm. 100.0%

Heavy Minerals . . . . gm. ..... %

Light Minerals . . . . gm. ..... %

Shape Analysis:

A ..... % : a ..... % : C ..... %

r ..... % : R ..... %.

Minerals Identified; Heavy Concentrate — No. of Grains — Rel. %

Classification Grouping: Primary Minerals: ..... %

Absol. %

Total 100%

Light Concentrate

Secondary Minerals: ..... %

Total 100%

Total 100%

Revised Lithologic Description (from descriptive log and laboratory data).

DEEP WELL STUDY

Well No. W— 00

Depth 575 to 580

No. samples used 3

Analyst T

Date 5/24/30

MECHANICAL ANALYSIS

A. Acid treatment (HCl.....%)

1. Sample weight . . . . . 4000 gm. 100.0%: 2. Wt. of F. P.....
3. Wt. after solution, with filter paper . . . . . 9.85 gm.
4. Less wt. F. P. (2) . . . 2.20 gm.
5. Wt. Insol. Residue (3 minus 4) . . . . . 7.65 gm. 19.1 %
6. Wt. lost by solution (1 minus 5) . . . . . 32.35 gm. 80.9 %
7. To balance (5 plus 6) . . .. gm. 100.0 %

B. Subsidation:

1. Original Wt. . . . . 7.65 gm. 100.0%
2. Cylinder (+1/32) 8.02 2.25 5.77 gm. 75.5 %
3. Jar (1/32—1/64) 2.88 2.19 .69 gm. 9.0 %
4. Drain . . . . . 1.19 gm. 15.5 %

C. Screen Analysis 5.69

SIZE	GRAMS	%
2 plus		
2–1 mm		
1–½ mm		
½–¼ mm	1.45	26.0
¼–⅛ mm	1.28	23.0
⅛–1/16	1.18	21.2
Pan	1.65	29.8
Total	5.56	100.0

MINERALOGICAL ANALYSIS

(Use opposite side of page for details of minerals)

Analyst .....

Date .....

Acet. Tetrabr. / Bromoform ..... Sp. gr. Size–Grade(s) ..... mm.

Wt. of sample . . . . gm. 100.0%

Heavy Minerals . . . . gm. ..... %

Light Minerals . . . . gm. ..... %

Shape Analysis:

A ..... %: a ..... %: C ..... %

r ..... %: R ..... %.

Minerals Identified; Heavy Concentrate — No. of Grains — Rel. %

Classification Grouping: — Absol. %

Primary Minerals: ..... %

Total 100%

Light Concentrate

Secondary Minerals: ..... %

Total 100%

Total 100%

Revised Lithologic Description (from descriptive log and laboratory data).

DEEP WELL STUDY

Well No. W— 0018
Depth 580 to 590
No. samples used
Analyst T
Date 9/2/13

MECHANICAL ANALYSIS

A. Acid treatment (HCl 15 %)

1. Sample weight . . . . . 40.00 gm. 100.0% : 2. Wt. of F. P. 2.24
3. Wt. after solution, with filter paper . . . . . 27.19 gm.
4. Less wt. F. P. (2) . . . 2.24 gm.
5. Wt. Insol. Residue (3 minus 4) . . . . . 24.95 gm. 62.4 %
6. Wt. lost by solution (1 minus 5) . . . . . 15.05 gm. 37.6 %
7. To balance (5 plus 6) . . 40.00 gm. 100.0 %

B. Subsidation:

1. Original Wt. . . . . 24.95 gm. 100.0%
2. Cylinder (+1/32) 13.45 2.20 13.24 gm. 53.0 %
3. Jar (1/32—1/64) 5.99 2.25 3.74 gm. 15.0 %
4. Drain . . . . . 8.0 gm. 32.0 %

C. Screen Analysis 13.15

SIZE	GRAMS	%
2 plus		
2–1 mm		
1–½ mm		
½–¼ mm	5.88	44.8
¼–⅛ mm	2.11	16.1
⅛–1/16	2.20	16.8
Pan	2.92	22.3
Total	13.1	100.0

MINERALOGICAL ANALYSIS

(Use opposite side of page for details of minerals)

Analyst
Date

Acet. Tetrabr. / Bromoform } Sp. gr. Size–Grade(s) mm.

Wt. of sample . . . . gm. 100.0%

Heavy Minerals . . . . gm. %

Light Minerals . . . . gm. %

Shape Analysis:

A % : a % : C %

r % : R %.

Minerals Identified; Heavy Concentrate — No. of Grains — Rel. %

Total 100%

Light Concentrate

Total 100%

Classification Grouping: — Absol. %

Primary Minerals: %

Secondary Minerals: %

Total 100%

Revised Lithologic Description (from descriptive log and laboratory data).

DEEP WELL STUDY

Well No. W— 0018
Depth 600 to 610
No. samples used 2
Analyst
Date 5/24/34

MECHANICAL ANALYSIS

A. Acid treatment (HCl 15 %)

1. Sample weight . . . . . 40.00 gm. 100.0%: 2. Wt. of F. P.
3. Wt. after solution, with filter paper . . . . . 18.78 gm.
4. Less wt. F. P. (2) . . . gm.
5. Wt. Insol. Residue (3 minus 4) . . . . . 16.57 gm. 41.4 %
6. Wt. lost by solution (1 minus 5) . . . . . 23.43 gm. 58.6 %
7. To balance (5 plus 6) . . 40.00 gm. 100.0 %

B. Subsidation:

1. Original Wt. . . . . 16.57 gm. 100.0%
2. Cylinder (+1/32) 12.11 / 2.18 9.93 gm. 59.9 %
3. Jar (1/32—1/64) 4.67 / 2.25 2.42 gm. 14.6 %
4. Drain . . . . . 4.22 gm. 25.5 %

C. Screen Analysis

SIZE	GRAMS	%
2 plus		
2–1 mm		
1–½ mm	.94	9.7
½–¼ mm	1.18	12.1
¼–⅛ mm	1.36	13.9
⅛–1/16	2.13	21.8
Pan	4.14	42.5
Total	9.75	100.0

MINERALOGICAL ANALYSIS

(Use opposite side of page for details of minerals)

Analyst
Date

Acet. Tetrabr. / Bromoform } Sp. gr. Size–Grade(s) mm.

Wt. of sample . . . . gm. 100.0%

Heavy Minerals . . . . gm. %

Light Minerals . . . . gm. %

Shape Analysis:

A. %: a. %: C. %

r. %: R. %.

Minerals Identified; Heavy Concentrate — No. of Grains — Rel. %

Classification Grouping: Absol. %

Primary Minerals: %

Total 100%

Light Concentrate

Secondary Minerals: %

Total 100%

Total 100%

Revised Lithologic Description (from descriptive log and laboratory data).

DEEP WELL STUDY

Well No. W— 0018

Depth 620 to 635

No. samples used 3

Analyst T

Date 2/24/3

MECHANICAL ANALYSIS

A. Acid treatment (HCl 15 %)

1. Sample weight . . . . . 40.00 gm. 100.0% : 2. Wt. of F. P. 2.28
3. Wt. after solution, with filter paper . . . . . 31.37 gm.
4. Less wt. F. P. (2) . . . 2 gm.
5. Wt. Insol. Residue (3 minus 4) . . . . . 29.09 gm. 72.7 %
6. Wt. lost by solution (1 minus 5) . . . . . 10.91 gm. 27.3 %
7. To balance (5 plus 6) . . 40.00 gm. 100.0 %

B. Subsidation:

1. Original Wt. . . . . 29.09 gm. 100.0%
2. Cylinder (+1/32) 21.75 / 2.18 19.57 gm. 67.2 %
3. Jar (1/32—1/64) 4.37 / 2.20 2.17 gm. 7.5 %
4. Drain . . . . . 7.35 gm. 25.3 %

C. Screen Analysis

SIZE	GRAMS	%
2 plus		
2–1 mm		
1–½ mm		
½–¼ mm	10.96	58.7
¼–⅛ mm	2.70	14.5
⅛–1/16	1.88	10.1
Pan	3.12	16.7
Total	18.66	100.0

MINERALOGICAL ANALYSIS

(Use opposite side of page for details of minerals)

Acet. Tetrabr. / Bromoform ..... Sp. gr. Size–Grade(s) ..... mm.

Analyst .....

Date .....

Wt. of sample . . . . gm. 100.0%

Heavy Minerals . . . . gm. ..... %

Light Minerals . . . . gm. ..... %

Shape Analysis:

A ..... % : a ..... % : C ..... %

r ..... % : R ..... %.

Minerals Identified; Heavy Concentrate — No. of Grains — Rel. %

Total 100%

Light Concentrate

Classification Grouping: — Absol. %

Primary Minerals: ..... %

Secondary Minerals: ..... %

Total 100%

Total 100%

Revised Lithologic Description (from descriptive log and laboratory data).

DEEP WELL STUDY

Well No. W— 0018
Depth 635 to 640
No. samples used 1
Analyst T
Date 5/2

MECHANICAL ANALYSIS

A. Acid treatment (HCl 15 %)

1. Sample weight . . . . . 36.94 gm. 100.0% : 2. Wt. of F. P. 2.25
3. Wt. after solution, with filter paper . . . . . 20.31 gm.
4. Less wt. F. P. (2) . . . 2.25 gm.
5. Wt. Insol. Residue (3 minus 4) . . . . . 18.06 gm. 48.8 %
6. Wt. lost by solution (1 minus 5) . . . . . 18.12 gm. 51.2 %
7. To balance (5 plus 6) . . 36.98 gm. 100.0 %

B. Subsidation:

1. Original Wt. . . . . 18.06 gm. 100.0%
2. Cylinder (+1/32) 12.49 / 2.18 10.31 gm. 57.1 %
3. Jar (1/32—1/64) 4.81 / 2.26 2.55 gm. 14.1 %
4. Drain . . . . . 5.20 gm. 28.8 %

C. Screen Analysis 103

SIZE	GRAMS	%
2 plus		
2–1 mm		
1–½ mm		
½–¼ mm	3.16	30.9
¼–⅛ mm	1.89	18.4
⅛–1/16	2.43	23.7
Pan	2.77	27.0
Total	10.25	100.0

MINERALOGICAL ANALYSIS

(Use opposite side of page for details of minerals)

Acet. Tetrabr. / Bromoform ..... Sp. gr. Size–Grade(s) ..... mm.

Analyst .....
Date .....

Wt. of sample . . . . gm. 100.0%

Heavy Minerals . . . . gm. ..... %

Light Minerals . . . . gm. ..... %

Shape Analysis:

A ..... % : a ..... % : C ..... %

r ..... % : R ..... %.

Minerals Identified; Heavy Concentrate — No. of Grains — Rel. %

Total 100%

Light Concentrate

Total 100%

Classification Grouping: — Absol. %

Primary Minerals: ..... %

Secondary Minerals: ..... %

Total 100%

Revised Lithologic Description (from descriptive log and laboratory data).

DEEP WELL STUDY

Well No. W— 0018
Depth 650 to 665
No. samples used 3
Analyst T
Date 8/24/34

MECHANICAL ANALYSIS

A. Acid treatment (HCl.....%)

1. Sample weight . . . . . 45.00 gm. 100.0% : 2. Wt. of F. P. 2.2
3. Wt. after solution, with filter paper . . . . . 37.19 gm.
4. Less wt. F. P. (2) . . . 2.21 gm.
5. Wt. Insol. Residue (3 minus 4) . . . . . 34.98 gm. 77.6 %
6. Wt. lost by solution (1 minus 5) . . . . . 10.02 gm. 22.4 %
7. To balance (5 plus 6) . . 45.00 gm. 100.0 %

B. Subsidation:

1. Original Wt. . . . . 34.98 gm. 100.0%
2. Cylinder (+1/32) 19.18 / 2.23 17.95 gm. 51.3 %
3. Jar (1/32—1/64) 7.43 / 2.27 5.16 gm. 14.8 %
4. Drain . . . . . 11.87 gm. 33.9 %

C. Screen Analysis

SIZE	GRAMS	%
2 plus		
2–1 mm		
1–½ mm		
½–¼ mm	6.95	42.5
¼–⅛ mm	2.54	15.5
⅛–1/16	3.07	18.8
Pan	3.80	23.2
Total	16.36	100.0

MINERALOGICAL ANALYSIS

(Use opposite side of page for details of minerals)

Analyst .....
Date .....

Acet. Tetrabr. / Bromoform } .....Sp. gr. Size–Grade(s).....mm.

Wt. of sample . . . .gm..... 100.0%

Heavy Minerals . . . .gm.....%

Light Minerals . . . .gm.....%

Shape Analysis:

A.....%: a.....%: C.....%

r .....%: R .....%.

Minerals Identified; Heavy Concentrate — No. of Grains — Rel. %

Classification Grouping: Primary Minerals: .....% — Absol. %

Total 100%

Light Concentrate

Secondary Minerals: .....%

Total . . . . . 100% Total 100%

Revised Lithologic Description (from descriptive log and laboratory data).

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DEEP WELL STUDY

Well No. W— 0018
Depth 675 to 690
No. samples used 3
Analyst T
Date 9/24/34

MECHANICAL ANALYSIS

A. Acid treatment (HCl 15 %)

1. Sample weight . . . . . 45.00 gm. 100.0% : 2. Wt. of F. P. 2.23
3. Wt. after solution, with filter paper . . . . . 41.29 gm.
4. Less wt. F. P. (2) . . . 2.23 gm.
5. Wt. Insol. Residue (3 minus 4) . . . . . 39.06 gm. 86.8 %
6. Wt. lost by solution (1 minus 5) . . . . . 5.94 gm. 13.2 %
7. To balance (5 plus 6) . . 45.00 gm. 100.0 %

B. Subsidation:

1. Original Wt. . . . . 39.06 gm. 100.0%
2. Cylinder (+1/32) 17.62 / 1.24 15.38 gm. 39.5 %
3. Jar (1/32—1/64) 7.66 / 2.18 5.48 gm. 4. %
4. Drain . . . . . 18.20 gm. 46. %

C. Screen Analysis 15.26

SIZE	GRAMS	%
2 plus		
2–1 mm		
1–½ mm		
½–¼ mm	3.13	20.1
¼–⅛ mm	2.24	14.8
⅛–1/16	5.10	33.8
Pan	4.63	30.7
Total	15.10	100.0

MINERALOGICAL ANALYSIS

(Use opposite side of page for details of minerals)

Acet. Tetrabr. / Bromoform / ..... Sp. gr. Size–Grade(s) ..... mm.

Analyst .....
Date .....

Wt. of sample . . . . gm. 100.0%

Heavy Minerals . . . . gm. ..... %

Light Minerals . . . . gm. ..... %

Shape Analysis:

A ..... % : a ..... % : C ..... %

r ..... % : R ..... %.

Minerals Identified; Heavy Concentrate — No. of Grains — Rel. %

Total 100%

Light Concentrate

Classification Grouping: — Absol. %

Primary Minerals: ..... %

Secondary Minerals: ..... %

Total . . . . . 100% Total 100%

Revised Lithologic Description (from descriptive log and laboratory data).

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DEEP WELL STUDY

Well No. W— 0018

Depth 705 to 715 Not crushed

No. samples used 2

Analyst T

Date 8/24/2?

MECHANICAL ANALYSIS

A. Acid treatment (HCl 15 %)

1. Sample weight . . . . . 42.64 gm. 100.0% : 2. Wt. of F. P. 2
3. Wt. after solution, with filter paper . . . . . 39.22 gm.
4. Less wt. F. P. (2) . . . . gm.
5. Wt. Insol. Residue (3 minus 4) . . . . . 36.91 gm. 86.6 %
6. Wt. lost by solution (1 minus 5) . . . . . 5.73 gm. 13.4 %
7. To balance (5 plus 6) . . 42.64 gm. 100.0 %

B. Subsidation:

1. Original Wt. . . . . 36.91 gm. 100.0%
2. Cylinder (+1/32) 30.82 2.13 28.67 gm. 77.7 %
3. Jar (1/32—1/64) 5.57 2.24 3.27 gm. 8.9 %
4. Drain . . . . . 4.97 gm. 13.4 %

C. Screen Analysis

SIZE	GRAMS	%
2 plus		
2–1 mm		
1–½ mm	.46	1.6
½–¼ mm	.73	2.5
¼–⅛ mm	1.98	6.9
⅛–1/16	14.93	52.
Pan	10.45	36.6
Total	28.55	100.0

MINERALOGICAL ANALYSIS

(Use opposite side of page for details of minerals)

Acet. Tetrabr. / Bromoform ..... Sp. gr. Size–Grade(s) 1/8–1/16 mm.

Analyst .....

Date .....

Wt. of sample . . . . 3.00 gm. 100.0%

Heavy Minerals . . . . .03 gm. ..... %

Light Minerals . . . . gm. ..... %

Shape Analysis:

A ..... % : a ..... % : C ..... %

r ..... % : R ..... %.

Minerals Identified; Heavy Concentrate — No. of Grains — Rel. %

Classification Grouping: — Absol. %

Primary Minerals: ..... %

Total 100%

Light Concentrate

Secondary Minerals: ..... %

Total 100%

Total 100%

Revised Lithologic Description (from descriptive log and laboratory data).

DEEP WELL STUDY

Well No. W— 018
Depth 715 to 720
No. samples used 1
Analyst T
Date 8/24/3?

MECHANICAL ANALYSIS

A. Acid treatment (HCl 15 %)

1. Sample weight . . . . . 35.63 gm. 100.0% : 2. Wt. of F. P. 2.2
3. Wt. after solution, with filter paper . . . . . 30.99 gm.
4. Less wt. F. P. (2) . . . 9 gm.
5. Wt. Insol. Residue (3 minus 4) . . . . . 28.69 gm. 80.6 %
6. Wt. lost by solution (1 minus 5) . . . . . 6.94 gm. 19.4 %
7. To balance (5 plus 6) . . 35.63 gm. 100.0 %

B. Subsidation:

1. Original Wt. . . . . 28.69 gm. 100.0%
2. Cylinder (+1/32) 23.60 / 2.22 21.38 gm. 74.4 %
3. Jar (1/32—1/64) 6.04 / 2.22 3.82 gm. 13.4 %
4. Drain . . . . . 3.49 gm. 12.2 %

C. Screen Analysis

SIZE	GRAMS	%
2 plus		
2–1 mm		
1–½ mm	.96	4.5
½–¼ mm	1.63	7.6
¼–⅛ mm	3.37	15.8
⅛–1/16	6.61	31.0
Pan	8.86	41.6
Total	21.43	100.0

MINERALOGICAL ANALYSIS

(Use opposite side of page for details of minerals)

Acet. Tetrabr. / Bromoform ..... Sp. gr. Size–Grade(s) 1/8-1/16 mm.

Analyst .....
Date .....

Wt. of sample . . . . 3.00 gm. 100.0%

Heavy Minerals . . . . 6 gm. ..... %

Light Minerals . . . . gm. ..... %

Shape Analysis:

A ..... % : a ..... % : C ..... %

r ..... % : R ..... %.

Minerals Identified; Heavy Concentrate — No. of Grains — Rel. %

Classification Grouping: — Absol. %

Primary Minerals: ..... %

Total 100%

Light Concentrate

Secondary Minerals: ..... %

Total 100%

Total 100%

Revised Lithologic Description (from descriptive log and laboratory data).

DEEP WELL STUDY

Well No. W— 0018

Depth 725 to 735

No. samples used 2

Analyst

Date

MECHANICAL ANALYSIS

A. Acid treatment (HCl 2 %)

1. Sample weight . . . . . 40.0 gm. 100.0% : 2. Wt. of F. P. 2.25
3. Wt. after solution, with filter paper . . . . . 31.84 gm.
4. Less wt. F. P. (2) . . . 2.25 gm.
5. Wt. Insol. Residue (3 minus 4) . . . . . 29.59 gm. 73.8 %
6. Wt. lost by solution (1 minus 5) . . . . . 10.41 gm. 26.2 %
7. To balance (5 plus 6) . . 40.00 gm. 100.0 %

B. Subsidation:

1. Original Wt. . . . . 29.59 gm. 100.0%
2. Cylinder (+1/32) 18.65 / 2.32 16.33 gm. 54.8 %
3. Jar (1/32—1/64) 6.11 / 2.30 3.81 gm. 12.9 %
4. Drain . . . . . 9.45 gm. 32.3 %

C. Screen Analysis

SIZE	GRAMS	%
2 plus		
2–1 mm		
1–½ mm		
½–¼ mm	6.52	40.4
¼–⅛ mm	2.90	17.9
⅛–1/16	3.31	20.5
Pan	3.41	21.2
Total	16.14	100.0

MINERALOGICAL ANALYSIS

(Use opposite side of page for details of minerals)

Acet. Tetrabr. / Bromoform ..... Sp. gr. Size–Grade(s) ..... mm.

Analyst

Date

Wt. of sample . . . . gm. 100.0%

Heavy Minerals . . . . gm. ..... %

Light Minerals . . . . gm. ..... %

Shape Analysis:

A ..... % : a ..... % : C ..... %

r ..... % : R ..... %.

Minerals Identified; Heavy Concentrate — No. of Grains — Rel. %

Total 100%

Light Concentrate

Classification Grouping: Absol. %

Primary Minerals: ..... %

Secondary Minerals: ..... %

Total 100%

Total 100%

Revised Lithologic Description (from descriptive log and laboratory data).

DEEP WELL STUDY

Well No. W— 0018
Depth 740 to 750
No. samples used 2
Analyst T
Date 5/2

MECHANICAL ANALYSIS

A. Acid treatment (HCl 15 %)

1. Sample weight . . . . . 4 gm. 100.0% : 2. Wt. of F. P. 2.23
3. Wt. after solution, with filter paper . . . . . 29.45 gm.
4. Less wt. F. P. (2) . . . 2.23 gm.
5. Wt. Insol. Residue (3 minus 4) . . . . . 27.22 gm. 68.2 %
6. Wt. lost by solution (1 minus 5) . . . . . 12.78 gm. 31.8 %
7. To balance (5 plus 6) . . 40.00 gm. 100.0 %

B. Subsidation:

1. Original Wt. . . . . 27.22 gm. 100.0%
2. Cylinder (+1/32) 20.08 / 2.14 17.94 gm. 66 %
3. Jar (1/32—1/64) 4.00 / 2.23 1.77 gm. 6.5 %
4. Drain . . . . . 7.51 gm. 27.5 %

C. Screen Analysis

SIZE	GRAMS	%
2 plus		
2–1 mm		
1–½ mm	3.64	20.7
½–¼ mm	5.70	32.5
¼–⅛ mm	2.83	16.1
⅛–1/16	2.18	12.4
Pan	3.22	18.3
Total	17.57	100.0

MINERALOGICAL ANALYSIS

(Use opposite side of page for details of minerals)

Analyst
Date

Acet. Tetrabr. / Bromoform } ..... Sp. gr. Size–Grade(s) ..... mm.

Wt. of sample . . . . gm. 100.0%

Heavy Minerals . . . . gm. ..... %

Light Minerals . . . . gm. ..... %

Shape Analysis:

A ..... % : a ..... % : C ..... %

r ..... % : R ..... %.

Minerals Identified; Heavy Concentrate — No. of Grains — Rel. %

Total 100%

Light Concentrate

Total 100%

Classification Grouping: — Absol. %

Primary Minerals: ..... %

Secondary Minerals: ..... %

Total 100%

Revised Lithologic Description (from descriptive log and laboratory data).

DEEP WELL STUDY

Well No. W— .....

Depth 250 to 255

No. samples used .....

Analyst 7

Date 12

MECHANICAL ANALYSIS

A. Acid treatment (HCl 15 %)

1. Sample weight . . . . . 40.00 gm. 100.0% : 2. Wt. of F. P. 2.29
3. Wt. after solution, with filter paper . . . . . 22.07 gm.
4. Less wt. F. P. (2) . . . 2.29 gm.
5. Wt. Insol. Residue (3 minus 4) . . . . . 19.78 gm. 49.4 %
6. Wt. lost by solution (1 minus 5) . . . . . 20.22 gm. 50.6 %
7. To balance (5 plus 6) . . 40.00 gm. 100.0 %

B. Subsidation:

1. Original Wt. . . . . 19.78 gm. 100.0%
2. Cylinder (+1/32) 14.47 / 2.38 12.19 gm. 61.6 %
3. Jar (1/32—1/64) 4.86 / 2.21 2.65 gm. 13.4 %
4. Drain . . . . . 4.94 gm. 25.0 %

C. Screen Analysis 11.86

SIZE	GRAMS	%
2 plus		
2–1 mm		
1–½ mm		
½–¼ mm	4.69	39.9
¼–⅛ mm	2.95	25.0
⅛–1/16	1.72	14.5
Pan	2.99	25.0
Total	11.77	100.0

MINERALOGICAL ANALYSIS

(Use opposite side of page for details of minerals)

Acet. Tetrabr. / Bromoform ..... Sp. gr. Size–Grade(s) ..... mm.

