

Oklahoma Commission on  
Marginally Producing Oil and Gas Wells

# The Osage Environmental Audit

April 29, 1999

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This report was compiled by  
StateSource, LLC  
for  
The Oklahoma Commission on Marginally Producing Oil & Gas Wells

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*"Unfortunately for the United States, the declines in oil production costs apply more to oil lying outside the United States than to domestic reserves. This change in the relative cost of producing oil in the United States signals a sharp loss in competitiveness and market share for domestic oil production since the United States will become one of the most expensive production environments."*

By Russell L . Lamb and Chad R. Wilkerson  
Federal Reserve Bank of Kansas City

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April 15, 1999

## Foreword

Former Secretary of the Interior Don Hodel once said, "The cleanest, safest barrel of crude oil in the world is produced in the United States." The significant revenue impact oil and gas production has had on the Oklahoma economy is documented in the state's history, and is amplified by the increasing dilemma inherent in the maturing oil and gas production fields, the aging workforce and the industry's older infrastructure taking the product to market. Understanding the relationship between the rising production expenses due to environmental production costs and the prohibitive relative

disadvantages placed on domestic oil and gas production by these costs offers an overview of the obstacles. These obstacles, both prudent and irrational, influence the revenue stream, and thereby create an unnecessary burden on domestic production competing against global markets relatively unencumbered by the corresponding compliance requirements.

The Marginal Well Commission (MWC) initiated the 'Osage Environmental Audit' as a continuation of the development of field information that has been discovered in other surveys sponsored by the MWC. The unique relationship between the Osage Nation and those operators that produce oil and gas from over 13,000 low-volume oil and gas wells provides a field of studies that is a microcosm of the industry. The Osage Nation as royalty owner and its approved operators have a unique relationship in that its environmental oversight is provided directly by the United States Environmental Protection Agency. The 'Audit' pursued a cost per barrel environmental compliance analysis; and the detailing of the Audit's dollar amounts is designed to allow an understanding of the cost of meeting regulatory standards. In conjunction with past studies generated by the MWC, this study will help us understand how to prevent a complete imbalance between domestic and imported crude oil.

The Osage 'audit' was part of a series of studies conducted with the University of Oklahoma and Oklahoma State University funded and coordinated by the MWC. These studies cover a broad-based field of information that is open to analysis so that experienced energy professionals can examine the data to promote the most efficient implementation of the coexistence of oil and gas production in a safe and high quality environment. The 'Audit' is part of a systematic analysis which includes back to back operator surveys which allows the best understanding of today's oil production, today's cost for operations and today's oil operator through demographic analysis. Additionally, it may be necessary to review the cost of specific regulations, such as the permitting requirements for water aquifers, RCRA Reauthorization, and specific state initiatives such as California's zero emission requirements on fossil fuels.

In 1996, the Marginal Well Commission (MWC) surveyed producers with a series of questions designed to coordinate responses that would create fields of information constructing the costs associated with production costs or 'lift costs'. The survey

categorized a variety of expenses incurred by the operator on a cost per barrel scenario, and allowed a range of costs to be examined as to percentage of oil to gas ratio, electricity, personnel, water disposal and other costs related to preserving production and maximizing the life of an oil and gas well.

The resulting report has become the foundation for tax relief, identifying areas of concern, documenting specific cost that may overly burden a well and generally supporting any dialogue that focuses on the escalating operations costs in the oilpatch. In 1998, the MWC commissioned the Oklahoma State University's Bureau of Social Research to conduct a comprehensive demographic survey with the goal of personalizing the state's bonded operators. The resulting 'Operator's Profile' provided the industry with an overview of the age, average number of wells, the percentage of production differential between the larger and smaller producers and, in short, refocused the fact that the energy industry is predominantly small and rural businesses. Operating under public scrutiny and often gross public misperceptions, the 'Operator's Profile' helped the oil and gas industry redefine the necessity of stabilizing all level of operations, but especially the vulnerable marginal well operator.

