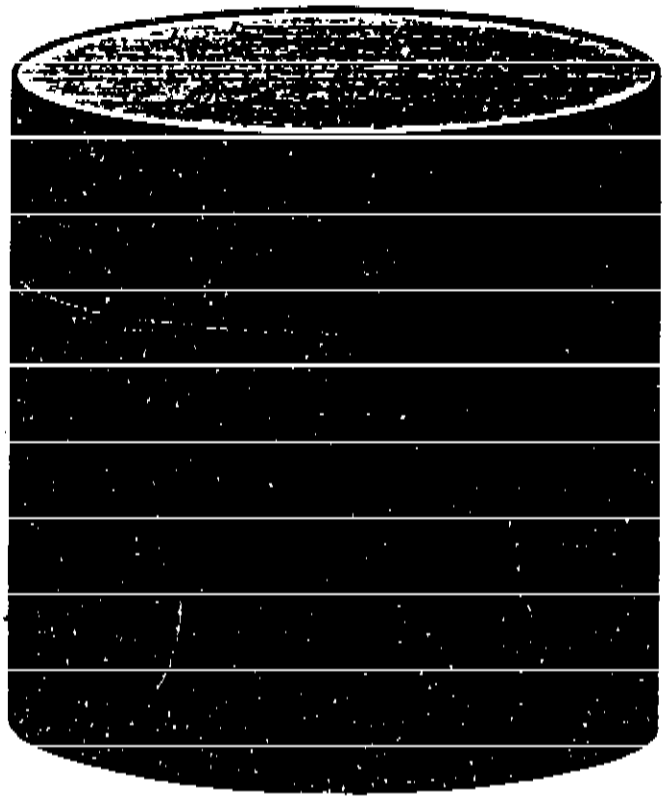
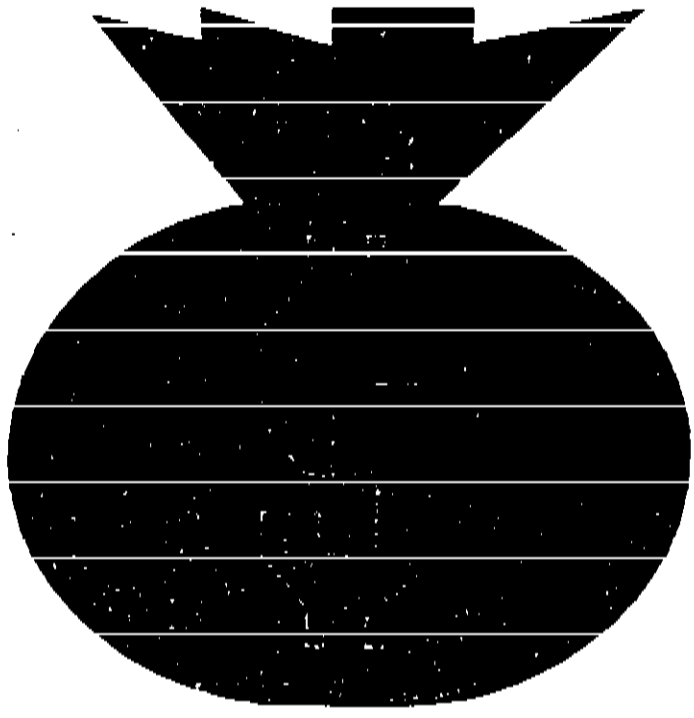
Enclosure 2

CRUDE OIL PREMIUM AUDITING

Salt Lake City, Utah

June 4 - 5 , 1997





B

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A

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PURPOSE: To provide you with information and procedures used in determining the royalty value of crude oil produced from Federal and Indian leases, with special emphasis on crude oil premiums.

Specific areas covered will be:

- Audit Initiative Background
- Definitions
- Audit Authority and Methodology
- Audit Approach and Performance
- Case Studies
- Discussion and Class Closure

In Addition affiliate sales of gas & coal will be discussed

C

CLASS AGENDA

DAY 1

8:00 - 8 :15	PURPOSE CLASS AGENDA
8:15 - 8:30	BACKGROUND
8:30 - 8:50	DEFINITIONS
8:50 - 9:00	**BREAK**
9:00 - 9:50	CRUDE OIL VALUATION
9:50 - 10:00	**BREAK**
10:00 - 11:00	CRUDE OIL VALUATION
11:00 - 12:30	**LUNCH BREAK**
12:30 - 1:20	AUDIT APPROACH
1:20 - 1:30	**BREAK**
1:30 - 2:20	CONTRACT EXAMPLES # 1 - 3
2:20 - 2:30	**BREAK**
2:30 - 3:00	CONTRACT EXAMPLES # 4 - 5
3:00 - 3:20	CASE STUDY
3:20 - 3:30	**BREAK**
3:30 - 4:30	CASE STUDY

DAY 2

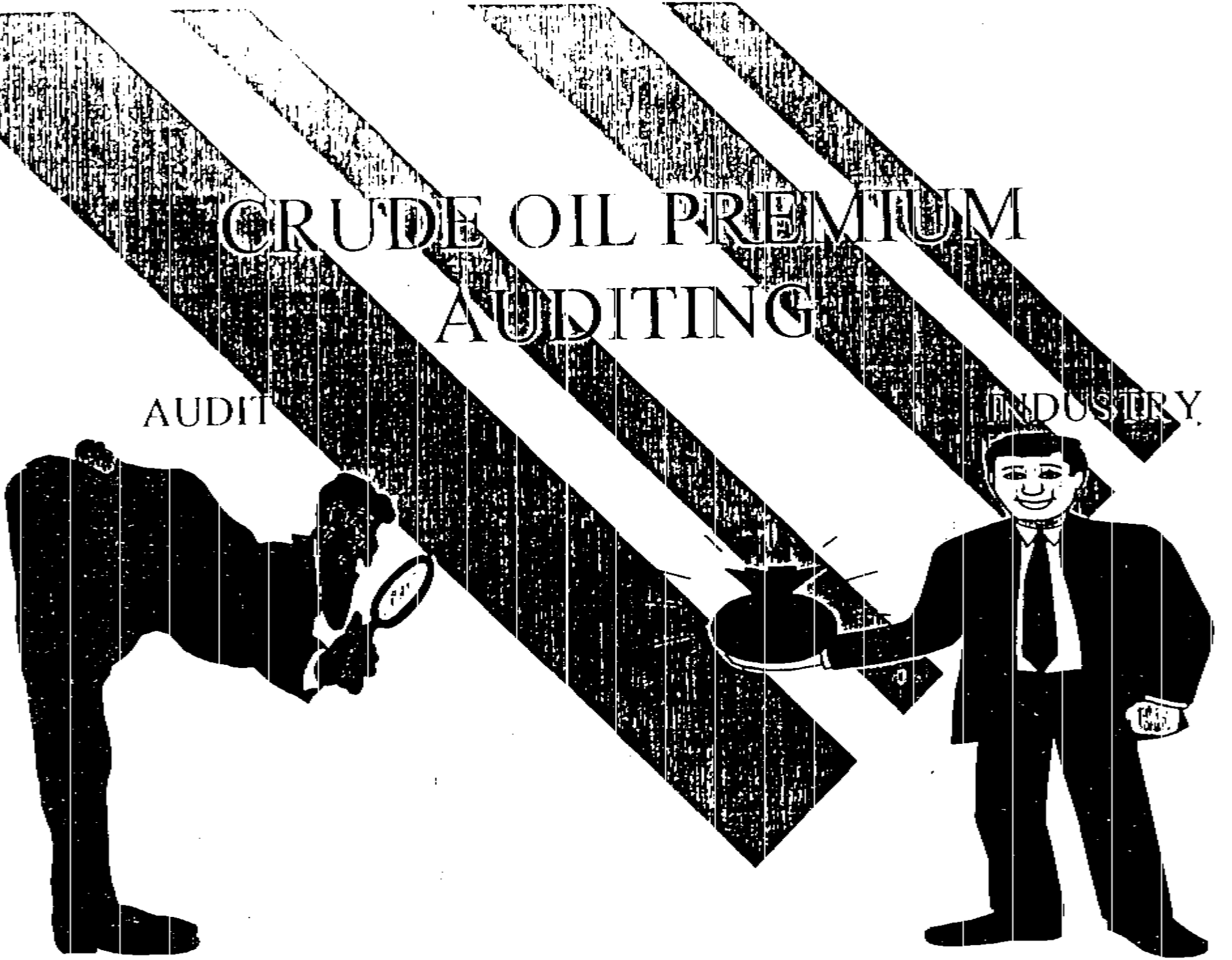
8:00 - 8:15	RECAP
8:15 - 8:50	GAS VALUATION
8:50 - 9:00	**BREAK**
9:00 - 9:15	GAS VALUATION
9:15 - 9:50	GAS VALUATION - EXAMPLES
9:50 - 10:00	**BREAK**
10:00 - 10:50	GAS VALUATION - EXAMPLES
10:50 - 11:00	**BREAK**
11:00 - 11:50	COAL VALUATION & EXAMPLES
11:50 - 12:00	CLASS CLOSURE AND EVALUATION

D

CRUDE OIL PREMIUM AUDITING

AUDIT

INDUSTRY



AUDIT INITIATIVE BACKGROUND

- CRUDE OIL POSTED PRICES WERE CONSIDERED TO REFLECT THE CRUDE OIL MARKET PRICES.
- 1975 - STATE OF CALIFORNIA & CITY OF LONG BEACH VS 7 MAIN INTEGRATED OIL COMPANIES (LONG BEACH I)

AUDIT INITIATIVE
BACKGROUND (CONT)

- DOCUMENTS COVERING 1970'S AND 1980'S SHOWED THAT CRUDE OIL WAS OFTEN BOUGHT AND SOLD AT PREMIUMS OVER POSTED PRICES
- ROYALTIES WERE BEING PAID ON POSTED PRICES

AUDIT INITIATIVE BACKGROUND (CONT)

- 1986 - CALIFORNIA AND LONG BEACH VS COMPANIES (LONG BEACH II)
- MMS REVIEW DID NOT SUBSTANTIATE UNDER VALUATION
- GAO, IRS, DOJ AND THE DOE CONDUCTED STUDIES

AUDIT INITIATIVE
BACKGROUND (CONT)

- 1991 - CIRCUIT COURT REVERSAL OF SUMMARY JUDGEMENT AND 6 COMPANIES SETTLED THE 1971-1977 DISPUTE FOR $345 MILLION
- EXXON CHOSE TO GO TO COURT - AND WON!

AUDIT INITIATIVE
BACKGROUND (CONT)

- 1993 - DOI ASKED MMS TO REEVALUATE THE CRUDE OIL PREMIUM ISSUE.
- 1994 - REVIEW OF 1986-1992 RECORDS.
  - -- DOI FORMED INTERAGENCY TEAM (DOE, DOC, DOI, MMS).
  - -- REVIEWED ROYALTY VALUATION.
  - -- REVIEWED OIL COMPANY RECORDS UNDER SEAL.
  - -- RECOMMENDED 2 TEST AUDITS.

AUDIT INITIATIVE
BACKGROUND (CONT)

- IA IF OVERALL FINDINGS:
  - MOST CALIFORNIA OIL PRODUCTION IS EITHER EXCHANGED BETWEEN THE MAJOR INTEGRATED FIRMS OR MOVED INTERNALLY BETWEEN THEIR AFFILIATES.
  - FOR THE RELATIVELY SMALL VOLUME OF OIL THAT WAS SOLD OR PURCHASED OUTRIGHT, PAYMENTS OF PREMIUMS ABOVE POSTED PRICES OCCURRED FREQUENTLY.
  - LESSEES USUALLY PAID ROYALTIES ON POSTED PRICES.

IT IN. AUDIT INITIATIVE

OUN BACKGROUND (CONT)

- IATE OVERALL FINDINGS (CONT):
  - ARMS LENGTH SALES REFLECTED LESS THAN GROSS PROCEEDS.
  - NON-ARMS LENGTH SALES WERE UNDERVALUED.
  - VALUE CALIFORNIA CRUDE OIL USING ALASKA NORTH SLOPE (ANS) PRICES.
  - PROJECTED POTENTIAL COLLECTION (P&I) FROM FED PRODUCTION OBTAINED FROM CALIFORNIA FOR 1989 - 1993 WAS $0 - $856 MILLION.

E

FINDINGSDEFINITIONS

- MARKETING AFFILIATE - An affiliate of the lessee whose function is to acquire only the lessee's production and to market that production.

DEFINITIONS

AFFILIATE - Corporations/organizations which are related either as (1) parent and subsidiary, or as (2) subsidiaries of the same parent organization. For purposes of our discussion, an affiliate is one who acquires production from both the lessee (affiliate) and non-affiliated entities, and markets the production to either an affiliated or non-affiliated entity.

DEFINITIONS

- POSTINGS - The price specified in publicly available posted price bulletins, offshore or onshore terminal postings, or other price notices net of all adjustments for quality and location for oil in marketable condition.

DEFINITIONS

- PREMIUM - Dollar amount and value per barrel paid above posted price. Could include additional value buried in differential (location, handling or transportation).

DEFINITIONS

- LOCALITY DIFFERENTIAL - The relative value difference for a particular crude oil delivered at two different points. It may just reflect transportation costs, but may also incorporate other influences the market assesses on the same crude oil in different locations.

DEFINITIONS

- QUALITY DIFFERENTIAL - The premium in price that is added to some oils for such characteristics as low sulphur or high API gravity or viscosity, metal content and others.

DEFINITIONS

- GROSS PROCEEDS - The total monies and other consideration accruing to an oil lessee for the disposition of the oil produced.

Bob Leggett

DEFINITIONS

SALE - A contract between two persons (parties) where:

- the seller unconditionally transfers title to the oil to the buyer. (The seller may not retain any related rights such as the right to buy back similar quantities of oil from the buyer elsewhere.)
- the buyer pays money or other consideration for the oil
- the parties' intent is for a sale of the oil to occur.

DEFINITIONS

- SPOT PRICE - The price under a spot sales contract where:
  - the seller agrees to sell to a buyer a specified amount of oil at a specified price over a specified period of short duration
  - no cancellation notice is required to terminate the sales agreement
  - there is no obligation or implied intent to continue to sell in subsequent periods.

DEFINITIONS

- ARM'S-LENGTH - Contract arrived at in the market place between independent, non affiliated persons with opposing economic interests.
  - OWNERSHIP ≥ 50% CONTROL
  - OWNERSHIP 10% - 50% ASSUME CONTROL
  - OWNERSHIP OF < 10% ASSUME NONCONTROL

DEFINITIONS

- GATHERING - Movement of production to a central accumulation point on the lease (or unit/com), or off the lease if approved by BLM/MMS. This would include the oil pipeline(s) that run from lease tanks to a central pump station at the beginning of the main pipeline.

DEFINITIONS

- TRANSPORTATION ALLOWANCE - A deduction in determining royalty value for the reasonable actual costs of moving oil to a point of sale at or delivery off the lease, unit area, or communitized area. The transportation allowance does not include gathering costs.

DEFINITIONS

- EXCHANGE AGREEMENTS
  - Barrel for Barrel
    - » Two companies exchange oil for convenience or locational advantages. No sale occurs. No reference to a price. Generally a locality/transportational differential.

DEFINITIONS

- EXCHANGE AGREEMENTS
  - Buy/Sell agreement
    - » Exchange of oil at one location for oil at another location
    - » Prices are fixed in contract for both transactions
    - » Prices may only represent differentials between 2 crude oils

F

ARMS LENGTH SALE

- TYPE OF SALE - LESSEE TO THIRD PARTY
- ROYALTY VALUATION METHOD - GROSS PROCEEDS FROM SALE TO THIRD PARTY
- BENCHMARKS NOT USED

NON-ARMS LENGTH SALE

- TYPE OF SALE - LESSEE TO MARKETING AFFILIATE TO THIRD PARTY
- ROYALTY VALUATION METHOD - GROSS PROCEEDS FROM SALE OF MARKETING AFFILIATE TO THIRD PARTY
- BENCHMARKS NOT USED

NON ARMS LENGTH SALE

- TYPE OF SALE - LESSEE TO AFFILIATE TO THIRD PARTY
- ROYALTY VALUATION METHOD - GROSS PROCEEDS FROM SALE OF AFFILIATE TO THIRD PARTY (DEDUCT FOR AUTHORIZED ALLOWANCES).
- USE OF BENCHMARKS AT AUDITORS DISCRETION.

EXCHANGE AGREEMENTS

- TYPES OF AGREEMENTS - BARREL FOR BARREL, BUY-SELL, ROYALTY
- VALUATION METHOD - GROSS PROCEEDS (WHERE DETERMINABLE)
- BENCHMARKS USED WHEN GROSS PROCEEDS CANNOT BE DETERMINED

NO SALES SITUATIONS

- TYPE OF SALE - ALL NO SALES SITUATIONS (e.g., UTILIZED IN AFFILIATE REFINERY)
- ROYALTY VALUATION METHOD - USE BENCHMARKS

ROYALTY VALUATION METHODOLOGY FOR CRUDE OIL SALES

REGULATORY AUTHORITY

DETERMINING THE ROYALTY VALUATION METHODOLOGY

- TYPES OF CRUDE OIL SALES
- THE ROYALTY VALUATION METHODOLOGY FOR EACH TYPE OF SALES

4 BASIC TYPES OF CRUDE OIL SALES BY THE LESSEE

- ARMS LENGTH
- NON-ARMS LENGTH
- NO SALE SITUATIONS
- EXCHANGE AGREEMENTS

ARMS LENGTH SALES

- LESSEE TO THIRD PARTY

NON ARMS LENGTH SALES

- LESSEE TO MARKETING AFFILIATE TO THIRD PARTY
- LESSEE TO AFFILIATE TO THIRD PARTY

NO SALE SITUATIONS

- LESSEE TO AFFILIATED REFINER
- LESSEE TO MARKETING AFFILIATE TO AFFILIATED REFINER
- LESSEE TO AFFILIATE TO AFFILIATED REFINER

EXCHANGE AGREEMENTS

- BARREL FOR BARREL
- BUY - SELL

ROYALTY VALUATION GUIDANCE FOR EACH TYPE OF SALE

TY V. ROYALTY VALUATION - CHMA. K BENCHMARKS

- FIRST BENCHMARK - The lessee's contemporaneous posted prices or oil sales contract prices used in arm's-length transactions for purchases or sales of significant quantities of like-quality oil in the same field (or if necessary, to obtain a reasonable sample, from the same area).

ROYALTY VALUATION - BENCHMARKS

- Second Benchmark - The arithmetic average of contemporaneous posted prices used in arm's length transactions by persons other than the lessee for purchases or sales of significant quantities of like quality oil in the same field (or if necessary to obtain a reasonable sample, from the same area).

ROYALTY VALUATION -- BENCHMARKS

- Third Benchmark - The arithmetic average of other contemporaneous arm's length contract prices for purchases or sales of significant quantities of like-quality oil in the same area or nearby areas.

ROYALTY VALUATION -- BENCHMARKS

- Fourth Benchmark - Prices received for arm's length spot sales of significant quantities of like-quality oil from the same field (or, if necessary to obtain a reasonable sample, from the same area).