Analyst .....

Date .....

Wt. of sample . . . . gm. 100.0%

Heavy Minerals . . . . gm. ..... %

Light Minerals . . . . gm. ..... %

Shape Analysis:

A ..... % : a ..... % : C ..... %

r ..... % : R ..... %.

Minerals Identified; Heavy Concentrate — No. of Grains — Rel. %

Total 100%

Light Concentrate

Total 100%

Classification Grouping: — Absol. %

Primary Minerals: ..... %

Secondary Minerals: ..... %

Total 100%

Revised Lithologic Description (from descriptive log and laboratory data).

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DEEP WELL STUDY

Well No. W— 0018

Depth 770 to 785

No. samples used 3

Analyst

Date 5/24/3

MECHANICAL ANALYSIS

A. Acid treatment (HCl ..... %)

1. Sample weight . . . . . 40.00 gm. 100.0% : 2. Wt. of F. P. 2.31
3. Wt. after solution, with filter paper . . . . . 36.61 gm.
4. Less wt. F. P. (2) . . . 2.31 gm.
5. Wt. Insol. Residue (3 minus 4) . . . . . 34.30 gm. 85.8 %
6. Wt. lost by solution (1 minus 5) . . . . . 5.70 gm. 14.2 %
7. To balance (5 plus 6) . . 40.00 gm. 100.0 %

B. Subsidation:

1. Original Wt. . . . . 34.30 gm. 100.0%
2. Cylinder (+1/32) 19.25 / 2.30 16.95 gm. 49.4 %
3. Jar (1/32—1/64) 7.13 / 2.21 4.92 gm. 14.3 %
4. Drain . . . . . 12.43 gm. 36.3 %

C. Screen Analysis 16.6

SIZE	GRAMS	%
2 plus		
2–1 mm		
1–½ mm		
½–¼ mm	5.59	33.8
¼–⅛ mm	3.00	18.2
⅛–1/16	3.58	21.7
Pan	4.34	26.3
Total	16.51	100.0

MINERALOGICAL ANALYSIS

(Use opposite side of page for details of minerals)

Analyst

Date

Acet. Tetrabr. / Bromoform ..... Sp. gr. Size–Grade(s) ..... mm.

Wt. of sample . . . . gm. 100.0%

Heavy Minerals . . . . gm. ..... %

Light Minerals . . . . gm. ..... %

Shape Analysis:

A ..... % : a ..... % : C ..... %

r ..... % : R ..... %.

Minerals Identified; Heavy Concentrate — No. of Grains — Rel. %

Total 100%

Light Concentrate

Classification Grouping: Absol. %

Primary Minerals: ..... %

Secondary Minerals: ..... %

Total 100%

Total 100%

Revised Lithologic Description (from descriptive log and laboratory data).

DEEP WELL STUDY

Well No. W— .....

Depth ..... to 11

No. samples used .....

Analyst T

Date 5/2

MECHANICAL ANALYSIS

A. Acid treatment (HCl.....%)

1. Sample weight . . . . . 40.00 gm. 100.0% : 2. Wt. of F. P. 2.27
3. Wt. after solution, with filter paper . . . . . 36.34 gm.
4. Less wt. F. P. (2) . . . 2.27 gm.
5. Wt. Insol. Residue (3 minus 4) . . . . . 4.07 gm. 85.2 %
6. Wt. lost by solution (1 minus 5) . . . . . 5.93 gm. 14.8 %
7. To balance (5 plus 6) . . 40.00 gm. 100.0 %

B. Subsidation:

1. Original Wt. . . . . 34.07 gm. 100.0%
2. Cylinder (+1/32) 19.50 / 2.22 17.28 gm. 50.7 %
3. Jar (1/32—1/64) 6.29 / 2.31 3.98 gm. [illegible] %
4. Drain . . . . . 12.81 gm. 37.6 %

C. Screen Analysis 17

SIZE	GRAMS	%
2 plus		
2–1 mm		
1–½ mm		
½–¼ mm	6.78	39.7
¼–⅛ mm	3.38	19.8
⅛–1/16	4.04	23.7
Pan	2.86	16.8
Total	7.06	100.0

MINERALOGICAL ANALYSIS

(Use opposite side of page for details of minerals)

Acet. Tetrabr. / Bromoform ..... Sp. gr. Size–Grade(s) ..... mm.

Analyst .....

Date .....

Wt. of sample . . . . gm. 100.0%

Heavy Minerals . . . . gm. ..... %

Light Minerals . . . . gm. ..... %

Shape Analysis:

A ..... % : a ..... % : C ..... %

r ..... % : R ..... %.

Minerals Identified; Heavy Concentrate — No. of Grains — Rel. %

Classification Grouping: — Absol. %

Primary Minerals: ..... %

Total 100%

Light Concentrate

Secondary Minerals: ..... %

Total 100%

Total 100%

Revised Lithologic Description (from descriptive log and laboratory data).

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DEEP WELL STUDY

Well No. W— 0012

Depth 920 to 935

No. samples used 2

Analyst T

Date 8/2/134

MECHANICAL ANALYSIS

A. Acid treatment (HCl 15 %)

1. Sample weight . . . . . 45.00 gm. 100.0% : 2. Wt. of F. P. 2.13
3. Wt. after solution, with filter paper . . . . . 40.96 gm.
4. Less wt. F. P. (2) . . . 2.13 gm.
5. Wt. Insol. Residue (3 minus 4) . . . . . 38.83 gm. 86.2 %
6. Wt. lost by solution (1 minus 5) . . . . . 6.17 gm. 13.8 %
7. To balance (5 plus 6) . . 45.00 gm. 100.0 %

B. Subsidation:

1. Original Wt. . . . . 38.83 gm. 100.0%
2. Cylinder (+1/32) 19.86 / 2.32 17.54 gm. 45.3 %
3. Jar (1/32—1/64) 5.47 / 2.16 3.31 gm. 8.5 %
4. Drain . . . . . 17.98 gm. 46.2 %

C. Screen Analysis

SIZE	GRAMS	%
2 plus		
2–1 mm		
1–½ mm		
½–¼ mm	6.35	36.8
¼–⅛ mm	2.92	16.9
⅛–1/16	4.65	26.9
Pan	3.34	19.4
Total	17.26	100.0

MINERALOGICAL ANALYSIS

(Use opposite side of page for details of minerals)

Acet. Tetrabr. / Bromoform ..... Sp. gr. Size–Grade(s) ..... mm.

Analyst .....

Date .....

Wt. of sample . . . . gm. 100.0%

Heavy Minerals . . . . gm. ..... %

Light Minerals . . . . gm. ..... %

Shape Analysis:

A ..... % : a ..... % : C ..... %

r ..... % : R ..... %.

Minerals Identified; Heavy Concentrate — No. of Grains — Rel. %

Classification Grouping: — Absol. %

Primary Minerals: ..... %

Total 100%

Light Concentrate

Secondary Minerals: ..... %

Total 100%

Total 100%

Revised Lithologic Description (from descriptive log and laboratory data).

DEEP WELL STUDY

Well No. W— 0018
Depth 845 to 860
No. samples used 3
Analyst
Date 5/2/13

MECHANICAL ANALYSIS

A. Acid treatment (HCl 5 %)

1. Sample weight . . . . . 45.00 gm. 100.0% : 2. Wt. of F. P. 2.29
3. Wt. after solution, with filter paper . . . . . 40.82 gm.
4. Less wt. F. P. (2) . . . 2.29 gm.
5. Wt. Insol. Residue (3 minus 4) . . . . . 38.53 gm. 85.6 %
6. Wt. lost by solution (1 minus 5) . . . . . 6.47 gm. 14.4 %
7. To balance (5 plus 6) . . 45.00 gm. 100.0 %

B. Subsidation:

1. Original Wt. . . . . 38.53 gm. 100.0%
2. Cylinder (+1/32) 25.20 / 2.21 22.99 gm. 59.6 %
3. Jar (1/32—1/64) 7.23 / 2.26 4.97 gm. 12.9 %
4. Drain . . . . . 10.57 gm. 27.5 %

C. Screen Analysis

SIZE	GRAMS	%
2 plus		
2–1 mm		
1–½ mm		
½–¼ mm	10.52	46.1
¼–⅛ mm	3.53	15.5
⅛–1/16	4.60	20.2
Pan	4.14	18.2
Total	22.79	100.0

MINERALOGICAL ANALYSIS

(Use opposite side of page for details of minerals)

Acet. Tetrabr. / Bromoform } ..... Sp. gr. Size–Grade(s) ..... mm.

Analyst
Date

Wt. of sample . . . . gm. 100.0%

Heavy Minerals . . . . gm. ..... %

Light Minerals . . . . gm. ..... %

Shape Analysis:

A ..... % : a ..... % : C ..... %

r ..... % : R ..... %.

Minerals Identified; Heavy Concentrate — No. of Grains — Rel. %

Total 100%

Light Concentrate

Total 100%

Classification Grouping: — Absol. %

Primary Minerals: ..... %

Secondary Minerals: ..... %

Total 100%

Revised Lithologic Description (from descriptive log and laboratory data).

DEEP WELL STUDY

Well No. W— 001
Depth 870 to 885
No. samples used 3
Analyst T
Date 8/24/34

MECHANICAL ANALYSIS

A. Acid treatment (HCl 15 %)

1. Sample weight . . . . . 45.00 gm. 100.0% : 2. Wt. of F. P. 2.29
3. Wt. after solution, with filter paper . . . . . 41.71 gm.
4. Less wt. F. P. (2) . . . 2.29 gm.
5. Wt. Insol. Residue (3 minus 4) . . . . . 39.42 gm. 87.6 %
6. Wt. lost by solution (1 minus 5) . . . . . 5.58 gm. 12.4 %
7. To balance (5 plus 6) . . 45.00 gm. 100.0 %

B. Subsidation:

1. Original Wt. . . . . 39.42 gm. 100.0%
2. Cylinder (+1/32) 25.36 / 2.33 23.03 gm. 58.4 %
3. Jar (1/32—1/64) 6.64 / 2.33 4.31 gm. 0.8 %
4. Drain . . . . . 12.08 gm. 30.8 %

C. Screen Analysis 2300

SIZE	GRAMS	%
2 plus		
2–1 mm		
1–½ mm		
½–¼ mm	11.49	57.4
¼–⅛ mm	2.84	14.3
⅛–1/16	3.07	15.4
Pan	2.56	12.9
Total	19.89	100.0

MINERALOGICAL ANALYSIS

(Use opposite side of page for details of minerals)

Acet. Tetrabr. / Bromoform ..... Sp. gr. Size–Grade(s) ..... mm.

Analyst .....
Date .....

Wt. of sample . . . . gm. 100.0%

Heavy Minerals . . . . gm. ..... %

Light Minerals . . . . gm. ..... %

Shape Analysis:

A ..... % : a ..... % : C ..... %

r ..... % : R ..... %.

Minerals Identified; Heavy Concentrate — No. of Grains — Rel. %

Classification Grouping: — Absol. %

Primary Minerals: ..... %

Total 100%

Light Concentrate

Secondary Minerals: ..... %

Total 100%

Total 100%

Revised Lithologic Description (from descriptive log and laboratory data).

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DEEP WELL STUDY

Well No. W— 0018
Depth 890 to 900
No. samples used 2
Analyst T
Date 10/22/34

MECHANICAL ANALYSIS

A. Acid treatment (HCl 15 %)

1. Sample weight . . . . . 41.44 gm. 100.0% : 2. Wt. of F. P. 1.94
3. Wt. after solution, with filter paper . . . . . 37.07 gm.
4. Less wt. F. P. (2) . . . 1.94 gm.
5. Wt. Insol. Residue (3 minus 4) . . . . . 35.13 gm. 84.8 %
6. Wt. lost by solution (1 minus 5) . . . . . 6.31 gm. 15.2 %
7. To balance (5 plus 6) . . 41.44 gm. 100.0 %

B. Subsidation:

1. Original Wt. . . . . 35.13 gm. 100.0%
2. Cylinder (+1/32) 22.16 / 2.37 — 19.79 gm. 56.3%
3. Jar (1/32—1/64) 6.76 / 1.90 — 4.86 gm. 13.8%
4. Drain . . . . . 10.48 gm. 29.9%

C. Screen Analysis 19.57

SIZE	GRAMS	%
2 plus		
2–1 mm		
1–½ mm	4.31	22.1
½–¼ mm	3.56	18.2
¼–⅛ mm	3.30	16.9
⅛–1/16	4.37	22.4
Pan	3.97	20.4
Total	19.5	100.0

MINERALOGICAL ANALYSIS

(Use opposite side of page for details of minerals)

Acet. Tetrabr. / Bromoform } ..... Sp. gr. Size–Grade(s) ..... mm.

Analyst .....
Date .....

Wt. of sample . . . . gm. 100.0%

Heavy Minerals . . . . gm. ..... %

Light Minerals . . . . gm. ..... %

Shape Analysis:

A ..... %: a ..... %: C ..... %

r ..... %: R ..... %.

Minerals Identified: Heavy Concentrate — No. of Grains — Rel. %

Classification Grouping: Primary Minerals: ..... % — Absol. %

Total 100%

Light Concentrate

Secondary Minerals: ..... %

Total 100%

Total 100%

Revised Lithologic Description (from descriptive log and laboratory data).

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DEEP WELL STUDY

Well No. W— 0018
Depth 905 to 920
No. samples used 3
Analyst T
Date 10/22/34

MECHANICAL ANALYSIS

A. Acid treatment (HCl 15 %)

1. Sample weight . . . . . 42.64 gm. 100.0% : 2. Wt. of F. P. 1.93
3. Wt. after solution, with filter paper . . . . . 38.18 gm.
4. Less wt. F. P. (2) . . . 93 gm.
5. Wt. Insol. Residue (3 minus 4) . . . . . 36.25 gm. 85.0 %
6. Wt. lost by solution (1 minus 5) . . . . . 6.39 gm. 15.0 %
7. To balance (5 plus 6) . . 42.64 gm. 100.0 %

B. Subsidation:

1. Original Wt. . . . . 36.25 gm. 100.0%
2. Cylinder (+1/32) 17.52 / 2.41 15.11 gm. 41.7 %
3. Jar (1/32—1/64) 8.76 / 2.43 6.33 gm. 17.5 %
4. Drain . . . . . 14.81 gm. 40.8 %

C. Screen Analysis 14.93

SIZE	GRAMS	%
2 plus		
2–1 mm		
1–½ mm	1.76	11.8
½–¼ mm	2.18	14.7
¼–⅛ mm	2.28	15.3
⅛–1/16	4.43	29.8
Pan	4.22	28.4
Total	14.87	100.0

MINERALOGICAL ANALYSIS

(Use opposite side of page for details of minerals)

Acet. Tetrabr. / Bromoform ..... Sp. gr. Size–Grade(s) ..... mm.

Analyst .....
Date .....

Wt. of sample . . . . gm. 100.0%

Heavy Minerals . . . . gm. ..... %

Light Minerals . . . . gm. ..... %

Shape Analysis:

A ..... %: a ..... %: C ..... %

r ..... %: R ..... %.

Minerals Identified: Heavy Concentrate — No. of Grains — Rel. %

Total 100%

Light Concentrate

Total 100%

Classification Grouping: — Absol. %

Primary Minerals: ..... %

Secondary Minerals: ..... %

Total 100%

Revised Lithologic Description (from descriptive log and laboratory data).

DEEP WELL STUDY

Well No. W— 0018

Depth 920 to 945

No. samples used 3

Analyst T

Date 10/22/34

MECHANICAL ANALYSIS

A. Acid treatment (HCl 15 %)

1. Sample weight . . . . . 47.37 gm. 100.0% : 2. Wt. of F. P. 1.92
3. Wt. after solution, with filter paper . . . . . 39.73 gm.
4. Less wt. F. P. (2) . . . 1.92 gm.
5. Wt. Insol. Residue (3 minus 4) . . . . . 37.81 gm. 79.8 %
6. Wt. lost by solution (1 minus 5) . . . . . 9.56 gm. 20.2 %
7. To balance (5 plus 6) . . 47.37 gm. 100.0 %

B. Subsidation:

1. Original Wt. . . . . 37.81 gm. 100.0%
2. Cylinder (+1/32) 23.37 / 2.44 20.93 gm. 55.4%
3. Jar (1/32—1/64) 7.28 / 2.47 4.81 gm. 12.7%
4. Drain . . . . . 12.07 gm. 31.9%

C. Screen Analysis 20.56

SIZE	GRAMS	%
2 plus		
2–1 mm		
1–½ mm		
½–¼ mm		
¼–⅛ mm	12.72	61.9
⅛–1/16	4.35	21.1
Pan	3.49	17.0
Total	20.56	100.0

MINERALOGICAL ANALYSIS

(Use opposite side of page for details of minerals)

Analyst .....

Date .....

Acet. Tetrabr. / Bromoform ..... Sp. gr. Size–Grade(s) ..... mm.

Wt. of sample . . . . gm. 100.0%

Heavy Minerals . . . . gm. ..... %

Light Minerals . . . . gm. ..... %

Shape Analysis:

A ..... %: a ..... %: C ..... %

r ..... %: R ..... %.

Minerals Identified: Heavy Concentrate — No. of Grains — Rel. %

Total 100%

Light Concentrate

Classification Grouping: Absol. %

Primary Minerals: ..... %

Secondary Minerals: ..... %

Total 100%

Total 100%

Revised Lithologic Description (from descriptive log and laboratory data).

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DEEP WELL STUDY

Well No. W— 0018
Depth 955 to 965
No. samples used 2
Analyst T
Date 10/27/34

MECHANICAL ANALYSIS

A. Acid treatment (HCl 15 %)

1. Sample weight . . . . . 42.03 gm. 100.0% : 2. Wt. of F. P. 1.94
3. Wt. after solution, with filter paper . . . . . 41.03 gm.
4. Less wt. F. P. (2) . . . 1.94 gm.
5. Wt. Insol. Residue (3 minus 4) . . . . . 39.09 gm. 93.0 %
6. Wt. lost by solution (1 minus 5) . . . . . 2.94 gm. 7.0 %
7. To balance (5 plus 6) . . 42.03 gm. 100.0 %

B. Subsidation:

1. Original Wt. . . . . 39.09 gm. 100.0%
2. Cylinder (+1/32) 19.52 / 2.50 17.02 gm. 43.5 %
3. Jar (1/32—1/64) 6.81 / 2.35 4.46 gm. 11.4 %
4. Drain . . . . . 17.6 gm. 45.1 %

C. Screen Analysis 169

SIZE	GRAMS	%
2 plus		
2–1 mm		
1–½ mm		
½–¼ mm		
¼–⅛ mm	96.3	57.1
⅛–1/16	36.1	21.5
Pan	35.8	21.4
Total	168.2	100.0

MINERALOGICAL ANALYSIS

(Use opposite side of page for details of minerals)

Analyst
Date

Acet. Tetrabr. / Bromoform ..... Sp. gr. Size–Grade(s) ..... mm.

Wt. of sample . . . . gm. 100.0%

Heavy Minerals . . . . gm. ..... %

Light Minerals . . . . gm. ..... %

Shape Analysis:

A ..... %: a ..... %: C ..... %

r ..... %: R ..... %.

Minerals Identified; Heavy Concentrate — No. of Grains — Rel. %

Total 100%

Light Concentrate

Total 100%

Classification Grouping: — Absol. %

Primary Minerals: ..... %

Secondary Minerals: ..... %

Total 100%

Revised Lithologic Description (from descriptive log and laboratory data).

DEEP WELL STUDY

Well No. W— 0018
Depth 975 to 990
No. samples used 3
Analyst T
Date 10/27/34

MECHANICAL ANALYSIS

A. Acid treatment (HCl 15 %)

1. Sample weight . . . . . 44.09 gm. 100.0% : 2. Wt. of F. P. 1.91
3. Wt. after solution, with filter paper . . . . . 41.43 gm.
4. Less wt. F. P. (2) . . . 1.9 gm.
5. Wt. Insol. Residue (3 minus 4) . . . . . 39.52 gm. 89.6 %
6. Wt. lost by solution (1 minus 5) . . . . . 4.57 gm. 10.4 %
7. To balance (5 plus 6) . . 44.09 gm. 100.0 %

B. Subsidation:

1. Original Wt. . . . . 39.52 gm. 100.0%
2. Cylinder (+1/32) 25.25 / 2.15 23.10 gm. 58.5 %
3. Jar (1/32—1/64) 6.68 / 1.97 4.71 gm. 11.9 %
4. Drain . . . . . 11.71 gm. 29.6 %

C. Screen Analysis 23.13

SIZE	GRAMS	%
2 plus		
2–1 mm		
1–½ mm	2.72	11.8
½–¼ mm	4.36	18.9
¼–⅛ mm	4.41	19.1
⅛–1/16	5.57	24.1
Pan	6.05	26.1
Total	23.11	100.0

MINERALOGICAL ANALYSIS

(Use opposite side of page for details of minerals)

Acet. Tetrabr. / Bromoform ..... Sp. gr. Size–Grade(s) ..... mm.

Analyst .....
Date .....

Wt. of sample . . . . gm. 100.0%

Heavy Minerals . . . . gm. ..... %

Light Minerals . . . . gm. ..... %

Shape Analysis:

A ..... % : a ..... % : C ..... %

r ..... % : R ..... %.

Minerals Identified: Heavy Concentrate — No. of Grains — Rel. %

Total 100%

Light Concentrate

Classification Grouping: Absol. %

Primary Minerals: ..... %

Secondary Minerals: ..... %

Total 100%

Total 100%

Revised Lithologic Description (from descriptive log and laboratory data).

DEEP WELL STUDY

Well No. W— 0018

Depth 1000 to 1015

No. samples used 3

Analyst T

Date 10/22/34

MECHANICAL ANALYSIS

A. Acid treatment (HCl 15 %)

1. Sample weight . . . . . 44.34 gm. 100.0%: 2. Wt. of F. P. 1.92
3. Wt. after solution, with filter paper . . . . . 40.57 gm.
4. Less wt. F. P. (2) . . . 1.92 gm.
5. Wt. Insol. Residue (3 minus 4) . . . . . 38.65 gm. 87.1 %
6. Wt. lost by solution (1 minus 5) . . . . . 5.69 gm. 12.9 %
7. To balance (5 plus 6) . . 44.34 gm. 100.0 %

B. Subsidation:

1. Original Wt. . . . . 38.65 gm. 100.0%
2. Cylinder (+1/32) 21.93 / 1.92 20.01 gm. 51.8 %
3. Jar (1/32—1/64) 7.66 / 1.92 5.74 gm. 14.8 %
4. Drain . . . . . 12.90 gm. 33.4 %

C. Screen Analysis

SIZE	GRAMS	%
2 plus		
2–1 mm		
1–½ mm	2.75	13.1
½–¼ mm	3.62	18.3
¼–⅛ mm	3.84	19.4
⅛–1/16	5.19	26.1
Pan	4.43	22.3
Total	19.83	100.0

MINERALOGICAL ANALYSIS

(Use opposite side of page for details of minerals)

Acet. Tetrabr. / Bromoform ..... Sp. gr. Size–Grade(s) ..... mm.

Analyst .....

Date .....

Wt. of sample . . . . gm. 100.0%

Heavy Minerals . . . . gm. ..... %

Light Minerals . . . . gm. ..... %

Shape Analysis:

A ..... %: a ..... %: C ..... %

r ..... %: R ..... %.

Minerals Identified; Heavy Concentrate — No. of Grains — Rel. %

Total 100%

Light Concentrate

Total 100%

Classification Grouping: — Absol. %

Primary Minerals: ..... %

Secondary Minerals: ..... %

Total 100%

Revised Lithologic Description (from descriptive log and laboratory data).

DEEP WELL STUDY

Well No. W— 0018
Depth 1030 to 1035
No. samples used 1
Analyst T
Date 10/22/34

MECHANICAL ANALYSIS

A. Acid treatment (HCl 15 %)

1. Sample weight . . . . . 28.77 gm. 100.0% : 2. Wt. of F. P. 1.92
3. Wt. after solution, with filter paper . . . . . 29.15 gm.
4. Less wt. F. P. (2) . . . 1.92 gm.
5. Wt. Insol. Residue (3 minus 4) . . . . . 27.23 gm. 94.6 %
6. Wt. lost by solution (1 minus 5) . . . . . 1.54 gm. 5.4 %
7. To balance (5 plus 6) . . 28.77 gm. 100.0 %

B. Subsidation:

1. Original Wt. . . . . 27.23 gm. 100.0%
2. Cylinder (+1/32) 15.86 / 1.96 13.90 gm. 51.1 %
3. Jar (1/32—1/64) 5.40 / 2.12 3.28 gm. 12.0 %
4. Drain . . . . . 10.05 gm. 36.9 %

C. Screen Analysis 13.67

SIZE	GRAMS	%
2 plus		
2–1 mm	.07	0.5
1–½ mm	2.23	16.5
½–¼ mm	1.95	14.4
¼–⅛ mm	1.90	14.0
⅛–1/16	4.44	32.8
Pan	2.96	21.8
Total	13.55	100.0

MINERALOGICAL ANALYSIS

(Use opposite side of page for details of minerals)

Acet. Tetrabr. / Bromoform ..... Sp. gr. Size–Grade(s) ..... mm.

