

Submit 3 Copies To Appropriate District Office  
District I  
1625 N. French Dr., Hobbs, NM 88240  
District II  
1301 W. Grand Ave., Artesia, NM 88210  
District III  
1000 Rio Brazos Rd., Aztec, NM 87410  
District IV  
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico  
Energy, Minerals and Natural Resources

Form C-103  
June 19, 2008

OIL CONSERVATION DIVISION  
1220 South St. Francis Dr.  
Santa Fe, NM 87505

<b>SUNDRY NOTICES AND REPORTS ON WELLS</b> (DO NOT USE THIS FORM FOR PROPOSALS TO DRILL OR TO DEEPEN OR PLUG BACK TO A DIFFERENT RESERVOIR. USE "APPLICATION FOR PERMIT" (FORM C-101) FOR SUCH PROPOSALS.)		WELL API NO. <b>30-045-24364</b>
1. Type of Well: Oil Well <input type="checkbox"/> Gas Well <input checked="" type="checkbox"/> Other		5. Indicate Type of Lease STATE <input type="checkbox"/> FEE <input checked="" type="checkbox"/>
2. Name of Operator <b>BP America Production Company</b>		6. State Oil & Gas Lease No.
3. Address of Operator <b>P.O. Box 3092 Houston, Tx 77253-3092</b>		7. Lease Name or Unit Agreement Name <b>Elliott Gas Com S</b>
4. Well Location Unit Letter <b>F</b> : <b>1830</b> feet from the <b>North</b> line and <b>1640</b> feet from the <b>West</b> line Section <b>33</b> Township <b>30N</b> Range <b>09W</b> NMPM <b>San Juan</b> County		8. Well Number <b>1E</b>
11. Elevation (Show whether DR, RKB, RT, GR, etc.) <b>5775'</b>		9. OGRID Number <b>000778</b>
		10. Pool name or Wildcat <b>Basin Dakota</b>

12. Check Appropriate Box to Indicate Nature of Notice, Report or Other Data

<b>NOTICE OF INTENTION TO:</b> PERFORM REMEDIAL WORK <input type="checkbox"/> PLUG AND ABANDON <input checked="" type="checkbox"/> TEMPORARILY ABANDON <input type="checkbox"/> CHANGE PLANS <input type="checkbox"/> PULL OR ALTER CASING <input type="checkbox"/> MULTIPLE COMPL <input type="checkbox"/> DOWNHOLE COMMINGLE <input type="checkbox"/> OTHER: <b>Repair Wellhead</b> <input checked="" type="checkbox"/>	<b>SUBSEQUENT REPORT OF:</b> REMEDIAL WORK <input type="checkbox"/> ALTERING CASING <input type="checkbox"/> COMMENCE DRILLING OPNS. <input type="checkbox"/> P AND A <input type="checkbox"/> CASING/CEMENT JOB <input type="checkbox"/> OTHER: <input type="checkbox"/>
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13. Describe proposed or completed operations. (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work).  
SEE RULE 1103. For Multiple Completions: Attach wellbore diagram of proposed completion or recompletion.

Reference RBDMS KGR0930727074

Please see attached procedure for wellhead repairs to resolve the intermediate annulus issue.

Also included are the requested documents: last 2 BH test reports; current wellbore schematic w/formation & cmt tops & method used to determine TOC & gas analysis from csg strings.

RCVD JAN 13 '10  
OIL CONS. DIV.  
DIST. 3

Should you have any questions please call Jesse Gracia @281-366-1946

Spud Date: 11/12/1980

Rig Release Date:

I hereby certify that the information above is true and complete to the best of my knowledge and belief.

SIGNATURE Cherry Hlava TITLE Regulatory Analyst DATE 01/11/2010

Type or print name Cherry Hlava E-mail address: hlavacl@bp.com PHONE: 281-366-4081  
For State Use Only

APPROVED BY: [Signature] TITLE Deputy Oil & Gas Inspector, District #3 DATE JAN 14 2010  
Conditions of Approval (if any):

Notify NMOCD 24 hrs  
prior to beginning  
operations



## BP - San Juan Wellwork Procedure

### Elliott GC S 1E Wellhead Repair (Version 1)

#### General Information:

<b>Formation:</b>	DK	<b>Job Objective:</b>	Replace Wellhead
<b>Project #:</b>		<b>Date:</b>	January 6, 2010
<b>Engineer:</b>	Jesse Gracia	<b>p. 281.366.1946</b>	<b>c. 713.828.0715</b>
<b>Production Contact:</b>	Sedrick Gurule	<b>p. 505.947.1588</b>	<b>c.</b>
<b>Optimizer:</b>	Allan Pillars	<b>p. 505.326.9248</b>	
<b>Backup Engineer:</b>	Amy Adkison	<b>p. 281.366.4495</b>	

