

TEFTELLER, INC.

reservoir engineering data

MIDLAND, TEXAS / FARMINGTON, NEW MEXICO
GRAND JUNCTION, COLORADO

P. O. Box 5278
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August 15, 1990

N-8-30-7

Blackwood & Nichols Co., Ltd.
Box 1237
Durango, CO 81302

Attention: Mr. Jim Abbey

RECEIVED

AUG 27 1990

OIL CON. DIV.
DIST. 3

Subject: Bottomhole Pressure Measurement
N. E. Blanco Unit No. 425-R
Basin Fruitland Field
Rio Arriba County, New Mexico
Our File No. 2-21946-P

Dear Mr. Abbey:

Attached hereto are the results of a bottomhole pressure measurement which was conducted on the above captioned well August 13, 1990.

The data presented are in tabular and graphical form.

It has been our pleasure to have conducted this service for you. If we may be of further assistance, please call us at any time.

Respectfully submitted,

TEFTELLER, INC.

Neil Tefteller

Neil Tefteller

NT/lw

RECEIVED

AUG 27 1990

BLACKWOOD & NICHOLS CO., LTD

Serving the Permian Basin & Rocky Mountain Area



Company BLACKWOOD & NICHOLS CO., LTD. Well No. 425-P
Field BASIN FRUITLAND County RIO ARriba State NEW MEXICO
Formation FRUITLAND COAL Test Date AUGUST 13, 1990