Analyst .....
Date .....

Wt. of sample . . . . gm. 100.0%

Heavy Minerals . . . . gm. ..... %

Light Minerals . . . . gm. ..... %

Shape Analysis:

A ..... % : a ..... % : C ..... %

r ..... % : R ..... %.

Minerals Identified:
Heavy Concentrate

	No. of Grains	Rel. %
Total		100%

Light Concentrate

Total		100%

Classification Grouping:
Primary Minerals: ..... %

Secondary Minerals: ..... %

	Absol. %
Total	100%

Revised Lithologic Description (from descriptive log and laboratory data).

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DEEP WELL STUDY

Well No. W— 0018

Depth 1045 to 1060

No. samples used 3

Analyst T

Date 10/22/34

MECHANICAL ANALYSIS

A. Acid treatment (HCl 15 %)

1. Sample weight . . . . . 40.34 gm. 100.0% : 2. Wt. of F. P. 2.30
3. Wt. after solution, with filter paper . . . . . 38.35 gm.
4. Less wt. F. P. (2) . . . 2.30 gm.
5. Wt. Insol. Residue (3 minus 4) . . . . . 36.05 gm. 89.4 %
6. Wt. lost by solution (1 minus 5) . . . . . 4.29 gm. 10.6 %
7. To balance (5 plus 6) . . 40.34 gm. 100.0 %

B. Subsidation:

1. Original Wt. . . . . 36.05 gm. 100.0%
2. Cylinder (+1/32) 21.80 1.94 19.86 gm. 55.1 %
3. Jar (1/32—1/64) 6.79 2.18 4.61 gm. 12.8 %
4. Drain . . . . . 11.58 gm. 32.1 %

C. Screen Analysis

SIZE	GRAMS	%
2 plus		
2–1 mm		
1–½ mm		
½–¼ mm		
¼–⅛ mm	9.61	48.9
⅛–1/16	6.89	35.0
Pan	3.18	16.1
Total	19.68	100.0

MINERALOGICAL ANALYSIS

(Use opposite side of page for details of minerals)

Acet. Tetrabr. / Bromoform ..... Sp. gr. Size–Grade(s) ..... mm.

Analyst .....

Date .....

Wt. of sample . . . . gm. 100.0%

Heavy Minerals . . . . gm. ..... %

Light Minerals . . . . gm. ..... %

Shape Analysis:

A ..... %: a ..... %: C ..... %

r ..... %: R ..... %.

Minerals Identified; Heavy Concentrate — No. of Grains — Rel. %

Total 100%

Light Concentrate

Classification Grouping: — Absol. %

Primary Minerals: ..... %

Secondary Minerals: ..... %

Total 100%

Total 100%

Revised Lithologic Description (from descriptive log and laboratory data).

DEEP WELL STUDY

Well No. W— 0018
Depth 1065 to 1080
No. samples used 3
Analyst ?
Date 10/22/34

MECHANICAL ANALYSIS

A. Acid treatment (HCl 15 %)

1. Sample weight . . . . . 44.00 gm. 100.0% : 2. Wt. of F. P. 2.31
3. Wt. after solution, with filter paper . . . . . 41.26 gm.
4. Less wt. F. P. (2) . . . 2.31 gm.
5. Wt. Insol. Residue (3 minus 4) . . . . . 38.95 gm. 86.2 %
6. Wt. lost by solution (1 minus 5) . . . . . 6.05 gm. 13.8 %
7. To balance (5 plus 6) . . 44.06 gm. 100.0 %

B. Subsidation:

1. Original Wt. . . . . 38.95 gm. 100.0%
2. Cylinder (+1/32) 24.30 / 1.92 22.38 gm. 57.5 %
3. Jar (1/32—1/64) 6.38 / 1.92 4.46 gm. 11.5 %
4. Drain . . . . . 12.11 gm. 31.0 %

C. Screen Analysis 22.06

SIZE	GRAMS	%
2 plus		
2–1 mm		
1–½ mm		
½–¼ mm		
¼–⅛ mm	14.04	63.7
⅛–1/16	4.30	19.5
Pan	3.70	16.8
Total	22.04	100.0

MINERALOGICAL ANALYSIS

(Use opposite side of page for details of minerals)

Acet. Tetrabr. / Bromoform ..... Sp. gr. Size–Grade(s) ..... mm.

Analyst .....
Date .....

Wt. of sample . . . . gm. 100.0%

Heavy Minerals . . . . gm. ..... %

Light Minerals . . . . gm. ..... %

Shape Analysis:

A ..... %: a ..... %: C ..... %

r ..... %: R ..... %.

Minerals Identified: Heavy Concentrate — No. of Grains — Rel. %

Classification Grouping: Primary Minerals: ..... % — Absol. %

Total 100%

Light Concentrate

Secondary Minerals: ..... %

Total 100%

Total 100%

Revised Lithologic Description (from descriptive log and laboratory data).

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DEEP WELL STUDY

Well No. W— 0018
Depth 1085 to 1095
No. samples used 2
Analyst T
Date 10/22/34

MECHANICAL ANALYSIS

A. Acid treatment (HCl 15 %)

1. Sample weight . . . . . 39.14 gm. 100.0%: 2. Wt. of F. P. 2.31
3. Wt. after solution, with filter paper . . . . . 36.85 gm.
4. Less wt. F. P. (2) . . . 2.31 gm.
5. Wt. Insol. Residue (3 minus 4) . . . . . 34.54 gm. 88.3 %
6. Wt. lost by solution (1 minus 5) . . . . . 4.60 gm. 11.7 %
7. To balance (5 plus 6) . . 39.14 gm. 100.0 %

B. Subsidation:

1. Original Wt. . . . . 34.54 gm. 100.0%
2. Cylinder (+1/32) 19.98 / 1.94 — 18.04 gm. 52.2 %
3. Jar (1/32—1/64) 2.03 / 2.21 — 4.82 gm. 14.0 %
4. Drain . . . . . 11.68 gm. 33.8 %

C. Screen Analysis 1.81

SIZE	GRAMS	%
2 plus		
2–1 mm		
1–½ mm		
½–¼ mm		
¼–⅛ mm	10.58	59.1
⅛–1/16	4.82	26.9
Pan	2.49	14.0
Total	17.89	100.0

MINERALOGICAL ANALYSIS

(Use opposite side of page for details of minerals)

Analyst
Date

Acet. Tetrabr. / Bromoform ..... Sp. gr. Size–Grade(s) ..... mm.

Wt. of sample . . . . gm. 100.0%

Heavy Minerals . . . . gm. ..... %

Light Minerals . . . . gm. ..... %

Shape Analysis:

A ..... %: a ..... %: C ..... %

r ..... %: R ..... %.

Minerals Identified: Heavy Concentrate — No. of Grains — Rel. %

Total 100%

Light Concentrate

Total 100%

Classification Grouping: — Absol. %

Primary Minerals: ..... %

Secondary Minerals: ..... %

Total 100%

Revised Lithologic Description (from descriptive log and laboratory data).

DEEP WELL STUDY

Well No. W— 0018

Depth 1100 to 1110

No. samples used 2

Analyst T

Date 10/27/34

MECHANICAL ANALYSIS

A. Acid treatment (HCl 15 %)

1. Sample weight . . . . . 43.55 gm. 100.0% : 2. Wt. of F. P. 2.33
3. Wt. after solution, with filter paper . . . . . 38.24 gm.
4. Less wt. F. P. (2) . . . 2.33 gm.
5. Wt. Insol. Residue (3 minus 4) . . . . . 36.41 gm. 83.6 %
6. Wt. lost by solution (1 minus 5) . . . . . 7.14 gm. 16.4 %
7. To balance (5 plus 6) . . 43.55 gm. 100.0 %

B. Subsidation:

1. Original Wt. . . . . 36.41 gm. 100.0%
2. Cylinder (+1/32) 23.05 / 2.49 — 20.56 gm. 56.4%
3. Jar (1/32—1/64) 6.78 / 2.35 — 4.43 gm. 12.2%
4. Drain . . . . . 11.42 gm. 31.4%

C. Screen Analysis

SIZE	GRAMS	%
2 plus		
2–1 mm		
1–½ mm	2.66	13.3
½–¼ mm	3.85	19.3
¼–⅛ mm	4.45	22.3
⅛–1/16	5.06	25.4
Pan	3.93	19.7
Total	19.95	100.0

MINERALOGICAL ANALYSIS

(Use opposite side of page for details of minerals)

Acet. Tetrabr. / Bromoform ..... Sp. gr. Size–Grade(s) ..... mm.

Analyst .....

Date .....

Wt. of sample . . . . gm. 100.0%

Heavy Minerals . . . . gm. ..... %

Light Minerals . . . . gm. ..... %

Shape Analysis:

A ..... %: a ..... %: C ..... %

r ..... %: R ..... %.

Minerals Identified; Heavy Concentrate — No. of Grains — Rel. %

Classification Grouping: Primary Minerals: ..... % — Absol. %

Total 100%

Light Concentrate

Secondary Minerals: ..... %

Total . . . . . 100% Total 100%

Revised Lithologic Description (from descriptive log and laboratory data).

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DEEP WELL STUDY

Well No. W-- 0018
Depth 1115 to 1130
No. samples used 3
Analyst T
Date 10/22/34

MECHANICAL ANALYSIS

A. Acid treatment (HCl 15 %)

1. Sample weight . . . . . 42.63 gm. 100.0% : 2. Wt. of F. P. 2.28
3. Wt. after solution, with filter paper . . . . . 36.70 gm.
4. Less wt. F. P. (2) . . . 2.28 gm.
5. Wt. Insol. Residue (3 minus 4) . . . . . 34.42 gm. 80.7 %
6. Wt. lost by solution (1 minus 5) . . . . . 8.21 gm. 19.3 %
7. To balance (5 plus 6) . . 42.63 gm. 100.0 %

B. Subsidation:

1. Original Wt. . . . . 34.42 gm. 100.0%
2. Cylinder (+1/32) 20.38 / 1.92 — 18.46 gm. 53.6 %
3. Jar (1/32—1/64) 6.16 / 2.12 — 4.04 gm. 11.8 %
4. Drain . . . . . 11.92 gm. 34.6%

C. Screen Analysis 1841

SIZE	GRAMS	%
2 plus		
2–1 mm		
1–½ mm		
½–¼ mm	7.69	41.8
¼–⅛ mm	3.71	20.2
⅛–1/16	3.92	21.3
Pan	3.08	16.7
Total	18.40	100.0

MINERALOGICAL ANALYSIS

(Use opposite side of page for details of minerals)

Acet. Tetrabr. / Bromoform } ..... Sp. gr. Size–Grade(s) ..... mm.

Analyst .....
Date .....

Wt. of sample . . . . gm. 100.0%

Heavy Minerals . . . . gm. ..... %

Light Minerals . . . . gm. ..... %

Shape Analysis:

A ..... %: a ..... %: C ..... %

r ..... %: R ..... %.

Minerals Identified; Heavy Concentrate — No. of Grains — Rel. %

Total 100%

Light Concentrate

Total 100%

Classification Grouping: — Absol. %

Primary Minerals: ..... %

Secondary Minerals: ..... %

Total 100%

Revised Lithologic Description (from descriptive log and laboratory data).

DEEP WELL STUDY

Well No. W— 0018

Depth 1140 to 1155

No. samples used 3

Analyst T

Date 10/22/34

MECHANICAL ANALYSIS

A. Acid treatment (HCl 15 %)

1. Sample weight . . . . . 42.41 gm. 100.0%: 2. Wt. of F. P. 2.31
3. Wt. after solution, with filter paper . . . . . 40.39 gm.
4. Less wt. F. P. (2) . . . 2.31 gm.
5. Wt. Insol. Residue (3 minus 4) . . . . . 38.08 gm. 89.8 %
6. Wt. lost by solution (1 minus 5) . . . . . 4.33 gm. 10.2 %
7. To balance (5 plus 6) . . 42.41 gm. 100.0 %

B. Subsidation:

1. Original Wt. . . . . 38.08 gm. 100.0%
2. Cylinder (+1/32) 17.84 / 1.94 15.90 gm. 41.8 %
3. Jar (1/32—1/64) 7.41 / 2.15 5.26 gm. 13.8 %
4. Drain . . . . . 16.92 gm. 44.4 %

C. Screen Analysis

SIZE	GRAMS	%
2 plus		
2–1 mm		
1–½ mm	2.64	17.0
½–¼ mm	2.73	17.6
¼–⅛ mm	2.94	18.9
⅛–1/16	3.63	23.4
Pan	3.58	23.1
Total	15.52	100.0

MINERALOGICAL ANALYSIS

(Use opposite side of page for details of minerals)

Analyst .....

Date .....

Acet. Tetrabr. / Bromoform ..... Sp. gr. Size–Grade(s) ..... mm.

Wt. of sample . . . . gm. 100.0%

Heavy Minerals . . . . gm. ..... %

Light Minerals . . . . gm. ..... %

Shape Analysis:

A ..... %: a ..... %: C ..... %

r ..... %: R ..... %.

Minerals Identified; Heavy Concentrate — No. of Grains — Rel. %

Total 100%

Light Concentrate

Classification Grouping: — Absol. %

Primary Minerals: ..... %

Secondary Minerals: ..... %

Total . . . . . 100% Total 100%

Revised Lithologic Description (from descriptive log and laboratory data).

DEEP WELL STUDY

Well No. W— 0018

Depth 1165 to 1175

No. samples used 2

Analyst T

Date 10/2?/34

MECHANICAL ANALYSIS

A. Acid treatment (HCl 12 %)

1. Sample weight . . . . . 36.86 gm. 100.0%: 2. Wt. of F. P. 2.24
3. Wt. after solution, with filter paper . . . . . 33.30 gm.
4. Less wt. F. P. (2) . . . 2.24 gm.
5. Wt. Insol. Residue (3 minus 4) . . . . . 31.06 gm. 84.3 %
6. Wt. lost by solution (1 minus 5) . . . . . 5.80 gm. 15.7 %
7. To balance (5 plus 6) . . 36.86 gm. 100.0 %

B. Subsidation:

1. Original Wt. . . . . 31.06 gm. 100.0%
2. Cylinder (+1/32) 21.82 / 1.96 19.86 gm. 64.0%
3. Jar (1/32—1/64) 5.37 / 1.96 3.41 gm. 11.0%
4. Drain . . . . . 7.79 gm. 25.0%

C. Screen Analysis 1965

SIZE	GRAMS	%
2 plus		
2–1 mm	none	
1–½ mm	2.98	14.9
½–¼ mm	3.38	16.9
¼–⅛ mm	3.14	16.3
⅛–1/16	6.01	30.8
Pan	4.12	21.1
Total	19.51	100.0

MINERALOGICAL ANALYSIS

(Use opposite side of page for details of minerals)

Analyst .....

Date .....

Acet. Tetrabr. / Bromoform ..... Sp. gr. Size–Grade(s) ..... mm.

Wt. of sample . . . . gm. 100.0%

Heavy Minerals . . . . gm. ..... %

Light Minerals . . . . gm. ..... %

Shape Analysis:

A ..... %: a ..... %: C ..... %

r ..... %: R ..... %.

Minerals Identified; Heavy Concentrate — No. of Grains — Rel. %

Classification Grouping: Primary Minerals: ..... % — Absol. %

Total 100%

Light Concentrate

Secondary Minerals: ..... %

Total 100%

Total 100%

Revised Lithologic Description (from descriptive log and laboratory data).

DEEP WELL STUDY

Well No. W— 0018

Depth 1180 to 1190

No. samples used 2

Analyst T

Date 10/23/34

MECHANICAL ANALYSIS

A. Acid treatment (HCl 15 %)

1. Sample weight . . . . . 44.87 gm. 100.0% : 2. Wt. of F. P. 1.88
3. Wt. after solution, with filter paper . . . . . 43.16 gm.
4. Less wt. F. P. (2) . . . 1.88 gm.
5. Wt. Insol. Residue (3 minus 4) . . . . . 41.28 gm. 92.0 %
6. Wt. lost by solution (1 minus 5) . . . . . 3.59 gm. 8.0 %
7. To balance (5 plus 6) . . 44.87 gm. 100.0 %

B. Subsidation:

1. Original Wt. . . . . 41.28 gm. 100.0%
2. Cylinder (+1/32) 40.67 / 2.34 38.33 gm. 92.8 %
3. Jar (1/32—1/64) 3.27 / 2.41 .86 gm. 2.1 %
4. Drain . . . . . 2.09 gm. 5.1 %

C. Screen Analysis 38.18

SIZE	GRAMS	%
2 plus		
2–1 mm	10.91	28.7
1–½ mm	5.35	14.1
½–¼ mm	4.27	11.2
¼–⅛ mm	8.74	22.8
⅛–1/16	7.38	19.4
Pan	1.47	3.8
Total	38.12	100.0

MINERALOGICAL ANALYSIS

(Use opposite side of page for details of minerals)

Analyst .....

Date .....

Acet. Tetrabr. / Bromoform } ..... Sp. gr. Size–Grade(s) ..... mm.

Wt. of sample . . . . gm. 100.0%

Heavy Minerals . . . . gm. ..... %

Light Minerals . . . . gm. ..... %

Shape Analysis:

A ..... %: a ..... %: C ..... %

r ..... %: R ..... %.

Minerals Identified; Heavy Concentrate — No. of Grains — Rel. %

Total 100%

Light Concentrate

Total 100%

Classification Grouping: — Absol. %

Primary Minerals: ..... %

Secondary Minerals: ..... %

Total 100%

Revised Lithologic Description (from descriptive log and laboratory data).

DEEP WELL STUDY

Well No. W— 0018
Depth 1190 to 1200
No. samples used 2
Analyst T
Date 10/25/34

MECHANICAL ANALYSIS

A. Acid treatment (HCl 15 %)

1. Sample weight . . . . . 41.33 gm. 100.0% : 2. Wt. of F. P. .88
3. Wt. after solution, with filter paper . . . . . 40.16 gm.
4. Less wt. F. P. (2) . . . 1.88 gm.
5. Wt. Insol. Residue (3 minus 4) . . . . . 38.28 gm. 92.6 %
6. Wt. lost by solution (1 minus 5) . . . . . 3.05 gm. 7.4 %
7. To balance (5 plus 6) . . 41.33 gm. 100.0 %

B. Subsidation:

1. Original Wt. . . . . 38.28 gm. 100.0%
2. Cylinder (+1/32) 33.43 / 2.44 30.99 gm. 81.0 %
3. Jar (1/32—1/64) 5.18 / 2.45 2.73 gm. 7.1 %
4. Drain . . . . . 4.56 gm. 11.9 %

C. Screen Analysis 30.83

SIZE	GRAMS	%
2 plus		
2–1 mm	4.34	14.1
1–½ mm	3.52	11.4
½–¼ mm	4.17	13.5
¼–⅛ mm	4.86	15.8
⅛–1/16	9.21	29.9
Pan	4.72	15.3
Total	30.82	100.0

MINERALOGICAL ANALYSIS

(Use opposite side of page for details of minerals)

Acet. Tetrabr. / Bromoform / ..... } ..... Sp. gr. Size–Grade(s) ..... mm.

Analyst .....
Date .....

Wt. of sample . . . . gm. 100.0%

Heavy Minerals . . . . gm. ..... %

Light Minerals . . . . gm. ..... %

Shape Analysis:

A ..... %: a ..... %: C ..... %

r ..... %: R ..... %.

Minerals Identified; Heavy Concentrate — No. of Grains — Rel. %

Total 100%

Light Concentrate

Total 100%

Classification Grouping: — Absol. %

Primary Minerals: ..... %

Secondary Minerals: ..... %

Total 100%

Revised Lithologic Description (from descriptive log and laboratory data).

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DEEP WELL STUDY

Well No. W— 0018

Depth 1200 to 1215

No. samples used 3

Analyst [illegible]

Date 10/25/54

MECHANICAL ANALYSIS

A. Acid treatment (HCl 15 %)

1. Sample weight . . . . . 41.00 gm. 100.0% : 2. Wt. of F. P. 1.92
3. Wt. after solution, with filter paper . . . . . 40.84 gm.
4. Less wt. F. P. (2) . . . 1.92 gm.
5. Wt. Insol. Residue (3 minus 4) . . . . . 38.92 gm. 94.9 %
6. Wt. lost by solution (1 minus 5) . . . . . 2.08 gm. 5.1 %
7. To balance (5 plus 6) . . 41.00 gm. 100.0 %

B. Subsidation:

1. Original Wt. . . . . 38.92 gm. 100.0%
2. Cylinder (+1/32) 37.45 / 2.43 35.02 gm. [illegible] %
3. Jar (1/32—1/64) 3.00 / 2.34 .66 gm. 1.7 %
4. Drain . . . . . 3.24 gm. 8.3 %

C. Screen Analysis

SIZE	GRAMS	%
2 plus		
2–1 mm	2.54	7.4
1–½ mm	3.10	9.0
½–¼ mm	4.04	11.7
¼–⅛ mm	10.61	30.8
⅛–1/16	9.85	28.6
Pan	4.34	12.5
Total	34.48	100.0

MINERALOGICAL ANALYSIS

(Use opposite side of page for details of minerals)

Acet. Tetrabr. / Bromoform ..... Sp. gr. Size–Grade(s) ..... mm.

Analyst .....

Date .....

Wt. of sample . . . . gm. 100.0%

Heavy Minerals . . . . gm. ..... %

Light Minerals . . . . gm. ..... %

Shape Analysis:

A ..... %: a ..... %: C ..... %

r ..... %: R ..... %.

Minerals Identified; Heavy Concentrate — No. of Grains — Rel. %

Classification Grouping: Primary Minerals: ..... % — Absol. %

Total 100%

Light Concentrate

Secondary Minerals: ..... %

Total 100%

Total 100%

Revised Lithologic Description (from descriptive log and laboratory data).

DEEP WELL STUDY

Well No. W— 0018
Depth 1225 to 1240
No. samples used 3
Analyst T
Date 10/25/34

MECHANICAL ANALYSIS

A. Acid treatment (HCl 15 %)

1. Sample weight . . . . . 42.90 gm. 100.0% : 2. Wt. of F. P. 1.92
3. Wt. after solution, with filter paper . . . . . 41.46 gm.
4. Less wt. F. P. (2) . . . 1.92 gm.
5. Wt. Insol. Residue (3 minus 4) . . . . . 39.34 gm. 91.7 %
6. Wt. lost by solution (1 minus 5) . . . . . 3.56 gm. 8.3 %
7. To balance (5 plus 6) . . 42.90 gm. 100.0 %

B. Subsidation:

1. Original Wt. . . . . 39.34 gm. 100.0%
2. Cylinder (+1/32) 38.71 / 1.93 — 36.78 gm. 93.5%
3. Jar (1/32—1/64) 2.84 / 1.94 — .90 gm. 2.3%
4. Drain . . . . . 1.66 gm. 4.2%

C. Screen Analysis 36

SIZE	GRAMS	%
2 plus		
2–1 mm	9.92	27.2
1–½ mm	6.32	17.3
½–¼ mm	7.19	19.7
¼–⅛ mm	6.48	17.7
⅛–1/16	4.76	13.0
Pan	1.88	5.1
Total	36.55	100.0

MINERALOGICAL ANALYSIS

(Use opposite side of page for details of minerals)

Acet. Tetrabr. / Bromoform ..... Sp. gr. Size–Grade(s) ..... mm.

Analyst .....
Date .....

Wt. of sample . . . . gm. 100.0%

Heavy Minerals . . . . gm. ..... %

Light Minerals . . . . gm. ..... %

Shape Analysis:

A ..... % : a ..... % : C ..... %

r ..... % : R ..... %.

Minerals Identified; Heavy Concentrate — No. of Grains — Rel. %

Total 100%

Light Concentrate

Classification Grouping: — Absol. %

Primary Minerals: ..... %

Secondary Minerals: ..... %

Total . . . . . 100% Total 100%

Revised Lithologic Description (from descriptive log and laboratory data).

