ALASKA LEGISLATURE SPECIAL COMMITTEE/SUBJECT FILE 8672
1655 SCOMM 63: INT'L OIL TAX COMPARISON STUDY GROUP, 1989-1990 /223

CONTRACTOR EVALUATION FORM

NAME OF CONTRACTOR: Dr. Homa Motamen
Professor Alexander Kemp
Peter Gaffney, Gaffney, Cline and Associates

PURPOSE OF CONTRACT: International Oil Tax Comparison Study
(Brief Description)

SERVICES PERFORMED FOR Legislative Council appointed International Tax Comparison Group
(Committee Name)

CONTRACT PERFORMANCE	YES	NO
The Contractor:		
Performed all the requested services.	✓	
Produced a satisfactory product.	✓	
Performed the services in a timely manner.	✓	
Met all the terms and conditions of the contract.	✓	

OTHER COMMENTS:

Bettye Fahrenkamp
Samuel R Cotten

Procurement Officer

International Tax Comparison Group
Committee

Senator Bettye Fahrenkamp, Chairman
Speaker Sam Cotten

STATE OF ALASKA
THE LEGISLATURE
LEGISLATIVE AFFAIRS AGENCY

P.O. BOX Y, STATE CAPITOL
JUNEAU, ALASKA 99811
907 465-3800

DATE: APRIL 9, 1990

NAME: SENATOR BETTYE FAHRENKAMP
CHAIR INTERNATIONAL OIL TAX
COMPARISON GROUP

DEAR: SENATOR FAHRENKAMP

ENCLOSED IS THE FINAL INVOICE FOR PROFESSIONAL SERVICES PROVIDED BY DR. HOMA MOTAMEN FOR THE INTERNATIONAL OIL TAX COMPARISON GROUP. WOULD YOU PLEASE APPROVE THE INVOICE AND RETURN IT TO LAA.

SECTION 190 OF THE LEGISLATIVE PROCUREMENT PROCEDURES STATES THAT, "IF A SERVICES OR PROFESSIONAL SERVICES CONTRACT IS AWARDED BY A LEGISLATIVE COMMITTEE, THE COMMITTEE OR THE PROCUREMENT OFFICER SHALL PROVIDE A WRITTEN EVALUATION OF THE SERVICES PROVIDED UNDER THE CONTRACT BEFORE FINAL PAYMENT ON THE CONTRACT MAY BE MADE.

WE HAVE INCLUDED A CONTRACT EVALUATION FORM FOR YOUR CONVENIENCE IN COMPLYING WITH THIS REQUIREMENT. THIS EVALUATION FORM SHOULD ACCOMPANY THE FINAL APPROVED BILLING FOR THE CONTRACT SERVICES. IF YOU PREFER, A MEMO MAY BE SUBSTITUTED FOR THE EVALUATION FORM. THE MEMO NEED ONLY ADDRESS THE EVALUATION FACTORS YOU CONSIDER PERTINENT TO THE CONTRACT.

SINCERELY,

Paul Pusich

PAUL PUSICH

February 16, 1990

A.G. Kemp/David Rose
Aberdeen University Petroleum
and Economic Consultants
Dept. of Economics
Edward Wright Building, Dunbar St.
Aberdeen, AB9 2TY, Scotland, UK

Dear Alex,

I was pleased to receive your letter by fax February 15, and also the fax from Peter Gaffney February 16. Accompanying this letter are our estimates for abandonment costs for the fields, exploration and delineation costs and historic Prudhoe Bay prices.

The abandonment costs in the accompanying table are as good as any although they are definitely a guess.

We are trying to put together the exploration cost information although this is not easy. We have what I believe are reasonable estimates of what has been spent to date for the non-Prudhoe fields in terms of exploration and delineation. The problem field is West Sak since it overlays Kuparuk and so there is a major allocation question. The West Sak estimate is therefore based on the ARCO pilot project. The estimates are based on a combination of public statements from the companies and estimates provided by the Alaska Department of Natural Resources and the Oil and Gas Conservation Commission. We do not have estimates of the timing of these expenditures. The Prudhoe Bay estimate of these costs is somewhat tenuous and arguable. The bottom line is that I have included them in the accompanying table but am also running the numbers by the companies and am awaiting a response.

So far we have had no specific comments about the data from the companies although they have commented on the Alaska/US methodology. BP in particular has worked through most of our model at the detail level. John has been finetuning and enhancing the Alaska/US model. We will hopefully be able to complete the initial runs you have requested by Friday of next week (Feb. 23).

I have sent you another copy of the historic prices for Prudhoe Bay. We are in the process of completing an historic estimate of Prudhoe Bay cash flow which is totally consistent with actual Alaska tax and royalty collections and the U.S. Federal tax system in place between 1977 and 1986. (We have done this in one form or another any number of times over the last 15 years as have many analysts on the street). Although we would have preferred not to revisit the issue of past Prudhoe Bay profitability, it is unavoidable. In the meantime, the

Department of Revenue last year commissioned a study of the profitability of Prudhoe Bay (1977--1987) which I believe I included in the packet of information I sent previously. Deacon's study is basically a top down estimate based on company income statements and State and Federal receipts. The companies dismiss the study as totally inaccurate.

We are trying to develop your proposed Prudhoe incremental project. Because of Alaska's peculiar production tax, it makes a big difference whether this project involves more wells or involves pushing more things into the reservoir to increase production per well.

We would like to chat with you concerning methodological issues at some time over the next two weeks. Unfortunately I will be in Juneau for a number of days next week on another matter. Please let me know a day convenient for you.

	Abandonment Cost (Million 1990 $)	Exploration (Million $)	Years Spent
Prudhoe Bay	900	325	1969--1977
West Sak	125	~~125~~ 200	1984 to date
North Star	100	300	1983 to date
Niakuk	25	100	1975 to date

Sincerely,

Chuck

Chuck Logsdon

cc: Peter Gaffney
Homa Motamen
Hugh Malone
Betty Fahrenkamp
Sam Cotten

15-Feb-90 PRUDHOE BAY OIL $/BBL WELLHEAD

Year	January	February	March	April	May	June	July	August	September	October	November	December	Volume Wt. Avg.
1977							6.87	6.86	6.82	6.22	5.57	5.46	5.97
1978	5.34	5.18	5.12	4.98	4.85	4.95	5.14	5.02	5.12	5.06	5.08	5.42	5.10
1979	5.80	6.22	6.80	7.49	8.50	10.57	12.61	12.73	12.90	13.06	13.61	13.94	10.57
1980	14.24	14.82	15.54	16.13	16.73	16.65	16.76	17.12	17.50	17.62	18.73	20.11	16.82
1981	22.10	25.75	25.65	25.07	23.92	23.21	23.07	22.62	22.00	22.11	22.02	21.85	23.22
1982	21.08	19.38	18.51	18.83	19.10	20.39	20.32	20.46	20.39	19.97	19.98	19.40	19.82
1983	18.40	17.50	17.37	17.29	17.39	17.22	17.46	17.76	17.74	17.80	17.58	17.74	17.61
1984	17.74	17.65	17.57	17.64	17.71	17.76	17.87	17.73	18.13	18.04	18.00	17.58	17.79
1985	16.96	16.70	16.82	16.94	16.93	17.00	16.86	16.86	16.93	16.96	16.93	17.34	16.94
1986	15.89	10.65	6.85	5.38	4.82	4.32	3.05	3.66	5.39	5.48	5.48	6.51	6.46
1987	8.73	9.77	9.93	10.94	11.08	11.68	12.29	12.69	11.98	11.59	11.21	9.74	10.97
1988	9.61	9.47	8.72	10.02	10.12	9.79	8.80	8.71	7.95	6.98	6.62	7.64	8.70
1989	10.04	10.85	12.24	13.39	13.26	12.52	12.04	11.80	11.97	12.53	13.08	13.91	12.31

15-Feb-90 KUPARUK OIL $/BBL WELLHEAD

Year	January	February	March	April	May	June	July	August	September	October	November	December	Volume Wt. Avg.
1977													
1978													
1979													
1980													
1981												20.16	20.16
1982	19.97	19.63	18.02	17.36	17.34	17.37	17.51	17.55	17.43	17.74	18.37	18.16	18.00
1983	17.71	16.49	15.96	15.83	15.86	15.66	16.07	15.97	16.22	16.53	16.49	16.53	16.28
1984	16.35	16.28	16.32	16.14	16.40	16.72	16.94	16.58	16.90	16.85	17.08	16.80	16.63
1985	16.11	15.83	16.00	16.09	16.08	15.70	15.40	15.33	15.60	15.77	16.12	16.67	15.88
1986	15.34	8.94	4.82	3.81	3.91	3.93	2.69	3.25	4.80	4.70	4.81	5.81	5.45
1987	8.44	9.07	9.19	9.97	10.18	10.69	11.48	11.90	11.19	10.42	10.03	9.11	10.10
1988	8.26	8.12	7.14	8.54	8.92	8.41	7.29	7.35	6.60	5.47	4.90	5.71	7.20
1989	8.42	9.23	10.33	11.78	12.06	11.28	10.52	9.81	9.82	10.36	10.97	11.67	10.51

February 2, 1990

A.G. Kemp/David Rose
Aberdeen University Petroleum
and Economic Consultants
Dept. of Economics
Edward Wright Building, Dunbar St.
Aberdeen, AB9 2TY, Scotland, UK

Dear Alex,

We have completed the final review of the cost/production assumptions for the four representative Alaska oil fields. We are sending you detailed information on the cost and production assumptions by DHL. I am sending by fax the initial spreadsheets which summarize the capital and operating cost flows in current dollars. The detailed assumptions follow in the event that some of the other fiscal systems differentiate types of costs for different tax treatment. Where possible we have attempted to follow the KISS (keep it simple) principle.

We have added an additional project called the Hurl State analog. This is an incremental production project within the Prudhoe Bay field.

The Department of Natural Resources has provided significant time and effort in reviewing the data. BP Exploration has reviewed the initial assumptions and is in the process of providing their comments although they are unable to meet our deadline. ARCO has reviewed the data but has indicated that they are not prepared to provide us with a definitive response at this time.

Good luck and we await your response concerning parametric runs you require of the Alaska/US system.

Sincerely,

Chuck

Chuck Logsdon

cc: Hugh Malone
Betty Fahrenkamp
Sam Cotten

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01 FEB 90

PRUDHOE BAY MODEL INPUTS
(1990 MONEY FROM 1990+ / HISTORICAL MONEY FROM 1975-1989)

YEAR	(MMBO/YR) PRODUCTION	($MM) TOTAL CAPCOST	($MM) WELL CAPCOST	($MM) FACILITY CAPCOST	AVG #PROD WELLS	AVG TOTAL WELLS	($MM) OPCOST
1975		3827					
1976		1166					
1977	113	890			58	68	413
1978	398	400			142	159	526
1979	468	782			184	209	603
1980	555	1104			227	271	619
1981	556	2104			257	331	627
1982	559	2839			303	410	645
1983	561	1048			372	531	666
1984	559	1128			426	634	665
1985	568	959			504	688	683
1986	561	141			574	769	701
1987	572	371			650	840	711
1988	558	570			686	890	593
1989	505	530			648	869	548
1990	485	533	100	433	700	910	787
1991	437	357	100	257	738	960	776
1992	402	357	100	257	776	1010	774
1993	370	100	100		815	1060	772
1994	340				815	1060	758
1995	313				815	1060	746
1996	288				815	1060	733
1997	265				800	1040	717
1998	244				785	1021	701
1999	224				770	1001	685
2000	202				755	982	567
2001	188				740	962	557
2002	164				725	943	534
2003	147				710	923	518
2004	132				695	904	504
2005	119				680	884	424
2006	104				665	865	400
2007	90				650	845	376
2008	78				635	826	354
2009	68				620	806	334
2010	59				605	787	315
2011	50				590	767	295
2012	43				575	748	222
2013	37				500	650	208
2014	31				425	553	194
2015	26				375	488	181
TOTALS	11439	19206	400	947			

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START OF PRODUCTION:	1977
WORKOVER COSTS:	$.75MM/WORKOVER (BEGIN 1990)
DRILLWELL COSTS:	$2MM/WELL
INITIAL WORKOVER ROTATION:	.33 WORKOVERS/WELL/YEAR (SEE NOTE #4)
FIELD PROCESSING FEE:	$.73/BBL (FOR AK. ROYALTY CALC ONLY; CONSTANT)
TOTAL FIELD P/L TARIFF:	0
VARIABLE OPCOSTS:	$0.73/BBL (CONSTANT)
VAR. OPCOST ESCALATION:	4%/YR (REAL) (BEGIN 1990)
FIXED OPCOSTS:	$205MM/YR (CONSTANT TO YR 2005, THEN -4.5%/YR)
LEASE BONUS:	$9MM (1964 MONEY)

NOTES

1.) TOTAL WELL COUNT IS AVG MONTHLY FOR EACH YEAR AND INCLUDES SHUT-IN WELLS. #PROD WELLS IS ALSO BASED ON AVG MONTHLY COUNT BUT DOES NOT INCLUDE SHUT-IN WELLS. SOURCE OF DATA IS AOGCC. FUTURE TOTAL WELL/PROD WELL RATIO BASED ON HISTORICAL AVERAGE.

2.) HISTORICAL CAPCOSTS AND OPCOSTS (1975-1989) ARE IN AS-SPENT DOLLARS. HISTORICAL DRILLING COSTS ARE INCLUDED IN TOTAL CAPITAL COSTS. HISTORICAL OPCOSTS INCLUDE WORKOVERS. FUTURE OPCOSTS ARE A FUNCTION OF WORKOVER COST, WORKOVER ROTATION, FIXED COSTS, AND VARIABLE COSTS. ABANDONMENT COSTS ARE NOT ADDRESSED.

3.) OPCOSTS ARE PROJECTED (CALCULATED) BEGINNING IN 1988.

4.) WORKOVER ROTATION DECREASES TO .2 WO/WELL/YEAR IN YEAR 2000, .1 WO/WELL/YEAR IN YEAR 2005, AND NO WORKOVERS BEGINNING YEAR 2012.

5.) CAPCOSTS DO NOT INCLUDE GHX-2.

01 FEB 90

PRUDHOE BAY INCREMENTAL CASE
HURL STATE ANALOG
(1990 MONEY)

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YEAR	(MMBO/YR) INCREMENTAL PRODUCTION	($MM) TOTAL INCREMENTAL CAPCOST	($MM) INCR FACILITY CAPCOST	($MM) INCR WELL CAPCOST	#PROD WELLS	TOTAL WELLS	($MM) OPCOST
1990		50.00	50.00				
1991	2.50	32.00	12.00	20.00	7	10	6.25
1992	5.00	6.00		6.00	10	13	12.50
1993	5.00				10	13	12.50
1994	4.25				10	13	11.78
1995	3.61				10	13	10.48
1996	3.07				10	13	9.34
1997	2.61				10	13	8.33
1998	2.22				10	13	7.45
1999	1.89				9	13	6.67
2000	1.60				9	13	5.95
2001	1.30				9	13	5.14
2002	1.10				9	13	4.61
2003	0.95				9	13	4.21
2004	0.80				8	13	3.77
2005	0.60				7	13	3.11
2006	0.50				6	13	2.79
TOTAL	37.00	88.00	62.00	26.00			

ASSUMPTIONS

1.) 1 WORKOVER/YEAR @ $.75MM/WORKOVER (BEGINNING 1994)

2.) VARIABLE OPCOSTS= $2.50/BBL ESCALATED @ 4%/YR REAL STARTING IN 1994.

3.) NO FIXED OPCOSTS. ASSUME PRODUCTION THROUGH PBU FACILITIES.

4.) CAPCOSTS INCLUDE PRODUCTION WELLS, INJECTION WELLS, GRAVEL FOR ROADS AND PADS, ONSITE MANIFOLD BUILDING, AND PIPELINE TIE-IN TO NEAREST PBU PROCESSING FACILITY.

5.) COST TO DRILL WELLS IS $2MM/WELL.

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NIAKUK MODEL INPUTS
(1990 MONEY)

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YEAR	(MMBO/YR) PROD	($MM) TOTAL CAPCOST	($MM) FACILITY CAPCOST	($MM) WELL CAPCOST	#PROD WELLS	TOTAL WELLS	($MM) OPCOST
1992		29.16	25.12	4.04			
1993		86.92	54.60	32.32			
1994	6.94	4.04		4.04	8	14	11.91
1995	6.94				8	14	11.91
1996	6.94				8	14	11.91
1997	6.94				8	14	11.91
1998	5.46				8	14	12.59
1999	4.47				8	14	12.32
2000	3.83				8	14	12.14
2001	3.24				8	14	11.98
2002	2.77				7	14	11.85
2003	2.38				7	14	11.74
2004	2.06				7	14	11.66
2005	1.80				7	14	11.58
2006	1.57				6	14	9.13
2007	1.39				6	14	7.26
2008	0.69				6	14	5.40
2009	0.58				6	14	4.19
TOTALS	58.00	120.12	79.72	40.40			

START OF PRODUCTION:	1994
WORKOVER COSTS:	$.78MM/WORKOVER (BEGIN 1998)
DRILLWELL COSTS:	$3.46MM/WELL (SEE NOTE #2)
WORKOVER ROTATION:	.1 WORKOVER/WELL/YEAR
FIELD PROCESSING FEE:	$.73/BBL (FOR AK. ROYALTY CALC ONLY)
TOTAL FIELD P/L TARIFF:	$1.25/BBL (WELLHEAD TO LPF OR FS2)
INITIAL FIXED OPCOSTS:	$10MM/YR (SEE NOTE #5)
LEASE BONUS:	$27MM (HISTORICAL MONEY)
FACILITY SHARING FEE:	$0.27/BBL (CONSTANT)

NOTES

1.) #PROD WELLS IS FOR SEVERENCE TAX CALCULATION ONLY. TOTAL #WELLS =14, WITH 8 PRODUCERS, 4 WATER INJECTORS, 1 GAS INJECTOR, AND 1 WATER DISPOSAL WELL.

2.) $3.46MM/DRILLWELL ASSUMES 11 NEW WELLS AND 3 CONVERSIONS OF EXISTING WELLS AT $0.78MM/WELL. TOTAL DRILLING COST IS $40.4MM.

3.) $23MM ORIGINAL PIPELINE CAPCOST IS ADJUSTED TO 1990 MONEY AND EXPRESSED AS A FIELD TARIFF. TARIFF IS NOT SUBJECT TO INFLATION SO AS TO APPROXIMATE A FRONT-END LOAD. TARIFF INCLUDES CAPITAL RECOVERY, TAXES, AND PROFIT. P/L OPERATING COSTS ARE SMALL AND ARE INCLUDED IN FIXED FIELD OPCOSTS ($10MM/YR).

4.) SOURCE OF INFORMATION IS BP ENVIRONMENTAL ASSESSMENT (5/88) AND DNR/DOR ESTIMATES. COST DATA WAS ADJUSTED FROM 1988 MONEY TO 1990 MONEY USING 4.5%/YR INFLATION. PRODUCTION DATA WAS ADJUSTED TO REFLECT FULLFIELD STARTUP ON 1/1/94.

5.) OPCOST SCHEDULE INCLUDES FIXED OPCOSTS, FACILITY SHARING FEE, AND WORKOVER COSTS. FIXED COSTS ARE CONSTANT THROUGH 2005, DECLINE 25%/YR THROUGH 2007, THEN DECLINE 30%/YR FOR REMAINING LIFE.

01 FEB 90

NORTH STAR UNIT MODEL INPUTS
(1990 MONEY)

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YEAR	(MMBO/YR) PRODUCTION	($MM) TOTAL CAPCOST	($MM) WELL CAPCOST	($MM) FACILITY CAPCOST	#PROD WELLS	TOTAL WELLS	($MM) OPCOST
1996							
1997		105		105			
1998		175	70	105		20	
1999		195	70	125		40	
2000	18	95.5	80.5	15	45	63	74.33
2001	20				45	63	77.69
2002	20				45	63	77.69
2003	20				45	63	77.69
2004	18				45	63	91.81
2005	15				45	63	84.34
2006	12				45	63	83.67
2007	10				40	58	79.59
2008	9				38	56	78.08
2009	8				36	54	76.37
2010	7				34	52	74.47
2011	6				32	50	70.44
2012	5				30	48	66.25
2013	4				28	46	61.87
2014	3				26	44	57.28
2015	3				26	42	56.22
TOTALS	178	571	221	350			

START OF PRODUCTION: 2000
WORKOVER COSTS: $.75MM/WORKOVER (BEGIN 2004)
DRILLWELL COSTS: $3.5MM/WELL
WORKOVER ROTATION: .33 WORKOVER/WELL/YEAR
FIELD PROCESSING FEE: NOT ALLOWED
TOTAL FIELD P/L TARIFF: $3.50/BBL
VARIABLE OPCOSTS: $1.68/BBL (CONSTANT)
VAR. OPCOST ESCALATION: 6%/YR (REAL) (BEGIN 2004)
FIXED OPCOSTS: $44MM/YR (CONSTANT TO 2010, THEN -4.5%/YR)
SUNK COSTS: $278 MM (HISTORICAL MONEY)

NOTES

1.) CAPCOSTS DO NOT INCLUDE SUNK COSTS. CAPCOSTS INCLUDE 1 NEW GRAVEL ISLAND, PROCESSING FACILITIES FOR EACH OF 3 ISLANDS, ROADS, AND MISC STARTUP COSTS. CAPCOSTS OF THE OFFSHORE GATHERING SYSTEM AND THE ONSHORE ELEVATED PIPELINE TIE-IN TO PS1 ARE EXPRESSED AS A FIELD PIPELINE TARIFF=$3.50/BBL (IN 1990 MONEY). ALL CAPCOSTS ARE BASED ON STATE SHARE OF RESOURCES.

2.) TOTAL WELL COUNT INCLUDES 45 PRODUCERS, 3 WATER DISPOSAL WELLS, 3 GAS INJECTION WELLS, AND 12 WATER INJECTION WELLS. #WELLS BASED ON STATE SHARE OF RESOURCES.

01 FEB 90 WEST SAK MODEL INPUTS
(1990 MONEY)

CONFIDENTIAL

YEAR	(MMBO/YR) PRODUCTION	($MM) TOTAL CAPCOST	($MM) FACILITY CAPCOST	($MM) WELL CAPCOST	#PROD WELLS	TOTAL WELLS	($MM) OPCOST
1991		50.00	50.00				
1992	2.19	21.00		21.00	17	21	65.47
1993	2.19				17	21	65.47
1994	2.19				17	21	68.96
1995	4.38	29.00	5.00	24.00	34	45	78.41
1996	4.38				34	45	78.41
1997	4.38				34	45	78.41
1998	9.13	50.00	5.00	45.00	71	90	97.75
1999	9.13	50.00	50.00		71	90	97.75
2000	18.25	95.00	10.00	85.00	143	175	134.6
2001	18.25				143	175	134.6
2002	27.38	85.00	10.00	75.00	214	250	169.9
2003	27.38				214	250	169.9
2004	36.50	110.00	10.00	100.00	286	350	209.3
2005	36.50				286	350	209.3
2006	54.75	195.00	20.00	175.00	430	525	291.8
2007	54.75	25.00		25.00	450	550	304.2
2008	54.75	85.00	10.00	75.00	500	625	325.4
2009	54.75				500	625	334.7
2010	51.10				475	600	328.3
2011	43.80				450	550	265.3
2012	34.68				425	525	235.3
2013	27.38				400	500	206.4
2014	21.90				375	450	157.8
2015	18.25				350	425	141.5
2016	14.60				300	375	104.1
TOTALS	632.91	795.00	170.00	625.00			

START OF PRODUCTION: 1992
WORKOVER COSTS: $.5MM/WORKOVER (BEGIN 1994)
DRILLWELL COSTS: $1MM/WELL
WORKOVER ROTATION: .33 WORKOVER/WELL/YEAR (SEE NOTE #5)
FIELD PROCESSING FEE: $0.52/BBL (FOR AK. ROYALTY CALC ONLY)
KUPARUK P/L TARIFF: $0.95/BBL (NOT INFLATED)
FACILITY SHARING COSTS: $2.00/BBL (CONSTANT)
VAR. OPCOSTS: $0.50/BBL (CONSTANT)
VAR. OPCOST ESCALATION: 6%/YR (REAL) (BEGIN 2006)
INITIAL FIXED OPCOSTS: $60MM/YR (CONSTANT) (SEE NOTE #7)
SUNK COSTS: $200MM (HISTORICAL MONEY)

NOTES

1.) CAPCOSTS DO NOT INCLUDE SUNK COSTS.
2.) PRODUCTION WELL COUNT BASED ON INITIAL WELL RATE=350 BOPD/WELL.
3.) ASSUMES FACILITY SHARING WITH KUPARUK.
4.) FACILITY CAPCOSTS INCLUDE GRAVEL, WELLHEAD/FLOWLINE TIE-IN AT DRILL SITES AND METERING.
5.) ROTATION REDUCED TO .2 IN 2011, .1 IN 2014, AND ZERO FOR 2016.
6.) FACILITY SHARING COSTS INCLUDE ALL COSTS ASSOCIATED WITH MOVING OIL FROM WELLHEAD TO THE KUPARUK PIPELINE TIE-IN.
7.) CONSTANT THROUGH 2010, -4.5%/YR THROUGH 2012, -10%/YR TO END.

STATE OF ALASKA DEPT. OF REVENUE
PETROLEUM RESEARCH SECTION
ECONOMIC FEASIBILITY MODEL: ALASKA NORTH SLOPE OIL FIELD DEVELOPMENT DECISION
NOTE: ANALYSIS OF DEVELOPMENT FEASIBILITY ONLY, IGNORES SUNK COSTS OF G&G AND EXPLORATION IN CAPITAL COSTS
PUBLIC VERSION: EQUIVALENT AMORTIZED ECONOMIC RENT FOR HYPOTHETICAL FIELD
FOR MORE INFORMATION CONTACT CHUCK LOGSDON AT (907) 277-5627
MAINFRAME MODEL REQUIRED FOR ENHANCED RECOVERY ANALYSIS, SIMULTAINOUS MULTI-FIELD SUPPLY ANALYSIS AND SHUTDOWN ANALYSIS

FIELD INPUT ASSUMPTIONS		ANALYSIS OPTIONS 0
FIELD NAME:	PRUDHOE BAY	INCREMENTAL - ONGOING OPERATOR : 0
FIELD ASSUMPTIONS:		STAND ALONE - NEW INVESTOR : 1
FISCAL: AK/US		
PROPORTION PRODN AK LEASES	1.0000	
AK ROYALTY RATE	0.1250	COMMENTS:
AK NET PROFIT BONUS ROY RATE	0.0000	
AK SEV TAX NOM RATE 1ST 5 YRS	0.1500	PRUDHOE BAY BASE CASE / BASE YEAR 1990
AK SEV TAX NOM RATE YR 6 ON	0.1500	DIVISION OF REMAINING ECONOMIC RENT 1990 TO 2015
AK PROPERTY TAX RATE	0.0200	FOR ONGOING OPERATOR
AK ST CORP TAX EFF RATE	0.0140	
PROPORTION PRODN US FED LEASES	0.0000	CONSTANT $'S = 1990 $'S
US FED ROYALTY RATE	0.0000	CURRENT $'S = $'S OF THE DAY
US FED CORP TAX EFF RATE	0.3400	INFLATION ASSUMED 4.5% PER YEAR FROM 1990

COST:		
TOTAL LEASE AQUIS COST MM$'S HISTOR	9.0000	FOR CALC OF LEASE AMORT / DEPLETION
FIXED OPER COST MM$'S CONSTANT	205.00	
VARIABLE OPER COST $'S/BBL CONSTANT	0.73	
PRODN YEAR TO START WORKOVERS	1	
WORKOVER COST MM$'S/WELL CONSTANT	0.75	
WORKOVER ROTATION FACTOR	N/A	
PROPORTION WELL CAPITAL COST INTANG	0.7000	
PROPORTION FACIL CAPITAL COST INTANG	0.3000	
AK PTY TAX TR ORIG CO ANN ESCAL RATE	0.0500	
FINANCING: ASSUMED PROPORTION OF CAPITAL COST OBTAINED AT BEG OF EACH YEAR		
PROPORTION OF CAPITAL COST DEBT	0.0000	
CURRENT $ INTEREST RATE ON DEBT	0.1000	
TERM OF DEBT IN YEARS	10	

FIELD INPUT ASSUMPTIONS TABLE BY YEAR

PRUDHOE BAY

RELATIVE YEAR	INFLATION RATE PCT/Y	INFLATION FACTOR	FACILITY CAPITAL COST MM$'S CONSTANT	FACILITY CAPITAL COST CONS $ ESCAL RATE PCT/Y	FACILITY CAPITAL COST CURR $ ESCAL FACTOR	FACILLITY CAPITAL COST MM$'S CURRENT	WELL CAPITAL COST MM$'S CONSTANT	WELL CAPITAL COST CONS $ ESCAL RATE PCT/Y	WELL CAPITAL COST CURR $ ESCAL FACTOR	WELL CAPITAL COST MM$'S CURRENT	PRODN VOLUME MMBBL/Y	RELATIVE PRODN YEAR	PRUDHOE BAY OIL GROSS WELLHEAD PRICE $'S/BBL CURRENT	FIELD TARIFF COST $'S/BBL CURRENT	FIELD QUALITY DIFFER $'S/BBL CURRENT	FIELD GROSS WELLHEAD PRICE $'S/BBL CURRENT	FIELD COSTS W/ ROY CALC $'S/BBL CURRENT	FIELD ROY WELLHEAD PRICE $'S/BBL CURRENT	FIXED OPER COST CONS $ ESCAL RATE PCT/Y	FIXED OPER COST CURR $ ESCAL FACTOR	FIXED OPER COST MM$'S CURRENT
1990		1.0000	433.00		1.0000	433.00	100.00		1.0000	100.00	485.00	1	14.50	0.00	0.00	14.50	0.73	13.77		1.0000	205.00
1991	4.50	1.0450	257.00	0.00	1.0450	268.57	100.00	0.00	1.0450	104.50	437.00	2	15.15	0.00	0.00	15.15	0.76	14.39	0.00	1.0450	214.23
1992	4.50	1.0920	257.00	0.00	1.0920	280.65	100.00	0.00	1.0920	109.20	402.00	3	15.83	0.00	0.00	15.83	0.90	15.04	0.00	1.0920	223.87
1993	4.50	1.1412	0.00	0.00	1.1412	0.00	100.00	0.00	1.1412	114.12	370.00	4	16.55	0.00	0.00	16.55	0.83	15.71	0.00	1.1412	233.94
1994	4.50	1.1925	0.00	0.00	1.1925	0.00	0.00	0.00	1.1925	0.00	340.00	5	17.29	0.00	0.00	17.29	0.87	16.42	0.00	1.1925	244.47
1995	4.50	1.2462	0.00	0.00	1.2462	0.00	0.00	0.00	1.2462	0.00	313.00	6	18.07	0.00	0.00	18.07	0.91	17.16	0.00	1.2462	255.47
1996	4.50	1.3023	0.00	0.00	1.3023	0.00	0.00	0.00	1.3023	0.00	288.00	7	18.88	0.00	0.00	18.88	0.95	17.93	0.00	1.3023	266.96
1997	4.50	1.3609	0.00	0.00	1.3609	0.00	0.00	0.00	1.3609	0.00	265.00	8	19.73	0.00	0.00	19.73	0.99	18.74	0.00	1.3609	278.98
1998	4.50	1.4221	0.00	0.00	1.4221	0.00	0.00	0.00	1.4221	0.00	244.00	9	20.62	0.00	0.00	20.62	1.04	19.58	0.00	1.4221	291.53
1999	4.50	1.4861	0.00	0.00	1.4861	0.00	0.00	0.00	1.4861	0.00	224.00	10	21.55	0.00	0.00	21.55	1.08	20.46	0.00	1.4861	304.65
2000	4.50	1.5530	0.00	0.00	1.5530	0.00	0.00	0.00	1.5530	0.00	202.00	11	22.52	0.00	0.00	22.52	1.13	21.38	0.00	1.5530	318.36
2001	4.50	1.6229	0.00	0.00	1.6229	0.00	0.00	0.00	1.6229	0.00	188.00	12	23.53	0.00	0.00	23.53	1.18	22.35	0.00	1.6229	332.68
2002	4.50	1.6959	0.00	0.00	1.6959	0.00	0.00	0.00	1.6959	0.00	164.00	13	24.59	0.00	0.00	24.59	1.24	23.35	0.00	1.6959	347.66
2003	4.50	1.7722	0.00	0.00	1.7722	0.00	0.00	0.00	1.7722	0.00	147.00	14	25.70	0.00	0.00	25.70	1.29	24.40	0.00	1.7722	363.30
2004	4.50	1.8519	0.00	0.00	1.8519	0.00	0.00	0.00	1.8519	0.00	132.00	15	26.85	0.00	0.00	26.85	1.35	25.50	0.00	1.8519	379.65
2005	4.50	1.9353	0.00	0.00	1.9353	0.00	0.00	0.00	1.9353	0.00	119.00	16	28.06	0.00	0.00	28.06	1.41	26.65	0.00	1.9353	396.73
2006	4.50	2.0224	0.00	0.00	2.0224	0.00	0.00	0.00	2.0224	0.00	104.00	17	29.32	0.00	0.00	29.32	1.48	27.85	-4.50	1.9353	396.73
2007	4.50	2.1134	0.00	0.00	2.1134	0.00	0.00	0.00	2.1134	0.00	90.00	18	30.64	0.00	0.00	30.64	1.54	29.10	-4.50	1.9353	396.73
2008	4.50	2.2085	0.00	0.00	2.2085	0.00	0.00	0.00	2.2085	0.00	78.00	19	32.02	0.00	0.00	32.02	1.61	30.41	-4.50	1.9353	396.73
2009	4.50	2.3079	0.00	0.00	2.3079	0.00	0.00	0.00	2.3079	0.00	68.00	20	33.46	0.00	0.00	33.46	1.68	31.78	-4.50	1.9353	396.73
2010	4.50	2.4117	0.00	0.00	2.4117	0.00	0.00	0.00	2.4117	0.00	59.00	21	34.97	0.00	0.00	34.97	1.76	33.21	-4.50	1.9353	396.73
2011	4.50	2.5202	0.00	0.00	2.5202	0.00	0.00	0.00	2.5202	0.00	50.00	22	36.54	0.00	0.00	36.54	1.84	34.70	-4.50	1.9353	396.73
2012	4.50	2.6337	0.00	0.00	2.6337	0.00	0.00	0.00	2.6337	0.00	43.00	23	38.19	0.00	0.00	38.19	1.92	36.27	-4.50	1.9353	396.73
2013	4.50	2.7522	0.00	0.00	2.7522	0.00	0.00	0.00	2.7522	0.00	37.00	24	39.91	0.00	0.00	39.91	2.01	37.90	-4.50	1.9353	396.73
2014	4.50	2.8760	0.00	0.00	2.8760	0.00	0.00	0.00	2.8760	0.00	31.00	25	41.70	0.00	0.00	41.70	2.10	39.60	-4.50	1.9353	396.73
2015	4.50	3.0054	0.00	0.00	3.0054	0.00	0.00	0.00	3.0054	0.00	26.00	26	43.58	0.00	0.00	43.58	2.19	41.38	-4.50	1.9353	396.73
2016	4.50	3.1407	0.00	0.00	3.1407	0.00	0.00	0.00	3.1407	0.00	0.00	26	45.54	0.00	0.00	45.54	2.29	43.25	-4.50	1.9353	0.00
2017	4.50	3.2820	0.00	0.00	3.2820	0.00	0.00	0.00	3.2820	0.00	0.00	26	47.59	0.00	0.00	47.59	2.40	45.19	-4.50	1.9353	0.00
2018	4.50	3.4297	0.00	0.00	3.4297	0.00	0.00	0.00	3.4297	0.00	0.00	26	49.73	0.00	0.00	49.73	2.50	47.23	-4.50	1.9353	0.00
2019	4.50	3.5840	0.00	0.00	3.5840	0.00	0.00	0.00	3.5840	0.00	0.00	26	51.97	0.00	0.00	51.97	2.62	49.35	-4.50	1.9353	0.00
						982.22				427.82	4906.00										

PRUDHOE BAY

1990

VAR OPER COST CONS $ ESCAL RATE PCT/Y	VAR OPER COST CURR $ ESCAL FACTOR	VAR OPER COST MM$'S CURRENT	WORK OVER COST CONS $ ESCAL RATE PCT/Y	WORK OVER COST CURR $ ESCAL FACTOR	PRODN WELLS FOR ELF CALCS	TOT WELLS FOR WORK OVER CALCS	WORK OVER ROTATION FACTOR	WORK OVER COST MM$'S CURRENT	FIELD PIPE PROFIT $'S/BBL CURRENT	TAPS PROFIT $'S/BBL CURRENT
	1.0000	354.05		1.0000	700	910	0.3333	227.48	0.00	0.00
4.00	1.0850	346.13	0.00	1.0450	738	960	0.3333	250.77	0.00	0.00
4.00	1.1772	345.47	0.00	1.0920	776	1010	0.3333	275.71	0.00	0.00
4.00	1.2773	345.00	0.00	1.1412	815	1060	0.3333	302.38	0.00	0.00
4.00	1.3859	343.97	0.00	1.1925	815	1060	0.3333	315.99	0.00	0.00
4.00	1.5037	343.57	0.00	1.2462	815	1060	0.3333	330.21	0.00	0.00
4.00	1.6315	343.00	0.00	1.3023	815	1060	0.3333	345.06	0.00	0.00
4.00	1.7701	342.43	0.00	1.3609	800	1040	0.3333	353.79	0.00	0.00
4.00	1.9206	342.10	0.00	1.4221	785	1021	0.3333	362.95	0.00	0.00
4.00	2.0839	340.75	0.00	1.4861	770	1001	0.3333	371.86	0.00	0.00
4.00	2.2610	333.40	0.00	1.5530	755	982	0.2000	228.75	0.00	0.00
4.00	2.4532	336.67	0.00	1.6229	740	962	0.2000	234.18	0.00	0.00
4.00	2.6617	318.66	0.00	1.6959	725	943	0.2000	239.88	0.00	0.00
4.00	2.8879	309.90	0.00	1.7722	710	923	0.2000	245.36	0.00	0.00
4.00	3.1334	301.93	0.00	1.8519	695	904	0.2000	251.12	0.00	0.00
4.00	3.3997	295.34	0.00	1.9353	680	884	0.1000	128.31	0.00	0.00
4.00	3.6887	280.05	0.00	2.0224	665	865	0.1000	131.20	0.00	0.00
4.00	4.0023	262.95	0.00	2.1134	650	845	0.1000	133.94	0.00	0.00
4.00	4.3425	247.26	0.00	2.2085	635	826	0.1000	136.82	0.00	0.00
4.00	4.7116	233.88	0.00	2.3079	620	806	0.1000	139.51	0.00	0.00
4.00	5.1120	220.18	0.00	2.4117	605	787	0.1000	142.35	0.00	0.00
4.00	5.5466	202.45	0.00	2.5202	590	767	0.1000	144.98	0.00	0.00
4.00	6.0180	188.91	0.00	2.6337	575	748	0.0000	0.00	0.00	0.00
4.00	6.5296	176.36	0.00	2.7522	500	650	0.0000	0.00	0.00	0.00
4.00	7.0846	160.32	0.00	2.8760	425	553	0.0000	0.00	0.00	0.00
4.00	7.6868	145.89	0.00	3.0054	375	488	0.0000	0.00	0.00	0.00
4.00	8.3401	0.00	0.00	3.1407	0	0	0.0000	0.00	0.00	0.00
4.00	9.0490	0.00	0.00	3.2820	0	0	0.0000	0.00	0.00	0.00
4.00	9.8182	0.00	0.00	3.4297	0	0	0.0000	0.00	0.00	0.00
4.00	10.6528	0.00	0.00	3.5840	0	0	0.0000	0.00	0.00	0.00

