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GEOLOGIST'S REPORT

DRILLING TIME AND SAMPLE LOG

COMPANY RAYMOND OIL COMPANY, INC.

LEASE # 2 BEVER

FIELD Rose GARDEN

LOCATION 552' FNL i 1834' FEL

SEC 11 TWP 14s RGE 32w

COUNTY LOGAN STATE KANSAS

CONTRACTOR L. D. DRILLING, INC.

SPUD 8-15-18 COMP 8-28-18

RTD 4675 LTD 4676

MUD UP 3377 TYPE MUD CHEMICAL

ELEVATIONS

KB 2845

DF 2840

GI 2840

Measurements Are / H
From 2845 KB

CASING

SURFACE 8 5/8" @ 259'

PRODUCTION 4 1/2" @

ELECTRICAL SURVEYS

Dual IND, DEN-S-N, MIC

SAMPLES SAVED FROM _____ TO 4675

DRILLING TIME KEPT FROM _____ TO 4675

SAMPLES EXAMINED FROM _____ TO 4675

GEOLOGICAL SUPERVISION FROM _____ TO 4675

GEOLOGIST ON WELL Kim B. SHOEMAKER

FORMATION TOPS	LOG	SAMPLES
ANHYDRITE	2312-533	2314-531
B/ANH.	2333-512	2334-511
STOTLER	3470-625	3468-623
HEBNER	3832-987	3830-985
LANSING	3872-1027	3872-1027
STARK	4121-1276	4120-1275
MARMATON	4226-1381	4224-1379
FORT SCOT	4378-1533	4374-1529
CHERKEE	4405-1560	4402-1557
MISSISSIPPI	4543-1698	4544-1699

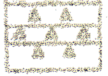
REMARKS

- 15-18 SPUD
- 16 @ 351'
- 17 @ 1754'
- 18 @ 2730'
- 19 @ 3316'
- 20 @ 3845'
- 21 @ 3963'
- 22 @ 4120'
- 23 @ 4265'
- 24 @ 4430'
- 25 @ 4475'
- 26 @ 4565'
- 27 @ 4675'

API: 15-109-21561

LEGEND





Anhydrite

Salt

Sandstone

Shale

Carbon

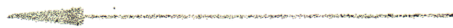
Limestone

Ool. Lime

Chert

Dolomite

DRILLING TIME IN MINUTES
PER FOOT
Rate of Penetration Increases



5" 10" 15" 20" 25"

SAMPLE DESCRIPTIONS

REMARKS

DEPTH
2300

ANHYDRITE 2314 + 531

B/ANN. 2334 + 511

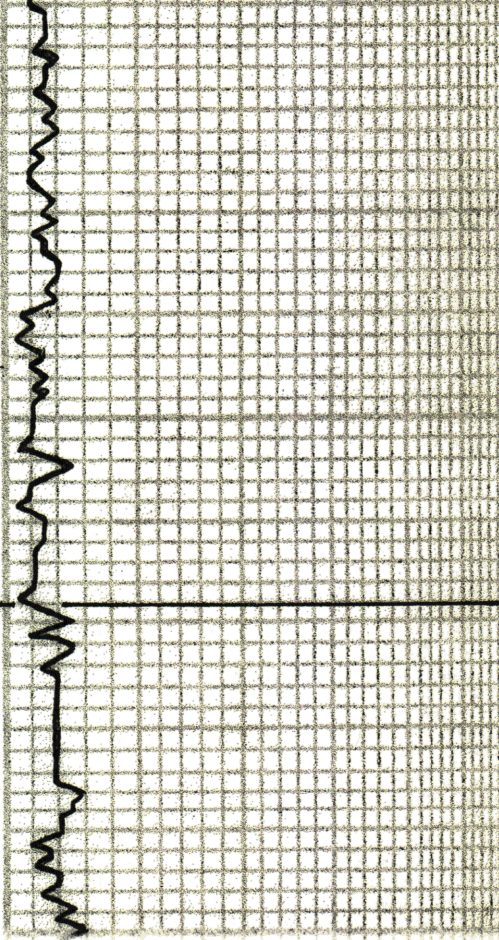
2400

✓ @ 3390 VS: 63
WT: 8.5
WC: 8.0
GAC: 1800

Samples are Lagged

3400

3500



Sh. Lt. Gy. Gr.

