

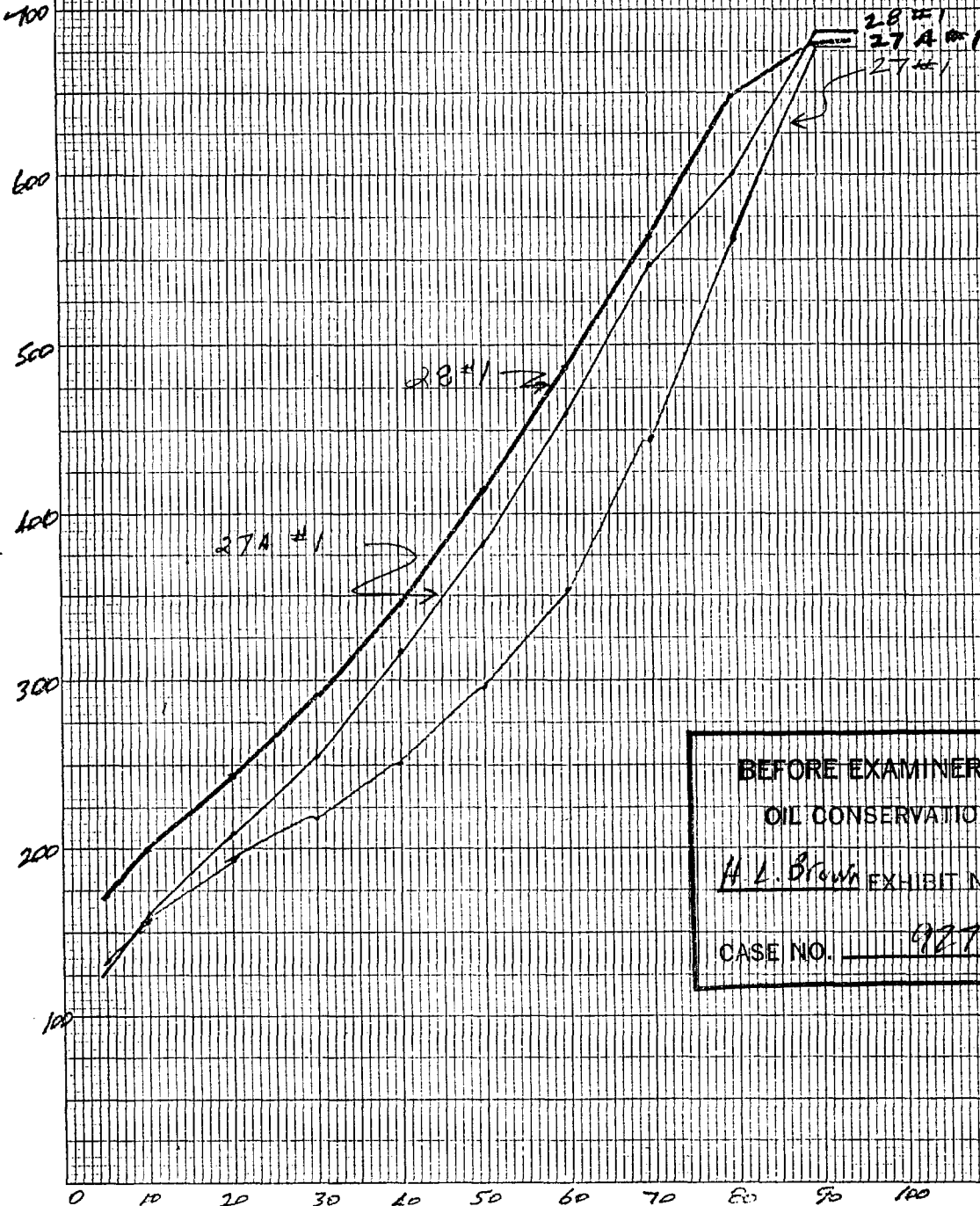
46 1320

K&E 10 X 10 TO 1/4 INCH 7 X 10 INCHES
KEUFFEL & ESSER CO. MADE IN U.S.A.

