



DIVISION OF XCO

1860 Lincoln Street, Suite 780, Denver, Colorado 80203

(303) 863-0014

MOBIL OIL CORPORATION

AUGUSTA BROWN #1

SECTION 16 - T25S - R34W

FINNEY COUNTY, KANSAS

n
*Request
Prod. Info.*

LOGGING GEOLOGIST: Doran S. Adams
ANALEX

RESUME

OPERATOR: Mobil Oil Corporation

WELL NAME & NUMBER: Augusta Brown #1

LOCATION: Section 16 - T25S - R34W

COUNTY & STATE: Kansas

SPUD DATE: March 22, 1985

COMPLETION DATE (TD): April 1, 1985

ELEVATIONS: 2,964' GL 2,980' KB

TOTAL DEPTH: 5,276' LOGS 5,276' DRLR

CONTRACTOR: Unit Drilling Company

RIG: #19

TYPE RIG: GD 500 2 X D353 CATS

PUMPS: #1: IDECO 700 16"x5½"
#2: GD GXN 14"x5½"

GEOLOGISTS: P.H. Weaverling, L.E. Wender

ENGINEER: Dave Decker

TOOL PUSHERS: Lynn Hartley, Leonard Hoover

TYPE DRILLING MUD: LSND

MUD COMPANY: IMCO

MUD ENGINEER: Rick Bigham

HOLE SIZES: 12¼" to 1,898'; 8-3/4" to 5,276'

CASING: 9-5/8" to 1,898'; 5½"

LOGGING GEOLOGISTS: Doran S. Adams, David W. Pavek, Patrick W. Dunne
ANALEX

TYPE UNIT: 2-Geologists, FID Total Hydrocarbon Analyzer
and FID Gas Chromatograph

CORE INTERVALS: #1: 4,844'-4,904'

DST DEPTHS: None

ELECTRIC LOGS: Schlumberger

TYPE LOGS RUN: DIL, BHC, GR (SC-TD)
LDT, CNL, GG (SC-TD)
Microlog (4,100'-TD)
SHDT, GR (4,750'-5,250', 4 runs)

LOGGING ENGINEER: Kenton Lippert

BOTTOM FORMATION: St. Louis

SUMMARY AND CONCLUSIONS

Drilling operations for Mobil Oil Corporation's Augusta Brown #1 were begun on March 22, 1985 by Unit Drilling Company's Rig #19. Surface casing (9-5/8") was set at a depth of 1,898', and no major delays were experienced by the drilling contractor while drilling the well.

The depth of 1,900' was reached at 1:30 p.m. on March 25, 1985, at which time two Analox logging geologists were employed using Flame Ionization Detection (FID) total hydrocarbon analyzer and FID gas chromatograph.

Water was used as drilling fluid until reaching the Chase formation at 2,425'. Lost circulation zones were reported as: 75 barrels lost @ 2,624'; 60 barrels lost @ 2,744'; 75 barrels lost @ 3,188'; poor circulation @ 3,200'-3,250' - no significant loss; 75 barrels @ 3,332'; 100 barrels @ 3,578'; and 200 barrels @ 5,074'-5,104'. Cottonseed hulls were used as LCM and applied when needed, after the lost circulation at 3,578' LCM was kept in the mud system.

Gas shows were recorded in the Chase formation, while oil and gas were found in the Morrow formation. A 60' core was cut in the Morrow from 4,844'-4,904', which was predominantly black shale with 10' of very fine grained sandstone at the base that was saturated with heavy black oil. Additional oil shows in sandstones occurred at depths of 4,834', 4,932', and 4,940'.

The well was drilled to a total depth of 5,276', which was reached at 10:00 p.m. on March 31, 1985. Electric logs were run by Schlumberger, and the decision to run 5-1/2" casing was made by Mobil Oil Corporation personnel. Mudloggers monitored 46 units of trip gas after e-logs, and were released at 10:30 p.m. on April 1, 1985.



303/893-8138

MOBIL OIL CORPORATION

AUGUSTA BROWN #1

Two 25 s Rge 34 W

B2980 Spud 3/22/85

Interval Logged

th-Pump #1 16'

ter-Pump #1 52'

COMPANY AND RIG PERSONNEL

Company Geologist

Company Foreman **DAVE DECKER**

Drilling Company UNIT DRILLING # 19

Tool Pusher LYNN HARTLLY/LEONARD HOOVER

Type of Mud WATER/LOW SOLIDS

CONVENTIONAL LOGGING UNIT WITH CONTINUOUS SAMPLING

FID TOTAL HYDROCARBON ANALYZER AND FID GAS CHROMATOGRAPH

12 1/2"	1898'
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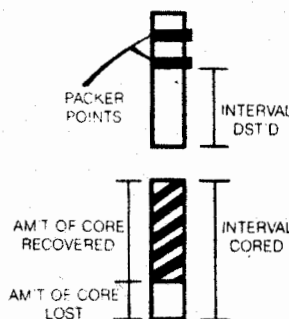
Depth	Size	Date
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Depth	Size	Date
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1898 ⁹	9 5/8"	3/24/85
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ABBREVIATIONS

CG---Connection Gas
CO---Circulate Out
DEV---Survey
DST---Drill Stem Test
LAG---8 oz Carbide
LAT---Logged After Trip
NB---New Bit
NCB---New Core Bit
PP---Pump Pressure
RPM---Revolutions/Minute
SPM---Strokes/Minute
TG---Trip Gas
WOB---Weight On Bit



Chromatograph

(Attenuation scale is 100X)

	(.1%)	(1%)	(10%)
1.00	1.00	1.00	1.00
1.01	1.01	1.01	1.01
1.02	1.02	1.02	1.02
1.03	1.03	1.03	1.03
1.04	1.04	1.04	1.04
1.05	1.05	1.05	1.05
1.06	1.06	1.06	1.06
1.07	1.07	1.07	1.07
1.08	1.08	1.08	1.08
1.09	1.09	1.09	1.09
1.10	1.10	1.10	1.10
1.11	1.11	1.11	1.11
1.12	1.12	1.12	1.12
1.13	1.13	1.13	1.13
1.14	1.14	1.14	1.14
1.15	1.15	1.15	1.15
1.16	1.16	1.16	1.16
1.17	1.17	1.17	1.17
1.18	1.18	1.18	1.18
1.19	1.19	1.19	1.19
1.20	1.20	1.20	1.20
1.21	1.21	1.21	1.21
1.22	1.22	1.22	1.22
1.23	1.23	1.23	1.23
1.24	1.24	1.24	1.24
1.25	1.25	1.25	1.25
1.26	1.26	1.26	1.26
1.27	1.27	1.27	1.27
1.28	1.28	1.28	1.28
1.29	1.29	1.29	1.29
1.30	1.30	1.30	1.30
1.31	1.31	1.31	1.31
1.32	1.32	1.32	1.32
1.33	1.33	1.33	1.33
1.34	1.34	1.34	1.34
1.35	1.35	1.35	1.35
1.36	1.36	1.36	1.36
1.37	1.37	1.37	1.37
1.38	1.38	1.38	1.38
1.39	1.39	1.39	1.39
1.40	1.40	1.40	1.40
1.41	1.41	1.41	1.41
1.42	1.42	1.42	1.42
1.43	1.43	1.43	1.43
1.44	1.44	1.44	1.44
1.45	1.45	1.45	1.45
1.46	1.46	1.46	1.46
1.47	1.47	1.47	1.47
1.48	1.48	1.48	1.48
1.49	1.49	1.49	1.49
1.50	1.50	1.50	1.50
1.51	1.51	1.51	1.51
1.52	1.52	1.52	1.52
1.53	1.53	1.53	1.53
1.54	1.54	1.54	1.54
1.55	1.55	1.55	1.55
1.56	1.56	1.56	1.56
1.57	1.57	1.57	1.57
1.58	1.58	1.58	1.58
1.59	1.59	1.59	1.59
1.60	1.60	1.60	1.60
1.61	1.61	1.61	1.61
1.62	1.62	1.62	1.62
1.63	1.63	1.63	1.63
1.64	1.64	1.64	1.64
1.65	1.65	1.65	1.65
1.66	1.66	1.66	1.66
1.67	1.67	1.67	1.67
1.68	1.68	1.68	1.68
1.69	1.69	1.69	1.69
1.70	1.70	1.70	1.70
1.71	1.71	1.71	1.71
1.72	1.72	1.72	1.72
1.73	1.73	1.73	1.73
1.74	1.74	1.74	1.74
1.75	1.75	1.75	1.75
1.76	1.76	1.76	1.76
1.77	1.77	1.77	1.77
1.78	1.78	1.78	1.78
1.79	1.79	1.79	1.79
1.80	1.80	1.80	1.80
1.81	1.81	1.81	1.81
1.82	1.82	1.82	1.82
1.83	1.83	1.83	1.83
1.84	1.84	1.84	1.84
1.85	1.85	1.85	1.85

	(.1%)	(1%)	(10%)
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1.35	1.35	1.35	1.35
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1.45	1.45	1.45	1.45
1.46	1.46	1.46	1.46
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1.49	1.49	1.49	1.49
1.50	1.50	1.50	1.50
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1.56	1.56	1.56	1.56
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1.60	1.60	1.60	1.60
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1.63	1.63	1.63	1.63
1.64	1.64	1.64	1.64
1.65	1.65	1.65	1.65
1.66	1.66	1.66	1.66
1.67	1.67	1.67	1.67
1.68	1.68	1.68	1.68
1.69	1.69	1.69	1.69
1.70	1.70	1.70	1.70
1.71	1.71	1.71	1.71
1.72	1.72	1.72	1.72
1.73	1.73	1.73	1.73
1.74	1.74	1.74	1.74
1.75	1.75	1.75	1.75
1.76	1.76	1.76	1.76
1.77	1.77	1.77	1.77
1.78	1.78	1.78	1.78
1.79	1.79	1.79	1.79
1.80	1.80	1.80	1.80
1.81	1.81	1.81	1.81
1.82	1.82	1.82	1.82
1.83	1.83	1.83	1.83
1.84	1.84	1.84	1.84
1.85	1.85	1.85	1.85