#### Well Information:

<b>API Number:</b>	30-045-24364
<b>BP WI:</b>	75%
<b>Run #:</b>	32
<b>Surface Location:</b>	Sec. 33, T30N, R09W
<b>Meter Number:</b>	93548
<b>Well FLAC:</b>	842209-DK
<b>Cost Center:</b>	1000193136-DK
<b>Lease FLAC:</b>	290241-DK
<b>Restrictions:</b>	N/A
<b>Regulatory Agency:</b>	BLM & NMOCD
<b>Compressed (Y/N):</b>	N

#### Production Data:

<b>Tubing Pressure:</b>	100-150 psi
<b>Casing Pressure:</b>	200 psi
<b>Line Pressure:</b>	80 psi
<b>Pre-rig Gas Rate:</b>	20 MCFD – 100 MCFD
<b>Anticipated Uplift:</b>	0 MCFD
<b>Water Rate:</b>	1 BWPD
<b>CO2 (%):</b>	2.354
<b>H2S (PPM):</b>	N/A
<b>Gas BTU:</b>	1022
<b>Artificial Lift Type:</b>	Plunger (see details)

#### Basic Job Procedure:

1. POOH with 2 3/8" tubing.
2. Set barriers and replace casing and tubing spool on wellhead.
3. Run in hole with 2 3/8" tubing and land at +/- 6950'

#### Safety and Operational Details:

***ALL work shall comply with DWOP E&P Defined Operating Practice.***

The well has a history of producing paraffin.

Super seal plunger and equipment in well - Fish plunger and equipment, before setting plugs. Save paraffin samples if recovered on equipment and communicate to Allan Pillars to send to Greg Romalho for analysis.

#### Well History:

The Elliott GC S 1E was drilled and completed in the Dakota in 1981 by Amoco and was worked over in 2001 to cleanout 86' fill and replace tubing. Wireline repots in 2007 and 2008 indicated that this well produces paraffin. The master valve was replaced in 2008. This well has pressure communication between the casing and intermediate annuli and BP has received a letter from the NMOCD to fix that issue. Wellhead seals were pressure tested in 2009 by Donny Selman and failed. Donny injected Seal-Tight (or similar product) but that did not resolve the problem. Field Tech reported seeing seal-tight material in plunger lubricator the following day.

### **Standard Location Work:**

1. Perform pre-rig site inspection, size of location, gas taps, other wells, other operators, running equipment, wetlands, wash, H2S barriers if needed for equipment. Landowner issues, buried lines in pits, raptor nesting, critical location, check anchors. Check ID wellhead, determine if equipment is acceptable or obsolete and replace if necessary, if digging is required have One Call made 48 hours. Follow ground disturbance policy.
2. Perform second site visit, checking anchors and barriers if needed. Ensure lines are marked so that they clearly designate pit locations. Discuss and turnover handover sheet with someone from operations team and wells team. LOTO all necessary equipment including but not limited to: meter run, automation, separator, and water line.

### **Rig Procedure:**

3. **Contact Kelly Roberts, with NMOCD, 24hrs before wellhead replacement work is initiated at 505-334-6178 ext 16.**
4. Hold pre-job safety meeting and discuss JSA with everyone on location. JSA should cover: heavy lifts, pinch points, location hazards, pressure hazards, proper PPE and 8 golden rules of safety/IFF. Make sure everyone has preformed their LOTO and knows they have the right to stop the job.
5. Check and record casing pressure, intermediate, and Bradenhead pressures. Record all pressures into DIMS. Bradenhead test from 2008 indicated communication between casing and intermediate string. The bradenhead seemed to be isolated from well pressure.
6. MIRU workover rig.
7. Insure double casing valves are installed. Spot and lay 3" line and tank to blow down well, record pressures while blowing well down if possible.
8. Move in Wireline unit, equipment and crew. Be sure to fill out necessary work orders. Wireline must perform LOTO and JSA. RU unit with a lubricator and BOP. Pressure test lubricator and BOP to 250psi for 5 min and 700psi full test. Chart results and record passing test in DIMS.
9. Call Optimizer (Allan Pillars) to confirm status of plunger equipment in the well. Retrieve plunger and plunger equipment. Two barriers will need to set in order to break containment (Plugs in downhole profiles, CW plugs with triple slip stop, or Plug in profile). Each time the lubricated connection is broken, it will need to be pressure tested for a 5 min test and document in DIMS. Contact engineering if these barriers cannot be used. If wellhead has profile for Back Pressure valve, rig up High Tech, pressure test lubricator and equipment to set two-way check in wellhead profile. Test will need to be charted and recorded in DIMS.
10. Blow down well and kill with inhibited (2% KCl or equivalent clay stabilizer water) if necessary.
11. Nipple down Wellhead. NU BOPs and diversion spool with 3" outlets and 3" pipe to the flow back tank. Pressure test BOPs. Monitor flowing casing pressure with gauge (with casing flowing to blow tank) throughout workover. Remove wellhead back pressure valve if used.
12. Pull tubing hanger and shut pipe rams and install stripping rubber.