TEMP OF

ASTM DISTILLATION

	API GRAV	Gasoline	NAPHTHA	VEROSERE	FUEL OIL	COLOR	Gas GRAV	CU
27 #1	54.1	65.0	6.5	5.0	15.5	REDDISH GREEN WEATHERING TO LT GREEN	.770	1136
27 A #1	46.2	47.5	8.5	8.5	29.0	LT GREEN	.848	1266
28 #1	51.6	52.5	7.5	7.5	27.5	LT GREEN	.797	1216



BEFORE EXAMINER CATANACH
OIL CONSERVATION DIVISION
H. L. Brown EXHIBIT NO. 11
CASE NO. 9270

Bell PETROLEUM LABORATORIES

NF

P. O. BOX 2988

Midland, Texas 79702

PHONE 563-2628 - 694-6712

OIL ANALYSIS REPORT

TO Dickey Laboratories
2700 Garden City Highway
Midland, Texas 79705

DATE March 16, 1988
DATE REC'D. March 11, 1988
SAMPLE NO. 18872
COMPANY NO. _____

Sample Designation ASTM Distillation, API Gravity, BS&W, and Total Sulfur
Source Federal 27 COM #1

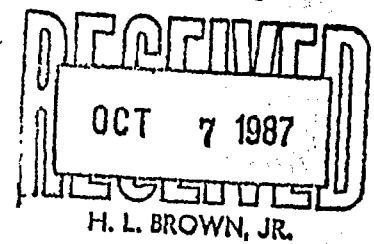
RESULTS OF ANALYSIS	
ASTM - Distillation	°API Gravity @ 60° F: <u>54.1</u>
Barometric Pressure, mm Hg: <u>686</u>	Viscosity @ ____ ° F: ____ cp ____ cs ____ S.U.S.
Temperature, °F: <u>98</u>	Viscosity @ ____ ° F: ____ cp ____ cs ____ S.U.S.
Initial Boiling Point: _____	Total Sulfur (Lamp) Weight %: <u>.10</u>
Vol. % Recovered	(Bomb) Weight %: _____
<u>5</u> <u>133</u>	Reid Vapor Pressure, Lbs: _____
<u>10</u> <u>157</u>	Flash Point _____ °F:
<u>20.5</u> <u>193</u>	Fire Point _____ °F:
<u>30</u> <u>219</u>	Pour Point _____ °F
<u>40</u> <u>251</u>	Basic Sediments and Water, %: <u><.1</u>
<u>50</u> <u>297</u>	Neutralization Number, mgKOH/gm: _____
<u>60</u> <u>354</u>	
<u>70</u> <u>446</u>	
<u>80</u> <u>563</u>	
<u>90</u> <u>677</u>	
<u>92</u> <u>677</u>	
% Residue <u>4.0</u>	
% Loss <u>4.0</u>	
% Total Recovery: <u>100.0</u>	
Fractions Vol. % <u>8.0</u>	
Gasoline <u>65.0</u>	
Naphtha <u>6.5</u>	
Kerosene <u>5.0</u>	
Fuel Oil <u>15.5</u>	
Total <u>100.0</u>	

Remarks:

Copies To: _____

James L. Barnett
ANALYSIS BY:

NEW-TEX LAB
P.O. Box 1161
Hoobs, New Mexico 88240



ANALYSIS CERTIFICATE

CLIENT: H L BROWN JR.,
ADDRESS: P O BOX 2237
CITY, STATE: MIDLAND, TX 79702

ANALYSIS NUMBER: 1733
DATE OF RUN: 10 05 87
DATE SECURED: 10 05 87

SAMPLE IDENT: FEDERAL 27 #1
SAMPLING PRESS:

SAMPLING TEMP:

PERFS: 8845' - 8892'

0 H2S DETECTED

2 1/2 51 @ 60°f

***** GAS ANALYSIS *****

	MOLE PERCENT	GAL/ MCF
NITROGEN	5.895	
CARBON DIOXIDE	2.648	
METHANE	73.053	
ETHANE	8.955	2.388
PROPANE	5.580	1.532
ISO-BUTANE	0.707	0.231
NORMAL BUTANE	1.956	0.615
ISO-PENTANE	0.405	0.149
NORMAL PENTANE	0.477	0.172
HEXANES	0.324	0.133
TOTAL	100.000	5.220

PROPANE GPM:	1.53	BUTANES GPM:	0.85
ETHANE GPM:	2.39	PENTANES PLUS GPM:	0.45

SPECIFIC GRAV (CALC): 0.7653
MOLE WEIGHT: 22.16

HHV-BTU/CU FT	PRESSURE (PSIA)	WET	DRY
14.696		1154	1175
14.650		1151	1171
14.730		1157	1177
14.735		1157	1178

ANALYZED BY:

DEANE SIMPSON

APPROVED BY:

Deane Simpson

Bell PETROLEUM LABORATORIES

P. O. BOX 2988

Midland, Texas 79702

PHONE 563-2628 - 694-6712

OIL ANALYSIS REPORT

TO Dickey Analytical Laboratories
2700 Garden City Highway
Midland, Texas 79705

DATE March 16, 1988
DATE REC'D. March 11, 1988
SAMPLE NO. 18873
COMPANY NO. _____

Sample Designation ASTM Distillation, API Gravity, BS&W, Total Sulfur
Source Federal 28 COM #1

RESULTS OF ANALYSIS

ASTM - Distillation
Barometric Pressure, mm Hg: 686
Temperature, °F: 86
Initial Boiling Point: 86
Vol. % Recovered

5	<u>128</u>
10	<u>162</u>
20	<u>210</u>
30	<u>255</u>
40	<u>317</u>
50	<u>382</u>
60	<u>460</u>
70	<u>547</u>
80	<u>600</u>
90	<u>686</u>

% Residue 5.0
% Loss 5.0
% Total Recovery: 100.0

Fractions Vol. % 10.0

Gasoline	<u>52.5</u>
Naphtha	<u>7.5</u>
Kerosene	<u>7.5</u>
Fuel Oil	<u>22.5</u>
Total	<u>100.0</u>

°API Gravity @ 60° F: 51.6

Viscosity @ _____ ° F: _____ cp _____ cs _____ S.U.S.
Viscosity @ _____ ° F: _____ cp _____ cs _____ S.U.S.

Total Sulfur (Lamp) Weight %: 0.16
(Bomb) Weight %: _____

Reid Vapor Pressure, Lbs: _____

Flash Point _____ °F:
Fire Point _____ °F:

Pour Point _____ °F

Basic Sediments and Water, %: 5.1

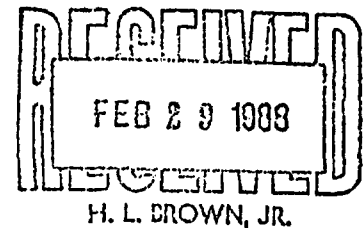
Neutralization Number, mgKOH/gm: _____

Remarks: _____

Copies To: _____

James L. Barnett
ANALYSIS BY:

NEW-TEX LAB
P.O. Box 1161
Hobbs, New Mexico 88240



ANALYSIS CERTIFICATE

CLIENT: H L BROWN JR.,
ADDRESS: BOX 2337
CITY, STATE: MIDLAND, TX 79702

ANALYSIS NUMBER: 1941
DATE OF RUN: 02 25 88
DATE SECURED: 02 24 88

SAMPLE IDENT: FEDERAL 28 COMM #1
SAMPLING PRESS: SAMPLING TEMP:

Perfs 8812'-8910'

***** GAS ANALYSIS *****

	MOLE PERCENT	GAL/ MCF
NITROGEN	4.088	
CARBON DIOXIDE	3.768	
METHANE	68.759	
ETHANE	11.558	3.083
PROPANE	7.742	2.125
ISO-BUTANE	0.891	0.291
NORMAL BUTANE	2.140	0.673
ISO-PENTANE	0.401	0.148
NORMAL PENTANE	0.456	0.165
HEXANES	0.197	0.081
TOTAL	100.000	6.566

PROPANE GPM:	2.12	BUTANES GPM:	0.96
ETHANE GPM:	3.08	PENTANES PLUS GPM:	0.39

SPECIFIC GRAV (CALC): 0.8038
MOLE WEIGHT: 23.28

HHV-BTU/CU FT	PRESSURE (PSIA)	WET	DRY
14.696		1215	1237
14.650		1211	1233
14.730		1218	1239
14.735		1218	1240

ANALYZED BY:

DEANE SIMPSON

APPROVED BY:

Bell PETROLEUM LABORATORIES

P. O. BOX 2988

Midland, Texas 79702

PHONE 583-2628 - 694-6712

OIL ANALYSIS REPORT

TO Southwestern Industrial LabsP. O. Box 10108Lubbock, Texas 79408DATE 9/29/88DATE REC'D. 9/28/88SAMPLE NO. 19095

COMPANY NO. _____

Sample Designation ASTM Distillation, API Gravity, B. S. & W. and Total Sulfur
Source FED 27-A #1

