RICHARDSON OPERATING COMPANY
AUTHORITY FOR EXPENDITURE

Well Name: Bushman #6-1 | Date: May 5, 1997
Location: SE Section 6, T29N, R14W, San Juan County, NM | Objective: Commingled Pictured Cliffs and Fruitland Well
Proposed Depth: 800'

	Tangible	Intangible	Total	Fruitland	Pictured Cliffs
I. Drilling Costs(Include Running Casing)					
Survey and Permits		2,850	2,850	1,425	1,425
Title Opinion and Land Costs		17,500	17,500	8,750	8,750
Damages		3,000	3,000	1,500	1,500
Drilling (incl. mud, wtr, and move) 800' @ 11.00/ft.		8,800	8,800	4,400	4,400
Rig Rentals (BOP, Adapter flange, ect.)		500	500	250	250
Dirt Work		1,000	1,000	500	500
Pit Liner		200	200	100	100
Surface Casing (120' @ 6.25/ft.)	750		750	375	375
Casing Head	600		600	300	300
Cement Surface		950	950	475	475
Casing Crew		800	800	400	400
Production Casing (800' @ 3.75/ft.)	3,000		3,000	1,500	1,500
Trucking		1,500	1,500	750	750
Logs		3,100	3,100	1,550	1,550
Engineering		1,200	1,200	600	600
Cement Longstring		2,250	2,250	1,125	1,125
Total Cost to Run Casing	**4,350**	**43,650**	**48,000**	**24,000**	**24,000**
5.625% SJ County Tax	240	2,460	2,700	1,350	1,350
10% Contingency	440	4,370	4,810	2,405	2,405
Grand Total to Run Casing	**5,030**	**50,480**	**55,510**	**27,755**	**27,755**
II. Completion Costs					
Anchors, and Misc.		2,000	2,000	1,000	1,000
Perf		2,650	2,650	1,325	1,325
Tubing Head and Well Connection Fittings	3,180		3,180	1,590	1,590
Tubing (750' @ 2.25/ft.)	1,690		1,690	845	845
Stimulation		30,000	30,000	15,000	15,000
Tool Rental (RBP and Frac Valve)		1,750	1,750	875	875
Trucking		500	500	250	250
Surface Facility Installation		2,000	2,000	1,000	1,000
Restore Location		500	500	250	250
Engineering		1,200	1,200	600	600
Separator	1,650		1,650	825	825
Pipelines and Install (2100' @ 6.00/ft.)	6,300	6,300	12,600	6,300	6,300
Tank and Fittings	1,200		1,200	600	600
Completion Rig		6,400	6,400	3,200	3,200
Completion Fluids		600	600	300	300
Meter	2,500		2,500	1,250	1,250
Frac Tank Rental		400	400	200	200
Pump, Rods, Wellhead Equip. & Pump Jack	9,500		9,500	4,750	4,750
Completion Costs	**26,020**	**54,300**	**80,320**	**40,160**	**40,160**
5.625% SJ County Tax	1,460	3,050	4,510	2,260	2,260
10% Contingency	2,600	5,430	8,030	4,020	4,020
Total Completion Costs	**30,080**	**62,780**	**92,860**	**46,440**	**46,440**
Grand Total Well Costs	**35,110**	**113,260**	**148,370**	**74,195**	**74,195**

Prepared By: Paul C. Thompson, P.E. PCT
Date: May 5, 1997

Working Interest Owners
Richardson Operating
Others

ESTIMATED COSTS ONLY--Each participating Owner to pay Proportionate Share of Actual Well Costs Subject to Operating Agreement

BEFORE THE
OIL CONSERVATION DIVISION

Case No. 11772 Exhibit No. 8
Submitted By:
Richardson Operating Company
Hearing Date: May 15, 1997

-- RESERVE & ECONOMIC REPORT -

PREPARED BY --------	Paul Thompson, PE	COMB NAME	comb1	CATEGORY - PDP	
INTEREST OWNER -----	Richardson Operating	FILE NAME	c1bushmn	COUNTY --- San Juan	
WELL &/OR LEASE ----	Bushman Federal #6-1	EVAL. DATE	13-May-97	STATE ---- NM	
FIELD OR RESERVOIR -	PC Only	EFFECTIVE DATE	JAN-98	OPERATOR - Richardson Operating	