13. PU extra joints of 2-3/8" tubing and tag PBTD. POOH with 2-3/8" J-55 4.7#/ft production tubing currently set @ 6950'. Rig up air package/unit, pressure test all lines (Testing procedure to be supplied from Air Company).
14. Note location of any paraffin buildup along tubing string and replace any damaged or plugged joints.
15. TIH with bit and scraper for 4 1/2" casing to +/- 6960'.
16. Set 2 mechanical barriers in well. Tubing set Retrieval bridge plug @ ~ 6300' and compression packer @ 200'.
17. Remove tubing head and evaluate options to configure proper seal configuration for wellhead. Contact Engineer to discuss options before proceeding.
18. Test wellhead using test ports to ensure primary and secondary seals are set and holding pressure properly.
19. RIH with 2-3/8" production tubing (with wireline entry guide, 1.78" profile 'F-nipple' with plug, 4 ft pup, 1.875" ID profile 'X-nipple with plug).
20. Land 2-3/8" production tubing at +/- 6950'. Lock down hanger. Using standard BHA with plugs in place (Muleshoe on bottom, F nipple = 1.780" ID profile, ~4' tubing sub, X nipple = 1.880" ID profile on top).
21. Pressure test tubing to 500 psi with air unit, make sure tubing spool valves are open. Pressure test will need to be charted and recorded undisturbed for 30 minutes. Check all casing string for pressure.
22. ND BOP's. NU Wellhead. During Master valve placement ensure the top of hanger has spacer nipple in place to bottom of bonnet flange so plunger equipment will not hang up through tree. Pressure test Wellhead if capable.
23. RU WL unit, pressure test and chart as necessary. **Run Broach for 2-3/8" tubing.** Pull plugs and set tubing stop for plunger. Communicate plunger equipment status to IC room personnel. RD slickline unit.
24. Purge well, test well for air. Return well to production.
25. Ensure all reports are loaded into DIMS. Print out summary of work and place in Wellfile. Have discussion with production engineer/optimizer about particulars of well when handing off the well file.

# Elliott GC S #1E

Sec 33, T30N, R9W

API # 30-045-24364

GL: 5775'

## History:

Completed in 1/81

Cleanout 12/2001

Change MV 1/2008

## Formation Tops

Ojo Alamo	995
Kirtland	1119
FT-Coal	2069
Pictured Cliffs	2420
Chacra	3427
Cliffhouse	4059
Menefee	4227
Point Lookout	4660
Dakota	6816

## Dakota Perforations

6818' - 6846' 2 spf

6930' - 6946' 2 spf

6950' - 6960' 2 spf

frac'd w/ 175,000#'s sand

PBTD: 7044'

est. TOC @ surface (circ)

9-5/8" 32.3# H40 ST&C @ 333'

300 sxs cmt (circulated)

est. TOC @ surf (circ)

7" 20#, K55 ST&C @ 2823'

470 sxs cmt

TOC @ 740' ('81 CBL)

Tubing: 2-3/8" 4.7#, J55 8rd @ 6950'

F-Nipple @ 6946'

4-1/2" 10.5#, K55 ST&C @ 6950'

420 sxs cmt

## NOTES:

Wellhead seals are not holding pressure between production and intermediate casing  
will need to replace casing and tubing spool in order to fix problem

updated: 12/12/09 JG



**NEW MEXICO ENERGY, MINERALS  
AND NATURAL RESOURCES DEPARTMENT**

OIL CONSERVATION DIVISION  
AZTEC DISTRICT OFFICE  
1000 RIO BRAZOS ROAD  
AZTEC, NM 87410  
(505) 334-8178 FAX: (505) 204-8170  
<http://www.ernrd.state.nm.us/od/>