2019

PRODUCING CO CASHFLOW CALCULATION TABLE BY YEAR   INCREMENTAL ANALYSIS

PRUDHOE BAY FIELD

RELATIVE YEAR	PRODN VOLUME MMB/Y	PS #1 GROSS WELLHEAD PRICE +PIPE PR $'S/BBL CURRENT	GROSS INCOME MM$'S CURRENT	CAPITAL COSTS MM$'S CURRENT	OPER COSTS MM$'S CURRENT	NET PMTS TO AK STATE GOVT W/ FIN MM$'S CURRENT	NET PMTS TO US FED GOVT W/ FIN MM$'S CURRENT	NET PMTS TO FINAN COMMUN MM$'S CURRENT	CO NET CASHFLOW W/ FIN MM$'S CURRENT	NET PMTS TO AK STATE GOVT W/O FIN MM$'S CURRENT	NET PMTS TO US FED GOVT W/O FIN MM$'S CURRENT	CO NET CASHFLOW W/O FIN MM$'S CURRENT
1990	485.00	14.50	7032.50	533.00	786.53	1938.41	998.40	0.00	2776.16	1938.41	998.40	2776.16
1991	437.00	15.15	6621.64	373.07	811.13	1835.70	666.72	0.00	2935.03	1835.70	666.72	2935.03
1992	402.00	15.83	6365.41	389.85	845.04	1772.71	745.00	0.00	2612.81	1772.71	745.00	2612.81
1993	370.00	16.55	6122.36	114.12	881.31	1708.67	818.47	0.00	2599.79	1708.67	818.47	2599.79
1994	340.00	17.29	5879.12	0.00	904.42	1644.15	864.47	0.00	2466.07	1644.15	864.47	2466.07
1995	313.00	18.07	5655.80	0.00	929.24	1584.04	817.17	0.00	2325.35	1584.04	817.17	2325.35
1996	288.00	18.88	5438.24	0.00	955.03	1524.40	770.61	0.00	2188.20	1524.40	770.61	2188.20
1997	265.00	19.73	5229.11	0.00	975.20	1466.41	825.39	0.00	1962.11	1466.41	825.39	1962.11
1998	244.00	20.62	5031.39	0.00	996.58	1410.29	880.13	0.00	1744.39	1410.29	880.13	1744.39
1999	224.00	21.55	4826.84	0.00	1017.26	1350.99	831.35	0.00	1627.24	1350.99	831.35	1627.24
2000	202.00	22.52	4548.65	0.00	880.52	1272.10	814.08	0.00	1581.95	1272.10	814.08	1581.95
2001	188.00	23.53	4423.90	0.00	903.54	1231.17	778.27	0.00	1510.92	1231.17	778.27	1510.92
2002	164.00	24.59	4032.81	0.00	906.20	1113.40	684.45	0.00	1328.76	1113.40	684.45	1328.76
2003	147.00	25.70	3777.44	0.00	918.56	1029.58	621.92	0.00	1207.37	1029.58	621.92	1207.37
2004	132.00	26.85	3544.62	0.00	932.71	947.90	565.73	0.00	1098.28	947.90	565.73	1098.28
2005	119.00	28.06	3339.33	0.00	820.38	871.43	560.13	0.00	1087.40	871.43	560.13	1087.40
2006	104.00	29.32	3049.73	0.00	807.98	759.34	503.99	0.00	978.42	759.34	503.99	978.42
2007	90.00	30.64	2757.96	0.00	793.62	635.40	451.81	0.00	877.12	635.40	451.81	877.12
2008	78.00	32.02	2497.79	0.00	780.81	511.11	409.98	0.00	795.90	511.11	409.98	795.90
2009	68.00	33.46	2275.55	0.00	770.13	387.65	380.03	0.00	737.75	387.65	380.03	737.75
2010	59.00	34.97	2063.22	0.00	759.26	347.39	325.22	0.00	631.36	347.39	325.22	631.36
2011	50.00	36.54	1827.17	0.00	744.16	305.76	264.25	0.00	513.00	305.76	264.25	513.00
2012	43.00	38.19	1642.08	0.00	585.64	271.42	266.90	0.00	518.13	271.42	266.90	518.13
2013	37.00	39.91	1476.54	0.00	573.10	236.11	226.88	0.00	440.45	236.11	226.88	440.45
2014	31.00	41.70	1292.77	0.00	557.06	196.89	183.19	0.00	355.63	196.89	183.19	355.63
2015	26.00	43.58	1133.05	0.00	542.63	159.10	146.64	0.00	284.68	159.10	146.64	284.68
2016	0.00	45.54	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2017	0.00	47.59	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2018	0.00	49.73	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2019	0.00	51.97	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL	4906.00	PV AMORT PRICE $'S/BBL	101885.0	1410.03	21378.01	26511.50	15401.19	0.00	37184.27	26511.50	15401.19	37184.27
NPV'S BE[illegible] YR 1 @ PCT												
0.00	4906.00	20.77	101885.0	1410.03	21378.01	26511.50	15401.19	0.00	37184.27	26511.50	15401.19	37184.27
5.00	3410.24	19.20	65461.72	1276.65	12228.42	17565.16	9631.58	0.00	24759.91	17565.16	9631.58	24759.91
10.00	2567.61	18.12	46536.61	1163.71	7930.18	12702.92	6665.36	0.00	18074.44	12702.92	6665.36	18074.44
15.00	2043.62	17.39	35541.21	1067.15	5648.94	9788.75	4970.32	0.00	14066.05	9788.75	4970.32	14066.05
20.00	1691.84	16.88	28553.83	983.88	4306.57	7899.26	3914.44	0.00	11449.68	7899.26	3914.44	11449.68
25.00	1441.33	16.51	23790.48	911.51	3447.70	6595.17	3209.65	0.00	9626.45	6595.17	3209.65	9626.45

ROR % W/ FIN ---- ERR

ROR % W/O FIN --- ERR

PROFITABILITY RATIOS

@ PCT	(NCF+CAPC) / CAPC W/ FIN	(NCF+CAPC) / CAPC W/O FIN
0.00	27.37	27.37
5.00	20.39	20.39
10.00	16.53	16.53
15.00	14.18	14.18
20.00	12.64	12.64
25.00	11.56	11.56

EQUIVALENT AMORTIZED ECONOMIC RENT CALCULATION TABLE BY YEAR INCREMENTAL ANALYSIS

PRUDHOE BAY

RELATIVE YEAR	PRODN VOLUME MMB/Y	FIELD PS #1 GROSS WELLHEAD PRICE +PIPE PR $'S/BBL CURRENT	GROSS INCOME MM$'S CURRENT	CAPITAL COSTS MM$'S CURRENT	OPER COSTS MM$'S CURRENT	ECONOMIC RENT MM$'S CURRENT	AK STATE GOVT REVS W/O FIN MM$'S CURRENT	US FED GOVT REVS W/O FIN MM$'S CURRENT	CO NET CASHFLOW W/O FIN MM$'S CURRENT
1990	485.00	14.50	7032.50	533.00	786.53	5712.97	1938.41	998.40	2776.16
1991	437.00	15.15	6621.64	373.07	811.13	5437.45	1835.70	666.72	2935.03
1992	402.00	15.83	6365.41	389.85	845.04	5130.52	1772.71	745.00	2612.81
1993	370.00	16.55	6122.36	114.12	881.31	5126.93	1708.67	818.47	2599.79
1994	340.00	17.29	5879.12	0.00	904.42	4974.69	1644.15	864.47	2466.07
1995	313.00	18.07	5655.80	0.00	929.24	4726.55	1584.04	817.17	2325.35
1996	288.00	18.88	5438.24	0.00	955.03	4483.21	1524.40	770.61	2188.20
1997	265.00	19.73	5229.11	0.00	975.20	4253.91	1466.41	825.39	1962.11
1998	244.00	20.62	5031.39	0.00	996.58	4034.81	1410.29	880.13	1744.39
1999	224.00	21.55	4826.84	0.00	1017.26	3809.58	1350.99	831.35	1627.24
2000	202.00	22.52	4548.65	0.00	880.52	3668.13	1272.10	814.08	1581.95
2001	188.00	23.53	4423.90	0.00	903.54	3520.36	1231.17	778.27	1510.92
2002	164.00	24.59	4032.81	0.00	906.20	3126.61	1113.40	684.45	1328.76
2003	147.00	25.70	3777.44	0.00	918.56	2858.87	1029.58	621.92	1207.37
2004	132.00	26.85	3544.62	0.00	932.71	2611.92	947.90	565.73	1098.28
2005	119.00	28.06	3339.33	0.00	820.38	2518.95	871.43	560.13	1087.40
2006	104.00	29.32	3049.73	0.00	807.98	2241.75	759.34	503.99	978.42
2007	90.00	30.64	2757.96	0.00	793.62	1964.34	635.40	451.81	877.12
2008	78.00	32.02	2497.79	0.00	780.81	1716.98	511.11	409.98	795.70
2009	68.00	33.46	2275.55	0.00	770.13	1505.43	387.65	380.03	737.75
2010	59.00	34.97	2063.22	0.00	759.26	1303.96	347.39	325.22	631.36
2011	50.00	36.54	1827.17	0.00	744.16	1083.02	305.76	264.25	513.00
2012	43.00	38.19	1642.08	0.00	585.64	1056.44	271.42	266.90	518.13
2013	37.00	39.91	1476.54	0.00	573.10	903.44	236.11	226.88	440.45
2014	31.00	41.70	1292.77	0.00	557.06	735.71	196.89	183.19	355.63
2015	26.00	43.58	1133.05	0.00	542.63	590.42	159.10	146.64	284.68
2016	0.00	45.54	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2017	0.00	47.59	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2018	0.00	49.73	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2019	0.00	51.97	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL	4906.00	PV AMORT PRICE $'S/BBL	101885.0	1410.03	21378.01	79096.96	26511.50	15401.19	37184.27
NPV'S BEG YR 1 @ PCT									
0.00	4906.00	20.77	101885.0	1410.03	21378.01	79096.96	26511.50	15401.19	37184.27
5.00	3410.24	19.20	65461.72	1276.65	12228.42	51956.65	17565.16	9631.58	24759.91
10.00	2567.61	18.12	46536.61	1163.71	7930.18	37442.72	12702.92	6665.36	18074.44
15.00	2043.62	17.39	35541.21	1067.15	5648.94	28825.12	9788.75	4970.32	14066.05
20.00	1691.84	16.88	28553.83	983.88	4306.57	23263.39	7899.26	3914.44	11449.68
25.00	1441.33	16.51	23790.48	911.51	3447.70	19431.27	6595.17	3209.65	9626.45

PER BBL PV'S @ PCT	FIELD PS #1 GROSS WELLHEAD PRICE +PIPE PR $'S/BBL CURRENT	CAPITAL COSTS MM$'S CURRENT	OPER COSTS MM$'S CURRENT	ECONOMIC RENT MM$'S CURRENT	STATE GOVT REVS W/O FIN MM$'S CURRENT	FED GOVT REVS W/O FIN MM$'S CURRENT	CO NET CASHFLOW W/O FIN MM$'S CURRENT
0.00	20.77	0.29	4.36	16.12	5.40	3.14	7.58
5.00	19.20	0.37	3.59	15.24	5.15	2.82	7.26
10.00	18.12	0.45	3.09	14.58	4.95	2.60	7.04
15.00	17.39	0.52	2.76	14.10	4.79	2.43	6.88
20.00	16.88	0.58	2.55	13.75	4.67	2.31	6.77
25.00	16.51	0.63	2.39	13.48	4.58	2.23	6.68

PERCENTAGE DIVISION OF PV ECON RENT ---------

@ PCT	ECONOMIC RENT	STATE	FED	CO
0.00	100.00	33.52	19.47	47.01
5.00	100.00	33.81	18.54	47.65
10.00	100.00	33.93	17.80	48.27
15.00	100.00	33.96	17.24	48.80
20.00	100.00	33.96	16.83	49.22
25.00	100.00	33.94	16.52	49.54

PAY OUT TIME IN YEARS ------------- 0.00

ROR % W/O FIN -------------------- ERR

PROFITABILITY RATIOS W/O FIN ------

	@ PCT	
(PVNCF+PVCAPC) / PVCAPC	0.00	27.37
	5.00	20.39
	10.00	16.53
	15.00	14.18
	20.00	12.64
	25.00	11.56

MAX CASH EXPOSURE MM$'S CURRENT --- 2776.16
W/O FIN

PRODUCING CO CASHFLOW CALCULATION TABLE BY YEAR   INCREMENTAL ANALYSIS

PRUDHOE BAY

RELATIVE YEAR	PRODN VOLUME MMB/Y	FIELD PS #1 GROSS WELLHEAD PRICE +PIPE PR $'S/BBL CONSTANT	GROSS INCOME MM$'S CONSTANT	CAPITAL COSTS MM$'S CONSTANT	OPER COSTS MM$'S CONSTANT	NET PMTS TO AK STATE GOVT W/ FIN MM$'S CONSTANT	NET PMTS TO US FED GOVT W/ FIN MM$'S CONSTANT	NET PMTS TO FINAN COMMUN MM$'S CONSTANT	CO NET CASHFLOW W/ FIN MM$'S CONSTANT	NET PMTS TO AK STATE GOVT W/O FIN MM$'S CONSTANT	NET PMTS TO US FED GOVT W/O FIN MM$'S CONSTANT	CO NET CASHFLOW W/O FIN MM$'S CONSTANT
1990	485.00	14.50	7032.50	533.00	786.53	1938.41	998.40	0.00	2776.16	1938.41	998.40	2776.16
1991	437.00	14.50	6336.50	357.00	776.20	1756.65	638.01	0.00	2808.64	1756.65	638.01	2808.64
1992	402.00	14.50	5829.00	357.00	773.83	1623.32	682.21	0.00	2392.63	1623.32	682.21	2392.63
1993	370.00	14.50	5365.00	100.00	772.29	1497.30	717.22	0.00	2278.18	1497.30	717.22	2278.18
1994	340.00	14.50	4930.00	0.00	758.41	1378.72	724.91	0.00	2067.95	1378.72	724.91	2067.95
1995	313.00	14.50	4538.50	0.00	745.67	1271.11	655.74	0.00	1865.98	1271.11	655.74	1865.98
1996	288.00	14.50	4176.00	0.00	733.36	1170.58	591.75	0.00	1680.31	1170.58	591.75	1680.31
1997	265.00	14.50	3842.50	0.00	716.60	1077.56	606.52	0.00	1441.81	1077.56	606.52	1441.81
1998	244.00	14.50	3538.00	0.00	700.78	991.69	618.90	0.00	1226.63	991.69	618.90	1226.63
1999	224.00	14.50	3248.00	0.00	684.52	909.09	559.42	0.00	1094.98	909.09	559.42	1094.98
2000	202.00	14.50	2929.00	0.00	566.99	819.14	524.21	0.00	1018.66	819.14	524.21	1018.66
2001	188.00	14.50	2726.00	0.00	556.76	758.65	479.57	0.00	931.02	758.65	479.57	931.02
2002	164.00	14.50	2378.00	0.00	534.35	656.53	403.59	0.00	783.52	656.53	403.59	783.52
2003	147.00	14.50	2131.50	0.00	518.32	580.96	350.93	0.00	681.29	580.96	350.93	681.29
2004	132.00	14.50	1914.00	0.00	503.64	511.84	305.48	0.00	593.04	511.84	305.48	593.04
2005	119.00	14.50	1725.50	0.00	423.91	450.28	289.43	0.00	561.88	450.28	289.43	561.88
2006	104.00	14.50	1508.00	0.00	399.52	375.47	249.21	0.00	483.80	375.47	249.21	483.80
2007	90.00	14.50	1305.00	0.00	375.52	300.66	213.79	0.00	415.03	300.66	213.79	415.03
2008	78.00	14.50	1131.00	0.00	353.55	231.43	185.64	0.00	360.38	231.43	185.64	360.38
2009	68.00	14.50	986.00	0.00	333.70	167.97	164.67	0.00	319.67	167.97	164.67	319.67
2010	59.00	14.50	855.50	0.00	314.82	144.04	134.85	0.00	261.79	144.04	134.85	261.79
2011	50.00	14.50	725.00	0.00	295.27	121.32	104.85	0.00	203.55	121.32	104.85	203.55
2012	43.00	14.50	623.50	0.00	222.37	103.06	101.34	0.00	196.73	103.06	101.34	196.73
2013	37.00	14.50	536.50	0.00	208.23	85.79	82.44	0.00	160.04	85.79	82.44	160.04
2014	31.00	14.50	449.50	0.00	193.69	68.46	63.70	0.00	123.65	68.46	63.70	123.65
2015	26.00	14.50	377.00	0.00	180.55	52.94	48.79	0.00	94.72	52.94	48.79	94.72
2016	0.00	14.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2017	0.00	14.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2018	0.00	14.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2019	0.00	14.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL	4906.00	PV AMORT PRICE $'S/BBL	71137.00	1347.00	13429.38	19042.98	10495.57	0.00	26822.07	19042.98	10495.57	26822.07
NPV'S BEG YR 1 @ PCT												
0.00	4906.00	14.50	71137.00	1347.00	13429.38	19042.98	10495.57	0.00	26822.07	19042.98	10495.57	26822.07
5.00	3410.24	14.50	49448.44	1222.09	8463.84	13488.48	7092.46	0.00	19181.58	13488.48	7092.46	19181.58
10.00	2567.61	14.50	37230.41	1116.11	5920.99	10253.34	5207.70	0.00	14732.27	10253.34	5207.70	14732.27
15.00	2043.62	14.50	29632.53	1025.33	4462.18	8198.53	4059.79	0.00	11886.70	8198.53	4059.79	11886.70
20.00	1691.84	14.50	24531.63	946.91	3545.28	6801.33	3305.92	0.00	9932.20	6801.33	3305.92	9932.20
25.00	1441.33	14.50	20899.30	878.62	2926.24	5799.03	2780.48	0.00	8514.94	5799.03	2780.48	8514.94

ROR % W/ FIN ---- ERR

ROR % W/O FIN --- ERR

PROFITABILITY RATIOS

@ PCT	(NCF+CAPC) / CAPC W/ FIN	(NCF+CAPC) / CAPC W/O FIN
0.00	20.91	20.91
5.00	16.70	16.70
10.00	14.20	14.20
15.00	12.59	12.59
20.00	11.49	11.49
25.00	10.69	10.69

EQUIVALENT AMORTIZED ECONOMIC RENT CALCULATION TABLE BY YEAR INCREMENTAL ANALYSIS

PRUDHOE BAY

RELATIVE YEAR	PRODN VOLUME MMB/Y	FIELD PS #1 GROSS WELLHEAD PRICE +PIPE PR $'S/BBL CONSTANT	GROSS INCOME MM$'S CONSTANT	CAPITAL COSTS MM$'S CONSTANT	OPER COSTS MM$'S CONSTANT	ECONOMIC RENT MM$'S CONSTANT	AK STATE GOVT REVS W/O FIN MM$'S CONSTANT	US FED GOVT REVS W/O FIN MM$'S CONSTANT	CO NET CASHFLOW W/O FIN MM$'S CONSTANT
1990	485.00	14.50	7032.50	533.00	786.53	5712.97	1938.41	998.40	2776.16
1991	437.00	14.50	6336.50	357.00	776.20	5203.30	1756.65	638.01	2808.64
1992	402.00	14.50	5829.00	357.00	773.83	4698.17	1623.32	682.21	2392.63
1993	370.00	14.50	5365.00	100.00	772.29	4492.71	1497.30	717.22	2278.18
1994	340.00	14.50	4930.00	0.00	758.41	4171.59	1378.72	724.91	2067.95
1995	313.00	14.50	4538.50	0.00	745.67	3792.83	1271.11	655.74	1865.98
1996	288.00	14.50	4176.00	0.00	733.36	3442.64	1170.58	591.75	1680.31
1997	265.00	14.50	3842.50	0.00	716.60	3125.90	1077.56	606.52	1441.81
1998	244.00	14.50	3538.00	0.00	700.78	2837.22	991.69	618.90	1226.63
1999	224.00	14.50	3248.00	0.00	684.52	2563.48	909.09	559.42	1094.98
2000	202.00	14.50	2929.00	0.00	566.99	2362.01	819.14	524.21	1018.66
2001	188.00	14.50	2726.00	0.00	556.76	2169.24	758.65	479.57	931.02
2002	164.00	14.50	2378.00	0.00	534.35	1843.65	656.53	403.59	783.52
2003	147.00	14.50	2131.50	0.00	518.32	1613.18	580.96	350.93	681.29
2004	132.00	14.50	1914.00	0.00	503.64	1410.36	511.84	305.48	593.04
2005	119.00	14.50	1725.50	0.00	423.91	1301.59	450.28	289.43	561.88
2006	104.00	14.50	1508.00	0.00	399.52	1108.48	375.47	249.21	483.80
2007	90.00	14.50	1305.00	0.00	375.52	929.48	300.66	213.79	415.03
2008	78.00	14.50	1131.00	0.00	353.55	777.45	231.43	185.64	360.38
2009	68.00	14.50	986.00	0.00	333.70	652.30	167.97	164.67	319.67
2010	59.00	14.50	855.50	0.00	314.82	540.68	144.04	134.85	261.79
2011	50.00	14.50	725.00	0.00	295.27	429.73	121.32	104.85	203.55
2012	43.00	14.50	623.50	0.00	222.37	401.13	103.06	101.34	196.73
2013	37.00	14.50	536.50	0.00	208.23	328.27	85.79	82.44	160.04
2014	31.00	14.50	449.50	0.00	193.69	255.81	68.46	63.70	123.65
2015	26.00	14.50	377.00	0.00	180.55	196.45	52.94	48.79	94.72
2016	0.00	14.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2017	0.00	14.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2018	0.00	14.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2019	0.00	14.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL	4906.00	PV AMORT	71137.00	1347.00	13429.38	56360.62	19042.98	10495.57	26822.07
NPV'S BEG YR 1 @ PCT		PRICE $'S/BBL							
0.00	4906.00	14.50	71137.00	1347.00	13429.38	56360.62	19042.98	10495.57	26822.07
5.00	3410.24	14.50	49448.44	1222.09	8463.84	39762.52	13488.48	7092.46	19181.58
10.00	2567.61	14.50	37230.41	1116.11	5920.99	30193.31	10253.34	5207.70	14732.27
15.00	2043.62	14.50	29632.53	1025.33	4462.18	24145.01	8198.53	4059.79	11886.70
20.00	1691.84	14.50	24531.63	946.91	3545.28	20039.45	6801.33	3305.92	9932.20
25.00	1441.33	14.50	20899.30	878.62	2926.24	17094.44	5799.03	2780.48	8514.94

PER BBL PV'S @ PCT	FIELD PS #1 GROSS WELLHEAD PRICE +PIPE PR $'S/BBL CONSTANT	CAPITAL COSTS MM$'S CONSTANT	OPER COSTS MM$'S CONSTANT	ECONOMIC RENT MM$'S CONSTANT	STATE GOVT REVS W/O FIN MM$'S CONSTANT	FED GOVT REVS W/O FIN MM$'S CONSTANT	CO NET CASHFLOW W/O FIN MM$'S CONSTANT
0.00	14.50	0.27	2.74	11.49	3.88	2.14	5.47
5.00	14.50	0.36	2.48	11.66	3.96	2.08	5.62
10.00	14.50	0.43	2.31	11.76	3.99	2.03	5.74
15.00	14.50	0.50	2.18	11.81	4.01	1.99	5.82
20.00	14.50	0.56	2.10	11.84	4.02	1.95	5.87
25.00	14.50	0.61	2.03	11.86	4.02	1.93	5.91

PERCENTAGE DIVISION OF PV ECON RENT ---------

@ PCT	ECONOMIC RENT	STATE	FED	CO
0.00	100.00	33.79	18.62	47.59
5.00	100.00	33.92	17.84	48.24
10.00	100.00	33.96	17.25	48.79
15.00	100.00	33.96	16.81	49.23
20.00	100.00	33.94	16.50	49.56
25.00	100.00	33.92	16.27	49.81

PAY OUT TIME IN YEARS ------------- 0.00

ROR % W/O FIN -------------------- ERR

PROFITABILITY RATIOS W/O FIN ------

(PVNCF+PVCAPC) / PVCAPC

@ PCT	
0.00	20.91
5.00	16.70
10.00	14.20
15.00	12.59
20.00	11.49
25.00	10.69

MAX CASH EXPOSURE MM$'S CONSTANT -- 2776.16
W/O FIN

STATE OF ALASKA DEPT. OF REVENUE
PETROLEUM RESEARCH SECTION
ECONOMIC FEASIBILITY MODEL: ALASKA NORTH SLOPE OIL FIELD DEVELOPMENT DECISION
NOTE: ANALYSIS OF DEVELOPMENT FEASIBILITY ONLY, IGNORES SUNK COSTS OF G&G AND EXPLORATION IN CAPITAL COSTS
PUBLIC VERSION: EQUIVALENT AMORTIZED ECONOMIC RENT FOR HYPOTHETICAL FIELD
FOR MORE INFORMATION CONTACT CHUCK LOGSDON AT (907) 277-5627
MAINFRAME MODEL REQUIRED FOR ENHANCED RECOVERY ANALYSIS, SIMULTAINOUS MULTI-FIELD SUPPLY ANALYSIS AND SHUTDOWN ANALYSIS

FIELD INPUT ASSUMPTIONS		ANALYSIS OPTIONS 0
FIELD NAME:	NIAKUK	INCREMENTAL - ONGOING OPERATOR = 0
FIELD ASSUMPTIONS:		STAND ALONE - NEW INVESTOR = 1
FISCAL: AK/US		
PROPORTION PRODN AK LEASES	1.0000	
AK ROYALTY RATE	0.1250	COMMENTS:
AK NET PROFIT BONUS ROY RATE	0.0000	
AK SEV TAX NOM RATE 1ST 5 YRS	0.1225	NIAKUK BASE CASE / BASE YEAR 1992
AK SEV TAX NOM RATE YR 6 ON	0.1500	CONSTANT $'S = 1992 $'S
AK PROPERTY TAX RATE	0.0200	CURRENT $'S = $'S OF THE DAY
AK ST CORP TAX EFF RATE	0.0140	INFLATION RATE ASSUMED 4.5% PER YEAR FROM 1990
PROPORTION PRODN US FED LEASES	0.0000	
US FED ROYALTY RATE	0.0000	
US FED CORP TAX EFF RATE	0.3400	
COST:		
TOTAL LEASE AQUIS COST MM$'S HISTOR	27.0000	FOR CALC OF LEASE AMORT / DEPLETION
FIXED OPER COST MM$'S CONSTANT	10.92	
VARIABLE OPER COST $'S/BBL CONSTANT	0.30	
PRODN YEAR TO START WORKOVERS	5	
WORKOVER COST MM$'S/WELL CONSTANT	0.85	
WORKOVER ROTATION FACTOR	N/A	
PROPORTION WELL CAPITAL COST INTANG	0.7000	
PROPORTION FACIL CAPITAL COST INTANG	0.3000	
AK PTY TAX TR ORIG CO ANN ESCAL RATE	0.0500	
FINANCING: ASSUMED PROPORTION OF CAPITAL COST OBTAINED AT BEG OF EACH YEAR		
PROPORTION OF CAPITAL COST DEBT	0.0000	
CURRENT $ INTEREST RATE ON DEBT	0.1000	
TERM OF DEBT IN YEARS	10	

FIELD INPUT ASSUMPTIONS TABLE BY YEAR

NIAKUK

RELATIVE YEAR	INFLATION RATE PCT/Y	INFLATION FACTOR	FACILITY CAPITAL COST MM$'S CONSTANT	FACILITY CAPITAL COST CONS $ ESCAL RATE PCT/Y	FACILITY CAPITAL COST CURR $ ESCAL FACTOR	FACILLITY CAPITAL COST MM$'S CURRENT	WELL CAPITAL COST MM$'S CONSTANT	WELL CAPITAL COST CONS $ ESCAL RATE PCT/Y	WELL CAPITAL COST CURR $ ESCAL FACTOR	WELL CAPITAL COST MM$'S CURRENT	PRODN VOLUME MMBBL/Y	RELATIVE PRODN YEAR	PRUDHOE BAY OIL GROSS WELLHEAD PRICE $'S/BBL CURRENT	FIELD TARIFF COST $'S/BBL CURRENT	FIELD QUALITY DIFFER $'S/BBL CURRENT	FIELD GROSS WELLHEAD PRICE $'S/BBL CURRENT	FIELD COSTS 4/ ROY CALC $'S/BBL CURRENT	FIELD ROY WELLHEAD PRICE $'S/BBL CURRENT	FIXED OPER COST CONS $ ESCAL RATE PCT/Y	FIXED OPER COST CURR $ ESCAL FACTOR	FIXED OPER COST MM$'S CURRENT
1992		1.0000	27.43		1.0000	27.43	4.41		1.0000	4.41	0.00	0	15.83	1.25	0.00	14.58	0.80	13.79		1.0000	0.00
1993	4.50	1.0450	59.62	0.00	1.0450	62.31	35.29	0.00	1.0450	36.88	0.00	0	16.55	1.25	0.00	15.30	0.83	14.46	0.00	1.0450	0.00
1994	4.50	1.0920	0.00	0.00	1.0920	0.00	4.41	0.00	1.0920	4.82	6.94	1	17.29	1.25	0.00	16.04	0.87	15.17	0.00	1.0920	11.92
1995	4.50	1.1412	0.00	0.00	1.1412	0.00	0.00	0.00	1.1412	0.00	6.94	2	18.07	1.25	0.00	16.82	0.91	15.91	0.00	1.1412	12.46
1996	4.50	1.1925	0.00	0.00	1.1925	0.00	0.00	0.00	1.1925	0.00	6.94	3	18.88	1.25	0.00	17.63	0.95	16.68	0.00	1.1925	13.02
1997	4.50	1.2462	0.00	0.00	1.2462	0.00	0.00	0.00	1.2462	0.00	6.94	4	19.73	1.25	0.00	18.48	0.99	17.49	0.00	1.2462	13.61
1998	4.50	1.3023	0.00	0.00	1.3023	0.00	0.00	0.00	1.3023	0.00	5.46	5	20.62	1.25	0.00	19.37	1.04	18.33	0.00	1.3023	14.22
1999	4.50	1.3609	0.00	0.00	1.3609	0.00	0.00	0.00	1.3609	0.00	4.47	6	21.55	1.25	0.00	20.30	1.08	19.21	0.00	1.3609	14.86
2000	4.50	1.4221	0.00	0.00	1.4221	0.00	0.00	0.00	1.4221	0.00	3.83	7	22.52	1.25	0.00	21.27	1.13	20.13	0.00	1.4221	15.53
2001	4.50	1.4861	0.00	0.00	1.4861	0.00	0.00	0.00	1.4861	0.00	3.24	8	23.53	1.25	0.00	22.28	1.18	21.10	0.00	1.4861	16.23
2002	4.50	1.5530	0.00	0.00	1.5530	0.00	0.00	0.00	1.5530	0.00	2.77	9	24.59	1.25	0.00	23.34	1.24	22.10	0.00	1.5530	16.96
2003	4.50	1.6229	0.00	0.00	1.6229	0.00	0.00	0.00	1.6229	0.00	2.38	10	25.70	1.25	0.00	24.45	1.29	23.15	0.00	1.6229	17.72
2004	4.50	1.6959	0.00	0.00	1.6959	0.00	0.00	0.00	1.6959	0.00	2.06	11	26.85	1.25	0.00	25.60	1.35	24.25	0.00	1.6959	18.52
2005	4.50	1.7722	0.00	0.00	1.7722	0.00	0.00	0.00	1.7722	0.00	1.80	12	28.06	1.25	0.00	26.81	1.41	25.40	0.00	1.7722	19.35
2006	4.50	1.8519	0.00	0.00	1.8519	0.00	0.00	0.00	1.8519	0.00	1.57	13	29.32	1.25	0.00	28.07	1.48	26.60	-25.00	1.4089	15.39
2007	4.50	1.9353	0.00	0.00	1.9353	0.00	0.00	0.00	1.9353	0.00	1.39	14	30.64	1.25	0.00	29.39	1.54	27.85	-25.00	1.1201	12.23
2008	4.50	2.0224	0.00	0.00	2.0224	0.00	0.00	0.00	2.0224	0.00	0.69	15	32.02	1.25	0.00	30.77	1.61	29.16	-30.00	0.8345	9.11
2009	4.50	2.1134	0.00	0.00	2.1134	0.00	0.00	0.00	2.1134	0.00	0.58	16	33.46	1.25	0.00	32.21	1.68	30.53	-30.00	0.6217	6.79
2010	4.50	2.2085	0.00	0.00	2.2085	0.00	0.00	0.00	2.2085	0.00	0.00	16	34.97	1.25	0.00	33.72	1.76	31.96	-30.00	0.4631	0.00
2011	4.50	2.3079	0.00	0.00	2.3079	0.00	0.00	0.00	2.3079	0.00	0.00	16	36.54	1.25	0.00	35.29	1.84	33.45	-30.00	0.3450	0.00
2012	4.50	2.4117	0.00	0.00	2.4117	0.00	0.00	0.00	2.4117	0.00	0.00	16	38.19	1.25	0.00	36.94	1.92	35.01	-30.00	0.2571	0.00
2013	4.50	2.5202	0.00	0.00	2.5202	0.00	0.00	0.00	2.5202	0.00	0.00	16	39.91	1.25	0.00	38.66	2.01	36.65	-30.00	0.1915	0.00
2014	4.50	2.6337	0.00	0.00	2.6337	0.00	0.00	0.00	2.6337	0.00	0.00	16	41.70	1.25	0.00	40.45	2.10	38.35	-30.00	0.1427	0.00
2015	4.50	2.7522	0.00	0.00	2.7522	0.00	0.00	0.00	2.7522	0.00	0.00	16	43.58	1.25	0.00	42.33	2.19	40.13	-30.00	0.1063	0.00
2016	4.50	2.8760	0.00	0.00	2.8760	0.00	0.00	0.00	2.8760	0.00	0.00	16	45.54	1.25	0.00	44.29	2.29	42.00	-30.00	0.0792	0.00
2017	4.50	3.0054	0.00	0.00	3.0054	0.00	0.00	0.00	3.0054	0.00	0.00	16	47.59	1.25	0.00	46.34	2.40	43.94	-30.00	0.0590	0.00
2018	4.50	3.1407	0.00	0.00	3.1407	0.00	0.00	0.00	3.1407	0.00	0.00	16	49.73	1.25	0.00	48.48	2.50	45.98	-30.00	0.0440	0.00
2019	4.50	3.2820	0.00	0.00	3.2820	0.00	0.00	0.00	3.2820	0.00	0.00	16	51.97	1.25	0.00	50.72	2.62	48.10	-30.00	0.0327	0.00
2020	4.50	3.4297	0.00	0.00	3.4297	0.00	0.00	0.00	3.4297	0.00	0.00	16	54.31	1.25	0.00	53.06	2.73	50.32	-30.00	0.0244	0.00
2021	4.50	3.5840	0.00	0.00	3.5840	0.00	0.00	0.00	3.5840	0.00	0.00	16	56.75	1.25	0.00	55.50	2.86	52.64	-30.00	0.0182	0.00
						89.74				46.11	58.00										

NIAKUK

	VAR OPER COST CONS $ ESCAL RATE PCT/Y	VAR OPER COST CURR $ ESCAL FACTOR	VAR OPER COST MM$'S CURRENT	WORK OVER COST CONS $ ESCAL RATE PCT/Y	WORK OVER COST CURR $ ESCAL FACTOR	PRODN WELLS FOR ELF CALCS	TOT WELLS FOR WORK OVER CALCS	WORK OVER ROTATION FACTOR	WORK OVER COST MM$'S CURRENT	FIELD PIPE PROFIT $'S/BBL CURRENT	TAPS PROFIT $'S/BBL CURRENT
1992		1.0000	0.00		1.0000	0	0	0.1000	0.00	0.00	0.00
	0.00	1.0450	0.00	0.00	1.0450	0	0	0.1000	0.00	0.00	0.00
	0.00	1.0920	2.27	0.00	1.0920	8	14	0.1000	0.00	0.00	0.00
	0.00	1.1412	2.38	0.00	1.1412	8	14	0.1000	0.00	0.00	0.00
	0.00	1.1925	2.48	0.00	1.1925	8	14	0.1000	0.00	0.00	0.00
	0.00	1.2462	2.59	0.00	1.2462	8	14	0.1000	0.00	0.00	0.00
	0.00	1.3023	2.13	0.00	1.3023	8	14	0.1000	1.55	0.00	0.00
	0.00	1.3609	1.82	0.00	1.3609	8	14	0.1000	1.62	0.00	0.00
	0.00	1.4221	1.63	0.00	1.4221	8	14	0.1000	1.69	0.00	0.00
	0.00	1.4861	1.44	0.00	1.4861	8	14	0.1000	1.77	0.00	0.00
	0.00	1.5530	1.29	0.00	1.5530	7	14	0.1000	1.85	0.00	0.00
	0.00	1.6229	1.16	0.00	1.6229	7	14	0.1000	1.93	0.00	0.00
	0.00	1.6959	1.05	0.00	1.6959	7	14	0.1000	2.02	0.00	0.00
	0.00	1.7722	0.96	0.00	1.7722	7	14	0.1000	2.11	0.00	0.00
	0.00	1.8519	0.87	0.00	1.8519	6	14	0.1000	2.20	0.00	0.00
	0.00	1.9353	0.81	0.00	1.9353	6	14	0.1000	2.30	0.00	0.00
	0.00	2.0224	0.42	0.00	2.0224	6	14	0.1000	2.41	0.00	0.00
	0.00	2.1134	0.37	0.00	2.1134	6	14	0.1000	2.51	0.00	0.00
	0.00	2.2085	0.00	0.00	2.2085	0	0	0.1000	0.00	0.00	0.00
	0.00	2.3079	0.00	0.00	2.3079	0	0	0.1000	0.00	0.00	0.00
	0.00	2.4117	0.00	0.00	2.4117	0	0	0.1000	0.00	0.00	0.00
	0.00	2.5202	0.00	0.00	2.5202	0	0	0.1000	0.00	0.00	0.00
	0.00	2.6337	0.00	0.00	2.6337	0	0	0.1000	0.00	0.00	0.00
	0.00	2.7522	0.00	0.00	2.7522	0	0	0.1000	0.00	0.00	0.00
	0.00	2.8760	0.00	0.00	2.8760	0	0	0.1000	0.00	0.00	0.00
	0.00	3.0054	0.00	0.00	3.0054	0	0	0.1000	0.00	0.00	0.00
	0.00	3.1407	0.00	0.00	3.1407	0	0	0.1000	0.00	0.00	0.00
	0.00	3.2820	0.00	0.00	3.2820	0	0	0.1000	0.00	0.00	0.00
	0.00	3.4297	0.00	0.00	3.4297	0	0	0.1000	0.00	0.00	0.00
021	0.00	3.5840	0.00	0.00	3.5840	0	0	0.1000	0.00	0.00	0.00

