

APPLICATION FOR DISCOVERY ALLOWABLE AND CREATION OF A NEW POOL

NOTE: This form is to be filed and attachments made in accordance with the provisions of Rule 309.
If discovery is claimed for more than one zone, separate forms must be filed for each.

Applicant Cities Service Oil and Gas Corporation		Address P.O. Box 1919 - Midland, Texas 79702	
File Name Federal AA		Well No. 1	County Lea
Location Unit Letter <u>B</u> : <u>990</u> Feet from The <u>North</u> Line and <u>1980</u> Feet From the <u>East</u> Line of Section <u>9</u> , Township <u>18S</u> , Range <u>33E</u> , NMPM			
Suggested Pool Names (List in order of preference) <u>Pen Place</u> <u>Quarry</u> <u>Pipeline</u>			
Name of Producing Formation <u>Queen</u>		Perforations <u>4428 thru 4438'</u>	Date of Filing Form C-104 <u>April 1, 1985</u>
Is "Affidavit of Discovery" Previously Filed <u>No</u>		If Yes, Give Date of Filing	Date Well was Spudded <u>10-31-84</u>
			Date Compl. Ready to Prod. <u>3-30-85</u>
Well Depth <u>13,825'</u>	Plugged Back Depth <u>4850'</u>	Depth Casing Shoe <u>13,825'</u>	Tubing Depth <u>4140'</u>
		Elevation (Gr., DF, RKB, RT, etc.) <u>3966'</u>	
Well Potential (Test to be taken only after oil load oil has been recovered) <u>482</u> Bbls. Oil Per Day Based On <u>271</u> Bbls In <u>13-1/2</u> Hours; <u>-0-</u> Bbls Water Per Day Based On <u>-0-</u> Bbls			
In <u>13-1/2</u> Hours; Gas Production During Test: <u>30</u> MCF; Gas-Oil Ratio: <u>110</u> Method Of Producing: <u>Flowing</u> Chk. Size: <u>1"</u>			
NEAREST PRODUCTION TO THIS DISCOVERY (Includes past and present oil or gas producing areas and zones whether this discovery is based on horizontal or vertical separation):			
Pool Name <u>Corbin</u>	Name of Producing Formation <u>Yates</u>	Top of Pay <u>3435'</u>	Bottom of Pay <u>3488'</u>
Horizontal Distance and Direction from Subject Discovery Well to the Nearest Well in this Pool <u>2250'</u>		Currently Producing? <u>Yes</u>	
		Vertical Distance from Subject Discovery Zone to Producing Interval this Pool <u>991'</u>	

NEAREST COMPARABLE PRODUCTION (Includes past and present oil or gas production from this pay or formation only):

Pool Name <u>Corbin</u>	Top of Pay <u>4274'</u>	Bottom of Pay <u>4285'</u>	Currently Producing? <u>No</u>
Horizontal Distance and Direction from Subject Discovery Well to the Nearest Well in this Comparable Pool <u>2700' to the southwest</u>			

Is "County Deep" Discovery Allowable Requested for Subject Discovery Well? <u>No</u>	If Yes, Give Name, Location, and Depth of Next Deepest Oil Production in this County
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Is the Subject Well Multiple Completion? <u>No</u>	Is Discovery Allowable Requested for other Zone(s)? <u>No</u>	If Yes, Name all Such Formations
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LIST ALL OPERATORS OWNING LEASES WITHIN ONE MILE OF THIS WELL (Attach additional sheet if necessary)

NAME	ADDRESS
<u>Conoco</u>	<u>Briarcroft Savings Center 7th Floor</u> <u>200 N. Loraine, Midland, Texas</u>
<u>Mobil (Superior)</u>	<u>Box 633, Midland, Texas 79702</u>
<u>L. R. Sutton</u>	<u>P.O. Box 54, Meljamar, New Mexico 88264</u>
<u>Delta Drilling</u>	<u>3100 North "A", Midland, Texas 79705</u>
<u>Cal-Mon</u>	<u>P.O. Box 2066, Midland, Texas 79702</u>
<u>Southland Royalty Co.</u>	<u>21 Desta Drive, Midland, Texas 79705</u>

Attach evidence that all of the above operators have been furnished a copy of this application. Any of said operators who intends to object to the designation of the subject well as a discovery well, eligible to receive a discovery allowable, must notify the appropriate District Office and the Santa Fe Office of the Division of such intent in writing within ten days after receiving a copy of this application.