**BRADENHEAD TEST REPORT**

(Submit 2 copies to above address)

Date of Test 6-25-08 Operator BP America Production Company API # 3004524364

Property Name ELLIOTT GC S 001E-DK Location: Unit F Section 33 Township 30 Range 9  
(Well Name and Number)

Pressure (Shut-in or Producing) Tubing 168 Intermediate 163 Casing 168 Bradenhead 18

**OPEN BRADENHEAD AND INTERMEDIATE TO ATMOSPHERE INDIVIDUALLY FOR 15 MINUTES EACH**

Time	Bradenhead			Intermediate			Bradenhead	Intermediate
	BH Blowdown	Casing Monitor	Intermediate Monitor	Intermediate Blowdown	Casing Monitor		Flowed	Flowed
5 minutes	0	168	163	112	140	Steady Flow		X
10 minutes	0	168	163	102	120	Surges		
15 minutes	0	168	163	94	112	Down to Nothing	1 min 20 sec	
20 minutes						No Flow		
25 minutes						Gas	X	X
30 minutes						Gas and Water		
5 minute SI	1	168	163	120	120	Water		

If bradenhead flowed water, check all of the descriptions that apply below:

Clear ☐ Fresh ☐ Salty ☐ Sulfur ☐ Black ☐

5 Minute Shut-in Bradenhead 1 Intermediate 120

REMARKS: 1" valve on B.H. Bad 1" valve changed out. No D.B.  
1" valve on I.M. Need to change out 1" valve on I.M.  
never Blow down.  
Oil None 100 yds to wash

By Walter Chy Witness \_\_\_\_\_  
tech  
 (Position)



NEW MEXICO ENERGY, MINERALS  
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AZTEC, NM 87410  
(505) 334-6178 FAX: (505) 234-8170  
<http://www.ernrd.state.nm.us/ocd/>

BRADENHEAD TEST REPORT

(Submit 2 copies to above address)

Date of Test 6-25-08 Operator BP America Production Company API # 3004524364

Property Name ELLIOTT GC S 001E-DK Location: Unit F Section 33 Township 30 Range 9  
(Well Name and Number)

Pressure (Shut-in or Producing) Tubing 168 Intermediate 163 Casing 168 Bradenhead 18

OPEN BRADENHEAD AND INTERMEDIATE TO ATMOSPHERE INDIVIDUALLY FOR 15 MINUTES EACH

Time	Bradenhead			Intermediate		Bradenhead Flowed	Intermediate Flowed
	BH Blowdown	Casing Monitor	Intermediate Monitor	Intermediate Blowdown	Casing Monitor		
5 minutes	0	168	163	112	140		X
10 minutes	0	168	163	102	120		
15 minutes	0	168	163	94	112	1 min 20 sec	
20 minutes							
25 minutes							
30 minutes							
5 minute SI	1	168	163	120	120		
						Steady Flow	
						Surges	
						Down to Nothing	
						No Flow	
						Gas	X
						Gas and Water	
						Water	

If bradenhead flowed water, check all of the descriptions that apply below:

Clear \_\_\_\_\_ Fresh \_\_\_\_\_ Salty \_\_\_\_\_ Sulfur \_\_\_\_\_ Black \_\_\_\_\_

5 Minute Shut-in Bradenhead 1 Intermediate 120

REMARKS: 1" valve on B.H. Bad 1" valve changed out. No D.I.G.  
1" valve on I.M. Need to change out 1" valve on I.M.  
never Blow down.  
Blif None 100 yds to wash

By Walter C. Chy Witness \_\_\_\_\_  
tech.  
(Position)



NEW MEXICO ENERGY, MINERALS  
AND NATURAL RESOURCES DEPARTMENT

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AZTEC DISTRICT OFFICE  
1000 RIO BRAZOS ROAD  
AZTEC, NM 87410  
(505 334-6178 FAX: (505) 334-6170  
<http://www.emnrd.state.nm.us/ocd/>

BRADENHEAD TEST REPORT  
(Submit 2 copies to above address)

Date of Test April 28-05 Operator BP America Production Company API # 3004524364

Property Name ELLIOTT GC S 001E - DK Location: Unit F Section 33 Township 30 Range 9  
(Well Name and Number)