Ls. wt. Foss. ool.

Sh. Lt. Gy.

Ls. Br. V. Sil. Foss.

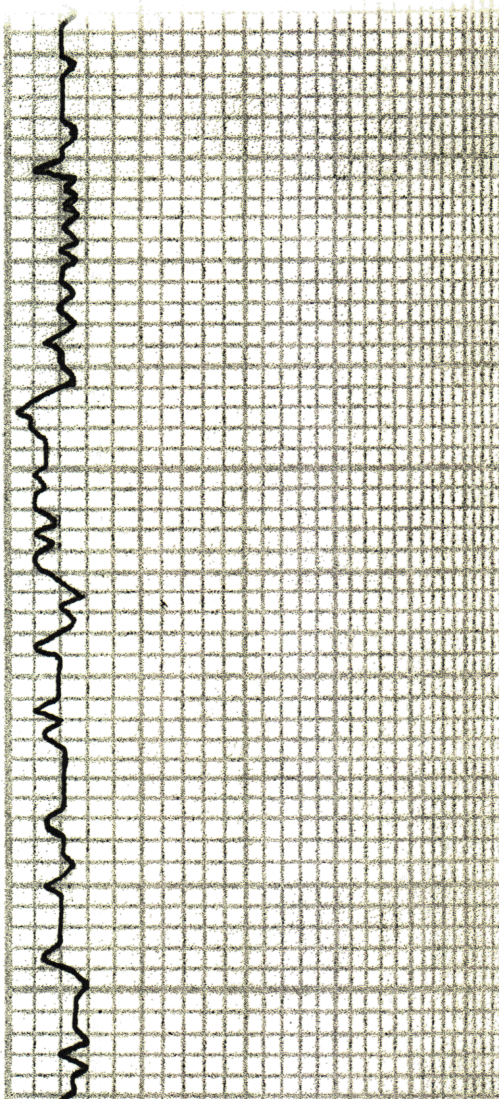
Sh. Lt. Blue-Gry.

STOTLER 3468-623

Ls. wt. Sil. Foss.

Ls. Gy. Foss w/ Dk. Gy. Foss.

3600



Sh. Gry.

Ls. Gry. Sil. Foss.

Sh. Gry. Lt. Gy.

Ls. Tan. Foss. ool.

Ls. wt. Sh. Foss.

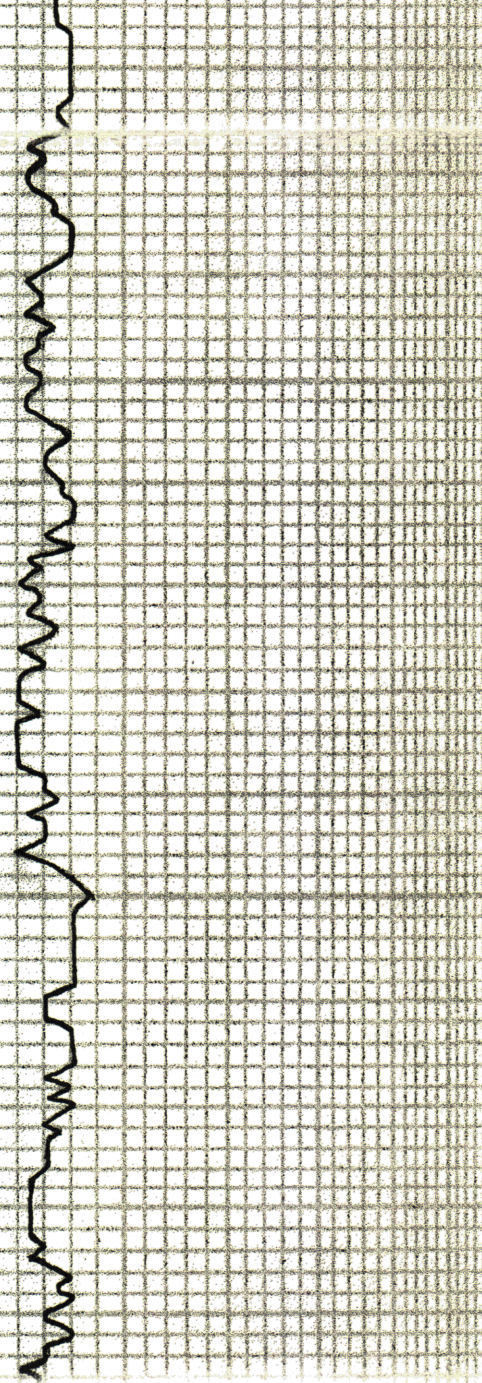
Sh. Gy. Rd.