Remarks	CERTIFICATION I hereby certify that all rules and regulations of the New Mexico Oil Conservation Division have been complied with, with respect to the subject well, and that it is my opinion that a bona fide discovery of a hitherto unknown common source of oil supply has been made in said well. I further certify that the discovery allowable for the subject well, if authorized, will be produced from the subject zone in this well only. Further, that the information given herein and attached hereto is true and complete to the best of my knowledge and belief. <u>Cities Service</u> <u>8624</u>
Signature	

Position

Date

NA	79.646
CA	3.347
MC	2.644
BOY	1.674
FL	TRACE
M28	9
MCO3	182
RESISTIVITY	0.84 @ 78 DEG F

CMIC GIBSON; DAILY COST \$ 1.245; CUM COST \$ 1.364.642;

3/24/85 PR OPNS: SD FOR SUNDAY;
FORM: QUEEN;
MD 13.825; PSTD 4.850; MTD 13.825; PERFS(MD) 4.228;
- 4.238; CASING 5.5; @ 13.825;
ACTIVITY DETAIL:
14 HR SITP 1888. BLEED OFF IMMEDIATELY. RAN SWAB. FL @ 2788".
SWAB 6 BO & 2 BU/15WAB RUN W/SLIGHT SHOW GAS. RU CARDINAL
SURVEYS. RAN SR & TEMP BASE LOGS 4660-4880". RD CARDINAL.
RELEASE RTTS & RIN TO 4264". SPOT 188 GAL 28X NEFE SPEARHEAD
ACID 4264-4164". RESET RTTS @ 4148". REVERSE CSG INTO TBC
USING 5 BBLs WTR. PORESS CSG TO 2888-OK. RU WESTERN CO.
PRESS TBC & FORM BROKE @ 21588. DISPLACE ACID AWAY @ 2
BPM @ 28008. AZ W/ADD'L 2488 GAL 15X NEFE NCL W/CLAY STABI-
LIZERS W/50 BALL DIVERTERS. BALLED OUT @ 39888. BURGED BALLS
OFF PERFS & FINISH FLUSH W/2X KCL FRESH WATER. ACID WAS
FLAGGED W/RA MATERIAL. MAX PRESS 38888. MIN PRESS 18888.
ATP 21888. AIR 5.8 BPM. ISIP 12888. ON VAC IN 6 MIN. TLAT 88
BBLs. RD WESTERN CO & RU CARDINAL SURVEYS. RAN SR-TEMP LOG.
POS CHANNEL DOWN TO 4248" & UP TO 4184". MOST RA MATERIAL
CONCENTRATED IN PERFS INTERVAL. RD CARDINAL & RU SWAB. FL @
688". SWAB DOWN TO PKR @ 4148"/2 HRS THEN MADE 1 SWAB RHNS/HR W/788"
FLUID ENTRY/HR. REC TR OIL @ 24 BLW/3 HRS. 54 BLWTR. SION
@ FOR SUNDAY.
CMIC GIBSON; DAILY COST \$ 8.198; CUM COST \$ 1.372.840;

3/25/85 PR OPNS: SWABBING;
FORM: QUEEN;
MD 13.825; PSTD 4.850; MTD 13.825; PERFS(MD) 4.228;
- 4.238; CASING 5.5; @ 13.825;
ACTIVITY DETAIL:
SHUT DOWN LAST 24 HRS FOR SUNDAY.
CUM COST \$ 1.372.340;

3/26/85 PR OPNS: SWABBING;
FORM: QUEEN;
MD 13.825; PSTD 4.850; MTD 13.825; PERFS(MD) 4.228;
- 4.238; CASING 5.5; @ 13.825;
ACTIVITY DETAIL:
SITP 508. BLEED OFF TO PIT. RAN SWAB. FL @ 1050". SWAB
DOWN TO PKR @ 4148"/2 HRS. THEN MADE 2 SWAB RUN/HR FOR 8
HRS W/200" FLUID ENTRY/HR. RECOVERED 3 BO @ 27 BLW/10 HRS.
48 BLWTR. SION.
CMIC NICHOLS; DAILY COST \$ 1.447; CUM COST \$ 1.374.287;