RESULTS OF ANALYSIS

ASTM - Distillation	
Barometric Pressure, mm Hg:	<u>696</u>
Initial Boiling Point:	Temperature, °F. <u>112</u>
Vol. % Recovered	
5	<u>171</u>
10	<u>199</u>
20	<u>245</u>
30	<u>291</u>
40	<u>345</u>
50	<u>415</u>
60	<u>488</u>
70	<u>564</u>
80	<u>648</u>
90	<u>679</u>
93.5	<u>679</u>
% Residue	<u>4.0</u>
% Loss	<u>2.5</u>
% Total Recovery:	<u>100.0</u>

Fractions Vol. %	<u>6.5</u>
Gasoline	<u>47.5</u>
Naphtha	<u>8.5</u>
Kerosene	<u>8.5</u>
Fuel Oil	<u>29.0</u>
Total	<u>100.0</u>

°API Gravity @ 60° F: 46.2

Viscosity @ _____ ° F: _____ cp _____ cs _____ S.U.S.

Viscosity @ _____ ° F: _____ cp _____ cs _____ S.U.S.

Total Sulfur (Lamp) Weight %: 0.21
(Bomb) Weight %: _____

Reid Vapor Pressure, Lbs: _____

Flash Point _____ °F:

Fire Point _____ °F:

Pour Point _____ °F

Basic Sediments and Water, %: 0.1

Neutralization Number, mgKOH/gm: _____

Remarks: _____

Copies To: _____

Jim Bennett
ANALYSIS BY:

[ENRON]
GAS PIPELINE GROUP
(TRANSWESTERN)

GAS QUALITY TEST REPORT

PRODUCER H L BROWN STATION NO. -
FIELD BLUITT EFFECTIVE DATE 9-21-88
RESERVOIR ~~WOLF CAMP~~ *Devonian* LAB NUMBER 7
STATION NAME FEDERAL 27 'A' COM #1

COMPONENTS	SPECIFIC GRAVITY	MOLE FRACTION	LIQUEFIABLE HYDROCARBONS	COMPONENT GPM	GPM CONTENT
NITROGEN	.9672	.0654	PROPANE	27.514	2.0333
CARBON DIOXIDE	1.5195	.0385	ISOBUTANE	32.698	.3433
HELIUM	.1382		N-BUTANE	31.510	.8382
OXYGEN	1.1048	.0000	LPG		3.2148
HYDROGEN SULFIDE	1.1766	.0000	ISOPENTANE	36.582	.2158
WATER VAPOR	.6220	.0000	N-PENTANE	36.213	.3042
			HEXANES +	43.619	.3446
METHANE	.5539	.6539	NATURAL GASOLINE		.8646
ETHANE	1.0382	.1090			
PROPANE	1.5225	.0739	TOTAL LIQUEFIABLE GPM		4.0794
ISOBUTANE	2.0068	.0105			
N-BUTANE	2.0068	.0266	WATER VAPOR CONTENT:		
ISOPENTANE	2.4911	.0059	GAS MIXTURE STATIC PSIG		80
N-PENTANE	2.4911	.0084	FLOWING GAS TEMP (F)		83
HEXANES +	3.1630	.0079	WATER VAPOR DEW POINT (F)		47
COMPOSITION-----		1.0000	LBS WATER VAPOR / MMCF		83
			INSTRUMENT TYPE		RAN
			MOL FRACTION		.0017
MIXTURE SPECIFIC GRAVITY			SULFUR CONTENT (GR. PER 100 CF)		
CALC. FROM ANAL. (REAL)		0.848	HYDROGEN SULFIDE		0.00
DETERMINED BY TEST INST.		0.850	MERCAPTANS		0.00
			SULFIDES		0.00
MIXTURE HEATING VALUE (REAL)			RESIDUALS		0.00
(BTU/CF @ 14.73 PSIA, 60F, SAT.)			TOTAL SULFUR		0.00
SATURATED VALUE		1245	MOL FRACT H2S		.0000
DRY VALUE		1266			
AS DELIVERED VALUE		1264	COMPRESSIBILITY (Z)		.9959

SP. GR. DEVIATION ALLOWED FOR WATER VAPOR: .004
PR: 13:12 SEP 21, 1988

ANALYST

J M Applegate

[TW]

J M APPLEGATE

REMARKS: REQUESTED SAMPLE-TO GO INTO #19091-01
** GIVE A COPY OF THIS ANALYSIS TO THE CORROSION DEPARTMENT

SUPERIOR Refining, PA. Cat. No. 2-2887 (head) Cat. No. 2-2888 (box of 10 pads)