Section 16

VSD-EVB/93-0360
Mail Stop 3921

Memorandum

To: Deputy Associate Director for Compliance

Through: Chief, Valuation and Standards Division

From: Chief, Economic Valuation Branch

Subject: California Oil Postings/Market Value Study

Conclusions from our study of the California oil market for the period 1986 forward are attached. We have also included a summary of the data sources used.

Let me know if you need more information or want to meet with us on this issue.

bcc: RM Chron:93-0360
RM Chron Lkwd
VSD Chron (2)
EVB Chron
States

LMS:RMP:VSD:EVB:DHUBBARD:MS3921:275-7260:F:\USR\ECON\CALIF.COV
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ROYALTY MANAGEMENT PROGRAM
INTERNAL WORKING DOCUMENT

Evaluation of Oil Posted Prices and Royalty Value in California

Summary

The Royalty Management Program (RMP) has evaluated whether there is evidence that integrated oil companies in California posted oil prices below market value between 1986 and 1992, thus resulting in underpaid royalties. Our investigation found:

- No convincing evidence that postings were below market value during the period in question, or that they were thus invalid for royalty purposes.

- No convincing information for MMS to establish the California market as noncompetitive.

Background

In August 1993 MMS undertook a preliminary investigation of potential royalty underpayment by integrated oil companies operating in California. This issue was first addressed by MMS in 1986. The latest allegations of underpayment resurfaced after six of seven defendants named in lawsuits brought by the City of Long Beach, California (City), and the State of California (State) settled out of court, making payments and giving other considerations totaling about $350 million. Our objective in conducting the latter study was to determine if there is reason to believe that Federal royalties have been underpaid because of artificially low posted prices in California.

Initially, we constructed estimates of potential undervaluation for all years between 1960 and 1992. These estimates were almost entirely based on documents and data provided by the legal counsel for the City and State. Although we were not able to substantiate the data then or later, the resulting potential underpaid royalty estimates led us to conclude that the matter needed further investigation.

Earlier Investigation by MMS

In 1986, RMP staff investigated allegations of undervaluation of California crude by the integrated oil producers. At that time, RMP concluded that postings should continue to be the primary valuation basis. However, RMP's position could have been influenced by the timing of the investigation. This position was reached before the Ninth Circuit Court of Appeals reversed the District Court's decision that there was not enough evidence to go to trial and before five of six defendants in the Long Beach II[1] case settled out of court.

Study Period/Statutes of Limitations

After the preliminary phase of this study in late 1993, we decided to look only at the period from 1986 forward. We believed our chances of success in collecting underpaid royalties based on anticompetitive pricing for prior periods were very low because of other issues not related to the merits of royalty claims. The statute of limitations at 28 U.S.C. 2415 provides that every action for money damages brought by the United States that is founded upon contract is barred unless the complaint is filed within 6 years after the right of action accrues or within 1 year after final decisions in applicable administrative proceedings, whichever is later. The applicability of this statute to royalty claims is not firmly settled.

Predecisional/Deliberative

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Documents Supporting the Plaintiffs' Position

We gathered a number of documents to investigate the claims made by the plaintiffs. These include, but are not limited to:

- Documents entered as evidence during the Long Beach I trial and its subsequent appeal.
- Spot price data.
- Sell-off data for oil offered for auction by the Department of Energy and the State at bids over posted prices.
- Reports from the Department of Energy raising concerns about posted prices.

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[1] The City of Long Beach and the State of California (the plaintiffs) filed two lawsuits against the integrated oil companies operating in California (the defendants). The suits, known as Long Beach I and Long Beach II, covered alleged undervaluation from 1971 to 1977 and 1978 to 1985 respectively.

- A report by National Economic Research Associates (NERA) addressing California oil postings.

The most substantial evidence is the work done by NERA (consultants hired by the plaintiffs' attorneys to analyze subpoenaed documents for the Long Beach I trial). However, it covers only the period 1961-1977 and does not apply to the post-1986 period. We discuss these documents and all of our other research in Attachment 2.

Description of the Market

The California crude oil market involves large integrated companies, independent producers and independent refiners. It is dominated by high sulfur crude production. As a rule, the average gravity of California oil is low compared to oil produced in the Gulf Coast and most other U.S. markets.

Currently five companies (Chevron U.S.A. Products Company (Chevron), Koch Oil Company (Koch), Mobil Oil Corporation (Mobil), Texaco Trading and Transportation Inc. (Texaco), and Unocal Corporation (Unocal)) post oil prices in California. Koch began posting in 1990 and Texaco in 1984; the others started in 1946-47. One other company, ARCO Oil and Gas Company (ARCO), posted from 1969 to 1986. Typically these companies are net buyers of California crude. Texaco is the only posting company that historically has sold more than it bought. The fact that most posting companies are net purchasers of California crude can be seen as an incentive for them to keep postings low.

Most onshore California crude oil is transported from the oil fields to refineries by pipelines; minor volumes are transported by trucks. Some of the offshore oil is transported by tanker ships to refineries in California and the Gulf of Mexico. Small volumes are transported to the Gulf market by pipeline. Very little California crude oil production leaves the State.

Historically, intrastate pipelines have transported oil from the oil fields to refineries. The pipelines, predominantly owned by the major integrated producers, were operated as private carriers. Independent producers generally were not able to use these pipelines to transport their oil to independent refineries. Large integrated producers have bartered oil with each other to reduce the transportation costs associated with moving oil from distant fields to their own refineries. As a rule, only major integrated firms had access to this advantage, and because trucking oil is generally cost-prohibitive except for very short distances, independent producers had no economical alternative but to sell to the major integrated companies at prices the majors posted for fields their pipelines served.

This situation began to change somewhat in 1977 when the Elk Hills Naval Petroleum Reserve developed sizable additional production. To get this oil to market, the Government required that sufficient common carrier capacity be made available to move its Elk Hills production. Litigation was avoided when ARCO offered its line 63 pipeline (one of two pipelines transporting oil from the San Joaquin Valley to the Los Angeles Basin) as a common carrier.

This change enabled some of the independent oil production in the San Joaquin Valley to be transported for a tariff to independent refiners in the Los Angeles area. But line 63's limited capacity meant that most of the independents' production still had to be sold to integrated companies or it might not be sold at all. In 1984, some Alaska North Slope (ANS) crude became available to independent refineries through spot purchases. Before then, virtually all ANS crude brought into California was purchased by or belonged to major integrated companies.