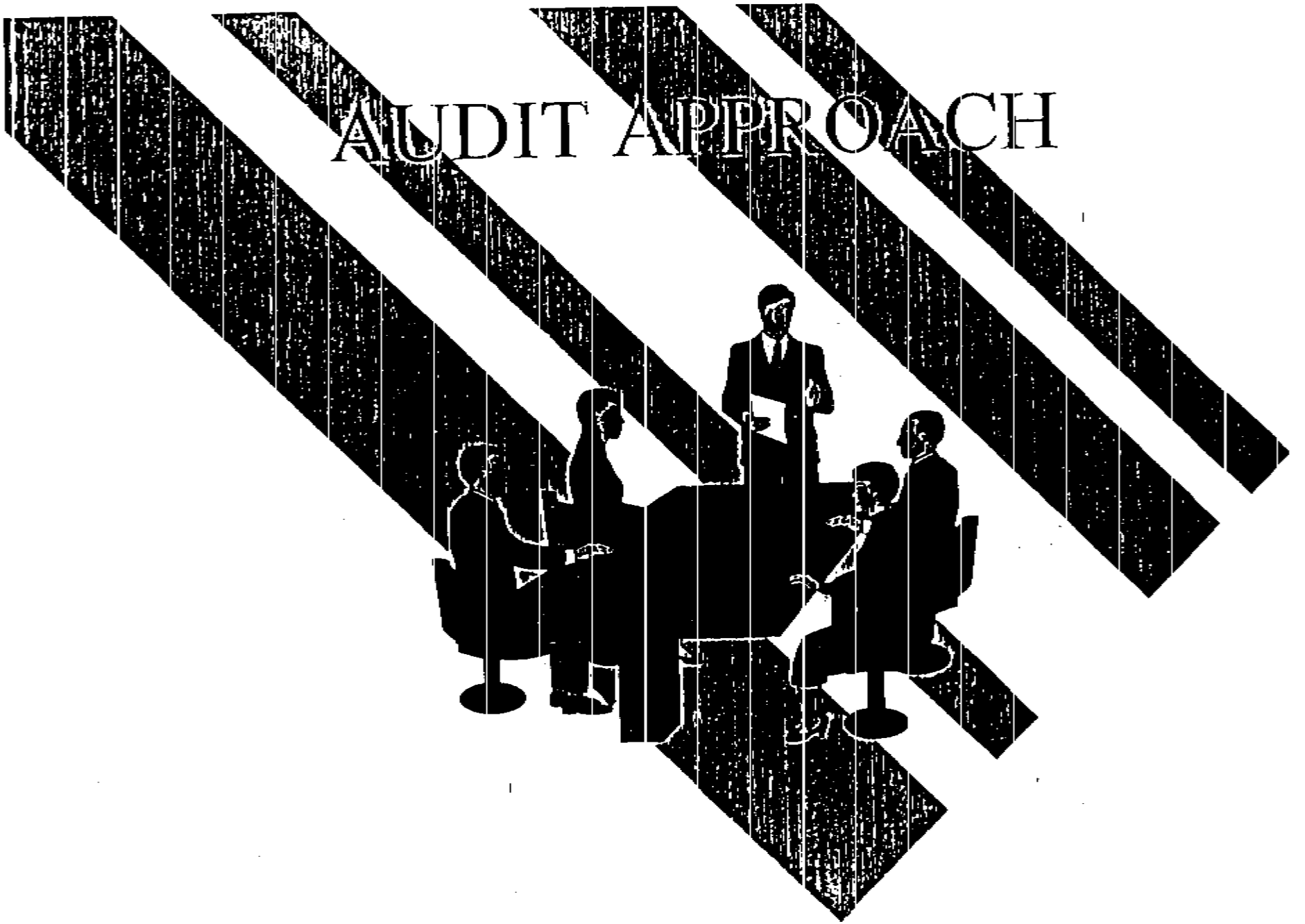
ROYALTY VALUATION - BENCHMARKS

- Fifth Benchmark - A net-back method or any other reasonable method to determine value.

G

G

AUDIT APPROACH



AUDIT APPROACH

G – 1. DETERMINE CORPORATE STRUCTURE (ORG CHART)

G – 2. DETERMINE ENTITIES WHERE THIRD PARTY (SALES OCCUR)

G – 3. REQUEST UNIVERSE OF CONTRACTS FOR EACH SALE TYPE

G – 4. SELECT SAMPLE OF CONTRACTS TO AUDIT IN DETAIL

G – 5. BRIEF SAMPLE CONTRACTS AND RVIEW FOR POSSIBLE PREMIUMS

G – 6. IF PREMIUM IS INDICATED, REQUEST DOCUMENTATION TO SUPPORT CALCULATION AND RECEIPT SAME (RUN STATEMENTS, INVOICES, WIRE TRANSFERS, CASH RECEIPTS, GENERAL LEDGER ENTRIES, ETC.)

G – 7. IINTERNAL REPORTS, PIPELINE OR TRANSPORTATION SYSTEMS

G – 8. REFINERIES

G – 9. IBLA DECISIONS FOR ACCESS TO RECORDS

G – 10. MISCELLANEOUS LIST OF POSSIBLE DATA REQUEST

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Oil & Gas Journal / Dec. 23, 1996 / SPECIAL

19 6 Worldwide Refining S..vey

Marilyn Radler
Survey Editor

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All figures in barrels per calendar day

All figures are as of 1-1-97

LEGEND
Numbers identify processes in table

Coking
1. Fluid coking
2. Delayed coking
3 Other

Thermal Processes
1. Thermal cracking
2. Visbreaking

Catalytic Cracking
1. Fluid
2 Other

Catalytic Reforming
1 Semiregenerative
2 Cyclic
3 Continuous regen
4. Other

Catalytic Hydrocracking
1 Distillate upgrading
2 Residue upgrading
3 Lube oil manufacturing
4 Other
c Conventional (high-pressure) hydrocracking: (>100 barg or 1,450 psig)
m Mild to moderate hydrocracking (<100 barg or 1,450 psig)

Catalytic Hydrorefining
1 Residual desulfurization
2 Heavy gas oil desulfurization
3 Catalytic cracker and cycle stock feed pretreatment
4. Mid distillate
5 Other

Catalytic Hydrotreating
1. Pretreating cat reformer feeds
2. Naphtha desulfurizing
3. Naphtha olefin or aromatics saturation
4 Straight-run distillate
5 Pretreating cat cracker feeds
6. Other distillates
7. Lube oil "polishing"
8. Other

Alkylation
1. Sulfuric acid
2. Hydrofluoric acid

Polymerization/Dimerization
1. Polymerization
2. Dimerization

Aromatics
1. BTX
2. Hydrodealkylation
3. Cyclohexane
4. Cumene

Isomerization
1 C4 feed
2 C5 feed
3. C5 and C6 feed

Oxygenates
1 MTBE
2. TAME
3 ETBE

Hydrogen Production:
1. Steam methane reforming
2. Steam naphtha reforming
3. Partial oxidation

Recovery:
4. Pressure swing adsorption
5 Cryogenic
6. Membrane
7. Other

FOOTNOTES

A Flexicoking.
B Merger of Ampol & Caltex.
C Solvent deasphalting.
D Dewaxing.
E TCC.
F Wax.
G Mild distillate.
H Benzene saturation 6,750 b/cd; LPG merox 4,500 b/cd; kerosene merox 18,000 b/cd.
I Gasoline hydrogenation.
J Houdry.
K JV of Trans Hydrocarbon Ltd. (and Kyrgyzneft.
L Previously listed as Kremenchugnr.
M Previously listed as Suez Oil Processing Co.
N Distillate aromatics saturation.
O DIMI: dewaxing 8,300 b/cd.
P Merger of Obsthelmische Mineralolwerke GmbH and Elsed AG.
Q High conv. soaker cracking.
R Coldner.
S Unicracking.
T Hydrodewaxing.
U Estimate.
V Previously listed as Kyung In Energy Co. Ltd.
W Previously listed as Kukdong Oil Co. Ltd.
X Isomax
Y Demax
Z Previously listed as Petronet.
AA Previously listed as Ertoil S.A.
BB Previously listed as OK Raffinaderi AB.
CC JV of LG-Caltex and Government of Thailand.
DD Gulf Oil's share of Pembroke CC Complex.
EE Previously listed as Louisiana Land & Exploration Co
FF ROSE.
GG Alky. feed.
HH Previously listed as Shell Oil Products Co.
II Olefin saturation.
JJ Leased by Gold Line Refining Ltd.
KK Previously listed as Philbro Refining Inc.
LL Nonregenerative.
MM Joint venture of Citgo and Conoco.
NN Previously listed as Bayway Refining Co.
OO Previously listed as Wynnewood Refining Co.
PP Demax.
QQ Includes assets of Southwestern Refining Co. Inc.
RR HOC.
SS Olefles 15,500 b/cd
TT Previously listed as Rafinerija Skopje.

Capacity is expressed in barrels per calendar day (b/cd) is the maximum number of barrels of input that can be processed during a 24-hr period, after making allowances for the following

- Types and grades of inputs to be processed
- Types and grades of products to be manufactured
- Environmental constraints associated with refinery operations
- Scheduled downtime such as mechanical problems, repairs, and slowdowns.

Capacity is expressed in barrels per stream day (b/sd), is the amount a unit can process when running at its capacity under optimal feedstock and product slate conditions. Most U.S. capacity figures have historically been reported in b/sd, but all capacities are reported in b/cd here, as they will be in following years

Totals

When an asterisk (*) appears beside a refinery location, this indicates that the figure has been converted from b/sd to b/cd by using the conversion factor 0.95 for crude oil and vacuum distillation units, and 0.90 for all downstream cracking and conversion units. Refining processes not covered are noted here.

Process definitions

- Hydrocracking includes processes where 50% of the feed or more is reduced in molecular size.
- Hydrorefining includes processes where 10% of the feed or less is reduced in molecular size.
- Hydrotreating includes processes where essentially no reduction in the molecular size of the feed occurs.
- Hydrogen volumes presented here represent either generation or upgrading to 90+% purity

Catalytic reforming definitions

- Semiregenerative reforming is characterized by shutdown of the reforming unit at specified intervals, or at the operator's convenience, for in situ catalyst regeneration.
- Cyclic regeneration reforming is characterized by continuous or continuous regeneration of catalyst in situ in any one of several reactors that can be isolated from and returned to the reforming operation. This is accomplished without changing feed rate or octane.
- Continuous regeneration reforming is characterized by the continuous regeneration of part of the catalyst in a special regenerator, followed by continuous addition of this regenerated catalyst to the reactor.
- Other includes nonregenerative reforming (catalyst is replaced by fresh catalyst) and moving-bed catalyst systems

REFINERY SHUTDOWNS

Canada
1. Imperial Oil - Norman Wells, Northwest Territory. 3,600 b/cd capacity, June 1996.

Japan
1. Nippon Petroleum Refining Co., Ltd. - Okinawa. November 1995.

United States
1. Barrett Refining Corp. - Thomas, Oklahoma. 10,500 b/cd capacity, January 1996
2. Crystal Refining Co., Inc. - Carson City, Michigan. 4,000 b/cd capacity.
3. Cyril Petrochemical Corp. - Cyril, Oklahoma. 5,000 b/cd capacity, August 1995.
4. Intermountain Refining Co., Inc. - Fredonia, Arizona. 5,710 b/cd capacity, January 1996.
5. Tosco Refining Co. - Marcus Hook, Pennsylvania. 180,500 b/cd capacity idled in 1996. Mid-1997 restart expected.
6. Total Petroleum Inc. - Arkansas City, Kansas. 58,000 b/cd capacity, September 1995.

pgs 49–99 were included in the manual. We are only including page 49 here as the article is copyrighted.

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Interior Board of Land Appeals
4015 Wilson Boulevard
Arlington, Virginia 22203

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ROYALTY MANAGEMENT
HOUSTON, TEXAS

IN REPLY REFER TO:

SHELL OIL CO.
(ON RECONSIDERATION)

Decided May 11, 1995

IBLA 91-266
130 IBLA 93 (1994)

Petition for reconsideration of a Board of Land Appeals decision reversing a decision of the Director, Minerals Management Service, that required production of sales contracts and other documents concerning crude oil sales from Federal leases. MMS-90-0217-O&G.

Petition for reconsideration granted; Shell Oil Co., 130 IBLA 93 (1994), reversed; Director's decision affirmed.

1. Federal Oil and Gas Royalty Management Act of 1982: Royalties—Oil and Gas Leases: Royalties: Payments

MMS had statutory and regulatory authority to require production of documents concerning crude oil sales contracts made by an affiliate of a Federal oil and gas lessee that were needed to insure there had been compliance with the gross proceeds rule established by Departmental regulation 30 CFR 206.102(h) (1989).

APPEARANCES: Sarah L. Inderbitzin, Esq., Peter J. Schaumberg, Esq., Geoffrey Heath, Esq., and Howard W. Chalker, Esq., Office of the Solicitor, U.S. Department of the Interior, Washington, D.C., for the Minerals Management Service; William G. Riddoch, Esq., Houston, Texas, for Shell Oil Company.

OPINION BY ADMINISTRATIVE JUDGE ARNESS

In Shell Oil Co. (Shell), 130 IBLA 93 (1994), the Board of Land Appeals reversed a March 1, 1991, decision of the Director, Minerals Management Service (MMS), that required Shell Oil Company (Shell) and Shell Western Exploration and Production Inc. (SWEPI), to produce documents concerning crude oil production from 32 Federal onshore oil and gas leases in California between January 1, 1985, and December 31, 1988. On October 3, 1994, MMS petitioned for reconsideration of Shell, alleging the decision failed to adequately consider the effect of Departmental regulation 30 CFR 206.102(h) (1989), incorrectly interpreted the rule at 30 CFR 206.102(b)(1)(i) (1989), improperly relied upon valuation regulations effective March 1, 1988, for the audit period 1985 through 1988, and was inconsistent with a holding made in Santa Fe Energy Products Co., 127 IBLA

CALIFORNIA CRUDE PRICE AUDIT
POSSIBLE QUESTIONS/DATA REQUEST ITEMS

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1. Describe the practices and procedures for your company and its affiliates for negotiating contracts for the sale, purchase or transportation of crude oil. For each company producing crude oil from federal leases, describe the practices an procedures used for royalty valuation and payment.

2. Describe and flow chart the accounting for crude oil sales and production for each production, marketing, transportation and refining entity in the State of California.

3. If you or an affiliate post crude oil prices in any fields in the State of California:

   a) Describe the methodology for establishing posted crude prices:
   b) Names and titles of officials who develop and give final approval for the postings.
   c) List the documents, indices, references, consultants or companies that you use in developing postings.
   d) If there have been changes during the audit period, describe the previous procedures and effective date(s).

4. Provide the record retention policy of your company for records relative to the production, marketing and refining of crude oil in the State of California.

5. Provide your company's procedures when negotiating contract terms for the sale, purchase, etc. of crude oil in the State of California.

6. Does your company use any foreign produced crude or petroleum products as part of any exchange, trade, marketing arrangements, etc. with California produced crude.

7. Does your company (or affiliates) trade oil or futures contracts in the NYNEX or Posted Price – markets? In your opinion, how does the P– market relate to market value? List all such transactions during the audit period.

8. Explain why competing companies' posted prices have historically moved in tandem.

9. What price do you report for royalty purposes when you refine your own production?

10. Do you ever receive/pay premiums over posting for oil you sell/purchase? When this occurs, do you reflect such premiums in your Federal royalty payments?

11. How do you value crude oil royalties paid to non-Federal royalty owners? Do you pay non-federal royalty owners based on posted prices plus premiums? If so, why? If not, why not?

12. Does your company or any of its affiliates use foreign produced crude oil or crude products as part of any exchange, trade, marketing arrangements, etc. with California produced crude or crude products.

13. Does your company generate any periodic documents or internal reports that reflect the monthly receipt and disposition of crude oil for any pipeline systems it owns or operates? If yes, name them giving name, report numbers, frequency and report detail.

14. Provide a Universe (list) of each purchase, sale, buy/sell and or exchange contract involving you or any affiliated company or partner for the acquisition ordisposition of crude oil or condensate produced in the State of California during the audit period.

15. Provide general ledger account detail (payables, receivables, etc.), invoices, allocation statements, pipeline statements, balancing statements, and any internally generated reports applicable to the purchase, sale, buy/sell and or exchange transactions under the contracts in (14) above.

16. For each affiliated company or partner involved in transactions identified in (15) above, provide a copy of the Chart of Accounts for the audit period.

17. For each company with contracts identified in (14) above, provide a compy of the Financial Statements for the audit period.

18. Provide field maps and achematics for the fields in California for leases covered by the contracts identified in (14) above.

19. Provide posted price bulletins applicable to all transactions under the contracts identified above.

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AUDIT PROGRAM

TEXACO, INC.

CALIFORNIA PRICING

1989 AND 1993

DEPARTMENT OF INTERIOR

MINERALS MANAGEMENT SERVICE

ROYALTY MANAGEMENT PROGRAM

HOUSTON COMPLIANCE DIVISION

HOUSTON, TEXAS

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FEBRUARY 1995

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AUDIT PROGRAM
CALIFORNIA CRUDE OIL PRICING

Introduction

The Minerals Management Service will conduct an audit of crude oil and condensate produced by Texaco Inc. from leases located in the State of California. Texaco Inc., an integrated refiner, produces, sells or processes crude oil from 52 (fifty-two) owned leases in at least 17 (seventeen) fields in the state. It is anticipated that Texaco Inc. also purchases for resale or refinery feedstock crude oil from non-owned leases in the state.

The objective of this audit is to determine whether Texaco Inc. routinely pays or receives prices or premiums in excess of posted prices for crude oil produced and sold by Texaco Inc., or crude oil purchased or exchanged from other non-affiliated producers in the State of California. The audit will cover crude oil and condensate production in the State of California during 1989 and 1993.

The integrated company will be regarded as one entity for the purposes of determining gross proceeds. Intra corporate transfers will be considered non-arm's-length sales. Sales from an affiliate to a third party will be treated as the first arm's-length sale.

A detailed audit of transportation costs is not considered within the scope of this audit. However such audit procedures as are necessary to assure distinction between product value/price and transportation will be performed.

Because the State of California, under contract to the MMS, has conducted extensive audits of production and royalty payments for California leases, this audit will not include any production verification procedures and will strive to minimize any duplication of audit procedures from previous or other on-going audits by California auditors.

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1. Background Information

a. Identify all Texaco entities (owned or operated) producing, marketing, or refining crude oil or condensate in the state of California during 1989 and 1993.

b. Identify all Texaco owned or operated crude oil transportation systems in the State of California.

c. For each Texaco Inc. entity identified in a above, obtain a copy of the Chart of Accounts, detailed Accounts Payable and Receivable Ledgers, detailed Other Income Accounts, Suspense Accounts, or any account that has the potential for additional revenues.

d. Determine or identify the method(s) of delivering crude oil to each Texaco refinery.

e. For each Texaco Inc. lease in the State of California obtain the Oil sales contract or other selling agreement for disposition of the crude oil production.

f. For each non Texaco Inc. lease in the State of California where any Texaco affiliate purchases the crude oil production, obtain the Oil purchase contract or other purchasing agreement. (This may involve purchases by a Texaco marketing affiliate or purchases of feedstock by a Texaco refinery.)

g. For each lease identified above, obtain a plat map or otherwise identify well locations, gathering/transportation facilities, pipelines and connections, and or other facilities related to production and sales of crude oil or condensate.

h. Obtain applicable posted price bulletins for each month of 1989 and 1993. (Note, if posted prices are posted by different purchasers schedule and compare for significant differences.)

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2. Detailed Audit Procedures

a. If crude oil or condensate produced from Texaco owned leases is sold, exchanged, or otherwise transferred for value to a third party by the producing entity:

(1) Obtain and review sales contracts, exchange or buy-sell agreements and other documents evidencing the contract or exchange value of crude oil production. (Note that buy/sell or exchange production will generally be valued using the market value of the production received. If balancing accounts are used, production will generally be valued using first-in first-out inventory procedures.)

(2) From the information obtained in (1) above compute the contractual unit value of the production net of transportation, gathering, tax reimbursements or other adjustments[1].

(3) Review general ledger accounts, detailed accounts receivable and other income accounts to identify all booked proceeds attributable to the sale or exchange of production and determine the unit value.

(4) Reconcile any differences between booked value (3) and the contract value calculated in (2) above. Compare resultant "arms-length" value with the posted price. (Note, if significant quantities are sold to or exchanged with a third party, this "arms-length" value may represent market value for royalty purposes.)

Note, a producer with a marketing affiliate[1] will not generally exchange production. Marketing affiliates[1] came into existence in the 80's and may not have been in existence for some of the audit periods.

b. If crude oil or condensate produced from Texaco owned leases is sold or otherwise transferred to an affiliate for subsequent resale (i.e., a marketing affiliate[1]):

(1) Obtain and review sales contracts evidencing the contract value of crude oil production.

(2) Compute the contractual unit value of the production net of transportation, gathering, tax reimbursements or other adjustments[1].

(3) Review general ledger accounts, detailed accounts receivable and other income accounts to identify all booked proceeds attributable to the sale and determine the unit value.

(4) Reconcile any differences between booked value (3) and the contract value calculated in (2) above. Compare resultant value with the posted price and with the arm's-length value determined in a. above.

At the marketing affiliate:

(5) Review purchase contracts evidencing the contract price of crude oil production purchases from other producers in the same field.

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(6) Compute the contractual unit value of the production net of transportation, gathering, tax reimbursements or other adjustments.

(7) Review general ledger accounts, detailed accounts payable and other liability accounts to identify all booked costs attributable to the purchase and determine the unit value.

(8) Compare the resultant unit value of purchases from other producers with the unit value of purchases from the affiliated producer and note any differences.

(9) Obtain and review sales contracts, exchange or buy-sell agreements and other documents evidencing the contract or exchange value of crude oil production. (Note that buy/sell or exchange production will generally be valued using the market value of the production received. If balancing accounts are used, production will generally be valued using first-in first-out inventory procedures.)

For sales to a refining affiliate, go to c. below.

(10) Segregate the transactions into:

(a) Sales of production purchased from the affiliated producer; and

(b) Sales of production purchased from other producers.

(11) Review general ledger accounts, detailed accounts receivable and other income accounts to identify all booked proceeds attributable to the sale or exchange of production and determine the unit value of each type.

(12) Compare the resultant unit values with the unit value determined in b. 3. above.

c. If crude oil or condensate produced from Texaco owned leases is sold or otherwise transferred to an affiliate for processing (i.e., a refiner):

(1) Segregate the transactions into:

(a) Sales of production purchased from the affiliated producer; and

(b) Sales of production purchased from other producers.