3/27/85 PR OPNS: RU TO FRAC;
FORM: QUEEN;
MD 13.825; PSTD 4.850; MTD 13.825; PERFS(MD) 4.228;
- 4.238; CASING 5.5; @ 13.825;
ACTIVITY DETAIL:
SITP 208. RAN SWAB. FL @ 2380". SWAB DOWN TO PKR @ 4148"
IN 2 HRS THEN MADE 1 SWAB RUN/HR FFOR 8 HRS W/200" FLUID
ENTRY/HR. RECOVERED 1 BO @ 16 BLW/10 HRS. 24 BLWTR. SION.
CMIC GIBSON; DAILY COST \$ 1.447; CUM COST \$ 1.375.734;

3/28/85 PR OPNS: FLOWING BACK TREATMENT;
FORM: QUEEN;
MD 13.825; PSTD 4.850; MTD 13.825; PERFS(MD) 4.228;
- 4.238; CASING 5.5; @ 13.825;
ACTIVITY DETAIL:
SITP 208. BLEED OFF TO PIT. RELEASE RTTS & POOH. RIN W/NEU
RTTS ON 134 JTS 2-7/8" EUE TBC - TESTED TBC GIN TO 50008 -NO
LEAKS. SET RTTS @ 4148". RAN SWAB. SWAB WELL DRY RECOVER-
ING 25 BU. RU DOWELL-SCHLUMBERGER. PRESS CSG TO 28888-HELD
OK. FRAC QUEEN SD PERFS 4228-4238" W/28,000 GAL STRATA FRAC
II (95X KCL WTR & 5X DIESEL). 48,888 OF 12/20 SAND IN ONE
STAGE DOWN TBC AS FOLLOWS:
PUMP 7000 GAL STRATA FRAC II PAD 16 BPM @ 33708
PUMP 2000 GAL STRATA FRAC II W/2"/GAL 12/20 SD @ 25 BPM @ 3460 PSI
PUMP 3000 GAL STRATA-FRAC II W/2"/GAL 12/20 SD @ 15 BPM @ 3570 PSI
PUMP 4000 GAL STRATA FRAC II W/48/GAL 12/20 SD @ 15 BPM @ 3690 PSI
PUMP 4000 GAL STRATA FRAC II W/68/GAL 23.20 SD @ 15 BPM @ 3600 PSI
BROKE BACK TO 3070 PSI
FLUSHED W/26 BBLs 2X KCL WTR. MAX PRESS 37008. IN PRESS 34888.
ATP 35008. AIR 15 BPM. ISIP 21008. 5 MIN SIP 19508. 10 MIN SIP
19008. 15 MIN 18188. TLAT 506 BBLs. SION TO LET GEL BREAK.
CMIC NICHOLS; DAILY COST \$ 14.842; CUM COST \$ 1.398.576;

3/29/85 PR OPNS: SWABBING;
FORM: QUEEN;
MD 13.825; PSTD 4.850; MTD 13.825; PERFS(MD) 4.228;
- 4.238; CASING 5.5; @ 13.825;

APRIL 8, 1985

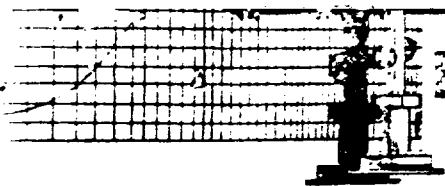
ENGINEER WELL REPORT
SOUTHWEST REGION

ESMHR14198

ACTIVITY DETAIL:
BITP 08. RAN SWAB. IFL @ 1650'. BARRED 321 DO @ 8 BU/22
MRS. SWABBING FL 1650'. SWABBING FROM PKR @ 4148'. OIL
GRAVITY 31.9 DEG @ 80 DEG F. VHEIFED TANK @ BTM & MIDDLE.
NO WATER. GOOD SHOW GAS. SIGN. 806 BLVR.
OMIC NICHOLS;