Ls. Br. Sil.

Sh. Rd. Gy.

Ls. Gy. Sdy.

3700



ls. wt. sh. Foss. Ford.

ls. wt. To. Foss.

Sh. LG.

ls. wt. LG. sh. Foss.

Δ wt

Sh. G.

Sh. LG.

ls. To. wt. V. sh. Foss. V. sh. ch. lg.

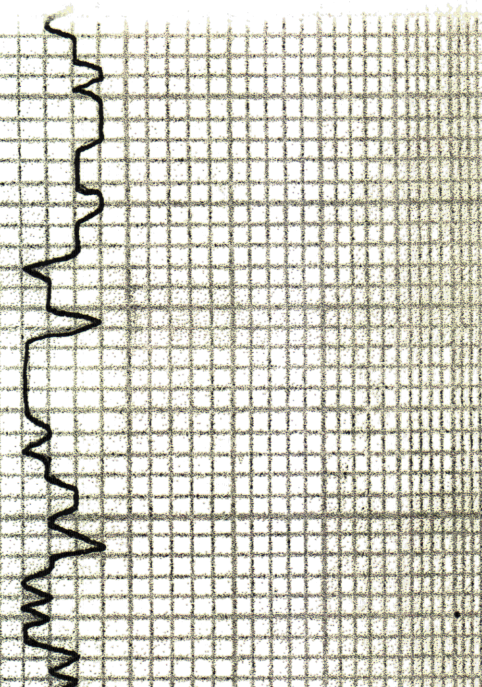
Sh. DK. Blk.

Sd. Sdy. G. G. En. G. Sub. Rd.

LG.

ls. wt. Foss. Celtic

3800



Sh. LG.

ls. To. V. Faxh. Sec.

ls. wt. Faxh. Sec. Delemidic

Sh. LG.

ls. wt. sh. ch. lg. V. ch. lg.

Sh. LG.

HEEBNER 3830-985

Sh. Blk Carb.

LS. Bl. VSI: Foss.

Sh. Rd.

LS. wt. Si. Foss. Slid

LS. wt. VSI: Foss.

Sh. Rd

LANSING 3872-1027

LS. wt. Si. Foss. Slid

LS. To Slid Foss. VSI Slid

Sh. Lt. G.

LS. wt. Slid Foss. Slid P. VSI B
LS. Bl. Spid. Slid. T. FD Dull Floor No odor

LS. Lt. G. VSI. Galenic

Sh. Dec. G.

LS. wt. VSI: Foss.

LS. Lt. G.

LS. To VSI: Foss. Slid

Sh. Lt. G. G.

LS. Bl. VSI: Foss.

LS. To wt. VSI: Foss. VSI Slid

Sh. Lt. G.