DEEP WELL STUDY

Well No. W— 0018

Depth 1250 to 1260

No. samples used 2 (Serpentinized, intercrushed)

Analyst T

Date 10/22/81

MECHANICAL ANALYSIS

A. Acid treatment (HCl 15 %)

1. Sample weight . . . . . 26.25 gm. 100.0% : 2. Wt. of F. P. 2.32
3. Wt. after solution, with filter paper . . . . . 25.07 gm.
4. Less wt. F. P. (2) . . . 2.37 gm.
5. Wt. Insol. Residue (3 minus 4) . . . . . 22.70 gm. 86.5 %
6. Wt. lost by solution (1 minus 5) . . . . . 3.55 gm. 13.5 %
7. To balance (5 plus 6) . . 26.25 gm. 100.0 %

B. Subsidation:

1. Original Wt. . . . . 22.70 gm. 100.0%
2. Cylinder (+1/32) 23.65 / 1.95 21.70 gm. 95.6%
3. Jar (1/32—1/64) 2.30 / 1.99 .31 gm. 1.4 %
4. Drain . . . . . .69 gm. 3.0 %

C. Screen Analysis 21.67

SIZE	GRAMS	%
2 plus		
2–1 mm	.12	0.6
1–½ mm	1.40	6.4
½–¼ mm	3.78	17.4
¼–⅛ mm	5.02	23.1
⅛–1/16	8.73	40.1
Pan	2.70	12.4
Total	21.75	100.0

MINERALOGICAL ANALYSIS

(Use opposite side of page for details of minerals)

Analyst .....

Date .....

Acet. Tetrabr. / Bromoform } ..... Sp. gr. Size–Grade(s) ..... mm.

Wt. of sample . . . . gm. 100.0%

Heavy Minerals . . . . gm. ..... %

Light Minerals . . . . gm. ..... %

Shape Analysis:

A ..... %: a ..... %: C ..... %

r ..... %: R ..... %.

Minerals Identified; Heavy Concentrate — No. of Grains — Rel. %

Total 100%

Light Concentrate

Classification Grouping: — Absol. %

Primary Minerals: ..... %

Secondary Minerals: ..... %

Total 100%

Total 100%

Revised Lithologic Description (from descriptive log and laboratory data).

DEEP WELL STUDY

Well No. W— 0018

Depth 1265 to 1275

No. samples used 2 (screened, not crushed)

Analyst

Date

MECHANICAL ANALYSIS

A. Acid treatment (HCl 15 %)

1. Sample weight . . . . . 37.99 gm. 100.0% : 2. Wt. of F. P. .33
3. Wt. after solution, with filter paper . . . . . 36.88 gm.
4. Less wt. F. P. (2) . . . 2.33 gm.
5. Wt. Insol. Residue (3 minus 4) . . . . . 34.55 gm. 90.9 %
6. Wt. lost by solution (1 minus 5) . . . . . 3.44 gm. 9.1 %
7. To balance (5 plus 6) . . 37.99 gm. 100.0 %

B. Subsidation:

1. Original Wt. . . . . 34.55 gm. 100.0%
2. Cylinder (+1/32) 33.05 / 2.10 30.95 gm. 89.5 %
3. Jar (1/32—1/64) 3.63 / 2.12 1.51 gm. 4.4 %
4. Drain . . . . . 2.09 gm. 6.1 %

C. Screen Analysis

SIZE	GRAMS	%
2 plus		
2–1 mm		
1–½ mm	1.06	3.4
½–¼ mm	3.97	12.9
¼–⅛ mm	5.88	19.1
⅛–1/16	11.83	38.3
Pan	8.14	26.3
Total	30.88	100.0

MINERALOGICAL ANALYSIS

(Use opposite side of page for details of minerals)

Analyst

Date

Acet. Tetrabr. / Bromoform } ..... Sp. gr. Size–Grade(s) ..... mm.

Wt. of sample . . . . gm. 100.0%

Heavy Minerals . . . . gm. ..... %

Light Minerals . . . . gm. ..... %

Shape Analysis:

A ..... %: a ..... %: C ..... %

r ..... %: R ..... %.

Minerals Identified; Heavy Concentrate — No. of Grains — Rel. %

Total 100%

Light Concentrate

Total 100%

Classification Grouping: — Absol. %

Primary Minerals: ..... %

Secondary Minerals: ..... %

Total 100%

Revised Lithologic Description (from descriptive log and laboratory data).

DEEP WELL STUDY

Well No. W— 0018

Depth 1275 to 1285

No. samples used 2 not Crushed Screened.

Analyst

Date

MECHANICAL ANALYSIS

A. Acid treatment (HCl.....%)

1. Sample weight . . . . . 25.32 gm. 100.0% : 2. Wt. of F. P. 2.3
3. Wt. after solution, with filter paper . . . . . 26.03 gm.
4. Less wt. F. P. (2) . . . 2.36 gm.
5. Wt. Insol. Residue (3 minus 4) . . . . . 23.67 gm. 93.5 %
6. Wt. lost by solution (1 minus 5) . . . . . 1.65 gm. 6.5 %
7. To balance (5 plus 6) . 25.32 gm. 100.0 %

B. Subsidation:

1. Original Wt. . . . . gm. 100.0%
2. Cylinder (+1/32) gm. %
3. Jar (1/32—1/64) gm. %
4. Drain . . . . . gm. %

C. Screen Analysis 23.51

SIZE	GRAMS	%
2 plus		
2–1 mm		
1–½ mm		
½–¼ mm	2.70	11.5
¼–⅛ mm	3.05	13.0
⅛–1/16	7.58	32.3
Pan	10.11	43.2
Total	23.44	100.0

MINERALOGICAL ANALYSIS

(Use opposite side of page for details of minerals)

Analyst

Date

Acet. Tetrabr. / Bromoform ..... Sp. gr. Size–Grade(s) ..... mm.

Wt. of sample . . . . gm. 100.0%

Heavy Minerals . . . . gm. %

Light Minerals . . . . gm. %

Shape Analysis:

A. %: a. %: C. %

r. %: R. %.

Minerals Identified:

Heavy Concentrate — No. of Grains — Rel. %

Total 100%

Light Concentrate

Total 100%

Classification Grouping: — Absol. %

Primary Minerals: %

Secondary Minerals: %

Total 100%

Revised Lithologic Description (from descriptive log and laboratory data).

DEEP WELL STUDY

Well No. W— 0018

Depth 1340 to 1355

No. samples used 3

Analyst T

Date 10/22/34

MECHANICAL ANALYSIS

A. Acid treatment (HCl 15 %)

1. Sample weight . . . . . 45.84 gm. 100.0% : 2. Wt. of F. P. 2.36
3. Wt. after solution, with filter paper . . . . . 30.86 gm.
4. Less wt. F. P. (2) . . . 2.36 gm.
5. Wt. Insol. Residue (3 minus 4) . . . . . 28.50 gm. 62.2 %
6. Wt. lost by solution (1 minus 5) . . . . . 17.34 gm. 37.8 %
7. To balance (5 plus 6) . . 45.84 gm. 100.0 %

B. Subsidation:

1. Original Wt. . . . . 28.50 gm. 100.0%
2. Cylinder (+1/32) 28.28 / 2.51 — 25.77 gm. 90.4 %
3. Jar (1/32—1/64) 3.40 / 2.43 — .97 gm. 3.4 %
4. Drain . . . . . 1.76 gm. 6.2 %

C. Screen Analysis 25.65

SIZE	GRAMS	%
2 plus		
2–1 mm		
1–½ mm	3.05	11.9
½–¼ mm	9.16	35.8
¼–⅛ mm	8.18	32.0
⅛–1/16	2.64	10.3
Pan	2.53	10.0
Total	25.56	100.0

MINERALOGICAL ANALYSIS

(Use opposite side of page for details of minerals)

Analyst .....

Date .....

Acet. Tetrabr. / Bromoform / ..... } ..... Sp. gr. Size–Grade(s) ..... mm.

Wt. of sample . . . . gm. 100.0%

Heavy Minerals . . . . gm. ..... %

Light Minerals . . . . gm. ..... %

Shape Analysis:

A ..... %: a ..... %: C ..... %

r ..... %: R ..... %.

Minerals Identified; Heavy Concentrate — No. of Grains — Rel. %

Classification Grouping: Primary Minerals: ..... % — Absol. %

Total 100%

Light Concentrate

Secondary Minerals: ..... %

Total 100%

Total 100%

Revised Lithologic Description (from descriptive log and laboratory data).

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.....

DEEP WELL STUDY

Well No. W— 018
Depth 1365 to 1370
No. samples used 1
Analyst T
Date 10/22/31

MECHANICAL ANALYSIS

A. Acid treatment (HCl 15 %)

1. Sample weight . . . . . 34.27 gm. 100.0% : 2. Wt. of F. P. 2.35
3. Wt. after solution, with filter paper . . . . . 12.38 gm.
4. Less wt. F. P. (2) . . . 2.35 gm.
5. Wt. Insol. Residue (3 minus 4) . . . . . 10.03 gm. 29.2 %
6. Wt. lost by solution (1 minus 5) . . . . . 24.24 gm. 70.8 %
7. To balance (5 plus 6) . . 34.27 gm. 100.0 %

B. Subsidation:

1. Original Wt. . . . . gm. 100.0%
2. Cylinder (+1/32) gm. %
3. Jar (1/32—1/64) gm. %
4. Drain . . . . . gm. %

C. Screen Analysis 9.85

SIZE	GRAMS	%
2 plus		
2–1 mm		
1–½ mm		
½–¼ mm	8.07	82.2
¼–⅛ mm	1.17	11.9
⅛–1/16	.47	4.8
Pan	.11	1.1
Total	9.82	100.0

MINERALOGICAL ANALYSIS

(Use opposite side of page for details of minerals)

Analyst Pyre
Date 1/16/35

Acet. Tetrabr. ~~Bromoform~~ ±2.93 Sp. gr. Size–Grade(s) mm.

Wt. of sample . . . . 1.65 gm. 100.0%

Heavy Minerals . . . . .91 gm. 24.9 %

Light Minerals . . . . 1.24 gm. 75.1 %

Shape Analysis:

A %: a %: C %

r %: R %.

Minerals Identified; Heavy Concentrate

	No. of Grains	Rel. %
Pyrite	221	62.7
Anhydrite	121	34.4
Casing Scale	8	2.3
Leucoxene	1	.3
Sphalerite	1	.3
	352	
Total		100%

Classification Grouping:

	Absol. %
Primary Minerals: 72.9 %	
Quartz	30.8
Black Shale	17.3
Green Shale	24.8

Light Concentrate

Quartz	408	41
Black Shale	232	23
Green Shale	330	33
Feldspar	28	3
Total	998	100%

Secondary Minerals: 27.1 %

Pyrite	15.6
Anhydrite	8.6
Feldspar	2.3
Leucoxene	0
Sphalerite	0
Scale	.6
Total	100%

Revised Lithologic Description (from descriptive log and laboratory data).

Limestone – 73% soluble – ±10% qtz. in secondarily enlarged grains; ±5% greenish shale; ±5% black shale; ±4% pyrite in good sized grains; ±3% anhydrite; authigenic feldspars.

DEEP WELL STUDY

Well No. W— 1018
Depth 1375 to 1385
No. samples used 2
Analyst T
Date 10/22/34

MECHANICAL ANALYSIS

A. Acid treatment (HCl 15 %)

1. Sample weight . . . . . 36.51 gm. 100.0% : 2. Wt. of F. P. 2.33
3. Wt. after solution, with filter paper . . . . . 24.66 gm.
4. Less wt. F. P. (2) . . . 2.33 gm.
5. Wt. Insol. Residue (3 minus 4) . . . . . 22.33 gm. 61.2 %
6. Wt. lost by solution (1 minus 5) . . . . . 14.18 gm. 38.8 %
7. To balance (5 plus 6) . . 36.51 gm. 100.0 %

B. Subsidation:

1. Original Wt. . . . . 22.33 gm. 100.0%
2. Cylinder (+1/32) 22.98 / 2.16 20.82 gm. 93.2%
3. Jar (1/32—1/64) 2.65 / 2.18 .47 gm. 2.1%
4. Drain . . . . . 1.04 gm. 4.7%

C. Screen Analysis 20.73

SIZE	GRAMS	%
2 plus		
2–1 mm		
1–½ mm	3.17	15.4
½–¼ mm	7.62	36.9
¼–⅛ mm	5.85	28.3
⅛–1/16	2.65	12.9
Pan	1.34	6.5
Total	20.63	100.0

MINERALOGICAL ANALYSIS

(Use opposite side of page for details of minerals)

Analyst Pyre
Date 1/17/35

Acet. Tetrabr. / Bromoform } ..... Sp. gr. Size–Grade(s) ..... mm.

Wt. of sample . . . . 2.62 gm. 100.0%

Heavy Minerals . . . . .23 gm. 8.7 %

Light Minerals . . . . 2.39 gm. 91.3 %

Shape Analysis:

A ..... %: a ..... %: C ..... %

r ..... %: R ..... %.

Minerals Identified:

Heavy Concentrate	No. of Grains	Rel. %
Pyrite	575	81.9
Anhydrite	93	13.2
Zircon (varied)	2	.3
Tourmaline (green)	1	.1
Sphalerite	1	.1
Dolomite	1	.1
Casing Scale	30	4.3
	703	
Total		100%

Light Concentrate		
Black Shale	540	48
Brownish-green Shale	305	27
Quartz	280	25
Feldspar	3	0
	1128	
Total		100%

Classification Grouping:

Primary Minerals: 91.4 %	Absol. %
Zircon	0
Tourmaline	0
Black Shale	43.9
Brown Shale	24.7
Quartz	22.8
Feldspar	0

Secondary Minerals: 8.6 %	
Pyrite	7.1
Anhydrite	1.1
Sphalerite	0
Dolomite	0
Casing Scale	.4
Total	100%

Revised Lithologic Description (from descriptive log and laboratory data).

Shale – black to brownish-green; 38% soluble; 12-15% qtz. many grains with secondary enlargement; ±5% pyrite; 2-3% anhydrite; (probably interbedded shales & ls.)

DEEP WELL STUDY

Well No. W— 0018
Depth 385 to 1390
No. samples used
Analyst T
Date 10/25/34

MECHANICAL ANALYSIS

A. Acid treatment (HCl 15 %)

1. Sample weight . . . . . 31.84 gm. 100.0% : 2. Wt. of F. P. 1.93
3. Wt. after solution, with filter paper . . . . . 18.24 gm.
4. Less wt. F. P. (2) . . . 1.93 gm.
5. Wt. Insol. Residue (3 minus 4) . . . . . 16.31 gm. 51.2 %
6. Wt. lost by solution (1 minus 5) . . . . . 15.53 gm. 48.8 %
7. To balance (5 plus 6) . . 31.84 gm. 100.0 %

B. Subsidation:

1. Original Wt. . . . . gm. 100.0%
2. Cylinder (+1/32) gm. %
3. Jar (1/32—1/64) gm. %
4. Drain . . . . . gm. %

C. Screen Analysis 16.12

SIZE	GRAMS	%
2 plus		
2–1 mm		
1–½ mm		
½–¼ mm	12.22	76.5
¼–⅛ mm	2.19	13.7
⅛–1/16	.81	5.1
Pan	.75	4.7
Total	15.97	100.0

MINERALOGICAL ANALYSIS

(Use opposite side of page for details of minerals)

Analyst Pyre
Date 1/17/35

Acet. Tetrabr. ~~Bromoform~~ ± 2.93 Sp. gr. Size–Grade(s) mm.

Wt. of sample . . . . 1.60 gm. 100.0%

Heavy Minerals . . . . .12 gm. 7.5 %

Light Minerals . . . . 1.48 gm. 92.5 %

Shape Analysis:

A % : a % : C %

r % : R %.

Minerals Identified:

Heavy Concentrate	No. of Grains	Rel. %
Pyrite	819	72.1
Zircon	5	.4
Anhydrite	237	20.9
Tourmaline (green)	3	.3
Dolomite	1	.1
Casing Scale	70	6.2
	1135	
Total		100%

Light Concentrate		
Clay minerals	759	84
Anhydrite	75	8
Quartz	75	8
	909	
Total		100%

Classification Grouping: Absol. %

Primary Minerals: 85.1 %

Zircon	
Tourmaline	
Quartz	7.4
Clay minerals	77.7

Secondary Minerals: 14.9 %

Pyrite	5.4
Anhydrite (green)	1.6
Anhydrite (white)	7.4
Dolomite	0
Casing Scale	.5
Total	100%

Revised Lithologic Description (from descriptive log and laboratory data).

Limestone – 49% soluble – 35-40% dk. grey shale; fissile; tough; 5-6% anhydrite; 4-5% qtz; 3-4% pyrite;

DEEP WELL STUDY

Well No. W— 0018
Depth 1395 to 1405
No. samples used 2 screened, not crushed
Analyst
Date

MECHANICAL ANALYSIS

A. Acid treatment (HCl 15 %)

1. Sample weight . . . . . 40.33 gm. 100.0% : 2. Wt. of F. P. 2.21
3. Wt. after solution, with filter paper . . . . . 26.74 gm.
4. Less wt. F. P. (2) . . . 2.21 gm.
5. Wt. Insol. Residue (3 minus 4) . . . . . 24.53 gm. 60.8 %
6. Wt. lost by solution (1 minus 5) . . . . . 15.80 gm. 39.2 %
7. To balance (5 plus 6) . . 40.33 gm. 100.0 %

B. Subsidation:

1. Original Wt. . . . . 24.53 gm. 100.0%
2. Cylinder (+1/32) 25.87 / 2.19 23.68 gm. %
3. Jar (1/32—1/64) 2.22 / 1.99 .23 gm. %
4. Drain . . . . . .62 gm. %

C. Screen Analysis 23.77

SIZE	GRAMS	%
2 plus		
2–1 mm		
1–½ mm	1.94	8.2
½–¼ mm	6.18	26.0
¼–⅛ mm	10.18	42.9
⅛–1/16	4.11	17.3
Pan	1.32	5.6
Total	23.73	100.0

MINERALOGICAL ANALYSIS

(Use opposite side of page for details of minerals)

Analyst Pyre
Date 11/17/35

Acet. Tetrabr. / Bromoform } Sp. gr. Size–Grade(s) mm.

Wt. of sample . . . . 3.00 gm. 100.0%

Heavy Minerals . . . . .33 gm. 11.0 %

Light Minerals . . . . 2.67 gm. 89.0 %

Shape Analysis:

A %: a %: C %

r %: R %.

Minerals Identified:

Heavy Concentrate

	No. of Grains	Rel. %
Pyrite	526	~~87.5~~
Anhydrite	3	.5
Sphalerite	1	.1
Zircon	1	.1
Tourmaline	1	.1
Fe-oxide	39	6.5
Leucoxene	1	.1
Dolomite	1	.1
Casing Scale	30	~~5.0~~
Total	603	100%

Light Concentrate

Clay minerals	350	34
Quartz	660	64
Feldspar	20	2
Total	1030	100%

Classification Grouping:

Primary Minerals: 89.1 %

	Absol. %
Zircon	0
Tourmaline	0
Clay minerals	30.3
Quartz	57.0
Feldspar	1.8

Secondary Minerals: 10.9 %

Pyrite	9.6
Anhydrite	0
Sphalerite	0
Fe-oxide	.7
Dolomite	0
Leucoxene	0
Casing Scale	.6
Total	100%

Revised Lithologic Description (from descriptive log and laboratory data).

Dolomite - impure - 39% soluble - ± 35% sand a-c; some with secondary enlargement; ±20% black shale; 5-6% pyrite;

DEEP WELL STUDY

Well No. W— 0018
Depth 1405 to 1410
No. samples used 1
Analyst T
Date 10/22/34

MECHANICAL ANALYSIS

A. Acid treatment (HCl 15 %)

1. Sample weight . . . . . 26.87 gm. 100.0% : 2. Wt. of F. P. 2.18
3. Wt. after solution, with filter paper . . . . . 14.65 gm.
4. Less wt. F. P. (2) . . . 2.18 gm.
5. Wt. Insol. Residue (3 minus 4) . . . . . 12.47 gm. 46.3 %
6. Wt. lost by solution (1 minus 5) . . . . . 14.40 gm. 53.7 %
7. To balance (5 plus 6) . . 26.87 gm. 100.0 %

B. Subsidation:

1. Original Wt. . . . . gm. 100.0%
2. Cylinder (+1/32) gm. %
3. Jar (1/32—1/64) gm. %
4. Drain . . . . . gm. %

C. Screen Analysis 12.32

SIZE	GRAMS	%
2 plus		
2–1 mm		
1–½ mm		
½–¼ mm	5.86	48.5
¼–⅛ mm	4.32	35.8
⅛–1/16	1.42	11.7
Pan	.49	4.0
Total	12.09	100.0

MINERALOGICAL ANALYSIS

(Use opposite side of page for details of minerals)

Analyst Pyre
Date 1/17/35

Acet. Tetrabr. / Bromoform } Sp. gr. Size–Grade(s) mm.

Wt. of sample . . . . 2.00 gm. 100.0%

Heavy Minerals . . . . .48 gm. 24.0 %

Light Minerals . . . . 1.52 gm. 76.0 %

Shape Analysis:

A %: a %: C %

r %: R %.

Minerals Identified; Heavy Concentrate

	No. of Grains	Rel. %
Pyrite	920	97
Anhydrite	8	1
Siderite	1	0
Zircon	2	0
Tourmaline	2	0
Hematite	3	0
Casing Scale	18	2
	954	
Total		100%

Classification Grouping: Primary Minerals: 76.0 %

	Absol. %
Zircon	0
Tourmaline	0
Quartz	34.5
Clay Minerals	41.3
Feldspar	.2

Light Concentrate

Clay minerals	533	54.3
Quartz	445	45.4
Feldspar	3	.3
	981	
Total		100%

Secondary Minerals: 24.0 %

Pyrite	23.3
Anhydrite	.2
Siderite	0
Hematite	0
Casing Scale	.5
Total	100%

Revised Lithologic Description (from descriptive log and laboratory data).

Dolomite – 47% soluble – gray to buff; 20-25% dk. gray to brown shale; 15-20% qtz. in a-c grains; 5-10% pyrite;

DEEP WELL STUDY

Well No. W— 0018
Depth 1415 to 1425
No. samples used 2 screened, not crushed
Analyst T
Date 10/22/34

MECHANICAL ANALYSIS

A. Acid treatment (HCl 15 %)

1. Sample weight . . . . . 44.24 gm. 100.0% : 2. Wt. of F. P. 2.37
3. Wt. after solution, with filter paper . . . . . 18.02 gm.
4. Less wt. F. P. (2) . . . 2.37 gm.
5. Wt. Insol. Residue (3 minus 4) . . . . . 15.65 gm. 35.3 %
6. Wt. lost by solution (1 minus 5) . . . . . 28.59 gm. 64.7 %
7. To balance (5 plus 6) . . 44.24 gm. 100.0 %

B. Subsidation:

1. Original Wt. . . . . gm. 100.0%
2. Cylinder (+1/32) gm. %
3. Jar (1/32—1/64) gm. %
4. Drain . . . . . gm. %

C. Screen Analysis

SIZE	GRAMS	%
2 plus		
2–1 mm		
1–½ mm		
½–¼ mm	7.52	46.1
¼–⅛ mm	5.27	32.3
⅛–1/16	2.66	16.3
Pan	.86	5.3
Total	16.31	100.0

MINERALOGICAL ANALYSIS

(Use opposite side of page for details of minerals)

Analyst Pyre
Date 1/18/35

Acet. Tetrabr. / ~~Bromoform~~ ± 2.93 Sp. gr. Size–Grade(s) mm.

Wt. of sample . . . . 2.70 gm. 100.0%

Heavy Minerals . . . . .23 gm. 8.5 %

Light Minerals . . . . 2.47 gm. 91.5 %

Shape Analysis:

A % : a % : C %

r % : R %.

Minerals Identified:

Heavy Concentrate

	No. of Grains	Rel. %
Pyrite	402	71.2
Casing Scale	138	24.4
Anhydrite	20	3.5
Zircon	2	.3
Rutile	1	.2
Tourmaline		.2
Leucoxene	1	.2
	565	
Total		100%

Light Concentrate

Quartz	543	44.7
Shale	460	37.9
Chert	192	15.8
Anhydrite	11	.9
Feldspar	8	.7
Total	121.4	100%

Classification Grouping:

Primary Minerals: 76.2 %

	Absol. %
Zircon	0
Rutile	0
Tourmaline	0
Quartz	40.9
Shale	34.7
Feldspar	.6

Secondary Minerals: 23.8 %

Pyrite	6.1
Scale	2.1
Anhydrite {Heavy / Light}	.3 / .8
Chert	14.5
Leucoxene	0
Total	100%

Revised Lithologic Description (from descriptive log and laboratory data).

Dolomite — 62% soluble — gray to buff; 10-15% qtz. sand; 10-15% black slaty shale; ± 5% milky, clear to impure chert; 1-2% pyrite; < 1% anhydrite.