3/30/85 PR OPNS: TESTING,
FORM: QUEEN,
MD 13.825, PSTD 4.850, MYD 13.825, PERFS(MD) 4.828,
- 4.838, CASING 5.5, @ 13.825,
ACTIVITY DETAIL:
14 HR BITP 2888. FLOWED 5 DO @ NO UTR/1 MRS @ WELL DIED.
BU SWAB. IFL 1650'. SWAB 83 DO @ NO UTR/4 MRS. SWAB
FROM 2888'. RAN SWAB TO PKR @ 4148'. WELL NO FLOWING.
FLUD 117 DO @ NO UTR/5 MRS. FTP 400. NO CK. TOTAL RECOVERY
FOR DAY 205 DO @ NO UTR/20 MRS. BU TEST SEPARATOR. PUT
WELL ON POTENTIAL TEST.
OMIC NICHOLS; DAILY COST @ 2.312, CUM COST @ 1.304.898;

3/31/85 PR OPNS: WELL COMPLETE,
FORM: QUEEN,
MD 13.825, PSTD 4.850, MYD 13.825, PERFS(MD) 4.828,
- 4.838, CASING 5.5, @ 13.825,
ACTIVITY DETAIL:
ON MNOC POTENTIAL TEST FLUD 271 BBL OF 31.9 DEG API 87Y
OIL @ 80 DEG F @ 8 BU/13.5 MRS. 1" CK. FTP 300. GAS RATE
53 MCFD. BOR 110. RATED 24 HR POTENTIAL IS 482 BOPD. CDA
80 BOPD.
DRILL 13825' TEST WELL IN THE CARDINAL PROSPECT. CORDIN
QUEEN FIEDL. LEA COUNTY. NEW MEXICO. CSC: 100%.
FINAL REPORT
OMIC NICHOLS; DAILY COST @ 810, CUM COST @ 1.305.920;



TEFTELLER, INC.

reservoir engineering data

MIDLAND, TEXAS / FARMINGTON, NEW MEXICO

GRAND JUNCTION, COLORADO

P. O. Box 5247

Midland, Texas 79704

(915) 682-5574

April 9, 1985

Cities Service Oil & Gas Corporation
Claydesta National Bank
Box 1919
Midland, Texas 79702

Attention: Mr. Thomas B. Huzzey

Subject: Bottom Hole Pressure Measurement
Federal "AA" No. 1
Corbin Queens Field
Lea County, New Mexico
Our File No. 3-16809-P

Gentlemen:

Attached hereto are the results of a bottom hole pressure measurement which was obtained on the above captioned well April 8, 1985.

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.