Continuing the process of 'putting a face on the energy industry' and illuminating the cost against production, the 1999 Osage Environmental Audit again polls the relevant personnel in determining the real cost of regulatory compliance on a per barrel basis, and attempts to capture the facts of the 'field' where low prices and high cost endanger the efforts to prolong marginal production.

The results of this body of work are intended to broaden the view of the process that taxes, regulates and dominates the viability of sustained domestic production, and more specifically the remarkably fragile nature of hundreds of thousands of marginal oil and gas wells nationally and tens of thousand of marginal wells in Oklahoma. Enhanced recovery projects, potential reentry, the search for new technology and the opportunity to see the future through old wellbores are all stymied by overburdensome regulations that should be intended to be proportional to preserve our own natural resources. We hope that this unique information will be used by both public and private leaders in ascertaining ways to preserve our nation's vital domestic energy supply.

## **Executive Summary**

The Osage Environmental Audit Survey sponsored by the Oklahoma Commission on Marginally Producing Oil & Gas Wells has found more evidence that our domestic oil industry is at risk of extinction. This survey indicates that Osage County oil producers spend an average of \$9 million per year to comply with environmental regulations. By combining the estimated operating cost of oil production with the cost of regulatory compliance, we can estimate that oil producers have sustained an overwhelming net loss of over \$ 4.45 per barrel in the past six months. Additionally, while less than 1% of Osage County producers paid fines for failing to comply with environmental regulations in the past year, they spent an amazing 15-25% of their revenue on regulatory compliance.

The primary question raised by this study relates to the feasibility of imposing expensive regulatory compliance costs on both large and small oil producers where the risk to the environment is negligible. Although it is true that some precautions are necessary for the protection of the environment, this study indicates the urgent need to review the cost and the benefit of each regulation relevant to the risk of environmental harm. For example, some regulations may only be necessary for large producers, while others may be necessary only for those in a particular geographical location, such as coastal regions. At a minimum, the results of this study absolutely demand that no additional environmental regulations, forms or compliance rules be implemented for domestic oil producers. Furthermore, it indicates that current regulations be reviewed with careful scrutiny to determine where they provide protection relevant to the cost of compliance and risk to the environment. It is imperative that each cost imposed on domestic oil producers be based on sound research. Unnecessary costs must be removed to help ensure the survival of our most vital domestic industry.

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## **Purpose**

The purpose of this study is to determine the per-barrel cost of compliance with environmental regulations for Osage County oil producers in order to gain a better understanding of the costs associated with today's oil production.

## **Group**

For operational purposes the group was defined to be oil operators in Osage County, Oklahoma. With almost 500 operators, Osage County is home to more marginally producing oil and gas wells per capita than any other county in the United States, and, in turn, is losing producers at a faster rate than many other counties. Additionally, the county is directly supervised by the Environmental Protection Agency.

## **Questionnaire**

A survey questionnaire was mailed out to 512 operators and 104 were returned. The response rate of 23% was considered excellent, and was found to be indicative of the concern by operators regarding the impact of environmental regulatory compliance relevant to the overall cost of production. The response rate could feasibly be underestimated, as many producers who received the initial survey are no longer operating.

Those responses, as well as supplemental data collected from secondary sources are outlined in this report.

## **General Conclusions**

The average cost of compliance with environmental regulations is \$1.97 per barrel for Osage County oil producers.

Based on an average oil production of 4.6 million barrels<sup>1</sup> per year from 1996 to 1998, an average of \$9 million per year is spent by oil producers in Osage County alone in order to maintain compliance with environmental regulations.

The average operating cost for oil production is estimated at \$13.38 per barrel<sup>2</sup>. When added to the cost of environmental compliance, \$1.97 per barrel, the cost of producing a barrel of oil is now estimated at \$15.35 per barrel.