DEEP WELL STUDY

Well No. W— 0018
Depth 1440 to 1455
No. samples used 3
Analyst T
Date 10/22/34

MECHANICAL ANALYSIS

A. Acid treatment (HCl 15 %)

1. Sample weight . . . . . 16.80 gm. 100.0% : 2. Wt. of F. P. 2.28
3. Wt. after solution, with filter paper . . . . . 13.31 gm.
4. Less wt. F. P. (2) . . . 2.28 gm.
5. Wt. Insol. Residue (3 minus 4) . . . . . 11.03 gm. 65.7 %
6. Wt. lost by solution (1 minus 5) . . . . . 5.77 gm. 34.3 %
7. To balance (5 plus 6) . . 16.80 gm. 100.0 %

B. Subsidation:

1. Original Wt. . . . . gm. 100.0%
2. Cylinder (+1/32) gm. %
3. Jar (1/32—1/64) gm. %
4. Drain . . . . . gm. %

C. Screen Analysis

SIZE	GRAMS	%
2 plus		
2–1 mm		
1–½ mm		
½–¼ mm	6.47	62.0
¼–⅛ mm	2.34	22.4
⅛–1/16	1.18	11.3
Pan	.45	4.3
Total	10.44	100.0

MINERALOGICAL ANALYSIS

(Use opposite side of page for details of minerals)

Analyst Rowser
Date 1-17-35

Acet. Tetrabr. / Bromoform 2.93 Sp. gr. Size–Grade(s) 1/8-pan mm.

Wt. of sample . . . . 1.71 gm. 100.0%

Heavy Minerals . . . . .16 gm. 9.4 %

Light Minerals . . . . 1.55 gm. 90.6 %

Shape Analysis:

A ..... %: a ..... %: C ..... %

r ..... %: R ..... %.

Minerals Identified; Heavy Concentrate

	No. of Grains	Rel. %
Pyrite	849	87
Scale	97	10
Quartz	18	2
anhydrite	13	1
Tourmaline	2	0
Total	979	100%

Light Concentrate

Clay	916	93
Quartz	67	7
⊕ Chert	5	0
Total	988	100%

Classification Grouping:

Primary Minerals: 90.8 %

	Absol. %
Quartz (Heavy)	6.2
Quartz (Light)	6.3
Tourmaline	0
Clay	84.3

Secondary Minerals: 9.2 %

Pyrite	8.2
Scale	.9
anhydrite	.1
Chert	0
Total	100%

Revised Lithologic Description (from descriptive log and laboratory data).

Shale – buff to black; calcareous – 34% soluble
black sh. is thinly laminated – Chert – 5-10% (in larger grades only)
brown to nearly white; dense; some clear xln Qtz. Pyrite abundant.

DEEP WELL STUDY

Well No. W— 0018
Depth 1465 to 1480
No. samples used 3
Analyst T
Date 10/23/34

MECHANICAL ANALYSIS

A. Acid treatment (HCl 15 %)

1. Sample weight . . . . . 44.10 gm. 100.0% : 2. Wt. of F. P. 2.27
3. Wt. after solution, with filter paper . . . . . 31.44 gm.
4. Less wt. F. P. (2) . . . 2.27 gm.
5. Wt. Insol. Residue (3 minus 4) . . . . . 29.17 gm. 66.1 %
6. Wt. lost by solution (1 minus 5) . . . . . 14.93 gm. 33.9 %
7. To balance (5 plus 6) . . 44.10 gm. 100.0 %

B. Subsidation:

1. Original Wt. . . . . gm. 100.0%
2. Cylinder (+1/32) gm. %
3. Jar (1/32—1/64) gm. %
4. Drain . . . . . gm. %

C. Screen Analysis

SIZE	GRAMS	%
2 plus		
2–1 mm		
1–½ mm		
½–¼ mm	18.84	66.2
¼–⅛ mm	6.31	22.2
⅛–1/16	2.42	8.5
Pan	.89	3.1
Total	28.46	100.0

MINERALOGICAL ANALYSIS

(Use opposite side of page for details of minerals)

Acet. Tetrabr. ~~Bromoform~~ 2.93 Sp. gr. Size–Grade(s) 1/8 – 1/16 mm.

Analyst Rousey
Date 1-16-35

Wt. of sample . . . . 2.51 gm. 100.0%

Heavy Minerals . . . . .12 gm. 4.8 %

Light Minerals . . . . 2.39 gm. 95.2 %

Shape Analysis:

A ..... %: a ..... %: C ..... %

r ..... %: R ..... %.

Minerals Identified; Heavy Concentrate

	No. of Grains	Rel. %
Pyrite	763	90
anhydrite	9	1
Quartz	13	2
garnet	2	0
Tourmaline	2	0
Scale	60	7
Total	849	100%

Light Concentrate

clay	555	42
Quartz	210	16
chert	561	42
Total	1326	100%

Classification Grouping:

	Absol. %
Primary Minerals: 55.3 %	40.0
clay	
Quartz Heavy	.1
Quartz Light	15.2
Tourmaline	0
garnet	0
Secondary Minerals: 44.7 %	
Pyrite	4.3
anhydrite	.1
chert	40.0
scale	.3
Total	100%

Revised Lithologic Description (from descriptive log and laboratory data).

dolomite – 34%; impure; deep. res. brown; chert; ±28%; white – dense; Shale – ±28%; blk; carbonaceous; Qtz, ± 10%; clear, Xline; Pyrite common.

DEEP WELL STUDY

Well No. W— 0018
Depth 1480 to 1490
No. samples used 2
Analyst
Date 10/22/34

MECHANICAL ANALYSIS

A. Acid treatment (HCl 15 %)

1. Sample weight . . . . . 39.51 gm. 100.0% : 2. Wt. of F. P. 2.30
3. Wt. after solution, with filter paper . . . . . 35.33 gm.
4. Less wt. F. P. (2) . . . 2.30 gm.
5. Wt. Insol. Residue (3 minus 4) . . . . . 33.03 gm. 83.6 %
6. Wt. lost by solution (1 minus 5) . . . . . 6.48 gm. 16.4 %
7. To balance (5 plus 6) . . 39.51 gm. 100.0 %

B. Subsidation:

1. Original Wt. . . . . 33.03 gm. 100.0%
2. Cylinder (+1/32) 33.70 / 2.13 31.57 gm. %
3. Jar (1/32—1/64) 2.34 / 1.99 .35 gm. %
4. Drain . . . . . 1.11 gm. %

C. Screen Analysis 3141

SIZE	GRAMS	%
2 plus		
2–1 mm	.08	0.3
1–½ mm	9.00	28.8
½–¼ mm	13.17	42.0
¼–⅛ mm	6.07	19.4
⅛–1/16	2.20	7.0
Pan	.79	2.5
Total	31.31	100.0

MINERALOGICAL ANALYSIS

(Use opposite side of page for details of minerals)

Analyst D. Fraschè
Date 1—17—35

Acet. Tetrabr. / Bromoform } ..... Sp. gr. Size–Grade(s) ..... mm.

Wt. of sample . . . . 3.04 gm. 100.0%

Heavy Minerals . . . . .10 gm. 3.3 %

Light Minerals . . . . 2.94 gm. 96.7 %

Shape Analysis:

A ..... %: a ..... %: C ..... %

r ..... %: R ..... %.

Minerals Identified; Heavy Concentrate	No. of Grains	Rel. %
zircon	11	1
sphalerite	5	1
quartz	3	0
carbonate	2	0
amphibole	2	0
titanite	5	1
tourmaline	4	1
anhydrite	6	1
anatase	2	0
pyrite	687	85
magnetite or ilmenite	58	7
leucoxene	26	3
Total	809	100%

Light Concentrate		
feldspars	19	2
clay-minerals	700	75
quartz	120	13
chert	93	10
Total	932	100%

Classification Grouping:

Primary Minerals: 87.3 %

	Absol. %
zircon	0
quartz	12.6
amphibole	0
titanite	0
tourmaline	0
magnetite or ilmenite	.2
feldspars	1.9
clay	72.6

Secondary Minerals: 12.6 %

sphalerite	0
carbonate	0
anhydrite	0
anatase	0
pyrite	2.8
leucoxene	.1
chert	9.7
Total	100%

Revised Lithologic Description (from descriptive log and laboratory data).

Shale 80% black-carbonaceous-some qtz angular-sub-angular. Dolomite 16% buff to brown-cherty-fine

DEEP WELL STUDY

Well No. W— 0018
Depth 1500 to 1510
No. samples used 2 screened, not crushed
Analyst T
Date 10/22/84

MECHANICAL ANALYSIS

A. Acid treatment (HCl 15 %)

1. Sample weight . . . . . 26.95 gm. 100.0% : 2. Wt. of F. P. 1.90
3. Wt. after solution, with filter paper . . . . . 14.84 gm.
4. Less wt. F. P. (2) . . . 1.90 gm.
5. Wt. Insol. Residue (3 minus 4) . . . . . 12.94 gm. 48.0%
6. Wt. lost by solution (1 minus 5) . . . . . 14.01 gm. 52.0%
7. To balance (5 plus 6) . . 26.95 gm. 100.0%

B. Subsidation:

1. Original Wt. . . . . gm. 100.0%
2. Cylinder (+1/32) gm. %
3. Jar (1/32—1/64) gm. %
4. Drain . . . . . gm. %

C. Screen Analysis 12.65

SIZE	GRAMS	%
2 plus		
2–1 mm		
1–½ mm		
½–¼ mm	6.70	53.8
¼–⅛ mm	3.78	30.4
⅛–1/16	1.58	12.7
Pan	.38	3.1
Total	12.44	100.0

MINERALOGICAL ANALYSIS

(Use opposite side of page for details of minerals)

Analyst D. Frasche
Date 1-17-85

Acet. Tetrabr. / Bromoform } Sp. gr. Size–Grade(s) mm.

Wt. of sample . . . . 2.02 gm. 100.0%

Heavy Minerals . . . . .24 gm. 11.9 %

Light Minerals . . . . 1.78 gm. 88.1 %

Shape Analysis:

A % : a % : C %

r % : R %.

Minerals Identified: Heavy Concentrate	No. of Grains	Rel. %
barite	2	.1
quartz	19	.1
tourmaline	1	.1
zircon	4	.1
carbonate	2	.1
anhydrite	2	.1
chert	4	.2
pyrite	1360	79.3
hematite	323	18.8
Total	1717	100%

Classification Grouping: Primary Minerals: 87.5 %	Absol. %
quartz (light)	.1
tourmaline	6.2
zircon	0
chert	48.5
feldspar	.9
clay-minerals	31.8

Light Concentrate		
feldspar	10	1
clay-minerals	420	36
chert	633	55
opal (?)	17	1
quartz	96	7
chalcedony	2	0
Total	1158	100%

Secondary Minerals: 12.5 %	
barite	0
carbonate	0
anhydrite	0
pyrite	9.4
hematite	2.7
opal	.1
chalcedony	0
Total	100%

Revised Lithologic Description (from descriptive log and laboratory data).

Dolomite 52% - cherty translucent milky chert - shale 48% black - gray.

DEEP WELL STUDY

Well No. W— 0018
Depth 1520 to 1535
No. samples used 3
Analyst T
Date 10/23/34

MECHANICAL ANALYSIS

A. Acid treatment (HCl 15 %)

1. Sample weight . . . . . 44.28 gm. 100.0% : 2. Wt. of F. P. 1.87
3. Wt. after solution, with filter paper . . . . . 17.83 gm.
4. Less wt. F. P. (2) . . . 1.87 gm.
5. Wt. Insol. Residue (3 minus 4) . . . . . 15.96 gm. 36.1 %
6. Wt. lost by solution (1 minus 5) . . . . . 28.32 gm. 63.9 %
7. To balance (5 plus 6) . . 44.28 gm. 100.0 %

B. Subsidation:

1. Original Wt. . . . . gm. 100.0%
2. Cylinder (+1/32) gm. %
3. Jar (1/32—1/64) gm. %
4. Drain . . . . . gm. %

C. Screen Analysis 15.68

SIZE	GRAMS	%
2 plus		
2–1 mm		
1–½ mm		
½–¼ mm	10.14	64.9
¼–⅛ mm	3.56	22.8
⅛–1/16	1.37	8.7
Pan	.57	3.6
Total	15.64	100.0

MINERALOGICAL ANALYSIS

(Use opposite side of page for details of minerals)

Analyst D. Fraschè
Date 1—17—35

Acet. Tetrabr. / Bromoform } Sp. gr. Size–Grade(s) mm.

Wt. of sample . . . . 1.96 gm. 100.0%

Heavy Minerals . . . . .20 gm. 10.2 %

Light Minerals . . . . 1.76 gm. 89.8 %

Shape Analysis:

A % : a % : C %

r % : R %.

Minerals Identified: Heavy Concentrate	No. of Grains	Rel. %
zircon	3	.3
sphalerite	2	.2
quartz	7	.7
chert	3	.3
fluorite	2	.2
barite	5	.5
tourmaline	1	.1
leucoxene	7	.7
carbonate	3	.3
anhydrite	4	.4
amphibole	1	.1
feldspar	1	.1
titanite	1	.1
pyrite	847	89.5
hematite	60	6.4
Total	950	100%

Light Concentrate		
feldspar	7	1
quartz	98	17
chert	350	61
clay minerals	120	21
Total	575	100%

Classification Grouping: Primary Minerals: 90.0 %	Absol. %
zircon	
quartz {heavy, light}	.1
chert {heavy, light}	15.3
fluorite	54.8
tourmaline	
amphibole	
feldspar {heavy, light}	.9
titanite	
clay	18.9

Secondary Minerals: 10.0 %	
sphalerite	
barite	.1
carbonate	
anhydrite	
pyrite	7.1
hematite	.7
leucoxene	.1
Total	100%

Revised Lithologic Description (from descriptive log and laboratory data).

limestone 63% — interbedded by shale — cherty limestone — white to buff — shale gray — 15% — chert 16%

DEEP WELL STUDY

Well No. W— 0018
Depth 1545 to 1560
No. samples used 3 Screened, not Crushed
Analyst 1
Date 10/22/34

MECHANICAL ANALYSIS

A. Acid treatment (HCl.....%)

1. Sample weight . . . . . 45.88 gm. 100.0% : 2. Wt. of F. P. 1.89
3. Wt. after solution, with filter paper . . . . . 34.58 gm.
4. Less wt. F. P. (2) . . . 1.89 gm.
5. Wt. Insol. Residue (3 minus 4) . . . . . 32.69 gm. 71.4 %
6. Wt. lost by solution (1 minus 5) . . . . . 13.19 gm. 28.6 %
7. To balance (5 plus 6) . . 45.88 gm. 100.0 %

B. Subsidation:

1. Original Wt. . . . . 32.69 gm. 100.0%
2. Cylinder (+1/32) 33.58 − 2.22 31.36 gm. %
3. Jar (1/32—1/64) 2.26 − 1.98 .28 gm. %
4. Drain . . . . . 1.05 gm. %

C. Screen Analysis

SIZE	GRAMS	%
2 plus		
2–1 mm	.60	1.9
1–½ mm	6.69	21.1
½–¼ mm	11.79	37.4
¼–⅛ mm	7.42	23.4
⅛–1/16	3.67	11.6
Pan	1.46	4.6
Total	31.63	100.0

MINERALOGICAL ANALYSIS

(Use opposite side of page for details of minerals)

Analyst D. Frasche
Date 1-18-35

Acet. Tetrabr. / Bromoform ..... Sp. gr. Size–Grade(s) ..... mm.

Wt. of sample . . . . 3.69 gm. 100.0%

Heavy Minerals . . . . .19 gm. 5.1 %

Light Minerals . . . . 3.50 gm. 94.9 %

Shape Analysis:

A ..... % : a ..... % : C ..... %

r ..... % : R ..... %.

Minerals Identified; Heavy Concentrate

	No. of Grains	Rel. %
quartz	7	.6
tourmaline	3	.3
anhydrite	5	.4
barite	2	.2
pyrite	912	80.3
hematite	164	14.4
leucox	9	.8
Scale	34	3.0
Total	1136	100%

Light Concentrate

quartz	398	15
clay minerals	316	16
chert	1386	69
Total	2000	100%

Classification Grouping:

Primary Minerals: 95.0 %

	Absol. %
quartz	14.2
tourmaline	0
clay minerals	15.2
chert	65.6

Secondary Minerals: 5.0 %

anhydrite	0
barite	0
pyrite	4.1
hematite	.7
Scale	.2
Total	100%

Revised Lithologic Description (from descriptive log and laboratory data).

limestone 71% white gray - chert 35% white - some quartz and trace of black shale

DEEP WELL STUDY

Well No. W— 0018

Depth 1580 to 1590

No. samples used 2 Screened, not Crushed

Analyst 2

Date 10/23/34

MECHANICAL ANALYSIS

A. Acid treatment (HCl 15 %)

1. Sample weight . . . . . 41.17 gm. 100.0% : 2. Wt. of F. P. 1.85
3. Wt. after solution, with filter paper . . . . . 36.68 gm.
4. Less wt. F. P. (2) . . . 1.85 gm.
5. Wt. Insol. Residue (3 minus 4) . . . . . 34.83 gm. 84.6 %
6. Wt. lost by solution (1 minus 5) . . . . . 6.34 gm. 15.4 %
7. To balance (5 plus 6) . . 41.17 gm. 100.0 %

B. Subsidation:

1. Original Wt. . . . . 34.83 gm. 100.0%
2. Cylinder (+1/32) 36.20 / 1.93 34.27 gm. 98.4 %
3. Jar (1/32—1/64) 2.06 / 1.98 .08 gm. 0.2 %
4. Drain . . . . . .48 gm. 1.4 %

C. Screen Analysis 34.30

SIZE	GRAMS	%
2 plus		
2–1 mm	.26	0.8
1–½ mm	12.15	35.6
½–¼ mm	9.89	29.0
¼–⅛ mm	9.98	29.3
⅛–1/16	1.62	4.7
Pan	.21	0.6
Total	34.11	100.0

MINERALOGICAL ANALYSIS

(Use opposite side of page for details of minerals)

Acet. Tetrabr. / Bromoform ..... Sp. gr. Size–Grade(s) ..... mm.

Analyst .....

Date .....

Wt. of sample . . . . gm. 100.0%

Heavy Minerals . . . . gm. ..... %

Light Minerals . . . . gm. ..... %

Shape Analysis:

A ..... %: a ..... %: C ..... %

r ..... %: R ..... %.

Minerals Identified; Heavy Concentrate — No. of Grains — Rel. %

Total 100%

Light Concentrate

Classification Grouping: Primary Minerals: ..... %

Secondary Minerals: ..... %

Absol. %

Total . . . . . 100% Total 100%

Revised Lithologic Description (from descriptive log and laboratory data).

DEEP WELL STUDY

Well No. W— 0018

Depth 1600 to 1615

No. samples used 3 Screened, not Crushed

Analyst T

Date 10/23/34

MECHANICAL ANALYSIS

A. Acid treatment (HCl 15 %)

1. Sample weight . . . . . 45.87 gm. 100.0% : 2. Wt. of F. P. 1.92
3. Wt. after solution, with filter paper . . . . . 15.04 gm.
4. Less wt. F. P. (2) . . . 1.92 gm.
5. Wt. Insol. Residue (3 minus 4) . . . . . 13.12 gm. 28.7 %
6. Wt. lost by solution (1 minus 5) . . . . . 32.75 gm. 71.3 %
7. To balance (5 plus 6) . . 45.87 gm. 100.0 %

B. Subsidation:

1. Original Wt. . . . . gm. 100.0%
2. Cylinder (+1/32) gm. %
3. Jar (1/32—1/64) gm. %
4. Drain . . . . . gm. %

C. Screen Analysis 12.36

SIZE	GRAMS	%
2 plus		
2–1 mm		
1–½ mm		
½–¼ mm	2.46	20.2
¼–⅛ mm	5.34	43.7
⅛–1/16	3.82	31.2
Pan	.60	4.9
Total	12.22	100.0

MINERALOGICAL ANALYSIS

(Use opposite side of page for details of minerals)

Analyst D. Frasche

Date 1-18-35

Acet. Tetrabr. / Bromoform ..... Sp. gr. Size–Grade(s) ..... mm.

Wt. of sample . . . . 3.84 gm. 100.0%

Heavy Minerals . . . . 1.02 gm. 26.6 %

Light Minerals . . . . 2.82 gm. 73.4 %

Shape Analysis:

A ..... %: a ..... %: C ..... %

r ..... %: R ..... %.

Minerals Identified; Heavy Concentrate	No. of Grains	Rel. %
anhydrite	808	71
hemetite	240	21
pyrite	96	8
Total	1144	100%

Light Concentrate		
quartz	240	15
chert	726	45
clay minerals	642	40
Total	1602	100%

Classification Grouping:

Primary Minerals: 73.4%

	Absol. %
quartz	11.0
chert	33.
clay-minerals	29.4

Secondary Minerals: 26.6 %

anhydrite	18.9
hemetite	5.6
pyrite	2.1
Total	100%

Revised Lithologic Description (from descriptive log and laboratory data).

Limestone 71% buff - translucent -
chert 24% - white some Fe stained, Shale
dark gray - 14%

DEEP WELL STUDY

Well No. W— 0018

Depth 1625 to 1640

No. samples used 3 screened, not Crushed

Analyst T

Date 10/23/34

MECHANICAL ANALYSIS

A. Acid treatment (HCl 15 %)

1. Sample weight . . . . . 45.21 gm. 100.0% : 2. Wt. of F. P. 1.92
3. Wt. after solution, with filter paper . . . . . 12.89 gm.
4. Less wt. F. P. (2) . . . 1.92 gm.
5. Wt. Insol. Residue (3 minus 4) . . . . . 10.97 gm. 24.2 %
6. Wt. lost by solution (1 minus 5) . . . . . 34.24 gm. 75.8 %
7. To balance (5 plus 6) . . 45.21 gm. 100.0 %

B. Subsidation:

1. Original Wt. . . . . gm. 100.0%
2. Cylinder (+1/32) gm. %
3. Jar (1/32—1/64) gm. %
4. Drain . . . . . gm. %

C. Screen Analysis 10.47

SIZE	GRAMS	%
2 plus		
2–1 mm		
1–½ mm		
½–¼ mm	2.91	28.1
¼–⅛ mm	4.59	44.4
⅛–1/16	2.28	22.0
Pan	.57	5.5
Total	10.35	100.0

MINERALOGICAL ANALYSIS

(Use opposite side of page for details of minerals)

Analyst D. Frasche

Date 1-18-35

Acet. Tetrabr. / Bromoform } Sp. gr. Size-Grade(s) mm.

Wt. of sample . . . . . 2.27 gm. 100.0%

Heavy Minerals . . . . . .64 gm. 28.2 %

Light Minerals . . . . . 1.63 gm. 71.8 %

Shape Analysis:

A % : a % : C %

r % : R %.

Minerals Identified; Heavy Concentrate	No. of Grains	Rel. %
anhydrite	126	8.
hematite	1195	78
Scale	221	14
Total	1542	100%

Light Concentrate		
quartz	240	23
chert	483	47
clay minerals	307	30
Total	1030	100%

Classification Grouping:

Primary Minerals: 71.8%

	Absol. %
quartz	16.5
chert	33.8
clay minerals	21.5

Secondary Minerals: 28.2%

anhydrite	2.3
hematite	22.0
Scale	3.9
Total	100%

Revised Lithologic Description (from descriptive log and laboratory data).

limestone 75% white to buff - slightly Fe stained - chert 14% - clay - 10%.

DEEP WELL STUDY

Well No. W— 0018
Depth 1650 to 1660
No. samples used 2
Analyst T
Date 10/23/34

MECHANICAL ANALYSIS

A. Acid treatment (HCl 15 %)

1. Sample weight . . . . . 42.10 gm. 100.0% : 2. Wt. of F. P. 2.26
3. Wt. after solution, with filter paper . . . . . 18.30 gm.
4. Less wt. F. P. (2) . . . 2.26 gm.
5. Wt. Insol. Residue (3 minus 4) . . . . . 16.04 gm. 38.2 %
6. Wt. lost by solution (1 minus 5) . . . . . 26.06 gm. 61.8 %
7. To balance (5 plus 6) . . 42.10 gm. 100.0 %

B. Subsidation:

1. Original Wt. . . . . gm. 100.0%
2. Cylinder (+1/32) gm. %
3. Jar (1/32—1/64) gm. %
4. Drain . . . . . gm. %

C. Screen Analysis

SIZE	GRAMS	%
2 plus		
2–1 mm		
1–½ mm		
½–¼ mm		
¼–⅛ mm		
⅛–1/16		
Pan		
Total		100.0

MINERALOGICAL ANALYSIS

(Use opposite side of page for details of minerals)

Acet. Tetrabr. / Bromoform } Sp. gr. Size–Grade(s) mm.

Analyst
Date

Wt. of sample . . . . gm. 100.0%

Heavy Minerals . . . . gm. %

Light Minerals . . . . gm. %

Shape Analysis:

A % : a % : C %

r % : R %.

Minerals Identified; Heavy Concentrate — No. of Grains — Rel. %

Total 100%

Light Concentrate

Classification Grouping: — Absol. %

Primary Minerals: %

Secondary Minerals: %

Total 100%

Total 100%

Revised Lithologic Description (from descriptive log and laboratory data).

