

1513012004

LABORATORY ANALYSIS SHEET

ANVIL POINTS OIL SHALE RESEARCH CENTER

Date Sampled 3-25-67

Run No. CD225T@-T 42

Sample Time: RS 1715; SS _____

FISCHER ASSAY

BM

RAW SHALE

SPENT SHALE

26.0

Gal/Ton

.908

S.G., g/ml

9.9

Oil, wt %

1.8

Water, wt %

86.3

Sp. Shale, wt %

2.0

Gas & Loss, wt %

SLIGHT

COKING TENDENCY

MINERAL CO₂

EX

17.2

wt %

ASH (SHALE)

EX

68.4

wt %

MOISTURE

EX

0.26

wt %

CARBON

EX

16.1

wt %

HYDROGEN

EX

1.64

wt %

BENZENE EXTRACTABLES

wt %

RETORT SHALE MOISTURE

_____ wt %

EX

RAW SHALE FISCHER ASSAY MOISTURE

0.79 wt %

SHALE RICHNESS DISTRIBUTION
(See attached graph)

SCREEN ANALYSIS
(See back of this sheet)

All results are "as received" unless noted. "Moisture" designates the moisture content of the -48 mesh material used for "Ash", "Mineral CO₂", "Carbon", and "Hydrogen". The "FA Moisture" is for the sample used for the Fischer Assay.

COMMENTS

DATE COMPLETED

MAR 27 1967

CHECKED BY

REP

OSRC-12A

LABORATORY ANALYSIS SHEET

ANVIL POINTS OIL SHALE RESEARCH CENTER

Date Sampled 3-25-67

Run No. C-1122 START UP
1715 hrs.

BKM

LIQUID PRODUCTS

D3 PUMPOUT

T3 PUMPOUT

| | <u>1</u> | <u>2</u> | <u>3</u> | <u>4</u> | <u>1</u> | <u>2</u> |
|---------------|-------------|------------------|------------------|------------------|------------------|------------------|
| WATER, wt % | <u>50.0</u> | _____ | _____ | _____ | _____ | _____ |
| GRAVITY, °API | <u>17.9</u> | _____ | _____ | _____ | _____ | _____ |

OIL ASH, wt % _____

DISTILLATION (See attached sheet - OSRC-24)

VENT PURGE PRODUCT

OIL WT, g _____
 WATER VOL, ml _____
 GRAVITY OIL, °API _____

VENT GAS

MAJOR COMPONENTS

C₁ thru C₄, plus n-Pentane

CO₂ _____ vol %
 O₂ _____ "
 N₂ _____ "
 CH₄ _____ "
 CO _____ "
 H₂ _____ "
 Ar _____ "
 Others _____ "

CH₄ _____ vol %
 C₂H₄-C₂H₆ _____ "
 C₃H₈ _____ "
 C₃H₆ _____ "
 i C₄H₁₀ _____ "
 n C₄H₁₀ _____ "
 C₃H₆ _____ "
 n C₅H₁₂ _____ "

CARBON, _____ lbs/MSCFDG

HYDROGEN, _____ lbs/MSCFDG

COMMENTS _____

DATE COMPLETED MAR 27 1967

CHECKED BY REP

SCREEN ANALYSIS DATA SHEET (TY-LAB)

RUN NO. C-1022 start up SAMPLE NO. _____ DATE 3-25-67

UNIT Retort 3 DESCRIPTION Ty Lab

APPROX. SHALE SIZE 1/4 - 1" SHAKING TIME 10 MIN ANALYSIS BY Satterfield + Shacter

TOTAL SAMPLE WT. GROSS 100.3 - TARE 5.3 = NET 95.0

| SCREEN SIZE | | | WEIGHTS | | | | | | | | |
|--------------------------|--------------|------|------------|-----------|------------------|-------------|------------------|--------------------|------------|-----------------|-----------|
| SCREENS REQD. | OPENING SIZE | MESH | GROSS LBS. | TARE LBS. | NET WT. RETAINED | SCREEN SIZE | D _i * | 1/D _i | % RETAINED | CUM. % RETAINED | % PASSING |
| | 4.25 | | | | | 4.25 | | | | | |
| | 3.00 | | | | | 3.00 | (3.125) | (0.3200) | | | |
| | 2.50 | | | | | 2.50 | (2.625) 2.750 | (0.3809) 0.3636 | | | |
| | 2.00 | | | | | 2.00 | 2.250 | 0.4444 | | | |
| | 1.50 | | | | | 1.50 | 1.750 | 0.5714 | | | |
| | 1.05 | | 28.5 | 19.1 | 9.4 | 1.05 | (1.087) 1.275 | (0.9199) 0.7843 | 9.87 | | 90.14 |
| | 0.742 | | 61.0 | 20.4 | 40.6 | 0.742 | 0.896 | 1.116 | 42.65 | | 47.49 |
| | 0.525 | | 42.9 | 18.4 | 24.5 | 0.525 | 0.634 | 1.577 | 25.74 | | 21.75 |
| | 0.371 | | 28.1 | 19.2 | 8.9 | 0.371 | 0.448 | 2.232 | 9.35 | | 17.40 |
| | 0.263 | 3 | 26.7 | 18.3 | 8.4 | 0.263 | 0.317 | 3.154 | 8.82 | | 3.58 |
| | 0.185 | 4 | 22.0 | 19.4 | 2.6 | 0.185 | 0.224 | 4.464 | 2.73 | | 0.85 |
| | 0.131 | 6 | 19.6 | 19.3 | .3 | 0.131 | 0.158 | 6.329 | 0.32 | | 0.53 |
| | 0.093 | 8 | 20.2 | 20.2 | .0 | 0.093 | 0.112 | 8.928 | 0.00 | 99.48 | 0.53 |
| | 0.065 | 10 | 19.2 | 19.2 | .0 | 0.065 | | | 0.00 | | 0.53 |
| | PAN | | 21.4 | 20.9 | .5 | PAN | | | 0.53 | | — |
| TOTAL ON SCREENS AND PAN | | | | | 95.2 | LOSS | | | — | — | — |
| LOSS (BY DIFFERENCE) | | | | | | TOTAL | | | 100.01 | — | — |
| TOTAL SAMPLE WEIGHT | | | | | | | | | — | — | — |

* NUMBERS IN PARENTHESES SHOULD BE USED WHEN THESE SCREEN SIZES REPRESENT THE TOP OF THE SHALE SIZE RANGE.

REMARKS: _____

| | |
|----------------------|--------------------------|
| $\sum_{+8m}^m D_i$ | $\sum_{+8m}^m X_i$ |
| $1/\sum_{+8m}^m D_i$ | $\sum_{+8m}^m X_i / D_i$ |
| D _a | $\sum_{+8m}^m X_i D_i$ |
| D _v | |