The average price for Osage County crude oil from September 1998 to March 1999 was \$10.903 per barrel. With the cost of production and regulatory compliance estimated at \$15.35 per barrel, the resulting net loss for oil producers is \$4.45 per barrel of oil.

The average operator in Osage County produces 28,333 barrels of oil each year.

The average well operator in Osage County operates approximately 29 wells.

The average production per well is 2.8 barrels per day.

Only 1% of survey respondents were required to pay fines related to environmental regulations in the past year.

This report does not include an assessment of man hours required for environmental compliance and the completion of burdensome paperwork, which many small business owners site as the number one threat to small business<sup>4</sup>.

**footnotes**

**1 Received from the State of Oklahoma Corporation Commission, April 1999.**

**2 From the "Survey of Oklahoma Oil & Gas Leases-Well Cost Analysis" authorized by the Oklahoma Commission on Marginally Producing Oil & Gas Wells in 1996.**

**3 Received from the Bureau of Indian Affairs, April 1999.**

**4 Received from the National Federation of Independent Business.**

## **Specific Conclusions**

### **Spill Containment**

The Environmental Protection Agency's SPCC Regulations require containment of drainage from the operating areas of a facility to prevent oil spills and contaminated runoff from reaching storm drains, streams, ditches, rivers, bays and other navigable waters. Additionally, any leaks which have saturated the soil must be stopped and the accumulation of oil removed.

In Osage County, this survey indicates that an average of \$460,000 per year or \$.10 per barrel of oil produced is spent on spill containment each year.

### **Requirements for Drips & Leaks**

(Such as sumps and catchment drums at unloading areas)

For off-load lines or sales outlet connections used for tank truck transfers of crude oil, the SPCC regulations require that drip pans or buckets be placed below the outlet or connection to catch small spills or leaks of oil.

This survey indicates that an average of \$92,000 per year or \$.02 per barrel of oil produced is spent on compliance with this regulation per year in Osage County.

### **Dikes & Berms for Spill Containment**

The SPCC regulations require that secondary containment and diversionary structures are in place to contain oil contaminated drainage, such as rainwater, or leaks from all tank battery and central treating plant installations. For these purposes, facilities should use dikes, berms, curbing, culverts, gutters, trenches, absorbent material, retention ponds, weirs, booms and other barriers or equivalent preventative systems. Dirt berms, which are commonly used, are required to contain some clay and be compacted.

This survey indicates that in Osage County, an annual average of \$368,000 or \$.08 per barrel produced is spent on such structures for spill containment.

## **Additional Inspections**

Oil production facilities are required to be visually examined on a scheduled periodic basis to insure that spills and leaks have not occurred. Records of inspection procedures, maintenance and draining of diked areas must be included in the facility's SPCC plan.

This study indicates that Osage County producers spend an average of \$276,000 per year, or \$.06 per barrel produced to provide the required additional inspections.

## **Additional Cost of Surface Casing**

(To comply with UIC requirement)

In order to protect underground drinking water sources, cemented casing is required at least 50 feet below water with less than 10,000 mg/l total dissolved solids (defined as 'an underground source of drinking water' by the EPA).

This study indicates that Osage County producers spend an average of \$966,000 per year or \$.21 per barrel produced to maintain this requirement.

## **Open Pit Netting & Saltwater Tank Netting**

In 1918, the United States Congress enacted the Federal Migratory Bird Treaty Act which provides for the controlled harvest and protection of migratory birds. The Act makes the illegal death of any migratory bird a violation of Federal law, punishable by up to \$10,000 in fines and possible criminal prosecution. The law is enforced by the U.S. Department of the Interior.

Open top tanks, saltwater tanks and pits of a permanent nature, such as skimming pits or saltwater storage pits are required to be netted, screened or covered. Open top tanks can be fitted with a solid cover of wood, steel or fiberglass, or can be covered with a screen or net.