(2) Review general ledger accounts, detailed accounts receivable and other income accounts to identify all booked proceeds attributable to the sale or exchange of production and determine the unit value of each type.

(3) Compare the resultant unit values with the unit value determined in b. 3. and 7. above.

At the refining affiliate:

(4) Review purchase contracts evidencing the contract price of crude oil production purchases from other producers.

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(5) Compute the contractual unit value of the production net of transportation, gathering, tax reimbursements or other adjustments[1].

(6) Review general ledger accounts, detailed accounts payable and other liability accounts to identify all booked costs attributable to the sale and determine the unit value.

(7) Compare the resultant unit value of purchases from other producers with the unit value of purchases from the producing/marketing affiliate[2] and note any differences.

3. Other audit procedures

These procedures are not meant to be an all-inclusive list of audit steps, but is a basic list of procedures to be performed, unless in the professional judgment of the auditor the procedures are deemed unnecessary. The auditor may develop additional audit steps for any uncommon circumstances encountered.

4. Summarize results and prepare audit report.

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[1] Not a marketing affiliate as defined in 30 CFR § 206.101, but rather a Texaco affiliate that markets Texaco and/or others production.

[2] Examination of allowances (e.g., gathering and transportation) will be coordinated with the State of California and MMS Valuation Standards Division (VSD) to assure consistency with markets and/or industry practice.

M

GAS SALES TO AFFILIATES

PURPOSE:

To provide you with information and procedures used in determining the royalty value of gas sales frorn Federal and Indian leases, with special emphasis on gas sales to affiliates.

DEFINITIONS

- MARKETING AFFILIATE - An affiliate of the lessee whose function is to acquire only the lessee's production and to market that production.

DEFINITIONS

- AFFILIATE - Corporations/organizations which are related either as (1) parent and subsidiary, or as (2) subsidiaries of the same parent organization. For gas sales, an affiliate is one who acquires production from the lessees (affiliate) and sells the production to an non-affiliated third party.

DEFINITIONS

- GROSS PROCEEDS - The value of production for royalty purposes shall never be less than the gross proceeds accruing to the lessee from the sale thereof. The sale price received by an affiliate of the lessee in the first arm's-length transaction is properly considered in determining the value of produced gas under the gross proceeds rule. (Source from IBLA 92-501, Xeno Inc., decided November 14, 1995.)

DEFINITIONS

- SALE - A contract between two persons (parties) where:

  - the seller unconditionally transfers title to the gas to the buyer.

  - the buyer pays money or other consideration for the gas.

  - the parties' intent is for a sale to occur.

DEFINITIONS

- ARM'S LENGTH - Contract arrived at in the market place between independent, non affiliated persons with opposing economic interests.
  - Ownership > 50% CONTROL
  - Ownership = 10% - 50% ASSUME CONTROL
  - Ownership < 10% ASSUME NONCONTROL

GAS VALUATION

AUDIT APPROACH

EXAMPLES

GAS VALUATION

- MMS POLICY PAPER 11/26/96

- XENO INC, IBLA 92-501, 11/14/95
  GROSS PROCEEDS

- MMS DECISION 93-0236 6/7/96
  FINA OIL AND CHEMICAL CO
  GROSS PROCEEDS OF THE AFFILIATES

GAS VALUATION CONTINUED

- 132 IBLA 354

  SHELL

  GROSS PROCEEDS AND AFFILIATES
- TENTH CIRCUIT COURT OF APPEALS

  NO. 95-1221 4/10/96

  SANTA FE ENERGY PRODUCTS

  RECORDS OF THE AFFILIATES

GAS VALUATION CONTINUED

- 127 IBLA 265

  SANTA FE AFFILIATE SALES

GAS VALUATION

- Gross proceeds extended beyond lessee to include affiliates
- Royalty value of natural gas sold under an arm's-length contract is the lessee's gross proceeds.
- Royalty value of natural gas not sold under an arm's-length contract is determined under the first applicable benchmark.

AUDIT APPROACH

- DETERMINE IF AFFILIATE FROM
  ORGANIZATION CHARTS
  INDUSTRY JOURNALS
- DETERMINE IF MARKETING
  AFFILIATE
- DETERMINE IF JOINT VENTURE

AUDIT APPROACH (CONT)

- OBTAIN INVOICES AND CONTRACTS FOR LESSEES NON-ARM'S LENGTH SALE. PURCHASER STATEMENTS FOR AFFILIATES ARM'S LENGTH SALE
- DETERMINE IF DIFFERENCE BETWEEN LESSEE'S NON-ARM'S AND AFFILIATE'S ARM'S LENGTH PRICE
- DETERMINE ROYALTY VALUE ON NON-ARM'S LENGTH OR ARM'S LENGTH PRICE

GAS VALUATION AUDIT APPROACH

Identify Existence of Affiliates

- 30 CFR 206.152(e)(3) requires lessee's to notify MMS when they determine unprocessed gas value based on benchmarks 2 or 3 of 30 CFR 206.152(c).

- Determine corporate structure through organizational charts.

- Identify affiliated companies through industry journals.

Audit Process Once Affiliates are Identified

- Determine whether the affiliate is a marketing affiliate. Definition @ 30 CFR 206.151.

- Obtain invoices and contracts for lessee's non-arm's length sale of the gas.

- Obtain purchaser statements and contracts for the affiliate's arm's length sale of the gas.

- Determine if there is a difference between lessee's NAL price and affiliate's A/L price

- Determine whether lessee's royalty value is based on NAL price or A/L price

- If benchmark values are needed:
  - determine field where sample lease is located
  - identify producers in that field or area
  - obtain contracts other producers had in effect for sample months
  - evaluate contracts to determine whether they are A/L or NAL
  - compare lessee's NAL price with A/L prices of other producers

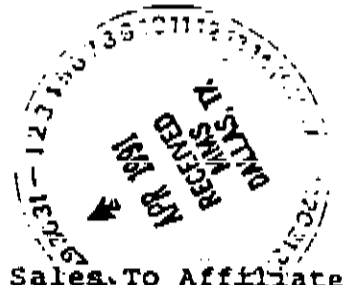
Mobil Exploration & Producing U.S. Inc.

A0-5

EXPRESS & CERTIFIED MAIL;
RETURN RECEIPT REQUESTED

April 23, 1991

Mr. Jerry D. Hill
Associate Director for
Royalty Management
Minerals Management Service
P.O. Box 25165, Mail Stop 3000
Denver, Colorado 80225



Gas Sales To Affiliate/Notice
of Value Determination

Dear Jerry:

MMS regulations require that lessees notify you in instances where they employ certain royalty benchmarks for valuing natural gas sales made to affiliated companies. 30 C.F.R. 206.152(e)(3), 206.153(e)(3). This letter constitutes notice under those regulations that effective with February, 1991 production, Mobil producing affiliates will be employing one of those permissible benchmarks for certain sales of gas produced from Texas and Louisiana offshore leases in the Gulf of Mexico and sold to an affiliated company.

You may be aware that Mobil's producing affiliates, including Mobil Oil Corporation, Mobil Exploration and Producing North America Inc., Mobil Oil Exploration & Producing Southeast Inc. and Mobil Producing Texas & New Mexico, in their own names or on their behalf by others, sell significant quantities of natural gas to Mobil Natural Gas Inc. ("MNGI"). MNGI pools this gas with other gas that it purchases from third parties for marketing to gas consumers throughout the United States. MMS regulations provide that the producing affiliates' sales to MNGI must be valued for federal royalty purposes according to a prioritized benchmark system. One of the permitted benchmarks, sometimes referred to as "Benchmark 2," includes "reliable public sources of price and market information." 30 C.F.R. 206.152(c)(2), 153(c)(2).

Over the last several years publications have emerged that reflect the current market value of gas purchased and sold in the direct sales market. These "market indicators" have matured to the extent that today they enjoy wide industry acceptance and represent fair and reliable sources of price information. After conducting an extensive search of available third-party market indicators, we believe that Inside FERC ("IF"), published biweekly by McGraw Hill, presently is among the best market indicators and constitutes a reliable public source of price and market information within the meaning of Benchmark 2. Effective with February, 1991 production, the Mobil lessees will use IF prices to value gas sales to MNGI. Below is a brief description of how Mobil will calculate these values.

Copy to RCD 91

Mobil will use the IF publication that reflects "bid week" transactions for a given month. "Bid week" is the week before a given production month and is when most direct sales transactions are consummated for that particular month. Therefore, we feel IF prices reflecting "bid week" transactions best represent market value for gas sold in the respective areas for that month. IF also reports "lowest," "highest," and "mode" prices for given geographic areas. Mobil will use the IF "mode" price, since this represents the most frequently quoted price in a given area. IF additionally captures price information for gas sales on an "into-the-pipeline" basis. This means that IF prices reflect direct sales transactions as they occur at specific points on major interstate pipeline systems. Where gas from a particular supply area can go through a variety of IF points, the respective IF values will be averaged in calculating the prices that MNGI will pay to its producing affiliates for gas purchased in that area. Since the IF pricing points are located a distance from Mobil's leases, the IF prices will be adjusted by a transportation factor to arrive at an IF-equivalent price for the points where MNGI purchases the gas.

We anticipate reporting the prices paid by MNGI in the following manner. The calculated IF values will be reported on line 1 of Mobil's MMS 2014 Form. The transportation adjustment will be reported separately on the MMS 2014 Form. Royalty will be paid on the calculated IF value, less the transportation adjustment.

Note that the above methodology presently only applies to sales that Mobil-affiliated companies make, in their own names or on their behalf by others, to MNGI from Texas and Louisiana offshore areas in the Gulf of Mexico.

We believe the above methodology is consistent with Benchmark 2 of the MMS regulations governing sales of gas among affiliated entities, and will be the most effective method for ensuring that royalties paid to the federal government for such sales are based on current market values in the respective fields and areas of production. Use of this methodology will also avoid the difficulties and uncertainties associated with obtaining sufficient information to fully employ "benchmark 1," which may call for the valuation of Mobil's sales to MNGI to be based on "comparable sales" of Mobil's competitors in the field or area. Mobil, of course, will continue to evaluate pricing options in the future to ensure that royalty attributable to transactions with MNGI is based on market value for comparable sales in the particular field or area.

Thank you for your courtesies in this matter.

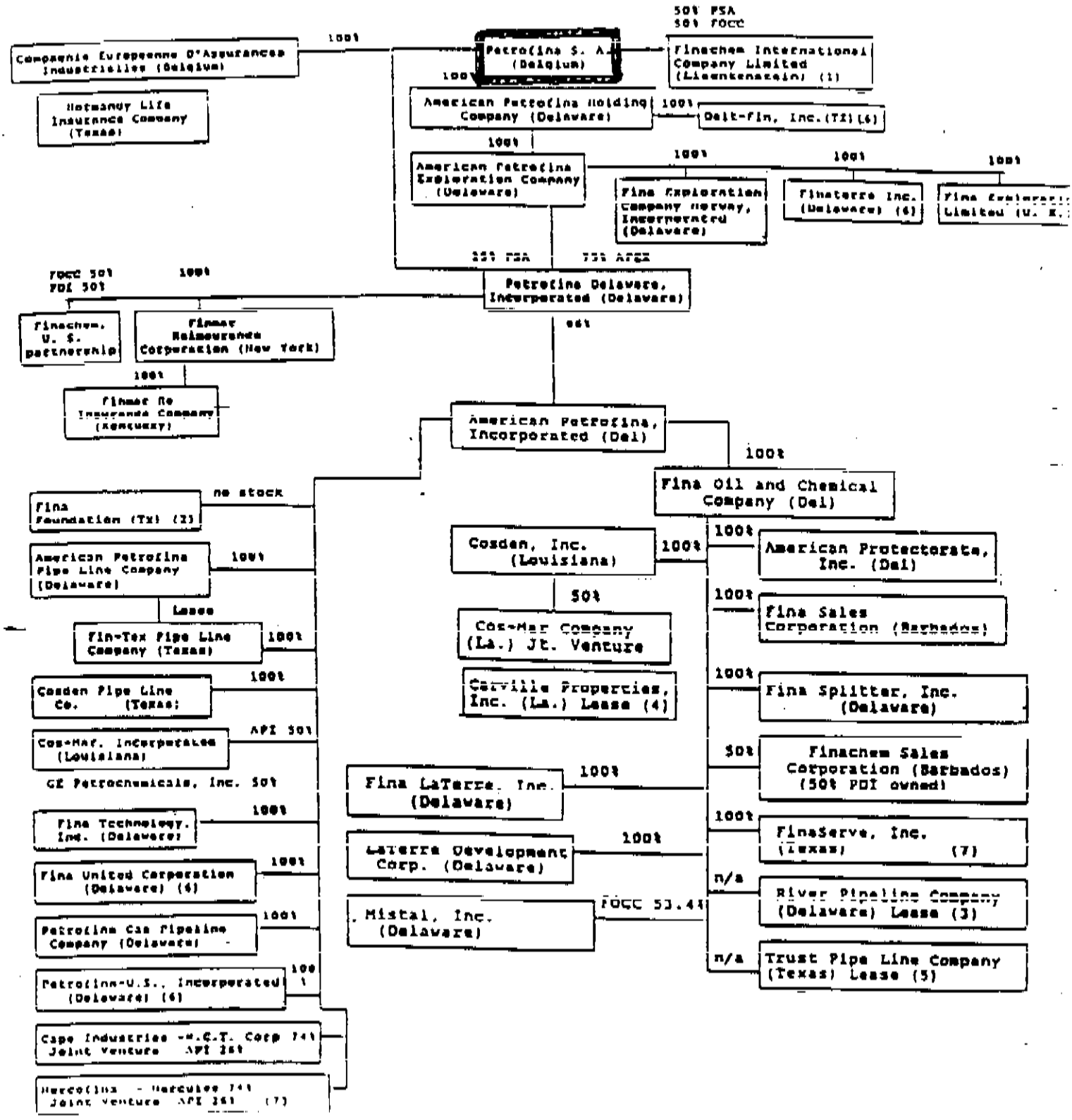
Very truly yours,

R. R. Bates

R. R. Bates
Manager, Royalty Compliance

DOCUMENT: 06.01.01

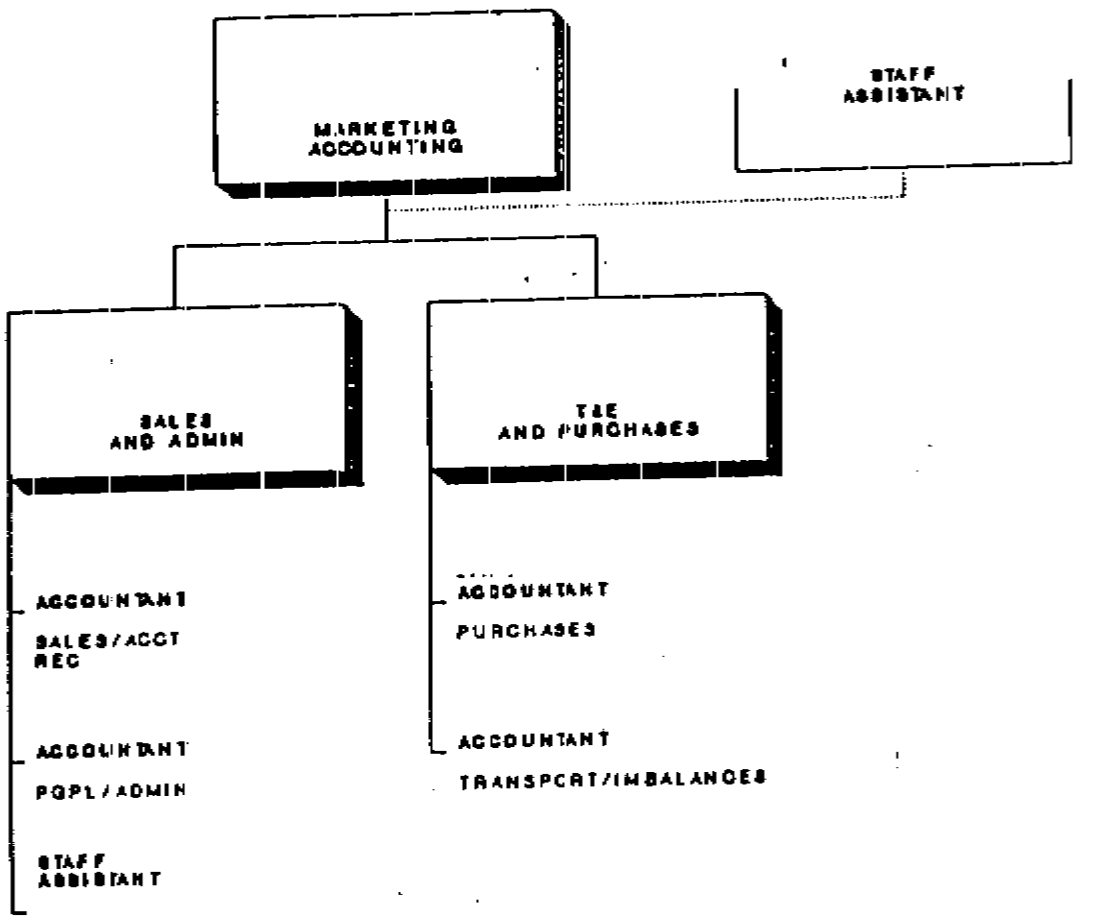
5/16/90

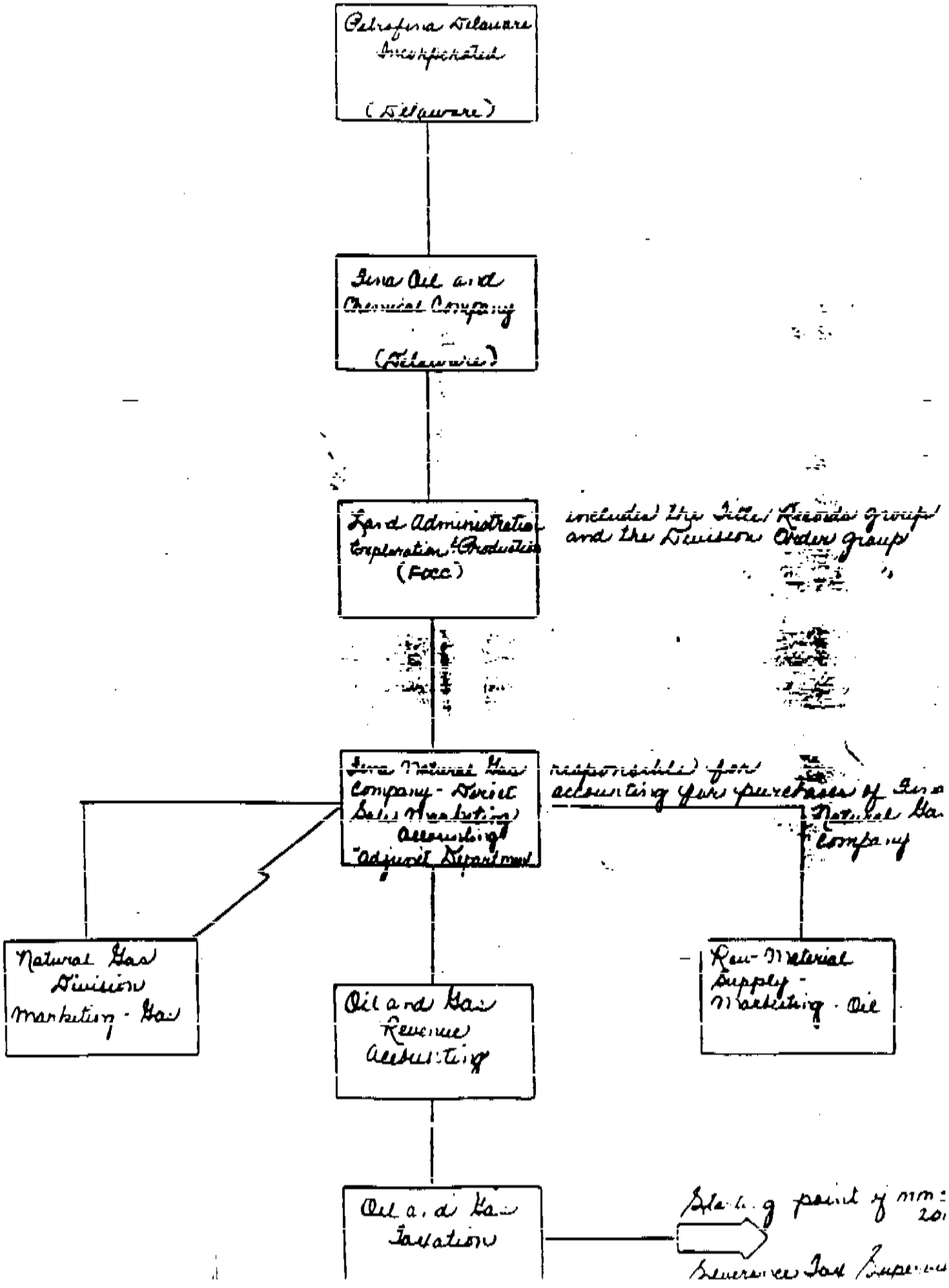


(1) Is in the process of dissolution
(2) A charitable corporation (Not-for-profit)
(3) River is Lessor; FOCC is Lessee. MCNB Texas National Bank holds all shares as Trustee for API Pension Plan.