C1—Methane IC4—Isobutane

C2—Ethane	nC4—Normal
0.98	0.98
0.97	0.97
0.96	0.96
0.95	0.95
0.94	0.94
0.93	0.93
0.92	0.92
0.91	0.91
0.90	0.90
0.89	0.89
0.88	0.88
0.87	0.87
0.86	0.86
0.85	0.85
0.84	0.84
0.83	0.83
0.82	0.82
0.81	0.81
0.80	0.80
0.79	0.79
0.78	0.78
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0.76	0.76
0.75	0.75
0.74	0.74
0.73	0.73
0.72	0.72
0.71	0.71
0.70	0.70
0.69	0.69
0.68	0.68
0.67	0.67
0.66	0.66
0.65	0.65
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0.63	0.63
0.62	0.62
0.61	0.61
0.60	0.60
0.59	0.59
0.58	0.58
0.57	0.57
0.56	0.56
0.55	0.55
0.54	0.54
0.53	0.53
0.52	0.52
0.51	0.51
0.50	0.50
0.49	0.49
0.48	0.48
0.47	0.47
0.46	0.46
0.45	0.45
0.44	0.44
0.43	0.43
0.42	0.42
0.41	0.41
0.40	0.40
0.39	0.39
0.38	0.38
0.37	0.37
0.36	0.36
0.35	0.35
0.34	0.34
0.33	0.33
0.32	0.32
0.31	0.31
0.30	0.30
0.29	0.29
0.28	0.28
0.27	0.27
0.26	0.26
0.25	0.25
0.24	0.24
0.23	0.23
0.22	0.22
0.21	0.21
0.20	0.20
0.19	0.19
0.18	0.18
0.17	0.17
0.16	0.16
0.15	0.15
0.14	0.14
0.13	0.13
0.12	0.12
0.11	0.11
0.10	0.10
0.09	0.09
0.08	0.08
0.07	0.07
0.06	0.06
0.05	0.05
0.04	0.04
0.03	0.03
0.02	0.02
0.01	0.01
0.00	0.00

Butane

SHOW

Continuous Mud Gas

(Attenuation scale is X100)

% by vol. C1 in air = 100 units

1000 UNITS

100 UNITS

10 UNITS

10%

X—X—X—Cuttings Gas—X—X—X—

Lithology
Descriptions,
Remarks
and
Observations

Graphical
Lithology

DST INTERVAL
I - 1 0 0
INTERVAL CORED

Rate of Penetration

ft/lb. r

☒ **ff/m**

△DPU-----



OPERATOR MOBIL OIL CORP

LOC. SEC 16 T25S R34W

WELL AUGUSTA BROWN #1

JOB# 85179 FINNEY CO., KANSAS

analex
DIVISION OF XCO

RATE OF PENETRATION

m/f ☒ f/hr ☐DEPTH
COREGRAPHIC
LITHOLITHOLOGY
DESCRIPTION
AND REMARKS

CONTINUOUS MUD GAS (back up scale X100)

10 UNITS 100 UNITS 1000 UNITS
.1% 1% 10%SHOW
W TFG

GAS CHROMATOGRAPH

METHANE-C1 ISO-BUTANE-iC4
ETHANE-C2 N-BUTANE-nC4
PROPANE-C3 .01 .1 1.0 10BIT #2
REED
HP53J
1/2"
IN @ 1898'WOB 25
RPM 76
PP 1300
SPM 64

1900

20

40

60

80

COMMENCE LOGGING
@ 1:30 PM, 3/25/85

DRILLING WITH WATER

VERY POOR SAMPLES

SH, redbrn-orig, sft,
sbbly, n-vsl calc, occ
slty/sme erdg to sltst,
tr unconss ss, NSFOCSH, orig-redbrn, occ sy,
sft, sbbly-sbply, n-
sl calc, sme slty, tr
intbd dol+ls str, NSFOCSH, redbrn-orig, sft,
sbbly, sl calc, occ slty/
sme erdg to sltst, tr
intbd ls, NSFOCSH, redbrn-orig, sft,
sbbly, sl-n calc, occ
slty, occ intbd ls,
NSFOCSTANDARD TWO GEOLOGIST LOGGING UNIT WITH
CONTINUOUS FID TOTAL HYDROCARBON ANALYZER
AND FID GAS CHROMATOGRAPHFID TOTAL HYDROCARBON ANALYZER AND FID GAS
CHROMATOGRAPH ARE BOTH CALIBRATED
SIMULTANEOUSLY WITH 13.4% METHANE EQUIVALENCY

CARBIDE LAG 8 oz

10.7 MIN @ 64 SPM 925 u

RECYCLED CARBIDE

THA AND GC CALIBRATION

W/ 1% TEST GASES

C1 14250 DIV

C2 17500 DIV

C3 16700 DIV

iC4 12500 DIV

nC4 13500 DIV

C1



OPERATOR

MOBIL OIL CORP

LOC.

SEC 16 T25S R34W

WELL

AUGUSTA BROWN #1

JOB#

85179

FINNEY

CO.,

KANSAS

analex

DIVISION OF XCO

RATE OF PENETRATION

m/f ☐ f/hr ☐DEPTH
DST
COREGRAPHIC
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AND REMARKS

CONTINUOUS MUD GAS (back up scale X100)

10 UNITS

100 UNITS

1000 UNITS

SHOW
TFG

GAS CHROMATOGRAPH

METHANE-C1

ETHANE-C2

PROPANE-C3

ISO-BUTANE-IC4

N-BUTANE-nC4

.01

.1

1.0

10

-X-X-X-X- CUTTING GAS -X-X-X-X-X-X-

VOB 25/30
RPM 76
PP 1300
SPM 64

VERY POOR SAMPLE

TGA AND GC CALIBRATION

V/ % TEST GASES

C1 14250 DIV

C2 17500 DIV

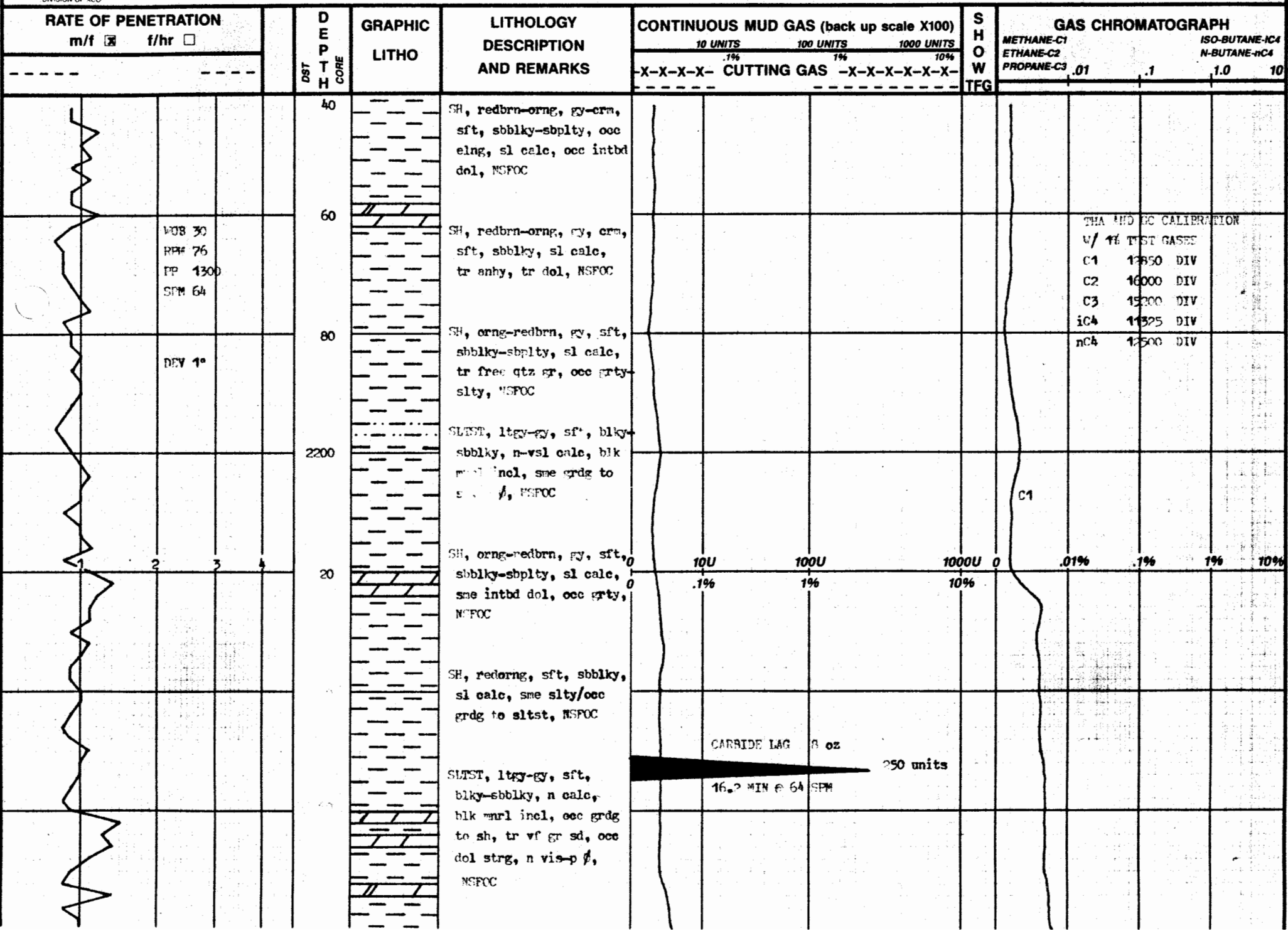
C3 16200 DIV

IC4 12500 DIV

nC4 12500 DIV

SH, redbn-org, gy, sft,
sbbiky-blky, sl-mod calc,
sme dol strgs, occ slty,
NGFOCSH, ubrn-org, orm, gy,
sft, sbbiky, sl-mod calc,
tr unconc ss, tr dol
strg, NGFOC

