

Status of Execution of AFE's By Working Interest Percentage  
As of 4/6/95

SW/4 (PC), W/2 (FC)-Section 12-T29N-R13W  
San Juan County, NM  
Pictured Cliffs / Fruitland Coal (Downhole Commingled)

<u>Richardson AFE: \$193,979</u>	<u>PC</u>	<u>FC</u>
Richardson Production Company	30.208%	20.124%
Rosalind Redfern	3.125%	2.082%
Roderick Allen Markham	3.125%	2.082%
Christmann Mineral Company	6.250%	4.164%
Manon Markham McMullen	<u>3.125%</u>	<u>2.082%</u>
	45.833%	30.534%

<u>Amoco AFE: \$260,760</u>	<u>PC</u>	<u>FC</u>
Amoco Production Company	50.000%	66.690%

<u>Uncommitted</u>	<u>PC</u>	<u>FC</u>
Kerr-McGee Corporation	4.167%	2.776%

Well Name: ROPCO Fee 12-3 (A) PC, (B) FC SECTION 12 PC SW/4, FC W/2

Location: T29N R13W

Proposed Depth: 1600'

Date: 3/6/95

Objective Formation: Commingled Pictured Cliffs and  
Fruitland Coal

I. Drilling Costs (Included Run Casing)

Survey and Permits -----  
Title Opinion & Land Costs -----  
Damages -----  
Drilling (Incl. water and mud) 1600' @ 10.00/ft. ---  
BOP Rental -----  
Dirt Work -----  
Pit Lining -----  
Surface Casing 200' @ 6.00/ft. -----  
Casing Head -----  
Cement Surface -----  
Power Tongs -----  
Casing 1600' @ 5.00/ft. -----  
Trucking -----  
Logs -----  
Engineering -----  
Cement Longstring -----  
Total Cost to Run Casing -----  
7% Contingency -----  
Grand Total to Run Casing -----

Tangible	Intangible	Total	Actual
	1,500		
	1,500		
	1,500		
	16,000		
	750		
	3,000		
	1,500		
1,200			
750			
	1,500		
	1,000		
8,000			
	2,000		
	4,000		
	1,500		
	4,000		
9,950	39,750	49,700	
		3,479	
		53,179	

II. Completion Costs

Rig Anchors -----  
Logs -----  
Perf -----  
Wellhead & Fittings -----  
Tubing 1600' @ 1.50/ft. -----  
Stimulation -----  
Tool Rental -----  
Trucking -----  
Battery Installation -----  
Restore Location -----  
Engineering -----  
Treater -----  
Flowline -----  
Tank & Fittings -----  
Gravel -----  
Workover Rig -----  
Completion Fluids -----  
El Paso Hookup -----  
Division Order -----  
Frac Tank Rental -----  
Flowback -----  
Fence Location -----  
Total Completion Costs -----  
10% Contingency -----  
Drilling Costs -----  
Grand Total Well Costs -----

	600		
	2,000		
	4,000		
4,000			
2,400			
	48,000		
	2,000		
	3,000		
	4,000		
	1,600		
	5,500		
5,000			
5,000			
4,000			
	1,000		
	15,000		
	2,000		
	13,000		
	1,000		
	1,000		
	2,000		
2,000			
22,400	105,600	128,000	
		12,800	
		53,179	
		193,979	

ROPCO 12-3 (A) PC, SW/4  
30.208% RICHARDSON PRODUCTION COMPANY  
50.000% AMOCO PRODUCTION COMPANY  
6.250% CHRISTMANN MINERAL COMPANY  
3.125% RODERICK ALLEN MARKHAM  
3.125% MANON MARKHAM MCMULLEN  
3.125% ROSALIND REDFERN  
4.167% KERR-MCGEE CORPORATION

APPROVED \_\_\_\_\_ DATE \_\_\_\_\_  
APPROVED \_\_\_\_\_ DATE \_\_\_\_\_  
APPROVED \_\_\_\_\_ DATE \_\_\_\_\_  
APPROVED \_\_\_\_\_ DATE \_\_\_\_\_  
APPROVED \_\_\_\_\_ DATE \_\_\_\_\_  
APPROVED *Rosalind Redfern* 6 March 1995  
APPROVED \_\_\_\_\_ DATE \_\_\_\_\_