DEEP WELL STUDY

Well No. W— 0018
Depth 1660 to 1675
No. samples used 3
Analyst T
Date 10/23/34

MECHANICAL ANALYSIS

A. Acid treatment (HCl 15 %)

1. Sample weight . . . . . 41.03 gm. 100.0% : 2. Wt. of F. P. 2.28
3. Wt. after solution, with filter paper . . . . . 37.00 gm.
4. Less wt. F. P. (2) . . . 2.28 gm.
5. Wt. Insol. Residue (3 minus 4) . . . . . 35.72 gm. 87.1 %
6. Wt. lost by solution (1 minus 5) . . . . . 5.31 gm. 12.9 %
7. To balance (5 plus 6) . . 41.03 gm. 100.0 %

B. Subsidation:

1. Original Wt. . . . . 35.76 gm. 100.0%
2. Cylinder (+1/32) 11.38 / 2.21 9.17 gm. 25.5 %
3. Jar (1/32—1/64) 5.08 / 1.95 3.13 gm. 8.8 %
4. Drain . . . . . 23.42 gm. 65.7 %

C. Screen Analysis 8.86

SIZE	GRAMS	%
2 plus		
2–1 mm		
1–½ mm	1.58	18.0
½–¼ mm	1.45	16.5
¼–⅛ mm	1.46	16.6
⅛–1/16	2.55	29.0
Pan	1.74	19.9
Total	8.79	100.0

MINERALOGICAL ANALYSIS

(Use opposite side of page for details of minerals)

Analyst D. Frasche
Date 1-18-35

Acet. Tetrabr. / Bromoform ..... Sp. gr. Size–Grade(s) ..... mm.

Wt. of sample . . . . 9.55 gm. 100.0%

Heavy Minerals . . . . .02 gm. .8 %

Light Minerals . . . . 2.53 gm. 99.2 %

Shape Analysis:

A ..... % : a ..... % : C ..... %

r ..... % : R ..... %.

Minerals Identified; Heavy Concentrate	No. of Grains	Rel. %
sphalerite	3	.3
anhydrite	140	13.3
pyrite	791	75.1
hematite	119	11.3
Total	1053	100%

Classification Grouping: Absol. %

Primary Minerals: 99.2 %

Clay — 99.2

Light Concentrate		
Clay	1000	100
Total	1000	100%

Secondary Minerals: .8 %

sphalerite	.1
anhydrite	0
pyrite	.6
hematite	.1
Total	100%

Revised Lithologic Description (from descriptive log and laboratory data).

Shale 87% gray green to gray blue shaly clay, dense & plastic - trace gtz - limestone 13%

DEEP WELL STUDY

Well No. W— 0018
Depth 1675 to 1690
No. samples used 3
Analyst T
Date 10/25/34

MECHANICAL ANALYSIS

A. Acid treatment (HCl 15 %)

1. Sample weight . . . . . 40.86 gm. 100.0% : 2. Wt. of F. P. 1.89
3. Wt. after solution, with filter paper . . . . . 35.87 gm.
4. Less wt. F. P. (2) . . . 1.89 gm.
5. Wt. Insol. Residue (3 minus 4) . . . . . 33.98 gm. 83.2 %
6. Wt. lost by solution (1 minus 5) . . . . . 6.88 gm. 16.8 %
7. To balance (5 plus 6) . . 40.86 gm. 100.0 %

B. Subsidation:

1. Original Wt. . . . . 33.98 gm. 100.0%
2. Cylinder (+1/32) 5.66 / 2.14 3.52 gm. 10.4 %
3. Jar (1/32—1/64) 4.34 / 2.16 2.18 gm. 6.4 %
4. Drain . . . . . 28.28 gm. 83.2 %

C. Screen Analysis 3.29

SIZE	GRAMS	%
2 plus		
2–1 mm	.04	1.3
1–½ mm	.35	11.0
½–¼ mm	.61	19.2
¼–⅛ mm	.61	19.2
⅛–1/16	.96	30.1
Pan	.61	19.2
Total	3.18	100.0

MINERALOGICAL ANALYSIS

(Use opposite side of page for details of minerals)

Analyst D. Frasche
Date 1—18—35

Acet. Tetrabr. / Bromoform ..... Sp. gr. Size–Grade(s) ..... mm.

Wt. of sample . . . . 2.24 gm. 100.0%

Heavy Minerals . . . . .075 gm. 3.3 %

Light Minerals . . . . 2.165 gm. 96.7 %

Shape Analysis:

A ..... %: a ..... %: C ..... %

r ..... %: R ..... %.

Minerals Identified; Heavy Concentrate	No. of Grains	Rel. %
Sphalerite	5	.4
zircon	4	.3
tourmaline	3	.3
amphibole	2	.2
anhydrite	3	.3
flourite	11	1.0
leucoxene	5	.4
pyrite	1040	91.4
Hemotite	65	5.7
Total	1138	100%

Light Concentrate		
quartz	9	1
Clay-mineral	1000	99
Total	1019	100%

Classification Grouping:

Primary Minerals: 96.8 %	Absol. %
zircon	0
tourmaline	0
amphibole	0
flourite	0
Quartz	1.0
Clay	95.8

Secondary Minerals: 3.2 %	
Sphalerite	0
anhydrite	0
leucoxene	0
pyrite	3.0
Hemotite	.2
Total	100%

Revised Lithologic Description (from descriptive log and laboratory data).

Shale 83% gray-blue-black, to laminated-slightly calcareous-limestone 16%

DEEP WELL STUDY

Well No. W— 0018
Depth 1700 to 1715
No. samples used 3
Analyst T
Date 10/23/34

MECHANICAL ANALYSIS

A. Acid treatment (HCl 15 %)

1. Sample weight . . . . . 45.86 gm. 100.0% : 2. Wt. of F. P. 1.91
3. Wt. after solution, with filter paper . . . . . 6.64 gm.
4. Less wt. F. P. (2) . . . 1.91 gm.
5. Wt. Insol. Residue (3 minus 4) . . . . . 4.73 gm. 10.3 %
6. Wt. lost by solution (1 minus 5) . . . . . 41.13 gm. 89.7 %
7. To balance (5 plus 6) . . 45.86 gm. 100.0 %

B. Subsidation:

1. Original Wt. . . . . gm. 100.0%
2. Cylinder (+1/32) gm. %
3. Jar (1/32—1/64) gm. %
4. Drain . . . . . gm. %

C. Screen Analysis 4.42

SIZE	GRAMS	%
2 plus		
2–1 mm		
1–½ mm		
½–¼ mm	1.60	37.9
¼–⅛ mm	1.28	30.4
⅛–1/16	.82	19.4
Pan	.52	12.3
Total	4.22	100.0

MINERALOGICAL ANALYSIS

(Use opposite side of page for details of minerals)

Analyst Pyre
Date 1/18/35

Acet. Tetrabr. / Bromoform } Sp. gr. Size–Grade(s) mm.

Wt. of sample . . . . 1.42 gm. 100.0%

Heavy Minerals . . . . 1.38 gm. 26.7 %

Light Minerals . . . . 1.04 gm. 73.3 %

Shape Analysis:

A. % : a % : C %

r % : R %.

Minerals Identified; Heavy Concentrate

	No. of Grains	Rel. %
Pyrite	220	20
Limonitic Shale	818	76
Dolomite	1	0
Tourmaline	1	0
Zircon		0
Epidote	2	0
Anhydrite	1	0
Muscovite	42	8
Casing Scale	2	4
	49	
Total	1149.5	100%

Light Concentrate

Clay minerals	1000	96.2
*Quartz	35	3.3
Chert	5	.5
	1040	
Total		100%

Classification Grouping: Absol. %

Primary Minerals: 93.2 %

Limonitic Shale	20.3
Tourmaline	0
Zircon	0
Epidote	0
Muscovite	
Clay Minerals	70.5
Quartz	2.4

Secondary Minerals: 6.8 %

Pyrite	5.3
Dolomite	0
Anhydrite	
Casing Scale	1.1
Chert	.4
Total	100%

Revised Lithologic Description (from descriptive log and laboratory data).

Limestone; white to buff – 90% soluble; 8-9% clay minerals, dk. gray to brown (Fe-stained); ±1% quartz*; <1% pyrite

*

DEEP WELL STUDY

Well No. W— 0018

Depth 1725 to 1730

No. samples used 1

Analyst T

Date 10/23/34

MECHANICAL ANALYSIS

A. Acid treatment (HCl 15 %)

1. Sample weight . . . . . 16.78 gm. 100.0% : 2. Wt. of F. P. 1.85
3. Wt. after solution, with filter paper . . . . . 7.90 gm.
4. Less wt. F. P. (2) . . . 1.85 gm.
5. Wt. Insol. Residue (3 minus 4) . . . . . 6.05 gm. 36.1 %
6. Wt. lost by solution (1 minus 5) . . . . . 10.73 gm. 63.9 %
7. To balance (5 plus 6) . . 16.78 gm. 100.0 %

B. Subsidation:

1. Original Wt. . . . . 6.05 gm. 100.0%
2. Cylinder (+1/32) 5.02 2.19 2.85 gm. 47. %
3. Jar (1/32—1/64) 2.80 1.96 .94 gm. 16.6 %
4. Drain . . . . . 2.26 gm. 37.4 %

C. Screen Analysis 28 =

SIZE	GRAMS	%
2 plus		
2–1 mm		
1–½ mm	.40	13.6
½–¼ mm	.48	16.4
¼–⅛ mm	.60	20.4
⅛–1/16	.88	29.9
Pan	.58	19.7
Total	2.94	100.0

MINERALOGICAL ANALYSIS

(Use opposite side of page for details of minerals)

Analyst Rowser

Date 1-18-35

Acet. Tetrabr. / Bromoform } 2.92 Sp. gr. Size-Grade(s) 1/8-1/32 mm.

Wt. of sample . . . . 1.38 gm. 100.0%

Heavy Minerals . . . . .09 gm. 6.5 %

Light Minerals . . . . 1.29 gm. 93.5 %

Shape Analysis:

A ..... %: a ..... %: C ..... %

r ..... %: R ..... %.

Minerals Identified; Heavy Concentrate

	No. of Grains	Rel. %
Limonite	688	59
Pyrite	321	28
zircon	2	0
anhydrite	1	0
scale	156	13
Total	1168	100%

Light Concentrate

clay	968	97
Quartz	28	3
Total	996	100%

Classification Grouping:

Primary Minerals: 93.6 %

	Absol. %
clay	90.8
Quartz	2.8
zircon	0

Secondary Minerals: 6.4 %

limonite	3.8
Pyrite	1.8
anhydrite	0
scale	.8

Total 100%

Revised Lithologic Description (from descriptive log and laboratory data).

Limestone - 64% - cream, fine xline; tough

clay - +36% - firmly cemented - almost like chert in part

DEEP WELL STUDY

Well No. W— 0018
Depth 1740 to 1755
No. samples used 3 screened, not crushed
Analyst Talley
Date 10/23/34

MECHANICAL ANALYSIS

A. Acid treatment (HCl 15 %)

1. Sample weight . . . . . 45.00 gm. 100.0%: 2. Wt. of F. P. 1.84
3. Wt. after solution, with filter paper . . . . . 6.71 gm.
4. Less wt. F. P. (2) . . . 1.84 gm.
5. Wt. Insol. Residue (3 minus 4) . . . . . 4.87 gm. 10.8 %
6. Wt. lost by solution (1 minus 5) . . . . . 40.13 gm. 89.2 %
7. To balance (5 plus 6) . . 45.00 gm. 100.0 %

B. Subsidation:

1. Original Wt. . . . . gm. 100.0%
2. Cylinder (+1/32) gm. %
3. Jar (1/32—1/64) gm. %
4. Drain . . . . . gm. %

C. Screen Analysis 4.58

SIZE	GRAMS	%
2 plus		
2–1 mm		
1–½ mm		
½–¼ mm	1.11	25.0
¼–⅛ mm	2.53	56.5
⅛–1/16	.73	16.3
Pan	.10	2.2
Total	4.47	100.0

MINERALOGICAL ANALYSIS

(Use opposite side of page for details of minerals)

Acet. Tetrabr. / Bromoform } Sp. gr. Size–Grade(s) ⅛–Pan mm.

Analyst Rowser
Date 1-18-35

Wt. of sample . . . . . .87 gm. 100.0%

Heavy Minerals . . . . .25 gm. 28.7 %

Light Minerals . . . . .62 gm. 71.3 %

Shape Analysis:

A ..... %: a ..... %: C ..... %

r ..... %: R ..... %.

Minerals Identified; Heavy Concentrate

	No. of Grains	Rel. %
Pyrite	185	15
Limonite	916	72
sphalerite	1	0
Tourmaline	2	0
Scale	167	13
Total	1271	100%

Classification Grouping: Absol. %

Primary Minerals: 71.3 %

Tourmaline	0
clay	69.2
Quartz	2.1

Light Concentrate

clay	1015	97
Quartz	36	3
Total	1051	100%

Secondary Minerals: 28.7 %

Pyrite	4.3
Limonite	20.7
sphalerite	0
scale	3.7
Total	100%

Revised Lithologic Description (from descriptive log and laboratory data).

Limestone - 89% - lgt cream - hard - fine xline; dense - clay - 11%

DEEP WELL STUDY

Well No. W— 0018

Depth 1765 to 1780

No. samples used 3 Not crushed

Analyst T

Date 10/23/34

MECHANICAL ANALYSIS

A. Acid treatment (HCl 15 %)

1. Sample weight . . . . . 30.32 gm. 100.0% : 2. Wt. of F. P. 1.93
3. Wt. after solution, with filter paper . . . . . 5.75 gm.
4. Less wt. F. P. (2) . . . 1.93 gm.
5. Wt. Insol. Residue (3 minus 4) . . . . . 3.72 gm. 12.6 %
6. Wt. lost by solution (1 minus 5) . . . . . 26.60 gm. 87.4 %
7. To balance (5 plus 6) . . 30.32 gm. 100.0 %

B. Subsidation:

1. Original Wt. . . . . gm. 100.0%
2. Cylinder (+1/32) gm. %
3. Jar (1/32—1/64) gm. %
4. Drain . . . . . gm. %

C. Screen Analysis 3.62

SIZE	GRAMS	%
2 plus		
2–1 mm		
1–½ mm		
½–¼ mm	1.04	29.7
¼–⅛ mm	.92	26.0
⅛–1/16	1.26	35.8
Pan	.30	8.5
Total	3.52	100.0

MINERALOGICAL ANALYSIS

(Use opposite side of page for details of minerals)

Acet. Tetrabr. / Bromoform } ± 2.93 Sp. gr. Size-Grade(s) 1/8 - Pan mm.

Analyst Rowser

Date 1-18-35

Wt. of sample . . . . 1.58 gm. 100.0%

Heavy Minerals . . . . .043 gm. 2.7 %

Light Minerals . . . . 1.537 gm. 97.3 %

Shape Analysis:

A ..... %: a ..... %: C ..... %

r ..... %: R ..... %.

Minerals Identified; Heavy Concentrate

	No. of Grains	Rel. %
	13	
Pyrite	366	32.7
Limonite	517	46.0
Tourmaline	2	.2
zircon	5	.4
anatase	1	.1
barite	4	.4
anhydrite	4	.4
Scale	222	19.8
Total	1123	100%

Light Concentrate

Clay	986	97
Chert	4	0
Quartz	25	3
Total	1013	100%

Classification Grouping:

	Absol. %
Primary Minerals: 97.4 %	
zircon	0
anatase	0
Tourmaline	0
Quartz	2.9
Clay	94.5

Secondary Minerals: 2.6 %

Pyrite	1.9
Limonite	1.2
barite	0
anhydrite	0
scale	.5
chert	0
Total	100%

Revised Lithologic Description (from descriptive log and laboratory data).

Ls - 87% - lgt. cream; hard; fine x'line;

clay - ±12% - Qtz & chert - ±1%.

14 Sheets 1365 to 1690 taken out

DEEP WELL STUDY

Well No. W— 0018

Depth 1790 to 1805

No. samples used 3

Analyst T

Date 10/23/34

MECHANICAL ANALYSIS

A. Acid treatment (HCl 15 %)

1. Sample weight . . . . . 45.13 gm. 100.0% : 2. Wt. of F. P. 1.92
3. Wt. after solution, with filter paper . . . . . 5.67 gm.
4. Less wt. F. P. (2) . . . 1.92 gm.
5. Wt. Insol. Residue (3 minus 4) . . . . . 3.75 gm. 8.3 %
6. Wt. lost by solution (1 minus 5) . . . . . 41.38 gm. 91.7 %
7. To balance (5 plus 6) . . 45.13 gm. 100.0 %

B. Subsidation:

1. Original Wt. . . . . gm. 100.0%
2. Cylinder (+1/32) gm. %
3. Jar (1/32—1/64) gm. %
4. Drain . . . . . gm. %

C. Screen Analysis 3.46

SIZE	GRAMS	%
2 plus		
2–1 mm		
1–½ mm		
½–¼ mm	1.02	31.4
¼–⅛ mm	.36	11.1
⅛–1/16	.81	24.9
Pan	1.06	32.6
Total	3.25	100.0

MINERALOGICAL ANALYSIS

(Use opposite side of page for details of minerals)

Acet. Tetrabr. / Bromoform ..... Sp. gr. Size–Grade(s) ..... mm.

Analyst .....

Date .....

Wt. of sample . . . . gm. 100.0%

Heavy Minerals . . . . gm. %

Light Minerals . . . . gm. %

Shape Analysis:

A. % : a. % : C. %

r % : R %.

Minerals Identified; Heavy Concentrate — No. of Grains — Rel. %

Classification Grouping: Primary Minerals: % — Absol. %

Total 100%

Light Concentrate

Secondary Minerals: %

Total 100%

Total 100%

Revised Lithologic Description (from descriptive log and laboratory data).

DEEP WELL STUDY

Well No. W— 0018

Depth 1805 to 1820

No. samples used 3 Serpentine, not crushed

Analyst [illegible]

Date 10/23/34

MECHANICAL ANALYSIS

A. Acid treatment (HCl 15 %)

1. Sample weight . . . . . 45.78 gm. 100.0% : 2. Wt. of F. P. 1.92
3. Wt. after solution, with filter paper . . . . . 2.34 gm.
4. Less wt. F. P. (2) . . . 1.92 gm.
5. Wt. Insol. Residue (3 minus 4) . . . . . 5.42 gm. 11.8 %
6. Wt. lost by solution (1 minus 5) . . . . . 40.36 gm. 88.2 %
7. To balance (5 plus 6) . . 45.78 gm. 100.0 %

B. Subsidation:

1. Original Wt. . . . . gm. 100.0%
2. Cylinder (+1/32) gm. %
3. Jar (1/32—1/64) gm. %
4. Drain . . . . . gm. %

C. Screen Analysis 5/3

SIZE	GRAMS	%
2 plus		
2–1 mm		
1–½ mm		
½–¼ mm	1.96	39.0
¼–⅛ mm	.70	13.9
⅛–1/16	.89	17.8
Pan	1.47	29.3
Total	5.02	100.0

MINERALOGICAL ANALYSIS

(Use opposite side of page for details of minerals)

Acet. Tetrabr. / Bromoform ..... Sp. gr. Size–Grade(s) ..... mm.

Analyst .....

Date .....

Wt. of sample . . . . gm. 100.0%

Heavy Minerals . . . . gm. %

Light Minerals . . . . gm. %

Shape Analysis:

A. % : a % : C. %

r % : R %.

Minerals Identified; Heavy Concentrate — No. of Grains — Rel. %

Total 100%

Light Concentrate

Classification Grouping: Absol. %

Primary Minerals: %

Secondary Minerals: %

Total . . . . . 100% Total 100%

Revised Lithologic Description (from descriptive log and laboratory data).

DEEP WELL STUDY

Well No. W— 0018

Depth 1830 to 1840

No. samples used 2 screened, not crushed

Analyst T

Date 10/23/34

MECHANICAL ANALYSIS

A. Acid treatment (HCl 15 %)

1. Sample weight . . . . . 46.24 gm. 100.0% : 2. Wt. of F. P. 1.91
3. Wt. after solution, with filter paper . . . . . 10.27 gm.
4. Less wt. F. P. (2) . . . 1.91 gm.
5. Wt. Insol. Residue (3 minus 4) . . . . . 8.36 gm. 18.1 %
6. Wt. lost by solution (1 minus 5) . . . . . 37.88 gm. 81.9 %
7. To balance (5 plus 6) . . 46.24 gm. 100.0 %

B. Subsidation:

1. Original Wt. . . . . gm. 100.0%
2. Cylinder (+1/32) gm. %
3. Jar (1/32—1/64) gm. %
4. Drain . . . . . gm. %

C. Screen Analysis 8.04

SIZE	GRAMS	%
2 plus		
2–1 mm		
1–½ mm		
½–¼ mm	2.62	33.1
¼–⅛ mm	4.33	54.8
⅛–1/16	.66	8.2
Pan	.31	3.9
Total	7.92	100.0

MINERALOGICAL ANALYSIS

(Use opposite side of page for details of minerals)

Analyst

Date

Acet. Tetrabr. / Bromoform } Sp. gr. Size–Grade(s) mm.

Wt. of sample . . . . gm. 100.0%

Heavy Minerals . . . . gm. %

Light Minerals . . . . gm. %

Shape Analysis:

A % : a % : C %

r % : R %.

Minerals Identified; Heavy Concentrate — No. of Grains — Rel. %

Total 100%

Light Concentrate

Total 100%

Classification Grouping: — Absol. %

Primary Minerals: %

Secondary Minerals: %

Total 100%

Revised Lithologic Description (from descriptive log and laboratory data).

DEEP WELL STUDY

Well No. W— 0018

Depth 1850 to 1865

No. samples used 3

Analyst T

Date 10/23/34

MECHANICAL ANALYSIS

A. Acid treatment (HCl 15 %)

1. Sample weight . . . . . 48.46 gm. 100.0%: 2. Wt. of F. P. 2.11
3. Wt. after solution, with filter paper . . . . . 6.80 gm.
4. Less wt. F. P. (2) . . . 2.11 gm.
5. Wt. Insol. Residue (3 minus 4) . . . . . 4.69 gm. 9.7 %
6. Wt. lost by solution (1 minus 5) . . . . . 43.77 gm. 90.3 %
7. To balance (5 plus 6) . . 48.46 gm. 100.0 %

B. Subsidation:

1. Original Wt. . . . . gm. 100.0%
2. Cylinder (+1/32) gm. %
3. Jar (1/32—1/64) gm. %
4. Drain . . . . . gm. %

C. Screen Analysis 4.63

SIZE	GRAMS	%
2 plus		
2–1 mm		
1–½ mm		
½–¼ mm	.72	15.8
¼–⅛ mm	1.51	33.2
⅛–1/16	1.38	30.3
Pan	.94	20.7
Total	4.55	100.0

MINERALOGICAL ANALYSIS

(Use opposite side of page for details of minerals)

Analyst

Date

Acet. Tetrabr. / Bromoform } Sp. gr. Size–Grade(s) mm.

Wt. of sample . . . . gm. 100.0%

Heavy Minerals . . . . gm. %

Light Minerals . . . . gm. %

Shape Analysis:

A %: a %: C %

r %: R %.

Minerals Identified; Heavy Concentrate — No. of Grains — Rel. %

Total 100%

Light Concentrate

Total 100%

Classification Grouping: Absol. %

Primary Minerals: %

Secondary Minerals: %

Total 100%

Revised Lithologic Description (from descriptive log and laboratory data).

DEEP WELL STUDY

Well No. W— 0018
Depth 1875 to 1890
No. samples used 3
Analyst T
Date 10/23/34

MECHANICAL ANALYSIS

A. Acid treatment (HCl 15 %)

1. Sample weight . . . . . 47.31 gm. 100.0% : 2. Wt. of F. P. 1.94
3. Wt. after solution, with filter paper . . . . . 13.41 gm.
4. Less wt. F. P. (2) . . . 1.94 gm.
5. Wt. Insol. Residue (3 minus 4) . . . . . 11.47 gm. 24.2 %
6. Wt. lost by solution (1 minus 5) . . . . . 35.84 gm. 75.7 %
7. To balance (5 plus 6) . . 47.31 gm. 100.0 %

B. Subsidation:

1. Original Wt. . . . . 11.47 gm. 100.0%
2. Cylinder (+1/32) 11.29 / 2.20 9.09 gm. 79.2%
3. Jar (1/32—1/64) 2.43 / 2.21 .22 gm. 1.9 %
4. Drain . . . . . 2.16 gm. 18.9 %

C. Screen Analysis 9.5

SIZE	GRAMS	%
2 plus	—	
2–1 mm	—	
1–½ mm	.22	2.4
½–¼ mm	.37	4.1
¼–⅛ mm	1.73	19.1
⅛–1/16	4.33	47.8
Pan	2.40	26.6
Total	9.05	100.0

MINERALOGICAL ANALYSIS

(Use opposite side of page for details of minerals)

Analyst
Date

Acet. Tetrabr. / Bromoform } Sp. gr. Size–Grade(s) mm.