As part of the recent settlement agreements, most of the defendants' pipelines converted to common carrier status in March 1992. Peter Ashton, one of the consultants for the plaintiffs' attorneys, has done some preliminary work to evaluate the effect of changing these pipelines to common carrier status. His work suggests that pipelines converted to common carrier status have not seen increased access by independent producers. He speculates this may be because these producers do not fully understand the options available to them and/or the tariffs may not reflect a fair transportation charge.

Refinery Constraints

The integrated companies have claimed during litigation and in response to Department of Energy (DOE) studies that capacity to refine heavy crude in California is limited. They claim the limited capacity acts to suppress prices for this crude. But during the 1960's, integrated refineries added coking and hydrocracking capacity that enabled them to increase yields of high-value products from heavier crudes to a point where the yields compared favorably with those from lighter crudes. Although the cost to refine heavy crude exceeded the cost to refine lighter weight crude, the NERA study uses the defendants' refinery models to show that the proportionally lower purchase price of heavy crude made it more profitable to refine. Studies by both NERA and DOE imply the existence, at least through 1987, of adequate California capacity to refine both heavy and light streams of available crude oil.

Price/Market Comparisons

We examined evidence to support the allegations by the City and State. Among other analyses, we compared:

- spot prices to posted prices
- sell-off premiums to posted prices
- spot prices for Alaskan crude and crude moved over line 63

A common thread from much of our research is the concept of marginal prices/supply in the California market. That is, refiners sometimes face limited sources of supply to satisfy specific short-term and/or emergency crude oil feedstock needs. In these cases the independents often bid prices higher than those posted for oil from the same or nearby fields. These higher prices typically relate only to a limited portion of oil sold from a given field. Such prices can be considered the market "margin,"

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For oil sold in the Elk Hills and Wilmington[2] sell-offs, a premium over the posted prices for associated fields generally exists. We believe that the marginal supply concept accounts, at least in part, for these differences. That is, the independent refineries have limited access to crude that is not transported by the major producers. Since the late 1970's these refineries have been buying oil transported over line 63, and a portion of oil offered through sell-offs and in spot markets. If the prices at which the integrated companies sell oil they have moved from

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[2] Oil from the Wilmington field is auctioned by the City, acting as trustee for the State, to refiners who pay the posted price plus a premium that they offer under a sealed bid. The Energy Department holds similar sales for its crude produced at the Elk Hills Naval Petroleum Reserve.

distant fields to the Los Angeles Basin is sufficiently high, then there will be incentives for the independents to shop elsewhere. X-5 Predecisional/Deliberative

We also acquired spot price data for the Wilmington field over the period 1981-89. The spot prices consistently exceeded the Wilmington postings.

X-5 Predecisional/Deliberative

We also compared line 63 and ANS spot prices--representing delivered pipeline terminal and port prices respectively in the Los Angeles area. The costs of moving the crudes from the Los Angeles port terminal and the line 63 terminal to the refineries are similar, but spot prices of ANS crude delivered in California typically are higher than California spot prices for similar gravity California crudes. The reason for this difference isn't clear, but may simply reflect California producers' competitive response to the alternative sources of supply. Quality differences other than gravity may also affect the relative values.

Lawyers for the State allege that they continue to receive documents relating to the oil undervaluation issue. However, because these documents are under seal, they are not readily available to MMS. Without specific documentation supporting the State's continuing allegations of undervaluation over the period since 1986, we cannot evaluate the merits of their position. Likewise, we cannot infer admissions of wrongdoing by the defendants through their willingness to settle with the plaintiffs. We do not know whether the defendants settled as a practical matter to end the lengthy litigation, whether they felt their potential exposure warranted settlement, or both. In any case, most of the period covered by the settlements was before 1986.

Undervaluation in earlier periods

We were able to access some of the work of economic consultants (NERA) to the plaintiffs. The NERA provided analysis of documents and data subpoenaed from the defendants in the Long

Beach I case covering the years from 1961 through 1977.[3] Their work showed that the integrated companies knew that posted prices did not reflect the proper value of low gravity oil relative to high gravity oil. Documents obtained reveal that the integrated companies also realized that the independent producers had no alternative but to accept the prices offered and that the integrated companies could realize economic rent by not competing against each other. Thus there was a disincentive to offer higher posted prices. The consultants present a strong case that the integrated producers acted collusively to maintain low prices for low gravity crude prior to 1978.

Common Carrier Issue

In the Long Beach II litigation, the plaintiffs based part of their argument on a provision in the Mineral Leasing Act of 1920 (MLA) which requires that pipelines crossing Federal lands be operated as common carriers. Virtually all of California's major private oil pipelines cross Federal land for at least some portion of their length. The plaintiffs argued that the vehicle that restricted free movement of oil production, non-common-carrier pipelines, was illegal.[4]

As a result of the recent settlements, the integrated firms have converted, or will soon convert, all proprietary unheated pipelines to common carrier status. A 1993 State superior court ruling required two of the three major heated heavy crude pipelines originating in the San Joaquin Valley to convert to common carrier status. (The two companies involved are appealing

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[3]This work became publicly available in 1990, and thus was not available during RMP'S previous investigation in 1986.

[4]It should be noted that a failed 1950's effort by the Department of the Interior to stipulate conditions beyond the simple requirement of common carriage may have limited subsequent MLA common carrier pipeline enforcement. The case involved an attempt by the Secretary of the Interior to include a right-of-way stipulation that imposed detailed requirements for operating the pipeline. The Court of Appeals ruled that the MLA gives the Secretary authority to provide regulations and conditions as to survey, location, application, and use, but only as to the physical aspects of the right-of-way and not to the operation of the pipeline. In short, the Secretary may impose a common carriage requirement but no other operational conditions. (204 F.2d 46)

the decision, and the State is appealing the ruling that the third heated line may remain proprietary.)

MMS' Historical Reliance on Oil Postings

The MMS valuation regulations are aimed at providing specific guidelines for lessees to value production for royalty purposes. For crude oil, posted prices have historically been considered to be representative of reasonable value. We generally accept them as reasonable value in arm's-length transactions. For non-arm's-length transactions, our first two valuation benchmarks rely on the lessee's postings or oil contract prices used in arm's-length sales, and the average of postings used in arm's-length transactions by others.