Pressure (Shut-in or Producing) Tubing 65 Intermediate 80 Casing 80 Bradenhead 0

OPEN BRADENHEAD AND INTERMEDIATE TO ATMOSPHERE INDIVIDUALLY FOR 15 MINUTES EACH

Time	Bradenhead			Intermediate		Bradenhead Flowed	Intermediate Flowed
	BH Blowdown	Casing Monitor	Intermediate Monitor	Intermediate Blowdown	Casing Monitor		
5 minutes				<u>80</u>	<u>80</u>	Steady Flow	<u>30 mins</u>
10 minutes					<u>72</u>	Surges	
15 minutes					<u>68</u>	Down to Nothing	
20 minutes					<u>65</u>	No Flow	<u>X</u>
25 minutes					<u>62</u>	Gas	
30 minutes					<u>60</u>	Gas and Water	
5 minute SI	<u>0</u>			<u>70</u>	<u>70</u>	Water	

If bradenhead flowed water, check all of the descriptions that apply below:

Clear \_\_\_\_\_ Fresh \_\_\_\_\_ Salty \_\_\_\_\_ Sulfur \_\_\_\_\_ Black \_\_\_\_\_

5 Minute Shut-in Bradenhead \_\_\_\_\_ Intermediate 70

REMARKS:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

By Jedlesma Witness \_\_\_\_\_  
Teck  
(Position)







(505) 325-6622

ANALYSIS NO. AM030159

WELL/LEASE INFORMATION

COMPANY: AMOCO PRODUCTION COMPANY PRESSURE: 50 PSIG  
WELL NAME: ELLIOTT GAS COM 1E SAMPLE TEMP.: DEG.F  
LOCATION: F 33-30-9 WELL FLOWING: NO  
FORMATION: DATE SAMPLED: 5/13/93  
COUNTY: SAN JUAN, NM SAMPLED BY: B. GARRISON-L & L  
SAMPLE SRC: BRADENHEAD PROD FOREMAN: LARRY HUMPHREY  
REMARKS:

ANALYSIS

COMPONENT	MOLE %	GPM**	B.T.U.*	SP. GR.*
NITROGEN	1.051	0.0000	0.00	0.0102
CO2	0.059	0.0000	0.00	0.0009
METHANE	87.298	0.0000	883.71	0.4835
ETHANE	6.890	1.8389	122.21	0.0715
PROPANE	2.823	0.7763	71.20	0.0430
I-BUTANE	0.480	0.1567	15.65	0.0096
N-BUTANE	0.673	0.2118	22.01	0.0135
I-PENTANE	0.228	0.0834	9.16	0.0057
N-PENTANE	0.151	0.0546	6.07	0.0038
HEXANE	0.347	0.1511	17.85	0.0112
TOTAL	100.000	3.2728	1147.86	0.6529

\* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY

\*\* @ 14.696 & 60 DEG. F

COMPRESSIBILITY FACTOR (1/Z) 1.0028  
BTU/CU.FT. (DRY) CORRECTED FOR (1/Z) 1148.5  
BTU/CU.FT. (WET) CORRECTED FOR (1/Z) 1128.5  
REAL SPECIFIC GRAVITY 0.6544

ANALYSIS RUN AT 14.696 PSIA & 60 DEGREES F

CYLINDER PRESSURE: 26 PSIG

CYLINDER NO.: GAS-026

DATE RUN: 5/13/93

ANALYSIS RUN BY: SEENA SPENCER



1115 FARMINGTON AVE. ( COUNTINGTON, NM 87401

(505) 325-6622

ANALYSIS NO. AM030160

WELL/LEASE INFORMATION

COMPANY: AMOCO PRODUCTION COMPANY PRESSURE: 520 PSIG  
WELL NAME: ELLIOTT GAS COM 1E SAMPLE TEMP.: DEG.F  
LOCATION: F 33-30-9 WELL FLOWING: NO  
FORMATION: DATE SAMPLED: 5/13/93  
COUNTY: SAN JUAN, NM SAMPLED BY: B. GARRISON-L & L  
SAMPLE SRC: CASING PROD FOREMAN: LARRY HUMPHREY  
REMARKS:

ANALYSIS

COMPONENT	MOLE %	GPM**	B.T.U.*	SP. GR.*
NITROGEN	0.086	0.0000	0.00	0.0008
CO2	1.875	0.0000	0.00	0.0285
METHANE	94.558	0.0000	957.20	0.5238
ETHANE	2.590	0.6913	45.95	0.0269
PROPANE	0.442	0.1215	11.14	0.0067
I-BUTANE	0.140	0.0458	4.57	0.0028
N-BUTANE	0.086	0.0270	2.81	0.0017
I-PENTANE	0.061	0.0222	2.44	0.0015
N-PENTANE	0.027	0.0099	1.10	0.0007
HEXANE	0.135	0.0588	6.95	0.0043
TOTAL	100.000	0.9765	1032.16	0.5977

\* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY

\*\* @ 14.696 & 60 DEG. F

COMPRESSIBILITY FACTOR (1/Z) 1.0023  
BTU/CU.FT. (DRY) CORRECTED FOR (1/Z) 1032.1  
BTU/CU.FT. (WET) CORRECTED FOR (1/Z) 1014.1  
REAL SPECIFIC GRAVITY 0.5988

ANALYSIS RUN AT 14.696 PSIA & 60 DEGREES F

CYLINDER PRESSURE: 477 PSIG

CYLINDER NO.: GAS-002

DATE RUN: 5/13/93

ANALYSIS RUN BY: SEENA SPENCER



1115 FARMINGTON AVE. FARMINGTON, NM 87401

(505) 325-6622

ANALYSIS NO. AM030161

WELL/LEASE INFORMATION

COMPANY: AMOCO PRODUCTION COMPANY PRESSURE: 460 PSIG  
WELL NAME: ELLIOTT GAS COM 1E SAMPLE TEMP.: DEG.F  
LOCATION: F 33-30-9 WELL FLOWING: NO  
FORMATION: DATE SAMPLED: 5/13/93  
COUNTY: SAN JUAN, NM SAMPLED BY: B. GARRISON-L & L  
SAMPLE SRC: INTERMEDIATE CASING PROD FOREMAN: LARRY HUMPHREY

REMARKS:

ANALYSIS

COMPONENT	MOLE %	GPM**	B.T.U.*	SP. GR.*
NITROGEN	0.101	0.0000	0.00	0.0010
CO2	0.665	0.0000	0.00	0.0101
METHANE	86.586	0.0000	876.52	0.4796
ETHANE	7.785	2.0777	138.08	0.0808
PROPANE	3.204	0.8809	80.80	0.0488
I-BUTANE	0.487	0.1589	15.87	0.0098
N-BUTANE	0.704	0.2213	23.00	0.0141
I-PENTANE	0.187	0.0684	7.52	0.0047
N-PENTANE	0.120	0.0433	4.82	0.0030
HEXANE	0.161	0.0701	8.29	0.0052
TOTAL	100.000	3.5206	1154.90	0.6571

\* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY

\*\* @ 14.696 & 60 DEG. F

COMPRESSIBILITY FACTOR (1/Z) 1.0029  
BTU/CU.FT. (DRY) CORRECTED FOR (1/Z) 1155.6  
BTU/CU.FT. (WET) CORRECTED FOR (1/Z) 1135.5  
REAL SPECIFIC GRAVITY 0.6586

ANALYSIS RUN AT 14.696 PSIA & 60 DEGREES F

CYLINDER PRESSURE: 435 PSIG

CYLINDER NO.: GAS-045A

DATE RUN: 5/13/93

ANALYSIS RUN BY: SEENA SPENCER



AMOCO PRODUCTION COMPANY

WELL ANALYSIS COMPARISON

LEASE: ELLIOTT GAS COM 1E

MAY 14, 1993

	BRADENHEAD	CASING	INT
	-----	-----	-----
DATE:	5/13/93	5/13/93	5/13/93
NO.:	30159	30160	30161
	MOLE %	MOLE %	MOLE %
	-----	-----	-----
NITROGEN	1.051	0.086	0.101
CO2	0.059	1.875	0.665
METHANE	87.298	94.558	86.586
ETHANE	6.890	2.590	7.785
PROPANE	2.823	0.442	3.204
I-BUTANE	0.480	0.140	0.487
N-BUTANE	0.673	0.086	0.704
I-PENTANE	0.228	0.061	0.187
N-PENTANE	0.151	0.027	0.120
HEXANE+	0.347	0.135	0.161
BTU'S	1148.5	1032.1	1155.6
	-----	-----	-----
GPM	3.2728	0.9765	3.5206
	-----	-----	-----
GRAVITY	0.6544	0.5988	0.6586
	-----	-----	-----