PRODUCING CO CASHFLOW CALCULATION TABLE BY YEAR INCREMENTAL ANALYSIS

NIAKUK

RELATIVE YEAR	PRODN VOLUME MMB/Y	FIELD PS 01 GROSS WELLHEAD PRICE +PIPE PR $'S/BBL CURRENT	GROSS INCOME MM$'S CURRENT	CAPITAL COSTS MM$'S CURRENT	OPER COSTS MM$'S CURRENT	NET PMTS TO AK STATE GOVT W/ FIN MM$'S CURRENT	NET PMTS TO US FED GOVT W/ FIN MM$'S CURRENT	NET PMTS TO FINAN COMMUN MM$'S CURRENT	CO NET CASHFLOW W/ FIN MM$'S CURRENT	NET PMTS TO AK STATE GOVT W/O FIN MM$'S CURRENT	NET PMTS TO US FED GOVT W/O FIN MM$'S CURRENT	CO NET CASHFLOW W/O FIN MM$'S CURRENT
1992	0.00	14.58	0.00	31.84	0.00	0.40	-3.67	0.00	-28.58	0.40	-3.67	-28.58
1993	0.00	15.30	0.00	99.19	0.00	1.48	-13.00	0.00	-87.66	1.48	-13.00	-87.66
1994	6.94	16.04	111.33	4.82	14.20	16.04	21.62	0.00	54.65	16.04	21.62	54.65
1995	6.94	16.82	116.73	0.00	14.84	16.73	20.81	0.00	64.34	16.73	20.81	64.34
1996	6.94	17.63	122.37	0.00	15.51	17.46	24.08	0.00	65.32	17.46	24.08	65.32
1997	6.94	18.48	128.27	0.00	16.20	18.21	26.90	0.00	66.96	18.21	26.90	66.96
1998	5.46	19.37	105.76	0.00	17.90	14.74	21.01	0.00	52.11	14.74	21.01	52.11
1999	4.47	20.30	90.73	0.00	18.30	12.73	16.93	0.00	42.76	12.73	16.93	42.76
2000	3.83	21.27	81.45	0.00	18.86	11.48	14.45	0.00	36.67	11.48	14.45	36.67
2001	3.24	22.28	72.19	0.00	19.44	10.22	12.79	0.00	29.75	10.22	12.79	29.75
2002	2.77	23.34	64.65	0.00	20.10	9.16	11.60	0.00	23.80	9.16	11.60	23.80
2003	2.38	24.45	58.18	0.00	20.81	8.23	9.53	0.00	19.61	8.23	9.53	19.61
2004	2.06	25.60	52.74	0.00	21.59	7.42	7.74	0.00	15.99	7.42	7.74	15.99
2005	1.80	26.81	48.26	0.00	22.42	6.72	6.22	0.00	12.90	6.72	6.22	12.90
2006	1.57	28.07	44.08	0.00	18.46	6.11	6.38	0.00	13.12	6.11	6.38	13.12
2007	1.39	29.39	40.86	0.00	15.34	5.60	6.55	0.00	13.36	5.60	6.55	13.36
2008	0.69	30.77	21.23	0.00	11.94	2.95	2.05	0.00	4.30	2.95	2.05	4.30
2009	0.58	32.21	18.68	0.00	9.67	2.48	2.13	0.00	4.40	2.48	2.13	4.40
2010	0.00	33.72	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2011	0.00	35.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2012	0.00	36.94	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2013	0.00	38.66	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2014	0.00	40.45	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2015	0.00	42.33	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2016	0.00	44.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2017	0.00	46.34	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2018	0.00	48.48	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2019	0.00	50.72	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2020	0.00	53.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2021	0.00	55.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL	58.00	PV AMORT PRICE $'S/BBL	1177.50	135.85	275.57	168.16	194.11	0.00	403.81	168.16	194.11	403.81
NPV'S BEG YR 1 @ PCT												
0.00	58.00	20.30	1177.50	135.85	275.57	168.16	194.11	0.00	403.81	168.16	194.11	403.81
5.00	40.57	19.64	796.67	124.45	169.16	114.47	130.19	0.00	258.41	114.47	130.19	258.41
10.00	29.66	19.11	566.91	114.54	110.48	81.96	90.97	0.00	168.96	81.96	90.97	168.96
15.00	22.47	18.70	420.07	105.86	76.10	61.11	65.65	0.00	111.36	61.11	65.65	111.36
20.00	17.51	18.37	321.56	98.20	54.81	47.07	48.59	0.00	72.88	47.07	48.59	72.88
25.00	13.96	18.10	252.71	91.42	40.97	37.23	36.68	0.00	46.40	37.23	36.68	46.40

ROR % W/ FIN ---- 43.06

ROR % W/O FIN --- 43.06

PROFITABILITY RATIOS

@ PCT	(NCF+CAPC) / CAPC W/ FIN	(NCF+CAPC) / CAPC W/O FIN
0.00	3.97	3.97
5.00	3.08	3.08
10.00	2.48	2.48
15.00	2.05	2.05
20.00	1.74	1.74
25.00	1.51	1.51

EQUIVALENT AMORTIZED ECONOMIC RENT CALCULATION TABLE BY YEAR INCREMENTAL ANALYSIS

NIAKUK

RELATIVE YEAR	PRODN VOLUME MMB/Y	FIELD PS #1 GROSS WELLHEAD PRICE +PIPE PR $'S/BBL CURRENT	GROSS INCOME MM$'S CURRENT	CAPITAL COSTS MM$'S CURRENT	OPER COSTS MM$'S CURRENT	ECONOMIC RENT MM$'S CURRENT	AK STATE GOVT REVS W/O FIN MM$'S CURRENT	US FED GOVT REVS W/O FIN MM$'S CURRENT	CO NET CASHFLOW W/O FIN MM$'S CURRENT
1992	0.00	14.58	0.00	31.84	0.00	-31.84	0.40	-3.67	-28.58
1993	0.00	15.30	0.00	99.19	0.00	-99.19	1.48	-13.00	-87.66
1994	6.94	16.04	111.33	4.82	14.20	92.31	16.04	21.62	54.65
1995	6.94	16.82	116.73	0.00	14.84	101.89	16.73	20.81	64.34
1996	6.94	17.63	122.37	0.00	15.51	106.86	17.46	24.08	65.32
1997	6.94	18.48	128.27	0.00	16.20	112.06	18.21	26.90	66.96
1998	5.46	19.37	105.76	0.00	17.90	87.86	14.74	21.01	52.11
1999	4.47	20.30	90.73	0.00	18.30	72.43	12.73	16.93	42.76
2000	3.83	21.27	81.45	0.00	18.86	62.60	11.48	14.45	36.67
2001	3.24	22.28	72.19	0.00	19.44	52.75	10.22	12.79	29.75
2002	2.77	23.34	64.65	0.00	20.10	44.55	9.16	11.60	23.80
2003	2.38	24.45	58.18	0.00	20.81	37.37	8.23	9.53	19.61
2004	2.06	25.60	52.74	0.00	21.59	31.16	7.42	7.74	15.99
2005	1.80	26.81	48.26	0.00	22.42	25.84	6.72	6.22	12.90
2006	1.57	28.07	44.08	0.00	18.46	25.61	6.11	6.38	13.12
2007	1.39	29.39	40.86	0.00	15.34	25.52	5.60	6.55	13.36
2008	0.69	30.77	21.23	0.00	11.94	9.30	2.95	2.05	4.30
2009	0.58	32.21	18.68	0.00	9.67	9.01	2.48	2.13	4.40
2010	0.00	33.72	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2011	0.00	35.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2012	0.00	36.94	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2013	0.00	38.66	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2014	0.00	40.45	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2015	0.00	42.33	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2016	0.00	44.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2017	0.00	46.34	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2018	0.00	48.48	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2019	0.00	50.72	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2020	0.00	53.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2021	0.00	55.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL	58.00	PV AMORT PRICE $'S/BBL	1177.50	135.85	275.57	766.08	168.16	194.11	403.81
NPV'S BEG YR 1 @ PCT									
0.00	58.00	20.30	1177.50	135.85	275.57	766.08	168.16	194.11	403.81
5.00	40.57	19.64	796.67	124.45	169.16	503.06	114.47	130.19	258.41
10.00	29.66	19.11	566.91	114.54	110.48	341.89	81.96	90.97	168.96
15.00	22.47	18.70	420.07	105.86	76.10	238.12	61.11	65.65	111.36
20.00	17.51	18.37	321.56	98.20	54.81	168.54	47.07	48.59	72.88
25.00	13.96	18.10	252.71	91.42	40.97	120.31	37.23	36.68	46.40

PER BBL PV'S @ PCT	FIELD PS #1 GROSS WELLHEAD PRICE +PIPE PR $'S/BBL CURRENT	CAPITAL COSTS MM$'S CURRENT	OPER COSTS MM$'S CURRENT	ECONOMIC RENT MM$'S CURRENT	STATE GOVT REVS W/O FIN MM$'S CURRENT	FED GOVT REVS W/O FIN MM$'S CURRENT	CO NET CASHFLOW W/O FIN MM$'S CURRENT
0.00	20.30	2.34	4.75	13.21	2.90	3.35	6.96
5.00	19.64	3.07	4.17	12.40	2.82	3.21	6.37
10.00	19.11	3.86	3.72	11.53	2.76	3.07	5.70
15.00	18.70	4.71	3.39	10.60	2.72	2.92	4.96
20.00	18.37	5.61	3.13	9.63	2.69	2.78	4.16
25.00	18.10	6.55	2.93	8.62	2.67	2.63	3.32

PERCENTAGE DIVISION OF PV ECON RENT ---------

@ PCT	ECONOMIC RENT	STATE GOVT REVS	FED GOVT REVS	CO NET CASHFLOW
0.00	100.00	21.95	25.34	52.71
5.00	100.00	22.75	25.88	51.37
10.00	100.00	23.97	26.61	49.42
15.00	100.00	25.66	27.57	46.77
20.00	100.00	27.93	28.83	43.24
25.00	100.00	30.95	30.49	38.57

PAY OUT TIME IN YEARS ------------ 3.96

ROR % W/O FIN -------------------- 43.06

PROFITABILITY RATIOS W/O FIN ------

(PVNCF+PVCAPC) / PVCAPC @ PCT	
0.00	3.97
5.00	3.08
10.00	2.48
15.00	2.05
20.00	1.74
25.00	1.51

MAX CASH EXPOSURE MM$'S CURRENT --- -116.24
W/O FIN

PRODUCING CO CASHFLOW CALCULATION TABLE BY YEAR   INCREMENTAL ANALYSIS

NIAKUK

RELATIVE YEAR	PRODN VOLUME MMB/Y	FIELD PS 01 GROSS WELLHEAD PRICE +PIPE PR $'S/BBL CONSTANT	GROSS INCOME MM$'S CONSTANT	CAPITAL COSTS MM$'S CONSTANT	OPER COSTS MM$'S CONSTANT	NET PMTS TO AK STATE GOVT W/ FIN MM$'S CONSTANT	NET PMTS TO US FED GOVT W/ FIN MM$'S CONSTANT	NET PMTS TO FINAN COMMUN MM$'S CONSTANT	CO NET CASHFLOW W/ FIN MM$'S CONSTANT	NET PMTS TO AK STATE GOVT W/O FIN MM$'S CONSTANT	NET PMTS TO US FED GOVT W/O FIN MM$'S CONSTANT	CO NET CASHFLOW W/O FIN MM$'S CONSTANT
1992	0.00	14.58	0.00	31.84	0.00	0.40	-3.67	0.00	-28.58	0.40	-3.67	-28.58
1993	0.00	14.64	0.00	94.92	0.00	1.42	-12.44	0.00	-83.89	1.42	-12.44	-83.89
1994	6.94	14.69	101.94	4.41	13.00	14.68	19.80	0.00	50.05	14.68	19.80	50.05
1995	6.94	14.74	102.29	0.00	13.00	14.66	18.24	0.00	56.38	14.66	18.24	56.38
1996	6.94	14.79	102.61	0.00	13.00	14.64	20.20	0.00	54.78	14.64	20.20	54.78
1997	6.94	14.83	102.93	0.00	13.00	14.61	21.58	0.00	53.73	14.61	21.58	53.73
1998	5.46	14.87	81.21	0.00	13.75	11.32	16.13	0.00	40.01	11.32	16.13	40.01
1999	4.47	14.92	66.67	0.00	13.45	9.36	12.44	0.00	31.42	9.36	12.44	31.42
2000	3.83	14.96	57.28	0.00	13.26	8.07	10.16	0.00	25.79	8.07	10.16	25.79
2001	3.24	14.99	48.58	0.00	13.08	6.87	8.60	0.00	20.02	6.87	8.60	20.02
2002	2.77	15.03	41.63	0.00	12.94	5.90	7.47	0.00	15.32	5.90	7.47	15.32
2003	2.38	15.06	35.85	0.00	12.82	5.07	5.87	0.00	12.08	5.07	5.87	12.08
2004	2.06	15.10	31.10	0.00	12.73	4.38	4.57	0.00	9.43	4.38	4.57	9.43
2005	1.80	15.13	27.23	0.00	12.65	3.79	3.51	0.00	7.28	3.79	3.51	7.28
2006	1.57	15.16	23.80	0.00	9.97	3.30	3.45	0.00	7.08	3.30	3.45	7.08
2007	1.39	15.19	21.11	0.00	7.93	2.89	3.39	0.00	6.91	2.89	3.39	6.91
2008	0.69	15.22	10.50	0.00	5.90	1.46	1.01	0.00	2.12	1.46	1.01	2.12
2009	0.58	15.24	8.84	0.00	4.58	1.17	1.01	0.00	2.08	1.17	1.01	2.08
2010	0.00	15.27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2011	0.00	15.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2012	0.00	15.32	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2013	0.00	15.34	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2014	0.00	15.36	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2015	0.00	15.38	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2016	0.00	15.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2017	0.00	15.42	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2018	0.00	15.44	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2019	0.00	15.45	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2020	0.00	15.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2021	0.00	15.49	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL	58.00	PV AMORT	863.57	131.17	185.07	124.00	141.31	0.00	282.03	124.00	141.31	282.03

NPV'S BEG YR 1 @ PCT		PRICE $'S/BBL										
0.00	58.00	14.89	863.57	131.17	185.07	124.00	141.31	0.00	282.03	124.00	141.31	282.03
5.00	40.57	14.86	602.93	120.23	118.02	87.13	96.87	0.00	180.67	87.13	96.87	180.67
10.00	29.66	14.84	440.22	110.71	79.80	64.04	68.82	0.00	116.85	64.04	68.82	116.85
15.00	22.47	14.82	333.07	102.36	56.66	48.77	50.27	0.00	75.01	48.77	50.27	75.01
20.00	17.51	14.81	259.29	95.00	41.89	38.22	37.51	0.00	46.67	38.22	37.51	46.67
25.00	13.96	14.80	206.59	88.48	32.01	30.66	28.45	0.00	26.99	30.66	28.45	26.99

ROR % W/ FIN ---- 36.90

ROR % W/O FIN --- 36.90

PROFITABILITY RATIOS

@ PCT	(NCF+CAPC) / CAPC W/ FIN	(NCF+CAPC) / CAPC W/O FIN
0.00	3.15	3.15
5.00	2.50	2.50
10.00	2.06	2.06
15.00	1.73	1.73
20.00	1.49	1.49
25.00	1.31	1.31

EQUIVALENT AMORTIZED ECONOMIC RENT CALCULATION TABLE BY YEAR   INCREMENTAL ANALYSIS

NIAKUK

RELATIVE YEAR	PRODN VOLUME MMB/Y	FIELD PS #1 GROSS WELLHEAD PRICE +PIPE PR $'S/BBL CONSTANT	GROSS INCOME MM$'S CONSTANT	CAPITAL COSTS MM$'S CONSTANT	OPER COSTS MM$'S CONSTANT	ECONOMIC RENT MM$'S CONSTANT	AK STATE GOVT REVS W/O FIN MM$'S CONSTANT	US FED GOVT REVS W/O FIN MM$'S CONSTANT	CO NET CASHFLOW W/O FIN MM$'S CONSTANT
1992	0.00	14.58	0.00	31.84	0.00	-31.84	0.40	-3.67	-28.58
1993	0.00	14.64	0.00	94.92	0.00	-94.92	1.42	-12.44	-83.89
1994	6.94	14.69	101.94	4.41	13.00	84.53	14.68	19.80	50.05
1995	6.94	14.74	102.29	0.00	13.00	89.28	14.66	18.24	56.38
1996	6.94	14.79	102.61	0.00	13.00	89.61	14.64	20.20	54.78
1997	6.94	14.83	102.93	0.00	13.00	89.92	14.61	21.58	53.73
1998	5.46	14.87	81.21	0.00	13.75	67.46	11.32	16.13	40.01
1999	4.47	14.92	66.67	0.00	13.45	53.22	9.36	12.44	31.42
2000	3.83	14.96	57.28	0.00	13.26	44.02	8.07	10.16	25.79
2001	3.24	14.99	48.58	0.00	13.08	35.49	6.87	8.60	20.02
2002	2.77	15.03	41.63	0.00	12.94	28.69	5.90	7.47	15.32
2003	2.38	15.06	35.85	0.00	12.82	23.03	5.07	5.87	12.08
2004	2.06	15.10	31.10	0.00	12.73	18.37	4.38	4.57	9.43
2005	1.80	15.13	27.23	0.00	12.65	14.58	3.79	3.51	7.28
2006	1.57	15.16	23.80	0.00	9.97	13.83	3.30	3.45	7.08
2007	1.39	15.19	21.11	0.00	7.93	13.18	2.89	3.39	6.91
2008	0.69	15.22	10.50	0.00	5.90	4.60	1.46	1.01	2.12
2009	0.58	15.24	8.84	0.00	4.58	4.26	1.17	1.01	2.08
2010	0.00	15.27	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2011	0.00	15.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2012	0.00	15.32	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2013	0.00	15.34	0.00	0.90	0.00	0.00	0.00	0.00	0.00
2014	0.00	15.36	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2015	0.00	15.38	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2016	0.00	15.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2017	0.00	15.42	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2018	0.00	15.44	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2019	0.00	15.45	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2020	0.00	15.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2021	0.00	15.49	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL	58.00	PV AMORT PRICE $'S/BBL	863.57	131.17	185.07	547.34	124.00	141.31	282.03
NPV'S BEG YR 1 @ PCT									
0.00	58.00	14.89	863.57	131.17	185.07	547.36	124.00	141.31	282.03
5.00	40.57	14.86	602.93	120.23	118.02	364.68	87.13	96.87	180.67
10.00	29.66	14.84	440.22	110.71	79.80	249.71	64.04	68.82	116.85
15.00	22.47	14.82	333.07	102.36	56.66	174.04	48.77	50.27	75.01
20.00	17.51	14.81	259.29	95.00	41.89	122.40	38.22	37.51	46.67
25.00	13.96	14.80	206.59	88.48	32.01	86.10	30.66	28.45	26.99

PER BBL PV'S @ PCT	FIELD PS #1 GROSS WELLHEAD PRICE +PIPE PR $'S/BBL CONSTANT	CAPITAL COSTS MM$'S CONSTANT	OPER COSTS MM$'S CONSTANT	ECONOMIC RENT MM$'S CONSTANT	STATE GOVT REVS W/O FIN MM$'S CONSTANT	FED GOVT REVS W/O FIN MM$'S CONSTANT	CO NET CASHFLOW W/O FIN MM$'S CONSTANT
0.00	14.89	2.26	3.19	9.44	2.14	2.44	4.86
5.00	14.86	2.96	2.91	8.99	2.15	2.39	4.45
10.00	14.84	3.73	2.69	8.42	2.16	2.32	3.94
15.00	14.82	4.56	2.52	7.75	2.17	2.24	3.34
20.00	14.81	5.43	2.39	6.99	2.18	2.14	2.67
25.00	14.80	6.34	2.29	6.17	2.20	2.04	1.93

PERCENTAGE DIVISION OF PV ECON RENT ---------

@ PCT	ECONOMIC RENT	STATE	FED	CO
0.00	100.00	22.66	25.82	51.53
5.00	100.00	23.89	26.56	49.54
10.00	100.00	25.64	27.56	46.80
15.00	100.00	28.02	28.88	43.10
20.00	100.00	31.23	30.64	38.13
25.00	100.00	35.61	33.04	31.35

PAY OUT TIME IN YEARS ------------ 4.11

ROR % W/O FIN -------------------- 36.90

PROFITABILITY RATIOS W/O FIN ------

(PVNCF+PVCAPC) / PVCAPC @ PCT	
0.00	3.15
5.00	2.50
10.00	2.06
15.00	1.73
20.00	1.49
25.00	1.31

MAX CASH EXPOSURE MM$'S CONSTANT -- -112.47
W/O FIN

STATE OF ALASKA DEPT. OF REVENUE
PETROLEUM RESEARCH SECTION
ECONOMIC FEASIBILITY MODEL: ALASKA NORTH SLOPE OIL FIELD DEVELOPMENT DECISION
NOTE: ANALYSIS OF DEVELOPMENT FEASIBILITY ONLY, IGNORES SUNK COSTS OF G&G AND EXPLORATION IN CAPITAL COSTS
PUBLIC VERSION: EQUIVALENT AMORTIZED ECONOMIC RENT FOR HYPOTHETICAL FIELD
FOR MORE INFORMATION CONTACT CHUCK LOGSDON AT (907) 277-5627
MAINFRAME MODEL REQUIRED FOR ENHANCED RECOVERY ANALYSIS, SIMULTAINOUS MULTI-FIELD SUPPLY ANALYSIS AND SHUTDOWN ANALYSIS

FIELD INPUT ASSUMPTIONS		ANALYSIS OPTIONS 0
FIELD NAME:	HURL STATE ANALOG INCREMENTAL	- ONGOING OPERATOR : 0
FIELD ASSUMPTIONS:		STAND ALONE - NEW INVESTOR : 1
FISCAL: AK/US		
PROPORTION PRODN AK LEASES	1.0000	
AK ROYALTY RATE	0.1250	COMMENTS:
AK NET PROFIT BONUS ROY RATE	0.0000	
AK SEV TAX NOM RATE 1ST 5 YRS	0.1500	HURL STATE ANALOG BASE CASE / BASE YEAR 1990
AK SEV TAX NOM RATE YR 6 ON	0.1500	PRUDHOE BAY INCREMENTAL INVESTMENT FEASIBILITY
AK PROPERTY TAX RATE	0.0200	FOR ONGOING OPERATOR
AK ST CORP TAX EFF RATE	0.0140	
PROPORTION PRODN US FED LEASES	0.0000	CONSTANT $'S : 1990 $'S
US FED ROYALTY RATE	0.0000	CURRENT $'S = $'S OF THE DAY
US FED CORP TAX EFF RATE	0.3400	INFLATION ASSUMED 4.5% PER YEAR FROM 1990
COST:		
TOTAL LEASE AQUIS COST MM$'S HISTOR	0.0000	FOR CALC LEASE AMORT / DEPLETION
FIXED OPER COST MM$'S CONSTANT	0.00	
VARIABLE OPER COST $'S/BBL CONSTANT	2.50	
PRODN YEAR TO START WORKOVERS	4	
WORKOVER COST MM$'S/WELL CONSTANT	0.75	
WORKOVER ROTATION FACTOR	N/A	
PROPORTION WELL CAPITAL COST INTANG	0.7000	
PROPORTION FACIL CAPITAL COST INTANG	0.3000	
AK PTY TAX TR ORIG CO ANN ESCAL RATE	0.0500	
FINANCING: ASSUMED PROPORTION OF CAPITAL COST OBTAINED AT BEG OF EACH YEAR		
PROPORTION OF CAPITAL COST DEBT	0.0000	
CURRENT $ INTEREST RATE ON DEBT	0.1000	
TERM OF DEBT IN YEARS	10	

FIELD INPUT ASSUMPTIONS TABLE BY YEAR

HURL STATE ANALOG

RELATIVE YEAR	INFLATION RATE PCT/Y	INFLATION FACTOR	FACILITY CAPITAL COST MM$'S CONSTANT	FACILITY CAPITAL COST CONS $ ESCAL RATE PCT/Y	FACILITY CAPITAL COST CURR $ ESCAL FACTOR	FACILITY CAPITAL COST MM$'S CURRENT	WELL CAPITAL COST MM$'S CONSTANT	WELL CAPITAL COST CONS $ ESCAL RATE PCT/Y	WELL CAPITAL COST CURR $ ESCAL FACTOR	WELL CAPITAL COST MM$'S CURRENT	PRODN VOLUME MMBBL/Y	RELATIVE PRODN YEAR	PRUDHOE BAY OIL GROSS WELLHEAD PRICE $'S/BBL CURRENT	FIELD TARIFF COST $'S/BBL CURRENT	FIELD QUALITY DIFFER $'S/BBL CURRENT	FIELD GROSS WELLHEAD PRICE $'S/BBL CURRENT	FIELD COSTS 4/ ROY CALC $'S/BBL CURRENT	FIELD ROY WELLHEAD PRICE $'S/BBL CURRENT	FIXED OPER COST CONS $ ESCAL RATE PCT/Y	FIXED OPER COST CURR $ ESCAL FACTOR	FIXED OPER COST MM$'S CURRENT
1990		1.0000	50.00		1.0000	50.00	0.00		1.0000	0.00	0.00	0	14.50	0.00	0.00	14.50	0.73	13.77		1.0000	0.00
1991	4.50	1.0450	12.00	0.00	1.0450	12.54	20.00	0.00	1.0450	20.90	2.50	1	15.15	0.00	0.00	15.15	0.76	14.39	0.00	1.0450	0.00
1992	4.50	1.0920	0.00	0.00	1.0920	0.00	6.00	0.00	1.0920	6.55	5.00	2	15.83	0.00	0.00	15.83	0.80	15.04	0.00	1.0920	0.00
1993	4.50	1.1412	0.00	0.00	1.1412	0.00	0.00	0.00	1.1412	0.00	5.00	3	16.55	0.00	0.00	16.55	0.83	15.71	0.00	1.1412	0.00
1994	4.50	1.1925	0.00	0.00	1.1925	0.00	0.00	0.00	1.1925	0.00	4.25	4	17.29	0.00	0.00	17.29	0.87	16.42	0.00	1.1925	0.00
1995	4.50	1.2462	0.00	0.00	1.2462	0.00	0.00	0.00	1.2462	0.00	3.61	5	18.07	0.00	0.00	18.07	0.91	17.16	0.00	1.2462	0.00
1996	4.50	1.3023	0.00	0.00	1.3023	0.00	0.00	0.00	1.3023	0.00	3.07	6	18.88	0.00	0.00	18.88	0.95	17.93	0.00	1.3023	0.00
1997	4.50	1.3609	0.00	0.00	1.3609	0.00	0.00	0.00	1.3609	0.00	2.61	7	19.73	0.00	0.00	19.73	0.99	18.74	0.00	1.3609	0.00
1998	4.50	1.4221	0.00	0.00	1.4221	0.00	0.00	0.00	1.4221	0.00	2.22	8	20.62	0.00	0.00	20.62	1.04	19.58	0.00	1.4221	0.00
1999	4.50	1.4861	0.00	0.00	1.4861	0.00	0.00	0.00	1.4861	0.00	1.89	9	21.55	0.00	0.00	21.55	1.08	20.46	0.00	1.4861	0.00
2000	4.50	1.5530	0.00	0.00	1.5530	0.00	0.00	0.00	1.5530	0.00	1.60	10	22.52	0.00	0.00	22.52	1.13	21.38	0.00	1.5530	0.00
2001	4.50	1.6229	0.00	0.00	1.6229	0.00	0.00	0.00	1.6229	0.00	1.30	11	23.53	0.00	0.00	23.53	1.18	22.35	0.00	1.6229	0.00
2002	4.50	1.6959	0.00	0.00	1.6959	0.00	0.00	0.00	1.6959	0.00	1.10	12	24.59	0.00	0.00	24.59	1.24	23.35	0.00	1.6959	0.00
2003	4.50	1.7722	0.00	0.00	1.7722	0.00	0.00	0.00	1.7722	0.00	0.95	13	25.70	0.00	0.00	25.70	1.29	24.40	0.00	1.7722	0.00
2004	4.50	1.8519	0.00	0.00	1.8519	0.00	0.00	0.00	1.8519	0.00	0.80	14	26.85	0.00	0.00	26.85	1.35	25.50	0.00	1.8519	0.00
2005	4.50	1.9353	0.00	0.00	1.9353	0.00	0.00	0.00	1.9353	0.00	0.60	15	28.06	0.00	0.00	28.06	1.41	26.65	0.00	1.9353	0.00
2006	4.50	2.0224	0.00	0.00	2.0224	0.00	0.00	0.00	2.0224	0.00	0.50	16	29.32	0.00	0.00	29.32	1.48	27.85	-4.50	1.9353	0.00
2007	4.50	2.1134	0.00	0.00	2.1134	0.00	0.00	0.00	2.1134	0.00	0.00	16	30.64	0.00	0.00	30.64	1.54	29.10	-4.50	1.9353	0.00
2008	4.50	2.2085	0.00	0.00	2.2085	0.00	0.00	0.00	2.2085	0.00	0.00	16	32.02	0.00	0.00	32.02	1.61	30.41	-4.50	1.9353	0.00
2009	4.50	2.3079	0.00	0.00	2.3079	0.00	0.00	0.00	2.3079	0.00	0.00	16	33.46	0.00	0.00	33.46	1.68	31.78	-4.50	1.9353	0.00
2010	4.50	2.4117	0.00	0.00	2.4117	0.00	0.00	0.00	2.4117	0.00	0.00	16	34.97	0.00	0.00	34.97	1.76	33.21	-4.50	1.9353	0.00
2011	4.50	2.5202	0.00	0.00	2.5202	0.00	0.00	0.00	2.5202	0.00	0.00	16	36.54	0.00	0.00	36.54	1.84	34.70	-4.50	1.9353	0.00
2012	4.50	2.6337	0.00	0.00	2.6337	0.00	0.00	0.00	2.6337	0.00	0.00	16	38.19	0.00	0.00	38.19	1.92	36.27	-4.50	1.9353	0.00
2013	4.50	2.7522	0.00	0.00	2.7522	0.00	0.00	0.00	2.7522	0.00	0.00	16	39.91	0.00	0.00	39.91	2.01	37.90	-4.50	1.9353	0.00
2014	4.50	2.8760	0.00	0.00	2.8760	0.00	0.00	0.00	2.8760	0.00	0.00	16	41.70	0.00	0.00	41.70	2.10	39.60	-4.50	1.9353	0.00
2015	4.50	3.0054	0.00	0.00	3.0054	0.00	0.00	0.00	3.0054	0.00	0.00	16	43.58	0.00	0.00	43.58	2.19	41.38	-4.50	1.9353	0.00
2016	4.50	3.1407	0.00	0.00	3.1407	0.00	0.00	0.00	3.1407	0.00	0.00	16	45.54	0.00	0.00	45.54	2.29	43.25	-4.50	1.9353	0.00
2017	4.50	3.2820	0.00	0.00	3.2820	0.00	0.00	0.00	3.2820	0.00	0.00	16	47.59	0.00	0.00	47.59	2.40	45.19	-4.50	1.9353	0.00
2018	4.50	3.4297	0.00	0.00	3.4297	0.00	0.00	0.00	3.4297	0.00	0.00	16	49.73	0.00	0.00	49.73	2.50	47.23	-4.50	1.9353	0.00
2019	4.50	3.5840	0.00	0.00	3.5840	0.00	0.00	0.00	3.5840	0.00	0.00	16	51.97	0.00	0.00	51.97	2.62	49.35	-4.50	1.9353	0.00
						62.54				27.45	37.00										

AURL STASS

	VAR OPER COST CONS $ ESCAL RATE PCT/Y	VAR OPER COST CURR $ ESCAL FACTOR	VAR OPER COST MM$'S CURRENT	WORK OVER COST CONS $ ESCAL RATE PCT/Y	WORK OVER COST CURR $ ESCAL FACTOR	PRODN WELLS FOR ELF CALCS	TOT WELLS FOR WORK OVER CALCS	WORK OVER ROTATION FACTOR	WORK OVER COST MM$'S CURRENT	FIELD PIPE PROFIT $'S/BBL CURRENT	TAPS PROFIT $'S/BBL CURRENT
1990		1.0000	0.00		1.0000	0	0	0.0000	0.00	0.00	0.00
	0.00	1.0450	6.53	0.00	1.0450	7	10	0.0770	0.00	0.00	0.00
	0.00	1.0920	13.65	0.00	1.0920	10	13	0.0770	0.00	0.00	0.00
	0.00	1.1412	14.26	0.00	1.1412	10	13	0.0770	0.00	0.00	0.00
	4.00	1.2382	13.16	0.00	1.1925	10	13	0.0770	0.90	0.00	0.00
	4.00	1.3434	12.12	0.00	1.2462	10	13	0.0770	0.94	0.00	0.00
	4.00	1.4576	11.19	0.00	1.3023	10	13	0.0770	0.98	0.00	0.00
	4.00	1.5815	10.32	0.09	1.3609	10	13	0.0770	1.02	0.00	0.00
	4.00	1.7159	9.52	0.09	1.4221	10	13	0.0770	1.07	0.00	0.00
	4.00	1.8618	8.80	0.00	1.4861	9	13	0.0770	1.12	0.00	0.00
	4.00	2.0200	8.08	0.00	1.5530	9	13	0.0770	1.17	0.00	0.00
	4.00	2.1917	7.12	0.00	1.6229	9	13	0.0770	1.22	0.00	0.00
	4.00	2.3780	6.54	0.00	1.6959	9	13	0.0770	1.27	0.00	0.00
	4.00	2.5802	6.13	0.00	1.7722	9	13	0.0770	1.33	0.00	0.00
	4.00	2.7995	5.60	0.00	1.8519	8	13	0.0770	1.39	0.00	0.00
	4.00	3.0374	4.56	0.00	1.9353	7	13	0.0770	1.45	0.00	0.00
	4.00	3.2956	4.12	0.00	2.0224	6	13	0.0770	1.52	0.00	0.00
	4.00	3.5757	0.00	0.00	2.1134	0	0	0.0000	0.00	0.00	0.00
	4.00	3.8797	0.00	0.00	2.2085	0	0	0.0000	0.00	0.00	0.00
	4.00	4.2094	0.00	0.00	2.3079	0	0	0.0000	0.00	0.00	0.00
	4.00	4.5672	0.00	0.00	2.4117	0	0	0.0000	0.00	0.00	0.00
	4.00	4.9555	0.00	0.00	2.5202	0	0	0.0000	0.00	0.00	0.00
	4.00	5.3767	0.00	0.00	2.6337	0	0	0.0000	0.00	0.00	0.00
	4.00	5.8337	0.00	0.00	2.7522	0	0	0.0000	0.00	0.00	0.00
	4.00	6.3296	0.00	0.00	2.8760	0	0	0.0000	0.00	0.00	0.00
	4.00	6.8676	0.00	0.00	3.0054	0	0	0.0000	0.00	0.00	0.00
	4.00	7.4513	0.00	0.00	3.1407	0	0	0.0000	0.00	0.00	0.00
	4.00	8.0847	0.00	0.00	3.2820	0	0	0.0000	0.00	0.00	0.00
	4.00	8.7719	0.00	0.00	3.4297	0	0	0.0000	0.00	0.00	0.00
2019	4.00	9.5175	0.00	0.00	3.5840	0	0	0.0000	0.00	0.00	0.00

PRODUCING CO CASHFLOW CALCULATION TABLE BY YEAR   INCREMENTAL ANALYSIS

HURL STATE ANALOG

RELATIVE YEAR	PRODN VOLUME MMB/Y	FIELD PS 81 GROSS WELLHEAD PRICE +PIPE PR $'S/BBL CURRENT	GROSS INCOME MM$'S CURRENT	CAPITAL COSTS MM$'S CURRENT	OPER COSTS MM$'S CURRENT	NET PMTS TO AK STATE GOVT W/ FIN MM$'S CURRENT	NET PMTS TO US FED GOVT W/ FIN MM$'S CURRENT	NET PMTS TO FINAN COMMUN MM$'S CURRENT	CO NET CASHFLOW W/ FIN MM$'S CURRENT	NET PMTS TO AK STATE GOVT W/O FIN MM$'S CURRENT	NET PMTS TO US FED GOVT W/O FIN MM$'S CURRENT	CO NET CASHFLOW W/O FIN MM$'S CURRENT
1990	0.00	14.50	0.00	50.00	0.00	0.69	-5.33	0.00	-45.36	0.69	-5.33	-45.36
1991	2.50	15.15	37.88	33.44	6.53	10.65	-0.30	0.00	-12.44	10.65	-0.30	-12.44
1992	5.00	15.83	79.17	6.55	13.65	21.15	9.39	0.00	28.43	21.15	9.39	28.43
1993	5.00	16.55	82.73	0.00	14.26	22.00	12.27	0.00	34.20	22.00	12.27	34.20
1994	4.25	17.29	73.49	0.00	14.05	19.58	10.92	0.00	28.94	19.58	10.92	28.94
1995	3.61	18.07	65.23	0.00	13.06	17.42	9.82	0.00	24.93	17.42	9.82	24.93
1996	3.07	18.88	57.97	0.00	12.16	15.50	8.48	0.00	21.82	15.50	8.48	21.82
1997	2.61	19.73	51.50	0.00	11.34	13.79	7.34	0.00	19.03	13.79	7.34	19.03
1998	2.22	20.62	45.78	0.00	10.59	12.25	6.98	0.00	15.96	12.25	6.98	15.96
1999	1.89	21.55	40.73	0.00	9.91	10.88	6.75	0.00	13.19	10.88	6.75	13.19
2000	1.60	22.52	36.03	0.00	9.25	9.57	5.85	0.00	11.36	9.57	5.85	11.36
2001	1.30	23.53	30.59	0.00	8.34	8.11	4.81	0.00	9.33	8.11	4.81	9.33
2002	1.10	24.59	27.05	0.00	7.81	7.04	4.15	0.00	8.05	7.04	4.15	8.05
2003	0.95	25.70	24.41	0.00	7.46	6.20	3.66	0.00	7.10	6.20	3.66	7.10
2004	0.80	26.85	21.48	0.00	6.99	5.27	3.13	0.00	6.08	5.27	3.13	6.08
2005	0.60	28.06	16.84	0.00	6.01	3.97	2.33	0.00	4.53	3.97	2.33	4.53
2006	0.50	29.32	14.66	0.00	5.64	3.17	1.99	0.00	3.87	3.17	1.99	3.87
2007	0.00	30.64	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2008	0.00	32.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2009	0.00	33.46	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2010	0.00	34.97	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2011	0.00	36.54	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2012	0.00	38.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2013	0.00	39.91	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2014	0.00	41.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2015	0.00	43.58	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2016	0.00	45.54	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2017	0.00	47.59	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2018	0.00	49.73	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2019	0.00	51.97	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL	37.00	PV AMORT PRICE	705.5	89.99	157.06	187.24	92.23	0.00	179.03	187.24	92.23	179.03
NPV'S BEG YR 1 @ PCT		$'S/BBL										
0.00	37.00	19.07	705.5	89.99	157.06	187.24	92.23	0.00	179.03	187.24	92.23	179.03
5.00	26.86	18.50	496.06	83.61	105.98	132.67	61.96	0.00	112.65	132.67	61.96	112.65
10.00	20.34	18.04	366.99	78.01	75.56	98.48	43.39	0.00	71.54	98.48	43.39	71.54
15.00	15.92	17.68	281.56	73.07	56.34	75.87	31.40	0.00	44.88	75.87	31.40	44.88
20.00	12.80	17.39	222.68	68.68	43.54	60.23	23.30	0.00	26.93	60.23	23.30	26.93
25.00	10.51	17.16	180.48	64.76	34.65	48.98	17.63	0.00	14.47	48.98	17.63	14.47