D. A. Warren, Jr.

D. A. Warren, Jr.
Operations Manager

DAWjr/lw

Serving the Permian Basin & Rocky Mountain Area



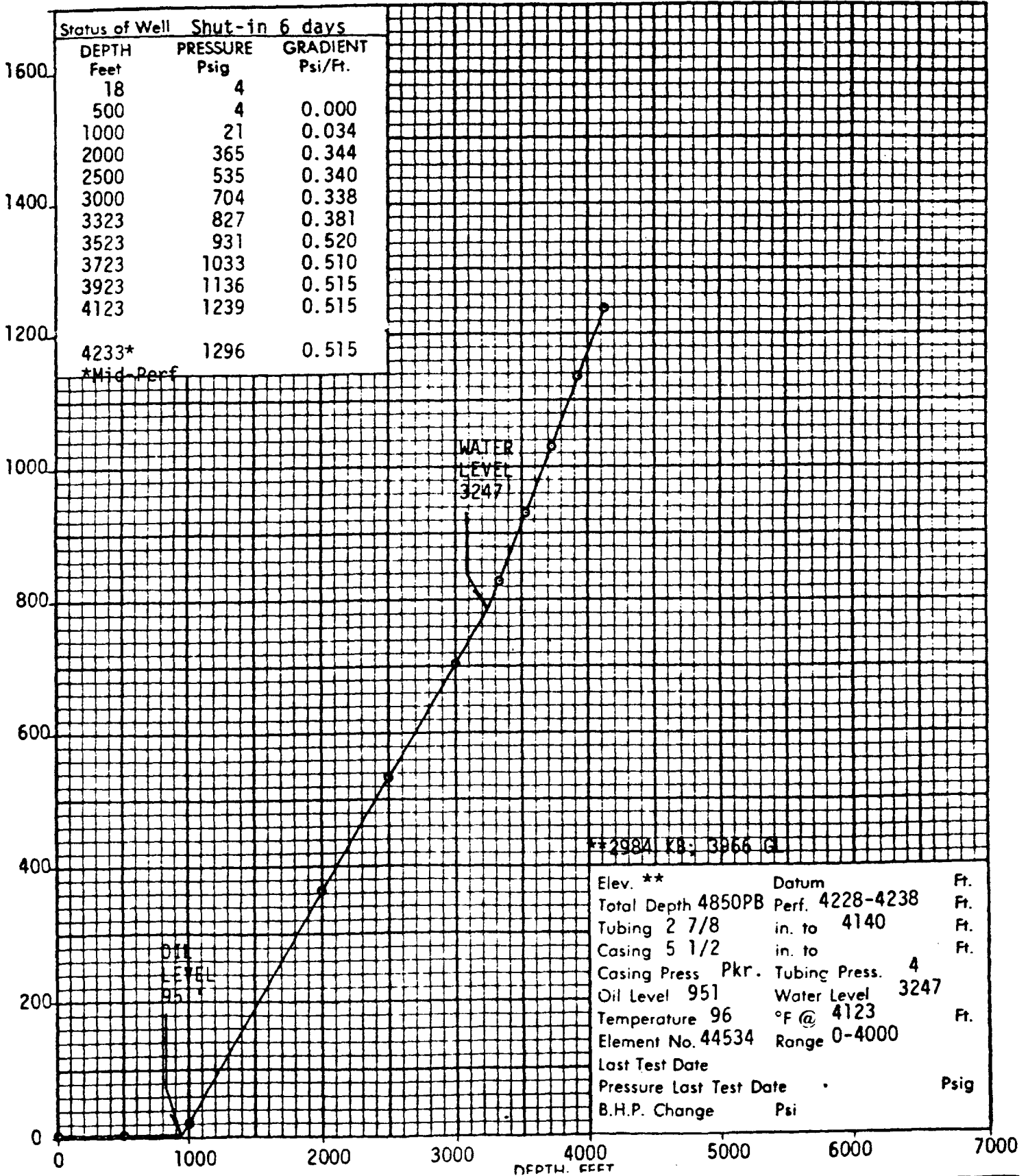
Page 1 of 1
File 3-16809-P

Company CITIES SERVICE OIL & GAS CORP. Lease FEDERAL "AA" Well No. 1
Field CORBIN QUEENS County LEA State NEW MEXICO
Formation CORBIN QUEEN Test Date APRIL 8, 1985

Status of Well Shut-in 6 days

DEPTH Feet	PRESSURE Psig	GRADIENT Psi/Ft.
18	4	
500	4	0.000
1000	21	0.034
2000	365	0.344
2500	535	0.340
3000	704	0.338
3323	827	0.381
3523	931	0.520
3723	1033	0.510
3923	1136	0.515
4123	1239	0.515
4233*	1296	0.515

*Mid-Perf



**2984 KB; 3966 GL

Elev. ** Datum
Total Depth 4850PB Perf. 4228-4238 Ft.
Tubing 2 7/8 in. to 4140 Ft.
Casing 5 1/2 in. to Ft.
Casing Press Pkr. Tubing Press. 4
Oil Level 95 Water Level 3247
Temperature 96 °F @ 4123 Ft.
Element No. 44534 Range 0-4000
Last Test Date
Pressure Last Test Date
B.H.P. Change Psi

Federal AA No. 1 Gas Analysis

Sample Date: 3/29/85

	<u>Mol %</u>	<u>gals/MCF</u>	<u>GPM</u>
Nitrogen	5.326		
CO ₂	0.130		
Methane	48.538		
Ethane	20.304	5.415	5.410
Propane	16.829	4.620	4.620
Iso-Butane	2.176	0.710	} 2.10
Normal-Butane	4.409	1.386	
Iso-Pentane	0.885	0.326	} 0.87
Normal Pentane	0.669	0.242	
Hexane	0.734	0.301	
	<u>100.00%</u>	<u>13.006</u>	