State's Reliance on Postings

It should be noted that the State relies on posted prices for audit purposes. We confirmed this with staff from the State Lands Commission. When the State has reason to believe they may obtain prices higher than postings, they have chosen to take their share of production in kind.

MMS Authority in Noncompetitive Situations

Another important issue is the authority of MMS to address the overall market structure rather than just the validity of royalty values associated with specific sales. The MMS rules do not address whether an entire market is competitive or noncompetitive.

Although the rules address the case where the lessee has an arm's-length contract but breaches its duty to market production for the mutual benefit of the lessee and lessor, the consequence is to value production as if it were not sold under an arm's-length contract. The corresponding rules then rely heavily on posted prices and other arm's-length transactions.

This whole concept may best be illustrated by the case of an independent lessee/producer selling its production to an integrated major at the latter's posted price. The regulatory definition of arm's-length contract says only that it is arrived at in the marketplace between independent, non-affiliated persons with opposing economic interests regarding that contract. Assuming the independent and the major are not affiliated and share no economic interests, their contract is arm's-length according to the rules. Thus, if MMS believes that postings are artificially low and the independent has no recourse but to accept them as its total consideration, we would have to assert either that there was misconduct by or between buyer and seller or that the lessee breached its duty to market production for the mutual benefit of itself and the lessor. Otherwise, the contract price is royalty value.

Department of Justice (DOJ)

The DOJ conducted an investigation in 1991 after all of the firms but Exxon settled the State's and City's suits out of court. The RMP contacted DOJ about this investigation to see if anything could be learned from their findings. Ms. M.J. Moltenbrey, a trial attorney who worked on the case, informed us that DOJ felt that the "trail leading to the evidence was not fresh enough to pursue." She stressed that in weighing the possible cases to undertake, DOJ must evaluate each of its investigations and balance its resources against the chances of winning a case. The DOJ never took action against the companies involved in the Long Beach I and II trials.

<u>Conclusions</u>

- The MMS must reach the same conclusion it did in 1986: the evidence is insufficient to conclude that oil postings, at least over the period 1986 forward, don't reflect market value.

- We found no convincing evidence that the integrated majors, or the California oil market in general, act noncompetitively.

- We will continue our monitoring efforts in the future to verify that companies report royalty values at least at posted prices in California--and to look for evidence that postings are below market value.

Attachment 2

ROYALTY MANAGEMENT PROGRAM
INTERNAL WORKING DOCUMENT

Review of Relevant Documents

We used a number of sources of information to investigate the allegations brought forth by the City of Long Beach (City) and the State of California (State). A review of the most significant sources of information is given below.

In addition to spot prices and sell-off data, we looked at evidence that was entered as testimony during the trials. The attorneys for the City and State (plaintiffs) hired economic consultants to provide analysis of the documents they had subpoenaed in the Long Beach I and II trials. For the first trial, the plaintiffs employed the services of the National Economic Research Associates (NERA). Innovation & Information Consultants Inc. (IICI), under the direction of Peter Ashton, prepared studies for the State and City for the Long Beach II trial.

NERA Report

We received a copy of NERA's study, which was entered into evidence in the first trial and in the appeal. The study examines the California oil market for the period 1961-1977. The study concludes that there was significant undervaluation over this time period.

The NERA compared California posted prices to marginal refinery values[1] for high and low gravity crude for each of the major integrated firms' (defendants') refineries. The study also analyzed the linear programs used by these refineries to decide what crude to purchase as marginal stock to increase profits. After subtracting for refining costs, the additional value associated with heavy crude vs. light crude showed that the heavy crude was more valuable as marginal refinery input because the economic gain associated with refining the heavy crude made it more profitable to refine than light crude.

The NERA analyzed the difference in marginal value for each of

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[1]Only a certain percentage of the major integrated firms' refinery input is not accounted for by internal supply, long-term contracts, or exchanges with other majors. The refiner bases its decision to purchase its additional needed input based on the profit it expects to make after running the crude through its refinery. This additional, or marginal, input has a value known as the marginal refinery value.

the years the trial encompassed. Documents referenced in the report reveal the integrated companies acted to avoid closing the gap between prices for high and low gravity crude oils. The fact that it continued to occur over 15-plus years suggested that collusive behavior existed. Company documents quoted within the report show that these firms shared crude acquisition plans with each other. They also exchanged oil among themselves and reimbursed one another for relative value differences at prices quite different from postings. The plaintiffs argued that if the defendants had acted competitively, the price for the heavy crude would have risen due to its demand as marginal feedstock and that the price disparity would have disappeared.

The scope of the study is impressive. The analysis relies heavily on information subpoenaed from each of the defendants in the trial. The NERA presents a strong case for at least tacit collusion by the defendants. The analysis is the most thorough of any of the documents we reviewed. However, the NERA report covers a period much earlier than the current study.

IICI Studies

The IICI performed an economic analysis by compiling information from the subpoenaed documents for the Long Beach II trial and for the remanded trial after the initial decision had been overturned. Mr. Peter Ashton of IICI is currently providing analysis for the appeal of the Exxon trial decision scheduled to be heard late in 1994. He claims that the market demonstrated widespread undervaluation for California production. He supplied us with four comparisons for the period 1981-1990 that he feels demonstrate this undervaluation.

Wilmington, Elk Hills & State Sell-off Premia

There was a consistent trend for independent refiners to offer auction premiums over and above the posted prices for oil in these areas.[2]

Line 63 Spot vs. Buena Vista Delivered Price

Line 63, one of two pipelines transporting oil from the San

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[2]Wilmington oil is produced from Wilmington Trend. It is the principal production involved in the Long Beach I & II trials. Part of the production comes from wells located in the City and part comes from State tidewaters just offshore. The Elk Hills Naval Petroleum Reserve is located in the San Joaquin Valley. Oil from all three areas is sold in sealed bid auctions. The bids are based on premiums to be paid above posted prices for associated fields.