ROR % W/ FIN 34.28

ROR % W/O FIN 34.28

PROFITABILITY RATIOS

@ PCT	(NCF+CAPC) / CAPC W/ FIN	(NCF+CAPC) / CAPC W/O FIN
0.00	2.99	2.99
5.00	2.35	2.35
10.00	1.92	1.92
15.00	1.61	1.61
20.00	1.39	1.39
25.00	1.22	1.22

EQUIVALENT AMORTIZED ECONOMIC RENT CALCULATION TABLE BY YEAR INCREMENTAL ANALYSIS

HOML STATE ANALOG

RELATIVE YEAR	PRODN VOLUME MMB/Y	FIELD PS #1 GROSS WELLHEAD PRICE +PIPE PR $'S/BBL CURRENT	GROSS INCOME MM$'S CURRENT	CAPITAL COSTS MM$'S CURRENT	OPER COSTS MM$'S CURRENT	ECONOMIC RENT MM$'S CURRENT	AK STATE GOVT REVS W/O FIN MM$'S CURRENT	US FED GOVT REVS W/O FIN MM$'S CURRENT	CO NET CASHFLOW W/O FIN MM$'S CURRENT
1990	0.00	14.50	0.00	50.00	0.00	-50.00	0.69	-5.33	-45.36
1991	2.50	15.15	37.88	33.44	6.53	-2.09	10.65	0.30	-12.44
1992	5.00	15.83	79.17	6.55	13.65	58.97	21.15	9.39	28.43
1993	5.00	16.55	82.73	0.00	14.26	68.47	22.00	12.27	34.20
1994	4.25	17.29	73.49	0.00	14.05	59.44	19.58	10.92	28.94
1995	3.61	18.07	65.23	0.00	13.06	52.17	17.42	9.82	24.93
1996	3.07	18.88	57.97	0.00	12.16	45.81	15.50	8.48	21.82
1997	2.61	19.73	51.50	0.00	11.34	40.16	13.79	7.34	19.03
1998	2.22	20.62	45.78	0.00	10.59	35.19	12.25	6.98	15.96
1999	1.89	21.55	40.73	0.00	9.91	30.81	10.88	6.75	13.19
2000	1.60	22.52	36.03	0.00	9.25	26.78	9.57	5.85	11.36
2001	1.30	23.53	30.59	0.00	8.34	22.25	8.11	4.81	9.33
2002	1.10	24.59	27.05	0.00	7.81	19.24	7.04	4.15	8.05
2003	0.95	25.70	24.41	0.00	7.46	16.95	6.20	3.66	7.10
2004	0.80	26.85	21.48	0.00	6.99	14.49	5.27	3.13	6.08
2005	0.60	28.06	16.84	0.00	6.01	10.83	3.97	2.33	4.53
2006	0.50	29.32	14.66	0.00	5.64	9.02	3.17	1.99	3.87
2007	0.00	30.64	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2008	0.00	32.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2009	0.00	33.46	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2010	0.00	34.97	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2011	0.00	36.54	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2012	0.00	38.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2013	0.00	39.91	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2014	0.00	41.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2015	0.00	43.58	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2016	0.00	45.54	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2017	0.00	47.59	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2018	0.00	49.73	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2019	0.00	51.97	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL	37.00	PV AMORT PRICE $'S/BBL	705.5	89.99	157.06	458.49	187.24	92.23	179.03
NPV'S BEG YR 1 @ PCT									
0.00	37.00	19.07	705.5	89.99	157.06	458.49	187.24	92.23	179.03
5.00	26.86	18.50	496.86	83.61	105.98	307.27	132.67	61.96	112.65
10.00	20.34	18.04	366.99	78.01	75.56	213.41	98.48	43.39	71.54
15.00	15.92	17.68	281.56	73.07	56.34	152.15	75.87	31.40	44.88
20.00	12.80	17.39	222.68	68.68	43.54	110.46	60.23	23.30	26.93
25.00	10.51	17.16	180.48	64.76	34.65	81.08	48.98	17.63	14.47

PER BBL PV'S @ PCT	FIELD PS #1 GROSS WELLHEAD PRICE +PIPE PR $'S/BBL CURRENT	CAPITAL COSTS MM$'S CURRENT	OPER COSTS MM$'S CURRENT	ECONOMIC RENT MM$'S CURRENT	STATE GOVT REVS W/O FIN MM$'S CURRENT	FED GOVT REVS W/O FIN MM$'S CURRENT	CO NET CASHFLOW W/O FIN MM$'S CURRENT
0.00	19.07	2.43	4.24	12.39	5.06	2.49	4.84
5.00	18.50	3.11	3.94	11.44	4.94	2.31	4.19
10.00	18.04	3.84	3.71	10.49	4.84	2.13	3.52
15.00	17.68	4.59	3.54	9.55	4.76	1.97	2.82
20.00	17.39	5.36	3.40	8.63	4.70	1.82	2.10
25.00	17.16	6.16	3.29	7.71	4.66	1.68	1.38

PERCENTAGE DIVISION OF PV ECON RENT --------

@ PCT	ECONOMIC RENT	STATE	FED	CO
0.00	100.00	40.84	20.12	39.05
5.00	100.00	43.17	20.16	36.66
10.00	100.00	46.14	20.33	33.52
15.00	100.00	49.87	20.64	29.50
20.00	100.00	54.53	21.10	24.38
25.00	100.00	60.41	21.75	17.84

PAY OUT TIME IN YEARS ------------- 3.86

ROR % W/O FIN ------------------- 34.28

PROFITABILITY RATIOS W/O FIN ------

	@ PCT	
(PVNCI +PVCAPC)	0.00	2.99
------	5.00	2.35
PVCAPC	10.00	1.92
	15.00	1.61
	20.00	1.39
	25.00	1.22

MAX CASH EXPOSURE MM$'S CURRENT --- -57.79
W/O FIN

PRODUCING CO CASHFLOW CALCULATION TABLE BY YEAR INCREMENTAL ANALYSIS

HURL STATE ANALOG

RELATIVE YEAR	PRODN VOLUME MMB/Y	FIELD PS #1 GROSS WELLHEAD PRICE (PIPE PR $'S/BBL CONSTANT	GROSS INCOME MM$'S CONSTANT	CAPITAL COSTS MM$'S CONSTANT	OPER COSTS MM$'S CONSTANT	NET PMTS TO AK STATE GOVT W/ FIN MM$'S CONSTANT	NET PMTS TO US FED GOVT W/ FIN MM$'S CONSTANT	NET PMTS TO FINAN COMMUN MM$'S CONSTANT	CO NET CASHFLOW W/ FIN MM$'S CONSTANT	NET PMTS TO AK STATE GOVT W/O FIN MM$'S CONSTANT	NET PMTS TO US FED GOVT W/O FIN MM$'S CONSTANT	CO NET CASHFLOW W/O FIN MM$'S CONSTANT
1990	0.00	14.50	0.00	50.00	0.00	0.69	-5.33	0.00	-45.36	0.69	-5.33	-45.36
1991	2.50	14.50	36.25	32.00	6.25	10.19	0.29	0.00	1.90	10.19	-0.29	-11.90
1992	5.00	14.50	72.50	6.00	12.50	19.37	8.59	0.00	26.03	19.37	8.59	26.03
1993	5.00	14.50	72.50	0.00	12.50	19.28	10.75	0.00	29.97	19.28	10.75	29.97
1994	4.25	14.50	61.63	0.00	11.78	16.42	9.15	0.00	24.27	16.42	9.15	24.27
1995	3.61	14.50	52.35	0.00	10.48	13.98	7.88	0.00	20.01	13.98	7.88	20.01
1996	3.07	14.50	44.52	0.00	9.34	11.90	6.51	0.00	16.76	11.90	6.51	16.76
1997	2.61	14.50	37.85	0.00	8.33	10.13	5.39	0.00	13.99	10.13	5.39	13.99
1998	2.22	14.50	32.19	0.00	7.45	8.61	4.91	0.00	11.22	8.61	4.91	11.22
1999	1.89	14.50	27.40	0.00	6.67	7.32	4.54	0.00	8.87	7.32	4.54	8.87
2000	1.60	14.50	23.20	0.00	5.95	6.16	3.77	0.00	7.31	6.16	3.77	7.31
2001	1.30	14.50	18.85	0.00	5.14	4.99	2.96	0.00	5.75	4.99	2.96	5.75
2002	1.10	14.50	15.95	0.00	4.61	4.15	2.45	0.00	4.75	4.15	2.45	4.75
2003	0.95	14.50	13.78	0.00	4.21	3.50	2.06	0.00	4.01	3.50	2.06	4.01
2004	0.80	14.50	11.60	0.00	3.77	2.85	1.69	0.00	3.29	2.85	1.69	3.29
2005	0.60	14.50	8.70	0.00	3.11	2.05	1.21	0.00	2.34	2.05	1.21	2.34
2006	0.50	14.50	7.25	0.00	2.79	1.57	0.98	0.00	1.91	1.57	0.98	1.91
2007	0.00	14.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2008	0.00	14.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2009	0.00	14.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2010	0.00	14.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2011	0.00	14.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2012	0.00	14.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2013	0.00	14.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2014	0.00	14.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2015	0.00	14.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2016	0.00	14.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2017	0.00	14.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2018	0.00	14.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2019	0.00	14.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL	37.00	PV AMORT PRICE $'S/BBL	536.50	88.00	114.88	143.17	67.23	0.00	123.21	143.17	67.23	123.21
NPV'S BEG YR 1 @ PCT												
0.00	37.00	14.50	536.50	88.00	114.88	143.17	67.23	0.00	123.21	143.17	67.23	123.21
5.00	26.86	14.50	389.53	81.83	80.34	104.50	46.20	0.00	76.66	104.50	46.20	76.66
10.00	20.34	14.50	294.96	76.41	59.04	79.48	32.91	0.00	47.13	79.48	32.91	47.13
15.00	15.92	14.50	230.91	71.62	45.12	62.46	24.11	0.00	27.60	62.46	24.11	27.60
20.00	12.80	14.50	185.63	67.36	35.59	50.39	18.03	0.00	14.26	50.39	18.03	14.26
25.00	10.51	14.50	152.47	63.55	28.79	41.52	13.70	0.00	4.90	41.52	13.70	4.90

ROR % W/ FIN ---- 28.50

ROR % W/O FIN - 28.50

PROFITABILITY RATIOS

@ PCT	(NCF+CAPC) / CAPC W/ FIN	(NCF+CAPC) / CAPC W/O FIN
0.00	2.40	2.40
5.00	1.94	1.94
10.00	1.62	1.62
15.00	1.39	1.39
20.00	1.21	1.21
25.00	1.08	1.08

EQUIVALENT AMORTIZED ECONOMIC RENT CALCULATION TABLE BY YEAR INCREMENTAL ANALYSIS

NURL STATE ANALOG

RELATIVE YEAR	PRODN VOLUME MMB/Y	FIELD PS #1 GROSS WELLHEAD PRICE +PIPE PR $'S/BBL CONSTANT	GROSS INCOME MM$'S CONSTANT	CAPITAL COSTS MM$'S CONSTANT	OPER COSTS MM$'S CONSTANT	ECONOMIC RENT MM$'S CONSTANT	AK STATE GOVT REVS W/O FIN MM$'S CONSTANT	US FED GOVT REVS W/O FIN MM$'S CONSTANT	CO NET CASHFLOW W/O FIN MM$'S CONSTANT
1990	0.00	14.50	0.00	50.00	0.00	-50.00	0.69	-5.33	-45.36
1991	2.50	14.50	36.25	32.00	6.25	-2.00	10.19	0.29	-11.90
1992	5.00	14.50	72.50	6.00	12.50	54.00	19.37	8.59	26.03
1993	5.00	14.50	72.50	0.00	12.50	60.00	19.28	10.75	29.97
1994	4.25	14.50	61.63	0.00	11.78	49.84	16.42	9.15	24.27
1995	3.61	14.50	52.35	0.00	10.48	41.87	13.98	7.88	20.01
1996	3.07	14.50	44.52	0.00	9.34	35.17	11.90	6.51	16.76
1997	2.61	14.50	37.85	0.00	8.33	29.51	10.13	5.39	13.99
1998	2.22	14.50	32.19	0.00	7.45	24.74	8.61	4.91	11.22
1999	1.89	14.50	27.40	0.00	6.67	20.73	7.32	4.54	8.87
2000	1.60	14.50	23.20	0.00	5.95	17.25	6.16	3.77	7.31
2001	1.30	14.50	18.85	0.00	5.14	13.71	4.99	2.96	5.75
2002	1.10	14.50	15.95	0.00	4.61	11.34	4.15	2.45	4.75
2003	0.95	14.50	13.78	0.00	4.21	9.57	3.50	2.06	4.01
2004	0.80	14.50	11.60	0.00	3.77	7.83	2.85	1.69	3.29
2005	0.60	14.50	8.70	0.00	3.11	5.59	2.05	1.21	2.34
2006	0.50	14.50	7.25	0.00	2.79	4.46	1.57	0.98	1.91
2007	0.00	14.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2008	0.00	14.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2009	0.00	14.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2010	0.00	14.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2011	0.00	14.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2012	0.00	14.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2013	0.00	14.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2014	0.00	14.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2015	0.00	14.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2016	0.00	14.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2017	0.00	14.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2018	0.00	14.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2019	0.00	14.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL	37.00	PV AMORT PRICE $'S/BBL	536.50	88.00	114.88	333.62	143.17	67.23	123.21
NPV'S BEG YR 1 @ PCT									
0.00	37.00	14.50	536.50	88.00	114.88	333.62	143.17	67.23	123.21
5.00	26.86	14.50	389.53	81.83	80.34	227.36	104.50	46.20	76.66
10.00	20.34	14.50	294.96	76.41	59.04	159.52	79.48	32.91	47.13
15.00	15.92	14.50	230.91	71.62	45.12	114.17	62.46	24.11	27.60
20.00	12.80	14.50	185.63	67.36	35.59	82.68	50.39	18.03	14.26
25.00	10.51	14.50	152.47	63.55	28.79	60.13	41.52	13.70	4.90

PER BBL PV'S @ PCT	FIELD PS #1 GROSS WELLHEAD PRICE +PIPE PR $'S/BBL CONSTANT	CAPITAL COSTS MM$'S CONSTANT	OPER COSTS MM$'S CONSTANT	ECONOMIC RENT MM$'S CONSTANT	STATE GOVT REVS W/O FIN MM$'S CONSTANT	FED GOVT REVS W/O FIN MM$'S CONSTANT	CO NET CASHFLOW W/O FIN MM$'S CONSTANT
0.00	14.50	2.38	3.10	9.02	3.87	1.82	3.33
5.00	14.50	3.05	2.99	8.46	3.89	1.72	2.85
10.00	14.50	3.76	2.90	7.84	3.91	1.62	2.32
15.00	14.50	4.50	2.83	7.17	3.92	1.51	1.73
20.00	14.50	5.26	2.78	6.46	3.94	1.41	1.11
25.00	14.50	6.04	2.74	5.72	3.95	1.30	0.47

PERCENTAGE DIVISION OF PV ECON RENT ---------

@ PCT	ECONOMIC RENT	STATE GOVT REVS	FED GOVT REVS	CO NET CASHFLOW
0.00	100.00	42.91	20.15	36.93
5.00	100.00	45.96	20.32	33.72
10.00	100.00	49.83	20.63	29.54
15.00	100.00	54.71	21.12	24.17
20.00	100.00	60.94	21.81	17.25
25.00	100.00	69.06	22.79	8.16

PAY OUT TIME IN YEARS ------------- 4.05

ROR % W/O FIN --------------------- 28.50

PROFITABILITY RATIOS W/O FIN ------

	@ PCT	
(PVNCF+PVCAPC)	0.00	2.40
---------------	5.00	1.94
PVCAPC	10.00	1.62
	15.00	1.39
	20.00	1.21
	25.00	1.08

MAX CASH EXPOSURE MM$'S CONSTANT -- -57.26
W/O FIN

STATE OF ALASKA DEPT. OF REVENUE
PETROLEUM RESEARCH SECTION
ECONOMIC FEASIBILITY MODEL: ALASKA NORTH SLOPE OIL FIELD DEVELOPMENT DECISION
NOTE: ANALYSIS OF DEVELOPMENT FEASIBILITY ONLY, IGNORES SUNK COSTS OF G&G AND EXPLORATION IN CAPITAL COSTS
PUBLIC VERSION: EQUIVALENT AMORTIZED ECONOMIC RENT FOR HYPOTHETICAL FIELD
FOR MORE INFORMATION CONTACT CHUCK LOGSDON AT (907) 277-5627
MAINFRAME MODEL REQUIRED FOR ENHANCED RECOVERY ANALYSIS, SIMULTAINOUS MULTI-FIELD SUPPLY ANALYSIS AND SHUTDOWN ANALYSIS

FIELD INPUT ASSUMPTIONS		ANALYSIS OPTIONS	1
FIELD NAME:	NIAKUK	INCREMENTAL - ONGOING OPERATOR : 0	
FIELD ASSUMPTIONS:		STAND ALONE - NEW INVESTOR : 1	
FISCAL: AK/US			
PROPORTION PRODN AK LEASES	1.0000		
AK ROYALTY RATE	0.1250	COMMENTS:	
AK NET PROFIT BONUS ROY RATE	0.0000		
AK SEV TAX NOM RATE 1ST 5 YRS	0.1225	NIAKUK BASE CASE / BASE YEAR 1992	
AK SEV TAX NOM RATE YR 6 ON	0.1500	CONSTANT $'S : 1992 $'S	
AK PROPERTY TAX RATE	0.0200	CURRENT $'S : $'S OF THE DAY	
AK ST CORP TAX EFF RATE	0.0140	INFLATION RATE ASSUMED 4.5% PER YEAR FROM 1990	
PROPORTION PRODN US FED LEASES	0.0000		
US FED ROYALTY RATE	0.0000		
US FED CORP TAX EFF RATE	0.3400		
COST:			
TOTAL LEASE AQUIS COST MM$'S HISTOR	27.0000	FOR CALC OF LEASE AMORT / DEPLETION	
FIXED OPER COST MM$'S CONSTANT	10.92		
VARIABLE OPER COST $'S/BBL CONSTANT	0.30		
PRODN YEAR TO START WORKOVERS	5		
WORKOVER COST MM$'S/WELL CONSTANT	0.85		
WORKOVER ROTATION FACTOR	N/A		
PROPORTION WELL CAPITAL COST INTANG	0.7000		
PROPORTION FACIL CAPITAL COST INTANG	0.3000		
AK PTY TAX TR ORIG CO ANN ESCAL RATE	0.0500		
FINANCING: ASSUMED PROPORTION OF CAPITAL COST OBTAINED AT BEG OF EACH YEAR			
PROPORTION OF CAPITAL COST DEBT	0.0000		
CURRENT $ INTEREST RATE ON DEBT	0.1000		
TERM OF DEBT IN YEARS	10		

FIELD INPUT ASSUMPTIONS TABLE BY YEAR

NIAKUK

RELATIVE YEAR	INFLATION RATE PCT/Y	INFLATION FACTOR	FACILITY CAPITAL COST MM$'S CONSTANT	FACILITY CAPITAL COST CONS $ ESCAL RATE PCT/Y	FACILITY CAPITAL COST CURR $ ESCAL FACTOR	FACILLITY CAPITAL COST MM$'S CURRENT	WELL CAPITAL COST MM$'S CONSTANT	WELL CAPITAL COST CONS $ FSCAL RATE PCT/Y	WELL CAPITAL COST CURR $ ESCAL FACTOR	WELL CAPITAL COST MM$'S CURRENT	PRODN VOLUME MMBBL/Y	RELATIVE PRODN YEAR	PRUDHOE BAY OIL GROSS WELLHEAD PRICE $'S/BBL CURRENT	FIELD TARIFF COST $'S/BBL CURRENT	FIELD QUALITY DIFFER $'S/BBL CURRENT	FIELD GROSS WELLHEAD PRICE $'S/BBL CURRENT	FIELD COSTS 4/ ROY CALC $'S/BBL CURRENT	FIELD ROY WELLHEAD PRICE $'S/BBL CURRENT	FIXED OPER COST CONS $ ESCAL RATE PCT/Y	FIXED OPER COST CURR $ ESCAL FACTOR	FIXED OPER COST MM$'S CURRENT
1992		1.0000	27.43		1.0000	27.43	4.41		1.0000	4.41	0.00	0	15.83	1.25	0.00	14.58	0.80	13.79		1.0000	0.00
1993	4.50	1.0450	59.62	0.00	1.0450	62.31	35.29	0.00	1.0450	36.88	0.00	0	16.55	1.25	0.00	15.30	0.83	14.46	0.00	1.0450	0.00
1994	4.50	1.0920	0.00	0.00	1.0920	0.00	4.41	0.00	1.0920	4.82	6.94	1	17.29	1.25	0.00	16.04	0.87	15.17	0.00	1.0920	11.92
1995	4.50	1.1412	0.00	0.00	1.1412	0.00	0.00	0.00	1.1412	0.00	6.94	2	18.07	1.25	0.00	16.82	0.91	15.91	0.00	1.1412	12.46
1996	4.50	1.1925	0.00	0.00	1.1925	0.00	0.00	0.00	1.1925	0.00	6.94	3	18.88	1.25	0.00	17.63	0.95	16.68	0.00	1.1925	13.02
1997	4.50	1.2462	0.00	0.00	1.2462	0.00	0.00	0.00	1.2462	0.00	6.94	4	19.73	1.25	0.00	18.48	0.99	17.49	0.00	1.2462	13.61
1998	4.50	1.3023	0.00	0.00	1.3023	0.00	0.00	0.00	1.3023	0.00	5.46	5	20.62	1.25	0.00	19.37	1.04	18.33	0.00	1.3023	14.22
1999	4.50	1.3609	0.00	0.00	1.3609	0.00	0.00	0.00	1.3609	0.00	4.47	6	21.55	1.25	0.00	20.30	1.08	19.21	0.00	1.3609	14.86
2000	4.50	1.4221	0.00	0.00	1.4221	0.00	0.00	0.00	1.4221	0.00	3.83	7	22.52	1.25	0.00	21.27	1.13	20.13	0.00	1.4221	15.53
2001	4.50	1.4861	0.00	0.00	1.4861	0.00	0.00	0.00	1.4861	0.00	3.24	8	23.53	1.25	0.00	22.28	1.18	21.10	0.00	1.4861	16.23
2002	4.50	1.5530	0.00	0.00	1.5530	0.00	0.00	0.00	1.5530	0.00	2.77	9	24.59	1.25	0.00	23.34	1.24	22.10	0.00	1.5530	16.96
2003	4.50	1.6229	0.00	0.00	1.6229	0.00	0.00	0.00	1.6229	0.00	2.38	10	25.70	1.25	0.00	24.45	1.29	23.15	0.00	1.6229	17.72
2004	4.50	1.6959	0.00	0.00	1.6959	0.00	0.00	0.00	1.6959	0.00	2.06	11	26.85	1.25	0.00	25.60	1.35	24.25	0.00	1.6959	18.52
2005	4.50	1.7722	0.00	0.00	1.7722	0.00	0.00	0.00	1.7722	0.00	1.80	12	28.06	1.25	0.00	26.81	1.41	25.40	0.00	1.7722	19.35
2006	4.50	1.8519	0.00	0.00	1.8519	0.00	0.00	0.00	1.8519	0.00	1.57	13	29.32	1.25	0.00	28.07	1.48	26.60	-25.00	1.4089	15.39
2007	4.50	1.9353	0.00	0.00	1.9353	0.00	0.00	0.00	1.9353	0.00	1.39	14	30.64	1.25	0.00	29.39	1.54	27.85	-25.00	1.1201	12.23
2008	4.50	2.0224	0.00	0.00	2.0224	0.00	0.00	0.00	2.0224	0.06	0.69	15	32.02	1.25	0.00	30.77	1.61	29.16	-30.00	0.8345	9.11
2009	4.50	2.1134	0.00	0.00	2.1134	0.00	0.00	0.00	2.1134	0.00	0.58	16	33.46	1.25	0.00	32.21	1.68	30.53	-30.00	0.6217	6.79
2010	4.50	2.2085	0.00	0.00	2.2085	0.00	0.00	0.00	2.2085	0.00	0.00	16	34.97	1.25	0.00	33.72	1.76	31.96	-30.00	0.4631	0.00
2011	4.50	2.3079	0.00	0.00	2.3079	0.00	0.00	0.00	2.3079	0.00	0.00	16	36.54	1.25	0.00	35.29	1.84	33.45	-30.00	0.3450	0.00
2012	4.50	2.4117	0.00	0.00	2.4117	0.00	0.00	0.00	2.4117	0.00	0.00	16	38.19	1.25	0.00	36.94	1.92	35.01	-30.00	0.2571	0.00
2013	4.50	2.5202	0.00	0.00	2.5202	0.00	0.00	0.00	2.5202	0.00	0.00	16	39.91	1.25	0.00	38.66	2.01	36.65	-30.00	0.1915	0.00
2014	4.50	2.6337	0.00	0.00	2.6337	0.00	0.00	0.00	2.6337	0.00	0.00	16	41.70	1.25	0.00	40.45	2.10	38.35	-30.00	0.1427	0.00
2015	4.50	2.7522	0.00	0.00	2.7522	0.00	0.00	0.00	2.7522	0.00	0.00	16	43.58	1.25	0.00	42.33	2.19	40.13	-30.00	0.1063	0.00
2016	4.50	2.8760	0.00	0.00	2.8760	0.00	0.00	0.00	2.8760	0.00	0.00	16	45.54	1.25	0.00	44.29	2.29	42.00	-30.00	0.0792	0.00
2017	4.50	3.0054	0.00	0.00	3.0054	0.00	0.00	0.00	3.0054	0.00	0.00	16	47.59	1.25	0.00	46.34	2.40	43.94	-30.00	0.0590	0.00
2018	4.50	3.1407	0.00	0.00	3.1407	0.00	0.00	0.00	3.1407	0.00	0.00	16	49.73	1.25	0.00	48.48	2.50	45.98	-30.00	0.0440	0.00
2019	4.50	3.2820	0.00	0.00	3.2820	0.00	0.00	0.00	3.2820	0.00	0.00	16	51.97	1.25	0.00	50.72	2.62	48.10	-30.00	0.0327	0.00
2020	4.50	3.4297	0.00	0.00	3.4297	0.00	0.00	0.00	3.4297	0.00	0.00	16	54.31	1.25	0.00	53.06	2.73	50.32	-30.00	0.0244	0.00
2021	4.50	3.5840	0.00	0.00	3.5840	0.00	0.00	0.00	3.5840	0.00	0.00	16	56.75	1.25	0.00	55.50	2.86	52.64	-30.00	0.0182	0.00
						89.74				46.11	58.00										

NIAKUK

	VAR OPER COST CONS $ ESCAL RATE PCT/Y	VAR OPER COST CURR $ ESCAL FACTOR	VAR OPER COST MM$'S CURRENT	WORK OVER COST CONS $ ESCAL RATE PCT/Y	WORK OVER COST CURR $ ESCAL FACTOR	PRODN WELLS FOR ELF CALCS	TOT WELLS FOR WORK OVER CALCS	WORK OVER ROTATION FACTOR	WORK OVER COST MM$'S CURRENT	FIELD PIPE PROFIT $'S/BBL CURRENT	TAPS PROFIT $'S/BBL CURRENT
1992		1.0000	0.00		1.0000	0	0	0.1000	0.00	0.00	0.00
	0.00	1.0450	0.00	0.00	1.0450	0	0	0.1000	0.00	0.00	0.00
	0.00	1.0920	2.27	0.00	1.0920	8	14	0.1000	0.00	0.00	0.00
	0.00	1.1412	2.38	0.00	1.1412	8	14	0.1000	0.00	0.00	0.00
	0.00	1.1925	2.48	0.00	1.1925	8	14	0.1000	0.00	0.00	0.00
	0.00	1.2462	2.59	0.00	1.2462	8	14	0.1000	0.00	0.00	0.00
	0.00	1.3023	2.13	0.00	1.3023	8	14	0.1000	1.55	0.00	0.00
	0.00	1.3609	1.82	0.00	1.3609	8	14	0.1000	1.62	0.00	0.00
	0.00	1.4221	1.63	0.00	1.4221	8	14	0.1000	1.69	0.00	0.00
	0.00	1.4861	1.44	0.00	1.4861	8	14	0.1000	1.77	0.00	0.00
	0.00	1.5530	1.29	0.00	1.5530	7	14	0.1000	1.85	0.00	0.00
	0.00	1.6229	1.16	0.00	1.6229	7	14	0.1000	1.93	0.00	0.00
	0.00	1.6959	1.05	0.00	1.6959	7	14	0.1000	2.02	0.00	0.00
	0.00	1.7722	0.96	0.00	1.7722	7	14	0.1000	2.11	0.00	0.00
	0.00	1.8519	0.87	0.00	1.8519	6	14	0.1000	2.20	0.00	0.00
	0.00	1.9353	0.81	0.00	1.9353	6	14	0.1000	2.30	0.00	0.00
	0.00	2.0224	0.42	0.00	2.0224	6	14	0.1000	2.41	0.00	0.00
	0.00	2.1134	0.37	0.00	2.1134	6	14	0.1000	2.51	0.00	0.00
	0.00	2.2085	0.00	0.00	2.2085	0	0	0.1000	0.00	0.00	0.00
	0.00	2.3079	0.00	0.00	2.3079	0	0	0.1000	0.00	0.00	0.00
	0.00	2.4117	0.00	0.00	2.4117	0	0	0.1000	0.00	0.00	0.00
	0.00	2.5202	0.00	0.00	2.5202	0	0	0.1000	0.00	0.00	0.00
	0.00	2.6337	0.00	0.00	2.6337	0	0	0.1000	0.00	0.00	0.00
	0.00	2.7522	0.00	0.00	2.7522	0	0	0.1000	0.00	0.00	0.00
	0.00	2.8760	0.00	0.00	2.8760	0	0	0.1000	0.00	0.00	0.00
	0.00	3.0054	0.00	0.00	3.0054	0	0	0.1000	0.00	0.00	0.00
	0.00	3.1407	0.00	0.00	3.1407	0	0	0.1000	0.00	0.00	0.00
	0.00	3.2820	0.00	0.00	3.2820	0	0	0.1000	0.00	0.00	0.00
	0.00	3.4297	0.00	0.00	3.4297	0	0	0.1000	0.00	0.00	0.00
2021	0.00	3.5840	0.00	0.00	3.5840	0	0	0.1000	0.00	0.00	0.00

PRODUCING CO CASHFLOW CALCULATION TABLE BY YEAR   STAND ALONE ANALYSIS

NIAKUK

RELATIVE YEAR	PRODN VOLUME MMB/Y	FIELD PS #1 GROSS WELLHEAD PRICE +PIPE PR $'S/BBL CURRENT	GROSS INCOME MM$'S CURRENT	CAPITAL COSTS MM$'S CURRENT	OPER COSTS MM$'S CURRENT	NET PMTS TO AK STATE GOVT W/ FIN MM$'S CURRENT	NET PMTS TO US FED GOVT W/ FIN MM$'S CURRENT	NET PMTS TO FINAN COMMUN MM$'S CURRENT	CO NET CASHFLOW W/ FIN MM$'S CURRENT	NET PMTS TO AK STATE GOVT W/O FIN MM$'S CURRENT	NET PMTS TO US FED GOVT W/O FIN MM$'S CURRENT	CO NET CASHFLOW W/O FIN MM$'S CURRENT
1992	0.00	14.58	0.00	31.84	0.00	0.41	0.00	0.00	-32.25	0.41	0.00	-32.25
1993	0.00	15.30	0.00	99.19	0.00	1.50	0.00	0.00	-100.69	1.50	0.00	-100.69
1994	6.94	16.04	111.33	4.82	14.20	16.01	4.95	0.00	71.35	16.01	4.95	71.35
1995	6.94	16.82	116.73	0.00	14.84	16.73	20.81	0.00	64.34	16.73	20.81	64.34
1996	6.94	17.63	122.37	0.00	15.51	17.46	24.08	0.00	65.32	17.46	24.08	65.32
1997	6.94	18.48	128.27	0.00	16.20	18.21	26.90	0.00	66.96	18.21	26.90	66.96
1998	5.46	19.37	105.76	0.00	17.90	14.74	21.01	0.00	52.11	14.74	21.01	52.11
1999	4.47	20.30	90.73	0.00	18.30	12.73	16.93	0.00	42.76	12.73	16.93	42.76
2000	3.83	21.27	81.45	0.00	18.86	11.48	14.45	0.00	36.67	11.48	14.45	36.67
2001	3.24	22.28	72.19	0.00	19.44	10.22	12.79	0.00	29.75	10.22	12.79	29.75
2002	2.77	23.34	64.65	0.00	20.10	9.16	11.60	0.00	23.80	9.16	11.60	23.80
2003	2.38	24.45	58.18	0.00	20.81	8.23	9.53	0.00	19.61	8.23	9.53	19.61
2004	2.06	25.60	52.74	0.00	21.59	7.42	7.74	0.00	15.99	7.42	7.74	15.99
2005	1.80	26.81	48.26	0.00	22.42	6.72	6.22	0.00	12.90	6.72	6.22	12.90
2006	1.57	28.07	44.08	0.00	18.46	6.11	6.38	0.00	13.12	6.11	6.38	13.12
2007	1.39	29.39	40.86	0.00	15.34	5.60	6.55	0.00	13.36	5.60	6.55	13.36
2008	0.69	30.77	21.23	0.00	11.94	2.95	2.05	0.00	4.30	2.95	2.05	4.30
2009	0.58	32.21	18.68	0.00	9.67	2.48	2.13	0.00	4.40	2.48	2.13	4.40
2010	0.00	33.72	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2011	0.00	35.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2012	0.00	36.94	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2013	0.00	38.66	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2014	0.00	40.45	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2015	0.00	42.33	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2016	0.00	44.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2017	0.00	46.34	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2018	0.00	48.48	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2019	0.00	50.72	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2020	0.00	53.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2021	0.00	55.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL	58.00	PV AMORT PRICE $'S/BBL	1177.50	135.85	275.57	168.16	194.11	0.00	403.81	168.16	194.11	403.81
NPV'S BEG YR 1 @ PCT												
0.00	58.00	20.30	1177.50	135.85	275.57	168.16	194.11	0.00	403.81	168.16	194.11	403.81
5.00	40.57	19.64	796.67	124.45	169.16	114.47	131.08	0.00	257.52	114.47	131.08	257.52
10.00	29.66	19.11	566.91	114.54	110.48	81.96	92.53	0.00	167.40	81.96	92.53	167.40
15.00	22.47	18.70	420.07	105.86	76.10	61.11	67.71	0.00	109.29	61.11	67.71	109.29
20.00	17.51	18.37	321.56	98.20	54.81	47.08	51.03	0.00	70.43	47.08	51.03	70.43
25.00	13.96	18.10	252.71	91.42	40.97	37.24	39.40	0.00	43.67	37.24	39.40	43.67

ROR % W/ FIN --- 40.89

ROR % W/O FIN - 40.89

PROFITABILITY RATIOS

@ PCT	(NCF+CAPC) / CAPC W/ FIN	(NCF+CAPC) / CAPC W/O FIN
0.00	3.97	3.97
5.00	3.07	3.07
10.00	2.46	2.46
15.00	2.03	2.03
20.00	1.72	1.72
25.00	1.48	1.48

EQUIVALENT AMORTIZED ECONOMIC RENT CALCULATION TABLE BY YEAR STAND ALONE ANALYSIS

NIAKUK

RELATIVE YEAR	PRODN VOLUME MMB/Y	FIELD PS #1 GROSS WELLHEAD PRICE +PIPE PR $'S/BBL CURRENT	GROSS INCOME MM$'S CURRENT	CAPITAL COSTS MM$'S CURRENT	OPER COSTS MM$'S CURRENT	ECONOMIC RENT MM$'S CURRENT	AK STATE GOVT REVS W/O FIN MM$'S CURRENT	US FED GOVT REVS W/O FIN MM$'S CURRENT	CO NET CASHFLOW W/O FIN MM$'S CURRENT
1992	0.00	14.58	0.00	31.84	0.00	-31.84	0.41	0.00	-32.25
1993	0.00	15.30	0.00	99.19	0.00	-99.19	1.50	0.00	-100.69
1994	6.94	16.04	111.33	4.82	14.20	92.31	16.01	4.95	71.35
1995	6.94	16.82	116.73	0.00	14.84	101.89	16.73	20.81	64.34
1996	6.94	17.63	122.37	0.00	15.51	106.86	17.46	24.08	65.32
1997	6.94	18.48	128.27	0.00	16.20	112.06	18.21	26.90	66.96
1998	5.46	19.37	105.76	0.00	17.90	87.86	14.74	21.01	52.11
1999	4.47	20.30	90.73	0.00	18.30	72.43	12.73	16.93	42.76
2000	3.83	21.27	81.45	0.00	18.86	62.60	11.48	14.45	36.67
2001	3.24	22.28	72.19	0.00	19.44	52.75	10.22	12.79	29.75
2002	2.77	23.34	64.65	0.00	20.10	44.55	9.16	11.60	23.80
2003	2.38	24.45	58.18	0.00	20.81	37.37	8.23	9.53	19.61
2004	2.06	25.60	52.74	0.00	21.59	31.16	7.42	7.74	15.99
2005	1.80	26.81	48.26	0.00	22.42	25.84	6.72	6.22	12.90
2006	1.57	28.07	44.08	0.00	18.46	25.61	6.11	6.38	13.12
2007	1.39	29.39	40.86	0.00	15.34	25.52	5.60	6.55	13.36
2008	0.69	30.77	21.23	0.00	11.94	9.30	2.95	2.05	4.30
2009	0.58	32.21	18.68	0.00	9.67	9.01	2.48	2.13	4.40
2010	0.00	33.72	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2011	0.00	35.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2012	0.00	36.94	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2013	0.00	38.66	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2014	0.00	40.45	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2015	0.00	42.33	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2016	0.00	44.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2017	0.00	46.34	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2018	0.00	48.48	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2019	0.00	50.72	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2020	0.00	53.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2021	0.00	55.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL	58.00	PV AMORT PRICE $'S/BBL	1177.50	135.85	275.57	766.08	168.16	194.11	403.81
NPV'S BEG YR 1 @ PCT									
0.00	58.00	20.30	1177.50	135.85	275.57	766.08	168.16	194.11	403.81
5.00	40.57	19.64	796.67	124.45	169.16	503.06	114.47	131.08	257.52
10.00	29.66	19.11	566.91	114.54	110.48	341.89	81.96	92.53	167.40
15.00	22.47	18.70	420.07	105.86	76.10	238.12	61.11	67.71	109.29
20.00	17.51	18.37	321.56	98.20	54.81	168.54	47.08	51.03	70.43
25.00	13.96	18.10	252.71	91.42	40.97	120.31	37.24	39.40	43.67