# AUTHORITY FOR EXPENDITURES

Well Name: ROPCO Fee 12-3 (A) PC, (B) FC SECTION 12 PC SW/4, FC W/2

Location: T29N R13W

Proposed Depth: 1600'

Date: 3/6/95

Objective Formation: Commingled Pictured Cliffs and  
Fruitland Coal

## I. Drilling Costs (Included Run Casing)

	Tangible	Intangible	Total	Actual
Survey and Permits - - - - -		1,500		
Title Opinion & Land Costs - - - - -		1,500		
Damages - - - - -		1,500		
Drilling (Incl. water and mud) 1600' @ 10.00/ft. - - -		16,000		
BOP Rental - - - - -		750		
Dirt Work - - - - -		3,000		
Pit Lining - - - - -		1,500		
Surface Casing 200' @ 6.00/ft. - - - - -	1,200			
Casing Head - - - - -	750			
Cement Surface - - - - -		1,500		
Power Tongs - - - - -		1,000		
Casing 1600' @ 5.00/ft. - - - - -	8,000			
Trucking - - - - -		2,000		
Logs - - - - -		4,000		
Engineering - - - - -		1,500		
Cement Longstring - - - - -		4,000		
Total Cost to Run Casing - - - - -	9,950	39,750	49,700	
7% Contingency - - - - -			3,479	
Grand Total to Run Casing - - - - -			53,179	

## II. Completion Costs

Rlg Anchors - - - - -		600		
Logs - - - - -		2,000		
Perf - - - - -		4,000		
Wellhead & Fillings - - - - -	4,000			
Tubing 1600' @ 1.50/ft. - - - - -	2,400			
Stimulation - - - - -		48,000		
Tool Rental - - - - -		2,000		
Trucking - - - - -		3,000		
Battery Installation - - - - -		4,000		
Restore Location - - - - -		1,500		
Engineering - - - - -		5,500		
Treater - - - - -	5,000			
Flowline - - - - -	5,000			
Tank & Fillings - - - - -	4,000			
Gravel - - - - -		1,000		
Workover Rlg - - - - -		15,000		
Completion Fluids - - - - -		2,000		
El Paso Hookup - - - - -		13,000		
Division Order - - - - -		1,000		
Frac Tank Rental - - - - -		1,000		
Flowback - - - - -		2,000		
Fence Location - - - - -	2,000			
Total Completion Costs - - - - -	22,400	105,600	128,000	
10% Contingency - - - - -			12,800	
Drilling Costs - - - - -			53,179	
Grand Total Well Costs			193,979	

## ROPCO 12-3 (A) PC, SW/4

30.208% RICHARDSON PRODUCTION COMPANY  
 50.000% AMOCO PRODUCTION COMPANY  
 6.250% CHRISTMANN MINERAL COMPANY  
 3.125% RODERICK ALLEN MARKHAM  
 3.125% MANON MARKHAM MCMULLEN  
 3.125% ROSALIND REDFERN  
 4.167% KERR-MCGEE CORPORATION

APPROVED	DATE
APPROVED	DATE
APPROVED	DATE
APPROVED	DATE 5/14/95
APPROVED	DATE
APPROVED	DATE
APPROVED	DATE

## ROPCO 12-3 (B) FC, W/2

20.124% RICHARDSON PRODUCTION COMPANY  
 66.690% AMOCO PRODUCTION COMPANY  
 4.164% CHRISTMANN MINERAL COMPANY  
 2.082% RODERICK ALLEN MARKHAM  
 2.082% MANON MARKHAM MCMULLEN  
 2.082% ROSALIND REDFERN  
 2.776% KERR-MCGEE CORPORATION

# AUTHORITY FOR EXPENDITURES

Well Name: ROPCO Fee 12-3 (A) PC, (B) FC SECTION 12 PC SW/4, FC W/2

Location: T29N R13W

Proposed Depth: 1600'