ABUNDANT CAVINGS

OPERATOR MOBIL OIL CORPLOC. SEC 16 T2S R34W**analex**
DIVISION OF XCOWELL AUGUSTA BROWN #1JOB# 85179 FINNEY CO., KANSAS



OPERATOR MOBIL OIL CORP

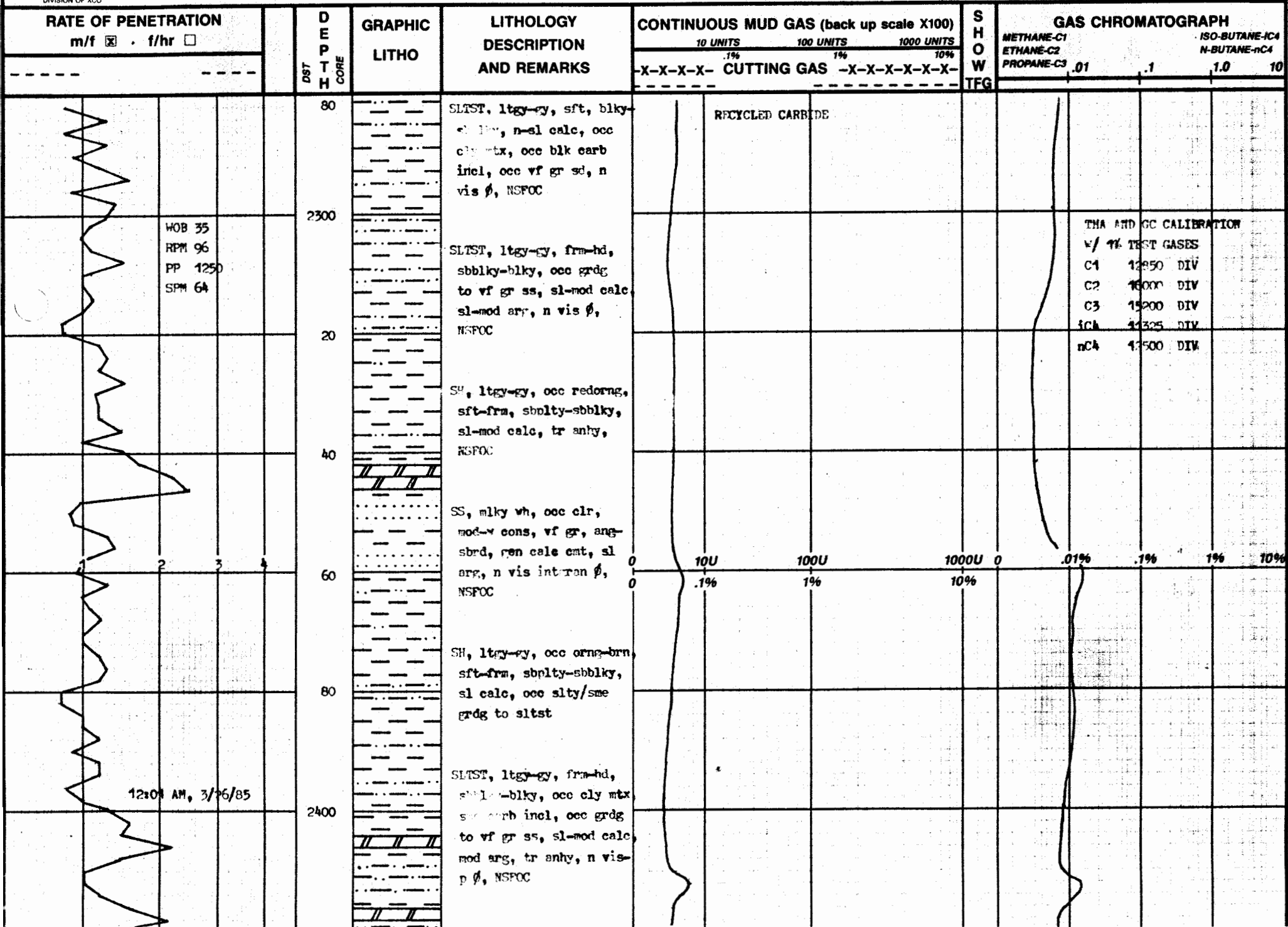
LOC. SEC 16 T25S R34W

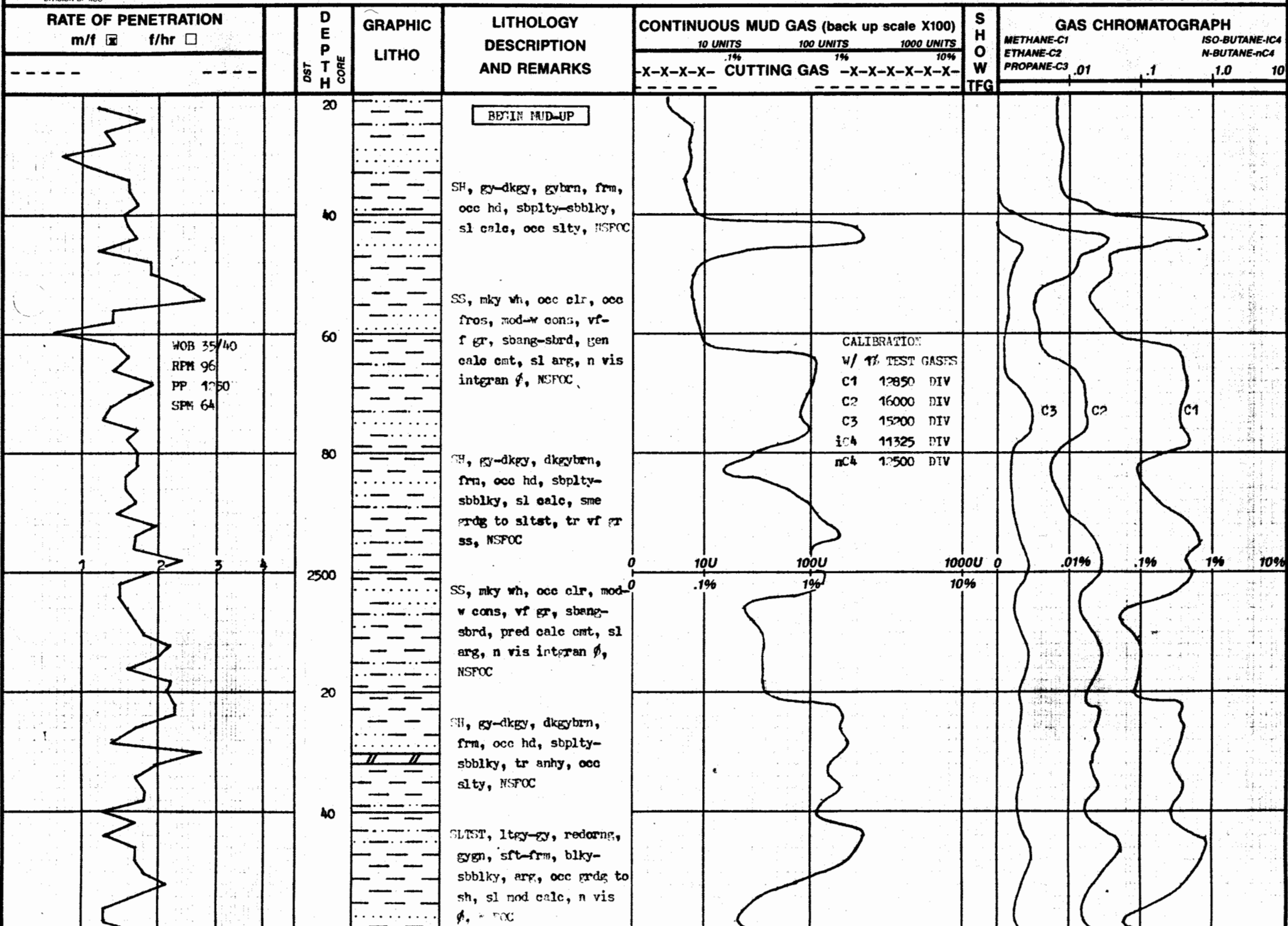
analex

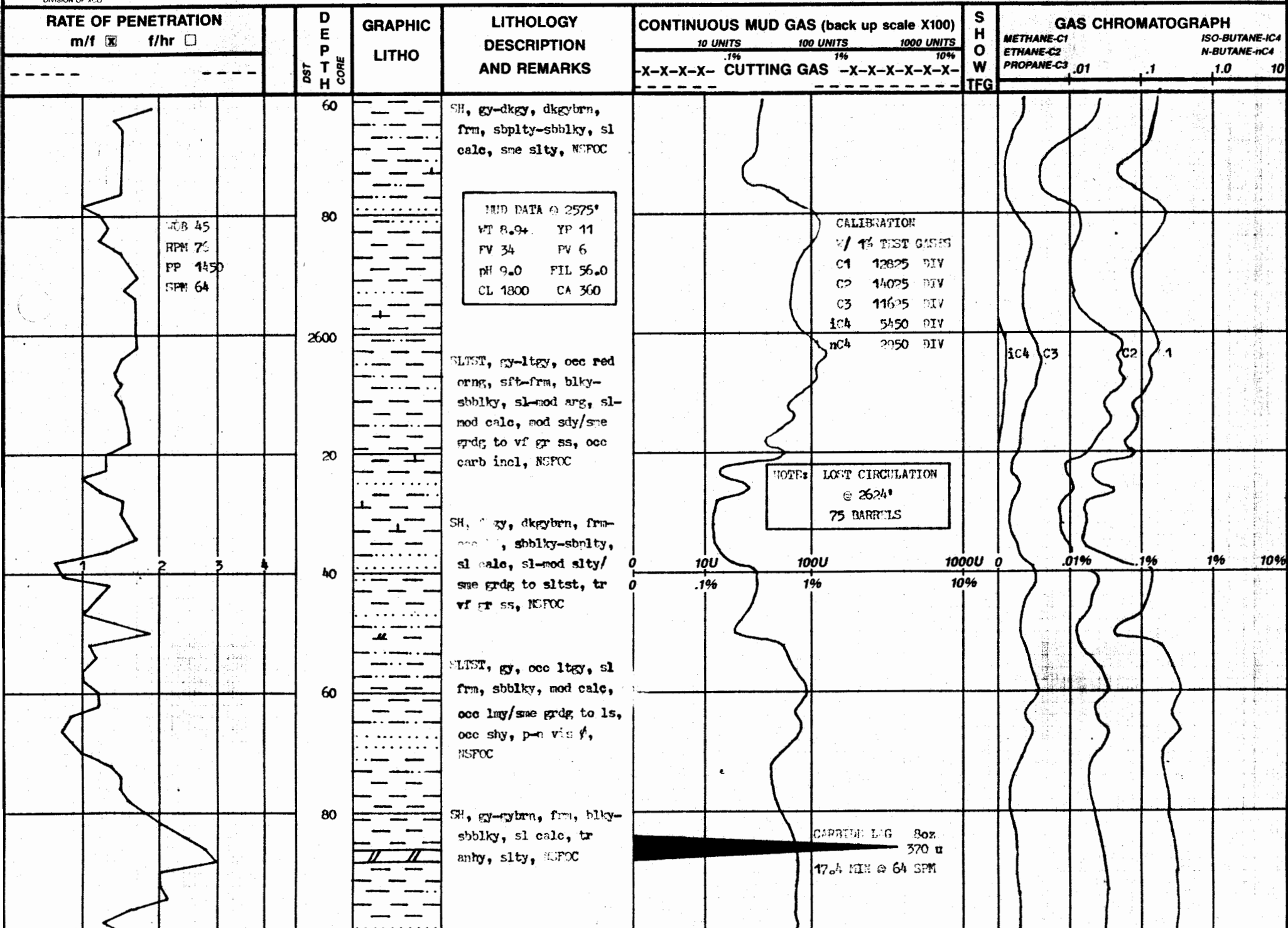
DIVISION OF XCO

WELL AUGUSTA BROWN #1

JOB# 85179 FINNEY CO., KANSAS



OPERATOR MOBIL OIL CORPLOC. SIC 16 T2SS R34W**analex**
DIVISION OF XCOWELL AUGUSTA BROWN #1JOB# 85179 PINNEY CO., KANSAS

OPERATOR MORIL OIL CORP.LOC. SCT 16 T25S R34W**analex**
DIVISION OF XCOWELL AUGUSTA BROWN #1JOB# 85179# FINNEY CO., KANSAS



OPERATOR

MOBIL OIL CORP

LOC.

SEC 16

T2S5

R34W

WELL

AUGUSTA BROWN #1

JOB#

85179

PINNEY

CO.,

KANSAS

analex

DIVISION OF XCO

RATE OF PENETRATION

m/f ☒ f/hr ☐DEPTH
DST
COREGRAPHIC
LITHOLITHOLOGY
DESCRIPTION
AND REMARKS

CONTINUOUS MUD GAS (back up scale X100)

10 UNITS

100 UNITS

1000 UNITS

.1%

1%

10%

-X-X-X-X- CUTTING GAS -X-X-X-X-X-X-

SHOW
W
TFG

GAS CHROMATOGRAPH

METHANE-C1
ETHANE-C2
PROPANE-C3ISO-BUTANE-IC4
N-BUTANE-nC4

.01

.1

1.0

10

2700

20

40

60

80

2800

20

SLTST, dkredbrn, gy, frm,
blky-sbbiky, mod calc,
occ lmy, tr anhy, sme
shy, n vis-p ϕ , NSPOC

LS, gy-gybrn, sl frm-frm,
micxl-occ crpxl, sl arg,
sl slty/sme grdg to lmy
sltst, yel murl flwr,
p-n vis ϕ , NSOC

SLTST, gybrn-gy, redbrn,
frm, blky-sbbiky, mod
calc, tr ls strg, n vis