LS. To wt. Slid Foss. Slid

LS. G. VSI Slid

DST (1) 3895-3918

1ST DEN: Surface Blow Dred 12 min.
2ND DEN: No Blow

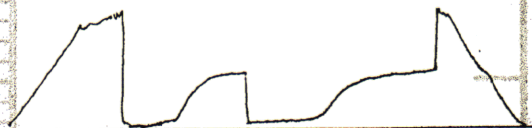
30. 60. 45. 90

Tool Sample
100% Mud

Rec. 4' Mud

FP: 12.13 13.15 #
SIP: 88B-841 #

Temp.
113 °F



TORONTO

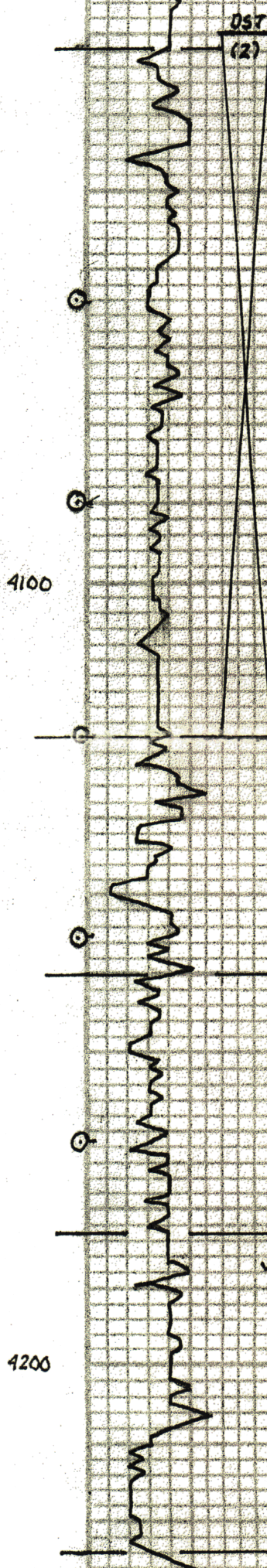


VIS: 48 WT: 9.1
WL: 7.2 CHL: 2200

3900

VIS: 52
WT: 9.2
WL: 8.8
CHL: 3000

4000



MUNCIE CREEK 4032-1187

Sh. Blk Carb.
 L5 Lt. Bl. VSh. Foss. P. V. V. Lt. Sph. Stn. S5FD
 Fr. Flow. No odor

Sh. G. DK4
 L5 Lt. G. Foss. Sli. A. P. V. V. V.
 Lt. Bl. Sph. Stn. V55FD Dull Floor. Fr. Odor

A G.
 L6. Wt. Hg. Sli. A

Sh. G.
 L5. Bl. VSh. Foss.

Sh. Lt. G.
 L5. Wt. Sli. Foss. Sli. A. P. V. V. V. Bl. Lt. Bl. Stn.
 V55FD Dull Floor. No odor

L6. Wt. Sli. Foss. Sli. A

Sh. Lt. G.

L5. Wt. Lt. G. Sli. Foss. w/ G. Foss. Sli. A
 Color: Lt.

L5. G. V. Sh. Foss. Sli. A

STARK 4120-1275

Sh. Blk Carb.
 L5. Bl. Sli. A
 A G. wt
 L5. Ta. Foss. Fr. V. V. P. Bl. Sph. Stn. S5FD T. G. S.
 Dull Floor. Gd. odor

L5. Ta. G. Foss. w/ Fr. V. V. P. Bl. Sph. Stn. Gd. SFD
 Dull Floor. Gd. odor

L5. Ta. VSh. Foss. w/ P. V. V. Sph.

HUSHPUCKNEY 4150-1305

Sh. Blk Carb.
 L5. Ta. G. Sli. Foss. Sli. A. Fr. V. V. P. Bl. Sph. Stn.
 S5FD Fr. Flow. Fr. Gd. odor

L5. Ta. Lt. G. VSh. Foss. few V. V. P. Bl. Sph. Stn.
 Bl. Sph. Stn. S5FD Dull Floor. Fr. Gd. odor

L5. Ta. w/ Sli. A. Det.

B/KC 4183-1338

Sh. G.
 L5. Ta. w/ Sli. A

L5. Bl. G. V. Sh. Foss.