Joaquin Valley to Los Angeles, became a common carrier in 1977. The Buena Vista field is located in the San Joaquin valley. Spot prices for commingled Line 63 oil in Los Angeles exceed the delivered price[3] for Buena Vista oil in Los Angeles. The higher spot prices might occur because part of the Line 63 oil is utilized to make up refinery feedstock deficiencies on short notice, whereas Buena Vista oil is generally marketed in contracts whose terms are unaffected by short-term refinery feedstock shortages.

Wilmington Posted Prices vs. THUMS Spot prices

The THUMS is a consortium of companies operating the State's offshore facilities in the Wilmington field. We compared Wilmington posted prices to THUMS spot prices. We found THUMS spot prices generally were higher. The THUMS spot prices represented a small fraction of the volume from the Wilmington field and can be considered the market margin.

Belridge Light (Lt.) vs. Louisiana Light Sweet (LLS) Posted Prices

Belridge Lt. is a relatively high-gravity California crude that leaves the San Joaquin Valley by pipeline. Production is transported north to San Francisco, south to Los Angeles, east to Bakersfield, and west to Morro Bay. Its postings were compared to LLS crude values. Though the gravity was the same, the price received for LLS was consistently several dollars higher per barrel from 1981 to 1991. Sulfur contents were similar.

None of these comparisons necessarily imply collusion or other improper behavior by the major integrated firms. The comparisons simply show some price disparities in specific circumstances, many of which may relate to short-term refinery needs.

Department of Energy Report

In 1987, Charles Shirkey and Robert Speir published an article in Petroleum Marketing Monthly raising the possibility of a trend in oil price undervaluation in California from 1980 to 1985. The study focuses on the years 1984-1985. It examines crude quality, Alaska North Slope oil in the California market, transport of

[3]The delivered price for Buena Vista crude is the field posted price plus the Line 63 pipeline tariff charge. Corrections have been made to offset the one degree gravity difference between Buena Vista oil (26 degrees API) and the average commingled mix (27 degrees API) transported over Line 63.

finished products, refinery margins, and operating costs. The paper concludes by emphasizing that even after accounting for the effects of these factors, California posted prices still are not explainable.

Chevron responded to the paper in 1987, saying that the competitive dynamics of the California market are not accounted for and that numerous omissions and inaccuracies riddle the study. Speir and Shirkey responded to Chevron's claims in another paper. This paper refutes point by point the claims made by Chevron. It analyzes the markets, effect of ANS crude, and refinery costs.

As a whole the Shirkey/Speir reports raise valid questions about the nature of the California oil market from 1980 to 1985. However, their suggestion that low posted prices may have resulted from anticompetitive behavior by major integrated companies is not based on any hard evidence tying collusive behavior to specific individuals--or, in fact, on any real evidence of anticompetitive behavior at all.

General Accounting Office (GAO) Study

The GAO published a report in September 1988, investigating whether posted prices in California were reflective of fair market value. The report does not assert that California postings are not representative of fair market value. It does concede that the posted prices seem to be lower than elsewhere, but suggests that the nature of the market may explain these differences. The GAO makes no recommendations.

Arthur Little Study

The Internal Revenue Service commissioned a study completed by Arthur D. Little Inc. in 1987. It examines the period 1980-1983 and concedes that the postings are low in relation to other markets because the major producers capture economic rent by controlling both posted prices and pipeline access. The study concludes that posted prices are valid because one-third of the transactions are between unaffiliated parties, and posted prices are used in these transactions.

Gunther Buerk Study

Gunther Buerk has acted as a consultant to the attorneys involved in the case for the City and State. He constructed pricing models based upon refinery netbacks. Mr. Buerk has drawn on his experience working for Unocal from 1969-1984, where he served as Corporate Manager of Project Economics. He also directed the operations of several of their refineries. We cited his figures in our preliminary estimates.

State Netback Model

The State hired consultants to create a computer model to determine the net-back values for crude oil by factoring out the transportation and refining costs. When compared to posted prices upon which royalties are generally based, these net-back values are often considerably greater. The Royalty Management Program (RMP) examined the model in 1989. Our analysis questioned several assumptions made in this model. Specifically, the assumptions about refinery costs were too broad to allow the model to be used as a basis to calculate royalties. This model also suffers from its failure to encompass field-specific factors that affect value.

Elk Hills Bonuses

We collected bonus data for oil sold from the Naval Petroleum Reserve at Elk Hills. The data include prices received from 1986 to 1993. Virtually all of this oil was transported over Line 63. This pipeline is operated as a common carrier. At least part of the premiums above postings for nearby fields can be explained by availability of the Elk Hills production to independent refiners who have limited sources of refinery feedstock. Also, the API gravities are greater for the Elk Hills Crude than for surrounding fields. Some additional value may be associated with its higher gravity because when it is mixed with low gravity crudes, pipeline companies can avoid the need to heat their lines.

State and City Sell-offs

The State and City have produced oil from the Wilmington trend since the 1920's. Mineral rights associated with the field are unitized and rest predominantly with the State. The City owns less than 10%. Individual private owners comprise 3% of the unit. The City acts as trustee for the State and has contracted with an operator to produce oil from Wilmington.

The State began a program in 1972 to market its offshore oil production. It based its contracts on posted prices and invited potential buyers to bid on a premium over the average of the posted prices in the field. Independents were the principal bidders.

We have data from the City listing the premiums paid over (under) the posted prices for the State/City sell-off oil over the period 1973-1989.

Documents Describing the Three-Cut Exchange

For the period 1961-1972, we have copies of court documents giving testimony on the so-called three-cut exchanges used in lieu of postings for inter-company transactions, with admissions by the defendants that the posted prices were not the true value of the oil. We have no evidence that similar documents exist for the period 1986 forward or that such transactions continued beyond the early 1970's.

Section 17

73A

J. Lewis 8/6/86
DLebb 8/7/86

Mail Stop 653

MMS-RVS-EVB:86-0657

AUG 8 1986

Memorandum

To: Associate Director for Royalty Management

From: Chief, Royalty Valuation and Standards Division

Subject: Response to State of California's Allegations Regarding the Valuation of Crude Oil in California

In a July 2, 1986, meeting between representatives of Minerals Management Service; the law firm of Lobel, Novins, Lamont, and Flug; and the consulting firm of Putnam, Hayes and Bartlett, Inc. (PHB); allegations were made that crude oil produced from Federal leases onshore California is being undervalued for royalty purposes. According to representatives of the State of California (the State), posted prices in California are not reflective of crude oil values. A personal computer program developed by PHB allegedly gives the correct crude oil values for California.