Date: 3/6/95

Objective Formation: Commingled Pictured Cliffs and Fruitland Coal

## I. Drilling Costs (Included Run Casing)

Survey and Permits -----  
 Title Opinion & Land Costs -----  
 Damages -----  
 Drilling (incl. water and mud) 1600' @ 10.00/ft. ---  
 BOP Rental -----  
 Dirt Work -----  
 Pit Uning -----  
 Surface Casing 200' @ 6.00/ft. ---  
 Casing Head -----  
 Cement Surface -----  
 Power Tongs -----  
 Casing 1600' @ 5.00/ft. ---  
 Trucking -----  
 Logs -----  
 Engineering -----  
 Cement Longstring -----

Total Cost to Run Casing-----

7% Contingency-----

Grand Total to Run Casing-----

## II. Completion Costs

Rig Anchors -----  
 Logs -----  
 Perf -----  
 Wellhead & Fittings -----  
 Tubing 1600' @ 1.50/ft. ---  
 Stimulation -----  
 Tool Rental -----  
 Trucking -----  
 Battery Installation -----  
 Restore Location -----  
 Engineering -----  
 Treator -----  
 Flowline -----  
 Tank & Fittings -----  
 Gravel -----  
 Workover Rig -----  
 Completion Fluids -----  
 El Paso Hookup -----  
 Division Order -----  
 Frac Tank Rental -----  
 Flowback -----  
 Fence Location -----

Total Completion Costs-----

10% Contingency-----

Drilling Costs-----

Grand Total Well Costs

Tangible	Intangible	Total	Actual
	1,500		
	1,500		
	1,500		
	16,000		
	750		
	3,000		
	1,500		
1,200			
750			
	1,500		
	1,000		
8,000			
	2,000		
	4,000		
	1,500		
	4,000		
9,950	39,750	49,700	
		3,479	
		53,179	
	600		
	2,000		
	4,000		
4,000			
2,400			
	48,000		
	2,000		
	3,000		
	4,000		
	1,500		
	5,500		
5,000			
5,000			
4,000			
	1,000		
	15,000		
	2,000		
	13,000		
	1,000		
	1,000		
	2,000		
2,000			
22,400	105,600	128,000	
		12,800	
		53,179	
		193,979	

## ROPCO 12-3 (A) PC, SW/4

30.208% RICHARDSON PRODUCTION COMPANY  
 50.000% AMOCO PRODUCTION COMPANY  
 6.250% CHRISTMANN MINERAL COMPANY  
 3.125% RODERICK ALLEN MARKHAM  
 3.125% MANON MARKHAM MCMULLEN  
 3.125% ROSALIND REDFERN  
 4.167% KERR-MCGEE CORPORATION

## ROPCO 12-3 (B) FC, W/2

20.124% RICHARDSON PRODUCTION COMPANY  
 66.690% AMOCO PRODUCTION COMPANY  
 4.164% CHRISTMANN MINERAL COMPANY  
 2.082% RODERICK ALLEN MARKHAM  
 2.082% MANON MARKHAM MCMULLEN  
 2.082% ROSALIND REDFERN  
 2.774% KERR-MCGEE CORPORATION

APPROVED \_\_\_\_\_ DATE \_\_\_\_\_  
 APPROVED \_\_\_\_\_ DATE \_\_\_\_\_  
 APPROVED *G. E. Christmann* DATE *3/15/95*  
 APPROVED \_\_\_\_\_ DATE \_\_\_\_\_  
 APPROVED \_\_\_\_\_ DATE \_\_\_\_\_  
 APPROVED \_\_\_\_\_ DATE \_\_\_\_\_  
 APPROVED \_\_\_\_\_ DATE \_\_\_\_\_

RICHARDSON OPERATING COMPANY  
AUTHORITY FOR EXPEDITURES

RECEIVED MAR 24 1995

Well Name: ROPCO Fee 12-3 (A) PC, (B) FC SECTION 12 PC SW/4, FC W/2

Location: 129N R13W

Proposed Depth: 1600'