Sh. Rd. Sdy. Sli. G.

MARMATON 4224-1379

L5. Ta. VSh. Foss. Sli. A

DST (2) 4030-4120

1st OPEN: Surface Blow
 2nd OPEN: No Blow

30. 60. 45. 90

Tool Sample Rec. 15' 50CM (3% oil 97% M)

3% oil FP: 13.15 16.77

97% Mud SIP: 910.907

Temp. 119°F

DST (3) 4117-4171

1st OPEN: Built to 11"

2nd OPEN: " " Bottom Bucket 42 m. l.

BB: None

CB: "

30. 60. 45. 90

Tool Sample Rec. 288' G. I. P.

57.6 40' 60 (wt. 690% oil) 35.6 (wt. 60%)

15% oil 102' HOGCWM

25% w (wt. 6. 20% oil 20% w. 55% Mud)

55% M TT: 142'

Calc 77,000 FP: 15.42 45.73

SIP: 808.762 Temp. 116°F

Sh. Rdg.

Sh. Rd. ls. clg. w/ rd. sh.

ls. Br. Gy. w/ rd. sh. Incl.

Sh. Gy.

ls. Gy. vsli. Foss. sli. d. No vs. p. Tr. DE. R. sh. Tr. Fe. No. Flow. No. Odor.

Sh. H. Blue-Gy.

ls. Tr. w/ sli. d. P. v. p. d. Sp. d. R. sh. SSFO No. Flow. No. Odor.

ls. Tr. S. Foss. sli. d.

Sh. Gy.

ls. Lt. Br. Gy. vsli. Foss.

Sh. Blue Carb.

PAWNEE 4320-1475

ls. w/ sli. Foss. sli. d.

ls. Gy.

ls. Gy. sli. d.

ls.

ls. Blue Carb. sli. Foss.

Sh. Blk. ls. Br. Gy. D. sh.

MYRICK STATION 4358-1513

ls. Tr. w/ sli. Foss. sli. d. Fr. Flow. Bl. Odor. Tr. Fe. sh. SSFO Tr. Fe. Fr. Flow. Bl. Odor.

FORT SCOT 4374-1529

ls. Br. Gy. sli. d.

ls. Tr. w/ sli. Foss. sli. d. Fr. Flow. Bl. Odor. Tr. Fe. sh. SSFO Tr. Fe. Fr. Flow. Bl. Odor.

ls. Br. w/ sli. d. P. v. p. d.

CHEROKEE 4402-1557

Sh. Blk. Carb.

ls. Br. w/ sli. d.

ls. Tr. vsli. Foss. sli. d. Calc. sh. Fr. Flow. Bl. Odor. Tr. Fe. sh. SSFO Fr. Flow. Fr. Odor.

ls. Gy. Tr. sli. d.

Sh. dk

VIS: 64
WT: 9.2
W/L: 8.8
CML: 4000

4300

DST (4)

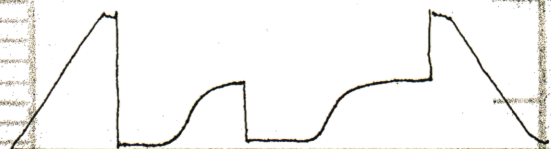
DST (4) 4342-4430

1st OPEN: Blow built to 8"
2nd OPEN: " " " 9"
30.60.45.90
BB: Note
BB: "

Tool Sample
5% G
25% oil
70% Mud

Rec. 150' G.I.P.
90' HOGCM
(10% G. 20% oil. 70% M.)
TR: 90'