Wt. of sample . . . . gm. 100.0%

Heavy Minerals . . . . gm. %

Light Minerals . . . . gm. %

Shape Analysis:

A. %: a. %: C. %

r. %: R. %.

Minerals Identified; Heavy Concentrate — No. of Grains — Rel. %

Total 100%

Light Concentrate

Total 100%

Classification Grouping: — Absol. %

Primary Minerals: %

Secondary Minerals: %

Total 100%

Revised Lithologic Description (from descriptive log and laboratory data).

DEEP WELL STUDY

Well No. W— 0018

Depth 1900 to 1915

No. samples used 3 screened, not reshed

Analyst T

Date 10/23/34

MECHANICAL ANALYSIS

A. Acid treatment (HCl 15 %)

1. Sample weight . . . . . 46.88 gm. 100.0% : 2. Wt. of F. P. 1.93
3. Wt. after solution, with filter paper . . . . . 3.74 gm.
4. Less wt. F. P. (2) . . . 1.93 gm.
5. Wt. Insol. Residue (3 minus 4) . . . . . 2.81 gm. 6.0 %
6. Wt. lost by solution (1 minus 5) . . . . . 44.07 gm. 94.0 %
7. To balance (5 plus 6) . . 46.88 gm. 100.0 %

B. Subsidation:

1. Original Wt. . . . . gm. 100.0%
2. Cylinder (+1/32) gm. %
3. Jar (1/32—1/64) gm. %
4. Drain . . . . . gm. %

C. Screen Analysis 1.60

SIZE	GRAMS	%
2 plus		
2–1 mm		
1–½ mm		
½–¼ mm	.18	12.5
¼–⅛ mm	.23	16.0
⅛–1/16	.73	50.6
Pan	.30	20.9
Total	1.44	100.0

MINERALOGICAL ANALYSIS

(Use opposite side of page for details of minerals)

Analyst

Date

Acet. Tetrabr. / Bromoform } Sp. gr. Size–Grade(s) mm.

Wt. of sample . . . . gm. 100.0%

Heavy Minerals . . . . gm. %

Light Minerals . . . . gm. %

Shape Analysis:

A %: a %: C %

r %: R %.

Minerals Identified; Heavy Concentrate — No. of Grains — Rel. %

Total 100%

Light Concentrate

Total 100%

Classification Grouping: — Absol. %

Primary Minerals: %

Secondary Minerals: %

Total 100%

Revised Lithologic Description (from descriptive log and laboratory data).

DEEP WELL STUDY

Well No. W— 0018

Depth 1925 to 1940

No. samples used 3 Screened not Cr.

Analyst T

Date 10/25/34

MECHANICAL ANALYSIS

A. Acid treatment (HCl 15 %)

1. Sample weight . . . . . 40.63 gm. 100.0% : 2. Wt. of F. P. 1.88
3. Wt. after solution, with filter paper . . . . . 8.85 gm.
4. Less wt. F. P. (2) . . . 1.88 gm.
5. Wt. Insol. Residue (3 minus 4) . . . . . 6.97 gm. 17.2 %
6. Wt. lost by solution (1 minus 5) . . . . . 33.66 gm. 82.8 %
7. To balance (5 plus 6) . . 40.63 gm. 100.0 %

B. Subsidation:

1. Original Wt. . . . . gm. 100.0%
2. Cylinder (+1/32) gm. %
3. Jar (1/32—1/64) gm. %
4. Drain . . . . . gm. %

C. Screen Analysis 6.61

SIZE	GRAMS	%
2 plus		
2–1 mm		
1–½ mm		
½–¼ mm	.37	5.6
¼–⅛ mm	.32	4.8
⅛–1/16	3.73	56.2
Pan	2.21	33.4
Total	6.63	100.0

MINERALOGICAL ANALYSIS

(Use opposite side of page for details of minerals)

Analyst

Date

Acet. Tetrabr. / Bromoform / ..... Sp. gr. Size–Grade(s) ..... mm.

Wt. of sample . . . . gm. 100.0%

Heavy Minerals . . . . gm. %

Light Minerals . . . . gm. %

Shape Analysis:

A. %: a. %: C. %

r. %: R. %.

Minerals Identified; Heavy Concentrate — No. of Grains — Rel. %

Classification Grouping: Primary Minerals: % — Absol. %

Total 100%

Light Concentrate

Secondary Minerals: %

Total 100%

Total 100%

Revised Lithologic Description (from descriptive log and laboratory data).

DEEP WELL STUDY

Well No. W— 0018

Depth 1965 to 1970

No. samples used screened, not formed

Analyst T

Date 10/25/34

MECHANICAL ANALYSIS

A. Acid treatment (HCl 15 %)

1. Sample weight . . . . . 15.00 gm. 100.0% : 2. Wt. of F. P. 1.88
3. Wt. after solution, with filter paper . . . . . 4.22 gm.
4. Less wt. F. P. (2) . . . 1.88 gm.
5. Wt. Insol. Residue (3 minus 4) . . . . . 2.34 gm. 15.6 %
6. Wt. lost by solution (1 minus 5) . . . . . 12.66 gm. 84.4 %
7. To balance (5 plus 6) . . 15.00 gm. 100.0 %

B. Subsidation:

1. Original Wt. . . . . gm. 100.0%
2. Cylinder (+1/32) gm. %
3. Jar (1/32—1/64) gm. %
4. Drain . . . . . gm. %

C. Screen Analysis

SIZE	GRAMS	%
2 plus		
2–1 mm		
1–½ mm		
½–¼ mm		
¼–⅛ mm		
⅛–1/16		
Pan		
Total		100.0

MINERALOGICAL ANALYSIS

(Use opposite side of page for details of minerals)

Acet. Tetrabr. / Bromoform } Sp. gr. Size–Grade(s) mm.

Analyst

Date

Wt. of sample . . . . gm. 100.0%

Heavy Minerals . . . . gm. %

Light Minerals . . . . gm. %

Shape Analysis:

A % : a % : C %

r % : R %.

Minerals Identified; Heavy Concentrate — No. of Grains — Rel. %

Classification Grouping: Primary Minerals: % — Absol. %

Total 100%

Light Concentrate

Secondary Minerals: %

Total 100%

Total 100%

Revised Lithologic Description (from descriptive log and laboratory data).

DEEP WELL STUDY

Well No. W— 0018

Depth 2000 to 2015

No. samples used 3

Analyst T

Date 10/25/34

MECHANICAL ANALYSIS

A. Acid treatment (HCl 15 %)

1. Sample weight . . . . . 42.64 gm. 100.0% : 2. Wt. of F. P. 1.91
3. Wt. after solution, with filter paper . . . . . 7.89 gm.
4. Less wt. F. P. (2) . . . 1.91 gm.
5. Wt. Insol. Residue (3 minus 4) . . . . . 5.98 gm. 14.1 %
6. Wt. lost by solution (1 minus 5) . . . . . 36.66 gm. 85.9 %
7. To balance (5 plus 6) . . 42.64 gm. 100.0 %

B. Subsidation:

1. Original Wt. . . . . gm. 100.0%
2. Cylinder (+1/32) gm. %
3. Jar (1/32—1/64) gm. %
4. Drain . . . . . gm. %

C. Screen Analysis

SIZE	GRAMS	%
2 plus		
2–1 mm		
1–½ mm		
½–¼ mm	.50	8.8
¼–⅛ mm	.39	6.8
⅛–1/16	2.32	40.7
Pan	2.49	43.7
Total	5.70	100.0

MINERALOGICAL ANALYSIS

(Use opposite side of page for details of minerals)

Acet. Tetrabr. / Bromoform ..... Sp. gr. Size–Grade(s) ..... mm.

Analyst

Date

Wt. of sample . . . . gm. 100.0%

Heavy Minerals . . . . gm. %

Light Minerals . . . . gm. %

Shape Analysis:

A % : a % : C %

r % : R %.

Minerals Identified; Heavy Concentrate — No. of Grains — Rel. %

Classification Grouping: Primary Minerals: % — Absol. %

Total 100%

Light Concentrate

Secondary Minerals: %

Total 100%

Total 100%

Revised Lithologic Description (from descriptive log and laboratory data).

DEEP WELL STUDY

Well No. W— 0018

Depth 2015 to 2025

No. samples used 1

Analyst T

Date 10/25/32

MECHANICAL ANALYSIS

A. Acid treatment (HCl.....%)

1. Sample weight . . . . . 45.31 gm. 100.0% : 2. Wt. of F. P. 1.95
3. Wt. after solution, with filter paper . . . . . 9.07 gm.
4. Less wt. F. P. (2) . . . 1.95 gm.
5. Wt. Insol. Residue (3 minus 4) . . . . . 7.12 gm. 15.7 %
6. Wt. lost by solution (1 minus 5) . . . . . 38.19 gm. 84.3 %
7. To balance (5 plus 6) . . 45.31 gm. 100.0 %

B. Subsidation:

1. Original Wt. . . . .gm..... 100.0%
2. Cylinder (+1/32) .....gm.....%
3. Jar (1/32—1/64) .....gm.....%
4. Drain . . . .gm.....%

C. Screen Analysis 6.86

SIZE	GRAMS	%
2 plus		
2–1 mm		
1–½ mm		
½–¼ mm	1.30	19.1
¼–⅛ mm	.37	5.4
⅛–1/16	1.36	20.0
Pan	3.78	55.5
Total	6.81	100.0

MINERALOGICAL ANALYSIS

(Use opposite side of page for details of minerals)

Acet. Tetrabr. / Bromoform } .....Sp. gr. Size–Grade(s).....mm.

Analyst .....

Date .....

Wt. of sample . . . .gm..... 100.0%

Heavy Minerals . . . .gm.....%

Light Minerals . . . .gm.....%

Shape Analysis:

A.....%: a.....%: C.....%

r .....%: R .....%.

Minerals Identified; Heavy Concentrate — No. of Grains — Rel. %

Total 100%

Light Concentrate

Total 100%

Classification Grouping: Absol. %

Primary Minerals: .....%

Secondary Minerals: .....%

Total 100%

Revised Lithologic Description (from descriptive log and laboratory data).

DEEP WELL STUDY

Well No. W— 0018

Depth 2030 to 2035

No. samples used 1 Screened, not crushed

Analyst T

Date 10/25/34

MECHANICAL ANALYSIS

A. Acid treatment (HCl 15 %)

1. Sample weight . . . . . 24.38 gm. 100.0% : 2. Wt. of F. P. 1.91
3. Wt. after solution, with filter paper . . . . . 2.26 gm.
4. Less wt. F. P. (2) . . . 1.91 gm.
5. Wt. Insol. Residue (3 minus 4) . . . . . .35 gm. 1.4 %
6. Wt. lost by solution (1 minus 5) . . . . . 24.03 gm. 98.6 %
7. To balance (5 plus 6) . . 24.38 gm. 100.6 %

B. Subsidation:

1. Original Wt. . . . . gm. 100.0%
2. Cylinder (+1/32) gm. %
3. Jar (1/32—1/64) gm. %
4. Drain . . . . . gm. %

C. Screen Analysis

SIZE	GRAMS	%
2 plus		
2–1 mm		
1–½ mm		
½–¼ mm		
¼–⅛ mm		
⅛–1/16		
Pan		
Total		100.0

MINERALOGICAL ANALYSIS

(Use opposite side of page for details of minerals)

Acet. Tetrabr. / Bromoform } Sp. gr. Size–Grade(s) mm.

Analyst

Date

Wt. of sample . . . . gm. 100.0%

Heavy Minerals . . . . gm. %

Light Minerals . . . . gm. %

Shape Analysis:

A %: a %: C %

r %: R %.

Minerals Identified; Heavy Concentrate — No. of Grains — Rel. %

Total 100%

Light Concentrate

Total 100%

Classification Grouping: Absol. %

Primary Minerals: %

Secondary Minerals: %

Total 100%

Revised Lithologic Description (from descriptive log and laboratory data).

DEEP WELL STUDY

Well No. W— 0018

Depth 2045 to 2055

No. samples used 2 Second, Not Crushed

Analyst T

Date 10/25/34

MECHANICAL ANALYSIS

A. Acid treatment (HCl 15 %)

1. Sample weight . . . . . 40.32 gm. 100.0% : 2. Wt. of F. P. 1.92
3. Wt. after solution, with filter paper . . . . . 4.47 gm.
4. Less wt. F. P. (2) . . . 1.92 gm.
5. Wt. Insol. Residue (3 minus 4) . . . . . 2.45 gm. 6.1 %
6. Wt. lost by solution (1 minus 5) . . . . . 37.87 gm. 93.9 %
7. To balance (5 plus 6) . . 40.32 gm. 100.0 %

B. Subsidation:

1. Original Wt. . . . . gm. 100.0%
2. Cylinder (+1/32) gm. %
3. Jar (1/32—1/64) gm. %
4. Drain . . . . . gm. %

C. Screen Analysis 2.29

SIZE	GRAMS	%
2 plus		
2–1 mm		
1–½ mm		
½–¼ mm	.51	22.3
¼–⅛ mm	.21	9.2
⅛–1/16	.85	37.1
Pan	.72	31.4
Total	2.29	100.0

MINERALOGICAL ANALYSIS

(Use opposite side of page for details of minerals)

Analyst

Date

Acet. Tetrabr. / Bromoform } Sp. gr. Size–Grade(s) mm.

Wt. of sample . . . . gm. 100.0%

Heavy Minerals . . . . gm. %

Light Minerals . . . . gm. %

Shape Analysis:

A %: a %: C %

r %: R %.

Minerals Identified; Heavy Concentrate — No. of Grains — Rel. %

Total 100%

Light Concentrate

Total 100%

Classification Grouping: Absol. %

Primary Minerals: %

Secondary Minerals: %

Total 100%

Revised Lithologic Description (from descriptive log and laboratory data).

DEEP WELL STUDY

Well No. W— 0018

Depth 2065 to 2075

No. samples used 2 screened, not treated

Analyst T

Date 10/25/73d

MECHANICAL ANALYSIS

A. Acid treatment (HCl 15 %)

1. Sample weight . . . . . 36.91 gm. 100.0% : 2. Wt. of F. P. 1.91
3. Wt. after solution, with filter paper . . . . . 11.78 gm.
4. Less wt. F. P. (2) . . . 1.91 gm.
5. Wt. Insol. Residue (3 minus 4) . . . . . 9.87 gm. 26.8 %
6. Wt. lost by solution (1 minus 5) . . . . . 27.04 gm. 73.2 %
7. To balance (5 plus 6) . . 36.91 gm. 100.0 %

B. Subsidation:

1. Original Wt. . . . . gm. 100.0%
2. Cylinder (+1/32) gm. %
3. Jar (1/32—1/64) gm. %
4. Drain . . . . . gm. %

C. Screen Analysis 9.61

SIZE	GRAMS	%
2 plus		
2–1 mm		
1–½ mm		
½–¼ mm	1.97	20.6
¼–⅛ mm	.76	7.9
⅛–1/16	2.04	21.3
Pan	4.81	50.2
Total	9.58	100.0

MINERALOGICAL ANALYSIS

(Use opposite side of page for details of minerals)

Acet. Tetrabr. / Bromoform ..... Sp. gr. Size–Grade(s) ..... mm.

Analyst .....

Date .....

Wt. of sample . . . . gm. 100.0%

Heavy Minerals . . . . gm. %

Light Minerals . . . . gm. %

Shape Analysis:

A. % : a. % : C. %

r % : R %.

Minerals Identified; Heavy Concentrate — No. of Grains — Rel. %

Classification Grouping: — Absol. %

Primary Minerals: %

Total 100%

Light Concentrate

Secondary Minerals: %

Total 100%

Total 100%

Revised Lithologic Description (from descriptive log and laboratory data).

DEEP WELL STUDY

Well No. W— 0018

Depth 2080 to 2085

No. samples used Screened, not Crushed

Analyst T

Date 10/25/27

MECHANICAL ANALYSIS

A. Acid treatment (HCl 15 %)

1. Sample weight . . . . . 23.78 gm. 100.0% : 2. Wt. of F. P. 1.98
3. Wt. after solution, with filter paper . . . . . 4.26 gm.
4. Less wt. F. P. (2) . . . 1.98 gm.
5. Wt. Insol. Residue (3 minus 4) . . . . . 2.28 gm. 9.6 %
6. Wt. lost by solution (1 minus 5) . . . . . 21.50 gm. 90.4 %
7. To balance (5 plus 6) . . 23.78 gm. 100.0 %

B. Subsidation:

1. Original Wt. . . . . gm. 100.0%
2. Cylinder (+1/32) gm. %
3. Jar (1/32—1/64) gm. %
4. Drain . . . . . gm. %

C. Screen Analysis

SIZE	GRAMS	%
2 plus		
2–1 mm		
1–½ mm		
½–¼ mm		
¼–⅛ mm		
⅛–1/16		
Pan		
Total		100.0

MINERALOGICAL ANALYSIS

(Use opposite side of page for details of minerals)

Acet. Tetrabr. / Bromoform } Sp. gr. Size–Grade(s) mm.

Analyst

Date

Wt. of sample . . . . gm. 100.0%

Heavy Minerals . . . . gm. %

Light Minerals . . . . gm. %

Shape Analysis:

A %: a %: C %

r %: R %.

Minerals Identified; Heavy Concentrate — No. of Grains — Rel. %

Total 100%

Light Concentrate

Classification Grouping: — Absol. %

Primary Minerals: %

Secondary Minerals: %

Total 100%

Total 100%

Revised Lithologic Description (from descriptive log and laboratory data).

DEEP WELL STUDY

Well No. W— 0018

Depth 2095 to 2105

No. samples used 2 Screened, not Crushed

Analyst

Date 10/25/31

MECHANICAL ANALYSIS

A. Acid treatment (HCl 15 %)

1. Sample weight . . . . . 32.48 gm. 100.0% : 2. Wt. of F. P. 1.93
3. Wt. after solution, with filter paper . . . . . 3.61 gm.
4. Less wt. F. P. (2) . . . 1.93 gm.
5. Wt. Insol. Residue (3 minus 4) . . . . . 1.68 gm. 5.2 %
6. Wt. lost by solution (1 minus 5) . . . . . 30.80 gm. 94.8 %
7. To balance (5 plus 6) . . 32.48 gm. 100.0 %

B. Subsidation:

1. Original Wt. . . . . gm. 100.0%
2. Cylinder (+1/32) gm. %
3. Jar (1/32—1/64) gm. %
4. Drain . . . . . gm. %

C. Screen Analysis

SIZE	GRAMS	%
2 plus		
2–1 mm		
1–½ mm		
½–¼ mm		
¼–⅛ mm		
⅛–1/16		
Pan		
Total		100.0

MINERALOGICAL ANALYSIS

(Use opposite side of page for details of minerals)

Acet. Tetrabr. / Bromoform } Sp. gr. Size–Grade(s) mm.

Analyst

Date

Wt. of sample . . . . gm. 100.0%

Heavy Minerals . . . . gm. %

Light Minerals . . . . gm. %

Shape Analysis:

A. %: a. %: C. %

r. %: R. %.

Minerals Identified; Heavy Concentrate — No. of Grains — Rel. %

Classification Grouping: Primary Minerals: % — Absol. %

Total 100%

Light Concentrate

Secondary Minerals: %

Total 100%

Total 100%

Revised Lithologic Description (from descriptive log and laboratory data).

DEEP WELL STUDY

Well No. W— 0018

Depth 2145 to 2150

No. samples used 1 Screened, not Crushed

Analyst T

Date 10/25/34

MECHANICAL ANALYSIS

A. Acid treatment (HCl 15 %)

1. Sample weight . . . . . 26.91 gm. 100.0% : 2. Wt. of F. P. 1.92
3. Wt. after solution, with filter paper . . . . . 2.67 gm.
4. Less wt. F. P. (2) . . . 1.92 gm.
5. Wt. Insol. Residue (3 minus 4) . . . . . .75 gm. 2.8 %
6. Wt. lost by solution (1 minus 5) . . . . . 26.16 gm. 97.2 %
7. To balance (5 plus 6) . . 26.91 gm. 100.0 %

B. Subsidation:

1. Original Wt. . . . . gm. 100.0%
2. Cylinder (+1/32) gm. %
3. Jar (1/32—1/64) gm. %
4. Drain . . . . . gm. %

C. Screen Analysis

SIZE	GRAMS	%
2 plus		
2–1 mm		
1–½ mm		
½–¼ mm		
¼–⅛ mm		
⅛–1/16		
Pan		
Total		100.0

MINERALOGICAL ANALYSIS

(Use opposite side of page for details of minerals)

Acet. Tetrabr. / Bromoform } Sp. gr. Size–Grade(s) mm.

Analyst

Date

Wt. of sample . . . . gm. 100.0%

Heavy Minerals . . . . gm. %

Light Minerals . . . . gm. %

Shape Analysis:

A %: a %: C %

r %: R %.

Minerals Identified; Heavy Concentrate — No. of Grains — Rel. %

Total 100%

Light Concentrate

Total 100%

Classification Grouping: Absol. %

Primary Minerals: %

Secondary Minerals: %

Total 100%

Revised Lithologic Description (from descriptive log and laboratory data).

DEEP WELL STUDY

Well No. W— 0018

Depth 2150 to 216

No. samples used 2 Screened, Not Crushed

Analyst T

Date 10/25/64

MECHANICAL ANALYSIS

A. Acid treatment (HCl 15 %)

1. Sample weight . . . . . 44.78 gm. 100.0% : 2. Wt. of F. P. .93
3. Wt. after solution, with filter paper . . . . . 5.71 gm.
4. Less wt. F. P. (2) . . . 1.93 gm.
5. Wt. Insol. Residue (3 minus 4) . . . . . 3.78 gm. 8.5 %
6. Wt. lost by solution (1 minus 5) . . . . . 41.00 gm. 91.5 %
7. To balance (5 plus 6) . . 44.78 gm. 100.0 %

B. Subsidation:

1. Original Wt. . . . . gm. 100.0%
2. Cylinder (+1/32) gm. %
3. Jar (1/32—1/64) gm. %
4. Drain . . . . . gm. %

C. Screen Analysis 3.51

SIZE	GRAMS	%
2 plus		
2–1 mm		
1–½ mm		
½–¼ mm	.88	25.2
¼–⅛ mm	.43	12.3
⅛–1/16	1.41	40.4
Pan	.77	22.1
Total	3.49	100.0

MINERALOGICAL ANALYSIS

(Use opposite side of page for details of minerals)

Analyst

Date

Acet. Tetrabr. / Bromoform Sp. gr. Size–Grade(s) mm.

Wt. of sample . . . . gm. 100.0%

Heavy Minerals . . . . gm. %

Light Minerals . . . . gm. %

Shape Analysis:

A %: a %: C %

r %: R %.

Minerals Identified; Heavy Concentrate — No. of Grains — Rel. %

Classification Grouping: Primary Minerals: % — Absol. %

Total 100%

Light Concentrate

Secondary Minerals: %

Total 100%

Total 100%

Revised Lithologic Description (from descriptive log and laboratory data).

DEEP WELL STUDY

Well No. W— 0018

Depth 2165 to 2180

No. samples used 4 screened, not crushed

Analyst T

Date 10/25/34

MECHANICAL ANALYSIS

A. Acid treatment (HCl 15 %)

1. Sample weight . . . . . 40.78 gm. 100.0% : 2. Wt. of F. P. 1.87
3. Wt. after solution, with filter paper . . . . . 7.58 gm.
4. Less wt. F. P. (2) . . . 1.87 gm.
5. Wt. Insol. Residue (3 minus 4) . . . . . 5.71 gm. 14.0 %
6. Wt. lost by solution (1 minus 5) . . . . . 35.07 gm. 86.0 %
7. To balance (5 plus 6) . . 40.78 gm. 100.0 %

B. Subsidation:

1. Original Wt. . . . . gm. 100.0%
2. Cylinder (+1/32) gm. %
3. Jar (1/32—1/64) gm. %
4. Drain . . . . . gm. %

C. Screen Analysis 5.59

SIZE	GRAMS	%
2 plus		
2–1 mm		
1–½ mm		
½–¼ mm	.46	8.4
¼–⅛ mm	.37	6.7
⅛–1/16	2.76	50.1
Pan	1.92	34.8
Total	5.51	100.0

MINERALOGICAL ANALYSIS

(Use opposite side of page for details of minerals)

Analyst

Date

Acet. Tetrabr. / Bromoform } Sp. gr. Size–Grade(s) mm.

Wt. of sample . . . . gm. 100.0%

Heavy Minerals . . . . gm. %

Light Minerals . . . . gm. %

Shape Analysis:

A. %: a. %: C. %

r. %: R. %.

Minerals Identified:

Heavy Concentrate — No. of Grains — Rel. %

Classification Grouping: — Absol. %

Primary Minerals: %

Total 100%

Light Concentrate

Secondary Minerals: %

Total 100%

Total 100%

Revised Lithologic Description (from descriptive log and laboratory data).