PER BBL PV'S @ PCT	FIELD PS #1 GROSS WELLHEAD PRICE +PIPE PR $'S/BBL CURRENT	CAPITAL COSTS MM$'S CURRENT	OPER COSTS MM$'S CURRENT	ECONOMIC RENT MM$'S CURRENT	STATE GOVT REVS W/O FIN MM$'S CURRENT	FED GOVT REVS W/O FIN MM$'S CURRENT	CO NET CASHFLOW W/O FIN MM$'S CURRENT
0.00	20.30	2.34	4.75	13.21	2.90	3.35	6.96
5.00	19.64	3.07	4.17	12.40	2.82	3.23	6.35
10.00	19.11	3.86	3.72	11.53	2.76	3.12	5.64
15.00	18.70	4.71	3.39	10.60	2.72	3.01	4.86
20.00	18.37	5.61	3.13	9.63	2.69	2.91	4.02
25.00	18.10	6.55	2.93	8.62	2.67	2.82	3.13

PERCENTAGE DIVISION OF PV ECON RENT ---------

@ PCT	ECONOMIC RENT	STATE	FED	CO
0.00	100.00	21.95	25.34	52.71
5.00	100.00	22.75	26.06	51.19
10.00	100.00	23.97	27.06	48.96
15.00	100.00	25.66	28.44	45.90
20.00	100.00	27.93	30.28	41.79
25.00	100.00	30.95	32.75	36.30

PAY OUT TIME IN YEARS ------------ 3.96

ROR % W/O FIN -------------------- 40.89

PROFITABILITY RATIOS W/O FIN ------

(PVNCF+PVCAPC) / PVCAPC

@ PCT	
0.00	3.97
5.00	3.07
10.00	2.46
15.00	2.03
20.00	1.72
25.00	1.48

MAX CASH EXPOSURE MM$'S CURRENT --- -132.94
W/O FIN

PRODUCING CO CASHFLOW CALCULATION TABLE BY YEAR   STAND ALONE ANALYSIS

NIAKUK

RELATIVE YEAR	PRODN VOLUME MMB/Y	FIELD PS #1 GROSS WELLHEAD PRICE +PIPE PR $'S/BBL CONSTANT	GROSS INCOME MM$'S CONSTANT	CAPITAL COSTS MM$'S CONSTANT	OPER COSTS MM$'S CONSTANT	NET PMTS TO AK STATE GOVT W/ FIN MM$'S CONSTANT	NET PMTS TO US FED GOVT W/ FIN MM$'S CONSTANT	NET PMTS TO FINAN COMMUN MM$'S CONSTANT	CO NET CASHFLOW W/ FIN MM$'S CONSTANT	NET PMTS TO AK STATE GOVT W/O FIN MM$'S CONSTANT	NET PMTS TO US FED GOVT W/O FIN MM$'S CONSTANT	CO NET CASHFLOW W/O FIN MM$'S CONSTANT
1992	0.00	14.58	0.00	31.84	0.00	0.41	0.00	0.00	-32.25	0.41	0.00	-32.25
1993	0.00	14.64	0.00	94.92	0.00	1.44	0.00	0.00	-96.35	1.44	0.00	-96.35
1994	6.94	14.69	101.94	4.41	13.00	14.66	4.53	0.00	65.34	14.66	4.53	65.34
1995	6.94	14.74	102.29	0.00	13.00	14.66	18.24	0.00	56.38	14.66	18.24	56.38
1996	6.94	14.79	102.61	0.00	13.00	14.64	20.20	0.00	54.78	14.64	20.20	54.78
1997	6.94	14.83	102.93	0.00	13.00	14.61	21.58	0.00	53.73	14.61	21.58	53.73
1998	5.46	14.87	81.21	0.00	13.75	11.32	16.13	0.00	40.01	11.32	16.13	40.01
1999	4.47	14.92	66.67	0.00	13.45	9.36	12.44	0.00	31.42	9.36	12.44	31.42
2000	3.83	14.96	57.28	0.00	13.26	8.07	10.16	0.00	25.79	8.07	10.16	25.79
2001	3.24	14.99	48.58	0.00	13.08	6.87	8.60	0.00	20.02	6.87	8.60	20.02
2002	2.77	15.03	41.63	0.00	12.94	5.90	7.47	0.00	15.32	5.90	7.47	15.32
2003	2.38	15.06	35.85	0.00	12.82	5.07	5.87	0.00	12.08	5.07	5.87	12.08
2004	2.06	15.10	31.10	0.00	12.73	4.38	4.57	0.00	9.43	4.38	4.57	9.43
2005	1.80	15.13	27.23	0.00	12.65	3.79	3.51	0.00	7.28	3.79	3.51	7.28
2006	1.57	15.16	23.80	0.00	9.97	3.30	3.45	0.00	7.08	3.30	3.45	7.08
2007	1.39	15.19	21.11	0.00	7.93	2.89	3.39	0.00	6.91	2.89	3.39	6.91
2008	0.69	15.22	10.50	0.00	5.90	1.46	1.01	0.00	2.12	1.46	1.01	2.12
2009	0.58	15.24	8.84	0.00	4.58	1.17	1.01	0.00	2.08	1.17	1.01	2.08
2010	0.00	15.27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2011	0.00	15.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2012	0.00	15.32	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2013	0.00	15.34	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2014	0.00	15.36	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2015	0.00	15.38	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2016	0.00	15.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2017	0.00	15.42	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2018	0.00	15.44	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2019	0.00	15.45	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2020	0.00	15.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2021	0.00	15.49	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL	58.00		863.57	131.17	185.07	124.00	142.15	0.00	281.18	124.00	142.15	281.18

NPV'S BEG YR 1 @ PCT		PV AMORT PRICE $'S/BBL										
0.00	58.00	14.89	863.57	131.17	185.07	124.00	142.15	0.00	281.18	124.00	142.15	281.18
5.00	40.57	14.86	602.93	120.23	118.02	87.14	98.46	0.00	179.08	87.14	98.46	179.08
10.00	29.66	14.84	440.22	110.71	79.80	64.04	70.97	0.00	114.70	64.04	70.97	114.70
15.00	22.47	14.82	333.07	102.36	56.66	48.77	52.83	0.00	72.44	48.77	52.83	72.44
20.00	17.51	14.81	259.29	95.00	41.89	38.23	40.37	0.00	43.80	38.23	40.37	43.80
25.00	13.96	14.80	206.59	88.40	32.01	30.66	31.53	0.00	23.90	30.66	31.53	23.90

ROR % W/ FIN ---- 34.82

ROR % W/O FIN ---- 34.82

PROFITABILITY RATIOS

@ PCT	(NCF+CAPC) / CAPC W/ FIN	(NCF+CAPC) / CAPC W/O FIN
0.00	3.14	3.14
5.00	2.49	2.49
10.00	2.04	2.04
15.00	1.71	1.71
20.00	1.46	1.46
25.00	1.27	1.27

EQUIVALENT AMORTIZED ECONOMIC RENT CALCULATION TABLE BY YEAR   STAND ALONE ANALYSIS

NIAKUK

RELATIVE YEAR	PRODN VOLUME MMB/Y	FIELD PS #1 GROSS WELLHEAD PRICE @PIPE PR $'S/BBL CONSTANT	GROSS INCOME MM$'S CONSTANT	CAPITAL COSTS MM$'S CONSTANT	OPER COSTS MM$'S CONSTANT	ECONOMIC RENT MM$'S CONSTANT	AK STATE GOVT REVS W/O FIN MM$'S CONSTANT	US FED GOVT REVS W/O FIN MM$'S CONSTANT	CO NET CASHFLOW W/O FIN MM$'S CONSTANT
1992	0.00	14.58	0.00	31.84	0.00	-31.84	0.41	0.00	-32.25
1993	0.00	14.64	0.00	94.92	0.00	-94.92	1.44	0.00	-96.35
1994	6.94	14.69	101.94	4.41	13.00	84.53	14.66	4.53	65.34
1995	6.94	14.74	102.29	0.00	13.00	89.28	14.66	18.24	56.38
1996	6.94	14.79	102.61	0.00	13.00	89.61	14.64	20.20	54.78
1997	6.94	14.83	102.93	0.00	13.00	89.92	14.61	21.58	53.73
1998	5.46	14.87	81.21	0.00	13.75	67.46	11.32	16.13	40.01
1999	4.47	14.92	66.67	0.00	13.45	53.22	9.36	12.44	31.42
2000	3.83	14.96	57.28	0.00	13.26	44.02	8.07	10.16	25.79
2001	3.24	14.99	48.58	0.00	13.08	35.49	6.87	8.60	20.02
2002	2.77	15.03	41.63	0.00	12.94	28.69	5.90	7.47	15.32
2003	2.38	15.06	35.85	0.00	12.82	23.03	5.07	5.87	12.08
2004	2.06	15.10	31.10	0.00	12.73	18.37	4.38	4.57	9.43
2005	1.80	15.13	27.23	0.00	12.65	14.58	3.79	3.51	7.28
2006	1.57	15.16	23.80	0.00	9.97	13.83	3.30	3.45	7.08
2007	1.39	15.19	21.11	0.00	7.93	13.18	2.89	3.39	6.91
2008	0.69	15.22	10.50	0.00	5.90	4.60	1.46	1.01	2.12
2009	0.58	15.24	8.84	0.00	4.58	4.26	1.17	1.01	2.08
2010	0.00	15.27	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2011	0.00	15.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2012	0.00	15.32	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2013	0.00	15.34	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2014	0.00	15.36	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2015	0.00	15.38	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2016	0.00	15.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2017	0.00	15.42	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2018	0.00	15.44	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2019	0.00	15.45	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2020	0.00	15.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2021	0.00	15.49	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL	58.00	PV AMORT PRICE $'S/BBL	863.57	131.17	185.07	547.34	124.00	142.15	281.18
NPV'S BEG YR 1 @ PCT									
0.00	58.00	14.89	863.57	131.17	185.07	547.34	124.00	142.15	281.18
5.00	40.57	14.86	602.93	120.23	118.02	364.68	87.14	98.46	179.08
10.00	29.66	14.84	440.22	110.71	79.80	249.71	64.04	70.97	114.70
15.00	22.47	14.82	333.07	102.36	56.66	174.04	48.77	52.83	72.44
20.00	17.51	14.81	259.29	95.00	41.89	122.40	38.23	40.37	43.80
25.00	13.96	14.80	206.59	88.48	32.01	86.10	30.66	31.53	23.90

PER BBL PV'S @ PCT	FIELD PS #1 GROSS WELLHEAD PRICE @PIPE PR $'S/BBL CONSTANT	CAPITAL COSTS MM$'S CONSTANT	OPER COSTS MM$'S CONSTANT	ECONOMIC RENT MM$'S CONSTANT	STATE GOVT REVS W/O FIN MM$'S CONSTANT	FED GOVT REVS W/O FIN MM$'S CONSTANT	CO NET CASHFLOW W/O FIN MM$'S CONSTANT
0.00	14.89	2.26	3.19	9.44	2.14	2.45	4.85
5.00	14.86	2.96	2.91	8.99	2.15	2.43	4.41
10.00	14.84	3.73	2.69	8.42	2.16	2.39	3.87
15.00	14.82	4.56	2.52	7.75	2.17	2.35	3.22
20.00	14.81	5.43	2.39	6.99	2.18	2.31	2.50
25.00	14.80	6.34	2.29	6.17	2.20	2.26	1.71

PERCENTAGE DIVISION OF PV ECON RENT ---------

@ PCT	ECONOMIC RENT	STATE GOVT REVS	FED GOVT REVS	CO NET CASHFLOW
0.00	100.00	22.66	25.97	51.37
5.00	100.00	23.89	27.00	49.11
10.00	100.00	25.65	28.42	45.93
15.00	100.00	28.02	30.35	41.62
20.00	100.00	31.23	32.98	35.79
25.00	100.00	35.61	36.62	27.76

PAY OUT TIME IN YEARS ------------- 4.13

ROR % W/O FIN -------------------- 34.82

PROFITABILITY RATIOS W/O FIN ------

	@ PCT	
(PVNCF+PVCAPC) / PVCAPC	0.00	3.14
	5.00	2.49
	10.00	2.04
	15.00	1.71
	20.00	1.46
	25.00	1.27

MAX CASH EXPOSURE MM$'S CONSTANT -- -128.61
W/O FIN

STATE OF ALASKA DEPT. OF REVENUE
PETROLEUM RESEARCH SECTION
ECONOMIC FEASIBILITY MODEL: ALASKA NORTH SLOPE OIL FIELD DEVELOPMENT DECISION
NOTE: ANALYSIS OF DEVELOPMENT FEASIBILITY ONLY, IGNORES SUNK COSTS OF G&G AND EXPLORATION IN CAPITAL COSTS
PUBLIC VERSION: EQUIVALENT AMORTIZED ECONOMIC RENT FOR HYPOTHETICAL FIELD
FOR MORE INFORMATION CONTACT CHUCK LOGSDON AT (907) 277-5627
MAINFRAME MODEL REQUIRED FOR ENHANCED RECOVERY ANALYSIS, SIMULTAINOUS MULTI-FIELD SUPPLY ANALYSIS AND SHUTDOWN ANALYSIS

FIELD INPUT ASSUMPTIONS		ANALYSIS OPTIONS	0
FIELD NAME:	NORTH STAR	INCREMENTAL - ONGOING OPERATOR : 0	
FIELD ASSUMPTIONS:		STAND ALONE - NEW INVESTOR : 1	
FISCAL: AK/US			
PROPORTION PRODN AK LEASES	1.0000		
AK ROYALTY RATE	0.2000	COMMENTS:	
AK NET PROFIT BONUS ROY RATE	0.8500		
AK SEV TAX NOM RATE 1ST 5 YRS	0.1225	NORTH STAR BASE CASE / BASE YEAR 1997	
AK SEV TAX NOM RATE YR 6 ON	0.1500	CONSTANT $'S : 1997 $'S	
AK PROPERTY TAX RATE	0.0200	CURRENT $'S : $'S OF THE DAY	
AK ST CORP TAX EFF RATE	0.0140	INFLATION ASSUMED 4.5% PER YEAR FROM 1990	
PROPORTION PRODN US FED LEASES	0.0000		
US FED ROYALTY RATE	0.0000		
US FED CORP TAX EFF RATE	0.3400		
COST:			
TOTAL LEASE AQUIS COST MM$'S HISTOR	278.0000	FOR CALC OF LEASE AMORT / DEPLETION	
FIXED OPER COST MM$'S CONSTANT	60.00		
VARIABLE OPER COST $'S/BBL CONSTANT	2.29		
PRODN YEAR TO START WORKOVERS	5		
WORKOVER COST MM$'S/WELL CONSTANT	1.02		
WORKOVER ROTATION FACTOR	N/A		
PROPORTION WELL CAPITAL COST INTANG	0.7000		
PROPORTION FACIL CAPITAL COST INTANG	0.3000		
AK PTY TAX TR ORIG CO ANN ESCAL RATE	0.0500		
FINANCING: ASSUMED PROPORTION OF CAPITAL COST OBTAINED AT BEG OF EACH YEAR			
PROPORTION OF CAPITAL COST DEBT	0.0000		
CURRENT $ INTEREST RATE ON DEBT	0.1000		
TERM OF DEBT IN YEARS	10		

FIELD INPUT ASSUMPTIONS TABLE BY YEAR

NORTH STAR

RELATIVE YEAR	INFLATION RATE PCT/Y	INFLATION FACTOR	FACILITY CAPITAL COST MM$'S CONSTANT	FACILITY CAPITAL COST CONS $ ESCAL RATE PCT/Y	FACILITY CAPITAL COST CURR $ ESCAL FACTOR	FACILLITY CAPITAL COST MM$'S CURRENT	WELL CAPITAL COST MM$'S CONSTANT	WELL CAPITAL COST CONS $ ESCAL RATE PCT/Y	WELL CAPITAL COST CURR $ ESCAL FACTOR	WELL CAPITAL COST MM$'S CURRENT	PRODN VOLUME MMBBL/Y	RELATIVE PRODN YEAR	PRUDHOE BAY OIL GROSS WELLHEAD PRICE $'S/BBL CURRENT	FIELD TARIFF COST $'S/BBL CURRENT	FIELD QUALITY DIFFER $'S/BBL CURRENT	FIELD GROSS WELLHEAD PRICE $'S/BBL CURRENT	FIELD COSTS 4/ ROY CALC $'S/BBL CURRENT	FIELD ROY WELLHEAD PRICE $'S/BBL CURRENT	FIXED OPER COST CONS $ ESCAL RATE PCT/Y	FIXED OPER COST CURR $ ESCAL FACTOR	FIXED OPER COST MM$'S CURRENT
1997		1.0000	142.91		1.0000	142.91	0.00		1.0000	0.00	0.00	0	19.73	3.50	0.00	16.23	0.00	16.23		1.0000	0.00
1998	4.50	1.0450	142.91	0.00	1.0450	149.34	95.27	0.00	1.0450	99.56	0.00	0	20.62	3.50	0.00	17.12	0.00	17.12	0.00	1.0450	0.00
1999	4.50	1.0920	170.13	0.00	1.0920	185.78	95.27	0.00	1.0920	104.04	0.00	0	21.55	3.50	0.00	18.05	0.00	18.05	0.00	1.0920	0.00
2000	4.50	1.1412	20.42	0.00	1.1412	23.30	109.56	0.00	1.1412	125.03	18.00	1	22.52	3.50	0.00	19.02	0.00	19.02	0.00	1.1412	68.47
2001	4.50	1.1925	0.00	0.00	1.1925	0.00	0.00	0.00	1.1925	0.00	20.00	2	23.53	3.50	0.00	20.03	0.00	20.03	0.00	1.1925	71.55
2002	4.50	1.2462	0.00	0.00	1.2462	0.00	0.00	0.00	1.2462	0.00	20.00	3	24.59	3.50	0.00	21.09	0.00	21.09	0.00	1.2462	74.77
2003	4.50	1.3023	0.00	0.00	1.3023	0.00	0.00	0.00	1.3023	0.00	20.00	4	25.70	3.50	0.00	22.20	0.00	22.20	0.00	1.3023	78.14
2004	4.50	1.3609	0.00	0.00	1.3609	0.00	0.00	0.00	1.3609	0.00	18.00	5	26.86	3.50	0.00	23.36	0.00	23.36	0.00	1.3609	81.65
2005	4.50	1.4221	0.00	0.00	1.4221	0.00	0.00	0.00	1.4221	0.00	15.00	6	28.06	3.50	0.00	24.56	0.00	24.56	0.00	1.4221	85.33
2006	4.50	1.4861	0.00	0.00	1.4861	0.00	0.00	0.00	1.4861	0.00	12.00	7	29.33	3.50	0.00	25.83	0.00	25.83	0.00	1.4861	89.17
2007	4.50	1.5530	0.00	0.00	1.5530	0.00	0.00	0.00	1.5530	0.00	10.00	8	30.65	3.50	0.00	27.15	0.00	27.15	0.00	1.5530	93.18
2008	4.50	1.6229	0.00	0.00	1.6229	0.00	0.00	0.00	1.6229	0.00	9.00	9	32.03	3.50	0.00	28.53	0.00	28.53	0.00	1.6229	97.37
2009	4.50	1.6959	0.00	0.00	1.6959	0.00	0.00	0.00	1.6959	0.00	8.00	10	33.47	3.50	0.00	29.97	0.00	29.97	0.00	1.6959	101.75
2010	4.50	1.7722	0.00	0.00	1.7722	0.00	0.00	0.00	1.7722	0.00	7.00	11	34.97	3.50	0.00	31.47	0.00	31.4[illegible]	0.00	1.7722	106.33
2011	4.50	1.8519	0.00	0.00	1.8519	0.00	0.00	0.00	1.8519	0.00	6.00	12	36.55	3.50	0.00	33.05	0.00	33.05	-4.50	1.7722	106.33
2012	4.50	1.9353	0.00	0.00	1.9353	0.00	0.00	0.00	1.9353	0.00	5.00	13	38.19	3.50	0.00	34.69	0.00	34.69	-4.50	1.7722	106.33
2013	4.50	2.0224	0.00	0.00	2.0224	0.00	0.00	0.00	2.0224	0.00	4.00	14	39.91	3.50	0.00	36.41	0.00	36.41	-4.50	1.7722	106.33
2014	4.50	2.1134	0.00	0.00	2.1134	0.00	0.00	0.00	2.1134	0.00	3.00	15	41.71	3.50	0.00	38.21	0.00	38.21	-4.50	1.7722	106.33
2015	4.50	2.2085	0.00	0.00	2.2085	0.00	0.00	0.00	2.2085	0.00	3.00	16	43.58	3.50	0.00	40.08	0.00	40.08	-4.50	1.7722	106.33
2016	4.50	2.3079	0.00	0.00	2.3079	0.00	0.00	0.00	2.3079	0.00	0.00	16	45.54	3.50	0.00	42.04	0.00	42.04	-4.50	1.7722	0.00
2017	4.50	2.4117	0.00	0.00	2.4117	0.00	0.00	0.00	2.4117	0.00	0.00	16	47.59	3.50	0.00	44.09	0.00	44.09	-4.50	1.7722	0.00
2018	4.50	2.5202	0.00	0.00	2.5202	0.00	0.00	0.00	2.5202	0.00	0.00	16	49.74	3.50	0.00	46.24	0.00	46.24	-4.50	1.7722	0.00
2019	4.50	2.6337	0.00	0.00	2.6337	0.00	0.00	0.00	2.6337	0.00	0.00	16	51.97	3.50	0.00	48.47	0.00	48.47	-4.50	1.7722	0.00
2020	4.50	2.7522	0.00	0.00	2.7522	0.00	0.00	0.00	2.7522	0.00	0.00	16	54.31	3.50	0.00	50.81	0.00	50.81	-4.50	1.7722	0.00
2021	4.50	2.8760	0.00	0.00	2.8760	0.00	0.00	0.00	2.8760	0.00	0.00	16	56.76	3.50	0.00	53.26	0.00	53.26	-4.50	1.7722	0.00
2022	4.50	3.0054	0.00	0.00	3.0054	0.00	0.00	0.00	3.0054	0.00	0.00	16	59.31	3.50	0.00	55.81	0.00	55.81	-4.50	1.7722	0.00
2023	4.50	3.1407	0.00	0.00	3.1407	0.00	0.00	0.00	3.1407	0.00	0.00	16	61.98	3.50	0.00	58.48	0.00	58.48	-4.50	1.7722	0.00
2024	4.50	3.2820	0.00	0.00	3.2820	0.00	0.00	0.00	3.2820	0.00	0.00	16	64.77	3.50	0.00	61.27	0.00	61.27	-4.50	1.7722	0.00
2025	4.50	3.4297	0.00	0.00	3.4297	0.00	0.00	0.00	3.4297	0.00	0.00	16	67.68	3.50	0.00	64.18	0.00	64.18	-4.50	1.7722	0.00
2026	4.50	3.5840	0.00	0.00	3.5840	0.00	0.00	0.00	3.5840	0.00	0.00	16	70.73	3.50	0.00	67.23	0.00	67.23	-4.50	1.7722	0.00
						501.32				328.62	178.00										

NORTH STAR

	VAR OPER COST CONS $ ESCAL RATE PCT/Y	VAR OPER COST CURR $ ESCAL FACTOR	VAR OPER COST MM$'S CURRENT	WORK OVER COST CONS $ ESCAL RATE PCT/Y	WORK OVER COST CURR $ ESCAL FACTOR	PRODN WELLS FOR ELF CALCS	TOT WELLS FOR WORK OVER CALCS	WORK OVER ROTATION FACTOR	WORK OVER COST MM$'S CURRENT	FIELD PIPE PROFIT $'S/BBL CURRENT	TAPS PROFIT $'S/BBL CURRENT
1997		1.0000	0.00		1.0000	0	0	0.3333	0.00	0.00	0.00
	0.00	1.0450	0.00	0.00	1.0450	0	0	0.3333	0.00	0.00	0.00
	0.00	1.0920	0.00	0.00	1.0920	0	0	0.3333	0.00	0.00	0.00
	0.00	1.1412	46.97	0.00	1.1412	45	63	0.3333	0.00	0.00	0.00
	0.00	1.1925	54.53	0.00	1.1925	45	63	0.3333	0.00	0.00	0.00
	0.00	1.2462	56.99	0.00	1.2462	45	63	0.3333	0.00	0.00	0.00
	0.00	1.3023	59.55	0.00	1.3023	45	63	0.3333	0.00	0.00	0.00
	6.00	1.4390	59.22	0.00	1.3609	45	63	0.3333	29.17	0.00	0.00
	6.00	1.5901	54.54	0.00	1.4221	45	63	0.3333	30.48	0.00	0.00
	6.00	1.7571	48.21	0.00	1.4861	45	63	0.3333	31.85	0.00	0.00
	6.00	1.9415	44.39	0.00	1.5530	40	58	0.3333	30.64	0.00	0.00
	6.00	2.1454	44.15	0.00	1.6229	38	56	0.3333	30.92	0.00	0.00
	6.00	2.3707	43.36	0.00	1.6959	36	54	0.3333	31.16	0.00	0.00
	6.00	2.6196	41.93	0.00	1.7722	34	52	0.3333	31.35	0.00	0.00
	6.00	2.8946	39.71	0.00	1.8519	32	50	0.3333	31.50	0.00	0.00
	6.00	3.1986	36.57	0.00	1.9353	30	48	0.3333	31.60	0.00	0.00
	6.00	3.5344	32.33	0.00	2.0224	28	46	0.3333	31.65	0.00	0.00
	6.00	3.9056	26.79	0.00	2.1134	26	44	0.3333	31.64	0.00	0.00
	6.00	4.3156	29.60	0.00	2.2085	26	44	0.3333	33.06	0.00	0.00
	6.00	4.7688	0.00	0.00	2.3079	0	0	0.3333	0.00	0.00	0.00
	6.00	5.2695	0.00	0.00	2.4117	0	0	0.3333	0.00	0.00	0.00
	6.00	5.8228	0.00	0.00	2.5202	0	0	0.3333	0.00	0.00	0.00
	6.00	6.4342	0.00	0.00	2.6337	0	0	0.3333	0.00	0.00	0.00
	6.00	7.1098	0.00	0.00	2.7522	0	0	0.3333	0.00	0.00	0.00
	6.00	7.8563	0.00	0.00	2.8760	0	0	0.3333	0.00	0.00	0.00
	6.00	8.6812	0.00	0.00	3.0054	0	0	0.3333	0.00	0.00	0.00
	6.00	9.5928	0.00	0.00	3.1407	0	0	0.3333	0.00	0.00	0.00
	6.00	10.6000	0.00	0.00	3.2820	0	0	0.3333	0.00	0.00	0.00
	6.00	11.7130	0.00	0.00	3.4297	0	0	0.3333	0.00	0.00	0.00
2026	6.00	12.9429	0.00	0.00	3.5840	0	0	0.3333	0.00	0.00	0.00

PRODUCING CO CASHFLOW CALCULATION TABLE BY YEAR INCREMENTAL ANALYSIS

NORTH STAR

RELATIVE YEAR	PRODN VOLUME MMB/Y	FIELD PS #1 GROSS WELLHEAD PRICE #PIPE PR $'S/BBL CURRENT	GROSS INCOME MM$'S CURRENT	CAPITAL COSTS MM$'S CURRENT	OPER COSTS MM$'S CURRENT	NET PMTS TO AK STATE GOVT W/ FIN MM$'S CURRENT	NET PMTS TO US FED GOVT W/ FIN MM$'S CURRENT	NET PMTS TO FINAN COMMUN MM$'S CURRENT	CO NET CASHFLOW W/ FIN MM$'S CURRENT	NET PMTS TO AK STATE GOVT W/O FIN MM$'S CURRENT	NET PMTS TO US FED GOVT W/O FIN MM$'S CURRENT	CO NET CASHFLOW W/O FIN MM$'S CURRENT
1997	0.00	16.23	0.00	142.91	0.00	1.97	-15.25	0.00	-129.63	1.97	-15.25	-129.63
1998	0.00	17.12	0.00	248.89	0.00	4.61	-33.39	0.00	-220.12	4.61	-33.39	-220.12
1999	0.00	18.05	0.00	289.82	0.00	7.75	-38.92	0.00	-258.65	7.75	-38.92	-258.65
2000	18.00	19.02	342.37	148.32	115.44	83.64	-8.22	0.00	3.18	83.64	-8.22	3.18
2001	20.00	20.03	400.68	0.00	126.08	99.98	6.63	0.00	167.98	99.98	6.63	167.98
2002	20.00	21.09	421.86	0.00	131.76	104.75	20.98	0.00	164.37	104.75	20.98	164.37
2003	20.00	22.20	443.99	0.00	137.69	109.70	32.44	0.00	164.16	109.70	32.44	164.16
2004	18.00	23.36	420.41	0.00	170.04	99.77	23.30	0.00	127.29	99.77	23.30	127.29
2005	15.00	24.56	368.47	0.00	170.34	84.17	14.78	0.00	99.17	84.17	14.78	99.17
2006	12.00	25.83	309.93	0.00	169.23	69.50	4.19	0.00	67.01	69.50	4.19	67.01
2007	10.00	27.15	271.47	0.00	168.22	61.02	2.23	0.00	40.00	61.02	2.23	40.00
2008	9.00	28.53	256.74	0.00	172.44	57.46	4.34	0.00	22.49	57.46	4.34	22.49
2009	8.00	29.97	239.74	0.00	176.27	53.38	-0.82	0.00	10.90	53.38	-0.82	10.90
2010	7.00	31.47	220.31	0.00	179.61	48.73	-6.45	0.00	-1.58	48.73	-6.45	-1.58
2011	6.00	33.05	198.28	0.00	177.55	43.53	-10.93	0.00	-11.86	43.53	-10.93	-11.86
2012	5.00	34.69	173.46	0.00	174.50	37.67	-15.82	0.00	-22.90	37.67	-15.82	-22.90
2013	4.00	36.41	145.64	0.00	170.31	31.11	-21.09	0.00	-34.69	31.11	-21.09	-34.69
2014	3.00	38.21	114.62	0.00	164.76	23.80	-26.73	0.00	-47.20	23.80	-26.73	-47.20
2015	3.00	40.08	120.25	0.00	168.99	23.90	-26.29	0.00	-46.35	23.90	-26.29	-46.35
2016	0.00	42.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2017	0.00	44.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2018	0.00	46.24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2019	0.00	48.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2020	0.00	50.81	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2021	0.00	53.26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2022	0.00	55.81	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2023	0.00	58.48	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2024	0.00	61.27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2025	0.00	64.18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2026	0.00	67.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL	178.00	PV AMORT	4448.20	829.94	2573.23	1046.45	-95.00	0.00	93.58	1046.45	-95.00	93.58
NPV'S BEG YR 1 @ PCT		PRICE $'S/BBL										
0.00	178.00	24.99	4448.20	829.94	2573.23	1046.45	-95.00	0.00	93.58	1046.45	-95.00	93.58
5.00	116.83	24.07	2811.96	734.24	1472.28	672.20	-56.59	0.00	-10.15	672.20	-56.59	-10.15
10.00	80.53	23.34	1879.19	654.66	902.68	456.05	-44.05	0.00	-90.14	456.05	-44.05	-90.14
15.00	57.73	22.75	1313.62	587.83	587.15	323.36	-40.13	0.00	-144.60	323.36	-40.13	-144.60
20.00	42.72	22.29	952.34	531.18	401.34	237.63	-38.81	0.00	-179.01	237.63	-38.81	-179.01
25.00	32.45	21.92	711.26	482.76	285.86	179.82	-38.04	0.00	-199.13	179.82	-38.04	-199.13

ROR % W/ FIN ---- 4.46

ROR % W/O FIN ---- 4.46

PROFITABILITY RATIOS

@ PCT	(NCF+CAPC) / CAPC W/ FIN	(NCF+CAPC) / CAPC W/O FIN
0.00	1.11	1.11
5.00	0.99	0.99
10.00	0.86	0.86
15.00	0.75	0.75
20.00	0.66	0.66
25.00	0.59	0.59

EQUIVALENT AMORTIZED ECONOMIC RENT CALCULATION TABLE BY YEAR INCREMENTAL ANALYSIS

NORTH STAR

RELATIVE YEAR	PRODN VOLUME MMB/Y	FIELD PS #1 GROSS WELLHEAD PRICE +PIPE PR $'S/BBL CURRENT	GROSS INCOME MM$'S CURRENT	CAPITAL COSTS MM$'S CURRENT	OPER COSTS MM$'S CURRENT	ECONOMIC RENT MM$'S CURRENT	AK STATE GOVT REVS W/O FIN MM$'S CURRENT	US FED GOVT REVS W/O FIN MM$'S CURRENT	CO NET CASHFLOW W/O FIN MM$'S CURRENT
1997	0.00	16.23	0.00	142.91	0.00	-142.91	1.97	-15.25	-129.63
1998	0.00	17.12	0.00	248.89	0.00	-248.89	4.61	-33.39	-220.12
1999	0.00	18.05	0.00	289.82	0.00	-289.82	7.75	-38.92	-258.65
2000	18.00	19.02	342.37	148.32	115.44	78.61	83.64	-8.22	3.18
2001	20.00	20.03	400.68	0.00	126.08	274.59	99.98	6.63	167.98
2002	20.00	21.09	421.86	0.00	131.76	290.10	104.75	20.98	164.37
2003	20.00	22.20	443.99	0.00	137.69	306.30	109.70	32.44	164.16
2004	18.00	23.36	420.41	0.00	170.04	250.36	99.77	23.30	127.29
2005	15.00	24.56	368.47	0.00	170.34	198.12	84.17	14.78	99.17
2006	12.00	25.83	309.93	0.00	169.23	140.70	69.50	4.19	67.01
2007	10.00	27.15	271.47	0.00	168.22	103.26	61.02	2.23	40.00
2008	9.00	28.53	256.74	0.00	172.44	84.30	57.46	4.34	22.49
2009	8.00	29.97	239.74	0.00	176.27	63.47	53.38	-0.82	10.90
2010	7.00	31.47	220.31	0.00	179.61	40.70	48.73	-6.45	-1.58
2011	6.00	33.05	198.28	0.00	177.55	20.74	43.53	-10.93	-11.86
2012	5.00	34.69	173.46	0.00	174.50	-1.04	37.67	-15.82	-22.90
2013	4.00	36.41	145.64	0.00	170.31	-24.67	31.11	-21.09	-34.69
2014	3.00	38.21	114.62	0.00	164.76	-50.14	23.80	-26.73	-47.20
2015	3.00	40.08	120.25	0.00	168.99	-48.74	23.90	-26.29	-46.35
2016	0.00	42.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2017	0.00	44.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2018	0.00	46.24	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2019	0.00	48.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2020	0.00	50.81	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2021	0.00	53.26	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2022	0.00	55.81	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2023	0.00	58.48	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2024	0.00	61.27	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2025	0.00	64.18	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2026	0.00	67.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL	178.00	PV AMORT PRICE $'S/BBL	4448.20	829.94	2573.23	1045.03	1046.45	-95.00	93.58
NPV'S BEG YR 1 @ PCT									
0.00	178.00	24.99	4448.20	829.94	2573.23	1045.03	1046.45	-95.00	93.58
5.00	116.83	24.07	2811.96	734.24	1472.28	605.45	672.20	-56.59	-10.15
10.00	80.53	23.34	1879.19	654.66	902.68	321.85	456.05	-44.05	-90.14
15.00	57.73	22.75	1313.62	587.83	587.15	138.63	323.36	-40.13	-144.60
20.00	42.72	22.29	952.34	531.18	401.34	19.82	237.63	-38.81	-179.01
25.00	32.45	21.92	711.26	482.76	285.86	-57.36	179.82	-38.04	-199.13

PER BBL PV'S @ PCT	FIELD PS #1 GROSS WELLHEAD PRICE +PIPE PR $'S/BBL CURRENT	CAPITAL COSTS MM$'S CURRENT	OPER COSTS MM$'S CURRENT	ECONOMIC RENT MM$'S CURRENT	STATE GOVT REVS W/O FIN MM$'S CURRENT	FED GOVT REVS W/O FIN MM$'S CURRENT	CO NET CASHFLOW W/O FIN MM$'S CURRENT
0.00	24.99	4.66	14.46	5.87	5.88	-0.53	0.53
5.00	24.07	6.28	12.60	5.18	5.75	-0.48	-0.09
10.00	23.34	8.13	11.21	4.00	5.66	-0.55	-1.12
15.00	22.75	10.18	10.17	2.40	5.60	-0.70	-2.50
20.00	22.29	12.43	9.39	0.46	5.56	-0.91	-4.19
25.00	21.92	14.88	8.81	-1.77	5.54	-1.17	-6.14

PERCENTAGE DIVISION OF PV ECON RENT ---------

@ PCT	ECONOMIC RENT	STATE GOVT REVS	FED GOVT REVS	CO NET CASHFLOW
0.00	100.00	100.14	-9.09	8.96
5.00	100.00	111.02	-9.35	-1.68
10.00	100.00	141.69	-13.69	-28.01
15.00	100.00	233.25	-28.95	-104.30
20.00	100.00	1199.11	-195.82	-903.29
25.00	100.00	-313.49	66.32	347.17