This study indicates that Osage County producers spend an annual average of \$46,000 or \$.01 per barrel to secure open pit netting. An additional average of \$46,000 per year or \$.01 per barrel is spent on salt-water pit netting.

## **Salt Water Disposal**

Operators are required to dispose of salt water in an environmentally sound manner. Common industry practice is to re-inject it into a well site. This cost includes maintaining lines as well as pumping, storing, transporting and injecting saltwater for proper disposal.

This study indicates that operators in Osage County spend an average of \$1,058,000 per year or \$.23 per barrel for saltwater disposal.

## **Disposal Wells for Produced Fluids**

This requirement encompasses the construction, and maintenance of disposal wells to hold water and saltwater extracted from the producing well.

This study indicates that operators in Osage County spend an average of \$4,646,000 per year or \$1.01 per barrel to construct and maintain disposal wells for produced fluids.

## **Testing of Disposal Wells for Mechanical Integrity**

A disposal well is required to have mechanical integrity before being used for fluid injection. Operators are required to notify the EPA at least five days before testing a well so an EPA representative can witness the test. A two-part mechanical integrity test demonstrates that no significant fluid movement exists behind the casing, and that no significant leaks exist in the casing, tubing or packer.

This survey indicates that Osage Oil Producer spend an average of \$276,000 per year or \$.06 per barrel produced on testing of disposal wells.

## **Screens for Flares & Vents**

The Bureau of Land Management requires that operators secure screens or nets over vents or exhaust stacks to prevent the death of nesting or flying birds or bats.

This survey indicates that Osage County operators spend an annual average of \$18,000 to provide screens for flares and vents.

## **Soil Erosion Prevention**

The EPA may occasionally request soil erosion prevention via administrative order. Producers will usually be required to provide terraces, diversion ditches and the replanting of drilled and lease road areas.

This survey indicates that an annual average of \$276,000 or \$.06 per well is spent by Osage Producers on soil erosion prevention.

## **Pit Liners in Hydrologically Sensitive Areas**

The EPA will occasionally issue an administrative order to require an operator to line a pit if the area is deemed to be a threat to drinking waters.

This study indicates that Osage County operators spend an annual average of \$46,000 or \$.01 per barrel to comply with this regulation.

## **Disposal of Solid Wastes at Landfills (DEQ)**

The Oklahoma State Department of Environmental Quality requires that non-hazardous solid waste such as contaminated soil or metals be disposed of at landfills.

This study indicates that Osage County operators spend an annual average of \$1900 to comply with this requirement.

## **Fencing to Protect Livestock**

Operators often provide fencing to protect the livestock owned by the landowner. This study indicates that Osage County operators spend \$92,000 per year or \$.02 per barrel per year to provide fencing.

Safety Requirements for the Disposal of H<sub>2</sub>S OSHA or Occupational Safety and Health Administration requires the safe disposal of H<sub>2</sub>S, a poisonous gas which is sometimes emitted from a well site.

This study indicates that Osage County oil producers spend an annual average of \$92,000 or \$.02 per barrel to safely dispose of H<sub>2</sub>S.

## **Forms Compliance**

The EPA requires an annual injection well report to be submitted by each operator outlining the monthly injection volume and providing a monthly injection pressure analysis. Additionally, a yearly report is required on any temporarily abandoned well outlining the fluid level in each abandoned well.

Additionally, each operator must submit a lengthy permit application for each new injection well.

The EPA requires each operator to have an SPCC plan which must be reviewed and certified by a Registered Professional Engineer. The SPCC plan must satisfy all applicable requirements for drainage of operating areas, containment for tank batteries and central treating stations, bulk storage tanks, unloading and loading areas, transfer operations, inspections and records, security and training. The facility must fully implement the SPCC plan.

This study indicates that Osage County operators spend \$276,000 per year or \$.06 per barrel in order to comply with forms requirements.