(4) Carville is Lessor; Cos-Mar Company is Lessee.
100% owned by Corporate Trinity Company. (CT Corporation sub.)
(5) Trust is Lessor; FOCC is Lessee. MCNB Texas National Bank holds all shares for API Pension Plan.
(6) Dormant Companies
(7) Toby, Inc. leases space in FinaServe's facilities for the sale of beer and wine.

FINA NATURAL GAS COMPANY
DIRECT SALES MARKETING ACCOUNTING




Petrofina Delaware Incorporated (Delaware)
Gina Oil and Chemical Company (Delaware)
Land Administration Exploration & Production (FOCC)
includes the Title Records group and the Division Order group
Gina Natural Gas Company - Direct Sales Marketing Accounting Adjunct Department
responsible for accounting for purchases of Gina Natural Gas Company
Natural Gas Division Marketing - Gas
Oil and Gas Revenue Accounting
Raw-Material Supply - Marketing - Oil
Oil and Gas Taxation
Starting point of mm: 20
Severance Tax Supervi

S. R. Burgess — *Controller*
J. C. Dale — *General Counsel and Secretary*
C. L. Rood — *Treasurer*

ndre Office
Box 417
Sundre
AB., Canada T0M 1X0
Ph: 403-638-3852
The Sundre office is the branch office for the Cremona Pipeline System.
G. R. Voeys — *Area Superintendent*

Federated Pipe Lines Limited
1700 Home Oil Tower
324-8 Avenue S.W.
Calgary
AB., Canada T2P 2Z5
Ph: 403-232-7100
Fax: 403-232-7678
Federated Pipe Lines Limited owns and operates a combination of two pipeline systems for the shipment of crude oil and a separate pipeline system for the transportation of natural gas liquids.
The crude oil systems consists of two 120-mile main lines, one with a 16-inch diameter and the other with a 18-inch diameter, and a 165 mile gathering system in diameters ranging from 3 inches to 16 inches. This pipeline system gathers more than 110,000 barrels per day of crude oil from several fields in the Swan Hill area and delivers it 120 miles southeast to Edmonton.
The natural gas liquids system consists of approximately 240 miles of pipeline in diameters ranging from 4 inches to 16 inches. The northern portion of the system ships over 50,000 barrels per day of ethane-rich natural gas liquids from Fort Saskatchewan, near Edmonton, to several hydrocarbon miscible flood projects located northeast of Edmonton. The southern portion, which consists of 140 miles of 4 to 10 inch pipeline, gathers natural gas liquids from Brazeau, West Pembina and Bonnie glen and moves liquids north to Namaco.
Federated Pipe Lines Ltd. is owned equally by Home Oil Company Limited and Esso Resources (1989) Ltd. with the system being operated by Home Oil.
D. E. Powell — *President and Chief Executive Officer*
P. J. Dingle — *Executive Vice President*
A. R. Hagerman — *Vice President and Chief Financial Officer*
R. M. Penn — *Vice President and General Counsel*
R. C. Osborne — *Vice President, Marketing and Pipeline and General Manager*
J. K. Jackson — *Manager, Safety, Environment and Insurance*
D. E. Deaun — *Corporate Secretary*

Sherwood Park Office
3218 Kaska Rd.
Sherwood Park, AB, T8A 4E9
Ph: 403-467-6464
Fax: 403-467-1083
B. M. Lanne — *Area Superintendent*

FINA, INC.

Box 2159
Dallas, TX 75221
Ph: 214-750-2400
Fax: 214-750-2987
Telex: 163705
FINA, Inc. was incorporated on April 18, 1956 under the sponsorship of Petrofina S.A. of Brussels, Belgium as the name American Petrofina, Inc. The initial development step of the company was to purchase 600,000 shares of Panhandle Oil Corporation, operating largely in Texas. By October, 1958 Panhandle was merged into American Petrofina. Total assets at the end of the first year were $57 million. Today the company has assets of over $2.8 billion.
American Liberty Oil Company was purchased in April, 1957, adding another refinery, pipeline, producing property, and marketing facility. Fina, Inc. Corporation, Texas, and its subsidiary, El Dorado Refining Company were acquired in 1958 to add more refineries, marketing outlets, and producing properties to the operations of the company. In April, 1963, American Petrofina acquired the assets of Cosden Petroleum Corporation consisting of two refineries, including a petrochemical facility at Big Spring, Texas, and related pipelines, terminals, marketing outlets, and producing properties.
Fina Oil and Chemical Company was created in June, 1958 as a wholly owned subsidiary with headquarters in Dallas, Texas. This subsidiary is responsible for crude oil exploration, production, manufacturing and marketing of refined products, the operation of petrochemical facilities and the sale of petrochemicals and plastics.
In 1973, FINA, Inc. acquired, for $100 million, certain refinery, marketing, and transportation assets from Sohio's BP marketing facilities in Florida, Georgia and the Carolinas, and related pipeline and terminal facilities.
In 1984, American Petrofina acquired Chamblin Petroleum's marketing operations which included approximately 170 service stations in an eight-state west area.
Also on July 1, 1984, a wholly owned subsidiary of American Petrofina, Incorporated, acquired ARCO's polypropylene business, including a 470-million pound per year polypropylene plant at LaPorte, Texas.
In December, 1986, the company's subsidiary, Fina Oil and Chemical Company, acquired the exploration and production properties of Williams Exploration Company.
Currently, FINA, Inc. produces about 7,681,000 barrels of oil and condensate and 74,359,000 Mcf of natural gas yearly. The company operates two refineries, 19,350 miles of product pipelines and more than 2,900 branded outlets in a 12 state marketing area. In addition, Fina, Inc. is an important producer of styrene plastics, aromatics, and related petrochemical products.
In November, 1988, the company acquired all of the Tenneco exploration and production activities in Tenneco's Gulf Coast and Southwestern divisions for approximately $600 million. The acquisition included operations in parts of New Mexico and Arkansas, most of Texas, with the exception of part of the Panhandle, and all of Louisiana, Mississippi, Alabama and Florida. This acquisition more than doubled FINA Inc.'s oil and gas reserves.
Petrofina Delaware, Incorporated, owned 75 percent by American Petrofina Holding Company and 25 percent by Petrofina S.A. of Brussels, Belgium, owns 85 percent of the company's common stock. In November, 1964, American Petrofina Holding Company formed a wholly owned subsidiary, American Petrofina Exploration Company, to conduct various exploration programs in several areas of the United States, including offshore. Of particular interest, two affiliates of Petrofina Delaware (Fina Exploration Norway Incorporated and Fina Exploration Ltd.), are responsible for the Petrofina Group's important exploration efforts in the North Sea. American Petrofina, Incorporated changed its name April 17, 1991 to FINA, Inc.
Paul D. Meek — *Chairman*
Ron W. Haddock — *President and Chief Executive Officer*
Cullen M. Godfrey — *Vice President, General Counsel and Secretary*
Yves Barcy — *Vice President and Chief Financial Officer*
H. Patrick Jack — *Vice President*
Glenn E. Selvidge — *Vice President*
Henry J. Lanaque, Jr. — *Vice President*
Michael J. Couch — *Vice President*
Neil A. Smoak — *Vice President*
S. R. West — *Vice President*
Brendan M. O'Connor — *Treasurer*
Gerald Wise — *Assistant Secretary and Assistant Treasurer*
Linda Middleton — *Assistant Secretary*
J. D. Grier — *Controller*

Fina Oil and Chemical Company
(Wholly Owned Subsidiary of FINA, Inc.)
Box 2159
Dallas, TX 75221
Ph: 214-750-2400
A wholly owned subsidiary of FINA, Inc., Fina Oil and Chemical Company is engaged in the exploration for and production of crude oil and natural gas as well as the refining and distribution of petroleum products under the FINA brand.
In 1982, at Port Arthur, Texas, the company began construction of a solvent de-asphalting extraction unit, which will reduce the production of No. 6 fuel oil and increase the production of more valuable light oils. This will be the first phase of a three part, multi-year project, on which engineering is currently underway to reduce the production of heavy fuel oil.
Also during 1982, the thermal cracking unit at the Big Spring refinery underwent conversion to a visbreaking unit. This process change converted excess heavy bottoms into light oils and a minimum of No. 6 fuel oil, and improved seasonal control of asphalt output and inventory levels.
In 1981, with the increase in demand for higher octane unleaded gasolines, the company began production of premium unleaded gasoline at both refineries.
The hydrogen treating facility at the Port Arthur, Texas refinery went on stream in June 1984. The remainder of the refinery construction program commenced on schedule.
On December 16, 1988, Fina Oil and Chemical Company, the main operating subsidiary of Fina, Inc., announced a fuel products modernization project at its Port Arthur, Texas refinery which, together with other related projects, cost approximately $200 million. The modernization project increased the refinery's capacity to approximately 140,000 barrels per day, and consists of a new 45,000 barrel per day cat cracker, a new 110,000 barrel per day atmospheric crude tower and a new 16,000 barrel per day [illegible]. The company was successfully completed in early 1991.
Paul D. Meek — *Chairman*
Ron W. Haddock — *President and Chief Executive Officer*
Yves Barcy — *Vice President and Chief Financial Officer*
Cullen M. Godfrey — *Vice President and General Counsel*
M. J. Couch — *Vice President, Supply and Transportation*
H. Patrick Jack — *Vice President, Chemicals*
Henry J. Lanaque, Jr. — *Vice President, Marketing*
Glenn E. Selvidge — *Vice President*
Neil A. Smoak — *Vice President, Exploration and Production*
S. R. West — *Vice President, Audit and Compliance*
James D. Grier — *Controller*
Linda Middleton — *Secretary*
Robert D. Kleinman — *Assistant Secretary*
Brendan M. O'Connor — *Treasurer*
Gerald Wise — *Assistant Treasurer and Assistant Secretary*

Dallas Production Office
Box 2159
Dallas, TX 75221
Ph: 214-750-2400
Neil A. Smeak — *Vice President, Exploration and Production*
W. J. Perry, Jr. — *Administrative Manager and Acquisitions*
Y. H. Pang — *Manager, Technical Services*
B. M. Marsh — *Manager, Land and Titles*

Midland District Office
6 Desta Drive, Suite 6400
Midland, TX 79705
Ph: 915-688-0600
E. A. Nash — *General Manager*

Port Arthur Refinery
Box 849
Port Arthur, TX 77640
Ph: 713-962-4421
Fax: 409-962-6870
The Port Arthur Refinery, which has a capacity of 140,000 BBL daily, produces gasoline and No. 2 and No. 6 diesel fuel.
Steve Cornet — *Refinery Manager*
Claire Hart — *Administrative Manager*
[illegible] — *Manager, Human Resources*
Steve Weber — *Manager, Operations Support*
Tom Butz — *Technical Manager*

Lubbock District Office
4101-A 84th Street
Lubbock, TX 79423
Ph: 806-794-1818
Kenneth Harmon — *District Manager*

Tampa District Office
601 McCloskey Blvd.
Box 75285 (33675)
Tampa, FL 33604
Ph: 813-247-4388

Big Spring Refinery
Box 1311
Big Spring, TX 79721
Ph: 915-263-7661
Fax: 915-263-7661, Ext. 308
The Big Spring Refinery has a capacity of 57,000 BBL daily.
J. D. Morris — *Refinery Manager*
Ed Holt — *Technical Manager*
Steve Pocus — *Manager, Operations*
Paul Hinton — *Manager, Administration*

LaPorte Polypropylene Plant
134 Battleground and Miller Rd
Box 888
Deer Park, TX 77536
Mail Code: LP-3, Houston
Ph: 713-476-3700
Fax: 713-476-3821
C. J. Monk — *Manager*

Cos-Mar Company
(Joint Venture of Fina Oil and Chemical Co. and G. E. Petrochemicals)
Highway 75 and River Road
Carville, LA 70721
Ph: 504-642-6454
Cos-Mar Company, a joint venture of Fina Oil and Chemical Company and G. E. Petrochemicals, Inc. has a capacity of 1,900,000,000 pounds styrene monomer yearly at the plant located in Carville, Louisiana, due to an expansion project completed in 1990.
David M. Buck — *Plant Manager*

Petrofina Delaware, Incorporated
Box 2159
Dallas, TX 75221
Ph: 214-750-2790
Fax: 214-750-2798
Telex: [illegible]
Petrofina Delaware, Incorporated was organized in 1977 in the state of Delaware, in order to take over the greatest part of the domestic activity of exploration for and production of petroleum and natural gas, [illegible] June 11, 1964 by Petrofina S.A. through various wholly owned subsidiaries.
Presently, the company is a subsidiary of Petrofina S.A., which holds 25 percent of the stock, and a 75 percent indirectly held through a Delaware holding company named American Petrofina Holding Company.
Petrofina Delaware, Incorporated's principal business activity is the exploration for and the production of petroleum and natural gas in the United States, mainly offshore and in the Permian areas. Other activities include refinance through divisions or wholly owned subsidiaries.
Joint ventures are sometimes formed between FINA, Inc. and Petrofina Delaware, Incorporated, which holds 85 percent of the common stock of Fina, Inc.
Francois Cornelis — *Chairman*
Yves Bercy — *Vice President, Administration and Finance*
Cullen M. Godfrey — *Vice President and General Counsel*
Frederick Bonnal — *Assistant Vice President*
Jimmy Smith — *Treasurer*
Linda Middleton — *Secretary*
Gerald Wise — *Assistant Secretary and Assistant Treasurer*

Houston Office
14950 Heathrow Forest Parkway
Houston, TX 77032
Ph: 713-986-6000
Fax: 713-986-6725
TWX: 910-881-6311
A. Dale Breaux — *General Manager, Engineering*
T. M. Wadsworth — *General Manager, Eastern Division*
Ed Nash — *General Manager, Western Division*
Thomas A. Lopez — *General Manager, South Texas Division*
W. E. Franklin — *General Manager, Exploration Division*

American Petrofina Exploration Company
(Wholly Owned Subsidiary of American Petrofina Holding Co.)
Box 2159
Dallas, TX 75221
Ph: 214-750-2796
Fax: 214-750-2987
American Petrofina Exploration Company was organized in 1964 in the state of Delaware.
Paul D. Meek — *Chairman and President*
Christian Buggenhout — *Vice President*
Yves Bercy — *Vice President*
M. Leon Oliver — *Vice President and General Counsel*
Jimmy L. Smith — *Treasurer*
Linda Middleton — *Secretary*

Fina Exploration Norway Incorporated
(Subsidiary of American Petrofina Exploration Company)
Box 2159
Dallas, TX 75221
Ph: 214-750-2796
Fax: 214-750-2798
Francois Cornelis — *President*
Yves Bercy — *Vice President*
M. Leon Oliver — *Vice President and General Counsel*
Jimmy L. Smith — *Treasurer*
Linda Middleton — *Secretary*

Fina Exploration Limited
(Subsidiary of American Petrofina Exploration Company)
Fina House
1 Ashley Avenue
Epsom
Surrey, KT18 5AD, United Kingdom
Ph: 44-3727-26226
Fax: 44-3727-44520
Malcolm Webb — *Chairman*
R. Thiers — *Director*
D. M. Cunningham — *Secretary*

American Petrofina Pipe Line Company
Box 2159
Dallas, TX 75221
Ph: 214-750-2400
Fax: 214-750-2987
American Petrofina Pipe Line Company operates an approximate total of 1,600 miles of crude oil pipelines in Texas, including a 407-mile crude pipeline between Crane, Texas, and Refugio, Texas, that is now bi-directional.
Reg Tricombe — *President*
Frank Tripp — *Vice President, Secretary and Treasurer*
Randy Hallman — *Manager, Pipelines*
Sam Watts — *Superintendent, Arkansas Pass, TX*
Don Weeks — *Superintendent, Crane, TX*
[illegible] — *Assistant Secretary and Assistant Treasurer*
Lanette Miller — *Assistant Secretary*

River Pipeline Company
Box 1311
Big Spring, TX 79721
Ph: 915-267-3673
River Pipeline Company is wholly owned by the trustee of Fina's Retirement Plan and is a products and crude oil pipeline operator. River Pipeline Company's

products pipeline extends from Big Spring, Texas, to Duncan, Oklahoma. The portion of this pipeline from Big Spring to Wichita Falls is known as the Trust Pipeline, and is a products pipeline. The section from Wichita Falls to Duncan Oklahoma, is known as the River Pipeline.

Jimmy A. Mayer — *President*
Cullen M. Godfrey — *Vice President*
Brendan M. O'Connor — *Vice President and Treasurer*
James D. Grier — *Controller and Assistant Treasurer*
Linda Middleton — *Secretary*
Mary Barbett — *Assistant Secretary*
Randy Hallman — *Assistant Secretary and Assistant Treasurer*

Other Subsidiaries
Fina Security, Inc.
Cosden Pipe Line Company
Fina Technology, Inc.
Cos-Mar, Incorporated
Cos-Mar Company
Fina Sales Corporation
Fina United Corporation
Finachem Sales Corporation
FinaServe, Inc.
Petrolina Gas Pipeline Company
Petrolina-U.S. Corporation
American Petrolina Pipe Line Company
Fin-Tex Pipe Line Company
Cosden, Inc.
Fina Splitter, Inc.
Fina LaTerre, Inc.
LaTerre Development Corp.
Mistal, Inc.
Fina Natural Gas Company
Fina Oil and Chemical Company
Antrhen Shipping, Inc.
Sigma Coatings, Inc.

FLYING J INC.
FLYING J GAS & OIL INC.
BIG WEST OIL CO.
50 West 500 South
Box 678
Brigham City, UT 84302
Phr: 801-734-6400
ax: 801-734-6556
alex: 62870584 E Z LINK

Flying J Inc. and its subsidiaries are engaged in exploration and production, refining, gas processing, wholesale marketing and retail marketing.

On December 31, 1985, Flying J purchased the United States downstream assets of Husky Oil Company through the purchase of its R.M.T. Properties Inc.

O. J. Call — *Chairman*
J. Phillip Adams — *President*
R. E. Germer — *Senior Vice President, Refining and Supply*
Rob Garner — *Manager, Crude and LPG Supply*
Val Ferro — *Manager, Product Supply, Western Region*
Doug Wells — *Manager, Wholesale Marketing, Western Region*

Salt Lake City Office
Box 540180
N. Salt Lake City, UT 85054
Phr: 801-298-7733
John Scales — *Vice President, Exploration and Production*
Vince Memmoo — *Manager, Refinery and Engineering Services*

HODGDEN OIL COMPANY
408 18th Street
Golden, CO 80401
Phr: 303-279-8199
Fax: 303-279-8233

Hodgden Oil Company provides geological consultants for oil operators, oil and gas exploration, and wellsite geology services. The company was established in 1970.

H. Jerry Hodgden — *President*
Shirlee Yamada — *Assistant*

HOWELL CORPORATION
1010 Lamar, Suite 1600
Houston, TX 77002-9990
Phr: 713-658-4000
Fax: 713-658-4007

Howell Corporation is a integrated independent energy company. Through wholly owned operating units, Howell is engaged in oil and gas exploration and production, crude oil and natural gas marketing, technical fuels manufacturing and marketing, custom chemical processing, product terminalling and common carrier bulk liquids transportation of hydrocarbons and chemicals.

Paul N. Howell founded the company in 1935 as a San Antonio, Texas refiner. Since becoming publicly traded in 1969, the company has moved from refining and technical services to exploration and production, its primary business since 1980. In 1982 internal crude oil gathering and marketing operations were expanded to service operators in Texas, Louisiana and Oklahoma. In 1989 internal transport operations were consolidated and expanded to service third parties. The company entered the chemical toll processing business in 1989 after modifying an improved site in Channelview, Texas, purchased in 1988. In 1991, a custom-designed research and reference fuel facility was added and the San Antonio, Texas operation relocated to Channelview, Texas. The San Antonio, Texas plant was sold in 1992.

On July 6, 1993, Howell Corporation acquired non-expiring fee mineral interests covering approximately 1,778,000 gross and 878,000 net acres from the Federal Intermediate Credit Bank of Jackson, Mississippi for $24.1 million. The acquisition is subject to the negotiation of a definitive agreement with a closing contemplated for early August. The fee mineral interests, located in Mississippi (64%), Alabama (35%) and Louisiana (1%), include proved developed producing reserves as of December 31, 1992, of one million barrels of oil equivalent (BOE), split evenly between oil and gas. During 1992 the reserve base generated $2.7 million in royalty income with additional lease bonus and delay rental income of $.5 million. As of December 31, 1992, only 16% of the acreage was under lease, with only 1.4% currently held by production. Howell is now the largest mineral owner in the southeastern region.