FP: 22-33 38-53*
SIP: 1046-1040"
Temp. 119°F



4400

LOG

DST (5) 4423-4470

1st OPEN: Blow built to 3 1/4"
2nd OPEN: No Blow

Tool Sample
5% oil
95% Mud

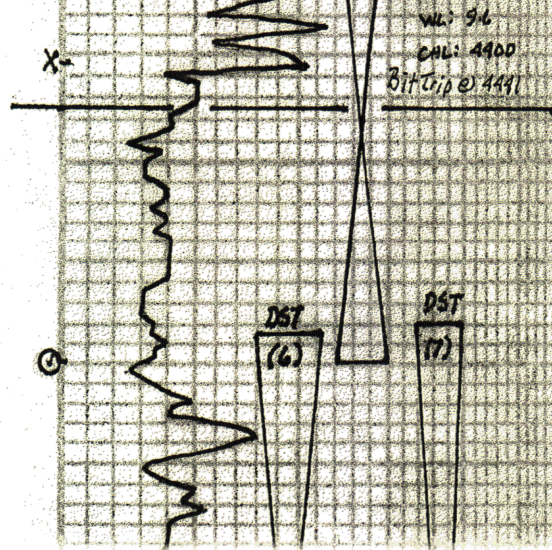
30.60.45.90
Rec. 40' VSOCM (1% oil 99% M)

FP: 12-19 21-29*
SIP: 1129-1120*
Temp. 118°F

DST (5)

VIS: 55
WT: 9.4





JOHNSON 4495-1600

LS. To Br. Sil. Foss. Δ Fr. Vis. Vg. p
Δ Sil. p. Δ Sat. Sil. G. S. F. B. Gd. Odor
No Flow

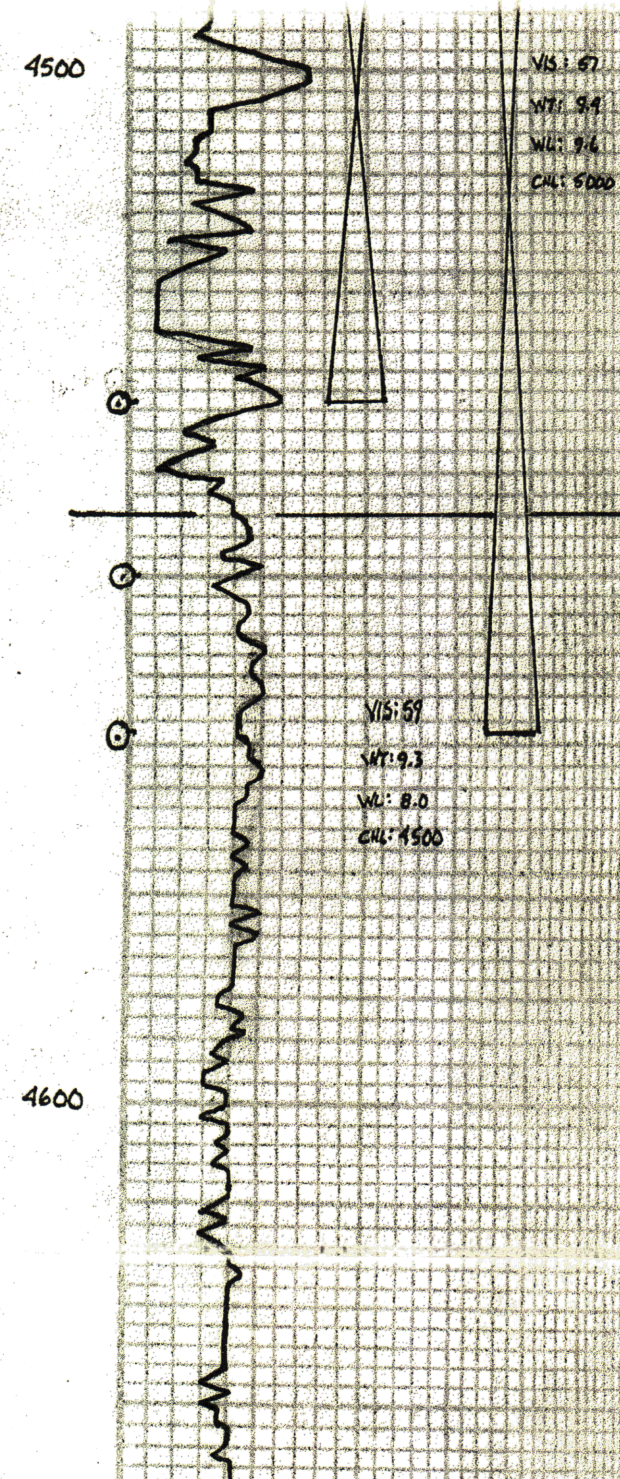
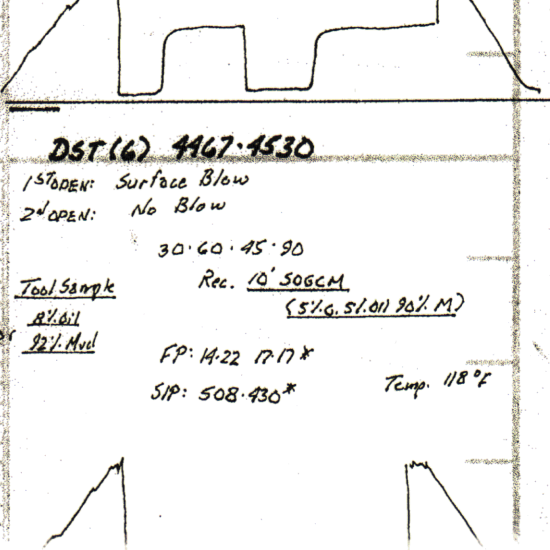
Δ Br. G.