 ϕ , NSPOC

SLTST, gybrn-gy, redbrn,
frm, blky-sbbiky, mod
calc, tr ls strg, n vis
 ϕ , NSPOC

LS, gy-not ltgy, gybrn,
frm-sft, crpxl-micxl, sl
arg, sme slty, sl dol,
tr calc frac fl, yel
murl flwr, p ϕ , rr tr
vug ϕ , NSOC

LS, g-dkgy, not ltgy,
frm, crpxl-micxl, sl arg,
sl lty, sl dol, yel
murl flwr, p vis ϕ ,
NSOC

SAMPLE QUALITY: GOOD

NOTE: LOST CIRCULATION @ 2744'

60 BARRELS

RT-PASS SHAKER TO REMOVE
SHAKER SCREEN

TGA AND GC CALIBRATION

W/ 11 TEST GASES

C1 12250 DIV

C2 13750 DIV

C3 11500 DIV

ic4 7500 DIV

nC4 8250 DIV

10U

100U

1000U

10%

.01%

.1%

1%

10%

C3

C2

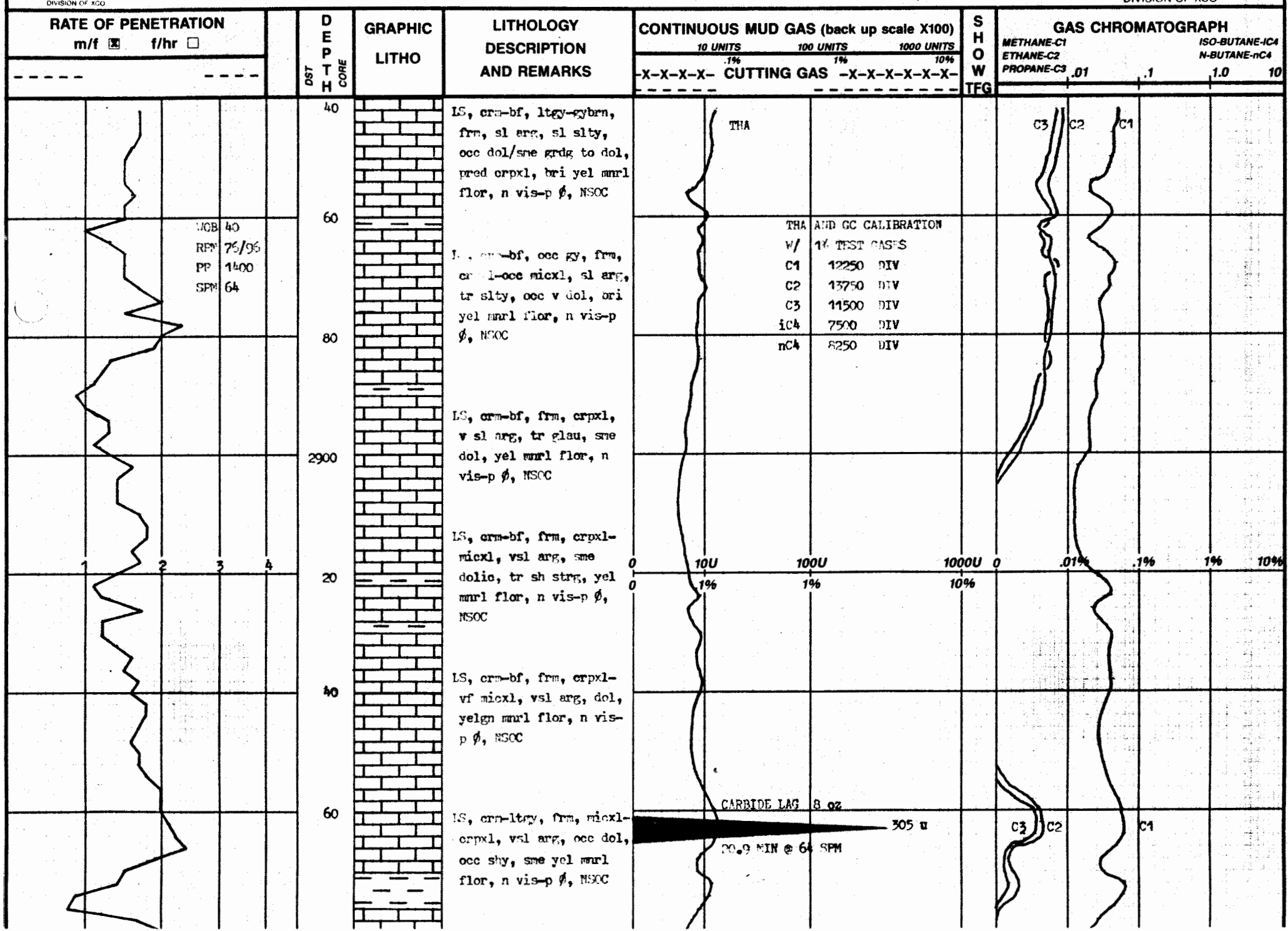
C1



OPERATOR MORILL OIL CORP
WELL AUGUSTA BROWN #1

LOC. SEC 16 T2SS R34W
JOB# 85129 FINNEY CO., KANSAS

analex
DIVISION OF XCO



OPERATOR MOBIL OIL CORPLOC. SEC 16 T25S R34WWELL AUGUSTA BROWN #1JOB# 85179 FINNEY CO., KANSAS

analex

DIVISION OF XCO

RATE OF PENETRATION

m/f ☒ f/hr ☐DEPTH
COREGRAPHIC
LITHOLITHOLOGY
DESCRIPTION
AND REMARKS

CONTINUOUS MUD GAS (back up scale X100)

10 UNITS 100 UNITS 1000 UNITS

.1% 1% 10%

-X-X-X-X- CUTTING GAS -X-X-X-X-X-X-

SHOW
W TFG

GAS CHROMATOGRAPH

METHANE-C1 ISO-BUTANE-iC4
ETHANE-C2 N-BUTANE-nC4
PROPANE-C3 .01 .1 1.0 10POR 45
RIN 96
IF 1250
PSS 50

12:01 AM, 3/27/85

NO SAMPLE
LOST CIRCULATION
LITH INTERP
FROM DRILL RATENOTE: LOST CIRCULATION = 3188'
75 BARRELSNOTE: 3202' - 3250' POOR MUD
RETURN FLOW



OPERATOR

MOBIL OIL CORP

LOC.