YEAR	--- GROSS PROD.-- OIL-BBLS	GAS-MCF	--- NET PROD --- OIL-BBLS	GAS-MCF	PRICE OIL-$	PRICE GAS-$	NET OPERATING REVENUE OIL REVENUE-$	GAS REVENUE-$	TOTAL REVENUE-$	NET OPERATING EXPENSES DIR & INDIR OPR EXP-$	SEV & ADV & TRANSP-	TOTAL EXPENSES-$
MANUAL INPUT												
1998	0	17445	0	14392	$0.00	$1.75	$0	$25,186	$25,186	$4,500	$6,039	$10,539
1999	0	13896	0	11464	0.00	1.80	0	20,664	20,664	4,500	4,868	9,368
2000	0	12279	0	10130	0.00	1.86	0	18,807	18,807	4,635	4,355	8,990
2001	0	11206	0	9245	0.00	1.91	0	17,679	17,679	4,774	4,024	8,798
2002	0	10310	0	8506	0.00	1.97	0	16,753	16,753	4,917	3,750	8,667
2003	0	9485	0	7825	0.00	2.03	0	15,875	15,875	5,065	3,495	8,559
2004	0	8726	0	7199	0.00	2.09	0	15,043	15,043	5,217	3,257	8,474
2005	0	8028	0	6623	0.00	2.15	0	14,255	14,255	5,373	3,037	8,410
2006	0	7386	0	6093	0.00	2.22	0	13,508	13,508	5,534	2,832	8,367
2007	0	6795	0	5606	0.00	2.28	0	12,800	12,800	5,700	2,642	8,342
2008	0	6251	0	5157	0.00	2.35	0	12,129	12,129	5,871	2,465	8,336
2009	0	5751	0	4745	0.00	2.42	0	11,494	11,494	6,048	2,300	8,348
S-TOT	0	117559	0	96986	WT.	WT.	0	194,195	194,195	62,135	43,064	105,199
REM.	0	14638	0	12076	AVG.	AVG.	0	30,169	30,169	19,253	5,942	25,196
TOTAL	0	132197	0	109062	$0.00	$2.06	0	224,364	224,364	81,388	49,006	130,395

YEAR	OPERATING CASH FLOW-$	CAPITAL INVEST-$	ANNUAL INT. 1000-$	PRIN. PAYMENT 1000-$	CASH FLOW BTAX-$	CUM. CASH FLOW BTAX-$	OPR CASH FLOW ----- AFTER DEBT REDUCTION	---PRESENT WORTH PROFILE------ DISC RATE-%	NPV BTAX-$	DISC RATE-%	NPV BTAX-$
								Based On Mid-Year Discounting			
1998	$14,648	$127,970	0.0	0.0	($113,322)	($113,322)	$14,648	2	(42,643)	40	($96,954)
1999	11,296	0	0.0	0.0	11,296	(102,027)	11,296	5	(53,190)	45	(99,117)
2000	9,817	0	0.0	0.0	9,817	(92,209)	9,817	8	(61,536)	50	(100,943)
2001	8,881	0	0.0	0.0	8,881	(83,328)	8,881	10	(66,165)	55	(102,504)
2002	8,086	0	0.0	0.0	8,086	(75,242)	8,086	12	(70,197)	60	(103,856)
2003	7,316		0.0	0.0	7,316	(67,927)	7,316	15	(75,335)	65	(105,038)
2004	6,569		0.0	0.0	6,569	(61,358)	6,569	18	(79,606)	70	(106,080)
2005	5,845		0.0	0.0	5,845	(55,513)	5,845	20	(82,068)	75	(107,008)
2006	5,141		0.0	0.0	5,141	(50,372)	5,141	25	(87,176)	80	(107,838)
2007	4,458		0.0	0.0	4,458	(45,914)	4,458	30	(91,163)	85	(108,587)
2008	3,793		0.0	0.0	3,793	(42,120)	3,793	35	(94,351)	90	(109,265)
2009	3,146		0.0	0.0	3,146	(38,974)	3,146				
S-TOT	88,996	127,970	0.0	0.0	(38,974)	(38,974)	88,996				
REM.	4,973	0	0.0	0.0	4,973	4,973	4,973				
TOTAL	93,969	127,970	0.0	0.0	(34,001)	(34,001)	93,969				