## Appendix I – Survey Average Results

### OSAGE ENVIRONMENTAL AUDIT SURVEY

|   | <u>Average</u> |
|---|----------------|
| 1. How many barrels of oil did you produce last year?   | 28,333         |
| 2. How many wells did you operate to produce the above amount?  | 2 9            |
| <b>Of those wells:</b>  |                |
| 3. How many operate on electric motors?   | 15             |
| 4. What is the monthly electricity bill?  | \$3,442.49     |
| 5. How much did you spend last year for environmental compliance for:   |                |
| Spill containment   | \$2, 771.00    |
| Requirements for drips & leaks such as sumps and catchment drums at unloading areas   | \$450.00       |
| Dikes and berms for spill containment   | \$2,310.00     |
| Additional inspections to insure spills or leaks have not occurred  | \$1,790.00     |
| Additional cost of surface casing (or rework of old) to comply with UIC requirement to protect underground drinking water sources | \$ 5,882.00    |
| <b>Open pit netting</b>   | \$410.00       |
| Salt water tank netting (advisory rule in OK only)  | \$ 350.00      |
| Salt water disposal   | \$6,451.00     |
| Disposal wells for produced fluids  | \$28,673.00    |
| Environmental requirements for testing disposal wells for mechanical integrity  | \$1,797.00     |
| Screens for flares & vents to prevent bird death (BLM only in OK)   | \$ 110.00      |
| Soil erosion prevention such as terraces, diversion ditches & replanting of drilled and lease road areas                          | \$1,605.00     |

|   |                                  |
|---|----------------------------------|
| Pit liners in hydrologically sensitive areas                        | \$312.00                         |
| Disposal of solid wastes at landfills (DEQ permit required)         | \$12.00                          |
| Fencing to protect livestock  | \$588.00                         |
| Safety requirements for H2 S  | \$534.00                         |
| Forms compliance  | \$1,690.00                       |
| 6. Have you paid fines in the last year?                            | Yes 2% No 98 %                   |
| If Yes:   |                                  |
| Fine(s) based on reported incident                                  | # of incidents .50<br>\$3,360.00 |
| Fine(s) automatic   | #of incidents .0<br>\$0.00       |
| 7. Have you experienced an oil or Saltwater spill in the last year? | Yes 2 9 % No 71 %                |
| 8. Did you properly report the spill incident?                      | Yes 55% No 45%                   |
| 9. Was the regulating agency timely and cooperative?                | Yes 81% No 19%                   |

**Comments: See Appendix III**

Sponsored by the  
Oklahoma Commission on Marginally Producing Oil & Gas Wells  
Conducted by the  
Bureau for Social Research, Oklahoma State University  
A complete copy of the assembled data is available: 1-800-390-0460