SEC 16 T2S R34W

WELL

AUGUSTA BROWN #1

JOB#

85179

FINNEY

CO.,

KANSAS

analex

DIVISION OF XCO

RATE OF PENETRATION

m/f ☒ f/hr ☐DEPTH
COREGRAPHIC
LITHOLITHOLOGY
DESCRIPTION
AND REMARKS

CONTINUOUS MUD GAS (back up scale X100)

10 UNITS

100 UNITS

1000 UNITS

SHOW
W
TEG

GAS CHROMATOGRAPH

METHANE-C1

ISO-BUTANE-IC4

ETHANE-C2

N-BUTANE-NC4

PROPANE-C3

.01

.1

1.0

10

-X-X-X-X- CUTTING GAS -X-X-X-X-X-X-

JOB 40/45
RPM 76/96
IP 1350
5260
80
3300
20
40
60
80LS, wh-ltgy, sft-fm, ooc
hd, gen crpxl, n-sl arg,
ltysl-yelgn mrl flr,
NSOCSLTNT, ltgy, bf, ooc red
ornz, sft-fm, blk, y,
mod arg, grdg to sh ip,
mod-v calc, ooc carb incl,
n vis ϕ , NSOC

MUD DATA @ 3300'

WT 9.0 YP 6

FV 34 PV 6

pH 8.8 FIL 37

CL 1600 CA 440

TGA AND GC CALIBRATION

W/ 1% TEST GASES

C1 10750 DIV

C2 13250 DIV

C3 11750 DIV

IC4 7250 DIV

nC4 7750 DIV

C1

NOTE: LOST CIRCULATION @ 3330'
75 BARRELSSP, cygn-dkgyrn, frm-oc
hd, sbnlty-sbbky, n-sl
calc, NSOCLS, wh-ltgy, sft-fm,
crpxl-micxl, sl arg, tr
glau, ltysl-ltgn mrl
flr, n vis ϕ , NSOCLS, wh-ltgy-bf, sft-fm,
micxl-crpxl, mod arg,
p intxn ϕ , ltgn-ltysl
mrl flr, NSOC

0 10U 100U 1000U 0 .01% .1% 1% 10%

0 .1% 1% 10%



OPERATOR MOBIL OIL CORP

LOC. SEC 16 T25S T34W

analex

DIVISION OF XCO

WELL AUGUSTA BROWN #1

JOB# 85179 WINNEY CO., KANSAS

RATE OF PENETRATION

m/f ☒ f/hr ☐DEPTH
COREGRAPHIC
LITHOLITHOLOGY
DESCRIPTION
AND REMARKS

CONTINUOUS MUD GAS (back up scale X100)

10 UNITS 100 UNITS 1000 UNITS

.1% 1% 10%

-X-X-X-X- CUTTING GAS -X-X-X-X-X-X-

SHOW
TFG

GAS CHROMATOGRAPH

METHANE-C1 ISO-BUTANE-IC4
ETHANE-C2 N-BUTANE-NC4
PROPANE-C3 .01 .1 1.0 10VOB 40
RPM 96
PP 1250
62

3400

20

40

60

80

3500

20

LS, ltgy-bf, wh, sft-
frm, micxl-crpxl, sl
arg, n vis ϕ , bri yel
mud floor, NSOCSLTST, ltgy-redorne, sft-
frm, sbblky, tr glau,
mod calc, n vis ϕ , NSFOCSH, ltgy-dkgy, sft-frm,
sbblky-sbblty, tr glau,
sl calc, sme grdg to
sltst, NSFOCLS, crm-bf, ltgy-ry, frm,
crpxl-occ micxl, sl arg,
yel mud floor, n vis ϕ ,
NSOCSLTST, redbrn, frm, sbblky-
sbblty, occ slty/sme grdg to
to sh, n-vsl calc, n vis
p ϕ , NSFOCSH, gy-gvgn, redorne, frm,
sbblty-pty, occ calc,
n calc, occ slty/sme
grdg to sltst, NSFOCLS, crm-bf, wh-ltgy, frm,
pred crpxl, sl-n arg,
yel mud floor, n vis ϕ

CARBIDE LAG 8 oz

185 units

26 MIN @ 62 RPM

THA AND GC CALIBRATION

W/ 1% TEST GASES

C1 10750 DIV

C2 13750 DIV

C3 11250 DIV

ic4 7325 DIV

nC4 7750 DIV

C2

C1

C2

C2

0

10U

100U

1000U

0

.01%

.1%

1%

10%

0

.1%

1%

10%

OPERATOR MOBIL OIL CORPLOC. S/C 16 T25S R34WWELL AUGUSTA BROWN #1JOB# 85172 finney CO., KANSASanalex
DIVISION OF XCO

RATE OF PENETRATION

m/f ☒ f/hr ☐DEPTH
COREGRAPHIC
LITHOLITHOLOGY
DESCRIPTION
AND REMARKS

CONTINUOUS MUD GAS (back up scale X100)

10 UNITS 100 UNITS 1000 UNITS

.1% 1% 10%

-X-X-X-X- CUTTING GAS -X-X-X-X-X-X-

SHOW
TEG

GAS CHROMATOGRAPH

METHANE-C1 ISO-BUTANE-IC4
ETHANE-C2 N-BUTANE-NC4
PROPANE-C3 .01 .1 1.0 10SAMPLE QUALITY: POOR
ABUNDANT CAVINGSSH, redbn, cygn-cy, frm,
sbbly, sme elng, tr
glau, sme slty, NSOCMCM NOW BEING KIPT
MUD SYSTEMNOTE: LOST CIRCULATION @ 3578'
100 BARRELSLS, crn-bf, frm, crpxl,
occ mixl, tr arg, occ
sl dol, yel murl flor,
n vis ϕ , NSOC

THA AND GC CALIBRATION

W/ 10 TEST GASES

C1 10750 DIV

C2 13250 DIV

C3 11750 DIV

IC4 7250 DIV

nC4 7750 DIV

LS, crn-bf, ltgygn, frm,
crpxl-mixl, sl-n arg,
sme intbd arg glau sh,
v dul yel murl flor,
n vis ϕ , NSOC

THA

C1

LS, crn-bf, ltgygn, frm,
crpxl-mixl, sl-n arg,
occ intbd sh, dul murl
flor, n vis ϕ , NSOCLS, crn-bf, vltbrn, occ
vltprk, frm-sft, crpxl-
mixl, tr sh strgs, v
dul yel murl flor, n vis
 ϕ , NSOCLS, crn-bf, vltbrn-vltprk,
frm-sft, crpxl-mixl,
sl arg, occ sh, dul murl
flor, n vis ϕ , NSOCWOB 45
RPM 96
DP 1250
SPM 62



OPERATOR

MOBIL OIL CORP

LOC.

SEC 16

T25C

R3A

WELL

UGUSTA BROWN #1

JOB#

85179

FINNEY

CO.,

KANSAS

analex

DIVISION OF XCO

RATE OF PENETRATION

m/f ☒ f/hr ☐DEPTH
COREGRAPHIC
LITHOLITHOLOGY
DESCRIPTION
AND REMARKS

CONTINUOUS MUD GAS (back up scale X100)