We have investigated the allegations made by representatives of the State. Attached is a summary of our findings and conclusions concerning the valuation of crude oil produced from Federal leases onshore California. If we can provide any additional information in this regard, please let me know.

ORIG. SGD. DAVID A. HUBBARD

for William H. Feldmiller

Attachment

bcc: Gibbs
Hubbard
Chief, RIK Section
E:86-0657:8/6/86
Key Words: State of California
Onshore Crude Oil Valuation
RM Chron/D.C.
RM Chron/Lakewood
RVS Chron
EVB Chron
D. Gibbs:jel:NBI:86-0657

Research/review data	18	hrs.
Prepare draft #1	10	hrs.
Type draft #1	1 1/2	hrs.
Review draft #1	1/2	hrs.
Prepare draft #2	1/2	hrs.
Type draft #2	1/2	hrs.
Review draft #2	1/2	hrs.
Prepare draft #3	1/2	hrs.
Type draft #3	1/2	hrs.
Review draft #3	1/2	hrs.
Prepare draft #4	1/2	hrs.
Type draft #4	1/2	hrs.
Review draft #4	1/2	hrs.
Type and Prepare Final	1	hrs.
Review Final	1/2	hrs.

ROYALTY MANAGEMENT PROGRAM
ROYALTY VALUATION AND STANDARDS DIVISION

Summary of Findings and Conclusions
State of California's Allegations
Regarding Valuation of Crude Oil
Onshore California

General Background

- In a July 2, 1986, meeting between representatives of Minerals Management Service (MMS); the law firm of Lobel, Novins, Lamont, and Flug; and the consulting firm of Putnam, Hayes, and Bartlett, Inc. (PHB); allegations were made that crude oil produced from Federal leases onshore California is being undervalued for royalty purposes. According to representatives of the State of California (the State), posted prices in California are not reflective of crude oil values. A personal computer program developed by PHB allegedly gives the correct crude oil values for California.

- On behalf of the California State Comptroller's Office (CSCO), PHB developed a system to estimate refined product values (RPVs) for California crude oils over the 1977 to 1983 time period. Reportedly they found that RPVs were approximately equal to posted prices on the Gulf Coast, but were well above posted prices on the West Coast. The RPVs were calculated by multiplying the price of certain refined products; i.e., gasoline, No. 2 fuel oil, and residue fuel oil; by the quantity of each product derived from a barrel of crude oil, less the cost of refining that barrel of crude oil. The State has identified additional royalties they maintain should be due as the result of the application of RPVs allegedly representing true crude oil values during the period 1981 to 1983.

- This document represents Royalty Valuation and Standards Division's (RVSD) response to the allegations made by the State regarding the valuation of crude oil produced from Federal leases onshore California.

Findings

- Regulations governing the valuation of crude oil produced from all Federal onshore leases are contained at Title 30 of the Code of Federal Regulations (CFR) Part 206.103. This Part states,

  "The value of production, for the purpose of computing royalty, shall be the estimated reasonable value of the product as determined by the Associate Director due consideration being given to the highest price paid for a part or for a majority of production of like quality in the same field, to the price received by the lessee, to posted prices, and to other relevant matters. Under no circumstances shall the value of production of any of said substances for the purpose of computing royalty be deemed to be less than the gross proceeds accruing to the lessee from the sale thereof or less than the value computed on such reasonable unit value as shall have been determined by the Secretary. In the absence of good reason to the contrary, value computed on the basis of the highest price per barrel, thousand cubic feet, or gallon paid or offered at the time of production in a fair and open market for the major portion of like-quality oil, gas, or other products produced and sold from the field or area where the leased lands are situated will be considered to be a reasonable value." (Emphasis Added)

- The MMS has the responsibility for obtaining a reasonable value for production from Federal leases. For crude oil, posted prices paid under arm's-length conditions are considered to be representative of reasonable value because they generally represent the value of the majority portion and are the prices received by the lessee.

- Posted prices represent the price a buyer, usually a refiner, is willing to pay for the crude oil in a given field or area. Postings are affected by numerous factors including: 1) the need for and availability of crude oil supply, 2) the cost of transportation from the field to the refinery, 3) the chemical composition and refining characteristics of the crude oil, 4) the cost to refine the crude oil, 5) the value of refined products derived from the crude oil, 6) the postings of other buyers for the same or comparable crude oils, and 7) other economic criteria.

- The advantages of basing the royalty value of crude oil on posted prices are as follows:

  1) Posted prices represent an offer to buy a specific quality of crude oil in a field or area.

  2) Posted prices can be easily ascertained and reviewed on a frequent basis.

  3) Posted prices provide the only broad base of market-tested information suitable for royalty valuation.

  4) Prices posted by purchasers of large and widely-traded crude oil streams usually represent the prices actually paid for the major share of supply for refiners and thus can reflect prices paid for a majority of production in a given field.

  5) Posted prices represent the price received by the lessee.

- During the period 1981 through 1983, four companies posted prices for crude oil produced onshore California: Atlantic Richfield Company (ARCO), Chevron U.S.A. Inc. (Chevron), Mobil Oil Corporation, and Union Oil Company of California. California posted prices are different from prices posted for other states or areas in tnat due to the large variance in the quality of crude oils in California (12 to 39° API gravity), prices are posted for numerous fields within the State. For example, Chevron posts a price for 83 different fields in California, each at a specific API gravity.

- The posted prices of these four companies have generally remained within a small variance of each other. However, in November 1984, Texaco Refining and Marketing, Inc. (Texaco) began issuing posted prices for California. Texaco's posted prices have been and continue to be higher than other companies' posted prices for the same field. A more recent complication to the crude oil postings in California has been ARCO's withdrawal of its postings in California effective March 1, 1986.

- Recently the Payor Accounting Branch (PAB), Fiscal Accounting Division, requested RVSD's advice as to whether Texaco's posted price should be included in the determination of the highest posted price in the field for the valuation of royalty oil produced onshore California. Regulations governing royalty oil produced onshore (30 CFR 208) require that the royalty oil be valued at the highest posted price in the field. In its reconciliation of Royalty-In-Kind contracts, PAB has found lessees generally did not include Texaco's posted price in the calculation of the royalty value reported on Form MMS-2014 and subsequently billed to the small refiner. The RVSD did considerable research on Texaco's posting and found no convincing evidence of its inapplicability. The RVSD thus informed PAB that until or unless documentation is provided to MMS which indicates that Texaco's posted prices are not valid offers to purchase crude oil, Texaco's posted prices should be included when determining the highest posted price in a field.