BEFORE TAX SUMMARY

MONTHS IN 1st YEAR -----	12
ECO LIFE --------- YEARS	15.00
NPV @ SELECT RATE- 12.0%	($70,197)
NET INCOME/INVEST ------	0.73
INT RATE RETURN - Mid-Yr	-5.5%
PAYOUT ------------- YRS	NO PAYOUT
$ PER NET INIT PROD RATE	$4,847
8/8 OIL RES -------- BBL	0
8/8 GAS RES -------- MCF	132,197
NET OIL RES -------- BBL	0
NET GAS RES -------- MCF	109,062
ULT OIL RECOV ------ BBL	0
ULT GAS RECOV ------ MCF	132,197

NET COST/BOE ----- $/BOE	$17.60	ULT OIL RECOV/ACRE ---- BBL	0
NET RETURN/BOE --- $/BOE	($4.68)	ULT GAS RECOV/ACRE ---- MCF	826
NET INCOME/BOE --- $/BOE	$12.92	ULT OIL RECOV/ACRE-FT-- BBL	0
OIL ECO RATE -- BBL/DAY	0.0	ULT GAS RECOV/ACRE-FT-- MCF	83
GAS ECO RATE -- MCF/DAY	12.3	INITAL W.I. ------------- %	100.00000
INIT PROD RAT-- MCF/DAY	32	FINAL W.I. -------------- %	100.00000
DECLINE RATE -------- %	8.0	INITAL REVENUE INT. ----- %	82.50000
EXPONENT - N ---------	0.0	FINAL REVENUE INT. ------ %	82.50000
PROD. RISK FACTOR ---- %	100.00	TANG & EQUIP RISK FACTOR- %	100.00
LSEHOLD RISK FACTOR -- %	100.00	IDC RISK FACTOR --------- %	100.00

-- RESERVE & ECONOMIC REPORT -

PREPARED BY --------	Paul Thompson, PE	COMB NAME	comb2	CATEGORY -	PDP
INTEREST OWNER -----	Richardson Operating	FILE NAME	c2bushmn	COUNTY ---	San Juan
WELL &/OR LEASE ----	Bushman Federal #6-1	EVAL. DATE	13-May-97	STATE ----	NM
FIELD OR RESERVOIR -	PC FT Coal Comm.	EFFECTIVE DATE	JAN-98	OPERATOR -	Richardson Operating

YEAR	--- GROSS PROD.-- OIL-BBLS	GAS-MCF	--- NET PROD --- OIL-BBLS	GAS-MCF	PRICE OIL-$	PRICE GAS-$	NET OPERATING REVENUE OIL REVENUE-$	GAS REVENUE-$	TOTAL REVENUE-$	NET OPERATING EXPENSES DIR & INDIR OPR EXP-$	SEV & ADV & TRANSP-	TOTAL EXPENSES-$
MANUAL INPUT												
1998	0	34890	0	28784	$0.00	$1.75	$0	$50,372	$50,372	$4,500	$12,077	$16,577
1999	0	27792	0	22928	0.00	1.80	0	41,328	41,328	4,500	9,737	14,237
2000	0	24558	0	20260	0.00	1.86	0	37,615	37,615	4,635	8,710	13,345
2001	0	22413	0	18490	0.00	1.91	0	35,359	35,359	4,774	8,049	12,823
2002	0	20620	0	17011	0.00	1.97	0	33,506	33,506	4,917	7,500	12,417
2003	0	18970	0	15650	0.00	2.03	0	31,750	31,750	5,065	6,989	12,054
2004	0	17452	0	14398	0.00	2.09	0	30,086	30,086	5,217	6,515	11,732
2005	0	16056	0	13246	0.00	2.15	0	28,510	28,510	5,373	6,074	11,447
2006	0	14772	0	12187	0.00	2.22	0	27,016	27,016	5,534	5,665	11,199
2007	0	13590	0	11212	0.00	2.28	0	25,600	25,600	5,700	5,284	10,984
2008	0	12503	0	10315	0.00	2.35	0	24,259	24,259	5,871	4,929	10,801
2009	0	11503	0	9490	0.00	2.42	0	22,988	22,988	6,048	4,600	10,648
S-TOT	0	235118	0	193972	WT.	WT.	0	388,390	388,390	62,135	86,128	148,263
REM.	0	69823	0	57604	AVG.	AVG.	0	143,966	143,966	63,282	28,351	91,633
TOTAL	0	304941	0	251576	$0.00	$2.12	0	532,357	532,357	125,417	114,479	239,896