DEEP WELL STUDY

Well No. W— 0018

Depth 2190 to 2210

No. samples used 3 Screened not Crushed

Analyst T

Date 10/25/34

MECHANICAL ANALYSIS

A. Acid treatment (HCl 15 %)

1. Sample weight . . . . . 43.40 gm. 100.0% : 2. Wt. of F. P. 1.87
3. Wt. after solution, with filter paper . . . . . 11.32 gm.
4. Less wt. F. P. (2) . . . 1.87 gm.
5. Wt. Insol. Residue (3 minus 4) . . . . . 9.45 gm. 21.8 %
6. Wt. lost by solution (1 minus 5) . . . . . 33.95 gm. 78.2 %
7. To balance (5 plus 6) . . 43.40 gm. 100.0 %

B. Subsidation:

1. Original Wt. . . . . gm. 100.0%
2. Cylinder (+1/32) gm. %
3. Jar (1/32—1/64) gm. %
4. Drain . . . . . gm. %

C. Screen Analysis 9.26

SIZE	GRAMS	%
2 plus		
2–1 mm		
1–½ mm		
½–¼ mm	.29	3.1
¼–⅛ mm	.42	4.5
⅛–1/16	4.04	43.7
Pan	4.51	48.7
Total	9.26	100.0

MINERALOGICAL ANALYSIS

(Use opposite side of page for details of minerals)

Analyst

Date

Acet. Tetrabr. / Bromoform / ..... Sp. gr. Size–Grade(s) ..... mm.

Wt. of sample . . . . gm. 100.0%

Heavy Minerals . . . . gm. %

Light Minerals . . . . gm. %

Shape Analysis:

A % : a % : C %

r % : R %.

Minerals Identified; Heavy Concentrate

No. of Grains	Rel. %

Total 100%

Light Concentrate

Total 100%

Classification Grouping:

Primary Minerals: % Absol. %

Secondary Minerals: %

Total 100%

Revised Lithologic Description (from descriptive log and laboratory data).

DEEP WELL STUDY

Well No. W— 0018

Depth 2220 to 2235

No. samples used 3 screened, not crushed

Analyst T

Date 11/23/64

MECHANICAL ANALYSIS

A. Acid treatment (HCl 15 %)

1. Sample weight . . . . . 33.81 gm. 100.0% : 2. Wt. of F. P. 1.88
3. Wt. after solution, with filter paper . . . . . 15.30 gm.
4. Less wt. F. P. (2) . . . 1.88 gm.
5. Wt. Insol. Residue (3 minus 4) . . . . . 13.42 gm. 39.7 %
6. Wt. lost by solution (1 minus 5) . . . . . 20.39 gm. 60.3 %
7. To balance (5 plus 6) . . 33.81 gm. 100.0 %

B. Subsidation:

1. Original Wt. . . . . gm. 100.0%
2. Cylinder (+1/32) gm. %
3. Jar (1/32—1/64) gm. %
4. Drain . . . . . gm. %

C. Screen Analysis 130

SIZE	GRAMS	%
2 plus		
2–1 mm		
1–½ mm		
½–¼ mm	3.20	24.8
¼–⅛ mm	1.78	13.8
⅛–1/16	.03	0.2
Pan	7.90	61.2
Total	12.91	100.0

MINERALOGICAL ANALYSIS

(Use opposite side of page for details of minerals)

Acet. Tetrabr. / Bromoform ..... Sp. gr. Size–Grade(s) ..... mm.

Analyst .....

Date .....

Wt. of sample . . . . gm. 100.0%

Heavy Minerals . . . . gm. %

Light Minerals . . . . gm. %

Shape Analysis:

A ..... %: a ..... %: C ..... %

r ..... %: R ..... %.

Minerals Identified; Heavy Concentrate — No. of Grains — Rel. %

Classification Grouping: Primary Minerals: ..... % — Absol. %

Total 100%

Light Concentrate

Secondary Minerals: ..... %

Total 100%

Total 100%

Revised Lithologic Description (from descriptive log and laboratory data).

DEEP WELL STUDY

Well No. W— 0018

Depth 2240 to 2255

No. samples used 3 Screened and not Crushed

Analyst T

Date 10/25/64

MECHANICAL ANALYSIS

A. Acid treatment (HCl 15 %)

1. Sample weight . . . . . 29.54 gm. 100.0%: 2. Wt. of F. P. 1.92
3. Wt. after solution, with filter paper . . . . . 12.35 gm.
4. Less wt. F. P. (2) . . . 1.92 gm.
5. Wt. Insol. Residue (3 minus 4) . . . . . 10.43 gm. 35.4 %
6. Wt. lost by solution (1 minus 5) . . . . . 19.11 gm. 64.6 %
7. To balance (5 plus 6) . . 29.54 gm. 100.0 %

B. Subsidation:

1. Original Wt. . . . . gm. 100.0%
2. Cylinder (+1/32) gm. %
3. Jar (1/32—1/64) gm. %
4. Drain . . . . . gm. %

C. Screen Analysis 102

SIZE	GRAMS	%
2 plus		
2–1 mm		
1–½ mm		
½–¼ mm	.18	1.8
¼–⅛ mm	.45	4.4
⅛–1/16	1.96	19.3
Pan	7.58	74.5
Total	10.17	100.0

MINERALOGICAL ANALYSIS

(Use opposite side of page for details of minerals)

Analyst

Date

Acet. Tetrabr. / Bromoform } Sp. gr. Size–Grade(s) mm.

Wt. of sample . . . . gm. 100.0%

Heavy Minerals . . . . gm. %

Light Minerals . . . . gm. %

Shape Analysis:

A %: a %: C %

r %: R %.

Minerals Identified; Heavy Concentrate — No. of Grains — Rel. %

Total 100%

Light Concentrate

Total 100%

Classification Grouping: — Absol. %

Primary Minerals: %

Secondary Minerals: %

Total 100%

Revised Lithologic Description (from descriptive log and laboratory data).

DEEP WELL STUDY

Well No. W— 0018

Depth 2265 to 2280

No. samples used 3 Sp. ground not Crushed

Analyst T

Date 10/25/34

MECHANICAL ANALYSIS

A. Acid treatment (HCl 15 %)

1. Sample weight . . . . . 38.63 gm. 100.0% : 2. Wt. of F. P. 1.90
3. Wt. after solution, with filter paper . . . . . 15.96 gm.
4. Less wt. F. P. (2) . . . 1.90 gm.
5. Wt. Insol. Residue (3 minus 4) . . . . . 14.06 gm. 36.4 %
6. Wt. lost by solution (1 minus 5) . . . . . 24.57 gm. 63.6 %
7. To balance (5 plus 6) . . 38.63 gm. 100.0 %

B. Subsidation:

1. Original Wt. . . . . gm. 100.0%
2. Cylinder (+1/32) gm. %
3. Jar (1/32—1/64) gm. %
4. Drain . . . . . gm. %

C. Screen Analysis 13.62

SIZE	GRAMS	%
2 plus		
2–1 mm		
1–½ mm		
½–¼ mm	.41	3.1
¼–⅛ mm	.48	3.6
⅛–1/16	1.95	14.5
Pan	10.56	78.8
Total	13.40	100.0

MINERALOGICAL ANALYSIS

(Use opposite side of page for details of minerals)

Acet. Tetrabr. / Bromoform } Sp. gr. Size–Grade(s) mm.

Analyst

Date

Wt. of sample . . . . gm. 100.0%

Heavy Minerals . . . . gm. %

Light Minerals . . . . gm. %

Shape Analysis:

A %: a %: C %

r %: R %.

Minerals Identified:

Heavy Concentrate — No. of Grains — Rel. %

Total 100%

Light Concentrate

Classification Grouping: — Absol. %

Primary Minerals: %

Secondary Minerals: %

Total 100%

Total 100%

Revised Lithologic Description (from descriptive log and laboratory data).

DEEP WELL STUDY

Well No. W— 0018

Depth 2285 to 2295

No. samples used 2

Analyst T

Date 10/25/34

MECHANICAL ANALYSIS

A. Acid treatment (HCl 15 %)

1. Sample weight . . . . . 28.78 gm. 100.0%: 2. Wt. of F. P. 1.92
3. Wt. after solution, with filter paper . . . . . 16.28 gm.
4. Less wt. F. P. (2) . . . 1.92 gm.
5. Wt. Insol. Residue (3 minus 4) . . . . . 14.36 gm. 49.8 %
6. Wt. lost by solution (1 minus 5) . . . . . 14.42 gm. 50.2 %
7. To balance (5 plus 6) . . 28.78 gm. 100.0 %

B. Subsidation:

1. Original Wt. . . . . gm. 100.0%
2. Cylinder (+1/32) gm. %
3. Jar (1/32—1/64) gm. %
4. Drain . . . . . gm. %

C. Screen Analysis 14.12

SIZE	GRAMS	%
2 plus		
2–1 mm		
1–½ mm		
½–¼ mm	.13	0.9
¼–⅛ mm	.39	2.8
⅛–1/16	1.60	11.5
Pan	11.79	84.8
Total	13.92	100.0

MINERALOGICAL ANALYSIS

(Use opposite side of page for details of minerals)

Analyst

Date

Acet. Tetrabr. / Bromoform / ..... Sp. gr. Size–Grade(s) ..... mm.

Wt. of sample . . . . gm. 100.0%

Heavy Minerals . . . . gm. %

Light Minerals . . . . gm. %

Shape Analysis:

A %: a %: C %

r %: R %.

Minerals Identified:

Heavy Concentrate

No. of Grains	Rel. %

Total 100%

Light Concentrate

Classification Grouping:

Primary Minerals: %

Secondary Minerals: %

Absol. %

Total 100%

Total 100%

Revised Lithologic Description (from descriptive log and laboratory data).

DEEP WELL STUDY

Well No. W— 0018

Depth 2295 to 2310

No. samples used 3 not Crushed Screened

Analyst T

Date 10/25/34

MECHANICAL ANALYSIS

A. Acid treatment (HCl 15 %)

1. Sample weight . . . . . 22.65 gm. 100.0%: 2. Wt. of F. P. 89
3. Wt. after solution, with filter paper . . . . . 12.55 gm.
4. Less wt. F. P. (2) . . . 1.89 gm.
5. Wt. Insol. Residue (3 minus 4) . . . . . 10.66 gm. 47.1 %
6. Wt. lost by solution (1 minus 5) . . . . . 11.99 gm. 52.9 %
7. To balance (5 plus 6) . . 22.65 gm. 100.0 %

B. Subsidation:

1. Original Wt. . . . . gm. 100.0%
2. Cylinder (+1/32) gm. %
3. Jar (1/32—1/64) gm. %
4. Drain . . . . . gm. %

C. Screen Analysis 10.42

SIZE	GRAMS	%
2 plus		
2–1 mm		
1–½ mm		
½–¼ mm	.53	5.2
¼–⅛ mm	.51	5.0
⅛–1/16	1.16	11.4
Pan	7.97	78.4
Total	10.[illegible]	100.0

MINERALOGICAL ANALYSIS

(Use opposite side of page for details of minerals)

Acet. Tetrabr. / Bromoform } Sp. gr. Size–Grade(s) mm.

Analyst

Date

Wt. of sample . . . . gm. 100.0%

Heavy Minerals . . . . gm. %

Light Minerals . . . . gm. %

Shape Analysis:

A %: a %: C %

r %: R %.

Minerals Identified:

Heavy Concentrate — No. of Grains — Rel. %

Total 100%

Light Concentrate

Total 100%

Classification Grouping: — Absol. %

Primary Minerals: %

Secondary Minerals: %

Total 100%

Revised Lithologic Description (from descriptive log and laboratory data).

DEEP WELL STUDY

Well No. W— 0018

Depth 2320 to 2335

No. samples used 3 Screened, not Crushed

Analyst T

Date 10/25/34

MECHANICAL ANALYSIS

A. Acid treatment (HCl 15 %)

1. Sample weight . . . . . 45.29 gm. 100.0% : 2. Wt. of F. P. 1.91
3. Wt. after solution, with filter paper . . . . . 16.67 gm.
4. Less wt. F. P. (2) . . . 1.91 gm.
5. Wt. Insol. Residue (3 minus 4) . . . . . 14.76 gm. 32.6 %
6. Wt. lost by solution (1 minus 5) . . . . . 30.53 gm. 67.4 %
7. To balance (5 plus 6) . . 45.29 gm. 100.0 %

B. Subsidation:

1. Original Wt. . . . . gm. 100.0%
2. Cylinder (+1/32) gm. %
3. Jar (1/32—1/64) gm. %
4. Drain . . . . . gm. %

C. Screen Analysis

SIZE	GRAMS	%
2 plus		
2–1 mm		
1–½ mm		
½–¼ mm	.24	1.7
¼–⅛ mm	1.02	[illegible]
⅛–1/16	5.68	39.4
Pan	7.48	51.8
Total	14.42	100.0

MINERALOGICAL ANALYSIS

(Use opposite side of page for details of minerals)

Acet. Tetrabr. / Bromoform } Sp. gr. Size–Grade(s) mm.

Analyst

Date

Wt. of sample . . . . gm. 100.0%

Heavy Minerals . . . . gm. %

Light Minerals . . . . gm. %

Shape Analysis:

A %: a %: C %

r %: R %.

Minerals Identified; Heavy Concentrate — No. of Grains — Rel. %

Total 100%

Light Concentrate

Classification Grouping: Absol. %

Primary Minerals: %

Secondary Minerals: %

Total 100%

Total 100%

Revised Lithologic Description (from descriptive log and laboratory data).

DEEP WELL STUDY

Well No. W— 0028

Depth 2345 to 2360

No. samples used 3 Screened, not Crushed

Analyst T

Date 10/25/34

MECHANICAL ANALYSIS

A. Acid treatment (HCl 15 %)

1. Sample weight . . . . . 25.72 gm. 100.0% : 2. Wt. of F. P. 1.94
3. Wt. after solution, with filter paper . . . . . 4.68 gm.
4. Less wt. F. P. (2) . . . 1.94 gm.
5. Wt. Insol. Residue (3 minus 4) . . . . . 2.74 gm. 10.6 %
6. Wt. lost by solution (1 minus 5) . . . . . 22.98 gm. 89.4 %
7. To balance (5 plus 6) . . 25.72 gm. 100.0 %

B. Subsidation:

1. Original Wt. . . . . gm. 100.0%
2. Cylinder (+1/32) gm. %
3. Jar (1/32—1/64) gm. %
4. Drain . . . . . gm. %

C. Screen Analysis 2.55

SIZE	GRAMS	%
2 plus		
2–1 mm		
1–½ mm		
½–¼ mm		
¼–⅛ mm	1.37	53.8
⅛–1/16		
Pan	1.18	46.2
Total	2.55	100.0

MINERALOGICAL ANALYSIS

(Use opposite side of page for details of minerals)

Acet. Tetrabr. / Bromoform ..... Sp. gr. Size–Grade(s) ..... mm.

Analyst .....

Date .....

Wt. of sample . . . . gm. 100.0%

Heavy Minerals . . . . gm. %

Light Minerals . . . . gm. %

Shape Analysis:

A. % : a. % : C. %

r % : R %.

Minerals Identified; Heavy Concentrate — No. of Grains — Rel. %

Classification Grouping: Primary Minerals: % — Absol. %

Total 100%

Light Concentrate

Secondary Minerals: %

Total 100%

Total 100%

Revised Lithologic Description (from descriptive log and laboratory data).

DEEP WELL STUDY

Well No. W— 0018

Depth 2360 to 2370

No. samples used 2 ser. ent. Co.

Analyst T

Date 10/25/34

MECHANICAL ANALYSIS

A. Acid treatment (HCl 15 %)

1. Sample weight . . . . . 36.35 gm. 100.0% : 2. Wt. of F. P. 1.92
3. Wt. after solution, with filter paper . . . . . 6.60 gm.
4. Less wt. F. P. (2) . . . 1.92 gm.
5. Wt. Insol. Residue (3 minus 4) . . . . . 4.68 gm. 12.9 %
6. Wt. lost by solution (1 minus 5) . . . . . 31.67 gm. 87.1 %
7. To balance (5 plus 6) . . 36.35 gm. 100.0 %

B. Subsidation:

1. Original Wt. . . . . gm. 100.0%
2. Cylinder (+1/32) gm. %
3. Jar (1/32—1/64) gm. %
4. Drain . . . . . gm. %

C. Screen Analysis

SIZE	GRAMS	%
2 plus		
2–1 mm		
1–½ mm		
½–¼ mm	.69	15.6
¼–⅛ mm	1.72	38.9
⅛–1/16	1.29	29.0
Pan	.74	16.7
Total	4.44	100.0

MINERALOGICAL ANALYSIS

(Use opposite side of page for details of minerals)

Acet. Tetrabr. / Bromoform } Sp. gr. Size–Grade(s) mm.

Analyst

Date

Wt. of sample . . . . gm. 100.0%

Heavy Minerals . . . . gm. %

Light Minerals . . . . gm. %

Shape Analysis:

A %: a %: C %

r %: R %.

Minerals Identified; Heavy Concentrate — No. of Grains — Rel. %

Classification Grouping: Absol. %

Primary Minerals: %

Total 100%

Light Concentrate

Secondary Minerals: %

Total 100%

Total 100%

Revised Lithologic Description (from descriptive log and laboratory data).

DEEP WELL STUDY

Well No. W— 0018

Depth 2380 to 2395

No. samples used 3 not Scr.

Analyst T

Date 10/25/34

MECHANICAL ANALYSIS

A. Acid treatment (HCl.....%)

1. Sample weight . . . . . 41.53 gm. 100.0% : 2. Wt. of F. P. 1.92
3. Wt. after solution, with filter paper . . . . . 3.34 gm.
4. Less wt. F. P. (2) . . . 1.92 gm.
5. Wt. Insol. Residue (3 minus 4) . . . . . 2.42 gm. 5.8 %
6. Wt. lost by solution (1 minus 5) . . . . . 39.11 gm. 94.2 %
7. To balance (5 plus 6) . . 41.53 gm. 100.0 %

B. Subsidation:

1. Original Wt. . . . .gm..... 100.0%
2. Cylinder (+1/32) .....gm.....%
3. Jar (1/32—1/64) .....gm.....%
4. Drain . . . .gm.....%

C. Screen Analysis

SIZE	GRAMS	%
2 plus		
2–1 mm		
1–½ mm		
½–¼ mm	.32	26.9
¼–⅛ mm	.23	19.3
⅛–1/16	.31	26.1
Pan	.33	27.7
Total	1.19 (?)	100.0

MINERALOGICAL ANALYSIS

(Use opposite side of page for details of minerals)

Acet. Tetrabr. / Bromoform .....Sp. gr. Size–Grade(s).....mm.

Analyst .....

Date .....

Wt. of sample . . . .gm..... 100.0%

Heavy Minerals . . . .gm.....%

Light Minerals . . . .gm.....%

Shape Analysis:

A.....%: a.....%: C.....%

r.....%: R.....%.

Minerals Identified:

Heavy Concentrate — No. of Grains — Rel. %

Total 100%

Light Concentrate

Classification Grouping: — Absol. %

Primary Minerals: .....%

Secondary Minerals: .....%

Total . . . . . 100% Total 100%

Revised Lithologic Description (from descriptive log and laboratory data).

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DEEP WELL STUDY

Well No. W— 0018

Depth 1650 to 1655

No. samples used

Analyst Pennel

Date 7/5/35

MECHANICAL ANALYSIS

A. Acid treatment (HCl 15 %)

1. Sample weight . . . . . 13.20 gm. 100.0% : 2. Wt. of F. P.
3. Wt. after solution, with filter paper . . . . . 7.34 gm.
4. Less wt. F. P. (2) . . . 2.11 gm.
5. Wt. Insol. Residue (3 minus 4) . . . . . 5.23 gm. 39.6 %
6. Wt. lost by solution (1 minus 5) . . . . . 7.97 gm. 60.4 %
7. To balance (5 plus 6) . . 13.20 gm. 100 %

B. Subsidation:

1. Original Wt. . . . . 5.23 gm. 100.0%
2. Cylinder (+1/32) 4.48 / 2.13 2.35 gm. 44.9 %
3. Jar (1/32—1/64) 2.44 / 2.36 .08 gm. 1.5 %
4. Drain . . . . . 2.80 gm. 53.6 %

C. Screen Analysis

SIZE	GRAMS	%
2 plus		
2–1 mm		
1–½ mm		
½–¼ mm		
¼–⅛ mm		
⅛–1/16		
Pan		
Total		100.0

MINERALOGICAL ANALYSIS

(Use opposite side of page for details of minerals)

Acet. Tetrabr. / Bromoform ..... Sp. gr. Size–Grade(s) ..... mm.

Analyst

Date

Wt. of sample . . . . gm. 100.0%

Heavy Minerals . . . . gm. ..... %

Light Minerals . . . . gm. ..... %

Shape Analysis:

A ..... %: a ..... %: C ..... %

r ..... %: R ..... %.

Minerals Identified; Heavy Concentrate — No. of Grains — Rel. %

Classification Grouping: Primary Minerals: ..... %

Absol. %

Total 100%

Light Concentrate

Secondary Minerals: ..... %

Total 100%

Total 100%

Revised Lithologic Description (from descriptive log and laboratory data).

DEEP WELL STUDY

Well No. W— 0018

Depth 1695 to 1700

No. samples used

Analyst Pennel

Date 7/5/35

MECHANICAL ANALYSIS

A. Acid treatment (HCl 15 %)

1. Sample weight . . . . . 1572 gm. 100.0% : 2. Wt. of F. P.
3. Wt. after solution, with filter paper . . . . . 417 gm.
4. Less wt. F. P. (2) . . . 219 gm.
5. Wt. Insol. Residue (3 minus 4) . . . . . 198 gm. 12.5 %
6. Wt. lost by solution (1 minus 5) . . . . . 1374 gm. 87.5 %
7. To balance (5 plus 6) . . 1572 gm. 100 %

B. Subsidation:

1. Original Wt. . . . . gm. 100.0%
2. Cylinder (+1/32) gm. %
3. Jar (1/32—1/64) gm. %
4. Drain . . . . . gm. %

C. Screen Analysis

SIZE	GRAMS	%
2 plus		
2–1 mm		
1–½ mm		
½–¼ mm		
¼–⅛ mm		
⅛–1/16		
Pan		
Total		100.0

MINERALOGICAL ANALYSIS

(Use opposite side of page for details of minerals)

Acet. Tetrabr. / Bromoform } Sp. gr. Size–Grade(s) mm.

Analyst

Date

Wt. of sample . . . . gm. 100.0%

Heavy Minerals . . . . gm. %

Light Minerals . . . . gm. %

Shape Analysis:

A % : a % : C %

r % : R %.

Minerals Identified; Heavy Concentrate — No. of Grains — Rel. %

Classification Grouping: Absol. %

Primary Minerals: %

Total 100%

Light Concentrate

Secondary Minerals: %

Total . . . . . 100% Total 100%

Revised Lithologic Description (from descriptive log and laboratory data).

DEEP WELL STUDY

Well No. W— 0018

Depth 1655 to 1660

No. samples used 1

Analyst Panne

Date 7/5/35

MECHANICAL ANALYSIS

A. Acid treatment (HCl 15 %)

1. Sample weight . . . . . 17.30 gm. 100.0% : 2. Wt. of F. P. .....
3. Wt. after solution, with filter paper . . . . . 9.77 gm.
4. Less wt. F. P. (2) . . . 2.14 gm.
5. Wt. Insol. Residue (3 minus 4) . . . . . 7.63 gm. 44. %
6. Wt. lost by solution (1 minus 5) . . . . . 9.67 gm. 55.9 %
7. To balance (5 plus 6) . . 17.30 gm. 100 %

B. Subsidation:

1. Original Wt. . . . . 7.63 gm. 100.0%
2. Cylinder (+1/32) 3.90 / 2.17 1.73 gm. 22.6 %
3. Jar (1/32—1/64) 2.51 / 2.15 .36 gm. %
4. Drain . . . . . 5.54 gm. 70. %

C. Screen Analysis

SIZE	GRAMS	%
2 plus		
2–1 mm		
1–½ mm		
½–¼ mm		
¼–⅛ mm		
⅛–1/16		
Pan		
Total		100.0

MINERALOGICAL ANALYSIS

(Use opposite side of page for details of minerals)

Acet. Tetrabr. / Bromoform ..... Sp. gr. Size–Grade(s) ..... mm.

Analyst .....

Date .....

Wt. of sample . . . . gm. 100.0%

Heavy Minerals . . . . gm. ..... %

Light Minerals . . . . gm. ..... %

Shape Analysis:

A ..... % : a ..... % : C ..... %

r ..... % : R ..... %.

Minerals Identified; Heavy Concentrate — No. of Grains — Rel. %

Classification Grouping: Primary Minerals: ..... % — Absol. %

Total 100%

Light Concentrate

Secondary Minerals: ..... %

Total . . . . . 100% Total 100%

Revised Lithologic Description (from descriptive log and laboratory data).

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