Date: 3/6/95

Objective Formation: Commingled Pictured Cliffs and  
Fruitland Coal

I. Drilling Costs (Included Run Casing)

	Tangible	Intangible	Total	Actual
Survey and Permits -----		1,500		
Title Opinion & Land Costs-----		1,500		
Damages-----		1,500		
Drilling (Incl. water and mud) 1600' @ 10.00/ft.---		16,000		
BOP Rental-----		750		
Dirt Work-----		3,000		
Pit Lining-----		1,500		
Surface Casing 200' @ 6.00/ft.-----	1,200			
Casing Head-----	750			
Cement Surface-----		1,500		
Power Tools-----		1,000		
Casing 1600' @ 5.00/ft.-----	8,000			
Trucking-----		2,000		
Logs-----		4,000		
Engineering-----		1,500		
Cement Longstring-----		4,000		
Total Cost to Run Casing-----	9,950	39,750	49,700	
7% Contingency-----			3,479	
Grand Total to Run Casing-----			53,179	

II. Completion Costs

Rig Anchors-----		600		
Logs-----		2,000		
Perf-----		4,000		
Wellhead & Fillings-----	4,000			
Tubing 1600' @ 1.50/ft.-----	2,400			
Stimulation-----		48,000		
Tool Rental-----		2,000		
Trucking-----		3,000		
Battery Installation-----		4,000		
Restore Location-----		1,500		
Engineering-----		5,500		
Treater-----	5,000			
Flowline-----	5,000			
Tank & Fillings-----	4,000			
Gravel-----		1,000		
Workover Rig-----		15,000		
Completion Fluids-----		2,000		
El Paso Hookup-----		13,000		
Division Order-----		1,000		
Frac Tank Rental-----		1,000		
Flowback-----		2,000		
Fence Location-----	2,000			
Total Completion Costs-----	22,400	105,600	128,000	
10% Contingency-----			12,800	
Drilling Costs-----			53,179	
Grand Total Well Costs-----			193,979	

ROPCO 12-3 (A) PC, SW/4

30.208% RICHARDSON PRODUCTION COMPANY  
50.000% AMOCO PRODUCTION COMPANY  
6.250% CHRISTMANN MINERAL COMPANY  
3.125% RODERICK ALLEN MARKHAM  
3.125% MANON MARKHAM MCMULLEN  
3.125% ROSALIND REDFERN  
4.167% KERR-MCGEE CORPORATION

APPROVED	DATE
APPROVED	DATE
APPROVED	DATE
APPROVED	DATE
APPROVED <i>Manon Mc Mullen</i>	DATE 3-18-95
APPROVED	DATE
APPROVED	DATE

ROPCO 12-3 (B) FC, W/2

20.124% RICHARDSON PRODUCTION COMPANY  
66.690% AMOCO PRODUCTION COMPANY  
4.164% CHRISTMANN MINERAL COMPANY  
2.082% RODERICK ALLEN MARKHAM  
2.082% MANON MARKHAM MCMULLEN  
2.082% ROSALIND REDFERN  
2.776% KERR-MCGEE CORPORATION

Status of Execution of AFE's By Working Interest Percentage  
As of 4/6/95

NW/4-Section 12-T29N-R13W  
San Juan County, NM  
Pictured Cliffs

<u>Richardson AFE: \$152,117</u>	<u>PC</u>
Richardson Production Company	10.041%
Rosalind Redfern	1.039%
Roderick Allen Markham	1.039%
Christmann Mineral Company	2.077%
Manon Markham McMullen	<u>1.039%</u>
	15.235%

<u>Amoco AFE: \$216,260</u>	<u>PC</u>
Amoco Production Company	83.381%

<u>Uncommitted</u>	<u>PC</u>
Kerr-McGee Corporation	1.384%

**AUTHORITY FOR EXPEDITURES**

Well Name: ROPCO Fee 12-4 PC SECTION 12 NW/4

Location: T29N R13W

Proposed Depth: 1600'

Date: 3/6/95

Objective Formation: Pictured Cliffs

**I. Drilling Costs (Included Run Casing)**

Survey and Permits -----  
 Title Opinion & Land Costs -----  
 Damages -----  
 Drilling (incl. water and mud) 1600' @ 10.00/ft. ---  
 BOP Rental -----  
 Dirt Work -----  
 Pit Lining -----  
 Surface Casing 200' @ 6.00/ft. -----  
 Casing Head -----  
 Cement Surface -----  
 Power Tongs -----  
 Casing 1600' @ 4.00/ft. -----  
 Trucking -----  
 Logs -----  
 Engineering -----  
 Cement Longstring -----  
 Total Cost to Run Casing -----  
 7% Contingency -----  
 Grand Total to Run Casing -----