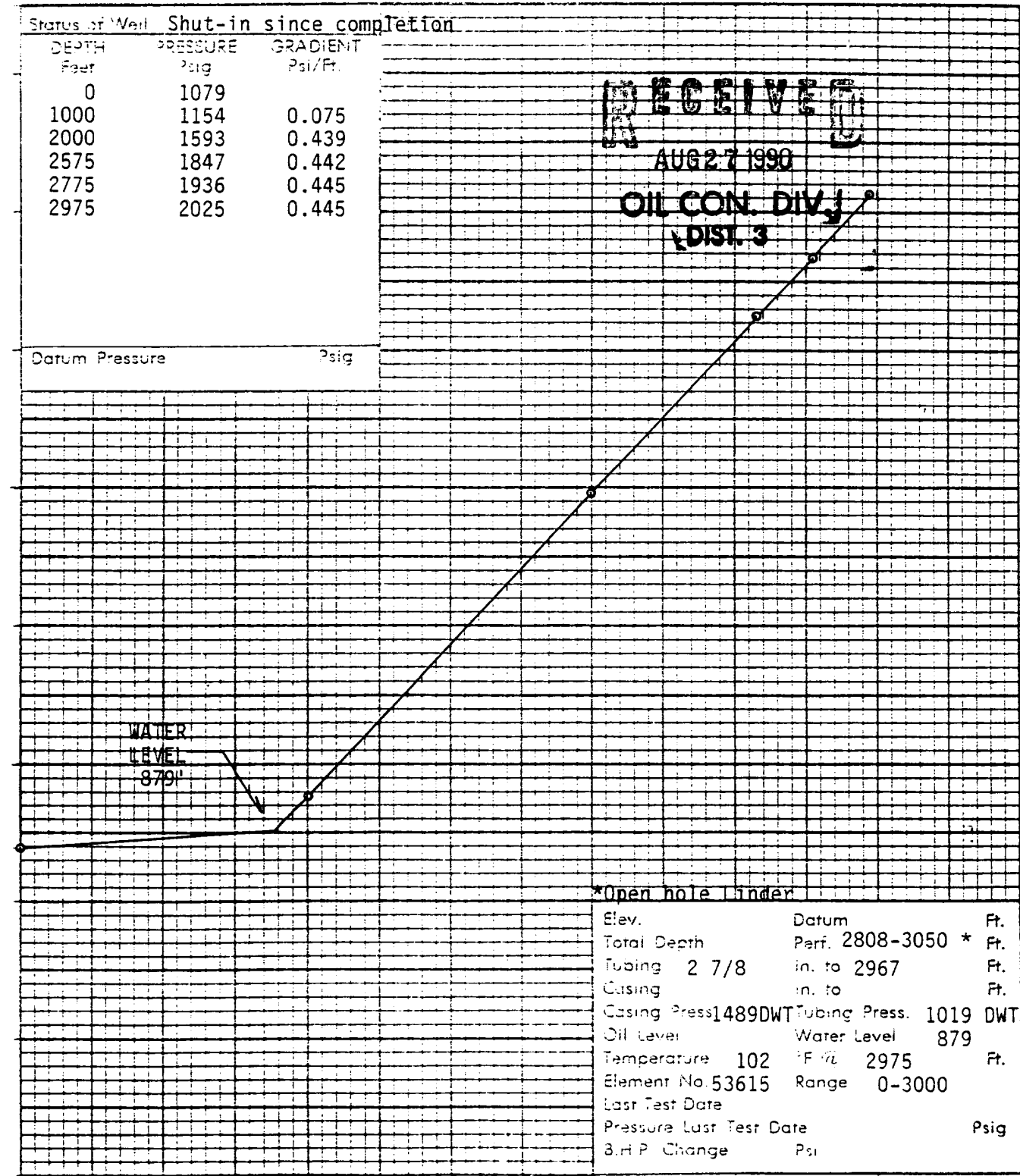
Status of Well Shut-in since completion

DEPTH Feet	PRESSURE Psig	GRADIENT Psi/Ft.
0	1079	
1000	1154	0.075
2000	1593	0.439
2575	1847	0.442
2775	1936	0.445
2975	2025	0.445

Datum Pressure _____ Psig

PRESSURE POUNDS PER SQUARE INCH GAUGE

2200
2000
1800
1600
1400
1200
1000
800
600



DEPTH, FEET

RECEIVED
OCT 25 1990

OIL CON. DIV.,
DIST. 3

BENCH MARK GEOLOGICAL SERVICES

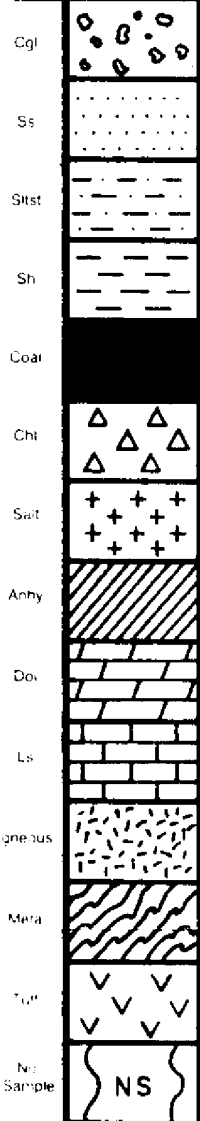
HYDROCARBON
WILLIAMS

ABBREVIATIONS

CO — Circulate Out
CG — Connection Gas
CB — Core Bit
DC — Depth Correction
DS — Directional Survey
DST — Drill Stem Test
DTG — Down Time Gas
FC — Filter Cake
LAT — Logged After Trip
NB — New Bit
NDR — No Data Recorded
NR — No Returns
PP — Pump Pressure
RPM — Rotary Speed
SPM — Pump Strokes
TG — Trip Gas
TGR — Trip Gas Recycle
Vis — Viscosity
WL — Water Loss
WOB — Weight on Bit
WT — Density Of Drill Fluid

LITHOLOGY MODIFIERS

// — Anhydritic
B — Bentonitic
C — Calcareous
■ — Carbonaceous, Coaly
L — Dolomitic
F — Fossiliferous
G — Glauconitic
O — Oolitic
P — Pyritic
A — Siliceous



OPERATOR BLACKWOOD AND NICHOLS

WELL NE Blanco Unit 425R

FIELD Basin Fruitland Coal

LOCATION sec 8, T30N R7W

CO. STATE Rio Arriba Co., New Mexico

ELEVATION KB 6144 ft. GL 6130 (ungrd)

SPUD DATE 7/11/90

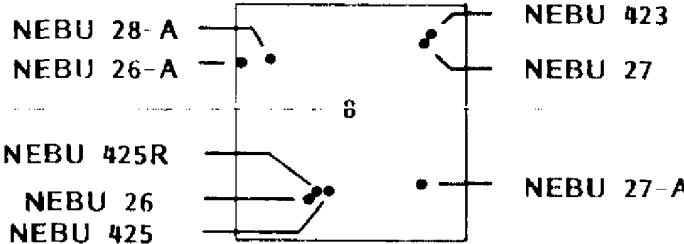
INTERVAL LOGGED 2808 - 3050 ft.

DATE LOGGED 7/11/90

LOGGING GEOLOGISTS Randy Laney, Mike Mixer

INSTRUMENTATION FID Chromatograph and Total Gas Detector, Infrared CO₂ Detector

WELL LOCATION



LEGEND - GAS CURVES

TOTAL GAS	1
METHANE	1
ETHANE	2
PROPANE	3
ISO & N-BUTANE	4
OIL INDICATOR $\frac{C_2 + C_3}{C_1}$	5

HYDROCARBON ANALYSIS

TOTAL GAS			Reported in Units	
10	100	1000	10	100
GAS CHROMATOGRAPHY			Reported in PPM	
100	1000	10000	100	1000
OIL INDICATOR			Dimension Less	
0.01	0.1	1.0	0.01	0.1

Visual Show
GFPT

Lithology Interp

Lithology Descriptions and Remarks

RATE OF PENETRATION

Min. Ft.