LS. wt. Sil. Foss. VSil. ch. lly.

LS. Lt. Br. VSil. Foss. VSil. Δ P. l. a. p. D. B. d. S. h.
Tr. F. No Flow. A. Odor

Sh. Lt.

Sh. Yellow Lt. G.



Sh. Lt. Blue Sdy

Sil. Ch. G. Fr. G. Sil. P. d. D. Sil. Br. Sil. F. B. Dull Flow

Sd. Cr. w. G. Rd. Co. G. Rd. Sil. Rd. Sil. Sil. G. S. F. B. Fr. Flow
V. F. Odor

Sh. Yellow Lt.

Sd. Cr. Md. Co. G. Sil. Rd. Sil. Sil. F. B. Dull Flow No Odor

MISSISSIPPI 4544-1699

LS. To cal. Sil. Δ

Δ Orange

LS. G. To Sil. Δ

LS. wt. Sdy. LS. wt. ool. Sdy.

LS. wt. Lt. G. ool. Sdy.

LS. Lt. G. VSil. Foss. Sil. Δ

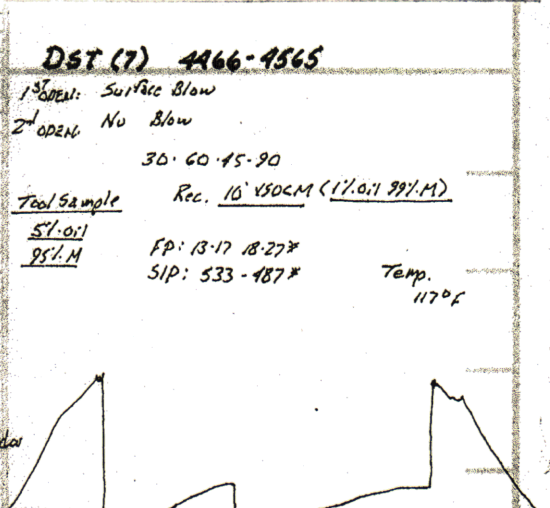
LS. wt. ool. Sil. ch. lly.

LS. Lt. G. Sil. Calartic

Δ G.

LS. To Lt. G. VSil. Foss. Sil. Calartic

Misc. SCREEN 21.12.1999





RTD 4675-1830

Del. To Lt. Br. V. Faxln Suc.

Del. DK Br. Cy. Foss. Voygg w/ DK h. Incl.

Del. DK Br. Pdrch. Br. Suc. Sh. Foss.

Del. Cy. Faxln w/ DK h. Incl.