Tangible	Intangible	Total	Actual
	1,500		
	1,500		
	1,500		
	16,000		
	750		
	3,000		
	1,500		
1,200			
750			
	1,500		
	1,000		
6,400			
	2,000		
	4,000		
	1,500		
	4,000		
8,350	39,750	48,100	
		3,367	
		<u>51,467</u>	

**II. Completion Costs**

Rig Anchors -----  
 Logs -----  
 Perf -----  
 Wellhead & Fittings -----  
 Tubing 1600' @ 1.50/ft. -----  
 Stimulation -----  
 Tool Rental -----  
 Trucking -----  
 Battery Installation -----  
 Restore Location -----  
 Engineering -----  
 Treater -----  
 Flowline -----  
 Tank & Fittings -----  
 Gravel -----  
 Workover Rig -----  
 Completion Fluids -----  
 El Paso Hookup -----  
 Division Order -----  
 Frac Tank Rental -----  
 Flowback -----  
 Fence Location -----  
 Total Completion Costs -----  
 10% Contingency -----  
 Drilling Costs -----  
 Grand Total Well Costs -----

	600		
	2,000		
	1,500		
4,000			
2,400			
	24,000		
	2,000		
	3,000		
	4,000		
	1,500		
	3,000		
5,000			
5,000			
4,000			
	1,000		
	7,500		
	2,000		
	13,000		
	1,000		
	1,000		
	2,000		
2,000			
22,400	69,100	91,500	
		9,150	
		<u>51,467</u>	
		<u><u>152,117</u></u>	

**ROPCO 12-4 PC, NW/4**

10.041% RICHARDSON PRODUCTION COMPANY

83.381% AMOCO PRODUCTION COMPANY

2.077% CHRISTMANN MINERAL COMPANY

1.039% RODERICK ALLEN MARKHAM

1.039% MANON MARKHAM MCMULLEN

1.039% ROSALIND REDFERN

1.384% KERR-MCGEE CORPORATION

APPROVED \_\_\_\_\_ DATE \_\_\_\_\_

APPROVED \_\_\_\_\_ DATE \_\_\_\_\_

APPROVED \_\_\_\_\_ DATE \_\_\_\_\_

APPROVED \_\_\_\_\_ DATE \_\_\_\_\_

APPROVED \_\_\_\_\_ DATE \_\_\_\_\_

APPROVED *Rosalind Redfern* *6 March 1995* DATE \_\_\_\_\_

APPROVED \_\_\_\_\_ DATE \_\_\_\_\_

**RICHARDSON OPERATING COMPANY  
AUTHORITY FOR EXPEDITURES**

Well Name: ROPCO Fee 12-4 PC SECTION 12 NW/4

Location: T29N R13W

Proposed Depth: 1600'

Date: 3/6/95

Objective Formation: Pictured Cliffs

**I. Drilling Costs (Included Run Casing)**

Survey and Permits -----  
Title Opinion & Land Costs-----  
Damages-----  
Drilling (Incl. water and mud) 1600' @ 10.00/ft.---  
BOP Rental-----  
Dirt Work-----  
Pit Lining-----  
Surface Casing 200' @ 6.00/ft.-----  
Casing Head-----  
Cement Surface-----  
Power Tongs-----  
Casing 1600' @ 4.00/ft.-----  
Trucking-----  
Logs-----  
Engineering-----  
Cement Longstring-----  
Total Cost to Run Casing-----  
7% Contingency-----  
Grand Total to Run Casing-----

Tangible	Intangible	Total	Actual
	1,500		
	1,500		
	1,500		
	16,000		
	750		
	3,000		
	1,500		
1,200			
750			
	1,500		
	1,000		
6,400			
	2,000		
	4,000		
	1,500		
	4,000		
8,350	39,750	48,100	
		3,367	
		51,467	