- On July 10 and 11, 1986, representatives from RVSD traveled to California for the purpose of obtaining information on the prices received by the State and the City of Long Beach (the City) for their crude oil interests in California. Representatives of the City (operator of the Long Beach Unit located in the Wilmington Field) provided us with documentation indicating that the City values its "sell-off" crude oil from the Long Beach Unit at the average of the posted prices in the Wilmington Field. Because the City's crude oil is sold in a competitive bidding process, it often receives a bonus amount (on a dollar-per-barrel basis) in addition to the average of the posted prices. When the City did not include Texaco's posted price in its average "sell-off" prices, it received positive bonus bids. In recent months, when the City has included Texaco's posted prices in the calculation of the average posted price for "sell-off" oil, it has received negative bonus bids.

- Representatives of the California State Lands Commission (CSLC) were unable to meet with us in California. However, in a subsequent telephone conversation with a representative of CSLC, we were informed that the State values its "sell-off" oil from various fields in California at the highest posted price in the field not including Texaco's posted price. The State's "sell-off' oil is also sold in a competitive bidding process; therefore, it often receives a bonus bid.

- While in California, we met with representatives of the law firm of Hoecker and McMahon who are representing the City and the State in an anti-trust lawsuit against seven major oil companies in California. The suit claims that the oil companies have conspired to keep posted prices artificially low, thus causing the City's and State's interests in the Wilmington Field to be undervalued. The Federal District Court has thus far ruled in the oil companies' favor on all counts. The City and State are presently appealing the decision to the Ninth Circuit Court of California.

Conclusions

- Arm's-length posted prices have been and should continue to be considered by MMS to represent reasonable value for royalty purposes. This policy should continue to apply to all crude oil produced from Federal leases, onshore and offshore. This policy is proposed in the new oil valuation regulations and has been endorsed by the Oil Valuation Panel of the Royalty Management Advisory Committee--a committee comprised of representatives of industry, the states, and the Indians.

- The methodology proposed by [illegible] would not be preferable to the use of posted prices for the following reasons:

  1) Calculation of RPVs would be administratively impractical.

  2) Calculation of RPVs requires numerous assumptions about the cost of refining and transporting a barrel of crude oil. Such assumptions do not represent the crude oil market.

  3) The RPVs generally lag the market value of crude oil. As noted by the recent decline in crude oil prices, product prices do not generally fall (or rise) as quickly as crude oil prices.

  4) The State's calculation of RPVs apparently operates on the assumption that no profit should accrue to the refiner; i.e.. "no value added."

- Based on the information available to us at this time, we see no reason to alter MMS's policy of accepting arm's-length posted prices as value for royalty purposes for crude oil produced from Federal onshore leases in California.

Signature Page for Project No. 86-0657

Prepared By: Deborah Gibbs Tschudy 8/7/86
Deborah Gibbs Tschudy Date

Reviewed By: David A. Hubbard 8/7/86
David A. Hubbard Date

Reviewed By: David A. Hubbard 8/7/86
for Thomas J. Blair Date

Reviewed By: David A. Hubbard 8/7/86
for William H. Feldmiller Date

Section 18

Mail Stop 653

MMS-RVS-EVB:86-0663

AUG 12 1986

Memorandum

To: Royalty Valuation and Standards Division Files

From: Economist, Economic Valuation Branch, and
Physical Scientist, Economic Valuation Branch

Subject: Trip to California to Investigate California Crude Oil Royalty Values

On July 10-11, 1986, Bill Feldmiller, Deborah Gibbs, and Bill Hengemihle traveled to Los Angeles and Long Beach, California, to investigate royalty values of crude oil produced onshore California. On July 10, 1986, we met with representatives of the City of Long Beach (the City) to discuss the prices received by the City for its "sell-off" crude oil. On July 11, 1986, we met with representatives of the law firm of Hoecker and McMahon to discuss the lawsuits involving the City and the State of California (the State) versus seven major oil companies in California. We were also scheduled to meet with the State Lands Commission on July 11, 1986; however, they were unable to meet with us.

Following is a summary of the discussions we had with the City and the law firm of Hoecker and McMahon.

City of Long Beach

As stated above, on July 10, 1986, Bill Feldmiller, Deborah Gibbs, and Bill Hengemihle met with representatives of the City. Representing the City were Bruce Jackson, Bob Rawnsley, and Ken Takahashi.

The City provided us with the following documentation regarding the valuation of its "sell-off" crude oil from the Long Beach Unit in the Wilmington Field:

1) Monthly run statement summary for January 1985 through June 1986.

2) Summary of crude oil sales contracts for the State Tidelands and the City Uplands for contracts beginning March 1985 to the present.

3) Schedule of posted price changes for the Wilmington Field for January 1986 through July 1986.

4) Monthly crude oil price schedules indicating average posted prices for the Wilmington Field for 1985.

5) Copies of invoices to refiners which purchase "sell-off" oil. The invoices indicate the bonus amount paid.

Attached is a rough sketch of the Wilmington Field as drawn by Bob Rawnsley. The bulk of crude oil production from the Wilmington Field is produced from the Long Beach Unit. Within the Unit, Tract I is the primary area of production. The City and The State both have interests in Tract I; only the City is involved in the Townlot area; and only the State has interests in Tract II.

The City operates the Long Beach Unit in trust for the State. The City often takes its interests in-kind and sells it off to local refiners under a competitive bidding process. The price it receives for the "sell-off" oil is the average of the posted prices for the Wilmington Field plus or minus a bonus. Currently this includes prices posted by Texaco, Mobil, Union, and Chevron. Prior to March 1, 1986 (the date ARCO withdrew its postings in California) ARCO's posted price was also included in the average. The City also usually receives a bonus, on a dollar per barrel basis, in addition to the base price.

Recently the City has been receiving negative bonuses, especially when Texaco's posted price is included in the average. According to a representative of the City, the competitive bidders are saying that Texaco's posted price is out-of-line.