## Appendix II – Per Barrel and Per Well Cost Analysis

| Survey Question                                 | Average Results   | Per Barrel Cost | Per Well Cost      |
|---|-------------------|-----------------|--------------------|
| Total Barrels Produced                          | 28,333            |                 |                    |
| Wells operated                                  | 29                |                 |                    |
| Electric Motors                                 | 15                |                 |                    |
| Monthly Electric Bill                           | \$ 3,442.49       | \$ 0.12         | \$ 118.71          |
| Spill Containment                               | \$ 2,771.00       | \$ 0.10         | \$ 95.55           |
| Drips & Leaks                                   | \$ 450.00         | \$ 0.02         | \$ 15.52           |
| Dikes & Berms                                   | \$ 2,310.00       | \$ 0.08         | \$ 79.66           |
| Additional Inspections                          | \$ 1,790.00       | \$ 0.06         | \$ 61.72           |
| Surface Casing                                  | \$ 5,882.00       | \$ 0.21         | \$ 202.83          |
| Open Pit Netting                                | \$ 410.00         | \$ 0.01         | \$ 14.14           |
| Salt water tank netting                         | \$ 350.00         | \$ 0.01         | \$ 12.07           |
| Salt water disposal                             | \$ 6,451.00       | \$ 0.23         | \$ 222.45          |
| Disposal wells for fluids                       | \$ 28,673.00      | \$ 1.01         | \$ 988.72          |
| Testing disposal wells for mechanical integrity | \$ 1,797.00       | \$ 0.06         | \$ 61.97           |
| Screens for flares & vents                      | \$ 110.00         | \$ 0.00         | \$ 3.79            |
| Soil erosion prevention                         | \$ 1,605.00       | \$ 0.06         | \$ 55.34           |
| Pit liners                                      | \$ 312.00         | \$ 0.01         | \$ 10.76           |
| Solid waste disposal                            | \$ 12.00          | \$ 0.00         | \$ 29.00           |
| Fencing for livestock                           | \$ 588.00         | \$ 0.02         | \$ 20.28           |
| Safety requirements for H2S                     | \$ 534.00         | \$ 0.02         | \$ 18.41           |
| Forms Compliance                                | \$ 1,690.00       | \$ 0.06         | \$ 58.28           |
|   | <b>TOTAL COST</b> | <b>\$ 1.97</b>  | <b>\$ 1,950.48</b> |

## Appendix III – Operator Comments

("Not Qualified" comments were submitted by producers who are no longer operating in Osage County)

001

I don't have environmental expenses broken down, but they totaled approximately 10% of operating expenses.

002

Bureau of Indian Affairs is not as concerned with environmental problems! Their main focus is how to generate revenue through changes in their rules and policies. By stealing and selling leases and by changing royalties and increasing bonds.

004

I plan to sell my interest and retire. I am almost 77 years of age. I think it's time.

007

Above are direct costs only. Does not include additional costs.

009

Pump maintenance for pumping open pit after each rain and disposing of the fresh rainwater is a joke.

010

The American oilman will soon be only a memory if \$20 oil prices do not soon return. This return is for production in Osage County only.

013

Help!!!

015

In my opinion, the BIA is the biggest problem in Osage County.

016

Oil prices need to go up!

019

(in regards to question #1) Because of the low price oil, these wells were not produced full time. Probably about 65%.

(in regards to questions 5a, 5b, and 5c) Already in place.

024

(in regards to questions 5a, 5b, and 5c) I was already in compliance.

(in regards to questions 5f, 5g, and 5j) Already done.

(in regards to questions 5q) Already done--3 years at a time.

025

Our leases move a low volume of fluid per well. This helps us keep our costs low.

Electric wells on time clocks.

026

Squeezed a water disposal well and replaced down hole hardware.

027

There are entirely too many regulations put on the oil and Gas producers. The damage to the fresh water was done 75 years ago. Nothing that can be done now will change that fact. There needs to be changes, and it needs to be now. Too many agencies can walk out on your lease and impose a fine that in many cases is more than your lease is worth. This isn't Russia.

028

This is an exceptional well and the only one we operate in Osage County.

029

EPA and electric well...is forcing us out of business. Expecting to be bankrupt in 1999.

031

Wells are down for work needs to be done on them, pulling and motor repairs due to oil prices. Can't afford to do anything to them at this time until oil prices get better.

034

The small oil producer will be broke unless the price of oil increases over fourteen dollars. The gross production cut is a little too late.

035

The EPA in Osage County has been very helpful and cooperative to work with. The corporation commission could learn a lot from them.

037

About 10 years ago we were unfairly fined \$500.00 by EPA. They had made a mistake concerning a SWD which belongs to us; when asked about their mistake, their comment was that "you just fell through the crack." When I asked our attorney about this, he said it would cost too much to argue over \$500.00 and suggested that we pay the fine. We did.

039

Help--we need a \$10 per barrel import fee on oil to keep domestic oil production alive--now.

041

(in regards to question 1) Did not produce lease due to economics.