**II. Completion Costs**

Rlg Anchors-----  
Logs-----  
Perf-----  
Wellhead & Fittings-----  
Tubing 1600' @ 1.50/ft.-----  
Stimulation-----  
Tool Rental-----  
Trucking-----  
Battery Installation-----  
Restore Location-----  
Engineering-----  
Treater-----  
Flowline-----  
Tank & Fittings-----  
Gravel-----  
Workover Rlg-----  
Completion Fluids-----  
El Paso Hookup-----  
Division Order-----  
Frac Tank Rental-----  
Flowback-----  
Fence Location-----  
Total Completion Costs-----  
10% Contingency-----  
Drilling Costs-----  
Grand Total Well Costs

	600		
	2,000		
	1,500		
4,000			
2,400			
	24,000		
	2,000		
	3,000		
	4,000		
	1,500		
	3,000		
5,000			
5,000			
4,000			
	1,000		
	7,500		
	2,000		
	13,000		
	1,000		
	1,000		
	2,000		
2,000			
22,400	69,100	91,500	
		9,150	
		51,467	
		152,117	

**ROPCO 12-4 PC, NW/4**

10.041% RICHARDSON PRODUCTION COMPANY  
83.381% AMOCO PRODUCTION COMPANY  
2.077% CHRISTMANN MINERAL COMPANY  
1.039% RODERICK ALLEN MARKHAM  
1.039% MANON MARKHAM MCMULLEN  
1.039% ROSALIND REDFERN  
1.384% KERR-MCGEE CORPORATION

APPROVED \_\_\_\_\_ DATE \_\_\_\_\_  
APPROVED \_\_\_\_\_ DATE \_\_\_\_\_  
APPROVED \_\_\_\_\_ DATE \_\_\_\_\_  
APPROVED *Peter Allen* DATE *3/14/95*  
APPROVED \_\_\_\_\_ DATE \_\_\_\_\_  
APPROVED \_\_\_\_\_ DATE \_\_\_\_\_  
APPROVED \_\_\_\_\_ DATE \_\_\_\_\_



**RICHARDSON OPERATING COMPANY  
AUTHORITY FOR EXPEDITURES**

Well Name: ROPCO Fee 12-4 PC SECTION 12 NW/4  
Location: T29N R13W  
Proposed Depth: 1600'

Date: 3/6/95  
Objective Formation: Pictured Cliffs

**I. Drilling Costs (Included Run Casing)**

Survey and Permits -----  
Title Opinion & Land Costs-----  
Damages-----  
Drilling (incl. water and mud) 1600' @ 10.00/ft.---  
BOP Rental-----  
Dirt Work-----  
Pit Lining-----  
Surface Casing 200' @ 6.00/ft.-----  
Casing Head-----  
Cement Surface-----  
Power Tongs-----  
Casing 1600' @ 4.00/ft.-----  
Trucking-----  
Logs-----  
Engineering-----  
Cement Longstring-----  
Total Cost to Run Casing-----  
7% Contingency-----  
Grand Total to Run Casing-----

Tangible	Intangible	Total	Actual
	1,500		
	1,500		
	1,500		
	16,000		
	750		
	3,000		
	1,500		
1,200			
750			
	1,500		
	1,000		
6,400			
	2,000		
	4,000		
	1,500		
	4,000		
8,350	39,750	48,100	
		3,367	
		51,467	

**II. Completion Costs**

Rig Anchors-----  
Logs-----  
Perf-----  
Wellhead & Fittings-----  
Tubing 1600' @ 1.50/ft.-----  
Stimulation-----  
Tool Rental-----  
Trucking-----  
Battery Installation-----  
Restore Location-----  
Engineering-----  
Treater-----  
Flowline-----  
Tank & Fittings-----  
Gravel-----  
Workover Rig-----  
Completion Fluids-----  
El Paso Hookup-----  
Division Order-----  
Frac Tank Rental-----  
Flowback-----  
Fence Location-----  
Total Completion Costs-----  
10% Contingency-----  
Drilling Costs-----  
Grand Total Well Costs

	600		
	2,000		
	1,500		
4,000			
2,400			
	24,000		
	2,000		
	3,000		
	4,000		
	1,500		
	3,000		
5,000			
5,000			
4,000			
	1,000		
	7,500		
	2,000		
	13,000		
	1,000		
	1,000		
	2,000		
2,000			
22,400	69,100	91,500	
		9,150	
		51,467	
		152,117	