Paul N. Howell — *Chairman and Chief Executive Officer*
Paul W. Funkhouser — *President and Chief Operating Officer*
Allyn R. Skelton II — *Senior Vice President and Chief Financial Officer*
Karen N. Pape — *Vice President and Controller*
Gordon E. Goodman — *Vice President*
Sandra M. Ryan — *Manager, Investor Relations*

Howell Petroleum Company
(Operating Unit of Howell Corporation)
1010 Lamar Building, Suite 1600
Houston, TX 77002-9990
Phr: 713-658-4100
Fax: 713-658-4012

Howell Petroleum Company was formed by the Howell Corporation in 1979 for the purpose of acquiring the oil and gas properties of a public Colorado-based limited partnership. Late in 1979, the limited partnership was consolidated into Howell Petroleum, with the addition of oil and gas properties which had previously been owned separately by Howell Corporation. Howell Petroleum became a wholly owned operating unit of Howell Corporation through a successful cash tender offer in 1984. Howell Petroleum Company and its subsidiaries engage in oil and gas exploration, acquisition, development and operation of onshore and offshore oil and gas properties.

M. R. Drake — *President*
J. W. Abernathy — *Vice President, Operations and Engineering*
Robert H. Nunnallee — *Vice President, Land*
Don J. Chevrusse — *Vice President, Accounting*
Charles P. Hurd — *Vice President, Exploration*
Lamar E. Loyd — *Vice President, Development*

Venice Field Office
Box 705
Venice, LA 70091
Phr: 504-534-7450

Paul Oriagu — *Superintendent*
Nicholas Cage Lundy — *Superintendent*

Bryan Field Office
Route 5, Box 514-A
Bryan, TX 77803
Phr: 409-823-8218

Duane Sorull — *Foreman, Production*

Howell Hydrocarbons & Chemicals Inc.
(Operating Unit of Howell Corporation)
1201 South Sheldon Road
Box 429
Channelview, TX 77530
Phr: 713-457-2768
Fax: 713-457-1489

Howell Hydrocarbons & Chemicals, Inc. was formed in 1990 through a merger of Howell Hydrocarbons and Howell Chemical Systems. Operations are located on a 51-acre site served by rail, truck, barge and pipeline. It is engaged in chemical toll processing and terminalling, and the manufacture and marketing of specialty research and reference fuels.

David Robinson — *President*
William L. Gibson — *Vice President, Operations*
Robert Rumford — *Vice President, Marketing*
George Preus — *Vice President, Safety, Health and Environmental*

Howell Crude Oil Company
(Operating Unit of Howell Corporation)
1010 Lamar Building, Suite 1600
Houston, TX 77002-9990
Phr: 713-658-4000
Fax: 713-658-4153

GAS VALUATION EXAMPLE

Example #1 - Affiliate resells gas at the wellhead under an arm's length contract for a higher price than the non-arm's length price paid to the producer (lessee).

Facts: 1) Producer (lessee) = Fina Oil and Chemical Company (FOCC)
2) Affiliate = Fina Natural Gas Company (FNGC)
3) Arm's length Purchaser = Northern Natural Gas (NNG)
4) Lease = Federal Lease #054-002391-0 (High Island Block 571)
5) Sample month = November 1990

Price Identification and Comparison:

1) Non-arm's Length Price

FOCC produced 441,483 MMBtu from H.I. Block 571 in November 1990 and sold it to FNGC for $1.79/MMBtu. The following source documents identify the non-arm's length price.

a. Non-arm's length contract dated October 1, 1990
b. November non-arm's length price list for FOCC properties
c. Sales Voucher between FOCC/FNGC for November 1990 production

2) Arm's Length Price

FNGC sold 189,503 ~~MMBtu~~ mcf (211,101 MMBtu) ~~(mcf)~~ of the H.I. Block 571 production to NNG in November 1990 for $2.00/MMBtu. The following source documents identify the arm's length price, sales point, quantity, and purchaser.

a. Arm's length contract between FNGC and NNG = $2.00/MMBtu
b. NNG purchaser statement shows mcf prices. Conversion follows:

Lease Wells:	$2.224/mcf	1.112 Btu = $2.00/MMBtu
Unit Wells:	$2.266/mcf	1.133 Btu = $2.00/MMBtu

3) Gross Proceeds vs. Benchmarks

The affiliates gross proceeds ($2.00/MMBtu) are equivalent to arm's length prices of other producers operating in the H.I. Block 571 Field. The major portion analysis identifies the prices for other producers operating in the Field (see attachment). The lowest arm's length price for gas produced from the Field in November 1990 was $1.94/MMBtu.

Valuation.

- Royalty is based on the gross proceeds received by the affiliate (FNGC) under its arm's length contract with NNG. Since the affiliate resold the gas at the wellhead, thereby incurring no transportation costs, allowances are not considered in determining value.

- FOCC paid royalties based on the non-arm's length price of $1.79/MMBtu. Therefore, FOCC underpaid royalties on the gas sold to NNG by $.21/MMBtu.

- The comparison of the affiliates gross proceeds with other producers prices shows that FNGC's gross proceeds are equivalent to arm's length prices, and therefore acceptable for royalty purposes.

GAS VALUATION EXAMPLE

Non-arm's Length Source Document

GAS PURCHASE AGREEMENT

BETWEEN

FINA NATURAL GAS COMPANY

AND

FINA OIL AND CHEMICAL COMPANY

DATED

OCTOBER 1, 1990

allocated interest in such unitized production insofar as such interest is attributable to the properties subject hereto.

ARTICLE IV
DELIVERY POINT(S)

4.1 The Delivery Point(s) shall be those specified in Appendix "A".

ARTICLE V
PRICE

5.1 The price for all gas that is sold and delivered to Seller hereunder shall be determined each month for each Supply Package from which gas is produced and sold hereunder in accordance with either Paragraph 5.1.1 or Paragraph 5.1.2 below.

5.1.1 If Buyer is purchasing gas that is substantially the same quality and quantity and produced in the same Field (or, if necessary to identify comparable purchases by Buyer, in nearby Fields) as the gas sold hereunder from a Third Party(ies) under terms and conditions comparable to those provided herein, then the price paid by Buyer to Seller hereunder will be equal to the average of the prices then being paid by Buyer for such gas. In determining comparable terms and conditions, due consideration will be given to all factors reasonably relevant, including pressure base, quantity, quality, delivery point, delivery pressure, and gathering, transportation and compression charges.

5.1.2 If Buyer is not purchasing gas from a Third Party as described in Paragraph 5.1.1 above, then the monthly price in

dollars per million Btu's ($/MMBtu) will be calculated using the following formula:

MONTHLY PRICE =	SPOT INDEX	−	LOCATION DIFFERENTIAL	±	TERM ADJUSTMENT	− APPROPRIATE TREATING AND RELATED COSTS

where:

SPOT INDEX: The Spot Index shall be equal to a mutually agreeable spot market index published by Inside FERC, Natural Gas Week, or Natural Gas Intelligence in the first publication of the month for the month of deliveries, or some other index that in the agreement of both parties best approximates the location and pipeline connection of the gas from the Supply Package made available by Seller for sale hereunder. If for any Month, the agreed upon index is not published or otherwise not available, Buyer and Seller shall mutually agree on a substitute index.

LOCATION DIFFERENTIAL: When the Delivery Point(s) for the Supply Package is (are) not exactly the same as the quoted delivery point(s) of the agreed upon Spot Index, the Location Differential shall be equal to the sum of the costs that would be incurred in moving the gas from the Delivery Point(s) to the point(s) utilized

in the applicable Spot Index. An adjustment may be applied to the Location Differential to remove the historical bias of the Spot Index for the Supply Package; such adjustment shall be based upon a comparison of the agreed upon Spot Index and the Spot Sales price for the Supply Package received by Seller from Third Parties during the twelve-month period prior to the effective date of this Agreement.

TERM ADJUSTMENT: The Term Adjustment shall reflect the price differential between the Spot Index and Term Purchases by Buyer from Third Parties under comparable conditions.

APPROPRIATE TREATING AND RELATED COSTS: Treating and related costs are those treatment, dehydration, and compression costs incurred by Buyer between the Delivery Point(s) of gas received from Seller and the point(s) utilized in the applicable Spot Index.

In the event that Paragraph 5.1.2 is applicable, the pricing components referenced hereinabove shall be as described in Appendix "A".

APPENDIX "A"

SUPPLY PACKAGE DETAILS

This Appendix "A", Supply Package Details, effective October 1, 1990, is attached to and is made part of that certain Gas Purchase Agreement dated October 1, 1990, by and between FINA NATURAL GAS COMPANY and FINA OIL AND CHEMICAL COMPANY.

SUPPLY PACKAGE NUMBER: 72569

SUPPLY PACKAGE NAME: HI BLK 571

PRICING FORMULA:

MONTHLY PRICE (IN $/MMBTU)	= SPOT INDEX	- LOCATION DIFFERENTIAL	+- TERM ADJUSTMENT	- APPROPRIATE TREATING AND RELATED COSTS
	= AVG. IF: NGPL,TXGC/ TRNSC ZZ/TN OS	-0.20^0.03	- 0.01	(1)

Therefore,
Monthly Price = AVG. INSIDE FERC: NGPL,TXGC/ TRNSC ZZ/TN OS - 0.18 (1)
(IN $/MMBTU)

Where "AVG. INSIDE FERC: NGPL,TXGC/TRNSC ZZ/TN OS" shall be the average of the prices in $/MMBTU listed under the heading "Index" in the table "Prices of Spot Gas Delivered to Pipelines" for the current month in the first issue of each month of "Inside F.E.R.C.'s Gas Market Report" for "Natural Gas Pipe Line Co. of America, Texas (Gulf Coast Line)" and "Tennessee Gas Pipe Line Co., Offshore" and "Transcontinental Gas Pipe Line Corp. Station 45 (Zone 2)".

(1) Additional Shipper/transporter fees (or cost) may be applicable.

Appendix "A" (Continued)

...-- of Properties

T PACKAGE	DIV	Seller's Trans-porter	Buyer's Trans-porter	Delivery Point	Field	Well	PROD. LSE #	County	ST	Working Interest
571	OCS		HIOS	WELLHEAD	HI BLK 571-A	HI BLK 571-A	626900	FED	TX	0.2083500
	OCS		HIOS	WELLHEAD	HI BLK 571-A	HI BLK 571-A (2)	626900	FED	TX	0.2083500
	OCS		HIOS	WELLHEAD	HI BLK 571-A	HI BLK 571-A (3)	626900	FED	TX	0.2083500
	OCS		HIOS	WELLHEAD	HI BLK 571-A	HI BLK 571-A (4)	626900	FED	TX	0.2083500
	OCS		HIOS	WELLHEAD	HI BLK 571-A	HI BLK 571-A (5)	626900	FED	TX	0.2083500
	OCS		HIOS	WELLHEAD	HI BLK 571	HI BLK 571-A	626900	FED	TX	0.2083500
	OCS		HIOS	WELLHEAD	HI BLK 571-C	HI BLK 571-C	626896	FED	TX	0.0592800
	OCS		HIOS	WELLHEAD	HI BLK 571-C	HI BLK 571-C (2)	626896	FED	TX	0.0592800
	OCS		HIOS	WELLHEAD	HI BLK 571-C	HI BLK 571-C	626896	FED	TX	0.0592800

GAS VALUATION EXAMPLE

Non-arm's Length Source Document B

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NOVEMBER PRICES

Region	Supply Package	Index	Location Diff	Location Diff Adj	Tenn Discount	Treating and Other	Index Price	TOTAL PRICE
EAST TX	BETHANY	IF-LIMITED (TEX.)	$0.000	$0.000	($0.010)	$0.000	$2.000	$1.990
	CALHOUN-CHENIERE CADEVILLE	IF-LIMITED (LOU.)	$0.000	$0.000	($0.010)	$0.000	$2.000	$1.990
	CALVIN	NGI-N. LOU (LO)	($0.280)	$0.120	($0.010)	$0.000	$2.010	$1.970
	DELHI-EAST TEXAS	NGI-E. TX. (INTRA)	($0.280)	$0.000	($0.010)	$0.000	$2.000	$1.830
	HAYNESVILLE-ANGI (NEW)	NGI-N. LOU (TEXAS GAS)	$0.000	$0.000	($0.010)	$0.000	$2.000	$2.030
	HAYNESVILLE ANGLA	[illegible]	[illegible]	[illegible]	[illegible]	$0.000	$2.000	$1.780
	HAYNESVILLE STEPHENS GAS	NGI-N. LOU (INTRA)	($0.280)	$0.000	($0.010)	$0.000	$2.000	$1.780
	OAK HILL	IF-LIMITED (TEX.)	$0.000	$0.000	($0.010)	$0.000	$2.000	$1.990
	OVERTON	IF-LIMITED (TEX.)	$0.000	$0.000	($0.010)	$0.000	$2.000	$1.990
MID-CON	ALEDO	IF-PAN. EASTERN	$0.000	($0.040)	($0.010)	$0.000	$1.750	$1.700
	AMARILLO AREA	NGI-TEXAS PAN. (INTER	$0.140)	$0.000	($0.010)	$0.000	$1.000	$1.070
	BATTLEMENT MESA	IF-NORTHWEST (ROCKY MTNS.)	($0.160)	($0.240)	($0.010)	$0.000	$1.000	$1.100
	BLUNK KANSAS	NGI-TEXAS PAN. (WILLIAMS)	($0.330)	($0.000)	($0.010)	$0.000	$1.010	$1.830
	BRADSHAW A	NGI-TEXS PAN. (INTER)	($0.160)	($0.010)	($0.010)	$0.000	$1.000	$1.700
	DELHI-WEST OKLAHOMA	NGI-TEXAS PAN. (INTER)	($0.260)	($0.000)	($0.010)	$0.000	$1.000	$1.400
	MADDEN DEEP	NGI-RKY. MTN. (COG	($0.190)	$0.000	($0.010)	$0.000	$1.000	$1.480
	MOCANE-LAVERNE ANA	IF-ANR (OKLAHOMA)	($0.190)	$0.190	($0.010)	$0.000	$1.750	$1.730
	MOCANE-LAVERNE NNG	IF-NNG (OKLAHOMA)	($0.190)	$0.010	($0.010)	$0.000	$1.000	$1.000
	PHILADELPHIA CREEK	IF-NORTHWEST (ROCKY MTNS.)	($0.330)	($0.000)	($0.010)	$0.000	$1.000	$1.150
	RUSSIAN FIELD	IF-NORTHWEST (ROCKY MTNS.)	($0.010)	[illegible]	[illegible]	$0.000	$1.000	$1.100
	TIPTON COX	IF-ANR (OKLAHOMA)	$0.000	($0.000)	($0.010)	($0.000)	$1.750	$1.100
OFFSHORE	BRAZOS A 43/98 (NEW)	IF-TRANSCO (STN. 30)	$0.000	$0.000	($0.010)	$0.000	$1.040	$1.030
	GALVESTON 241/255	IF-TRANSCO (STN. 30)	($0.100)	$0.000	($0.010)	$0.000	$1.040	$1.020
	HIGH ISLAND 164/168	IF-TRANSCO (STN. 45)	($0.100)	$0.040	($0.010)	$0.000	$1.000	$1.010
	HIGH ISLAND 371 A & C	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	HIOS SUPPLY	AVG. IF-HSPL, TEX. GC/TRANSCO 23/15/NN OFF	($0.160)	$0.120	($0.010)	$0.000	$1.970	$1.880
	HIOS 23 EAL 246 A	IF-TRANSCO (STN. 45)	($0.130)	$0.070	($0.010)	$0.000	$1.000	$1.010
	SOUTH TIMBALIER 76	IF-TRUNKLINE	$0.000	$0.000	($0.010)	$0.000	$2.000	$2.040
	[illegible]	NGI-S. LOU. (ANR OFFSHORE)	($0.130)	$0.000	($0.010)	$0.000	$2.000	$1.900
	WEST CAMERON 167 A	NGI-S. LOU. (ANR W. CAM. 167)	($0.080)	$0.100	($0.010)	$0.000	$1.970	$1.970
	WEST CAMERON 480	IF-TEXAS EAST (LOU.)	($0.070)	($0.020)	($0.010)	$0.000	$2.000	$1.970
SOUTH LOU	BAY BAPTISTE	NGI-S. LOU. (COLUMBIA, ONSHORE)	$0.000	$0.000	($0.010)	$0.000	$2.000	$2.030
	BAYOU DULARGE	NGI-S. LOU. (LO)	$0.000	$0.000	($0.010)	$0.000	$2.000	$2.010
	BIENVILLE ONE PIPE	IF-TRUNKLINE	$0.000	($0.020)	($0.010)	$0.000	$2.000	$2.020
	CHARENTON	NGI-S. LOU. (TEX GAS)	$0.000	$0.000	($0.010)	$0.000	$2.000	[illegible]
	CHAUVIN	IF-LIMITED (LOU.)	$0.000	$0.000	($0.010)	$0.000	$2.000	$2.030
	FOUR ISLE DOME	IF-TENNESSEE (LOUISIANA)	$0.000	$0.000	($0.010)	($0.000)	$2.000	$1.990
	FOUR LEAGUE BAY	NGI-S. LOU. (LIMITED)	$0.000	$0.000	($0.010)	$0.000	$2.000	$2.020
	GRAND BOIS	AVG. NGI S. LOU. (INTRA/TEXAS EAST)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	LAKE DECADE	AVG. NGI S. LOU. (TRANSCO ZONE)	$0.000	$0.000	($0.010)	$0.000	$1.000	$1.070
	L. DEFD. LAPEYROUSE, L. BOURDEAUX	NGI S. LOU. (LO)	$0.000	$0.000	($0.010)	$0.000	$2.000	$2.010
	MALLARD BAY	NGI-S. LOU. (TEX GAS)	$0.000	($0.030)	($0.010)	$0.000	$2.000	$1.960
	[illegible]	AVG. NGI S. LOU. (INTRA)	$0.000	($0.020)	($0.010)	$0.000	$2.000	$2.070
	MEDOM RANCH	AVG. NGI S. LOU. (LRC/ANR)	$0.020	($0.020)	($0.010)	$0.000	$2.000	$2.030
	MEDOM RANCH DEV	AVG. NGI S. LOU. (LRC/ANR/HOPL)	($0.000)	$0.020	($0.010)	$0.000	$2.000	$2.040
	VERMILION 16	IF-TRANSCO (STN. 65)	$0.000	$0.020	($0.010)	$0.000	$1.000	$1.990
SOUTH TX	AQUA DULCE	NGI-S. TX. (TENN)	$0.000	$0.000	($0.010)	$0.000	$1.000	$1.990
	[illegible]	IF-TEXAS EASTERN (TEXAS	$0.000	($0.020)	($0.010)	$0.000	$1.000	$1.970
	CABEZA CREEK	NGI-S. TX. (LIMITED	$0.000	$0.000	($0.010)	$0.000	$1.000	$1.970
	CLEDGE CANYON	NGI-S. TX. (HOUSTON)	$0.000	$0.010	($0.010)	($0.150)	$1.010	$1.780
	CYPRESS	NGI-S. TX. (TENN)	$0.000	$0.000	($0.010)	$0.000	$1.000	$1.990
	DELHI-SOUTH TEXAS	NGI-S. TX. (INTRA)	($0.280)	$0.030	($0.010)	$0.000	$1.000	$1.940
	EAST MAGNE	IF-NGPL TEXAS (OC LINE)	$0.000	($0.000)	($0.010)	$0.000	$2.000	[illegible]
	EL BANITO and WEST MINOE	NGI-S. TX. (INTRA)	($0.030)	$0.000	($0.010)	$0.000	$1.000	$1.960
	FROST DEDICATED	NGI-S. TX. (TENN)	$0.000	$0.000	($0.010)	$0.000	$1.000	$1.990
	FROST UNDEDICATED	NGI-S. TX. (TENN)	$0.000	$0.000	($0.010)	$0.000	$1.000	$1.990
	GUADALUPE	NGI-S. TX. (TENN)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	HEYSER	NGI-S. TX. (TENN)	$0.000	$0.000	($0.010)	$0.000	$1.000	$1.990
	HOUSTON PIPELINE	NGI-S. TX. (HOUSTON)	$0.000	($0.020)	($0.010)	$0.000	$1.010	$1.980
	LAS OVEJAS	NGI-S. TX. (TENN)	($0.150)	$0.000	($0.010)	$0.000	$1.000	$1.900
	[illegible]	NGI-S. TX. (TRUNKLINE, TX)	$0.000	$0.000	($0.010)	$0.000	$2.000	$2.020
	MCALLEN RANCH	AVG. NGI S. TX. (HOUSTON/VALETO)	($0.070)	$0.000	($0.010)	$0.000	$1.000	$1.920
	PIEDMONT	NGI-S. TX. (TENN)	$0.000	$0.000	($0.010)	$0.000	$1.000	$1.990
	SHELL MCALLEN RANCH	AVG. NGI S. TX. (TRUNKLINE/HOPL/UNITA)	($0.050)	$0.000	($0.010)	$0.000	$1.017	$1.957
	TARASCO	NGI-S. TX. (TENN)	$0.000	$0.000	($0.010)	$0.000	$1.000	$1.990
	UTSCHEL	NGI-S. TX. (TENN)	$0.000	$0.000	($0.010)	$0.000	$1.000	$1.990
	UTTCO SUPPLY	NGI-S. TX. (INTRA)	$0.000	($0.050)	($0.010)	$0.000	$1.000	$1.940
	VALETO SUPPLY	NGI-S. TX. (VALETO)	$0.000	($0.020)	($0.010)	$0.000	$1.000	$1.970
	VITCO SUPPLY	NGI-S. TX. (VALETO)	($0.060)	($0.010)	($0.010)	$0.000	$1.000	$1.930
	WEST RHODES RANCH	NGI-S. TX. (HOUSTON)	($0.040)	$0.010	($0.010)	$0.000	$1.010	[illegible]
WEST TX	BROWN BASSETT	NGI-W. TX. (VALERO)	$0.000	($0.040)	$0.010)	$0.000	[illegible]	[illegible]
	CAVEAT EMPTOR	NGI-W. TX. (VALERO)	$0.000	($0.000)	$0.010)	$0.000	$1.000	$1.940
	GREY RANCH	NGI-W. TX. (VALERO)	$0.000	($0.020)	$0.010)	$0.000	$1.000	$1.980
	PETTMAN	IF-EL PASO (PETTMAN)	($0.460)	$0.000	$0.010)	$0.000	$1.000	$1.540
	[illegible]	IF-EL PASO (SAN JUAN)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	TRANSWESTERN PIPELINE PACKAGE	IF-TRANSWESTERN	($0.130)	$0.000	$0.010)	$0.000	$1.000	$1.700
	WAHA CITY BLOCK 12	NGI-TEXAS PAN. (WAHA)	$0.000	$0.010)	$0.010)	$0.000	$1.000	$1.870
	VERAM 27	NGI-W. TX. (VALERO)	$0.000	$0.000	$0.010)	$0.000	$1.000	$1.700

GAS VALUATION EXAMPLE

Source Document E

Inside F.E.R.C.'s
GAS MARKET REPORT

November 5, 199

Special Report

PRICES TUMBLING FROM BIDWEEK HIGHS AS INFLATED LEVELS FAIL TO HOLD

Skyrocketing prices for Nov. 1 deliveries were "pure revenge," according to one marketing company official when asked why prices shot to such unexpected levels. Gas prices this year have been at lows that have "hurt" and sellers "hit back twice as hard" this month, he said. "Historical pricing went out the door," he added.