YEAR	OPERATING CASH FLOW-$	CAPITAL INVEST-$	ANNUAL INT. 1000-$	PRIN. PAYMENT 1000-$	CASH FLOW BTAX-$	CUM. CASH FLOW BTAX-$	OPR CASH FLOW ----- AFTER DEBT REDUCTION
1998	$33,795	$148,370	0.0	0.0	($114,575)	($114,575)	$33,795
1999	27,092	0	0.0	0.0	27,092	(87,483)	27,092
2000	24,270	0	0.0	0.0	24,270	(63,213)	24,270
2001	22,536	0	0.0	0.0	22,536	(40,677)	22,536
2002	21,089	0	0.0	0.0	21,089	(19,588)	21,089
2003	19,696		0.0	0.0	19,696	108	19,696
2004	18,355		0.0	0.0	18,355	18,463	18,355
2005	17,063		0.0	0.0	17,063	35,525	17,063
2006	15,817		0.0	0.0	15,817	51,342	15,817
2007	14,616		0.0	0.0	14,616	65,959	14,616
2008	13,458		0.0	0.0	13,458	79,417	13,458
2009	12,340		0.0	0.0	12,340	91,757	12,340
S-TOT	240,127	148,370	0.0	0.0	91,757	91,757	240,127
REM.	52,334	0	0.0	0.0	52,334	52,334	52,334
TOTAL	292,461	148,370	0.0	0.0	144,091	144,091	292,461

---PRESENT WORTH PROFILE------

Based On Mid-Year Discounting

DISC RATE-%	NPV BTAX-$	DISC RATE-%	NPV BTAX-$
2	108,435	40	($72,314)
5	67,466	45	(78,058)
8	37,061	50	(82,838)
10	20,974	55	(86,881)
12	7,416	60	(90,347)
15	(9,256)	65	(93,354)
18	(22,602)	70	(95,989)
20	(30,086)	75	(98,320)
25	(45,147)	80	(100,396)
30	(56,476)	85	(102,260)
35	(65,282)	90	(103,944)

BEFORE TAX SUMMARY

MONTHS IN 1st YEAR -----	12
ECO LIFE --------- YEARS	21.00
NPV @ SELECT RATE- 12.0%	$7,416
NET INCOME/INVEST ------	1.97
INT RATE RETURN - Mid-Yr	13.2%
PAYOUT ------------- YRS	5.99
$ PER NET INIT PROD RATE	$2,810
8/8 OIL RES -------- BBL	0
8/8 GAS RES -------- MCF	304,941
NET OIL RES -------- BBL	0
NET GAS RES -------- MCF	251,576
ULT OIL RECOV ------ BBL	0
ULT GAS RECOV ------ MCF	304,941

NET COST/BOE ----- $/BOE	$8.85	ULT OIL RECOV/ACRE ---- BBL	0
NET RETURN/BOE --- $/BOE	$8.59	ULT GAS RECOV/ACRE ---- MCF	1,906
NET INCOME/BOE --- $/BOE	$17.44	ULT OIL RECOV/ACRE-FT-- BBL	0
OIL ECO RATE -- BBL/DAY	0.0	ULT GAS RECOV/ACRE-FT-- MCF	191
GAS ECO RATE -- MCF/DAY	14.9	INITAL W.I. ------------- %	100.00000
INIT PROD RAT-- MCF/DAY	64	FINAL W.I. -------------- %	100.00000
DECLINE RATE -------- %	8.0	INITAL REVENUE INT. ----- %	82.50000
EXPONENT - N ---------	0.0	FINAL REVENUE INT. ------ %	82.50000
PROD. RISK FACTOR ---- %	100.00	TANG & EQUIP RISK FACTOR- %	100.00
LSEHOLD RISK FACTOR -- %	100.00	IDC RISK FACTOR --------- %	100.00