STC F2 6 1/4"
3-24's

2.5 5 7.5 10

open hole- 2809-13'

WOB 8-10
RPM 80
PP 600

circ. out

TD 3050 ft.

DEPTH
CORE
DS
DST

LITHOLOGY
OBSERVED
%

7" casing set at 2808 ft.

100 units Total Gas = 1% methane

10	100	1000 units
100	1000	10,000 ppm

total 500 units
C₁ 19,500 ppm
C₂ 290 ppm
C₃ 100 ppm

total 516 units
C₁ 27,250 ppm
total 1,172 units
C₁ 63,050 ppm

total 344 units
C₁ 22,620 ppm

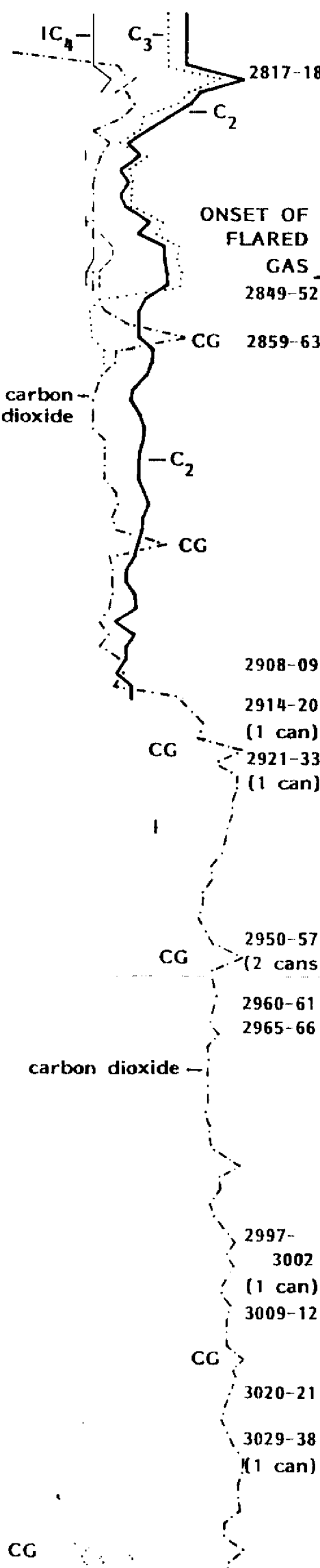
total 609 units
C₁ 32,870 ppm

total 672 units
C₁ 42,930 ppm

5 ft. sample interval
Drilling with fresh water

Depth of Coal Intervals
(# of canistered samples)

heavies	100	1000 ppm
CO ₂	1000	10,000 ppm



Sh lt-med gy,lt-med
brn,ngy,platy-sub
blocky,mod soft,earthy
-sub res,non-mod carb,
intbd w/ sub vit,black
coal lenses
Siltst med gy-med brn,
sub blocky,firm,sli
calc,non carb,sandy
in part
Coal black,bronze blk
sub blocky,pred sub
vit-res w/ very thin
vit lam,brn-trnsl calc
fract cleat filling,gen
poor quality,intbd w/
dk blk brn,sub blocky
carb Sh
Siltst med gy,blocky,
sli calc,non carb,int-
bd w/ gy brn vf gr Ss
Ss lt brn-gy brn,vf-
some t gr,poor srt,sub
ang,frs,calc cmt,some
carb grs,tr chlorite,
intbd w/ Siltst aa,NS
Coal black,good blk
texture w/ conch frac
& cleat development,
60-70% vit at top,40-
50% vit to base,vit
part occurs as coarse
to fine bands,becomes
more carb to base,gy-
trnsl sec calc in frac
& cleats,tr resin,tr
cedar fiber-source (?)
NEBU 26 -150' distant
good-v good qual. coal
Coal black,blocky-sub
blkly w/ conch frac,
more coarsely vit than
above (50-60%),little
carb,tr sec calc,good
quality coal
Siltst med brn,blocky,
firm,mod carb,sli calc
intbd w/ Ss- med-dk
brn gy,vf-l gr,sub ang
-sub rd,poor-fr srt,
frs,mod calc,dissem
carb grs-coaly lam,NS
Coal black,good blk
text w/ conch frac &
good cleat development
75% coarse-massive vit
v little carb,fair amt
sec calc,some resin-
cuticles,v good qual.
Coal black,excellent
blocky texture w/ very
good cleat development
& conch frac,80-90%
massive vitreous coal,
much less sec calc
than above,excellent
quality-best of well
T/ Main P.C. 3048'
Td sample- Ss med gy
S&P,l gr,sub ang-sub
rd,pred frs qtz w/
some clr,mod w srt,
glau & carb grs,NF,NO