Some market sources looked at the closing November futures contract price of $1.97/MMBtu as the floor for this month's prices, which took off from there. But what was particularly unusual about spot prices for Nov. 1

PRICES OF SPOT GAS DELIVERED TO PIPELINES, NOV. 1
(per MMBtu dry)

	Range	Index
ANR Pipeline Co.		
Louisiana	$1.92 to $2.10	$2.02
Oklahoma	$1.67 to $1.85	$1.75
Offshore	$1.85 to $2.08	$1.98
Arkla Energy Resources		
Arkansas, Oklahoma	$1.75 to $2.00	$1.92
Colorado Interstate Gas Co.		
Rocky Mountains	$1.50 to $1.74	$1.63
Columbia Gas Transmission Corp.		
Appalachia (W.Va., Ohio, Ky.)	$2.28 to $2.48	$2.42
Broad Run, W.Va.	$2.23 to $2.49	N.A.
Columbia Gulf Transmission Co.		
Louisiana	$1.90 to $2.18	$2.10
Offshore	$1.85 to $2.07	$2.00
El Paso Natural Gas Co.		
Anadarko Basin	$1.72 to $1.99	$1.83
Permian Basin	$1.76 to $2.07	$1.95
San Juan Basin	$1.80 to $2.06	$1.93
Enogex Inc.		
Oklahoma	$1.68 to $1.90	$1.82
Florida Gas Transmission Co.		
Louisiana	$2.10 to $2.15	$2.12
Natural Gas Pipeline Co. of America		
Oklahoma	$1.70 to $1.98	$1.85
Louisiana	$1.94 to $2.13	$2.04
Texas (Gulf Coast Line)	$1.82 to $2.06	$2.00
Northern Natural Gas Co.		
Texas, Oklahoma, Kansas	$1.65 to $2.05	$1.83
Ventura, Iowa	$1.78 to $2.05	N.A.
Northwest Pipeline Corp.		
Rocky Mountains	$1.54 to $1.64	$1.60
Canadian border	$1.57 to $1.64	$1.60

	Range	Index
ONG Transmission Co.		
Oklahoma	$1.65 to $1.95	$1.84
Panhandle Eastern Pipe Line Co.		
Texas, Oklahoma	$1.68 to $1.85	$1.75
Southern Natural Gas Co.		
Louisiana	$1.98 to $2.14	$2.06
Tennessee Gas Pipeline Co.		
Louisiana	$1.85 to $2.12	$2.05
Offshore (mainline)	$1.85 to $2.12	$2.03
Texas (Wharton)	$1.88 to $2.10	$1.96
Texas Eastern Transmission Corp.		
Louisiana	$1.92 to $2.13	$2.08
Texas	$1.78 to $2.02	$1.95
Texas Gas Transmission Corp.		
Zone 1	$1.88 to $2.08	$2.05
Zone SL	$1.85 to $2.10	$2.04
Transcontinental Gas Pipe Line Corp.		
Station 30 (Zone 1)	$1.70 to $1.99	$1.84
Station 45 (Zone 2)	$1.80 to $2.04	$1.88
Station 65 (Zone 3)	$1.90 to $2.08	$1.95
Mississippi, Alabama	$1.98 to $2.08	$2.06
Transwestern Pipeline Co.		
Permian Basin	$1.74 to $1.93	$1.92
Trunkline Gas Co.		
Field zone (Texas, Louisiana)	$1.88 to $2.11	$2.05
United Gas Pipe Line Co.		
Louisiana	$1.93 to $2.11	$2.04
Texas	$1.90 to $2.04	$2.00
Valero Natural Gas L.P.		
Texas	$1.86 to $2.00	$1.91
Williams Natural Gas Co.		
Texas, Oklahoma, Kansas	$1.70 to $1.91	$1.84

GAS VALUATION EXAMPLE

Source Document

	November Index Price
NGPL - Texas Gulf Coast	$ 2.00
TRANSCO - Zone 2	1.88
TENN. Offshore	2.03
	$ 5.91
	÷ 3
Index Price used by FOCC to sell to ENGC the gas from HIS 571 A.C (Lease #2391).	$ 1.97
Location Diff.	— .20
Location Diff Adj.	+ .03
Term Discount	— .01
Purchase Price = MMBtu	$ 1.79

GAS VALUATION EXAMPLE

Non-arm's Length Source Document C

CONQUER CODE SHEET

FNGC / HI 571
Filter Name

70069
Filter Number

01
Company Number

ENTERED JAN 7 1991 [initials]
Entered Initial

$1.79/MMBTU
Price

1.112 14.73 DAY
BTU Factor

DEC 90
CONQUER CYCLE
1 (2) 3

Supervisor Approval [initials]

W. TRAVIS
Accountant Name

63
Distribution Number

GASSTMT 1
Check#(clearing, gasstmt, etc.)

20835
Inflation Factors

PAGE 1 OF ____

PLN 626900-0001-03

Cal. Date	Remitter Lease#	Final Lease Number	Volume (MCF)	Volume (MMBTU)	Gross Value	Taxes	Expenses	Net Value	Net Amount
90	HI 571A	626900-0000-28	397,011	441,483	$790,254.57		MMS NOTE: This invoice shows FNGC paid FOCC $1.79 per mcf in November 1990 for gas produced from W.I. Block 571, LEASE #054000511-0 production. $790,254.57 ÷ 397,011 mcf = $1.9904 per mcf.		
		(sales value shown on B-1) =			$738,290.87				
	TOTAL GROSS PROCEEDS FOCC RECEIVED FOR LEASE #2341 PRODUCTION. THIS AGREES WITH THE SALES VALUE FOCC REPORTED IN STATSC UNDER REVENUE SOURCE 001.				$1,528,545.44				

Signature

GAS VALUATION EXAMPLE

NATURAL GAS SALES CONFIRMATION

Arm's Length Source Document A

THIS NOTICE IS TO CONFIRM OUR TELEPHONE CONVERSATION.

SELLER:

FINA Natural Gas Company
8350 N. Central Expressway
Dallas, TX 75206

FAX: (214) 750-2582

BUYER:

Enron - NNG
Glen Hass
2223 Dodge St.
Omaha, NE 68102
FAX: (402) 633-4228

MAXIMUM DAILY QUANTITY: 6800 MMBtu/day

PURCHASE PRICE: $2.00 MMBtu/day (dry)

PURCHASE PERIOD: November 1, 1990 through November 30, 1990

POINT(S) OF DELIVERY: HI 571

TRANSPORTING PIPELINE: N/A

DISPATCHER: Kenneth E. Shade
PHONE NO.: (214) 750-2762

PAYMENTS: Payments due on nominated volumes. Invoice by 10th day after month, payment due by 20th. Adjustments made based on actuals.

Amounts over $10,000 are to be wire transferred.

BY CHECK:
FINA Natural Gas Company
P.O. Box 2159
Dallas, TX 75221
Attn: Revenue Accounting

WIRE TRANSFER INSTRUCTIONS:
Mellon Bank, NA
Pittsburgh, PA
Acct. # 107-87-47
ABA Routing #043000261
For credit to account of FINA Natural Gas Company

IF YOU AGAREE TO THIS UNDERSTANDING OF OUR DISCUSSION, PLEASE SIGN BELOW: A SALES AGREEMENT WILL BE FORTHCOMING BASED ON OUR DISCUSSION.

I acknowledge that this confirms our telephone conversation.

BUYER: _____ DATE _____

SUBMITTED BY: Thomas M. Rainwater DATE 10/31/90
(214) 750-4142

Please return by fax to FINA within 48 hours.

UP50\SALES\CONFIRM\(ALT A)\ENRCONF.NOV

GAS VALUATION EXAMPLE

Arm's Length Source Document B

ENRON CORP

NORTHERN NATURAL GAS COMPANY
P.O. BOX 1188
HOUSTON TEXAS 77251-1188

PAYEE NO. 01162

DATE OF CHECK 07-25-91

This check is VOID unless printed on BLUE background

EXACTLY $***168,687 DOLLARS 37 CENTS

AMOUNT OF CHECK $***168,687.37

PAY TO THE ORDER OF
FINA NATURAL GAS COMPANY
ATTN: REVENUE ACCOUNTING
P.O. BOX 2159

DALLAS, TX 75221

UNITED BANK OF GRAND JUNCTION

BY [signature] FOR THE CORPORATION

⑈1799015989⑈ ⑆102100918⑆ 606 0033663⑈

FROM NORTHERN NATURAL GAS COMPANY TO FINA NATURAL GAS COMPANY

PAGE 001 OF 001

DETACH THIS STATEMENT AND KEEP FOR TAX PURPOSES - DUPLICATES CANNOT BE FURNISHED - REFER TO PAYEE NO. AND CONTRACT REFERENCE NO. WHEN WRITING

DATE MONTH YEAR	CONTRACT REFERENCE	STATION NUMBER	ITEM	PRESS	CLASS	NOTES	TOTAL STATION VOLUME	BTU	PAYEE INTEREST (DECIMAL)	ITEM PRICE	PRESS	TAXES
11 90	36240	440009	1.1	3	1		171,669	1112	1.00000000	2.224000	381,791.86	
11 90	36240	440009	1.1	3	1		-171,669	1112	1.00000000	2.262920	-388,473.21	
12 90	36240	440009	1.1	3	1		199,648	1118	1.00000000	2.437240	486,590.09	
12 90	36240	440009	1.1	3	1		-199,648	1118	1.00000000	2.275130	-454,225.15	
05 91	36240	440009	1.1	3	1		-98,464	1107	1.00000000	1.372680	135,159.56	
10 90	36240	440017	1.1	0	1		22,181			.000000	.00	
10 90	36240	440017	1.1	0	1		-21,088			.000000	.00	
11 90	36240	440017	1.1	3	1		-16,936	1133	1.00000000	2.266000	-38,376.98	
11 90	36240	440017	1.1	3	1		17,834	1133	1.00000000	2.266000	40,411.84	
12 90	36240	440017	1.1	3	1		26,547	1135	1.00000000	2.474300	65,685.24	
12 90	36240	440017	1.1	3	1		-24,884	1135	1.00000000	2.406200	-59,875.88	
05 91	36240	440017	1.1	3	1		0	1000	1.00000000	1.240000	.00	
06 91	36240	575012	1.1	3	1		0	1011	1.00000000	.970560	.00	
06 91	36240	575013	1.1	3	1		0	983	1.00000000	.943680	.00	
										TOTALS	168,687.37	.00

1.1 NATURAL GAS - FIRM

IF YOU HAVE ANY QUESTIONS REGARDING THIS PAYMENT, PLEASE CALL THE APPROPRIATE DEPARTMENT AT THE NUMBER LISTED BELOW.
GAS ACCOUNTING AT (713) 853-3181 CONTRACT ADMINISTRATION AT (402) 398-7177

AMOUNT OF CHECK *****168,687.37

<464.49> 11/90
Ø 6/91
135,159.56 5/91
38,174.30 12/90
Ø 10/90

MMS

MCF @ 14.73 P.B.	Conversion Factor	MCF @ 15.025 P.B.
171,669	.980566	[illegible]
[illegible]	.980566	[illegible]

[illegible]

H.I. Block 571 Field - November 1990

Lease Number	Sales Month	PAYOR	Sales Quantity	Percent of Sales	Cumulative % of Sales	Sales Value	Royalty Quantity	Royalty Value	Unit Price (mcf)	Btu	MMBtu Price
2392	9011	17080	126,905.43	0.0371	100.000%	$333,634.38	21,150.91	$55,606.21	$2.6290	1.118	$2.3515
2391	9011	17080	53,118.43	0.0155	96.287%	$139,648.35	8,853.07	$23,274.73	$2.6290	1.118	$2.3515
2393	9011	17080	6,684.15	0.0020	94.732%	$17,572.63	1,114.03	$2,928.77	$2.6290	1.118	$2.3515
2391	9011	17080	42,996.20	0.0126	94.537%	$114,681.61	7,166.03	$19,113.61	$2.6673	1.135	$2.3500
2391	9011	17080	747,391.00	0.2187	93.279%	$1,958,351.27	124,565.19	$326,391.94	$2.6203	1.115	$2.3500
2392	9011	17080	102,722.37	0.0301	71.410%	$273,986.27	17,120.40	$45,664.38	$2.6672	1.135	$2.3500
2393	9011	17080	5,410.42	0.0016	68.404%	$14,430.84	901.74	$2,405.16	$2.6672	1.135	$2.3500
2391	9011	17080	1,245.00	0.0004	68.246%	$3,262.21	207.50	$543.70	$2.6202	1.115	$2.3500
2392	9011	10862	85,430.17	0.0250	68.209%	$215,312.25	14,238.37	$35,885.40	$2.5203	1.118	$2.2543
2391	9011	10862	35,756.83	0.0105	65.710%	$90,119.03	5,959.47	$15,019.82	$2.5203	1.118	$2.2543
2393	9011	10862	9,321.00	0.0027	64.663%	$23,292.38	1,553.51	$3,882.06	$2.4989	1.118	$2.2351
2393	9011	73750	2,953.04	0.0009	64.391%	$8,999.08	492.17	$1,166.51	$2.3701	1.118	$2.1200
2392	9011	73750	1,806.02	0.0005	64.304%	$4,285.25	301.34	$714.21	$2.3701	1.118	$2.1200
2393	9011	38408	25,473.00	0.0075	64.251%	$59,953.73	4,245.50	$9,992.29	$2.3536	1.118	$2.1052
2392	9011	38408	41,884.00	0.0123	63.506%	$95,345.36	6,980.67	$15,890.89	$2.2764	1.118	$2.0361
2392	9011	38408	65,146.00	0.0191	62.280%	$148,258.57	10,857.67	$24,709.43	$2.2758	1.118	$2.0356
2391	9011	39836	815.00	0.0002	60.374%	$1,882.67	135.83	$313.78	$2.3101	1.135	$2.0353
2391	9011	39836	15,362.00	0.0045	60.350%	$35,483.14	2,560.33	$5,913.86	$2.3098	1.135	$2.0351
2391	9011	39836	108,617.00	0.0318	59.901%	$246,893.05	18,102.83	$41,148.84	$2.2731	1.118	$2.0331
2391	9011	73750	34,083.95	0.0100	56.723%	$76,765.69	5,680.66	$12,794.28	$2.2523	1.118	$2.0145
2391	9011	38408	18,632.00	0.0055	55.725%	$42,420.01	3,105.33	$7,070.00	$2.2767	1.135	$2.0059
2392	9011	31060	124,751.00	0.0365	55.180%	$278,980.91	20,792.00	$46,496.83	$2.2363	1.118	$2.0003
2392	9011	31060	126,276.00	0.0369	51.530%	$279,027.44	21,046.00	$46,504.58	$2.2097	1.118	$1.9764
2393	9011	31060	63,660.00	0.0186	47.835%	$140,620.88	10,610.00	$23,436.82	$2.2089	1.118	$1.9758
2392	9011	31060	12,662.00	0.0037	45.972%	$27,911.97	2,110.00	$4,651.99	$2.2047	1.118	$1.9720
2391	9011	31060	45,753.00	0.0134	45.602%	$102,107.99	7,626.00	$17,018.00	$2.2316	1.135	$1.9661
2393	9011	31060	32,779.00	0.0096	44.263%	$71,577.26	5,463.00	$11,929.55	$2.1837	1.118	$1.9532
2392	9011	31060	43,711.00	0.0128	43.304%	$95,033.10	7,285.00	$15,838.87	$2.1742	1.118	$1.9447
2393	9011	38554	3,781.20	0.0011	42.025%	$8,335.34	630.20	$1,389.22	$2.2044	1.137	$1.9388
2393	9011	38554	30,511.92	0.0089	41.914%	$67,260.23	5,085.32	$11,210.04	$2.2044	1.137	$1.9388
2392	9011	38554	51,470.28	0.0151	41.021%	$113,472.78	8,578.38	$18,912.30	$2.2044	1.137	$1.9388
2392	9011	38554	71,663.46	0.0210	39.515%	$159,224.46	11,943.92	$26,537.42	$2.2218	1.146	$1.9388
2391	9011	38554	29,996.13	0.0088	37.418%	$66,646.11	4,999.36	$11,107.69	$2.2218	1.146	$1.9388
2393	9011	38554	3,775.35	0.0011	36.640%	$8,388.40	629.23	$1,397.73	$2.2213	1.146	$1.9383
2393	9011	38554	16,325.09	0.0048	36.430%	$35,471.56	2,720.85	$5,911.93	$2.1728	1.121	$1.9383
2391	9011	10740	116,138.00	0.0340	35.952%	$248,309.64	19,356.00	$41,384.94	$2.1381	1.118	$1.9124
2392	9011	50210	54,610.00	0.0160	32.554%	$116,760.39	9,101.68	$19,459.66	$2.1378	1.118	$1.9075
2391	9011	50210	12,064.30	0.0035	30.950%	$24,537.51	2,010.71	$4,089.57	$2.0339	1.135	$1.7920
2391	9011	50210	277,756.65	0.0813	30.597%	$554,679.47	46,292.59	$92,446.21	$1.9970	1.115	$1.7910
2391	9011	10740	787,329.00	0.2247	22.470%	$1,559,545.44	127,888.00	$254,757.58	$1.9925	1.115	$1.7852
Total - H I 571			3,417,573.48	1.00							

10740	=	FOCC	NON-ARM'S LENGTH
50210	=	Meridian	NON-ARM'S LENGTH
38554	=	Mobil	NON-ARM'S LENGTH
31060	=	Northwestern Mutual	arm's length
39836	=	Oryx	arm's length
38408	=	Total Minatome	arm's length
73750	=	Union	arm's length
17080	=	CNG	arm's length
10862	=	Amaco	arm's length

GAS VALUATION EXAMPLE

Example #2 - Affiliate resells gas at the wellhead under an arm's length contract for a higher price than the non-arm's length price paid to the producer (lessee). However, the non-arm's length price paid to the producer is equivalent to the arm's length prices the affiliate paid to other producers in the same field.