PAY OUT TIME IN YEARS ------------ 7.85

ROR % W/O FIN -------------------- 4.46

PROFITABILITY RATIOS W/O FIN ------

	@ PCT	
(PVNCF+PVCAPC) / PVCAPC	0.00	1.11
	5.00	0.99
	10.00	0.86
	15.00	0.75
	20.00	0.66
	25.00	0.59

MAX CASH EXPOSURE MM$'S CURRENT --- -608.40
W/O FIN

PRODUCING CO CASHFLOW CALCULATION TABLE BY YEAR   INCREMENTAL ANALYSIS

NORTH STAR

RELATIVE YEAR	PRODN VOLUME MMB/Y	FIELD PS #1 GROSS WELLHEAD PRICE #PIPE PR $'S/BBL CONSTANT	GROSS INCOME MM$'S CONSTANT	CAPITAL COSTS MM$'S CONSTANT	OPER COSTS MM$'S CONSTANT	NET PMTS TO AK STATE GOVT W/ FIN MM$'S CONSTANT	NET PMTS TO US FED GOVT W/ FIN MM$'S CONSTANT	NET PMTS TO FINAN COMMUN MM$'S CONSTANT	CO NET CASHFLOW W/ FIN MM$'S CONSTANT	NET PMTS TO AK STATE GOVT W/O FIN MM$'S CONSTANT	NET PMTS TO US FED GOVT W/O FIN MM$'S CONSTANT	CO NET CASHFLOW W/O FIN MM$'S CONSTANT
1997	0.00	16.23	0.00	142.91	0.00	1.97	-15.25	0.00	-129.63	1.97	-15.25	-129.63
1998	0.00	16.39	0.00	238.18	0.00	4.41	-31.95	0.00	-210.64	4.41	-31.95	-210.64
1999	0.00	16.53	0.00	265.40	0.00	7.10	-35.64	0.00	-236.86	7.10	-35.64	-236.86
2000	18.00	16.67	300.01	129.98	101.16	73.29	-7.20	0.00	2.79	73.29	-7.20	2.79
2001	20.00	16.80	335.99	0.00	105.73	83.84	5.56	0.00	140.86	83.84	5.56	140.86
2002	20.00	16.93	338.52	0.00	105.73	84.05	16.83	0.00	131.90	84.05	16.83	131.90
2003	20.00	17.05	340.94	0.00	105.73	84.24	24.91	0.00	126.06	84.24	24.91	126.06
2004	18.00	17.16	308.93	0.00	124.95	73.31	17.12	0.00	93.54	73.31	17.12	93.54
2005	15.00	17.27	259.10	0.00	119.78	59.19	10.40	0.00	69.73	59.19	10.40	69.73
2006	12.00	17.38	208.55	0.00	113.87	46.77	2.82	0.00	45.09	46.77	2.82	45.09
2007	10.00	17.48	174.81	0.00	108.32	39.29	1.44	0.00	25.76	39.29	1.44	25.76
2008	9.00	17.58	158.20	0.00	106.26	35.41	2.68	0.00	13.86	35.41	2.68	13.86
2009	8.00	17.67	141.37	0.00	103.94	31.48	-0.48	0.00	6.43	31.48	-0.48	6.43
2010	7.00	17.76	124.32	0.00	101.35	27.50	-3.64	0.00	-0.89	27.50	-3.64	-0.89
2011	6.00	17.84	107.07	0.00	95.87	23.50	-5.90	0.00	-6.40	23.50	-5.90	-6.40
2012	5.00	17.93	89.63	0.00	90.17	19.46	-8.17	0.00	-11.83	19.46	-8.17	-11.83
2013	4.00	18.00	72.02	0.00	84.21	15.38	-10.43	0.00	-17.15	15.38	-10.43	-17.15
2014	3.00	18.08	54.24	0.00	77.96	11.26	-12.65	0.00	-22.34	11.26	-12.65	-22.34
2015	3.00	18.15	54.45	0.00	76.52	10.82	-11.91	0.00	-20.99	10.82	-11.91	-20.99
2016	0.00	18.22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2017	0.00	18.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2018	0.00	18.35	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2019	0.00	18.41	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2020	0.00	18.46	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2021	0.00	18.52	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2022	0.00	18.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2023	0.00	18.62	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2024	0.00	18.67	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2025	0.00	18.71	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2026	0.00	18.76	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL	178.00	PV AMORT PRICE $'S/BBL	3068.13	776.45	1621.55	732.29	-61.46	0.00	-0.71	732.29	-61.46	-0.71
NPV'S BEG YR 1 # PCT												
0.00	178.00	17.24	3068.13	776.45	1621.55	732.29	-61.46	0.00	-0.71	732.29	-61.46	-0.71
5.00	116.83	17.16	2005.25	688.32	967.45	486.25	-46.43	0.00	-90.33	486.25	-46.43	-90.33
10.00	80.53	17.10	1377.39	614.92	616.06	339.02	-41.96	0.00	-150.65	339.02	-41.96	-150.65
15.00	57.73	17.05	984.62	553.18	414.18	245.80	-40.52	0.00	-188.02	245.80	-40.52	-188.02
20.00	42.72	17.01	726.92	500.75	291.18	183.97	-39.69	0.00	-209.28	183.97	-39.69	-209.28
25.00	32.45	16.98	551.02	455.88	212.33	141.33	-38.76	0.00	-219.75	141.33	-38.76	-219.75

ROR % W/ FIN ---- -0.03

ROR % W/O FIN --- -0.03

PROFITABILITY RATIOS

# PCT	(NCF+CAPC) / CAPC W/ FIN	(NCF+CAPC) / CAPC W/O FIN
0.00	1.00	1.00
5.00	0.87	0.87
10.00	0.76	0.76
15.00	0.66	0.66
20.00	0.58	0.58
25.00	0.52	0.52

EQUIVALENT AMORTIZED ECONOMIC RENT CALCULATION TABLE BY YEAR INCREMENTAL ANALYSIS

NORTH STAR FIELD

RELATIVE YEAR	PRODN VOLUME MMB/Y	PS #1 GROSS WELLHEAD PRICE +PIPE PR $'S/BBL CONSTANT	GROSS INCOME MM$'S CONSTANT	CAPITAL COSTS MM$'S CONSTANT	OPER COSTS MM$'S CONSTANT	ECONOMIC RENT MM$'S CONSTANT	AK STATE GOVT REVS W/O FIN MM$'S CONSTANT	US FED GOVT REVS W/O FIN MM$'S CONSTANT	CO NET CASHFLOW W/O FIN MM$'S CONSTANT
1997	0.00	16.23	0.00	142.91	0.00	-142.91	1.97	-15.25	-129.63
1998	0.00	16.39	0.00	238.18	0.00	-238.18	4.41	-31.95	-210.64
1999	0.00	16.53	0.00	265.40	0.00	-265.40	7.10	-35.64	-236.86
2000	18.00	16.67	300.01	129.98	101.16	68.88	73.29	-7.20	2.79
2001	20.00	16.80	335.99	0.00	105.73	230.26	83.84	5.56	140.86
2002	20.00	16.93	338.52	0.00	105.73	232.79	84.05	16.83	131.90
2003	20.00	17.05	340.94	0.00	105.73	235.21	84.24	24.91	126.06
2004	18.00	17.16	308.93	0.00	124.95	183.97	73.31	17.12	93.54
2005	15.00	17.27	259.10	0.00	119.78	139.32	59.19	10.40	69.73
2006	12.00	17.38	208.55	0.00	113.87	94.68	46.77	2.82	45.09
2007	10.00	17.48	174.81	0.00	108.32	66.49	39.29	1.44	25.76
2008	9.00	17.58	158.20	0.00	106.26	51.94	35.41	2.68	13.86
2009	8.00	17.67	141.37	0.00	103.94	37.42	31.48	-0.48	6.43
2010	7.00	17.76	124.32	0.00	101.35	22.97	27.50	-3.64	-0.89
2011	6.00	17.84	107.07	0.00	95.87	11.20	23.50	-5.90	-6.40
2012	5.00	17.93	89.63	0.00	90.17	-0.54	19.46	-8.17	-11.83
2013	4.00	18.00	72.02	0.00	84.21	-12.20	15.38	-10.43	-17.15
2014	3.00	18.08	54.24	0.00	77.96	-23.72	11.26	-12.65	-22.34
2015	3.00	18.15	54.45	0.00	76.52	-22.07	10.82	-11.91	-20.99
2016	0.00	18.22	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2017	0.00	18.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2018	0.00	18.35	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2019	0.00	18.41	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2020	0.00	18.46	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2021	0.00	18.52	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2022	0.00	18.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2023	0.00	18.62	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2024	0.00	18.67	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2025	0.00	18.71	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2026	0.00	18.76	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL	178.00	PV AMORT PRICE $'S/BBL	3068.13	776.45	1621.55	670.12	732.29	-61.46	-0.71
NPV'S BEG YR 1 @ PCT									
0.00	178.00	17.24	3068.13	776.45	1621.55	670.12	732.29	-61.46	-0.71
5.00	116.83	17.16	2005.25	688.32	967.45	349.48	486.25	-46.43	-90.33
10.00	80.53	17.10	1377.39	614.92	616.06	146.41	339.02	-41.96	-150.65
15.00	57.73	17.05	984.62	553.18	414.18	17.26	245.80	-40.52	-188.02
20.00	42.72	17.01	726.92	500.75	291.18	-65.01	183.97	-39.69	-209.28
25.00	32.45	16.98	551.02	455.88	212.33	-117.18	141.33	-38.76	-219.75

PER BBL PV'S @ PCT	FIELD PS #1 GROSS WELLHEAD PRICE +PIPE PR $'S/BBL CONSTANT	CAPITAL COSTS MM$'S CONSTANT	OPER COSTS MM$'S CONSTANT	ECONOMIC RENT MM$'S CONSTANT	STATE GOVT REVS W/O FIN MM$'S CONSTANT	FED GOVT REVS W/O FIN MM$'S CONSTANT	CO NET CASHFLOW W/O FIN MM$'S CONSTANT
0.00	17.24	4.36	9.11	3.76	4.11	-0.35	0.00
5.00	17.16	5.89	8.28	2.99	4.16	-0.40	-0.77
10.00	17.10	7.64	7.65	1.82	4.21	-0.52	-1.87
15.00	17.05	9.58	7.17	0.30	4.26	-0.70	-3.26
20.00	17.01	11.72	6.82	-1.52	4.31	-0.93	-4.90
25.00	16.98	14.05	6.54	-3.61	4.36	-1.19	-6.77

PERCENTAGE DIVISION OF PV ECON RENT ---------

@ PCT	ECONOMIC RENT	STATE GOVT REVS	FED GOVT REVS	CO NET CASHFLOW
0.00	100.00	109.28	-9.17	-0.11
5.00	100.00	139.13	-13.29	-25.85
10.00	100.00	231.56	-28.66	-102.90
15.00	100.00	1424.14	-234.77	-1089.37
20.00	100.00	-282.99	61.06	321.93
25.00	100.00	-120.60	33.08	187.52

PAY OUT TIME IN YEARS -------------- -10.69

ROR % W/O FIN -------------------- -0.03

PROFITABILITY RATIOS W/O FIN ------

(PVNCF+PVCAPC) / PVCAPC

@ PCT	
0.00	1.00
5.00	0.87
10.00	0.76
15.00	0.66
20.00	0.58
25.00	0.52

MAX CASH EXPOSURE MM$'S CONSTANT -- -577.13
W/O FIN

STATE OF ALASKA DEPT. OF REVENUE
PETROLEUM RESEARCH SECTION
ECONOMIC FEASIBILITY MODEL: ALASKA NORTH SLOPE OIL FIELD DEVELOPMENT DECISION
NOTE: ANALYSIS OF DEVELOPMENT FEASIBILITY ONLY, IGNORES SUNK COSTS OF G&G AND EXPLORATION IN CAPITAL COSTS
PUBLIC VERSION: EQUIVALENT AMORTIZED ECONOMIC RENT FOR HYPOTHETICAL FIELD
FOR MORE INFORMATION CONTACT CHUCK LOGSDON AT (907) 277-5627
MAINFRAME MODEL REQUIRED FOR ENHANCED RECOVERY ANALYSIS, SIMULTAINOUS MULTI-FIELD SUPPLY ANALYSIS AND SHUTDOWN ANALYSIS

FIELD INPUT ASSUMPTIONS

FIELD NAME:	NORTH STAR
FIELD ASSUMPTIONS:	
FISCAL: AK/US	
PROPORTION PRODN AK LEASES	1.0000
AK ROYALTY RATE	0.2000
AK NET PROFIT BONUS ROY RATE	0.8500
AK SEV TAX NOM RATE 1ST 5 YRS	0.1225
AK SEV TAX NOM RATE YR 6 ON	0.1500
AK PROPERTY TAX RATE	0.0200
AK ST CORP TAX EFF RATE	0.0140
PROPORTION PRODN US FED LEASES	0.0000
US FED ROYALTY RATE	0.0000
US FED CORP TAX EFF RATE	0.3400
COST:	
TOTAL LEASE AQUIS COST MM$'S HISTOR	278.0000 FOR CALC OF LEASE AMORT / DEPLETION
FIXED OPER COST MM$'S CONSTANT	60.00
VARIABLE OPER COST $'S/BBL CONSTANT	2.29
PRODN YEAR TO START WORKOVERS	5
WORKOVER COST MM$'S/WELL CONSTANT	1.02
WORKOVER ROTATION FACTOR	N/A
PROPORTION WELL CAPITAL COST INTANG	0.7000
PROPORTION FACIL CAPITAL COST INTANG	0.3000
AK PTY TAX TR ORIG CO ANN ESCAL RATE	0.0500
FINANCING: ASSUMED PROPORTION OF CAPITAL COST OBTAINED AT BEG OF EACH YEAR	
PROPORTION OF CAPITAL COST DEBT	0.0000
CURRENT $ INTEREST RATE ON DEBT	0.1000
TERM OF DEBT IN YEARS	10

ANALYSIS OPTIONS 1

INCREMENTAL - ONGOING OPERATOR : 0

STAND ALONE - NEW INVESTOR : 1

COMMENTS:

NORTH STAR BASE CASE / BASE YEAR 1997
CONSTANT $'S = 1997 $'S
CURRENT $'S = $'S OF THE DAY
INFLATION ASSUMED 4.5% PER YEAR FROM 1990

FIELD INPUT ASSUMPTIONS TABLE BY YEAR

NORTH STAR

RELATIVE YEAR	INFLATION RATE PCT/Y	INFLATION FACTOR	FACILITY CAPITAL COST MM$'S CONSTANT	FACILITY CAPITAL COST CONS $ ESCAL RATE PCT/Y	FACILITY CAPITAL COST CURR $ ESCAL FACTOR	FACILLITY CAPITAL COST MM$'S CURRENT	WELL CAPITAL COST MM$'S CONSTANT	WELL CAPITAL COST CONS $ ESCAL RATE PCT/Y	WELL CAPITAL COST CURR $ ESCAL FACTOR	WELL CAPITAL COST MM$'S CURRENT	PRODN VOLUME MMBBL/Y	RELATIVE PRODN YEAR	PRUDHOE BAY OIL GROSS WELLHEAD PRICE $'S/BBL CURRENT	FIELD TARIFF COST $'S/BBL CURRENT	FIELD QUALITY DIFFER $'S/BBL CURRENT	FIELD GROSS WELLHEAD PRICE $'S/BBL CURRENT	FIELD COSTS 4/ ROY CALC $'S/BBL CURRENT	FIELD ROY WELLHEAD PRICE $'S/BBL CURRENT	FIXED OPER COST CONS $ ESCAL RATE PCT/Y	FIXED OPER COST CURR $ ESCAL FACTOR	FIXED OPER COST MM$'S CURRENT
1997		1.0000	142.91		1.0000	142.91	0.00		1.0000	0.00	0.00	0	19.73	3.50	0.00	16.23	0.00	16.23		1.0000	0.00
1998	4.50	1.0450	142.91	0.00	1.0450	149.34	95.27	0.00	1.0450	99.56	0.00	0	20.62	3.50	0.00	17.12	0.00	17.12	0.00	1.0450	0.00
1999	4.50	1.0920	170.13	0.00	1.0920	185.78	95.27	0.00	1.0920	104.04	0.00	0	21.55	3.50	0.00	18.05	0.00	18.05	0.00	1.0920	0.00
2000	4.50	1.1412	20.42	0.00	1.1412	23.30	109.56	0.00	1.1412	125.03	18.00	1	22.52	3.50	0.00	19.02	0.00	19.02	0.00	1.1412	68.47
2001	4.50	1.1925	0.00	0.00	1.1925	0.00	0.00	0.00	1.1925	0.00	20.00	2	23.53	3.50	0.00	20.03	0.00	20.03	0.00	1.1925	71.55
2002	4.50	1.2462	0.00	0.00	1.2462	0.00	0.00	0.00	1.2462	0.00	20.00	3	24.59	3.50	0.00	21.09	0.00	21.09	0.00	1.2462	74.77
2003	4.50	1.3023	0.00	0.00	1.3023	0.00	0.00	0.00	1.3023	0.00	20.00	4	25.70	3.50	0.00	22.20	0.00	22.20	0.00	1.3023	78.14
2004	4.50	1.3609	0.00	0.00	1.3609	0.00	0.00	0.00	1.3609	0.00	18.00	5	26.86	3.50	0.00	23.36	0.00	23.36	0.00	1.3609	81.65
2005	4.50	1.4221	0.00	0.00	1.4221	0.00	0.00	0.00	1.4221	0.00	15.00	6	28.06	3.50	0.00	24.56	0.00	24.56	0.00	1.4221	85.33
2006	4.50	1.4861	0.00	0.00	1.4861	0.00	0.00	0.00	1.4861	0.00	12.00	7	29.33	3.50	0.00	25.83	0.00	25.83	0.00	1.4861	89.17
2007	4.50	1.5530	0.00	0.00	1.5530	0.00	0.00	0.00	1.5530	0.00	10.00	8	30.65	3.50	0.00	27.15	0.00	27.15	0.00	1.5530	93.18
2008	4.50	1.6229	0.00	0.00	1.6229	0.00	0.00	0.00	1.6229	0.00	9.00	9	32.03	3.50	0.00	28.53	0.00	28.53	0.00	1.6229	97.37
2009	4.50	1.6959	0.00	0.00	1.6959	0.00	0.00	0.00	1.6959	0.00	8.00	10	33.47	3.50	0.00	29.97	0.00	29.97	0.00	1.6959	101.75
2010	4.50	1.7722	0.00	0.00	1.7722	0.00	0.00	0.00	1.7722	0.00	7.00	11	34.97	3.50	0.00	31.47	0.00	31.47	0.00	1.7722	106.33
2011	4.50	1.8519	0.00	0.00	1.8519	0.00	0.00	0.00	1.8519	0.00	6.00	12	36.55	3.50	0.00	33.05	0.00	33.05	-4.50	1.7722	106.33
2012	4.50	1.9353	0.00	0.00	1.9353	0.00	0.00	0.00	1.9353	0.00	5.00	13	38.19	3.50	0.00	34.69	0.00	34.69	-4.50	1.7722	106.33
2013	4.50	2.0224	0.00	0.00	2.0224	0.00	0.00	0.00	2.0224	0.00	4.00	14	39.91	3.50	0.00	36.41	0.00	36.41	-4.50	1.7722	106.33
2014	4.50	2.1134	0.00	0.00	2.1134	0.00	0.00	0.00	2.1134	0.00	3.00	15	41.71	3.50	0.00	38.21	0.00	38.21	-4.50	1.7722	106.33
2015	4.50	2.2085	0.00	0.00	2.2085	0.00	0.00	0.00	2.2085	0.00	3.00	16	43.58	3.50	0.00	40.08	0.00	40.08	-4.50	1.7722	106.33
2016	4.50	2.3079	0.00	0.00	2.3079	0.00	0.00	0.00	2.3079	0.00	0.00	16	45.54	3.50	0.00	42.04	0.00	42.04	-4.50	1.7722	0.00
2017	4.50	2.4117	0.00	0.00	2.4117	0.00	0.00	0.00	2.4117	0.00	0.00	16	47.59	3.50	0.00	44.09	0.00	44.09	-4.50	1.7722	0.00
2018	4.50	2.5202	0.00	0.00	2.5202	0.00	0.00	0.00	2.5202	0.00	0.00	16	49.74	3.50	0.00	46.24	0.00	46.24	-4.50	1.7722	0.00
2019	4.50	2.6337	0.00	0.00	2.6337	0.00	0.00	0.00	2.6337	0.00	0.00	16	51.97	3.50	0.00	48.47	0.00	48.47	-4.50	1.7722	0.00
2020	4.50	2.7522	0.00	0.00	2.7522	0.00	0.00	0.00	2.7522	0.00	0.00	16	54.31	3.50	0.00	50.81	0.00	50.81	-4.50	1.7722	0.00
2021	4.50	2.8760	0.00	0.00	2.8760	0.00	0.00	0.00	2.8760	0.00	0.00	16	56.76	3.50	0.00	53.26	0.00	53.26	-4.50	1.7722	0.00
2022	4.50	3.0054	0.00	0.00	3.0054	0.00	0.00	0.00	3.0054	0.00	0.00	16	59.31	3.50	0.00	55.81	0.00	55.81	-4.50	1.7722	0.00
2023	4.50	3.1407	0.00	0.00	3.1407	0.00	0.00	0.00	3.1407	0.00	0.00	16	61.98	3.50	0.00	58.48	0.00	58.48	-4.50	1.7722	0.00
2024	4.50	3.2820	0.00	0.00	3.2820	0.00	0.00	0.00	3.2820	0.00	0.00	16	64.77	3.50	0.00	61.27	0.00	61.27	-4.50	1.7722	0.00
2025	4.50	3.4297	0.00	0.00	3.4297	0.00	0.00	0.00	3.4297	0.00	0.00	16	67.68	3.50	0.00	64.18	0.00	64.18	-4.50	1.7722	0.00
2026	4.50	3.5840	0.00	0.00	3.5840	0.00	0.00	0.00	3.5840	0.00	0.00	16	70.73	3.50	0.00	67.23	0.00	67.23	-4.50	1.7722	0.00
						501.32				328.62	178.00										

NORTH STAR

	VAR OPER COST CONS $ ESCAL RATE PCT/Y	VAR OPER COST CURR $ ESCAL FACTOR	VAR OPER COST MM$'S CURRENT	WORK OVER COST CONS $ ESCAL RATE PCT/Y	WORK OVER COST CURR $ ESCAL FACTOR	PRODN WELLS FOR ELF CALCS	TOT WELLS FOR WORK OVER CALCS	WORK OVER ROTATION FACTOR	WORK OVER COST MM$'S CURRENT	FIELD PIPE PROFIT $'S/BBL CURRENT	TAPS PROFIT $'S/BBL CURRENT
1997		1.0000	0.00		1.0000	0	0	0.3333	0.00	0.00	0.00
	0.00	1.0450	0.00	0.00	1.0450	0	0	0.3333	0.00	0.00	0.00
	0.00	1.0920	0.00	0.00	1.0920	0	0	0.3333	0.00	0.00	0.00
	0.00	1.1412	46.97	0.00	1.1412	45	63	0.3333	0.00	0.00	0.00
	0.00	1.1925	54.53	0.00	1.1925	45	63	0.3333	0.00	0.00	0.00
	0.00	1.2462	56.99	0.00	1.2462	45	63	0.3333	0.00	0.00	0.00
	0.00	1.3023	59.55	0.00	1.3023	45	63	0.3333	0.00	0.00	0.00
	6.00	1.4390	59.22	0.00	1.3609	45	63	0.3333	29.17	0.00	0.00
	6.00	1.5901	54.54	0.00	1.4221	45	63	0.3333	30.48	0.00	0.00
	6.00	1.7571	48.21	0.00	1.4861	45	63	0.3333	31.85	0.00	0.00
	6.00	1.9415	44.39	0.00	1.5530	40	58	0.3333	30.64	0.00	0.00
	6.00	2.1454	44.15	0.00	1.6229	38	56	0.3333	30.92	0.00	0.00
	6.00	2.3707	43.36	0.00	1.6959	36	54	0.3333	31.16	0.00	0.00
	6.00	2.6196	41.93	0.00	1.7722	34	52	0.3333	31.35	0.00	0.00
	6.00	2.8946	39.71	0.00	1.8519	32	50	0.3333	31.50	0.00	0.00
	6.00	3.1986	36.57	0.00	1.9353	30	48	0.3333	31.60	0.00	0.00
	6.00	3.5344	32.33	0.00	2.0224	28	46	0.3333	31.65	0.00	0.00
	6.00	3.9056	26.79	0.00	2.1134	26	44	0.3333	31.64	0.00	0.00
	6.00	4.3156	29.60	0.00	2.2085	26	44	0.3333	33.06	0.00	0.00
	6.00	4.7688	0.00	0.00	2.3079	0	0	0.3333	0.00	0.00	0.00
	6.00	5.2695	0.00	0.00	2.4117	0	0	0.3333	0.00	0.00	0.00
	6.00	5.8228	0.00	0.00	2.5202	0	0	0.3333	0.00	0.00	0.00
	6.00	6.4342	0.00	0.00	2.6337	0	0	0.3333	0.00	0.00	0.00
	6.00	7.1098	0.00	0.00	2.7522	0	0	0.3333	0.00	0.00	0.00
	6.00	7.8563	0.00	0.00	2.8760	0	0	0.3333	0.00	0.00	0.00
	6.00	8.6812	0.00	0.00	3.0054	0	0	0.3333	0.00	0.00	0.00
	6.00	9.5928	0.00	0.00	3.1407	0	0	0.3333	0.00	0.00	0.00
	6.00	10.6000	0.00	0.00	3.2820	0	0	0.3333	0.00	0.00	0.00
	6.00	11.7130	0.00	0.00	3.4297	0	0	0.3333	0.00	0.00	0.00
2026	6.00	12.9429	0.00	0.00	3.5840	0	0	0.3333	0.00	0.00	0.00

PRODUCING CO CASHFLOW CALCULATION TABLE BY YEAR   STAND ALONE ANALYSIS

NORTH STAR

RELATIVE YEAR	PRODN VOLUME MMB/Y	FIELD PS #1 GROSS WELLHEAD PRICE #PIPE PR $'S/BBL CURRENT	GROSS INCOME MM$'S CURRENT	CAPITAL COSTS MM$'S CURRENT	OPER COSTS MM$'S CURRENT	NET PMTS TO AK STATE GOVT W/ FIN MM$'S CURRENT	NET PMTS TO US FED GOVT W/ FIN MM$'S CURRENT	NET PMTS TO FINAN COMMUN MM$'S CURRENT	CO NET CASHFLOW W/ FIN MM$'S CURRENT	NET PMTS TO AK STATE GOVT W/O FIN MM$'S CURRENT	NET PMTS TO US FED GOVT W/O FIN MM$'S CURRENT	CO NET CASHFLOW W/O FIN MM$'S CURRENT
1997	0.00	16.23	0.00	142.91	0.00	2.00	0.00	0.00	-144.91	2.00	0.00	-144.91
1998	0.00	17.12	0.00	248.89	0.00	4.68	0.00	0.00	-253.57	4.68	0.00	-253.57
1999	0.00	18.05	0.00	289.82	0.00	7.86	0.00	0.00	-297.68	7.86	0.00	-297.68
2000	18.00	19.02	342.37	148.32	115.44	83.44	0.00	0.00	-4.83	83.44	0.00	-4.83
2001	20.00	20.03	400.68	0.00	126.08	99.98	0.00	0.00	174.61	99.98	0.00	174.61
2002	20.00	21.09	421.86	0.00	131.76	104.75	0.00	0.00	185.35	104.75	0.00	185.35
2003	20.00	22.20	443.99	0.00	137.69	109.70	0.00	0.00	196.60	109.70	0.00	196.60
2004	18.00	23.36	420.41	0.00	170.04	99.77	0.00	0.00	150.60	99.77	0.00	150.60
2005	15.00	24.56	368.47	0.00	170.34	84.17	2.36	0.00	111.59	84.17	2.36	111.59
2006	12.00	25.83	309.93	0.00	169.23	69.56	4.17	0.00	66.97	69.56	4.17	66.97
2007	10.00	27.15	271.47	0.00	168.22	61.31	2.13	0.00	39.81	61.31	2.13	39.81
2008	9.00	28.53	256.74	0.00	172.44	57.89	4.20	0.00	22.21	57.89	4.20	22.21
2009	8.00	29.97	239.74	0.00	176.27	53.95	0.00	0.00	9.51	53.95	0.00	9.51
2010	7.00	31.47	220.31	0.00	179.61	49.47	0.00	0.00	-8.77	49.47	0.00	-8.77
2011	6.00	33.05	198.28	0.00	177.55	44.39	0.00	0.00	-23.65	44.39	0.00	-23.65
2012	5.00	34.69	173.46	0.00	174.50	38.66	0.00	0.00	-39.71	38.66	0.00	-39.71
2013	4.00	36.41	145.64	0.00	170.31	32.26	0.00	0.00	-56.92	32.26	0.00	-56.92
2014	3.00	38.21	114.62	0.00	164.76	25.11	0.00	0.00	-75.25	25.11	0.00	-75.25
2015	3.00	40.08	120.25	0.00	168.99	25.20	0.00	0.00	-73.94	25.20	0.00	-73.94
2016	0.00	42.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2017	0.00	44.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2018	0.00	46.24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2019	0.00	48.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2020	0.00	50.81	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2021	0.00	53.26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2022	0.00	55.81	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2023	0.00	58.48	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2024	0.00	61.27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2025	0.00	64.18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2026	0.00	67.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL	178.00	PV AMORT	4448.20	829.94	2573.23	1054.14	12.87	0.00	21.98	1054.14	12.87	-21.98

NPV'S BEG YR 1 @ PCT		PRICE $'S/BBL										
0.00	178.00	24.99	4448.20	829.94	2573.23	1054.14	12.87	0.00	-21.98	1054.14	12.87	-21.98
5.00	116.83	24.07	2811.96	734.24	1472.28	675.76	7.67	0.00	-77.97	675.76	7.67	-77.97
10.00	80.53	23.34	1879.19	654.66	902.68	457.79	4.70	0.00	-140.63	457.79	4.70	-140.63
15.00	57.73	22.75	1313.62	587.83	587.15	324.26	2.95	0.00	-188.57	324.26	2.95	-188.57
20.00	42.72	22.29	952.34	531.18	401.34	238.13	1.89	0.00	-220.20	238.13	1.89	-220.20
25.00	32.45	21.92	711.26	482.76	285.86	180.10	1.24	0.00	-238.70	180.10	1.24	-238.70

ROR % W/ FIN   ERR

ROR % W/O FIN   ERR

PROFITABILITY RATIOS

@ PCT	(NCF+CAPC) / CAPC W/ FIN	(NCF+CAPC) / CAPC W/O FIN
0.00	0.97	0.97
5.00	0.89	0.89
10.00	0.79	0.79
15.00	0.68	0.68
20.00	0.59	0.59
25.00	0.51	0.51

EQUIVALENT AMORTIZED ECONOMIC RENT CALCULATION TABLE BY YEAR   STAND ALONE ANALYSIS

NORTH STAR

RELATIVE YEAR	PRODN VOLUME MMB/Y	FIELD PS #1 GROSS WELLHEAD PRICE +PIPE PR $'S/BBL CURRENT	GROSS INCOME MM$'S CURRENT	CAPITAL COSTS MM$'S CURRENT	OPER COSTS MM$'S CURRENT	ECONOMIC RENT MM$'S CURRENT	AK STATE GOVT REVS W/O FIN MM$'S CURRENT	US FED GOVT REVS W/O FIN MM$'S CURRENT	CO NET CASHFLOW W/O FIN MM$'S CURRENT
1997	0.00	16.23	0.00	142.91	0.00	-142.91	2.00	0.00	-144.91
1998	0.00	17.12	0.00	248.89	0.00	-248.89	4.68	0.00	-253.57
1999	0.00	18.05	0.00	289.82	0.00	-289.82	7.86	0.00	-297.68
2000	18.00	19.02	342.37	148.32	115.44	78.61	83.44	0.00	-4.83
2001	20.00	20.03	400.68	0.00	126.08	274.59	99.98	0.00	174.61
2002	20.00	21.09	421.86	0.00	131.76	290.10	104.75	0.00	185.35
2003	20.00	22.20	443.99	0.00	137.69	306.30	109.70	0.00	196.60
2004	18.00	23.36	420.41	0.00	170.04	250.36	99.77	0.00	150.60
2005	15.00	24.56	368.47	0.00	170.34	198.12	84.17	2.36	111.59
2006	12.00	25.83	309.93	0.00	169.23	140.70	69.56	4.17	66.97
2007	10.00	27.15	271.47	0.00	168.22	103.26	61.31	2.13	39.81
2008	9.00	28.53	256.74	0.00	172.44	84.30	57.89	4.20	22.21
2009	8.00	29.97	239.74	0.00	176.27	63.47	53.95	0.00	9.51
2010	7.00	31.47	220.31	0.00	179.61	40.70	49.47	0.00	-8.77
2011	6.00	33.05	198.28	0.00	177.55	20.74	44.39	0.00	-23.65
2012	5.00	34.69	173.46	0.00	174.50	-1.04	38.66	0.00	-39.71
2013	4.00	36.41	145.64	0.00	170.31	-24.67	32.26	0.00	-56.92
2014	3.00	38.21	114.62	0.00	164.76	-50.14	25.11	0.00	-75.25
2015	3.00	40.08	120.25	0.00	168.99	-48.74	25.20	0.00	-73.94
2016	0.00	42.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2017	0.00	44.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2018	0.00	46.24	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2019	0.00	48.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2020	0.00	50.81	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2021	0.00	53.26	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2022	0.00	55.81	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2023	0.00	58.48	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2024	0.00	61.27	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2025	0.00	64.18	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2026	0.00	67.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL	178.00	PV AMORT PRICE $'S/BBL	4448.20	829.94	2573.23	1045.03	1054.14	12.87	-21.98
NPV'S BEG YR 1 @ PCT									
0.00	178.00	24.99	4448.20	829.94	2573.23	1045.03	1054.14	12.87	-21.98
5.00	116.83	24.07	2811.96	734.24	1472.28	605.45	675.76	7.67	-77.97
10.00	80.53	23.34	1879.19	654.66	902.68	321.85	457.79	4.70	-140.63
15.00	57.73	22.75	1313.62	587.83	587.15	138.63	324.26	2.95	-188.57
20.00	42.72	22.29	952.34	531.18	401.34	19.82	238.13	1.89	-220.20
25.00	32.45	21.92	711.26	482.76	285.86	-57.36	180.10	1.24	-238.70

PER BBL PV'S @ PCT	FIELD PS #1 GROSS WELLHEAD PRICE +PIPE PR $'S/BBL CURRENT	CAPITAL COSTS MM$'S CURRENT	OPER COSTS MM$'S CURRENT	ECONOMIC RENT MM$'S CURRENT	STATE GOVT REVS W/O FIN MM$'S CURRENT	FED GOVT REVS W/O FIN MM$'S CURRENT	CO NET CASHFLOW W/O FIN MM$'S CURRENT
0.00	24.99	4.66	14.46	5.87	5.92	0.07	-0.12
5.00	24.07	6.28	12.60	5.18	5.78	0.07	-0.67
10.00	23.34	8.13	11.21	4.00	5.68	0.06	-1.75
15.00	22.75	10.18	10.17	2.40	5.62	0.05	-3.27
20.00	22.29	12.43	9.39	0.46	5.57	0.04	-5.15
25.00	21.92	14.88	8.81	-1.77	5.55	0.04	-7.36

PERCENTAGE DIVISION OF PV ECON RENT --------

@ PCT	ECONOMIC RENT	STATE GOVT REVS	FED GOVT REVS	CO NET CASHFLOW
0.00	100.00	100.87	1.23	-2.10
5.00	100.00	111.61	1.27	-12.88
10.00	100.00	142.23	1.46	-43.69
15.00	100.00	233.90	2.13	-136.02
20.00	100.00	1201.59	9.54	-1111.13
25.00	100.00	-313.99	-2.16	416.15

PAY OUT TIME IN YEARS ------------- -11.74

ROR % W/O FIN --------------------- ERR

PROFITABILITY RATIOS W/O FIN ------

	@ PCT	
(PVNCF+PVCAPC) / PVCAPC	0.00	0.97
	5.00	0.89
	10.00	0.79
	15.00	0.68
	20.00	0.59
	25.00	0.51

MAX CASH EXPOSURE MM$'S CURRENT --- 700.99
W/O FIN

PRODUCING CO CASHFLOW CALCULATION TABLE BY YEAR   STAND ALONE ANALYSIS

NORTH STAR

RELATIVE YEAR	PRODN VOLUME MMB/Y	FIELD PS #1 GROSS WELLHEAD PRICE (PIPE PR $'S/BBL CONSTANT	GROSS INCOME MM$'S CONSTANT	CAPITAL COSTS MM$'S CONSTANT	OPER COSTS MM$'S CONSTANT	NET PMTS TO AK STATE GOVT W/ FIN MM$'S CONSTANT	NET PMTS TO US FED GOVT W/ FIN MM$'S CONSTANT	NET PMTS TO FINAN COMMUN MM$'S CONSTANT	CO NET CASHFLOW W/ FIN MM$'S CONSTANT	NET PMTS TO AK STATE GOVT W/O FIN MM$'S CONSTANT	NET PMTS TO US FED GOVT W/O FIN MM$'S CONSTANT	CO NET CASHFLOW W/O FIN MM$'S CONSTANT
1997	0.00	16.23	0.00	142.91	0.00	2.00	0.00	0.00	-144.91	2.00	0.00	-144.91
1998	0.00	16.39	0.00	238.18	0.00	4.48	0.00	0.00	-242.65	4.48	0.00	-242.65
1999	0.00	16.53	0.00	265.40	0.00	7.20	0.00	0.00	-272.60	7.20	0.00	-272.60
2000	18.00	16.67	300.01	129.98	101.16	73.11	0.00	0.00	-4.23	73.11	0.00	-4.23
2001	20.00	16.80	335.99	0.00	105.73	83.84	0.00	0.00	146.42	83.84	0.00	146.42
2002	20.00	16.93	338.52	0.00	105.73	84.05	0.00	0.00	148.73	84.05	0.00	148.73
2003	20.00	17.05	340.94	0.00	105.73	84.24	0.00	0.00	150.97	84.24	0.00	150.97
2004	18.00	17.16	308.93	0.00	124.95	73.31	0.00	0.00	110.66	73.31	0.00	110.66
2005	15.00	17.27	259.10	0.00	119.78	59.19	1.66	0.00	78.47	59.19	1.66	78.47
2006	12.00	17.38	208.55	0.00	113.87	46.81	2.80	0.00	45.07	46.81	2.80	45.07
2007	10.00	17.48	174.81	0.00	108.32	39.48	1.37	0.00	25.63	39.48	1.37	25.63
2008	9.00	17.58	158.20	0.00	106.26	35.67	2.59	0.00	13.69	35.67	2.59	13.69
2009	8.00	17.67	141.37	0.00	103.94	31.81	0.00	0.00	5.61	31.81	0.00	5.61
2010	7.00	17.76	124.32	0.00	101.35	27.91	0.00	0.00	-4.95	27.91	0.00	-4.95
2011	6.00	17.84	107.07	0.00	95.87	23.97	0.00	0.00	-12.77	23.97	0.00	-12.77
2012	5.00	17.93	89.63	0.00	90.17	19.98	0.00	0.00	-20.52	19.98	0.00	-20.52
2013	4.00	18.00	72.02	0.00	84.21	15.95	0.00	0.00	-28.15	15.95	0.00	-28.15
2014	3.00	18.08	54.24	0.00	77.96	11.88	0.00	0.00	-35.61	11.88	0.00	-35.61
2015	3.00	18.15	54.45	0.00	76.52	11.41	0.00	0.00	-33.48	11.41	0.00	-33.48
2016	0.00	18.22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2017	0.00	18.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2018	0.00	18.35	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2019	0.00	18.41	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2020	0.00	18.46	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2021	0.00	18.52	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2022	0.00	18.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2023	0.00	18.62	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2024	0.00	18.67	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2025	0.00	18.71	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2026	0.00	18.76	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL	178.00	PV AMORT PRICE $'S/BBL	3068.13	776.45	1621.55	736.30	8.43	0.00	-74.60	736.30	8.43	-74.60
NPV'S BEG YR 1 @ PCT												
0.00	178.00	17.24	3068.13	776.45	1621.55	736.30	8.43	0.00	-74.60	736.30	8.43	-74.60
5.00	116.83	17.16	2005.25	688.32	967.45	488.13	5.04	0.00	-143.69	488.13	5.04	-143.69
10.00	80.53	17.10	1377.39	614.92	616.06	339.96	3.09	0.00	-196.65	339.96	3.09	-196.65
15.00	57.73	17.05	984.62	553.18	414.18	246.31	1.94	0.00	-230.99	246.31	1.94	-230.99
20.00	42.72	17.01	726.92	500.75	291.18	184.26	1.25	0.00	-250.52	184.26	1.25	-250.52
25.00	32.45	16.98	551.02	455.88	212.33	141.51	0.82	0.00	-259.51	141.51	0.82	-259.51