10 UNITS

100 UNITS

1000 UNITS

SHOW
W TFG

GAS CHROMATOGRAPH

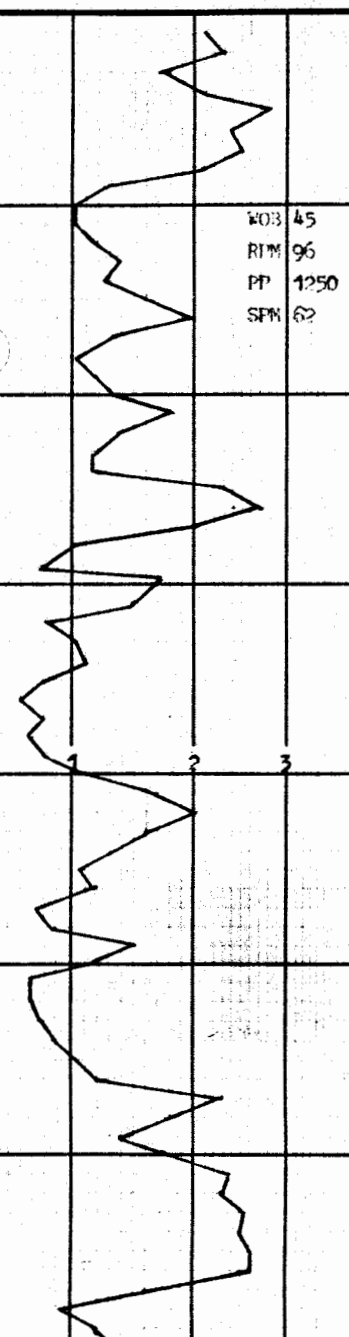
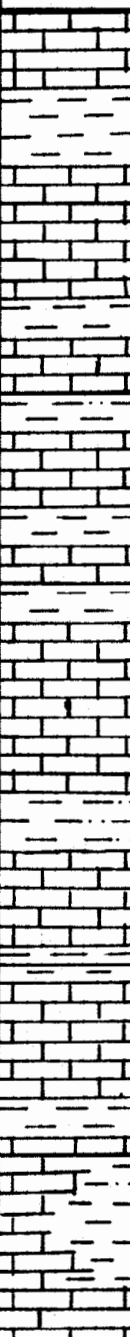
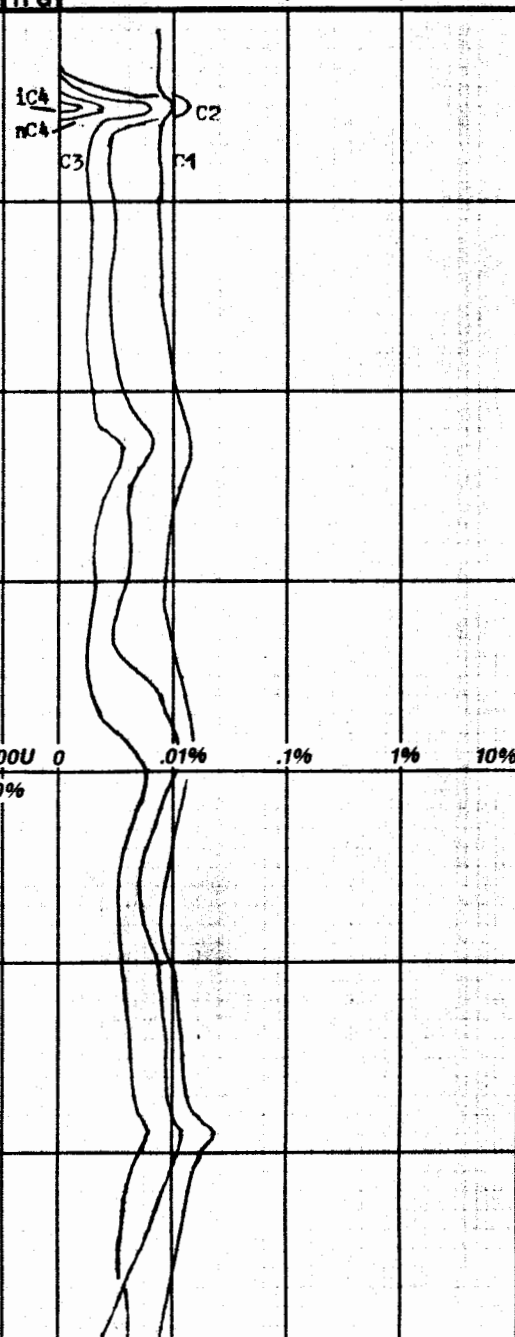
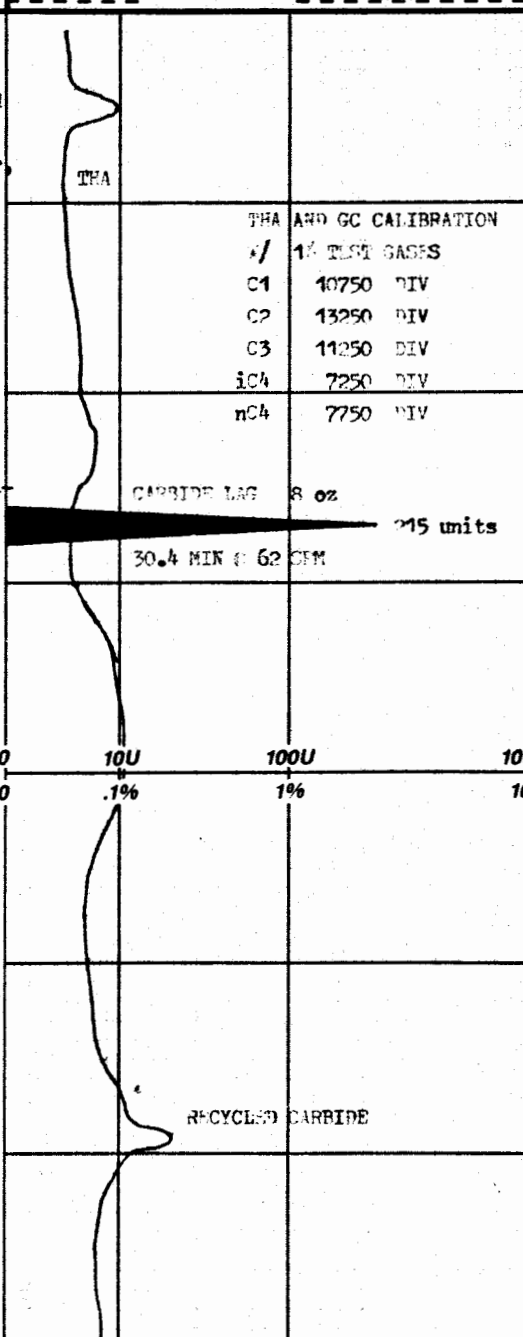
METHANE-C1
ETHANE-C2
PROPANE-C3ISO-BUTANE-IC4
N-BUTANE-nC4

.01

.1

1.0

10

WOB 45
RPM 96
PP 1250
SPM 6280
3700
20
40
60
80
3800LS, crm-ltbrn, ooc vlt
pnk, frm, crpxl, ooc
micxl, vsl arg, tr intbd
sh, tr anhy, tr calc
frac fl, v dul marl flor,
n vis ϕ , NSOCSH, cygn, frm, sbnlty-
sbbiky, n-sl calc, ooc
alty, intbd/ls, NFOCLS, crm-ltbrn, frm, crpxl-
micxl, sl arg, sme sh
strg, v dul marl flor,
n vis ϕ , NSOCLS, crm-ltbrn, ooc brn,
crpxl, sl arg, ooc
l, v dul marl flor,
n vis ϕ , NSOCLS, crm-ltbrn, ooc brn,
tr pnk, frm, crpxl, sl
arg, tr sh strg, dul
marl flor, n vis ϕ , NSOCLS, crm-ltbrn, ooc brn,
ooc pnk, frm, crpxl, sl
arg, ooc intbd sh, dul
marl flor, n vis ϕ , NSOC



OPERATOR MOBIL OIL CORP
WELL AUGUSTA BROWN #1

LOC. SIC 16 T25S R34W
JOB# 85179 FINNEY CO., KANSAS

analex
DIVISION OF XCO

RATE OF PENETRATION
m/f ☒ f/hr ☐

DEPTH
CORE

GRAPHIC
LITHO

LITHOLOGY
DESCRIPTION
AND REMARKS

CONTINUOUS MUD GAS (back up scale X100)

10 UNITS 100 UNITS 1000 UNITS

.1% 1% 10%

-X-X-X-X- CUTTING GAS -X-X-X-X-X-X-

SHOW
TFG

GAS CHROMATOGRAPH

METHANE-C1 ISO-BUTANE-iC4
ETHANE-C2 N-BUTANE-nC4
PROPANE-C3

.01 .1 1.0 10

WOB 45
RTW 90
PP 1750
STM 62

60
80
4000
20
40
60
80

LS, wh-vltgy, ooc tan,
crpxl, sft-hd, n-sl arg,
ooc v slty, ooc pyr, scat
ltyel mnrl flor, n vis
Ø, NSOC

LS, wh-vltgy, ooc tan,
bf, sft-frm, ooc v hd,
crpxl, n-sl arg, ooc v
slty, sme grdg to sltst,
scat ltyel mnrl flor,
n vis-p Ø, NSOC

MUD DATA @ 3598'

WT 9.1 YP 11
FV 35 PV 9
pH 9.5 FIL 17.2
CL 1160 CA 20

LS, wh-dkgy, sft-frm,
crpxl-micxl, n-sl arg,
tr glau, tr cht, yelgn
mnrl flor, tr ool Ø, n
vis-Ø intxin Ø, NSOC

LS, ltgy-chky wh, sft-
frm, crpxl, sl arg, chty,
yel mnrl flor, n vis-
ool Ø, NSOC

SLTST, dkgy-brn, sft-frm,
sbbky-plty, mod calc,
ooc shy

1BA AND GC CALIBRATION

W/ 1% TEST GASES

C1 11000 DIV

C2 13625 DIV

C3 11750 DIV

iC4 7325 DIV

nC4 7750 DIV

C3 C2 C1

C3

C3

0 10U 100U 1000U 0
0 .1% 1% 10% .01% .1% 1% 10%



OPERATOR

MORIL OIL CORP

LOC.

SEC 46

T25S

R34W

WELL

AUGUSTA BROWN #4

JOB#

85479

FINNEY

CO.,

KANSAS

analex

DIVISION OF XCO

RATE OF PENETRATION

m/f ☒ f/hr ☐DEPTH
COREGRAPHIC
LITHOLITHOLOGY
DESCRIPTION
AND REMARKS

CONTINUOUS MUD GAS (back up scale X100)

10 UNITS

100 UNITS

1000 UNITS

SHOW
TFG

GAS CHROMATOGRAPH

METHANE-C1

ETHANE-C2

PROPANE-C3

ISO-BUTANE-IC4

N-BUTANE-nC4

.01

.1

1.0

10

-X-X-X-X- CUTTING GAS -X-X-X-X-X-X-

4100

LS, gy, ltgy-bf, wh,
v sft-frm, gen crpxl,
sl arg, sl-mod chty,
scat lt yel min flor,
occ ool ϕ , gen no vis
 ϕ , NSOC

CARBIDE LAG 8oz
32.9 MIN @ 62 SPM

THA AND GC CALIBRATION

W/ 1% TEST GASES

C1 11000 DIV

C2 13675 DIV

C3 11750 DIV

IC4 7325 DIV

nC4 7750 DIV

C2C3

C4

20

40

SH, dkgy-dkgybrn, sft-frm,
occ hd, sbply-
sbbly, sl-mod calc,
occ slty

60

SLTST, dkgy-brn, sft-frm
sbbly-sbply, mod-v
calc, mod-v arg, NSOC

80

LS, gy, ltgy-bf, wh,
v sft-frm, gen crpxl,
sl arg, sl-mod chty, lt
yel min flor, occ ool ϕ ,
gen no vis ϕ , NSOC

4200

SH, dkgy-dkgybrn, sft-frm
sbply-sbbly, sl-mod
calc, occ slty grdg to
sltst ip

20

LS, crn-tan, vltgybrn,
slfrm-sft, crpxl-micxl,
ool com, sl arg, tr cym
SH strg, v dul yel min
flor, p vis-fr ool ϕ ,
NSOC

10U

100U

1000U

.1%

1%

10%

.01%

.1%

1%

10%

C1



OPERATOR

MOBIL OIL CORP

LOC.