Facts: 1) Producer (lessee) = Fina Oil and Chemical Company (FOCC)
2) Affiliate = Fina Natural Gas Company (FNGC)
3) Arm's length Purchaser = ARCO
4) Other Producer = Phoenix Gas Marketing Company (Phoenix)
5) Lease = Federal Lease #054-001027-0 (Ship Shoal Block 246)
6) Sample month = November 1990

Price Identification and Comparison:

Non-arm's Length Price

1) FOCC produced 100,000 MMBtu from Ship Shoal Block 246 in November 1990 and sold it to FNGC for $1.88/MMBtu. The source documents used to identify the non-arm's length price for November 1990 are.

   a. FOCC/FNGC contract dated October 1, 1990
   b. Inside FERC Report for November 1990

   $1.95 - $.07 = $1.88/MMBtu Non-arm's length contract price

Arm's Length Prices

2) FNGC sold 54,000 MMBtu of the Ship Shoal Block 246 production to ARCO in November 1990 for $1.94/MMBtu. The following source documents identify the arm's length price, sales point, quantity, and purchaser.

   a Arm's length contract between FNGC and ARCO = $1.94/MMBtu

3) In November 1990, FNGC also purchased 105,000 MMBtu of Ship Shoal Block 246 production from Phoenix. FNGC paid Phoenix $1.88/MMBtu under an arm's length contract, as shown on the following source document.

   b. Phoenix invoice shows November 1990 price = $1.88/MMBtu

GAS VALUATION EXAMPLE

Valuation:

- Royalty is based on the gross proceeds received by the affiliate (FNGC) under its arm's length sales contract with ARCO. The arm's length purchase contract FNGC had with Phoenix does not establish value for the gas FNGC purchased under its non-arm's length contract with FOCC.

- FOCC paid royalties based on the non-arm's length price of $1.88/MMBtu. Therefore, FOCC underpaid royalties on the gas sold to ARCO by $.06/MMBtu.

GAS VALUATION EXAMPLE

Non-arms length Document A

"APPENDIX "A"
SUPPLY PACKAGE DETAILS

This Appendix "A", Supply Package Details, effective October 1, 1990, is attached to and is made part of that certain Gas Purchase Agreement dated October 1, 1990, by and between FINA NATURAL GAS COMPANY and FINA OIL AND CHEMICAL COMPANY.

SUPPLY PACKAGE NUMBER: 72573

SUPPLY PACKAGE NAME: SHIP SHOAL 246-A

PRICING FORMULA:

MONTHLY PRICE (IN $/MMBTU)	= SPOT INDEX	- LOCATION DIFFERENTIAL	-- TERM ADJUSTMENT	- APPROPRIATE TREATING AND RELATED COSTS
	= IF: TRANSCO (STN 65)	-0.13+0.07	- 0.01	(1)

Therefore,
Monthly Price = INSIDE FERC: TRANSCO (STN 65) - 0.07 (1)
(IN $/MMBTU)

Where "INSIDE FERC: TRANSCO (STN 65)" shall be the price in $/MMBTU listed under the heading "Index" in the table "Prices of Spot Gas Delivered to Pipelines" for the current month in the first issue of each month of "Inside F.E.R.C.'s Gas Market Report" for "Transcontinental Gas Pipe Line Corp.- Station 65)".

(1) Additional Shipper/Transporter fees (or cost) may be applicable.

GAS VALUATION EXAMPLE

Non-arm's length Source Document

Appendix "A" (Continued)

Description of Properties

SUPPLY PACKAGE	DIV	Seller's Transporter	Buyer's Transporter	Delivery Point	Field	Well	PROD. LSE #	County	ST	Working Interest
SHIP SHOAL 246-A	OCS		TRANSCO	WELLHEAD	SHIP SHOAL	SHIP SHOAL 246-A	626820	FED	LA	0.1044500

MMSC-7004

Inside F.E.R.C.'s
GAS MARKET REPORT

Source Document B

November 5, 1990

Special Report

PRICES TUMBLING FROM BIDWEEK HIGHS AS INFLATED LEVELS FAIL TO HOLD

Skyrocketing prices for Nov. 1 deliveries were "pure revenge," according to one marketing company official when asked why prices shot to such unexpected levels. Gas prices this year have been at lows that have "hurt" and sellers "hit back twice as hard" this month, he said. "Historical pricing went out the door," he added.

Some market sources looked at the closing November futures contract price of $1.97/MMBtu as the floor for this month's prices, which took off from there. But what was particularly unusual about spot prices for Nov. 1

PRICES OF SPOT GAS DELIVERED TO PIPELINES, NOV. 1

(per MMBtu dry)

	Range	Index
ANR Pipeline Co.		
Louisiana	$1.92 to $2.10	$2.02
Oklahoma	$1.67 to $1.85	$1.79
Offshore	$1.85 to $2.08	$1.98
Arkla Energy Resources		
Arkansas, Oklahoma	$1.75 to $2.00	$1.92
Colorado Interstate Gas Co.		
Rocky Mountains	$1.50 to $1.74	$1.63
Columbia Gas Transmission Corp.		
Appalachia (W.Va., Ohio, Ky.)	$2.28 to $2.48	$2.42
Broad Run, W.Va.	$2.23 to $2.49	N.A.
Columbia Gulf Transmission Co.		
Louisiana	$1.90 to $2.18	$2.10
Offshore	$1.85 to $2.07	$2.00
El Paso Natural Gas Co.		
Anadarko Basin	$1.72 to $1.99	$1.83
Permian Basin	$1.76 to $2.07	$1.95
San Juan Basin	$1.80 to $2.06	$1.92
Enogex Inc.		
Oklahoma	$1.68 to $1.90	$1.82
Florida Gas Transmission Co.		
Louisiana	$2.10 to $2.15	$2.12
Natural Gas Pipeline Co. of America		
Oklahoma	$1.70 to $1.98	$1.85
Louisiana	$1.94 to $2.13	$2.04
Texas (Gulf Coast Line)	$1.82 to $2.06	$2.00
Northern Natural Gas Co.		
Texas, Oklahoma, Kansas	$1.65 to $2.03	$1.83
Ventura, Iowa	$1.78 to $2.05	N.A.
Northwest Pipeline Corp.		
Rocky Mountains	$1.54 to $1.64	$1.60
Canadian border	$1.57 to $1.64	$1.60
ONG Transmission Co.		
Oklahoma	$1.65 to $1.95	$1.84
Panhandle Eastern Pipe Line Co.		
Texas, Oklahoma	$1.68 to $1.85	$1.75
Southern Natural Gas Co.		
Louisiana	$1.98 to $2.14	$2.06
Tennessee Gas Pipeline Co.		
Louisiana	$1.85 to $2.12	$2.05
Offshore (mainline)	$1.85 to $2.12	$2.05
Texas (Wharton)	$1.88 to $2.10	$1.96
Texas Eastern Transmission Corp.		
Louisiana	$1.92 to $2.13	$2.08
Texas	$1.78 to $2.02	$1.95
Texas Gas Transmission Corp.		
Zone 1	$1.88 to $2.08	$2.03
Zone SL	$1.85 to $2.10	$2.04
Transcontinental Gas Pipe Line Corp.		
Station 30 (Zone 1)	$1.70 to $1.99	$1.84
Station 45 (Zone 2)	$1.80 to $2.04	$1.88
Station 65 (Zone 3)	$1.90 to $2.08	$1.95
Mississippi, Alabama	$1.98 to $2.08	$2.06
Transwestern Pipeline Co.		
Permian Basin	$1.74 to $1.93	$1.92
Trunkline Gas Co.		
Field zone (Texas, Louisiana)	$1.88 to $2.11	$2.05
United Gas Pipe Line Co.		
Louisiana	$1.93 to $2.11	$2.04
Texas	$1.90 to $2.04	$2.00
Valero Natural Gas L.P.		
Texas	$1.86 to $2.00	$1.91
Williams Natural Gas Co.		
Texas, Oklahoma, Kansas	$1.70 to $1.91	$1.84

GAS VALUATION EXAMPLE

NATURAL GAS SALES CONFIRMATION

Arms Length Document

THIS NOTICE IS TO CONFIRM OUR TELEPHONE CONVERSATION.

SELLER:	BUYER:
FINA Natural Gas Company 8350 N. Central Expressway Dallas, TX 75206 FAX: (214) 750-2582	ARCO Oil & Gas Co. Steve Abbey 1601 Bryan Street Dallas, TX 75201 FAX: (214) 880-6715

MAXIMUM DAILY QUANTITY:	1816 MMBtu/day
PURCHASE PRICE:	$1.94 MMBtu/day (dry)
PURCHASE PERIOD:	November 1, 1990 through November 30, 1990
POINT(S) OF DELIVERY:	Wellhead Ship Shoal 246
TRANSPORTING PIPELINE:	Transco
DISPATCHER:	Kenneth E. Shade
PHONE NO.:	(214) 750-2762

PAYMENTS: Payments due on nominated volumes. Invoice by 10th day after month. payment due by 20th. Adjustments made based on actuals.

	BY CHECK:	WIRE TRANSFER INSTRUCTIONS:
Amounts over $10,000 are to be wire transferred.	FINA Natural Gas Company P.O. Box 2159 Dallas, TX 75221 Attn: Revenue Accounting	Mellon Bank, NA Pittsburgh, PA Acct. # 187-87-47 ABA Routing #043000261 For credit to account of FINA Natural Gas Company

IF YOU AGAREE TO THIS UNDERSTANDING OF OUR DISCUSSION, PLEASE SIGN BELOW: A SALES AGREEMENT WILL BE FORTHCOMING BASED ON OUR DISCUSSION.

I acknowledge that this confirms our telephone conversation.

BUYER: _____ DATE _____

SUBMITTED BY: Will S. Hate DATE 10/30/90
(214) 750-2256

Please return by fax to FINA within 48 hours.

SO\SALES\CONFIRM\(ALT A)\ARCOCONF.NOV

GAS VALUATION EXAMPLE

Arms Length Source Document E

PHOENIX GAS MARKETING COMPANY

3200 Southwest Freeway, Suite 2130 • Houston, Texas 77027-7525 • (713) 850-7770 • Telecopy (713) 850-7780

INVOICE NO. 901203

December 13, 1990

Fina Natural Gas Company
P. O. Box 2159
Dallas, Texas 75221

Attn: Ms. Fonda Richmond

Dear Ms. Richmond:

To invoice Fina Natural Gas Company for gas purchased from the following station location numbers for November, 1990:

U.G.P.L. S.L.N.	VOLUME (MMBTU)	PRICE	TOTAL
Ship Shoal 246	105,000	$1.88	$197,400.00

Please Remit Payment to:

Phoenix Gas Marketing Company
3200 Southwest Freeway #2130
Houston, Texas 77027-7525

Payment is due on or before December 20, 1990.

Approved: 12/17/90

12/17/90

DEC 14 1990

Read For Payment

GAS VALUATION EXAMPLE

Example #3 - Affiliate resells gas onshore under an arm's length contract.

Facts: 1) Producer (lessee) = Fina Oil and Chemical Company (FOCC)
2) Affiliate = Fina Natural Gas Company (FNGC)
3) Arm's length Purchaser = Chippewa Gas Company (Chippewa)
4) Lease = 13 Offshore Leases, High Island Offshore (HIOS) Supply
5) Sample month = December 1990
6) Transportation rate = $.08/MMBtu

Price Identification and Comparison

1) Calculate the non-arm's length contract price that FOCC received from FNGC for the gas it produced from the HIOS Supply leases in December 1990.

2) Identify the arm's length contract price that FNGC received for the HIOS Supply production in December 1990.

3) Determine the value of the gas FOCC produced from the HIOS Supply leases in December 1990.

Source documents to be used for price calculations and comparisons

a. Non-arm's length contract dated October 1, 1990
b. Inside FERC Gas Market Report for December 1990
c. Arm's length contract between FNGC and Chippewa for December 1990

APPENDIX "A"

SUPPLY PACKAGE DETAILS

This Appendix "A", Supply Package Details, effective October 1, 1990, is attached to and is made part of that certain Gas Purchase Agreement dated October 1, 1990, by and between FINA NATURAL GAS COMPANY and FINA OIL AND CHEMICAL COMPANY.

SUPPLY PACKAGE NUMBER: 72570

SUPPLY PACKAGE NAME: HIOS SUPPLY

PRICING FORMULA:

MONTHLY PRICE (IN $/MMBTU)	= SPOT INDEX	- LOCATION DIFFERENTIAL	+- TERM ADJUSTMENT	- APPROPRIATE TREATING AND RELATED COSTS
	= AVG. IF: NGPL,TXGC/ TRNSC Z2/TN OS	-0.19+0.12	- 0.01	(1)

Therefore,

Monthly Price = AVG. INSIDE FERC: NGPL,TXGC/ TRNSC Z2/TN OS - 0.00 (1)
(IN $/MMBTU)

Where "AVG. INSIDE FERC: NGPL,TXGC/TRNSC Z2/TN OS" shall be the average of the prices in $/MMBTU listed under the heading "Index" in the table "Prices of Spot Gas Delivered to Pipelines" for the current month in the first issue of each month of "Inside F.E.R.C.'s Gas Market Report" for "Natural Gas Pipe Line Co. of America. Texas (Gulf Coast Line)" and "Tennessee Gas Pipe Line Co., Offshore" and "Transcontinental Gas Pipe Line Corp. - Station 45 (Zone 2)".

(1) Additional Shipper/Transporter fees (or cost) may be applicable.

cription of Properties

SUPPLY PACKAGE	DIV	Seller's Trans-porter	Buyer's Trans-porter	Delivery Point	Field	Well	PROD. LSE #	County	ST	Working Interest
-IOS SUPPLY	OCS		NIOS	WELLHEAD	NI BLK	NI BLK 185	626600	FED	TX	0.1250000
	OCS		NIOS	WELLHEAD	NI BLK	NI BLK 193	626650	FED	TX	0.1250000
	OCS		NIOS	WELLHEAD	NI BLK	NI BLK 193 FUEL	626650	FED	TX	0.1250000
	OCS		NIOS	WELLHEAD	NI BLK	NI BLK 194	626651	FED	TX	0.1250000
	OCS		NIOS	WELLHEAD	NI BLK 313	NI BLK 312/313	626990	FED	TX	0.0444800
	OCS		NIOS	WELLHEAD	NI BLK 313	NI BLK 313	626990	FED	TX	0.0444800
	OCS		NIOS	WELLHEAD	NI BLK 317	NI BLK 317	626910	FED	TX	0.0107000
	OCS		NIOS	WELLHEAD	NI BLK 317	NI BLK 317 FUEL	626910	FED	TX	0.0107000
	OCS		NIOS	WELLHEAD	NI BLK 330	NI BLK 330	626920	FED	TX	0.0160000
	OCS		NIOS	WELLHEAD	NI BLK 330	NI BLK 330 FUEL	626920	FED	TX	0.0160000
	OCS		NIOS	WELLHEAD	NI BLK 563	NI BLK 563	626930	FED	TX	0.0134000
	OCS		NIOS	WELLHEAD	NI BLK 563	NI BLK 563 (2)	626930	FED	TX	0.0134000
	OCS		NIOS	WELLHEAD	NI BLK 563	NI BLK 563/564	626930	FED	TX	0.0134000
	OCS		NIOS	WELLHEAD	NI BLK 564	NI BLK 564	626940	FED	TX	0.0134000
	OCS		NIOS	WELLHEAD	NI BLK	NI BLK 572	626896	FED	TX	0.0592800
	OCS		NIOS	WELLHEAD	NI BLK	NI BLK 572	626896	FED	TX	0.0592800
	OCS		NIOS	WELLHEAD	NI BLK	NI BLK 572	626896	FED	TX	0.0592800
	OCS		NIOS	WELLHEAD	NI BLK	NI BLK 572	626896	FED	TX	0.0592800
	OCS		NIOS	WELLHEAD	NI BLK 582	NI BLK 582	626950	FED	TX	0.0157600
	OCS		NIOS	WELLHEAD	NI BLK 582	NI BLK 582 FUEL	626950	FED	TX	0.0157600
	OCS		NIOS	WELLHEAD	NI BLK 330	WC BLK 612	626960	FED	LA	0.0160000
	OCS		NIOS	WELLHEAD	NI BLK 330	WC BLK 613	626970	FED	LA	0.0160000

13 blocks

mm5047309

GAS VALUATION EXAMPLE

Inside F.E.R.C.'s
GAS MARKET REPORT

December 3, 1990

Special Report

EARLY AFTERMARKET PRICES SKID; SELLERS BEG CHILLY WINDS TO BLOW

Confusion over the direction of prices during bidweek prompted many buyers and sellers to agree to deals tied to an index for Dec. 1 deliveries, market sources reported. Unlike last month, the closing price for natural gas futures — $2.38/MMBtu for the December contract — did not act as a springboard for the cash market. Instead, prices slid after bidweek's opening bell.

For deals completed before the Thanksgiving holiday, buyers and sellers alike reported that prices for deliveries to most Gulf Coast pipelines were higher than for deals that were done right before nominations were due Nov. 26 on those pipelines.

Part of the reason for the downturn in prices was the unseasonably warm weather that blanketed most of the nation, bringing sellers little cheer. "People are buying the [firm] gas and nothing else," said a sales official for a

PRICES OF SPOT GAS DELIVERED TO PIPELINES, DEC. 1

(per MMBtu dry)

	Range	Index
ANR Pipeline Co.		
Louisiana	$2.20 to $2.30	$2.26
Oklahoma	$1.89 to $2.00	$1.96
Offshore	$2.18 to $2.30	$2.25
Arkla Energy Resources		
Arkansas, Oklahoma	$1.90 to $2.05	$1.95
Colorado Interstate Gas Co.		
Rocky Mountains	$1.64 to $1.76	$1.73
Columbia Gas Transmission Corp.		
Appalachia (W.Va., Ohio, Ky.)	$2.65 to $2.80	$2.72
Broad Run, W.Va.	$2.65 to $2.80	N.A.
Columbia Gulf Transmission Co.		
Louisiana	$2.27 to $2.40	$2.35
Offshore	$2.22 to $2.30	$2.25
El Paso Natural Gas Co.		
Anadarko Basin	$1.80 to $1.94	$1.90
Permian Basin	$1.90 to $2.05	$1.95
San Juan Basin	$1.85 to $2.02	$1.95
Enogex Inc.		
Oklahoma	$1.72 to $1.90	$1.85
Florida Gas Transmission Co.		
Louisiana	$2.20 to $2.42	$2.36
Natural Gas Pipeline Co. of America		
Oklahoma	$1.83 to $2.10	$1.96
Louisiana	$2.12 to $2.30	$2.21
Texas (Gulf Coast Line)	$1.99 to $2.17	$2.12
Northern Natural Gas Co.		
Texas, Oklahoma, Kansas	$1.74 to $2.03	$1.85
Various Iowa	$1.85 to $2.00	$1.93
Northwest Pipeline Corp.		

	Range	Index
ONG Transmission Co.		
Oklahoma	$1.85 to $1.95	$1.87
Panhandle Eastern Pipe Line Co.		
Texas, Oklahoma	$1.85 to $1.97	$1.9[illegible]
Southern Natural Gas Co.		
Louisiana	$2.00 to $2.20	$2.1[illegible]
Tennessee Gas Pipeline Co.		
Louisiana	$2.23 to $2.36	$2.2[illegible]
Offshore (mainline)	$2.20 to $2.32	$2.2[illegible]
Texas (Wharton)	$2.05 to $2.22	$2.1[illegible]
Texas Eastern Transmission Corp.		
Louisiana	$2.10 to $2.29	$2.2[illegible]
Texas	$1.90 to $2.18	$2.1[illegible]
Texas Gas Transmission Corp.		
Zone 1	$2.20 to $2.35	$2.3[illegible]
Zone SL	$2.15 to $2.36	$2.2[illegible]
Transcontinental Gas Pipe Line Corp.		
Station 30 (Zone 1)	$2.05 to $2.15	$2.0[illegible]
Station 45 (Zone 2)	$2.25 to $2.35	$2.3[illegible]
Station 65 (Zone 3)	$2.20 to $2.35	$2.2[illegible]
Mississippi, Alabama	$2.34 to $2.40	$2.3[illegible]
Transwestern Pipeline Co.		
Permian Basin	$1.80 to $2.07	$1.9[illegible]
Trunkline Gas Co.		
Field zone (Texas, Louisiana)	$2.09 to $2.35	$2.2[illegible]
United Gas Pipe Line Co.		
Louisiana	$2.04 to $2.19	$2.1[illegible]
Texas	$2.08 to $2.15	$2.1[illegible]
Valero Natural Gas L.P.		
Texas	$1.83 to $1.95	$1.8[illegible]
Williams Natural Gas Co.		