**ROPCO 12-4 PC, NW/4**

10.041% RICHARDSON PRODUCTION COMPANY  
83.381% AMOCO PRODUCTION COMPANY  
2.077% CHRISTMANN MINERAL COMPANY  
1.039% RODERICK ALLEN MARKHAM  
1.039% MANON MARKHAM MCMULLEN  
1.039% ROSALIND REDFERN  
1.384% KERR-MCGEE CORPORATION

APPROVED \_\_\_\_\_ DATE \_\_\_\_\_  
APPROVED \_\_\_\_\_ DATE \_\_\_\_\_  
APPROVED *C.E. Christmann* DATE 3/15/95  
APPROVED \_\_\_\_\_ DATE \_\_\_\_\_  
APPROVED \_\_\_\_\_ DATE \_\_\_\_\_  
APPROVED \_\_\_\_\_ DATE \_\_\_\_\_  
APPROVED \_\_\_\_\_ DATE \_\_\_\_\_

**RICHARDSON OPERATING COMPANY  
AUTHORITY FOR EXPEDITURES**

Well Name: ROPCO Fee 12-4 PC SECTION 12 NW/4  
Location: T29N R13W  
Proposed Depth: 1600'

Date: 3/6/95  
Objective Formation: Pictured Cliffs

**I. Drilling Costs (Included Run Casing)**

	Tangible	Intangible	Total	Actual
Survey and Permits -----		1,500		
Title Opinion & Land Costs-----		1,500		
Damages-----		1,500		
Drilling (Incl. water and mud) 1600' @ 10.00/ft.---		16,000		
BOP Rental-----		750		
Dirt Work-----		3,000		
Pit Lining-----		1,500		
Surface Casing 200' @ 6.00/ft.-----	1,200			
Casing Head-----	750			
Cement Surface-----		1,500		
Power Tongs-----		1,000		
Casing 1600' @ 4.00/ft.-----	6,400			
Trucking-----		2,000		
Logs-----		4,000		
Engineering-----		1,500		
Cement Longstring-----		4,000		
Total Cost to Run Casing-----	8,350	39,750	48,100	
7% Contingency-----			3,367	
Grand Total to Run Casing-----			51,467	

**II. Completion Costs**

Rlg Anchors-----		600		
Logs-----		2,000		
Perf-----		1,500		
Wellhead & Fittings-----	4,000			
Tubing 1600' @ 1.50/ft.-----	2,400			
Stimulation-----		24,000		
Tool Rental-----		2,000		
Trucking-----		3,000		
Battery Installation-----		4,000		
Restore Location-----		1,500		
Engineering-----		3,000		
Treater-----	5,000			
Flowline-----	5,000			
Tank & Fittings-----	4,000			
Gravel-----		1,000		
Workover Rlg-----		7,500		
Completion Fluids-----		2,000		
El Paso Hookup-----		13,000		
Division Order-----		1,000		
Frac Tank Rental-----		1,000		
Flowback-----		2,000		
Fence Location-----	2,000			
Total Completion Costs-----	22,400	69,100	91,500	
10% Contingency-----			9,150	
Drilling Costs-----			51,467	
Grand Total Well Costs			152,117	

**ROPCO 12-4 PC, NW/4**

10.041% RICHARDSON PRODUCTION COMPANY  
83.381% AMOCO PRODUCTION COMPANY  
2.077% CHRISTMANN MINERAL COMPANY  
1.039% RODERICK ALLEN MARKHAM  
1.039% MANON MARKHAM MCMULLEN  
1.039% ROSALIND REDFERN  
1.384% KERR-MCGEE CORPORATION

APPROVED _____	DATE _____
APPROVED _____	DATE _____
APPROVED _____	DATE _____
APPROVED _____	DATE _____
APPROVED <i>Manon Mcullen</i>	DATE <i>3-18-95</i>
APPROVED _____	DATE _____
APPROVED _____	DATE _____

LARGE FORMAT  
EXHIBIT HAS  
BEEN REMOVED  
AND IS LOCATED  
IN THE NEXT FILE