044

Besides the fall in the price of crude, EPA requirements are the single cause for my being forced out of business after 33 years. If we were given enough notice (what EPA regs would do to us), we could have changed careers...now it's too late! Bitterly yours,

045

(in regards to question 1) 53 producers, 14 disposal

(in regards to questions 5d and 5j) self

046

(in regards to question 3) -- injection pump only.

(question 4) -- on vacuum min.

(question 5a) -- Dyke

(question 5b) -- yes

(question 5c) -- yes

(question 5d) -- no

(question 5f) -- no pit -- (tank)

(question 5g) -- no

(question 5h) -- yes

(question 5i) -- (he entered 1, and I think he meant one disposal well instead of \$1 -- KN)

(question 5j) -- yes

(question 5k) -- min

(question 5l) -- min

(questions 5m-5q) -- check marks

Comments: This well makes approx. 2 1/2 bbls per day and about 15 to 18 bbls of water a day as noted in survey. This lease was sold approx. 30 days ago. As soon as paperwork is cleared, contact Osage Indian Agency for any further information.

047

The paperwork for both the EPA and state are not only burdensome, but sometimes unnecessary.

051

The disposal well cost is the operational cost of disposing of our saltwater production at an estimated 25 cents per barrel. We operate approximately 30 injection wells.

053

(in regards to question 3) -- my whole lease is elect.

(in regards to question 5c) -- I need to spend about \$1200.00

(in regards to question 5f) -- needs to be done

(in regards to question 5q) -- need a plan from engineer -- can't afford at this time

Comments: I could only afford to pump one well of 7 possible for only six weeks so I could hold the lease. I can't afford to pump it, and I can't afford to plug any of the wells. This lease is about 80 years old. Casing is bad. I am like many others. We need a help in plugging some wells. I need a bern at stock tanks, and I need a spillage plain from an engineer which I cannot afford (Help. What can we do?). Thanks.

053

(on questions 5c, 5g, 5h, 5i, 5j, and 5o) -- yes

(on questions 6c and 6e) -- no

055

We've been in the business since 1957 and probably won't make it through the year.

056

(regarding question 4) -- water pumps

057

(regarding question 5i) -- acidized

Comments: I am retired and was depending on this production to supplement my income. However, the prices of crude have almost made the efforts a liability.

062

(regarding questions 5j) -- replacing tubing leak

065

(on questions 5i, 5k, 5l, 5m, 5n, and 5p) -- answered with an 'X'

Comments: We need to get an increase of oil prices to \$25.00 a barrel! To survive and service these wells, it's taking some of our profits out of our savings just to keep it going. With everything else going up in prices, we don't stand a chance. It's going to end up hurting everybody in the end. (No Money -- No buy!)

069

Question 1 -- not many

Question 4 -- includes S.W.D.

Question 5d -- every day

Question 5j -- wasn't time

Comments: The low price per barrel was the reason these wells were not feasible to operate. Environmental requirements are getting out of hand. I know my leases need some work, but fines aren't going to help the producer on this matter.

070

(in regards to question 3) -- SWD

(in regards to question 5l) -- road repair

072

Figures are approximate.

(in regards to question 4) -- AVG

(in regards to question 5d) -- 300/mo.

073

Four wells are not pumped the full year because saltwater will freeze 20 degrees below 0.

074

(in regards to question 9) -- only a very small spill

079

Contractor expense not including management or administrative expenses. (in regards to question 5e) Includes plugging of disallowed wells deemed needing plugging by EPA requirements for permits. Remedial work on existing-new disposals--wells worked over but did not meet technical review or area of endangering influence. All not incurred in one year, but needed to keep operating. (in regards to question #7 & #8) did not need compliance--but under regulations, any spill could qualify--spill not of significance. No endangerment to the waters of the U.S.

080

The EPA should return the rights to the Indian Agency. The EPA doesn't know a damn thing about the fields in Osage County when they are sitting in Dallas, Texas, and telling you what to do here in Okla. This makes no sense at all. All Inj. or Disp. Should be returned to the Indian Agency. Thanks.