ROR % W/ FIN --- ERR

ROR % W/O FIN --- ERR

PROFITABILITY RATIOS

@ PCT	(NCF+CAPC) / CAPC W/ FIN	(NCF+CAPC) / CAPC W/O FIN
0.00	0.90	0.90
5.00	0.79	0.79
10.00	0.68	0.68
15.00	0.58	0.58
20.00	0.50	0.50
25.00	0.43	0.43

EQUIVALENT AMORTIZED ECONOMIC RENT CALCULATION TABLE BY YEAR STAND ALONE ANALYSIS

NORTH STAR

RELATIVE YEAR	PRODN VOLUME MMB/Y	FIELD PS #1 GROSS WELLHEAD PRICE @PIPE PR $'S/BBL CONSTANT	GROSS INCOME MM$'S CONSTANT	CAPITAL COSTS MM$'S CONSTANT	OPER COSTS MM$'S CONSTANT	ECONOMIC RENT MM$'S CONSTANT	AK STATE GOVT REVS W/O FIN MM$'S CONSTANT	US FED GOVT REVS W/O FIN MM$'S CONSTANT	CO NET CASHFLOW W/O FIN MM$'S CONSTANT
1997	0.00	16.23	0.00	142.91	0.00	-142.91	2.00	0.00	-144.91
1998	0.00	16.39	0.00	238.18	0.00	-238.18	4.48	0.00	-242.65
1999	0.00	16.53	0.00	265.40	0.00	-265.40	7.20	0.00	-272.60
2000	18.00	16.67	300.01	129.98	101.16	68.88	73.11	0.00	-4.23
2001	20.00	16.80	335.99	0.00	105.73	230.26	83.84	0.00	146.42
2002	20.00	16.93	338.52	0.00	105.73	232.79	84.05	0.00	148.73
2003	20.00	17.05	340.94	0.00	105.73	235.21	84.24	0.00	150.97
2004	18.00	17.16	308.93	0.00	124.95	183.97	73.31	0.00	110.66
2005	15.00	17.27	259.10	0.00	119.78	139.32	59.19	1.66	78.47
2006	12.00	17.38	208.55	0.00	113.87	94.68	46.81	2.80	45.07
2007	10.00	17.48	174.81	0.00	108.32	66.49	39.48	1.37	25.63
2008	9.00	17.58	158.20	0.00	106.26	51.94	35.67	2.59	13.69
2009	8.00	17.67	141.37	0.00	103.94	37.42	31.81	0.00	5.61
2010	7.00	17.76	124.32	0.00	101.35	22.97	27.91	0.00	-4.95
2011	6.00	17.84	107.07	0.00	95.87	11.20	23.97	0.00	-12.77
2012	5.00	17.93	89.63	0.00	90.17	-0.54	19.98	0.00	-20.52
2013	4.00	18.00	72.02	0.00	84.21	-12.20	15.95	0.00	-28.15
2014	3.00	18.08	54.24	0.00	77.96	-23.72	11.88	0.00	-35.61
2015	3.00	18.15	54.45	0.00	76.52	-22.07	11.41	0.00	-33.48
2016	0.00	18.22	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2017	0.00	18.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2018	0.00	18.35	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2019	0.00	18.41	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2020	0.00	18.46	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2021	0.00	18.52	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2022	0.00	18.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2023	0.00	18.62	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2024	0.00	18.67	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2025	0.00	18.71	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2026	0.00	18.76	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL	178.00	PV AMORT	3068.13	776.45	1621.55	670.12	736.30	8.43	-74.60

NPV'S BEG YR 1 @ PCT		PRICE $'S/BBL							
0.00	178.00	17.24	3068.13	776.45	1621.55	670.12	736.30	8.43	-74.60
5.00	116.83	17.16	2005.25	688.32	967.45	349.48	488.13	5.04	-143.69
10.00	80.53	17.10	1377.39	614.92	616.06	146.41	339.96	3.09	-196.65
15.00	57.73	17.05	984.62	553.18	414.18	17.26	246.31	1.94	-230.99
20.00	42.72	17.01	726.92	500.75	291.18	-65.01	184.26	1.25	-250.52
25.00	32.45	16.98	551.02	455.88	212.33	-117.18	141.51	0.82	-259.51

PER BBL PV'S @ PCT	FIELD PS #1 GROSS WELLHEAD PRICE @PIPE PR $'S/BBL CONSTANT	CAPITAL COSTS MM$'S CONSTANT	OPER COSTS MM$'S CONSTANT	ECONOMIC RENT MM$'S CONSTANT	STATE GOVT REVS W/O FIN MM$'S CONSTANT	FED GOVT REVS W/O FIN MM$'S CONSTANT	CO NET CASHFLOW W/O FIN MM$'S CONSTANT
0.00	17.24	4.36	9.11	3.76	4.14	0.05	-0.42
5.00	17.16	5.89	8.28	2.99	4.18	0.04	-1.23
10.00	17.10	7.64	7.65	1.82	4.22	0.04	-2.44
15.00	17.05	9.58	7.17	0.30	4.27	0.03	-4.00
20.00	17.01	11.72	6.82	-1.52	4.31	0.03	-5.86
25.00	16.98	14.05	6.54	-3.61	4.36	0.03	-8.00

PERCENTAGE DIVISION OF PV ECON RENT ---------

@ PCT	ECONOMIC RENT	STATE	FED	CO
0.00	100.00	109.87	1.26	-11.13
5.00	100.00	139.67	1.44	-41.11
10.00	100.00	232.20	2.11	-134.32
15.00	100.00	1427.06	11.27	-1338.33
20.00	100.00	-283.43	-1.92	385.36
25.00	100.00	-120.76	-0.70	221.46

PAY OUT TIME IN YEARS ------------- -8.16

ROR % W/O FIN -------------------- ERR

PROFITABILITY RATIOS W/O FIN ------

$\frac{(PVNCF+PVCAPC)}{PVCAPC}$

@ PCT	
0.00	0.90
5.00	0.79
10.00	0.68
15.00	0.58
20.00	0.50
25.00	0.43

MAX CASH EXPOSURE MM$'S CONSTANT -- -664.39
W/O FIN

STATE OF ALASKA DEPT. OF REVENUE
PETROLEUM RESEARCH SECTION
ECONOMIC FEASIBILITY MODEL: ALASKA NORTH SLOPE OIL FIELD DEVELOPMENT DECISION
NOTE: ANALYSIS OF DEVELOPMENT FEASIBILITY ONLY, IGNORES SUNK COSTS OF G&G AND EXPLORATION IN CAPITAL COSTS
PUBLIC VERSION: EQUIVALENT AMORTIZED ECONOMIC RENT FOR HYPOTHETICAL FIELD
FOR MORE INFORMATION CONTACT CHUCK LOGSDON AT (907) 277-5627
MAINFRAME MODEL REQUIRED FOR ENHANCED RECOVERY ANALYSIS, SIMULTAINOUS MULTI-FIELD SUPPLY ANALYSIS AND SHUTDOWN ANALYSIS

FIELD INPUT ASSUMPTIONS		ANALYSIS OPTIONS 0
FIELD NAME:	WEST SAK	INCREMENTAL - ONGOING OPERATOR = 0
FIELD ASSUMPTIONS:		STAND ALONE - NEW INVESTOR = 1
FISCAL: AK/US		
PROPORTION PRODN AK LEASES	1.0000	
AK ROYALTY RATE	0.1250	COMMENTS:
AK NET PROFIT BONUS ROY RATE	0.0000	
AK SEV TAX NOM RATE 1ST 5 YRS	0.1225	WEST SAK BASE CASE / BASE YEAR 1991
AK SEV TAX NOM RATE YR 6 ON	0.1500	CONSTANT $'S = 1991 $'S
AK PROPERTY TAX RATE	0.0200	CURRENT $'S = $'S OF THE DAY
AK ST CORP TAX EFF RATE	0.0140	INFLATION ASSUMED 4.5% PER YEAR FROM 1990
PROPORTION PRODN US FED LEASES	0.0000	
US FED ROYALTY RATE	0.0000	
US FED CORP TAX EFF RATE	0.3400	
COST:		
TOTAL LEASE AQUIS COST MM$'S HISTOR	200.0000	FOR CALC OF LEASE AMORT / DEPLETION
FIXED OPER COST MM$'S CONSTANT	62.70	
VARIABLE OPER COST $'S/BBL CONSTANT	2.61	
PRODN YEAR TO START WORKOVERS	3	
WORKOVER COST MM$'S/WELL CONSTANT	0.52	
WORKOVER ROTATION FACTOR	N/A	
PROPORTION WELL CAPITAL COST INTANG	0.7000	
PROPORTION FACIL CAPITAL COST INTANG	0.3000	
AK PTY TAX TR ORIG CO ANN ESCAL RATE	0.0500	
FINANCING: ASSUMED PROPORTION OF CAPITAL COST OBTAINED AT BEG OF EACH YEAR		
PROPORTION OF CAPITAL COST DEBT	0.0000	
CURRENT $ INTEREST RATE ON DEBT	1.0000	
TERM OF DEBT IN YEARS	10	

FIELD INPUT ASSUMPTIONS TABLE BY YEAR

WEST SAK

RELATIVE YEAR	INFLATION RATE PCT/Y	INFLATION FACTOR	FACILITY CAPITAL COST MM$'S CONSTANT	FACILITY CAPITAL COST CONS $ ESCAL RATE PCT/Y	FACILITY CAPITAL COST CURR $ ESCAL FACTOR	FACILITY CAPITAL COST MM$'S CURRENT	WELL CAPITAL COST MM$'S CONSTANT	WELL CAPITAL COST CONS $ ESCAL RATE PCT/Y	WELL CAPITAL COST CURR $ ESCAL FACTOR	WELL CAPITAL COST MM$'S CURRENT	PRODN VOLUME MMBBL/Y	RELATIVE PRODN YEAR	PRUDHOE BAY OIL GROSS WELLHEAD PRICE $'S/BBL CURRENT	FIELD TARIFF COST $'S/BBL CURRENT	FIELD QUALITY DIFFER $'S/BBL CURRENT	FIELD GROSS WELLHEAD PRICE $'S/BBL CURRENT	FIELD COSTS W/ ROY CALC $'S/BBL CURRENT	FIELD ROY WELLHEAD PRICE $'S/BBL CURRENT	FIXED OPER COST CONS $ ESCAL RATE PCT/Y	FIXED OPER COST CURR $ ESCAL FACTOR	FIXED OPER COST MM$'S CURRENT
1991		1.0000	52.25		1.0000	52.25	0.00		1.0000	0.00	0.00	0	15.15	0.95	0.00	14.20	0.52	13.68		1.0000	0.00
1992	4.50	1.0450	0.00	0.00	1.0450	0.00	21.95	0.00	1.0450	22.93	2.19	1	15.83	0.95	0.00	14.88	0.54	14.34	0.00	1.0450	65.52
1993	4.50	1.0920	0.00	0.00	1.0920	0.00	0.00	0.00	1.0920	0.00	2.19	2	16.55	0.95	0.00	15.60	0.57	15.03	0.00	1.0920	68.47
1994	4.50	1.1412	0.00	0.00	1.1412	0.00	0.00	0.00	1.1412	0.00	2.19	3	17.29	0.95	0.00	16.34	0.59	15.75	0.00	1.1412	71.55
1995	4.50	1.1925	5.23	0.00	1.1925	6.23	25.08	0.00	1.1925	29.91	4.38	4	18.07	0.95	0.00	17.12	0.62	16.50	0.00	1.1925	74.77
1996	4.50	1.2462	0.00	0.00	1.2462	0.00	0.00	0.00	1.2462	0.00	4.38	5	18.88	0.95	0.00	17.93	0.65	17.28	0.00	1.2462	78.14
1997	4.50	1.3023	0.00	0.00	1.3023	0.00	0.00	0.00	1.3023	0.00	4.38	6	19.73	0.95	0.00	18.78	0.68	18.11	0.00	1.3023	81.65
1998	4.50	1.3609	5.23	0.00	1.3609	7.11	47.03	0.00	1.3609	63.99	9.13	7	20.62	0.95	0.00	19.67	0.71	18.96	0.00	1.3609	85.33
1999	4.50	1.4221	52.25	0.00	1.4221	74.30	0.00	0.00	1.4221	0.00	9.13	8	21.55	0.95	0.00	20.60	0.74	19.86	0.00	1.4221	89.17
2000	4.50	1.4861	10.45	0.00	1.4861	15.53	88.83	0.00	1.4861	132.00	18.25	9	22.52	0.95	0.00	21.57	0.77	20.80	0.00	1.4861	93.18
2001	4.50	1.5530	0.00	0.00	1.5530	0.00	0.00	0.00	1.5530	0.00	18.25	10	23.53	0.95	0.00	22.58	0.81	21.77	0.00	1.5530	97.37
2002	4.50	1.6229	10.45	0.00	1.6229	16.96	78.38	0.00	1.6229	127.19	27.38	11	24.59	0.95	0.00	23.64	0.84	22.80	0.00	1.6229	101.75
2003	4.50	1.6959	0.00	0.00	1.6959	0.00	0.00	0.00	1.6959	0.00	27.38	12	25.70	0.95	0.00	24.75	0.88	23.86	0.00	1.6959	106.33
2004	4.50	1.7722	10.45	0.00	1.7722	18.52	104.50	0.00	1.7722	185.19	36.50	13	26.85	0.95	0.00	25.90	0.92	24.98	0.00	1.7722	111.12
2005	4.50	1.8519	0.00	0.00	1.8519	0.00	0.00	0.00	1.8519	0.00	36.50	14	28.06	0.95	0.00	27.11	0.96	26.15	0.00	1.8519	116.12
2006	4.50	1.9353	20.90	0.00	1.9353	40.45	182.88	0.00	1.9353	353.91	54.75	15	29.32	0.95	0.00	28.37	1.01	27.37	0.00	1.9353	121.34
2007	4.50	2.0224	0.00	0.00	2.0224	0.00	26.13	0.00	2.0224	52.83	54.75	16	30.64	0.95	0.00	29.69	1.05	28.64	0.00	2.0224	126.80
2008	4.50	2.1134	10.45	0.00	2.1134	22.08	78.38	0.00	2.1134	165.64	54.75	17	32.02	0.95	0.00	31.07	1.10	29.97	0.00	2.1134	132.51
2009	4.50	2.2085	0.00	0.00	2.2085	0.00	0.00	0.00	2.2085	0.00	54.75	18	33.46	0.95	0.00	32.51	1.15	31.37	0.00	2.2085	138.47
2010	4.50	2.3079	0.00	0.00	2.3079	0.00	0.00	0.00	2.3079	0.00	51.10	19	34.97	0.95	0.00	34.02	1.20	32.82	0.00	2.3079	144.70
2011	4.50	2.4117	0.00	0.00	2.4117	0.00	0.00	0.00	2.4117	0.00	43.80	20	36.54	0.95	0.00	35.59	1.25	34.34	-4.50	2.3079	144.70
2012	4.50	2.5202	0.00	0.00	2.5202	0.00	0.00	0.00	2.5202	0.00	34.68	21	38.19	0.95	0.00	37.24	1.31	35.93	-4.50	2.3079	144.70
2013	4.50	2.6337	0.00	0.00	2.6337	0.00	0.00	0.00	2.6337	0.00	27.38	22	39.91	0.95	0.00	38.96	1.37	37.59	-10.00	2.1809	136.74
2014	4.50	2.7522	0.00	0.00	2.7522	0.00	0.00	0.00	2.7522	0.00	21.90	23	41.70	0.95	0.00	40.75	1.43	39.32	-10.00	2.0610	129.22
2015	4.50	2.8760	0.00	0.00	2.8760	0.00	0.00	0.00	2.8760	0.00	18.25	24	43.58	0.95	0.00	42.63	1.50	41.13	-10.00	1.9476	122.12
2016	4.50	3.0054	0.00	0.00	3.0054	0.00	0.00	0.00	3.0054	0.00	14.60	25	45.54	0.95	0.00	44.59	1.56	43.03	-10.00	1.8405	115.40
2017	4.50	3.1407	0.00	0.00	3.1407	0.00	0.00	0.00	3.1407	0.00	0.00	25	47.59	0.95	0.00	46.64	1.63	45.01	-10.00	1.7393	0.00
2018	4.50	3.2820	0.00	0.00	3.2820	0.00	0.00	0.00	3.2820	0.00	0.00	25	49.73	0.95	0.00	48.78	1.71	47.07	-10.00	1.6436	0.00
2019	4.50	3.4297	0.00	0.00	3.4297	0.00	0.00	0.00	3.4297	0.00	0.00	25	51.97	0.95	0.00	51.02	1.78	49.24	-10.00	1.5532	0.00
2020	4.50	3.5840	0.00	0.00	3.5840	0.00	0.00	0.00	3.5840	0.00	0.00	25	54.31	0.95	0.00	53.36	1.86	51.49	-10.00	1.4678	0.00
						253.44				1133.61	632.94										

WEST SAK

	VAR OPER COST CONS $ ESCAL RATE PCT/Y	VAR OPER COST CURR $ ESCAL FACTOR	VAR OPER COST MM$'S CURRENT	WORK OVER COST CONS $ ESCAL RATE PCT/Y	WORK OVER COST CURR $ ESCAL FACTOR	PRODN WELLS FOR ELF CALCS	TOT WELLS FOR WORK OVER CALCS	WORK OVER ROTATION FACTOR	WORK OVER COST MM$'S CURRENT	FIELD PIPE PROFIT $'S/BBL CURRENT	TAPS PROFIT $'S/BBL CURRENT
1991		1.0000	0.00		1.0000	0	0	0.3333	0.00	0.00	0.00
1992	0.00	1.0450	5.98	0.00	1.0450	17	21	0.3333	0.00	0.00	0.00
	0.00	1.0920	6.25	0.00	1.0920	17	21	0.3333	0.00	0.00	0.00
	0.00	1.1412	6.53	0.00	1.1412	17	21	0.3333	4.15	0.00	0.00
	0.00	1.1925	13.65	0.00	1.1925	34	45	0.3333	9.30	0.00	0.00
	0.00	1.2462	14.26	0.00	1.2462	34	45	0.3333	9.72	0.00	0.00
	0.00	1.3023	14.90	0.00	1.3023	34	45	0.3333	10.16	0.00	0.00
	0.00	1.3609	32.46	0.00	1.3609	71	90	0.3333	21.23	0.00	0.00
	0.00	1.4221	33.92	0.00	1.4221	71	90	0.3333	22.18	0.00	0.00
	0.00	1.4861	70.85	0.00	1.4861	143	175	0.3333	45.07	0.00	0.00
	0.00	1.5530	74.04	0.00	1.5530	143	175	0.3333	47.10	0.00	0.00
	0.00	1.6229	116.08	0.00	1.6229	214	250	0.3333	70.32	0.00	0.00
	0.00	1.6959	121.31	0.00	1.6959	214	250	0.3333	73.48	0.00	0.00
	0.00	1.7722	168.99	0.00	1.7722	286	350	0.3333	107.50	0.00	0.00
	0.00	1.8519	176.59	0.00	1.8519	286	350	0.3333	112.34	0.00	0.00
	6.00	2.0464	292.71	0.00	1.9353	430	525	0.3333	176.09	0.00	0.00
	6.00	2.2613	323.44	0.00	2.0224	450	550	0.3333	192.78	0.00	0.00
	6.00	2.4987	357.40	0.00	2.1134	500	625	0.3333	220.93	0.00	0.00
	6.00	2.7611	394.93	0.00	2.2085	500	625	0.3333	239.23	0.00	0.00
	6.00	3.0510	407.30	0.00	2.3079	475	600	0.3333	239.99	0.00	0.00
	6.00	3.3713	385.77	0.00	2.4117	450	550	0.2000	137.95	0.00	0.00
	6.00	3.7253	337.52	0.00	2.5202	425	525	0.2000	137.61	0.00	0.00
	6.00	4.1165	294.45	0.00	2.6337	400	500	0.2000	136.95	0.00	0.00
	6.00	4.5487	260.25	0.00	2.7522	375	450	0.1000	64.40	0.00	0.00
	6.00	5.0263	239.65	0.00	2.8760	350	425	0.1000	63.56	0.00	0.00
	6.00	5.5541	211.85	0.00	3.0054	300	375	0.0000	0.00	0.00	0.00
	6.00	6.1373	0.00	0.00	3.1407	0	0	0.0000	0.00	0.00	0.00
	6.00	6.7817	0.00	0.00	3.2820	0	0	0.0000	0.00	0.00	0.00
	6.00	7.4938	0.00	0.00	3.4297	0	0	0.0000	0.00	0.00	0.00
2020	6.00	8.2806	0.00	0.00	3.5840	0	0	0.0000	0.00	0.00	0.00

PRODUCING CO CASHFLOW CALCULATION TABLE BY YEAR INCREMENTAL ANALYSIS

WEST SAK

RELATIVC YEAR	PRODN VOLUME MMB/Y	FIELD PS #1 GROSS WELLHEAD PRICE +PIPE PR $'S/BBL CURRENT	GROSS INCOME MM$'S CURRENT	CAPITAL COSTS MM$'S CURRENT	OPER COSTS MM$'S CURRENT	NET PMTS TO AK STATE GOVT W/ FIN MM$'S CURRENT	NET PMTS TO US FED GOVT W/ FIN MM$'S CURRENT	NET PMTS TO FINAN COMMUN MM$'S CURRENT	CO NET CASHFLOW W/ FIN MM$'S CURRENT	NET PMTS TO AK STATE GOVT W/O FIN MM$'S CURRENT	NET PMTS TO US FED GOVT W/O FIN MM$'S CURRENT	CO NET CASHFLOW W/O FIN MM$'S CURRENT
1991	0.00	14.20	0.00	52.25	0.00	0.72	-5.57	0.00	-47.40	0.72	-5.57	-47.40
1992	2.19	14.88	32.60	22.93	71.50	4.18	-20.98	0.00	-45.04	4.18	-20.98	-45.04
1993	2.19	15.60	34.16	0.00	74.72	4.35	-19.45	0.00	-25.46	4.35	-19.45	-25.46
1994	2.19	16.34	35.79	0.00	82.23	4.46	-20.46	0.00	-30.45	4.46	-20.46	-30.45
1995	4.38	17.12	74.98	36.14	97.72	9.70	-20.15	0.00	-48.42	9.70	-20.15	-48.42
1996	4.38	17.93	78.55	0.00	102.11	10.12	-15.11	0.00	-18.58	10.12	-15.11	-18.58
1997	4.38	18.78	82.27	0.00	106.71	10.55	-15.07	0.00	-19.92	10.55	-15.07	-19.92
1998	9.13	19.67	179.59	71.11	139.01	23.46	-10.49	0.00	-43.49	23.46	-10.49	-43.49
1999	9.13	20.60	188.06	74.30	145.27	25.50	-9.62	0.00	-47.38	25.50	-9.62	-47.38
2000	18.25	21.57	393.62	147.53	209.11	52.75	8.57	0.00	-24.34	52.75	8.57	-24.34
2001	18.25	22.58	412.11	0.00	218.52	55.00	33.63	0.00	104.96	55.00	33.63	104.96
2002	27.38	23.64	647.27	144.15	288.15	86.34	54.60	0.00	74.03	86.34	54.60	74.03
2003	27.38	24.75	677.57	0.00	301.12	90.06	81.65	0.00	204.74	90.06	81.65	204.74
2004	36.50	25.90	945.47	203.71	387.61	128.33	94.20	0.00	131.61	128.33	94.20	131.61
2005	36.50	27.11	989.57	0.00	405.05	133.82	132.61	0.00	318.10	133.82	132.61	318.10
2006	54.75	28.37	1553.50	394.36	590.14	232.60	158.05	0.00	178.34	232.60	158.05	178.34
2007	54.75	29.69	1625.74	52.83	643.02	233.86	213.78	0.00	482.24	233.86	213.78	482.24
2008	54.75	31.07	1701.24	187.72	718.84	222.37	196.97	0.00	375.35	222.37	196.97	375.35
2009	54.75	32.51	1780.14	0.00	772.63	231.26	233.63	0.00	542.62	231.26	233.63	542.62
2010	51.10	34.02	1738.41	0.00	792.00	224.97	220.92	0.00	500.53	224.97	220.92	500.53
2011	43.80	35.59	1559.00	0.00	668.43	202.46	215.23	0.00	472.87	202.46	215.23	472.87
2012	34.68	37.24	1291.41	0.00	619.83	167.19	158.48	0.00	345.91	167.19	158.48	345.91
2013	27.38	38.96	1066.63	0.00	568.15	137.45	114.13	0.00	246.90	137.45	114.13	246.90
2014	21.90	40.75	892.47	0.00	453.87	115.12	105.41	0.00	218.07	115.12	105.41	218.07
2015	18.25	42.63	777.98	0.00	425.32	99.31	83.19	0.00	170.16	99.31	83.19	170.16
2016	14.60	44.59	651.01	0.00	327.25	82.69	80.40	0.00	160.68	82.69	80.40	160.68
2017	0.00	46.64	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2018	0.00	48.78	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2019	0.00	51.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2020	0.00	53.36	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL	632.94	PV AMORT	19409.13	1387.04	9208.30	2588.58	2048.57	0.00	4176.64	2588.58	2048.57	4176.64
NPV'S BEG YR 1 @ PCT		PRICE $'S/BBL										
0.00	632.94	30.67	19409.13	1387.04	9208.30	2588.58	2048.57	0.00	4176.64	2588.58	2048.57	4176.64
5.00	280.61	29.18	8188.42	750.35	4029.26	1096.56	772.65	0.00	1539.60	1096.56	772.65	1539.60
10.00	136.47	27.69	3778.92	440.07	1977.92	507.54	293.54	0.00	559.86	507.54	293.54	559.86
15.00	72.36	26.22	1897.33	279.53	1083.79	255.27	103.12	0.00	175.61	255.27	103.12	175.61
20.00	41.55	24.81	1030.82	191.55	656.51	138.80	24.44	0.00	19.52	138.80	24.44	19.52
25.00	25.66	23.48	602.59	140.60	433.70	81.16	-8.53	0.00	-44.33	81.16	-8.53	-44.33

ROR % W/ FIN ---- 21.11

ROR % W/O FIN --- 21.11

PROFITABILITY RATIOS

@ PCT	(NCF+CAPC) / CAPC W/ FIN	(NCF+CAPC) / CAPC W/O FIN
0.00	4.01	4.01
5.00	3.05	3.05
10.00	2.27	2.27
15.00	1.63	1.63
20.00	1.10	1.10
25.00	0.68	0.68

EQUIVALENT AMORTIZED ECONOMIC RENT CALCULATION TABLE BY YEAR INCREMENTAL ANALYSIS

WEST SAK

RELATIVE YEAR	PRODN VOLUME MMB/Y	FIELD PS #1 GROSS WELLHEAD PRICE +PIPE PR $'S/BBL CURRENT	GROSS INCOME MM$'S CURRENT	CAPITAL COSTS MM$'S CURRENT	OPER COSTS MM$'S CURRENT	ECONOMIC RENT MM$'S CURRENT	AK STATE GOVT REVS W/O FIN MM$'S CURRENT	US FED GOVT REVS W/O FIN MM$'S CURRENT	CO NET CASHFLOW W/O FIN MM$'S CURRENT
1991	0.00	14.20	0.00	52.25	0.00	-52.25	0.72	-5.57	-47.40
1992	2.19	14.88	32.60	22.93	71.50	-61.84	4.18	-20.98	-45.04
1993	2.19	15.60	34.16	0.00	74.72	-40.56	4.35	-19.45	-25.46
1994	2.19	16.34	35.79	0.00	82.23	-46.45	4.46	-20.46	-30.45
1995	4.38	17.12	74.98	36.14	97.72	-58.87	9.70	-20.15	-48.42
1996	4.38	17.93	78.55	0.00	102.11	-23.57	10.12	-15.11	-18.58
1997	4.38	18.78	82.27	0.00	106.71	-24.44	10.55	-15.07	-19.92
1998	9.13	19.67	179.59	71.11	139.01	-30.53	23.46	-10.49	-43.49
1999	9.13	20.60	188.06	74.30	145.27	-31.51	25.50	-9.62	-47.38
2000	18.25	21.57	393.62	147.53	209.11	36.98	52.75	8.57	-24.34
2001	18.25	22.58	412.11	0.00	218.52	193.59	55.00	33.63	104.96
2002	27.38	23.64	647.27	144.15	288.15	214.97	86.34	54.60	74.03
2003	27.38	24.75	677.57	0.00	301.12	376.45	90.06	81.65	204.74
2004	36.50	25.90	945.47	203.71	387.61	354.14	128.33	94.20	131.61
2005	36.50	27.11	989.57	0.00	405.05	584.52	133.82	132.61	318.10
2006	54.75	28.37	1553.50	394.36	590.14	568.99	232.60	158.05	178.34
2007	54.75	29.69	1625.74	52.83	643.02	929.89	233.86	213.78	482.24
2008	54.75	31.07	1701.24	187.72	718.84	794.69	222.37	196.97	375.35
2009	54.75	32.51	1780.14	0.00	772.63	1007.51	231.26	233.63	542.62
2010	51.10	34.02	1738.41	0.00	792.00	946.42	224.97	220.92	500.53
2011	43.80	35.59	1559.00	0.00	668.43	890.57	202.46	215.23	472.87
2012	34.68	37.24	1291.41	0.00	619.83	671.58	167.19	158.48	345.91
2013	27.38	38.96	1066.63	0.00	568.15	498.48	137.45	114.13	246.90
2014	21.90	40.75	892.47	0.00	453.87	438.60	115.12	105.41	218.07
2015	18.25	42.63	777.98	0.00	425.32	352.65	99.31	83.19	170.16
2016	14.60	44.59	651.01	0.00	327.25	323.77	82.69	80.40	160.68
2017	0.00	46.64	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2018	0.00	48.78	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2019	0.00	51.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2020	0.00	53.36	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL	632.94	PV AMORT PRICE $'S/BBL	19409.13	1387.04	9208.30	8813.79	2588.58	2048.57	4176.64
NPV'S BEG YR 1 @ PCT									
0.00	632.94	30.67	19409.13	1387.04	9208.30	8813.79	2588.58	2048.57	4176.64
5.00	280.61	29.18	8188.42	750.35	4029.26	3408.81	1096.56	772.65	1539.60
10.00	136.47	27.69	3778.92	440.07	1977.92	1360.94	507.54	293.54	559.86
15.00	72.36	26.22	1897.33	279.53	1083.79	534.01	255.27	103.12	175.61
20.00	41.55	24.81	1030.82	191.55	656.51	182.76	138.80	24.44	19.52
25.00	25.66	23.48	602.59	140.60	433.70	28.29	81.16	-8.53	-44.33

PER BBL PV'S @ PCT	FIELD PS #1 GROSS WELLHEAD PRICE +PIPE PR $'S/BBL CURRENT	CAPITAL COSTS MM$'S CURRENT	OPER COSTS MM$'S CURRENT	ECONOMIC RENT MM$'S CURRENT	STATE GOVT REVS W/O FIN MM$'S CURRENT	FED GOVT REVS W/O FIN MM$'S CURRENT	CO NET CASHFLOW W/O FIN MM$'S CURRENT
0.00	30.67	2.19	14.55	13.93	4.09	3.24	6.60
5.00	29.18	2.67	14.36	12.15	3.91	2.75	5.49
10.00	27.69	3.22	14.49	9.97	3.72	2.15	4.10
15.00	26.22	3.86	14.98	7.38	3.53	1.43	2.43
20.00	24.81	4.61	15.80	4.40	3.34	0.59	0.47
25.00	23.48	5.48	16.90	1.10	3.16	-0.33	-1.73

PERCENTAGE DIVISION OF PV ECON RENT ---------

@ PCT	ECONOMIC RENT	STATE	FED	CO
0.00	100.00	29.37	23.24	47.39
5.00	100.00	32.17	22.67	45.17
10.00	100.00	37.29	21.57	41.14
15.00	100.00	47.80	19.31	32.89
20.00	100.00	75.94	13.37	10.68
25.00	100.00	286.84	-30.15	-156.70

PAY OUT TIME IN YEARS ------------ 12.84

ROR % W/O FIN -------------------- 21.11

PROFITABILITY RATIOS W/O FIN ------

(PVNCF+PVCAPC) / PVCAPC

@ PCT	
0.00	4.01
5.00	3.05
10.00	2.27
15.00	1.63
20.00	1.10
25.00	0.68

MAX CASH EXPOSURE MM$'S CURRENT --- -350.48
W/O FIN

PRODUCING CO CASHFLOW CALCULATION TABLE BY YEAR INCREMENTAL ANALYSIS

WEST SAK

RELATIVE YEAR	PRODN VOLUME MMB/Y	FIELD PS #1 GROSS WELLHEAD PRICE +PIPE PR $'S/BBL CONSTANT	GROSS INCOME MM$'S CONSTANT	CAPITAL COSTS MM$'S CONSTANT	OPER COSTS MM$'S CONSTANT	NET PMTS TO AK STATE GOVT W/ FIN MM$'S CONSTANT	NET PMTS TO US FED GOVT W/ FIN MM$'S CONSTANT	NET PMTS TO FINAN COMMUN MM$'S CONSTANT	CO NET CASHFLOW W/ FIN MM$'S CONSTANT	NET PMTS TO AK STATE GOVT W/O FIN MM$'S CONSTANT	NET PMTS TO US FED GOVT W/O FIN MM$'S CONSTANT	CO NET CASHFLOW W/O FIN MM$'S CONSTANT
1991	0.00	14.20	0.00	52.25	0.00	0.72	-5.57	0.00	-47.40	0.72	-5.57	-47.40
1992	2.19	14.24	31.19	21.95	68.42	4.00	-20.07	0.00	-43.10	4.00	-20.07	-43.10
1993	2.19	14.28	31.28	0.00	68.42	3.98	-17.81	0.00	-23.31	3.98	-17.81	-23.31
1994	2.19	14.32	31.36	0.00	72.06	3.91	-17.93	0.00	-26.69	3.91	-17.93	-26.69
1995	4.38	14.36	62.88	30.31	81.94	8.14	-16.90	0.00	-40.61	8.14	-16.90	-40.61
1996	4.38	14.39	63.03	0.00	81.94	8.12	-12.12	0.00	-14.91	8.12	-12.12	-14.91
1997	4.38	14.42	63.17	0.00	81.94	8.10	-11.57	0.00	-15.30	8.10	-11.57	-15.30
1998	9.13	14.45	131.97	52.25	102.15	17.24	-7.71	0.00	-31.96	17.24	-7.71	-31.96
1999	9.13	14.48	132.24	52.25	102.15	17.93	-6.77	0.00	-33.32	17.93	-6.77	-33.32
2000	18.25	14.51	264.87	99.28	140.71	35.50	5.77	0.00	-16.38	35.50	5.77	-16.38
2001	18.25	14.54	265.37	0.00	140.71	35.42	21.66	0.00	67.58	35.42	21.66	67.58
2002	27.38	14.57	398.85	88.83	177.56	53.20	33.65	0.00	45.62	53.20	33.65	45.62
2003	27.38	14.59	399.54	0.00	177.56	53.10	48.15	0.00	120.73	53.10	48.15	120.73
2004	36.50	14.62	533.50	114.95	218.72	72.41	53.16	0.00	74.26	72.41	53.16	74.26
2005	36.50	14.64	534.34	0.00	218.72	72.26	71.60	0.00	171.76	72.26	71.60	171.76
2006	54.75	14.66	802.72	203.78	304.94	120.19	81.67	0.00	92.15	120.19	81.67	92.15
2007	54.75	14.68	803.88	26.13	317.95	115.64	105.71	0.00	238.45	115.64	105.71	238.45
2008	54.75	14.70	804.99	88.83	340.14	105.22	93.20	0.00	177.61	105.22	93.20	177.61
2009	54.75	14.72	806.05	0.00	349.85	104.71	105.79	0.00	245.70	104.71	105.79	245.70
2010	51.10	14.74	753.26	0.00	343.17	97.48	95.72	0.00	216.88	97.48	95.72	216.88
2011	43.80	14.76	646.43	0.00	277.16	83.95	89.24	0.00	196.07	83.95	89.24	196.07
2012	34.68	14.78	512.42	0.00	245.94	66.34	62.88	0.00	137.25	66.34	62.88	137.25
2013	27.38	14.79	405.00	0.00	215.73	52.19	43.33	0.00	93.75	52.19	43.33	93.75
2014	21.90	14.81	324.28	0.00	164.91	41.83	38.30	0.00	79.24	41.83	38.30	79.24
2015	18.25	14.82	270.50	0.00	147.89	34.53	28.93	0.00	59.16	34.53	28.93	59.16
2016	14.60	14.84	216.61	0.00	108.88	27.51	26.75	0.00	53.46	27.51	26.75	53.46
2017	0.00	14.85	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2018	0.00	14.86	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2019	0.00	14.88	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2020	0.00	14.89	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL	632.94	PV AMORT PRICE $'S/BBL	9289.73	830.78	4549.56	1243.60	889.06	0.00	1776.73	1243.60	889.06	1776.73
NPV'S BEG YR 1 @ PCT												
0.00	632.94	14.68	9289.73	830.78	4549.56	1243.60	889.06	0.00	1776.73	1243.60	889.06	1776.73
5.00	280.61	14.65	4111.33	472.58	2143.14	552.11	323.81	0.00	619.69	552.11	323.81	619.69
10.00	136.47	14.62	1995.62	293.33	1138.80	268.49	109.00	0.00	185.99	268.49	109.00	185.99
15.00	72.36	14.59	1055.89	197.80	675.24	142.17	23.76	0.00	16.92	142.17	23.76	16.92
20.00	41.55	14.56	605.04	143.72	439.88	81.49	-10.57	0.00	-49.48	81.49	-10.57	-49.48
25.00	25.66	14.53	372.80	111.30	309.35	50.22	-23.92	0.00	-74.16	50.22	-23.92	-74.16

ROR % W/ FIN ---- 15.90

ROR % W/O FIN --- 15.90

PROFITABILITY RATIOS

@ PCT	(NCF+CAPC) / CAPC W/ FIN	(NCF+CAPC) / CAPC W/O FIN
0.00	3.14	3.14
5.00	2.31	2.31
10.00	1.63	1.63
15.00	1.09	1.09
20.00	0.66	0.66
25.00	0.33	0.33