Specific Gravity (calc): 0.9829

Mol Wt: 28.46

No H₂S reported because sample was brought in in steel container

**CITIES SERVICE OIL AND GAS CORPORATION
DAILY DRILLING REPORT**

WELL NAME/NO: FEDERAL-AA #1 OPERATOR: C.S. OIL & GAS CORP. DATE: 3-28-85
 I. TODAY'S STATUS FLAG: _____ IV. DRILL STRING & CSG DATA
 SZ. & DPT LST CSG: 5.5" @ 13,825'
 CSG LNR SZ _____ @ _____
 DAYS SINCE SPUD _____ DOL _____ TVD _____
 DEPTH TODAY 13,825 MD _____ TVD _____
 DEPTH YESTERDAY 13,825 MD _____ TVD _____
 AMOUNT DRILLED _____ MD _____ TVD _____
 AT TOTAL DEPTH 13,825 MTD _____ VTD _____
 P.B.T.D. 4850 MD _____ TVD _____
 OA PERFS: (MD) 13669'-72', 13478'-87', 13529'-44'(PFA), 11334'-48'(PFA), 8760'-98', 8500'-28', 8146'-76',
 PRESENT OPRS: Flaring Leak Treatment 6667'-6724(PFA), 4944-68(PFA)
4228-4238
 FORMATION: Marathon, Woodford, Bone Springs, Pioneer Queen

VI. DIRECTIONAL & DEVIATION SURVEY (& 24 HR. DETAIL RIG ACTIVITY)

Previous 24 Hr. Activity Detail: _____

SITP 20# . Back off to pit.
Release RTTS and POOH. R/H w/new RTTS on
134 ft 2 7/8" EUE tubing - tested the G/H to
5000# - No leaks. Set RTTS at 4140'.
Ran mud. Swab well dry recording 25 BCU.
RU Donnell-Schlumberger. Pressure coming
to 2000# - held OK. Frac Queen Sl R/L
4228' - 4238' with 20,000 Gals Strata Frac II
(95% KCL Wt. & 5% Diesel), 48000# of 12/20
Sand in one stage down tubing as follows:
Pump 2000 Gals Strata-Frac II @ 16 BPM @ 3370#
↳ 2000 Gals Strata-Frac II w/ 1# gal 1 1/2" Sl at
15 BPM and 3460 psi.
Pump 3000 Gals Strata-Frac II w/ 2# gal 1 1/2" Sand
at 15 BPM and 3570 psi.
Pump 4000 Gals Strata-Frac II w/ 4# gal 1 1/2" Sand
at 15 BPM and 3690 psi.
Pump 4000 Gals Strata-Frac II w/ 6# gal 1 1/2" Sand
at 15 BPM and 3600 psi - broke back to 3070 psi.
Flushed with 26 bbls 2% KCL water. Max
Pressure 3700#, Min Press 3400#, ATP 3500#,
AIR 15 BPM. SIP 2100#, 5 min SIP 1950#, 10 min
SIP 1900#, 15 min 1810#. TLT 506 bbls. SION
to let Gal break.

VII. DRILG SUPT SUMMARY: POOH and Replaced Ph. R/H Testing Th. to 5000# - No leak
Frac Queen Sl w/ 20,000 Gals Strata-Frac II and 48000# 12/20
Sl. TLT 506 bbls. Sl for Gal to break.

VIII. TIME BRK DOWN	PROD RIG TIME	HRS.	FORM EVAL	HRS.	NON PROD	HRS.
DRILL _____	CMTG _____	NU & ND BOP _____	RUN TBG _____	RIG RPR _____	P&A _____	
TRIP _____	RUN CSG _____	TEST BOP _____	PU/LD BHA _____	TSTG _____	RIGUP _____	
C&M _____	CUT DL _____	PU/LD DP _____	RIG SVC _____	FSG _____		

XII. WELL COST DAILY: \$ 14,842 CUM \$ 1,390,576 AFE # 1,467,545
 XIII. PERSONNEL: CITCO 1 CONTR 4 SERVICE 5 OTHERS _____ CMIC: Nichols
\$1,050,594 @ RIG RELEASE