A representative of the City also stated that the intention of the City's pricing mechanism is to provide a flexible price for the crude oil that varies with demand, not to find the fair market value of the crude oil.

<u>Law Offices of Hoecker and McMahon, Los Angeles, California</u>

On July 11, 1986, Bill Feldmiller, Deborah Gibbs, and Bill Hengemihle met with Mr. McMahon, Attorney; and Gerald Taylor, Lawyer/Economist. The purpose of the two-hour meeting was to familiarize Royalty Valuation and Standards (RVSD) personnel with the issues of two lawsuits, referred to as Long Beach I and II, filed by the City and the State (Plaintiffs) against several major oil companies (Defendants). Mr. McMahon, who is representing the City and the State in Long Beach II, informed the RVSD staff that the Defendants have conspired with one another to keep their posted prices for crude oil artificially below market value. Therefore, the case is of particular interest to Minerals Management Service (MMS) because posted prices for California crude oils quite often serve as the basis for royalty payments for Federal leases onshore and in the OCS.

Throughout the meeting, the Plaintiffs' Legal Counsel shared numerous examples of documented evidence which was said to support their allegations. Several of these documents, as well as others associated with Long Beach I and II, were supplied to MMS after the meeting and include: Pre-Trial Proceedings of Long Beach I, Summary Judgments, testimonies, and internal company documents discovered by the Plaintiffs' Legal Counsel (which were purported to included evidence of illegal acts of price fixing). These documents are filed under California Crude Oil Values in the Economic Valuation Branch files. Also, a summary of the information submitted to MMS is contained in a memorandum to the Division files (Project No. 86-0657). For detailed information relevant to these lawsuits, the reader is referred to the files mentioned above. A summary of the proceedings of the July 11, 1986, meeting is presented in this memorandum.

After providing an overview of the allegations made by the Plaintiffs in Long Beach I, Mr. McMahon assessed the Court's findings and the current status of the lawsuit. The Plaintiffs are suing for total damages of approximately $1 billion, about $1 per barrel over the time period 1971 through 1977. The United States Central District Court of California has ruled in favor of the Defendants, citing that insufficient evidence of a conspiracy exists. The Court also addressed three Government-mandated programs which kept prices low during the damage period: (1) a mandatory import program, (2) price controls, and (3) entitlements programs. The decision is currently being appealed in the Ninth Circuit Court of California. Arco has reportedly settled out of court for $22.5 million.

Mr. McMahon then went on to display several written recorded testimonies and internal documents which he believes cite clear evidence that a pricing conspiracy existed. Mr. McMahon explained that most of the documents were obtained through "discovery" within the offices of the Defendants.

At this point, Gerald Taylor presented an argument which explained the economic incentives of price fixing and the theoretical background of "monopolistic competition." He said that with posted prices fixed below market value, the Defendants could reap enormous profits upon the sale of refined products. He alleged that, in order for posted prices to be maintained at depressed levels, the Defendants mutually agreed that crude supplies would under no circumstances be pirated from one another by increasing purchase price offers. Because the Defendants supposedly would not offer higher-than-agreed-upon prices to attract crude oil supplies, stocks were generally in short supply and refineries rarely operated at capacity. Mr. Taylor mentioned that several independent refiners have repeatedly testified that they were unable to obtain crude oil supplies at the Defendants' posted prices, therefore supporting his arguments.

Mr. Taylor's and Mr. McMahon's responses to several questions from the RVSD staff regarding the mechanism by which the Defendants undervalued California crude oils concluded the meeting. These "once secret" procedures for price fixing are outlined in the memorandum referenced earlier, Project No. 86-0657.

California State Lands Commission

As stated above, the State Lands Commission was unable to meet with us as scheduled. When we arrived at their offices, we were informed that the representative we were to meet with was called away on a personal emergency. We contacted that representative by telephone the next week. We were informed that the State Lands Commission values its "sell-off" oil at the highest posted price in the field not including Texaco's posted price.

S/ by

Deborah Gibbs

S/ by

Bill Hengemihle

Section 19

(15)

United States Department of the Interior

MINERALS MANAGEMENT SERVICE
Royalty Management Program
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IN REPLY REFER TO

cc. DAVE Hubb
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FEB 10 1994

Memorandum

To: Director

From: Associate Director for Royalty Management

Subject: Potential California Oil Royalty Undervaluation

History

Over the past 15 years the City of Long Beach (City) and the State of California (State) have pursued several legal actions against seven major oil firms--ARCO, Chevron, Shell, Mobil, Unocal, Texaco, and Exxon. The City and State allege that these majors posted oil prices to purchase crude oil which undervalued crude oil produced in and around Long Beach. The City acts as trustee for the State for much of the land involved, and the State and City say the crude oil production was sold at posted prices below market value. They maintain further that the majors were able to keep prices at low levels through control of virtually all major California crude oil pipelines. They claim that since all the majors except Texaco were net buyers of California crude, they conspired to keep refinery feedstock prices down and thereby profit through refined product sales. The State and City began a civil antitrust action in the U.S. District Court for the Central District of California on that basis in 1975.

In 1986 our Royalty Valuation and Standards Division (RVSD) looked into the possibility that crude oil produced from Federal leases in California, which was valued for royalty purposes on the basis of arm's-length posted selling prices, had been undervalued. As part of the investigation, RVSD visited the law firm handling the plaintiffs' side of the litigation, as well as City and State offices. They also met with the consulting firm the State hired to do computer netback pricing analyses using refined product prices. The RVSD obtained additional information from various other sources.

Taken as a whole, the information gathered by RVSD resulted in little tangible support for the undervaluation charge. For instance, RVSD obtained some data on selloffs of Long Beach crude by the City itself. Bids for this oil often included premiums above average posted prices, but when Texaco's postings were included in the average, bids fell below average postings. This data did not provide support for the alleged underpricing. The same pattern existed for State oil selloffs.

One of the principal arguments by the State and City was that the computer netback model, after adjusting for oil refining and transportation costs, resulted in field prices higher than postings. However, the Royalty Management Program (RMP) found too many problems with the netback model to rely on it for establishing value. Among these were:

- A variety of assumptions were needed concerning refining and transportation costs, product yields from a particular crude oil, product selling prices, etc. Those assumptions were unverifiable, and, in many cases, appeared inconsistent with actual experience.