SEC 16

T2S6

R34W

WELL

AUGUSTA BROWN #1

JOB#

85179

PINNEY

CO.,

KANSAS

analex

DIVISION OF XCO

RATE OF PENETRATION

m/f ☒ f/hr ☐DEPTH
COREGRAPHIC
LITHOLITHOLOGY
DESCRIPTION
AND REMARKS

CONTINUOUS MUD GAS (back up scale X100)

10 UNITS

100 UNITS

1000 UNITS

SHOW
TEG

GAS CHROMATOGRAPH

METHANE-C1

ETHANE-C2

PROPANE-C3

ISO-BUTANE-IC4

N-BUTANE-NC4

.01

.1

1.0

10

-X-X-X-X-

CUTTING GAS

-X-X-X-X-X-X-

VOB 5
RPM 70
PP 1450
SPM 6A

LS, med-lith, v litgyrn,
frm-act, gen expd sec
mixt, tr col, sl slty
dud yel min flwr, p-n
intxn ϕ , g ool ϕ ,
NSOC

SH, dkgy, sec gy, frm,
sbbly, mod cals, tr
glau, grty, sl carb,
NSPOC

LS, v lt gybn-tan, frm-
v frm, expd-mixt,
pnl ool, sl arr, ool
sus tex, dud min flwr,
p-n intxn ϕ , g ool ϕ ,
NSOC

SH, dkgy, sec gy, frm,
sbbly-sbly, mod cals,
tr glau, grty, sl carb,
NSPOC

LS, lith-ora, tan, frm
ool hd, mixt-expd, sl
arg, sec slty, ool sh
strg, ool sus tex, dud
yel min flwr, p intxn
 ϕ , sec g ool ϕ , NSOC

TRA AND GC CALIBRATION
w/ 4 TEST GASES

C1 41000 DIV

C2 43750 DIV

C3 12000 DIV

IC4 7750 DIV

NCA 8250 DIV

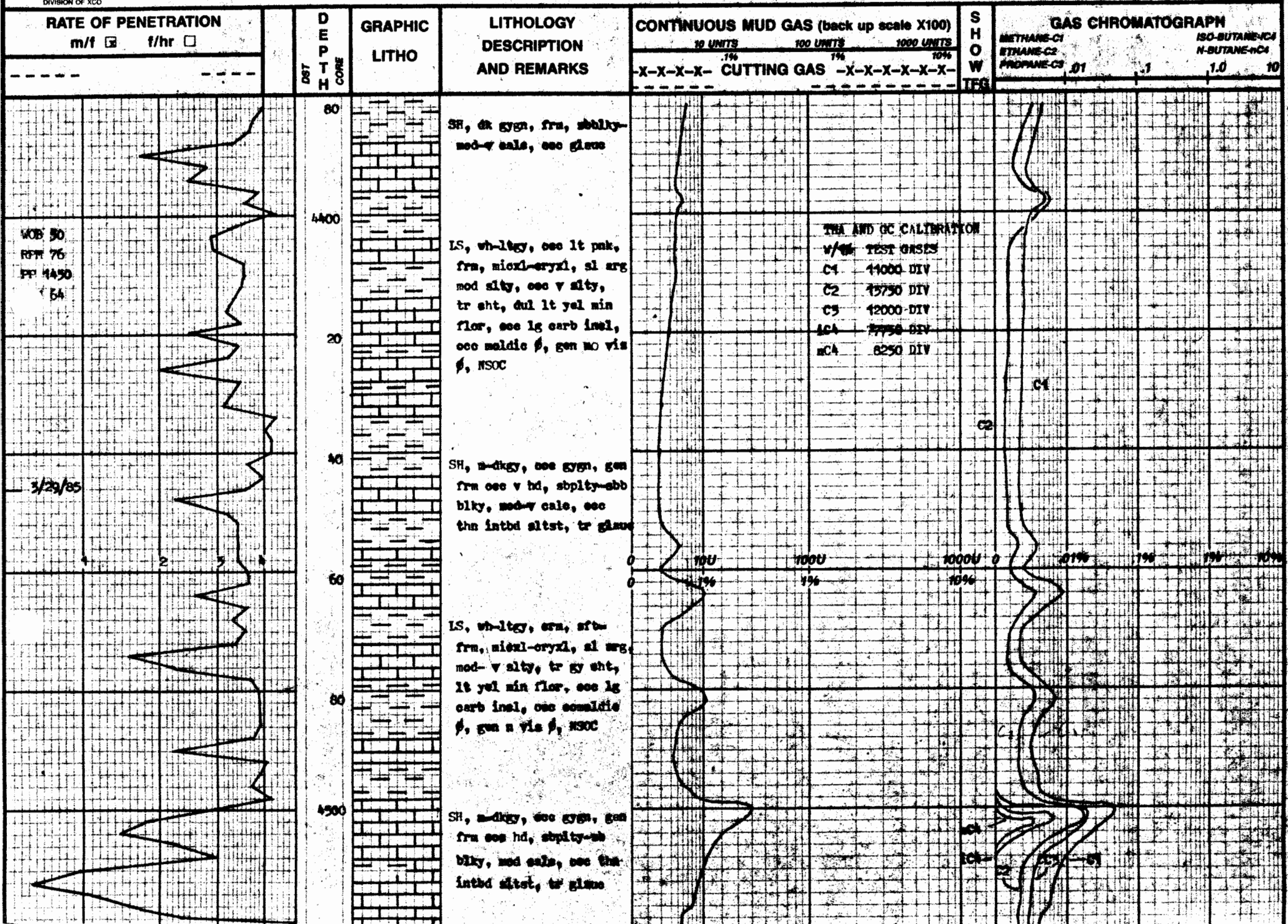
IC4
NCA

C1

C3

C2

C5





OPERATOR

MOBIL OIL CORP.

LOC.

SEC. 46 T29S R34W

WELL

AUGUSTA BROWN #1

JOB#

85179

FINNEY

CO.,

KANSAS

analex

DIVISION OF XCO

RATE OF PENETRATION

m/l ☒ f/hr ☐DEPTH
COREGRAPHIC
LITHOLITHOLOGY
DESCRIPTION
AND REMARKS

CONTINUOUS MUD GAS (back up scale X100)

10 UNITS

100 UNITS

1000 UNITS

.1%

1%

10%

-X-X-X-X- CUTTING GAS -X-X-X-X-X-X-

SHOW
TEG

GAS CHROMATOGRAPH

METHANE-C1

ETHANE-C2

PROPANE-C3

ISO-BUTANE-IC4

N-BUTANE-NC4

.01

.1

1.0

10

WOB 50
REV 76
PP 1450
SPR 64

MUD DATA @ 45548

WT 8.9+ YP 13

FV 40 PV 11

pH 9.8 FIL 9.6

CI 900 Ca tr

SH, m-dkgy, gyss, frm ooc
vhd, sbply-ebbly, mod-
v sals, ooc thin intbd,
tr glauc

LS, wh-ltgy, crn, sft-frn
mixl-eryxl, al arg,
mod-v slty, tr gy sht,
lt yel min flow, ooc
carb incl, ooc oomoldic
s, gen a vis s, NSOC

LS, ltbrn-crn, snc lbg,
frm-hd, ooc sft, mixl-er
eryxl, ooc snc, al arg,
tr calc frms fil, tr sht,
ooc fos fus, tr ool, ooc
lt yel min flow, fr-p
intxin s, g-p ool s,
NSOC

TGA AND GC CALIBRATION

M/100 TEST GASES

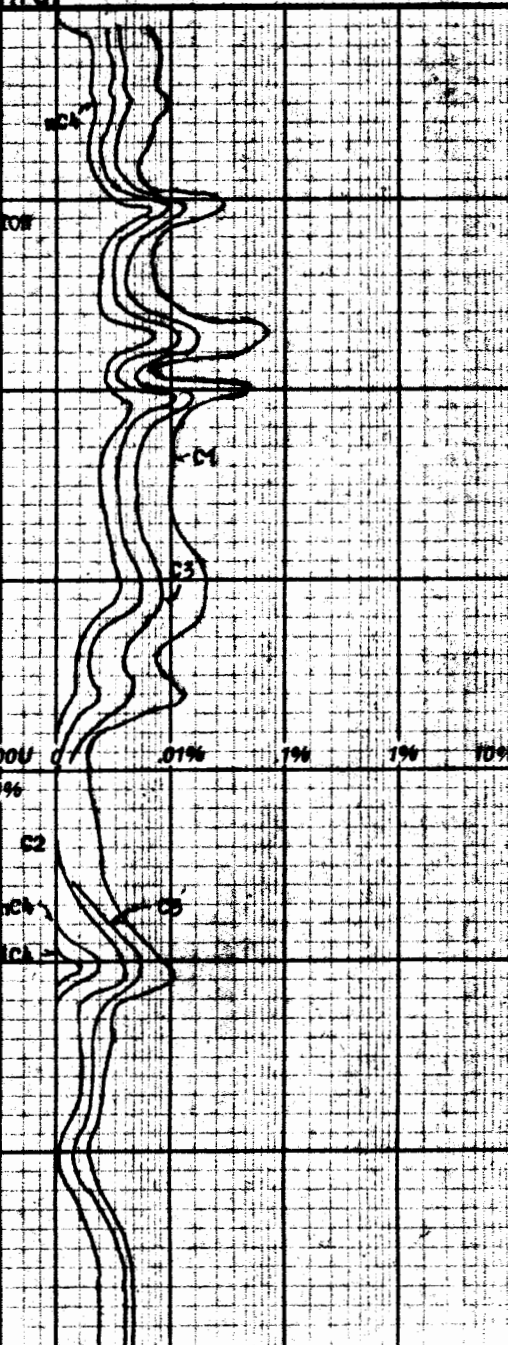
C1 14000 DIV

C2 15750 DIV

C3 12000 DIV

IC4 7750 DIV

NC4 8250 DIV





OPERATOR

MOBIL OIL CORP.

LOC.