081

It's hard to produce 1/2 barrel a day production well when oil is only \$8-\$9 per barrel.

085

Costs differ from year to year, sometimes great and sometimes small.

087

Low oil prices are going to drive most people out of business.

089

I did not get this timely because I had moved--I hope you can still use it.

090

(in regards to question 4) -- SWDW costs

Comments: We spend \$3-6,000 every couple of years reworking our SWDW, rebuilding SWDW pump engines, reberming SWDW facility, etc.

091

(in regards to question 3) -- water injection pumps

(in regards to question 5b) -- deliver oil through pipeline

Comments: waterflood lease

093

Any help is appreciated.

099

If we get a few more regulations, then we can all go to riding horses and mules, but don't think we could now raise enough oats to feed them. It's nice to have a EPA man tell me what to do, in his brand new pickup while the one I have to drive is 15 years old.

100

(in regards to question 3) all

(in regards to question 8) NA

(in regards to question 9) NA

Comments: Total operating cost for the year of 1998 was \$147,364. Producing cost per net Bbl. Of oil was \$147,364 divided by 12,417 net Bbls = \$11.87/Bbl. With 7% severance cost the net Bbl. Lifting cost was \$12.76/Bbl.

101

(in regards to question 2) 11 producers 3 disposals

102

(in regards to question 2) 15 producers 5 injectors

I am not sure on some of these expenses. If they are just for last year or since we have been dealing w/ the EPA?

104

Our figures may be somewhat lower than normal because we perform much of the labor within the company (owner & pumpers) to reduce labor costs. It is our opinion that the EPA personnel in Osage County are (for the most part) unusually knowledgeable and experienced in oilfield operations and problems.

Osage  
Not qualified comments

NQ01

I have sold all of my oil properties in Osage County, OK. March 1, 1997.

NQ02

No longer owns lease--please remove from mailing list.

NQ03

--sold all of its production on Osage County in 1992. We operate approximately 150 wells in Southern Oklahoma and do not have to fill out any EPA forms. It took 5 years, after we sold out in Osage County, to stop the EPA forms from being sent to us, all with the threat of legal consequences, if you do not fill out and return the forms. We will never go back to Osage County.

NQ4

I no longer own wells in Okla.

NQ5

Went broke. Out of producing.

NQ06

We are not an Osage Operator--we sold our oil lease last year. We don't think the U.S. government, or the state, wants the U.S. to produce oil anymore, especially the small producers. Please take us off your mailing list.

NQ07

I can't produce with oil at \$12.00 or below. We are shut down and have been since Jan. 98. We produce an avg. of 2.78 bbls of oil a day. The electric alone is \$360.00/month.

NQ08

I was squeezed out 5 or 6 years ago when the price dropped and barely got out with the skin on my teeth. I have not operated any wells, have been in the oil business for appr. 5 years but when I was in the business operating in Osage County, (BIA) Indian Lands were not worth the hassle because all the red tape and E.P.A. regulations and fines and threats of fines. The paperwork and dealing with the Osage Indians were not worth all the gray hairs on my head.

NQ09

Leases in Osage County owned by --- were sold July, 1997.

NQ10

My brother and I own our wells, but we do not operate them ourselves, so we cannot provide the information requested.

NQ12

I no longer have any oil prod. In OK or anywhere else, so please remove my name from your records. Thanks.

NQ13

Sold Our 4-1-97

Thank Heavens

NQ14

Our wells have been shut in for over 12 months. Therefore, we feel we do not have any information which would benefit your survey.

NQ16

I had...wells...sold out in 1985 or 86. Retired and moved back to Texas.

For information regarding this survey, please contact the Commission on Marginally Producing Oil and Gas Wells at 1-800-390-0460.



[www.marginalwells.com](http://www.marginalwells.com)