- Changes in refined product values generally do not correspond to changes in the market value of crude oil; refined product prices don't fall or rise as fast as crude oil prices.

Also, the State and City were unsuccessful in their antitrust claims in court. In 1984, 9 years after the case was filed, the U.S. District Court for the Central District of California ruled there was insufficient evidence of conspiracy to try the case, particularly in view of the effects of crude oil price controls and the associated entitlements program.

ARCO settled with the State and the City in 1984 after the U.S. District Court's ruling. In 1986, while the Federal case was pending on appeal, the State and City began an action based on similar claims under State law in the Superior Court for the State of California. Shortly thereafter, the U.S. Court of Appeals for the Ninth Circuit reversed the District Court's ruling and remanded the case for trial.

As part of its efforts to determine whether oil had been undervalued for royalty purposes, RVSD met with Internal Revenue Service (IRS) representatives. The IRS believed there was no conclusive evidence to show either collusion or undervaluation. The Department of Energy (DOE) also looked into the California crude oil pricing issue at about the same time, as did the Department of Justice (DOJ) a few years later. Neither agency took any action.

Historically, the Minerals Management Service (MMS) considered arm's-length postings to be the best available basis for royalty value. Postings usually represented prices paid for a major share of refinery supply and thus generally reflected prices paid for a majority of production in a field or area. In fact, postings were proposed for use in the oil valuation regulations being revised in 1986, and were endorsed by the Oil Valuation Panel of the Royalty Management Advisory Committee. Given the continued emphasis on posted prices as a definitive measure of market value and the lack of good evidence to show the California postings were somehow tainted, MMS concluded that arm's-length postings remained the best available determinant of royalty value.

Recent Efforts by MMS

Prompted by a request from the Office of Policy, Management, and Budget (PMB), in August of 1993, RMP undertook a second general review of potential Federal royalty undervaluation in California. The PMB request resulted from recent settlements by all but one of the companies (Exxon) who were defendants in the

State/City antitrust litigation. Our initial objective was to get a rough idea of the theoretical potential magnitude of any such undervaluation, based on a number of assumptions consistent with the plaintiffs' theories in the California litigation. However, whether those assumptions were correct was not addressed at this stage.

Among its research activities, Valuation and Standards Division (VSD), formerly RVSD, personnel visited the law firm that conducted the plaintiffs' side of the State/City litigation against the majors. According to the plaintiffs' lawyers, depositions of some witnesses seem to indicate that in the 1960's and earlier, officials of several of the companies involved knew that oil posted prices in California didn't represent market value. Supposedly, because of this, they used other means to value oil traded among themselves, because using posted prices allegedly would have damaged the trading parties financially. However, these depositions have not yet been reviewed by the Solicitor's Office, and this description is not meant to conclude that price fixing occurred or that we now have legally sufficient evidence of it. This particular trading mechanism disappeared, at least overtly, in the 1970's after the State and City found documentation showing its existence.

Relying mainly on opinions and information from the plaintiffs' law firm and its consultants, VSD drafted a report giving an overview of the theoretical potential Federal royalty undervaluation over the period 1960-1992. Estimated dollar-per-barrel undervaluation amounts were derived from the plaintiffs' consultants' model. The VSD then applied estimated dollar-per-barrel undervaluation amounts to total onshore and offshore Federal lease production by time period to get the summary estimates. For the periods researched, estimated Federal royalty underpayments using this method--again, based largely on the plaintiffs' consultants' assumptions--in theory could be in the following ranges:

- Onshore, 1960-1991--$ X-5
- Offshore, 1968-1992--$ X-5

Of these totals, the portion attributable to the more recent years is:

- Onshore, 1986-1991- $ X-5
- Offshore, 1986-1992--$ X-5

These figures do not include interest.

X-5

X-5

Settlements to Date

Through 1991, all of the seven companies except Exxon had settled with the State and City before trail for a total of about $350 million in cash and properties. As a by-product, most pipelines operated by these companies in California were required in 1993 to operate as common carriers. Given the length and circumstances of the preceding litigation, it is not clear whether the companies settled as a practical matter to cut off the litigation, whether they felt their potential exposure warranted settlement, or both. The lone holdout, Exxon, chose to go to trial and was exonerated by a jury in 1992. The State and City appealed; the case continues. In addition, the settlements apparently combine compromise amounts for both undervaluation and pipeline issues. We would caution against hasty inferences from the settlement amounts. Though each of the companies paid amounts in the tens of millions, amounts paid to settle undervaluation claims may be a relatively small percentage of the potential exposure, including treble damages and litigation costs.

Intended Followup

We will do further research to see if specific data exist to support any of the several assumptions underlying the theoretical estimates, or which would show that crude oil produced from Federal leases in fact was undervalued. For example, we will look at:

- data from Long Beach crude oil auctions
- sales of oil from the Elk Hills Naval Petroleum Reserve
- State/City consultants' studies
- spot price data — postings —
- studies by other agencies--DOE, the General Accounting Office, DOJ, etc.

If the data strongly support undervaluation when compared to reported royalty data, we will determine the next appropriate step. We recommend allowing company responses before we go to the billing stage. We will coordinate with the Solicitor's Office before taking action. If the data do not demonstrate that the oil was undervalued, we intend to close the matter. We anticipate that we will be able to make a decision by the end of March 1994.

X-5

Publicity About This Case

Someone apparently leaked information from our draft report to a reporter from Federal Lands. The undervaluation issue was the subject of two articles, most recently on the front page of the December 6 edition of Federal Lands. This issue also was part of a story about domestic energy production in the December 7 edition of the Wall Street Journal. We don't know who released the information, but our report had very limited distribution. If contacted by any media representatives, we will stress that the initial report is just a working document used only to decide whether to do more research on this issue.

bcc: RM Chron:93-0473
RM Chron Lkwd/DC
AD Chron
DAD-C Chron
VSD Chron (2)
EVB

LMS:RMP:VSD:EVB:DHUBBARD:MS3921:275-7260:N:\USR\RVSD\CALUNDER.D16
mkr:revised:12/09/93
dah:revised:12/22/93
Revised:DTSant:mlm:01/03/94:CALUNDER.DI6
Final:DTSant/GHeath:mlm:02/09/94