SEC. 46 T2S R34W

WELL

AUGUSTA BROWN #1

JOB#

85179

FINNEY

CO.,

KANSAS

analex

DIVISION OF XCO

RATE OF PENETRATION

m/f ☒ f/hr ☐DEPTH
DST
H
COREGRAPHIC
LITHOLITHOLOGY
DESCRIPTION
AND REMARKS

CONTINUOUS MUD GAS (back up scale X100)

10 UNITS

100 UNITS

1000 UNITS

SHOW
W
TFG

GAS CHROMATOGRAPH

METHANE-C1
ETHANE-C2
PROPANE-C3ISO-BUTANE-IC4
N-BUTANE-nC4

.01

.1

1.0

10

WOB 50
RPM 76
PP 1450
SPM 64

4700

20

40

60

80

SH, dkgy-gy, frm, sbblky-
sbply, mod calc, grty,
tr carb, NSPOCLS, ltbrn, crn-buf, frm,
crpxl-mixl, sl arg, tr
pyr, tr chl, sme lt yel
min flwr, p-n vis ϕ
NSPOCSH, dkgy-gy, frm, sbblky-
sbply, mod calc, grty,
tr carb, NSPOCLS, ltbrn-crn, bf, ooe
vitpnk, frm-hd, crpxl-
mixl, sl arg, tr pyr,
oeo delie, sme lt yel
min flwr, p-n vis ϕ
NSOCSH, dkgy-gy, frm, sbblky-
sbply, mod calc, grty,
tr carb, NSPOCLS, ltbrn-crn, bf, ooe v
ltpnk, frm-hd, crpxl-
mixl, sl arg, tr pyr,
oeo delie, sme lt yel
min flwr, p-n vis ϕ
NSOC

TGA AND GC CALIBRATION

W/ 1% TEST GASES

C1 11000 DIV

C2 13750 DIV

C3 12000 DIV

IC4 7750 DIV

nC4 8250 DIV

BYPASS SHAKER FOR REPAIRS



OPERATOR NORTH OIL CORP.
WELL AUGUSTA BROWN #1

LOC. SEC. 46 T25S R34W
JOB# 83179 FINNEY CO., KANSAS

analex
DIVISION OF XCO

RATE OF PENETRATION

m/f ☐ f/hr ☐

DEPTH
CORE

GRAPHIC
LITHO

LITHOLOGY
DESCRIPTION
AND REMARKS

CONTINUOUS MUD GAS (back up scale X100)

10 UNITS 100 UNITS 1000 UNITS

1% 1% 10%
-X-X-X-X- CUTTING GAS -X-X-X-X-X-X-

S
H
O
W
T
F
G

GAS CHROMATOGRAPH

METHANE-C1 ISO-BUTANE-IC4
ETHANE-C2 N-BUTANE-NC4
PROPANE-C3 .01 .1 1.0 10

WOB 30
RPM 76
PP 1400
SPH 64

3/30/85

42:01 AM 3/30/85

4800
20
40
60
80
4900
20

LS, gy-gybrn, crm-brn, hd-
frm, micxl-crprl, sl-mod
arg, shy ip, intbd dkgy-
gy-carb sh com, tr pyr,
tr cht, ooc yel mmrl flat,
p vis ϕ , NSOC

SAMPLE TOP: MORROW
@4828' (-1848')

SS, vltbrn, mod cons, fgr,
sbang-sbrd, mod-w srt,
cale omt, v dul flor,
sl brn o stn, slw stag
out, p intgran ϕ

SH, blk, thn lam, slty/v
thn sltst intbds, s seal
xbd

CORE #1
SEE APEDEX

MUD DATA @ 4844'

WT 8.8 YP 24
FV 55 PV 47
pH 9.5 FIL 10.42
CL 1300 CA 80

SS, brn, w-mod cons, f-
gr, s srt, glau, len-
wavy bdd, thn sh drap,
p-fr ϕ , v hvy o stn, lt
yel o flor, g stag out

CHESTER @4918' (-1938')

SH, gy-dkgy, ooc ltgygn,
srt-frm, plty-sbbiky,
occ glau, sl-mod cale
SS, wh-br, mod-w cons, vf-
fgr, m-w srt, cale omt,
n-sl arg, p-fr intgran ϕ ,

CALIBRATION

W/% test gas

C1 14000 DIV

C2 13750 DIV

C3 12000 DIV

IC4 7750 DIV

NC4 8250 DIV

IC4 C2 C3 C1

0 100 1000 10000 0 0.1% 1% 1% 10%



OPERATOR

MOBIL OIL CORP.

LOC.

SEC. 16 T2S R34W

WELL

AUGUSTA BROWN #4

JOB#

83479

PINNEX

CO.,

KANSAS

analex

DIVISION OF XCO

RATE OF PENETRATION

m/f ☐ f/hr ☐DEPTH
COREGRAPHIC
LITHOLITHOLOGY
DESCRIPTION
AND REMARKS

CONTINUOUS MUD GAS (back up scale X100)

10 UNITS

100 UNITS

1000 UNITS

SHOW
TGF

GAS CHROMATOGRAPH

METHANE-C1
ETHANE-C2
PROPANE-C3ISO-BUTANE-IC4
N-BUTANE-nC4

-X-X-X-X- CUTTING GAS -X-X-X-X-X-X-

.1% .1% .1% .1% .1% .1%

5/24/83

WOB 50
RPM 76
PP 1400
SPM 6ASAMPLE TOP: ST. GENEVIEVE
@960' (~1980')SH, m-dk gy, gygn, sft-
frm, sbblky-sbply, n-
al calc, ooc chty, ooc
pyrLS, wh-ltan, bf, crpal-
mixl, n-al arg, no vis
φ, ooc lt yel min flwr,
NSOCLS, wh-ltan, bf, crpal-
mixl, n-al arg, no vis
φ, ooc lt yel min flwr,
NSOCSH, m-dgy, dkgytn-blk,
sft-frm, sbblky-pity,
n-al calc, ooc pyrSH, m-dgy, dkgytn-blk,
sft-frm, sbblky-pity,
n-al calc, ooc pyrSAMPLE TOP: ST. LOUIS
@3065' (~2080')

TGA AND GC CALIBRATION

W/ 1% TEST GASES

C1 11000 DIV

C2 15750 DIV

C3 12000 DIV

ICA 7750 DIV

nCA 8250 DIV

C2 C3 C4

ICA-ICA

C3

C4

OPERATOR MOBIL OIL CORP.LOC. SEC. 16 T2S6 R34WWELL AUGUSTA BROWN #1JOB# 85179 FINNEY CO., KANSASanalex
DIVISION OF XCO

RATE OF PENETRATION

m/f ☐ f/hr ☐DEPTH
COREGRAPHIC
LITHOLITHOLOGY
DESCRIPTION
AND REMARKS

CONTINUOUS MUD GAS (back up scale X100)

10 UNITS

100 UNITS

1000 UNITS

.1%

1%

10%

-X-X-X-X- CUTTING GAS -X-X-X-X-X-X-

SHOW
TFG

GAS CHROMATOGRAPH

METHANE-C1

ETHANE-C2

PROPANE-C3

ISO-BUTANE-IC4

N-BUTANE-NC4

.01

.1

1.0

10

WOB 50
RPM 76
PP 1400
SPM 64LS, orn-br, hd-frn, arpxl-
-mixl, sl arg, tr mic
ool, tr oht, v dul-n
min flor, p vis ϕ , NSOCLS, orn-wlthrn, hd-frn,
arpxl-mixl, n-sl arg,
ooc dns, ooc intbd sh,
sae dul lt yel min flor,
n-p vis ϕ , NSOCLS, orn-wlthrn, hd-frn,
arpxl-mixl, n-sl arg,
ooc dns, ooc intbd sh,
sae dul lt yel min flor,
n-p vis ϕ , NSOCLS, orn-br, vitpnt, hd-
frn, arpxl, ooc mixl,
n-sl arg, tr glauc, tr
sh, oht com, mtr yel
min flor, tr ool, ϕ
vis ϕ , NSOCCHT, wh, mky, tressl,
ltblugy, vhd, bky,
irreg, masNOTE: LOST CIRCULATION @ 5074'-5104'
POOR RETURNS 200 BARRELS LOST
ST-PASS SHAKER REMOVE SCREEN

TGA AND GC CALIBRATION

w/ 4% TEST GASES

C1 11000 DIV

C2 13730 DIV

C3 12000 DIV

IC4 7750 DIV

NC4 8250 DIV

C2C3

C1



OPERATOR
WELL

MOBIL OIL CORP

AUGUSTA BROWN #1

LOC.

SEC 16 T2S R34W

JOB# 85179

FINNEY CO., KANSAS

analex
DIVISION OF XCO

RATE OF PENETRATION

m/f ☐ f/hr ☐

DEPTH
CORE

GRAPHIC
LITHO

LITHOLOGY
DESCRIPTION
AND REMARKS

CONTINUOUS MUD GAS (back up scale X100)

10 UNITS 100 UNITS 1000 UNITS

.1% .1% .1% .1%
-X-X-X-X- CUTTING GAS -X-X-X-X-X-X-

S
H
O
W
T
F
G

GAS CHROMATOGRAPH

METHANE-C1 ISO-BUTANE-IC4
ETHANE-C2 N-BUTANE-NC4
PROPANE-C3 .01 .1 1.0 10

WOB 50
RPM 75
PP 1400
SPM 64

LS, ltgybrn, crm-bf, hd-
sft, crpxl-micxl, sl
arg, sl dol, ooc dns,
abnt oht, tr pyr, ooc
dul marl flcr, n vis-p
φ, NSOC

LS, ltgybrn, crm-bf, brn,
hd-sft, micxl-crpxl, sl
arg, tr sh strgs, sse
dns, oht com, scat marl fl
flcr, p-a vis φ, NSOC

TOTAL DEPTH @ 5276'
10:00 PM, 3/31/85

THANK YOU FOR SELECTING
ANALEX!

Doran S. Adams

DORAN S. ADAMS

David W. Paver

DAVID W. PAVER

P.W.D.
PATRICK W. DUNNE

TRA AND GC CALIBRATION

W/ 1% TEST GASES

C1 11000 DIV

C2 13750 DIV

C3 12000 DIV

IC4 7750 DIV

NC4 8250 DIV