NATURAL GAS SALES CONFIRMATION

Confirmation No. 77

THIS CONFIRMS OUR UNDERSTANDING OF TODAY'S TELEPHONE CONVERSATION *

SELLER:

FINA Natural Gas Company
8350 N. Central Expressway
Dallas, TX 75206

FAX: (214) 750-2582

BUYER:

Chippewa Gas Corp
Ronnie Scevler

Phone: (713) 940-5108

FAX: (713) 623-8240

PURCHASE PERIOD: December 1, 1990 through December 31, 1990

MAXIMUM DAILY QUANTITY: Up to 5,000 MMBtu/day

PURCHASE PRICE: $ 2.27 MMBtu/day (dry)

POINT(S) OF DELIVERY: Johnson's Bayou METER NO. _____

TRANSPORTING LINE: TENNESSEE CONTRACT NUMBER _____

FINA SCHEDULER CONTACT: Kenneth E. Shade
PHONE NO.: (214) 750-2762

SUPPLY SOURCE(S) HIOS Production

CREDIT REQUIREMENTS: Approved _____ Letter of Credit Required X

MISC: _____

SUBMITTED BY: Thomas M. Rainwater DATE 11-21-90

THOMAS M. RAINWATER PHONE: (214) 750-4142

IF YOU AGREE TO THIS UNDERSTANDING OF OUR DISCUSSION, PLEASE SIGN BELOW; A SALES AGREEMENT WILL BE FORTHCOMING BASED ON OUR DISCUSSION.

I acknowledge that this confirms our conversation.

BUYER: _____ DATE _____

* Please sign and return via FAX to FINA by the end of the day *

C:\WP50\SALES\CONFIRM\TRIAL.DEC

FNGCCONF.NGS

MMS046510

GAS VALUATION EXAMPLE

Example #3 - Affiliate resells gas onshore under an arm's length contract for a higher price than the non-arm's length price paid to the producer (lessee).

Price Identification and Comparison:

1) Non-arm's length contract price

	Index Price		Average Price
NGPL - Texas (Gulf Coast Line)	$2.12		
TRANSCO - Station 45 (Zone 2)	$2.12		
Tenn. Gas Pipeline - Offshore	$2.25		
Total	$6.49 divided by 3	=	$2.16
Less location differential			- .08
FOCC/FNGC Contract Price for HIOS Supply			$2.08

2) Arms's length contract price

FNGC sold the HIOS production to Chippewa for $2.27/MMBtu.

Valuation:

- Royalty is based on the gross proceeds received by the affiliate (FNGC) under its arm's length contract with Chippewa. Since the affiliate resold the gas onshore at Johnson Bayou, transportation costs were incurred to moving the production to the sales point. Therefore, transportation costs are allowed in determining the affiliates gross proceeds.

- FOCC paid royalties based on the non-arm's length price of $2.08/MMBtu. Therefore, FOCC underpaid royalties on the gas sold to Panhandle by $.11/MMBtu.

FNGC Gross Proceeds		Transportation Allowance		Royalty Value	FOCC Royalty Price		Royalty Underpayment
$2.27	-	$.08	=	$2.19	$2.08	-	$.11/MMBtu

GAS VALUATION EXAMPLE

Example #4 - Affiliate disposes of the gas under an exchange agreement with Amoco. This exchange agreement does not represent an arm's length sale.

Facts: 1) Producer (lessee) = Fina Oil and Chemical Company (FOCC)
2) Affiliate = Fina Natural Gas Company (FNGC)
3) Lease = Federal Lease #054-002391-0 (High Island Block 571)
4) Sample month = December 1990

Price Identification and Comparison:

1) Calculate the non-arm's length contract price that FOCC received from FNGC for the gas it produced from H.I. Block 571 in December 1990.

2) Identify the December 1990 prices for other producers in the H.I. Block 571 Field. The Field consists of 9 producers and 3 Federal leases: (i) #054-0002391-0; (ii) #054-0002392-0; (iii) #054-0002393-0.

   Note: There were no allowances (transportation, processing) associated with any of the producers prices.

3) Compare prices and determine the value for the gas FOCC produced from H.I. Block 571 in December 1990.

Source documents to be used for price calculations and comparisons

a. Non-arm's length contract dated October 1, 1990
b. Inside FERC Gas Market Report for December 1990
c. Major portion analysis for H.I. Block 571 for December 1990

GAS VALUATION EXAMPLE

Non-arm's Length Source Document

A
p.1

APPENDIX "A"
SUPPLY PACKAGE DETAILS

This Appendix "A", Supply Package Details, effective October 1, 1990, is attached to and is made part of that certain Gas Purchase Agreement dated October 1, 1990, by and between FINA NATURAL GAS COMPANY and FINA OIL AND CHEMICAL COMPANY.

SUPPLY PACKAGE NUMBER: 72569

SUPPLY PACKAGE NAME: HI BLK 571

PRICING FORMULA:

MONTHLY PRICE (IN $/MMBTU)	= SPOT INDEX	- LOCATION DIFFERENTIAL	+- TERM ADJUSTMENT	- APPROPRIATE TREATING AND RELATED COSTS
	= AVG. IF: NGPL,TXGC/ TRNSC 22/TN OS	-0.20+0.03	- 0.01	(1)

Therefore,
Monthly Price = AVG. INSIDE FERC: NGPL,TXGC/ TRNSC 22/TN OS - 0.18 (1)
(IN $/MMBTU)

Where "AVG. INSIDE FERC: NGPL,TXGC/TRNSC 22/TN OS" shall be the average of the prices in $/MMBTU listed under the heading "Index" in the table "Prices of Spot Gas Delivered to Pipelines" for the current month in the first issue of each month of "Inside F.E.R.C.'s Gas Market Report" for "Natural Gas Pipe Line Co. of America, Texas (Gulf Coast Line)" and "Tennessee Gas Pipe Line Co., Offshore" and "Transcontinental Gas Pipe Line Corp. - Station 45 (Zone 2)".

(1) Additional Shipper/Transporter fees (or cost) may be applicable.

GAS VALUATION EXAMPLE

Appendix "A" (Continued) Non-arm's Length Source Document A

-f properties

-Y PACKAGE	DIV	Seller's Trans-porter	Buyer's Trans-porter	Delivery Point	Field	Well	PROD. LSE #	County	ST	Working Interest
571	OCS		HIOS	WELLHEAD	HI BLK 571-A	HI BLK 571-A	626900	FED	TX	0.2083500
	OCS		HIOS	WELLHEAD	HI BLK 571-A	HI BLK 571-A (2)	626900	FED	TX	0.2083500
	OCS		HIOS	WELLHEAD	HI BLK 571-A	HI BLK 571-A (3)	626900	FED	TX	0.2083500
	OCS		HIOS	WELLHEAD	HI BLK 571-A	HI BLK 571-A (4)	626900	FED	TX	0.2083500
	OCS		HIOS	WELLHEAD	HI BLK 571-A	HI BLK 571-A (5)	626900	FED	TX	0.2083500
	OCS		HIOS	WELLHEAD	HI BLK 571	HI BLK 571-A	626900	FED	TX	0.2083500
	OCS		HIOS	WELLHEAD	HI BLK 571-C	HI BLK 571-C	626896	FED	TX	0.0592800
	OCS		HIOS	WELLHEAD	HI BLK 571-C	HI BLK 571-C (2)	626896	FED	TX	0.0592800
	OCS		HIOS	WELLHEAD	HI BLK 571-C	HI BLK 571-C	626896	FED	TX	0.0592800

GAS VALUATION EXAMPLE

Inside F.E.R.C.'s
GAS MARKET REPORT

December 5, 1990

Special Report

EARLY AFTERMARKET PRICES SKID; SELLERS BEG CHILLY WINDS TO BLOW

Confusion over the direction of prices during bidweek prompted many buyers and sellers to agree to deals tied to an index for Dec. 1 deliveries, market sources reported. Unlike last month, the closing price for natural gas futures — $2.38/MMBtu for the December contract — did not act as a springboard for the cash market. Instead, prices slid after bidweek's opening bell.

For deals completed before the Thanksgiving holiday, buyers and sellers alike reported that prices for deliveries to most Gulf Coast pipelines were higher than for deals that were done right before nominations were due Nov. 2 on those pipelines.

Part of the reason for the downturn in prices was the unseasonably warm weather that blanketed most of the nation, bringing sellers little cheer. "People are buying the [firm] gas and nothing else," said a sales official for a-

PRICES OF SPOT GAS DELIVERED TO PIPELINES, DEC. 1

(per MMBtu dry)

	Range	Index
ANR Pipeline Co.		
Louisiana	$2.20 to $2.30	$2.26
Oklahoma	$1.89 to $2.00	$1.96
Offshore	$2.18 to $2.30	$2.25
Arkla Energy Resources		
Arkansas, Oklahoma	$1.90 to $2.05	$1.95
Colorado Interstate Gas Co.		
Rocky Mountains	$1.64 to $1.76	$1.73
Columbia Gas Transmission Corp.		
Appalachia (W.Va., Ohio, Ky.)	$2.85 to $2.90	$2.77
Broad Run, W.Va.	$2.65 to $2.80	N.A.
Columbia Gulf Transmission Co.		
Louisiana	$2.27 to $2.40	$2.35
Offshore	$2.22 to $2.30	$2.25
El Paso Natural Gas Co.		
Anadarko Basin	$1.80 to $1.94	$1.90
Permian Basin	$1.90 to $2.05	$1.95
San Juan Basin	$1.85 to $2.02	$1.95
Enogex Inc.		
Oklahoma	$1.72 to $1.90	$1.85
Florida Gas Transmission Co.		
Louisiana	$2.20 to $2.42	$2.36
Natural Gas Pipeline Co. of America		
Oklahoma	$1.83 to $2.10	$1.96
Louisiana	$2.12 to $2.30	$2.21
Texas (Gulf Coast Line)	$1.99 to $2.17	$2.12
Northern Natural Gas Co.		
Texas, Oklahoma, Kansas	$1.74 to $2.03	$1.85
Ventura, Iowa	$1.85 to $2.05	$1.92
Northwest Pipeline Corp.		
ONG Transmission Co.		
Oklahoma	$1.85 to $1.95	$1.86
Panhandle Eastern Pipe Line Co.		
Texas, Oklahoma	$1.85 to $1.97	$1.94
Southern Natural Gas Co.		
Louisiana	$2.20 to $2.30	$2.25
Tennessee Gas Pipeline Co.		
Louisiana	$2.25 to $2.36	$2.31
Offshore (mainline)	$2.20 to $2.32	$2.25
Texas (Wharton)	$2.05 to $2.22	$2.13
Texas Eastern Transmission Corp.		
Louisiana	$2.10 to $2.29	$2.21
Texas	$1.90 to $2.18	$2.10
Texas Gas Transmission Corp.		
Zone 1	$2.20 to $2.35	$2.31
Zone SL	$2.15 to $2.36	$2.27
Transcontinental Gas Pipe Line Corp.		
Station 30 (Zone 1)	$2.00 to $2.15	$2.07
Station 45 (Zone 2)	$1.95 to $2.20	$2.11
Station 65 (Zone 3)	$2.20 to $2.35	$2.27
Mississippi, Alabama	$2.34 to $2.40	$2.37
Transwestern Pipeline Co.		
Permian Basin	$1.80 to $2.07	$1.97
Trunkline Gas Co.		
Field zone (Texas, Louisiana)	$2.09 to $2.35	$2.21
United Gas Pipe Line Co.		
Louisiana	$2.04 to $2.19	$2.11
Texas	$2.08 to $2.15	$2.09
Valero Natural Gas L.P.		
Texas	$1.83 to $1.95	$1.88
Williams Natural Gas Co.		

GAS VALUATION EXAMPLE

H.I. Block 571 - December 1990

Lease Number	Sales Month	Prd	Payor	Sales Quantity	Percent of Total Sales	Cumulative Percent of sales	Sales Value	Royalty Quantity	Royalty Value	Unit Price	Btu	MMBtu Price
2392	9012	04	10862	76,226.41	0.0212	100.000%	$226,061.91	12,704.41	$37,677.01	$2.9657	1.103	$2.689
2393	9012	04	10862	9,374.00	0.0026	97.878%	$27,691.94	1,562.33	$4,615.32	$2.9541	1.099	$2.688
2391	9012	04	10862	31,904.59	0.0089	97.617%	$94,334.61	5,317.43	$15,722.42	$2.9568	1.103	$2.681
2393	9012	04	73750	4,523.00	0.0013	96.728%	$12,161.22	754.00	$2,026.87	$2.6882	1.125	$2.389
2391	9012	04	39836	2,550.00	0.0007	96.602%	$6,982.06	425.00	$1,163.68	$2.7381	1.157	$2.367
2391	9012	04	39836	170.00	0.0000	96.531%	$463.15	28.33	$77.19	$2.7247	1.157	$2.355
2391	9012	04	17080	1,386.00	0.0004	96.527%	$3,656.48	231.33	$609.41	$2.6344	1.121	$2.350
2391	9012	04	17080	872,365.00	0.2429	96.488%	$2,298,114.74	145,394.20	$383,019.20	$2.6343	1.121	$2.350
2392	9012	04	17080	38,002.03	0.0106	72.202%	$101,520.18	6,333.67	$16,920.03	$2.6714	1.137	$2.350
2391	9012	04	17080	15,906.40	0.0044	71.144%	$42,493.01	2,651.07	$7,082.17	$2.6714	1.137	$2.350
2393	9012	04	17080	2,001.58	0.0006	70.701%	$5,347.10	333.60	$891.18	$2.6714	1.137	$2.350
2393	9012	04	31060	43,836.00	0.0122	70.646%	$110,759.43	7,306.00	$18,459.91	$2.5267	1.099	$2.299
2392	9012	04	31060	230,675.00	0.0642	69.425%	$583,402.90	38,446.00	$97,233.83	$2.5291	1.103	$2.293
2392	9012	04	31060	50,656.00	0.0141	63.004%	$128,044.89	8,443.00	$21,340.81	$2.5276	1.103	$2.292
2391	9012	04	31060	54,751.00	0.0152	61.593%	$139,422.28	9,125.00	$23,237.05	$2.5465	1.115	$2.284
2392	9012	04	31060	125,030.00	0.0348	60.069%	$314,932.11	20,838.00	$52,488.70	$2.5189	1.103	$2.284
2392	9012	04	31060	-3,860.00	0.0010	58.588%	$9,316.31	610.00	$1,552.72	$2.5454	1.115	$2.283
2393	9012	04	31060	67,313.00	0.0187	58.486%	$169,495.89	11,219.00	$28,249.34	$2.5180	1.103	$2.284
2392	9012	04	38408	32,333.00	0.0090	54.613%	$83,017.36	5,388.83	$13,836.23	$2.5676	1.125	$2.282
2391	9012	04	17080	53,318.70	0.0148	53.712%	$139,316.46	8,886.45	$23,219.55	$2.6129	1.145	$2.282
2392	9012	04	17080	127,383.94	0.0355	52.228%	$332,841.50	21,230.66	$55,473.59	$2.6129	1.145	$2.282
2393	9012	04	17080	6,709.35	0.0019	48.682%	$17,530.86	1,118.23	$2,921.81	$2.6129	1.145	$2.282
2393	9012	04	38408	23,374.00	0.0065	48.495%	$59,554.38	3,895.67	$9,925.73	$2.5479	1.125	$2.265
2392	9012	04	73750	1,788.00	0.0005	47.844%	$4,441.41	295.00	$740.24	$2.5093	1.112	$2.257
2392	9012	04	38408	65,612.00	0.0183	47.795%	$166,493.57	10,935.33	$27,748.93	$2.5375	1.125	$2.256
2391	9012	04	39836	85,608.00	0.0238	45.968%	$212,872.45	14,268.00	$38,468.29	$2.5559	1.144	$2.234
2391	9012	04	38408	21,304.00	0.0059	43.585%	$54,016.35	3,550.67	$9,002.73	$2.5355	1.137	$2.230
2391	9012	04	73750	26,466.02	0.0074	42.992%	$66,452.84	4,411.34	$11,075.49	$2.5107	1.157	$2.170
2391	9012	04	39836	238,811.00	0.0650	42.255%	$572,924.04	39,435.16	$95,487.34	$2.4214	1.121	$2.160
2391	9012	04	17080	224,132.00	0.0624	35.668%	$551,227.40	37,355.34	$91,871.25	$2.4594	1.141	$2.155
2391	9012	04	50210	164,965.73	0.0459	29.429%	$397,103.78	27,494.18	$66,183.70	$2.4072	1.121	$2.147
2391	9012	04	10740	65,945.00	0.0184	24.836%	$154,957.02	10,991.00	$25,826.17	$2.3498	1.122	$2.094
2391	9012	04	38554	17,273.00	0.0048	23.000%	$40,509.57	2,878.83	$6,751.60	$2.3453	1.148	$2.043
2392	9012	04	38554	41,267.00	0.0115	22.519%	$96,781.56	6,877.83	$16,130.26	$2.3453	1.148	$2.043
2393	9012	04	38554	2,174.00	0.0006	21.371%	$5,097.51	362.33	$849.59	$2.3448	1.148	$2.043
2391	9012	04	10740	765,483.00	0.2131	21.310%	$1,897,071.23	127,581.00	$282,845.21	$2.2170	1.121	$1.978
Total - H.I. 571				3,592,082.75	1.0000							

10740 = FOCC (non-arm's length contract)
38554 = Mobil (non-arm's length contract)
50210 = Meridian (non-arm's length contract)
39836 = Onyx (arm's length contract)
17080 = CNG (arm's length contract)
73750 = Union (arm's length contract)
31060 = Northwestern Mutual (arm's length contract)
38408 = Total Minatome (arm's length contract)
10862 = Amoco (arm's length contract)

GAS VALUATION EXAMPLE

Example #4 - Affiliate disposes of the gas under an exchange agreement with Amoco. This exchange agreement does not represent an arm's length sale.

Price Identification and Comparison:

1) Non-arm's Length Contract Price

FOCC produced gas from H.I. Block 571 in December 1990 and sold it to FNGC for $1.98/MMBtu. The following source documents identify the non-arm's length price

	Index Price		Average Price
NGPL - Texas (Gulf Coast Line)	$2.12		
TRANSCO - Station 45 (Zone 2)	$2.12		
Tenn. Gas Pipeline - Offshore	$2.25		
Total	$6.49	divided by 3 =	$2.16
Less location differential			- .18
FOCC/FNGC Contract Price for H.I. Block 571			$1.98

2) Other Producers Contract Prices

Price comparison between FOCC non-arms' length price and arm's length prices for other producers in the H.I. Block 571 Field. The Field consists of 9 producers and 3 Federal leases: (i) #054-0002391-0; (ii) #054-0002392-0; (iii) #054-0002393-0. The major portion analysis for H.I. Block 571 Field for December 1990 identifies the following prices:

a. Lowest arm's length price = $2.155/MMBtu
(CNG Producing Company)

Valuation:

- Royalty is based on value determined under the benchmarks identified at 30 CFR 206.152(c) for non-arm's length contracts. The major portion analysis for H.I. Block 571 Field applies the first benchmark to FOCC's non-arm's length price of $1.98/MMBtu. The analysis shows FOCC's non-arm's length price is not equivalent to arm's length prices for gas produced from the same field. Therefore benchmark 1 does not establish value.

- Value is established under benchmark 2. The second benchmark establishes value based on other relevant information, including gross proceeds accruing under arm's length contracts for like quality gas produced from the same field. The lowest arm's length price for gas produced from H.I. Block 571 Field for December 1990 was $2.155/MMBtu.

- FOCC paid royalties based on the non-arm's length price of $1.98/MMBtu. Therefore, FOCC underpaid royalties on the gas produced and sold from H.I. Block 571 in December 1990 by $.18/MMBtu ($2.16 - $1.98).

AFFILIATE SALES COAL

NON-ARM'S-LENGTH

- REGULATIONS ALLOW LESSEE TO DETERMINE ITS OWN NON-A/L VALUE
- VALUATION CRITERIA MUST BE APPLIED SEQUENTIALLY
- VALUE IS NEVER BASED ON LESS THAN THE GROSS PROCEEDS
- VALUE IS ALWAYS BASED ON COAL IN MARKETABLE CONDITION

NON-ARM'S-LENGTH

- Criterion 1. Gross proceeds accruing under the contract are acceptable if :
  - The NAL contract is comparable to A/L contracts
  - Parties to the A/L contracts are not related to the Lessee.

NON-A/L VALUATION

- Criterion 2. The price accepted or approved by the public utility commission for inclusion in the rates charged to electric power customers.
- Criterion 3. Price of delivered coal reported to the Department of Energy, Energy Information Administration.
- FERC Form 423 or Form No. 1
- Used by electric power cooperatives

Non A/L Valuation

- Criterion 4. Determine value taking into account other relevant matters including circumstances unique to the mine.
- Use of arm's-length contracts that lessee is a party to, market information, cost of mining, etc.
- Valuation procedure used most often.

NON A/L VALUATION

- CRITERION 5. Use a net-back method or any other reasonable method.
- Subtract from ultimate sale any costs incurred or value added to arrive at a f.o.b. mine price.
- Valuation procedure of last resort.