EQUIVALENT AMORTIZED ECONOMIC RENT CALCULATION TABLE BY YEAR   INCREMENTAL ANALYSIS

WEST SAK

RELATIVE YEAR	PRODN VOLUME MMB/Y	FIELD PS #1 GROSS WELLHEAD PRICE +PIPE PR $'S/BBL CONSTANT	GROSS INCOME MM$'S CONSTANT	CAPITAL COSTS MM$'S CONSTANT	OPER COSTS MM$'S CONSTANT	ECONOMIC RENT MM$'S CONSTANT	AK STATE GOVT REVS W/O FIN MM$'S CONSTANT	US FED GOVT REVS W/O FIN MM$'S CONSTANT	CO NET CASHFLOW W/O FIN MM$'S CONSTANT
1991	0.00	14.20	0.00	52.25	0.00	-52.25	0.72	-5.57	-47.40
1992	2.19	14.24	31.19	21.95	68.42	-59.17	4.00	-20.07	-43.10
1993	2.19	14.28	31.28	0.00	68.42	-37.14	3.98	-17.81	-23.31
1994	2.19	14.32	31.36	0.00	72.06	-40.70	3.91	-17.93	-26.69
1995	4.38	14.36	62.88	30.31	81.94	-49.37	8.14	-16.90	-40.61
1996	4.38	14.39	63.03	0.00	81.94	-18.91	8.12	-12.12	-14.91
1997	4.38	14.42	63.17	0.00	81.94	-18.77	8.10	-11.57	-15.30
1998	9.13	14.45	131.97	52.25	102.15	-22.43	17.24	-7.71	-31.96
1999	9.13	14.48	132.24	52.25	102.15	-22.16	17.93	-6.77	-33.32
2000	18.25	14.51	264.87	99.28	140.71	24.88	35.50	5.77	-16.38
2001	18.25	14.54	265.37	0.00	140.71	124.66	35.42	21.66	67.58
2002	27.38	14.57	398.85	88.83	177.56	132.46	53.20	33.65	45.62
2003	27.38	14.59	399.54	0.00	177.56	221.98	53.10	48.15	120.73
2004	36.50	14.62	533.50	114.95	218.72	199.83	72.41	53.16	74.26
2005	36.50	14.64	534.34	0.00	218.72	315.63	72.26	71.60	171.76
2006	54.75	14.66	802.72	203.78	304.94	294.01	120.19	81.67	92.15
2007	54.75	14.68	803.88	26.13	317.95	459.80	115.64	105.71	238.45
2008	54.75	14.70	804.99	88.83	340.14	376.03	105.22	93.20	177.61
2009	54.75	14.72	806.05	0.00	349.85	456.20	104.71	105.79	245.70
2010	51.10	14.74	753.26	0.00	343.17	410.08	97.48	95.72	216.88
2011	43.80	14.76	646.43	0.00	277.16	369.27	83.95	89.24	196.07
2012	34.68	14.78	512.42	0.00	245.94	266.48	66.34	62.88	137.25
2013	27.38	14.79	405.00	0.00	215.73	189.27	52.19	43.33	93.75
2014	21.90	14.81	324.28	0.00	164.91	159.37	41.83	38.30	79.24
2015	18.25	14.82	270.50	0.00	147.89	122.62	34.53	28.93	59.16
2016	14.60	14.84	216.61	0.00	108.88	107.73	27.51	26.75	53.46
2017	0.00	14.85	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2018	0.00	14.86	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2019	0.00	14.88	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2020	0.00	14.89	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL	632.94	PV AMORT PRICE $'S/BBL	9289.73	830.78	4549.56	3909.39	1243.60	889.06	1776.73
NPV'S BEG YR 1 @ PCT									
0.00	632.94	14.68	9289.73	830.78	4549.56	3909.39	1243.60	889.06	1776.73
5.00	280.61	14.65	4111.33	472.58	2143.14	1495.61	552.11	323.81	619.69
10.00	136.47	14.62	1995.62	293.33	1138.80	563.49	268.49	109.00	185.99
15.00	72.36	14.59	1055.89	197.80	675.24	182.85	142.17	23.76	16.92
20.00	41.55	14.56	605.04	143.72	439.88	21.44	81.49	-10.57	-49.48
25.00	25.66	14.53	372.80	111.30	309.35	-47.85	50.22	-23.92	-74.16

PER BBL PV'S @ PCT	FIELD PS #1 GROSS WELLHEAD PRICE +PIPE PR $'S/BBL CONSTANT	CAPITAL COSTS MM$'S CONSTANT	OPER COSTS MM$'S CONSTANT	ECONOMIC RENT MM$'S CONSTANT	STATE GOVT REVS W/O FIN MM$'S CONSTANT	FED GOVT REVS W/O FIN MM$'S CONSTANT	CO NET CASHFLOW W/O FIN MM$'S CONSTANT
0.00	14.68	1.31	7.19	6.18	1.96	1.40	2.81
5.00	14.65	1.68	7.64	5.33	1.97	1.15	2.21
10.00	14.62	2.15	8.34	4.13	1.97	0.80	1.36
15.00	14.59	2.73	9.33	2.53	1.96	0.33	0.23
20.00	14.56	3.46	10.59	0.52	1.96	-0.25	-1.19
25.00	14.53	4.34	12.06	-1.86	1.96	-0.93	-2.89

PERCENTAGE DIVISION OF PV ECON RENT ---------

@ PCT	ECONOMIC RENT	STATE	FED	CO
0.00	100.00	31.81	22.74	45.45
5.00	100.00	36.92	21.65	41.43
10.00	100.00	47.65	19.34	33.01
15.00	100.00	77.75	12.99	9.25
20.00	100.00	380.07	-49.31	-230.76
25.00	100.00	-104.95	49.98	154.97

PAY OUT TIME IN YEARS ------------- 13.79

ROR % W/O FIN --------------------- 15.90

PROFITABILITY RATIOS W/O FIN ------

(PVNCF+PVCAPC) / PVCAPC

@ PCT	
0.00	3.14
5.00	2.31
10.00	1.63
15.00	1.09
20.00	0.66
25.00	0.33

MAX CASH EXPOSURE MM$'S CONSTANT -- -292.96
W/O FIN

STATE OF ALASKA DEPT. OF REVENUE
PETROLEUM RESEARCH SECTION
ECONOMIC FEASIBILITY MODEL: ALASKA NORTH SLOPE OIL FIELD DEVELOPMENT DECISION
NOTE: ANALYSIS OF DEVELOPMENT FEASIBILITY ONLY, IGNORES SUNK COSTS OF G&G AND EXPLORATION IN CAPITAL COSTS
PUBLIC VERSION: EQUIVALENT AMORTIZED ECONOMIC RENT FOR HYPOTHETICAL FIELD
FOR MORE INFORMATION CONTACT CHUCK LOGSDON AT (907) 277-5627
MAINFRAME MODEL REQUIRED FOR ENHANCED RECOVERY ANALYSIS, SIMULTAINOUS MULTI-FIELD SUPPLY ANALYSIS AND SHUTDOWN ANALYSIS

FIELD INPUT ASSUMPTIONS		ANALYSIS OPTIONS	1
FIELD NAME:	WEST SAK	INCREMENTAL - ONGOING OPERATOR = 0	
FIELD ASSUMPTIONS:		STAND ALONE - NEW INVESTOR = 1	
FISCAL: AK/US			
PROPORTION PRODN AK LEASES	1.0000		
AK ROYALTY RATE	0.1250	COMMENTS:	
AK NET PROFIT BONUS ROY RATE	0.0000		
AK SEV TAX NOM RATE 1ST 5 YRS	0.1225	WEST SAK BASE CASE / BASE YEAR 1991	
AK SEV TAX NOM RATE YR 6 ON	0.1500	CONSTANT $'S = 1991 $'S	
AK PROPERTY TAX RATE	0.0200	CURRENT $'S = $'S OF THE DAY	
AK ST CORP TAX EFF RATE	0.0140	INFLATION ASSUMED 4.5% PER YEAR FROM 1990	
PROPORTION PRODN US FED LEASES	0.0000		
US FED ROYALTY RATE	0.0000		
US FED CORP TAX EFF RATE	0.3400		
COST:			
TOTAL LEASE AQUIS COST MM$'S HISTOR	200.0000	FOR CALC OF LEASE AMORT / DEPLETION	
FIXED OPER COST MM$'S CONSTANT	62.70		
VARIABLE OPER COST $'S/BBL CONSTANT	2.61		
PRODN YEAR TO START WORKOVERS	3		
WORKOVER COST MM$'S/WELL CONSTANT	0.52		
WORKOVER ROTATION FACTOR	N/A		
PROPORTION WELL CAPITAL COST INTANG	0.7000		
PROPORTION FACIL CAPITAL COST INTANG	0.3000		
AK PTY TAX TR ORIG CO ANN ESCAL RATE	0.0500		
FINANCING: ASSUMED PROPORTION OF CAPITAL COST OBTAINED AT BEG OF EACH YEAR			
PROPORTION OF CAPITAL COST DEBT	0.0000		
CURRENT $ INTEREST RATE ON DEBT	1.0000		
TERM OF DEBT IN YEARS	10		

FIELD INPUT ASSUMPTIONS TABLE BY YEAR

WEST SAK

RELATIVE YEAR	INFLATION RATE PCT/Y	INFLATION FACTOR	FACILITY CAPITAL COST MM$'S CONSTANT	FACILITY CAPITAL COST CONS $ ESCAL RATE PCT/Y	FACILITY CAPITAL COST CURR $ ESCAL FACTOR	FACILLITY CAPITAL COST MM$'S CURRENT	WELL CAPITAL COST MM$'S CONSTANT	WELL CAPITAL COST CONS $ ESCAL RATE PCT/Y	WELL CAPITAL COST CURR $ ESCAL FACTOR	WELL CAPITAL COST MM$'S CURRENT	PRODN VOLUME MMBBL/Y	RELATIVE PRODN YEAR	PRUDHOE BAY OIL GROSS WELLHEAD PRICE $'S/BBL CURRENT	FIELD TARIFF COST $'S/BBL CURRENT	FIELD QUALITY DIFFER $'S/BBL CURRENT	FIELD GROSS WELLHEAD PRICE $'S/BBL CURRENT	FIELD COSTS W/ ROY CALC $'S/BBL CURRENT	FIELD ROY WELLHEAD PRICE $'S/BBL CURRENT	FIXED OPER COST CONS $ ESCAL RATE PCT/Y	FIXED OPER COST CURR $ ESCAL FACTOR	FIXED OPER COST MM$'S CURRENT
1991		1.0000	52.25		1.0000	52.25	0.00		1.0000	0.00	0.00	0	15.15	0.95	0.00	14.20	0.52	13.68		1.0000	0.00
1992	4.50	1.0450	0.00	0.00	1.0450	0.00	21.95	0.00	1.0450	22.93	2.19	1	15.83	0.95	0.00	14.88	0.54	14.34	0.00	1.0450	65.52
1993	4.50	1.0920	0.00	0.00	1.0920	0.00	0.00	0.00	1.0920	0.00	2.19	2	16.55	0.95	0.00	15.60	0.57	15.03	0.00	1.0920	68.47
1994	4.50	1.1412	0.00	0.00	1.1412	0.00	0.00	0.00	1.1412	0.00	2.19	3	17.29	0.95	0.00	16.34	0.59	15.75	0.00	1.1412	71.55
1995	4.50	1.1925	5.23	0.00	1.1925	6.23	25.08	0.00	1.1925	29.91	4.38	4	18.07	0.95	0.00	17.12	0.62	16.50	0.00	1.1925	74.77
1996	4.50	1.2462	0.00	0.00	1.2462	0.00	0.00	0.00	1.2462	0.00	4.38	5	18.88	0.95	0.00	17.93	0.65	17.28	0.00	1.2462	78.14
1997	4.50	1.3023	0.00	0.00	1.3023	0.00	0.00	0.00	1.3023	0.00	4.38	6	19.73	0.95	0.00	18.78	0.68	18.11	0.00	1.3023	81.65
1998	4.50	1.3609	5.23	0.00	1.3609	7.11	47.03	0.00	1.3609	63.99	9.13	7	20.62	0.95	0.00	19.67	0.71	18.96	0.00	1.3609	85.33
1999	4.50	1.4221	52.25	0.00	1.4221	74.30	0.00	0.00	1.4221	0.00	9.13	8	21.55	0.95	0.00	20.60	0.74	19.86	0.00	1.4221	89.17
2000	4.50	1.4861	10.45	0.00	1.4861	15.53	88.83	0.00	1.4861	132.00	18.25	9	22.52	0.95	0.00	21.57	0.77	20.80	0.00	1.4861	93.18
2001	4.50	1.5530	0.00	0.00	1.5530	0.00	0.00	0.00	1.5530	0.00	18.25	10	23.53	0.95	0.00	22.58	0.81	21.77	0.00	1.5530	97.37
2002	4.50	1.6229	10.45	0.00	1.6229	16.96	78.38	0.00	1.6229	127.19	27.38	11	24.59	0.95	0.00	23.64	0.84	22.80	0.00	1.6229	101.75
2003	4.50	1.6959	0.00	0.00	1.6959	0.00	0.00	0.00	1.6959	0.00	27.38	12	25.70	0.95	0.00	24.75	0.88	23.86	0.00	1.6959	106.33
2004	4.50	1.7722	10.45	0.00	1.7722	18.52	104.50	0.00	1.7722	185.19	36.50	13	26.85	0.95	0.00	25.90	0.92	24.98	0.00	1.7722	111.12
2005	4.50	1.8519	0.00	0.00	1.8519	0.00	0.00	0.00	1.8519	0.00	36.50	14	28.06	0.95	0.00	27.11	0.96	26.15	0.00	1.8519	116.12
2006	4.50	1.9353	20.90	0.00	1.9353	40.45	182.88	0.00	1.9353	353.91	54.75	15	29.32	0.95	0.00	28.37	1.01	27.37	0.00	1.9353	121.34
2007	4.50	2.0224	0.00	0.00	2.0224	0.00	26.13	0.00	2.0224	52.83	54.75	16	30.64	0.95	0.00	29.69	1.05	28.64	0.00	2.0224	126.80
2008	4.50	2.1134	10.45	0.00	2.1134	22.08	78.38	0.00	2.1134	165.64	54.75	17	32.02	0.95	0.00	31.07	1.10	29.97	0.00	2.1134	132.51
2009	4.50	2.2085	0.00	0.00	2.2085	0.00	0.00	0.00	2.2085	0.00	54.75	18	33.46	0.95	0.00	32.51	1.15	31.37	0.00	2.2085	138.47
2010	4.50	2.3079	0.00	0.00	2.3079	0.00	0.00	0.00	2.3079	0.00	51.10	19	34.97	0.95	0.00	34.02	1.20	32.82	0.00	2.3079	144.70
2011	4.50	2.4117	0.00	0.00	2.4117	0.00	0.00	0.00	2.4117	0.00	43.80	20	36.54	0.95	0.00	35.59	1.25	34.34	-4.50	2.3079	144.70
2012	4.50	2.5202	0.00	0.00	2.5202	0.00	0.00	0.00	2.5202	0.00	34.68	21	38.19	0.95	0.00	37.24	1.31	35.93	-4.50	2.3079	144.70
2013	4.50	2.6337	0.00	0.00	2.6337	0.00	0.00	0.00	2.6337	0.00	27.38	22	39.91	0.95	0.00	38.96	1.37	37.59	-10.00	2.1809	136.74
2014	4.50	2.7522	0.00	0.00	2.7522	0.00	0.00	0.00	2.7522	0.00	21.90	23	41.70	0.95	0.00	40.75	1.43	39.32	-10.00	2.0610	129.22
2015	4.50	2.8760	0.00	0.00	2.8760	0.00	0.00	0.00	2.8760	0.00	18.25	24	43.58	0.95	0.00	42.63	1.50	41.13	-10.00	1.9476	122.12
2016	4.50	3.0054	0.00	0.00	3.0054	0.00	0.00	0.00	3.0054	0.00	14.60	25	45.54	0.95	0.00	44.59	1.56	43.03	-10.00	1.8405	115.40
2017	4.50	3.1407	0.00	0.00	3.1407	0.00	0.00	0.00	3.1407	0.00	0.00	25	47.59	0.95	0.00	46.64	1.63	45.01	-10.00	1.7393	0.00
2018	4.50	3.2820	0.00	0.00	3.2820	0.00	0.00	0.00	3.2820	0.00	0.00	25	49.73	0.95	0.00	48.78	1.71	47.07	-10.00	1.6436	0.00
2019	4.50	3.4297	0.00	0.00	3.4297	0.00	0.00	0.00	3.4297	0.00	0.00	25	51.97	0.95	0.00	51.02	1.78	49.24	-10.00	1.5532	0.00
2020	4.50	3.5840	0.00	0.00	3.5840	0.00	0.00	0.00	3.5840	0.00	0.00	25	54.31	0.95	0.00	53.36	1.86	51.49	-10.00	1.4678	0.00
						253.44				1133.61	632.94										

West Salt

	VAR OPER COST CONS $ ESCAL RATE PCT/Y	VAR OPER COST CURR $ ESCAL FACTOR	VAR OPER COST MM$'S CURRENT	WORK OVER COST CONS $ ESCAL RATE PCT/Y	WORK OVER COST CURR $ ESCAL FACTOR	PRODN WELLS FOR ELF CALCS	TOT WELLS FOR WORK OVER CALCS	WORK OVER ROTATION FACTOR	WORK OVER COST MM$'S CURRENT	FIELD PIPE PROFIT $'S/BBL CURRENT	TAPS PROFIT $'S/BBL CURRENT
1991		1.0000	0.00		1.0000	0	0	0.3333	0.00	0.00	0.00
	0.00	1.0450	5.98	0.00	1.0450	17	21	0.3333	0.00	0.00	0.00
	0.00	1.0920	6.25	0.00	1.0920	17	21	0.3333	0.00	0.00	0.00
	0.00	1.1412	6.53	0.00	1.1412	17	21	0.3333	4.15	0.00	0.00
	0.00	1.1925	13.65	0.00	1.1925	34	45	0.3333	9.30	0.00	0.00
	0.00	1.2462	14.26	0.00	1.2462	34	45	0.3333	9.72	0.00	0.00
	0.00	1.3023	14.90	0.00	1.3023	34	45	0.3333	10.16	0.00	0.00
	0.00	1.3609	32.46	0.00	1.3609	71	90	0.3333	21.23	0.00	0.00
	0.00	1.4221	33.92	0.00	1.4221	71	90	0.3333	22.18	0.00	0.00
	0.00	1.4861	70.85	0.00	1.4861	143	175	0.3333	45.07	0.00	0.00
	0.00	1.5530	74.04	0.00	1.5530	143	175	0.3333	47.10	0.00	0.00
	0.00	1.6229	116.08	0.00	1.6229	214	250	0.3333	70.32	0.00	0.00
	0.00	1.6959	121.31	0.00	1.6959	214	250	0.3333	73.48	0.00	0.00
	0.00	1.7722	168.99	0.00	1.7722	286	350	0.3333	107.50	0.00	0.00
	0.00	1.8519	176.59	0.00	1.8519	286	350	0.3333	112.34	0.00	0.00
	6.00	2.0464	292.71	0.00	1.9353	430	525	0.3333	176.09	0.00	0.00
	6.00	2.2613	323.44	0.00	2.0224	450	550	0.3333	192.78	0.00	0.00
	6.00	2.4987	357.40	0.00	2.1134	500	625	0.3333	228.93	0.00	0.00
	6.00	2.7611	394.93	0.00	2.2085	500	625	0.3333	239.23	0.00	0.00
	6.00	3.0510	407.30	0.00	2.3079	475	600	0.3333	239.99	0.00	0.00
	6.00	3.3713	385.77	0.00	2.4117	450	550	0.2000	137.95	0.00	0.00
	6.00	3.7253	337.52	0.00	2.5202	425	525	0.2000	137.61	0.00	0.00
	6.00	4.1165	294.45	0.00	2.6337	400	500	0.2000	136.95	0.00	0.00
	6.00	4.5487	260.25	0.00	2.7522	375	450	0.1000	64.40	0.00	0.00
	6.00	5.0263	239.65	0.00	2.8760	350	425	0.1000	63.56	0.00	0.00
	6.00	5.5541	211.85	0.00	3.0054	300	375	0.0000	0.00	0.00	0.00
	6.00	6.1373	0.00	0.00	3.1407	0	0	0.0000	0.00	0.00	0.00
	6.00	6.7817	0.00	0.00	3.2820	0	0	0.0000	0.00	0.00	0.00
	6.00	7.4938	0.00	0.00	3.4297	0	0	0.0000	0.00	0.00	0.00
2020	6.00	8.2806	0.00	0.00	3.5840	0	0	0.0000	0.00	0.00	0.00

PRODUCING CO CASHFLOW CALCULATION TABLE BY YEAR   STAND ALONE ANALYSIS

WEST SAK

RELATIVE YEAR	PRODN VOLUME MMB/Y	FIELD PS #1 GROSS WELLHEAD PRICE (PIPE PR $'S/BBL CURRENT	GROSS INCOME MM$'S CURRENT	CAPITAL COSTS MM$'S CURRENT	OPER COSTS MM$'S CURRENT	NET PMTS TO AK STATE GOVT W/ FIN MM$'S CURRENT	NET PMTS TO US FED GOVT W/ FIN MM$'S CURRENT	NET PMTS TO FINAN COMMUN MM$'S CURRENT	CO NET CASHFLOW W/ FIN MM$'S CURRENT	NET PMTS TO AK STATE GOVT W/O FIN MM$'S CURRENT	NET PMTS TO US FED GOVT W/O FIN MM$'S CURRENT	CO NET CASHFLOW W/O FIN MM$'S CURRENT
1991	0.00	14.20	0.00	52.25	0.00	0.73	0.00	0.00	-52.98	0.73	0.00	-52.98
1992	2.19	14.88	32.60	22.93	71.50	4.80	0.00	0.00	-66.64	4.80	0.00	-66.64
1993	2.19	15.60	34.16	0.00	74.72	5.00	0.00	0.00	-45.56	5.00	0.00	-45.56
1994	2.19	16.34	35.79	0.00	82.23	5.20	0.00	0.00	-51.65	5.20	0.00	-51.65
1995	4.38	17.12	74.98	36.14	97.72	10.19	0.00	0.00	-69.07	10.19	0.00	-69.07
1996	4.38	17.93	78.55	0.00	102.11	10.63	0.00	0.00	-34.19	10.63	0.00	-34.19
1997	4.38	18.78	82.27	0.00	106.71	11.07	0.00	0.00	-35.52	11.07	0.00	-35.52
1998	9.13	19.67	179.59	71.11	139.01	2 .28	0.00	0.00	-53.81	23.28	0.00	-53.81
1999	9.13	20.60	188.06	74.30	145.27	25.34	0.00	0.00	-56.85	25.34	0.00	-56.85
2000	18.25	21.57	393.62	147.53	209.11	51.10	0.00	0.00	-14.12	51.10	0.00	-14.12
2001	18.25	22.58	412.11	0.00	218.52	53.43	0.00	0.00	140.16	53.43	0.00	140.16
2002	27.38	23.64	647.27	144.15	288.15	86.34	0.00	0.00	128.63	86.34	0.00	128.63
2003	27.38	24.75	677.57	0.00	301.12	90.06	41.56	0.00	244.83	90.06	41.56	244.83
2004	36.50	25.90	945.47	203.71	387.61	128.33	94.20	0.00	131.61	128.33	94.20	131.61
2005	36.50	27.11	989.57	0.00	405.05	133.82	132.61	0.00	318.10	133.82	132.61	318.10
2006	54.75	28.37	1553.50	394.36	590.14	232.60	158.05	0.00	178.34	232.60	158.05	178.34
2007	54.75	29.69	1625.74	52.83	643.02	233.86	213.78	0.00	482.24	233.86	213.78	482.24
2008	54.75	31.07	1701.24	187.72	718.84	222.37	196.97	0.00	375.35	222.37	196.97	375.35
2009	54.75	32.51	1780.14	0.00	772.63	231.26	233.63	0.00	542.62	231.26	233.63	542.62
2010	51.10	34.02	1738.41	0.00	792.00	224.97	220.92	0.00	500.53	224.97	220.92	500.53
2011	43.80	35.59	1559.00	0.00	668.43	202.46	215.23	0.00	472.87	202.46	215.23	472.87
2012	34.68	37.24	1291.41	0.00	619.83	167.19	158.48	0.00	345.91	167.19	158.48	345.91
2013	27.38	38.96	1066.63	0.00	568.15	137.45	114.13	0.00	246.90	137.45	114.13	246.90
2014	21.90	40.75	892.47	0.00	453.87	115.12	105.41	0.00	218.07	115.12	105.41	218.07
2015	18.25	42.63	777.98	0.00	425.32	99.31	83.19	0.00	170.16	99.31	83.19	170.16
2016	14.60	44.59	651.01	0.00	327.25	82.69	80.40	0.00	160.68	82.69	80.40	160.68
2017	0.00	46.64	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2018	0.00	48.78	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2019	0.00	51.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2020	0.00	53.36	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL	632.94	PV AMORT PRICE	19409.13	1387.04	9208.30	2588.58	2048.57	0.00	4176.64	2588.58	2048.57	4176.64
NPV'S BEG YR 1 @ PCT		$'S/BBL										
0.00	632.94	30.67	19409.13	1387.04	9208.30	2588.58	2048.57	0.00	4176.64	2588.58	2048.57	4176.64
5.00	280.61	29.18	8188.42	750.35	4029.26	1097.30	805.10	0.00	1506.42	1097.30	805.10	1506.42
10.00	136.47	27.69	3778.92	440.07	1977.92	508.58	338.17	0.00	514.18	508.58	338.17	514.18
15.00	72.36	26.22	1897.33	279.53	1083.79	256.41	150.63	0.00	126.96	256.41	150.63	126.96
20.00	41.55	24.81	1030.82	191.55	656.51	139.94	70.66	0.00	-27.84	139.94	70.66	-27.84
25.00	25.66	23.48	602.59	140.60	433.70	82.24	34.70	0.00	-88.65	82.24	34.70	-88.65

ROR % W/ FIN   18.70

ROR % W/O FIN -   18.70

PROFITABILITY RATIOS

@ PCT	(NCF+CAPC) / CAPC W/ FIN	(NCF+CAPC) / CAPC W/O FIN
0.00	4.01	4.01
5.00	3.01	3.01
10.00	2.17	2.17
15.00	1.45	1.45
20.00	0.85	0.85
25.00	0.37	0.37

EQUIVALENT AMORTIZED ECONOMIC RENT CALCULATION TABLE BY YEAR   STAND ALONE ANALYSIS

WEST SAK RELATIVE YEAR	PRODN VOLUME MMB/Y	FIELD PS #1 GROSS WELLHEAD PRICE +PIPE PR $'S/BBL CURRENT	GROSS INCOME MM$'S CURRENT	CAPITAL COSTS MM$'S CURRENT	OPER COSTS MM$'S CURRENT	ECONOMIC RENT MM$'S CURRENT	AK STATE GOVT REVS W/O FIN MM$'S CURRENT	US FED GOVT REVS W/O FIN MM$'S CURRENT	CO NET CASHFLOW W/O FIN MM$'S CURRENT
1991	0.00	14.20	0.00	52.25	0.00	-52.25	0.73	0.00	-52.98
1992	2.19	14.88	32.60	22.93	71.50	-61.84	4.80	0.00	-66.64
1993	2.19	15.60	34.16	0.00	74.72	-40.56	5.00	0.00	-45.56
1994	2.19	16.34	35.79	0.00	82.23	-46.45	5.20	0.00	-51.65
1995	4.38	17.12	74.98	36.14	97.72	-58.87	10.19	0.00	-69.07
1996	4.38	17.93	78.55	0.00	102.11	-23.57	10.63	0.00	-34.19
1997	4.38	18.78	82.27	0.00	106.71	-24.44	11.07	0.00	-35.52
1998	9.13	19.67	179.59	71.11	139.01	-30.53	23.28	0.00	-53.81
1999	9.13	20.60	188.06	74.30	145.27	-31.51	25.34	0.00	-56.85
2000	18.25	21.57	393.62	147.53	209.11	36.98	51.10	0.00	-14.12
2001	18.25	22.58	412.11	0.00	218.52	193.59	53.43	0.00	140.16
2002	27.38	23.64	647.27	144.15	288.15	214.97	86.34	0.00	128.63
2003	27.38	24.75	677.57	0.00	301.12	376.45	90.06	41.56	244.83
2004	36.50	25.90	945.47	203.71	387.61	354.14	128.33	94.20	131.61
2005	36.50	27.11	989.57	0.00	405.05	584.52	133.82	132.61	318.10
2006	54.75	28.37	1553.50	394.36	590.14	568.99	232.60	158.05	178.34
2007	54.75	29.69	1625.74	52.83	643.02	929.89	233.86	213.78	482.24
2008	54.75	31.07	1701.24	187.72	718.84	794.69	222.37	196.97	375.35
2009	54.75	32.51	1780.14	0.00	772.63	1007.51	231.26	233.63	542.62
2010	51.10	34.02	1738.41	0.00	792.00	946.42	224.97	220.92	500.53
2011	43.80	35.59	1559.00	0.00	668.43	890.57	202.46	215.23	472.87
2012	34.68	37.24	1291.41	0.00	619.83	671.58	167.19	158.48	345.91
2013	27.38	38.96	1066.63	0.00	568.15	498.48	137.45	114.13	246.90
2014	21.90	40.75	892.47	0.00	453.87	438.60	115.12	105.41	218.07
2015	18.25	42.63	777.98	0.00	425.32	352.65	99.31	83.19	170.16
2016	14.60	44.59	651.01	0.00	327.25	323.77	82.69	80.40	160.68
2017	0.00	46.64	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2018	0.00	48.78	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2019	0.00	51.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2020	0.00	53.36	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL	632.94	PV AMORT PRICE $'S/BBL	19409.13	1387.04	9208.30	8813.79	2588.58	2048.57	4176.64
NPV'S BEG YR 1 @ PCT									
0.00	632.94	30.67	19409.13	1387.04	9208.30	8813.79	2588.58	2048.57	4176.64
5.00	280.61	29.18	8188.42	750.35	4029.26	3408.81	1097.30	805.10	1506.42
10.00	136.47	27.69	3778.92	440.07	1977.92	1360.94	508.58	338.17	514.18
15.00	72.36	26.22	1897.33	279.53	1083.79	534.01	256.41	150.63	126.96
20.00	41.55	24.81	1030.82	191.55	656.51	182.76	139.94	70.66	-27.84
25.00	25.66	23.48	602.52	140.60	433.70	28.29	82.24	34.70	-88.65

PER BBL PV'S @ PCT	FIELD PS #1 GROSS WELLHEAD PRICE +PIPE PR $'S/BBL CURRENT	CAPITAL COSTS MM$'S CURRENT	OPER COSTS MM$'S CURRENT	ECONOMIC RENT MM$'S CURRENT	STATE GOVT REVS W/O FIN MM$'S CURRENT	FED GOVT REVS W/O FIN MM$'S CURRENT	CO NET CASHFLOW W/O FIN MM$'S CURRENT
0.00	30.67	2.19	14.55	13.93	4.09	3.24	6.60
5.00	29.18	2.67	14.36	12.15	3.91	2.87	5.37
10.00	27.69	3.22	14.49	9.97	3.73	2.48	3.77
15.00	26.22	3.86	14.98	7.38	3.54	2.08	1.75
20.00	24.81	4.61	15.80	4.40	3.37	1.70	-0.67
25.00	23.48	5.48	16.90	1.10	3.21	1.35	-3.45

PERCENTAGE DIVISION OF PV ECON RENT ---------

@ PCT	ECONOMIC RENT	STATE	FED	CO
0.00	100.00	29.37	23.24	47.39
5.00	100.00	32.19	23.62	44.19
10.00	100.00	37.37	24.85	37.78
15.00	100.00	48.02	28.21	23.78
20.00	100.00	76.57	38.66	-15.23
25.00	100.00	290.68	122.65	-313.33

PAY OUT TIME IN YEARS ------------ 12.86

ROR % W/O FIN ------------------- 18.70

PROFITABILITY RATIOS W/O FIN ------

(PVNCF+PVCAPC) / PVCAPC @ PCT	
0.00	4.01
5.00	3.01
10.00	2.17
15.00	1.45
20.00	0.85
25.00	0.37

MAX CASH EXPOSURE MM$'S CURRENT --- -480.38
W/O FIN

PRODUCING CO CASHFLOW CALCULATION TABLE BY YEAR STAND ALONE ANALYSIS

WEST SAK

RELATIVE YEAR	PRODN VOLUME MMB/Y	FIELD PS #1 GROSS WELLHEAD PRICE +PIPE PR $'S/BBL CONSTANT	GROSS INCOME MM$'S CONSTANT	CAPITAL COSTS MM$'S CONSTANT	OPER COSTS MM$'S CONSTANT	NET PMTS TO AK STATE GOVT W/ FIN MM$'S CONSTANT	NET PMTS TO US FED GOVT W/ FIN MM$'S CONSTANT	NET PMTS TO FINAN COMMUN MM$'S CONSTANT	CO NET CASHFLOW W/ FIN MM$'S CONSTANT	NET PMTS TO AK STATE GOVT W/O FIN MM$'S CONSTANT	NET PMTS TO US FED GOVT W/O FIN MM$'S CONSTANT	CO NET CASHFLOW W/O FIN MM$'S CONSTANT
1991	0.00	14.20	0.00	52.25	0.00	0.73	0.00	0.00	-52.98	0.73	0.00	-52.98
1992	2.19	14.24	31.19	21.95	68.42	4.60	0.00	0.00	-63.77	4.60	0.00	-63.77
1993	2.19	14.28	31.28	0.00	68.42	4.58	0.00	0.00	-41.72	4.58	0.00	-41.72
1994	2.19	14.32	31.36	0.00	72.06	4.56	0.00	0.00	-45.26	4.56	0.00	-45.26
1995	4.38	14.36	62.88	30.31	81.94	8.55	0.00	0.00	-57.92	8.55	0.00	-57.92
1996	4.38	14.39	63.03	0.00	81.94	8.53	0.00	0.00	-27.44	8.53	0.00	-27.44
1997	4.38	14.42	63.17	0.00	81.94	8.50	0.00	0.00	-27.27	8.50	0.00	-27.27
1998	9.13	14.45	131.97	52.25	102.15	17.11	0.00	0.00	-39.54	17.11	0.00	-39.54
1999	9.13	14.48	132.24	52.25	102.15	17.82	0.00	0.00	-39.97	17.82	0.00	-39.97
2000	18.25	14.51	264.87	99.28	140.71	34.39	0.00	0.00	-9.50	34.39	0.00	-9.50
2001	18.25	14.54	265.37	0.00	140.71	34.41	0.00	0.00	90.25	34.41	0.00	90.25
2002	27.38	14.57	398.85	88.83	177.56	53.20	0.00	0.00	79.26	53.20	0.00	79.26
2003	27.38	14.59	399.54	0.00	177.56	53.10	24.51	0.00	144.37	53.10	24.51	144.37
2004	36.50	14.62	533.50	114.95	218.72	72.41	53.16	0.00	74.26	72.41	53.16	74.26
2005	36.50	14.64	534.34	0.00	218.72	72.26	71.60	0.00	171.76	72.26	71.60	171.76
2006	54.75	14.66	802.72	203.78	304.94	120.19	81.67	0.00	92.15	120.19	81.67	92.15
2007	54.75	14.68	803.88	26.13	317.95	115.64	105.71	0.00	238.45	115.64	105.71	238.45
2008	54.75	14.70	804.99	88.83	340.14	105.22	93.20	0.00	177.61	105.22	93.20	177.61
2009	54.75	14.72	806.05	0.00	349.85	104.71	105.79	0.00	245.70	104.71	105.79	245.70
2010	51.10	14.74	753.26	0.00	343.17	97.48	95.72	0.00	216.88	97.48	95.72	216.88
2011	43.80	14.76	646.43	0.00	277.16	83.95	89.24	0.00	196.07	83.95	89.24	196.07
2012	34.68	14.78	512.42	0.00	245.94	66.34	62.88	0.00	137.25	66.34	62.88	137.25
2013	27.38	14.79	405.00	0.00	215.73	52.19	43.33	0.00	93.75	52.19	43.33	93.75
2014	21.90	14.81	324.28	0.00	164.91	41.83	38.30	0.00	79.24	41.83	38.30	79.24
2015	18.25	14.82	270.50	0.00	147.89	34.53	28.93	0.00	59.16	34.53	28.93	59.16
2016	14.60	14.84	216.61	0.00	108.88	27.51	26.75	0.00	53.46	27.51	26.75	53.46
2017	0.00	14.85	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2018	0.00	14.86	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2019	0.00	14.88	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2020	0.00	14.89	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL	632.94	PV AMORT PRICE $'S/BBL	9289.73	830.78	4549.56	1244.31	920.80	0.00	1744.28	1244.31	920.80	1744.28
NPV'S BEG YR 1 @ PCT												
0.00	632.94	14.68	9289.73	830.78	4549.56	1244.31	920.80	0.00	1744.28	1244.31	920.80	1744.28
5.00	280.61	14.65	4111.33	472.58	2143.14	553.19	370.07	0.00	572.35	553.19	370.07	572.35
10.00	136.47	14.62	1995.62	293.33	1130.80	269.69	158.64	0.00	135.16	269.69	158.64	135.16
15.00	72.36	14.59	1055.89	197.80	675.24	143.36	71.97	0.00	-32.49	143.36	71.97	-32.49
20.00	41.55	14.56	605.04	143.72	439.88	82.61	34.32	0.00	-95.50	82.61	34.32	-95.50
25.00	25.66	14.53	372.80	111.30	309.35	51.27	17.10	0.00	-116.22	51.27	17.10	-116.22

ROR % W/ FIN -- 13.58

ROR % W/O FIN -- 13.58

PROFITABILITY RATIOS

@ PCT	(NCF+CAPC) / CAPC W/ FIN	(NCF+CAPC) / CAPC W/O FIN
0.00	3.10	3.10
5.00	2.21	2.21
10.00	1.46	1.46
15.00	0.84	0.84
20.00	0.34	0.34
25.00	-0.04	-0.04

EQUIVALENT AMORTIZED ECONOMIC RENT CALCULATION TABLE BY YEAR   STAND ALONE ANALYSIS

WEST SAK

RELATIVE YEAR	PRODN VOLUME MMB/Y	FIELD PS #1 GROSS WELLHEAD PRICE @PIPE PR $'S/BBL CONSTANT	GROSS INCOME MM$'S CONSTANT	CAPITAL COSTS MM$'S CONSTANT	OPER COSTS MM$'S CONSTANT	ECONOMIC RENT MM$'S CONSTANT	AK STATE GOVT REVS W/O FIN MM$'S CONSTANT	US FED GOVT REVS W/O FIN MM$'S CONSTANT	CO NET CASHFLOW W/O FIN MM$'S CONSTANT
1991	0.00	14.20	0 00	52.25	0.00	-52.25	0.73	0.00	-52.98
1992	2.19	14.24	31.19	21.95	68.42	-59.17	4.60	0.00	-63.77
1993	2.19	14.28	31.28	0.00	68.42	-37.14	4.58	0.00	-41.72
1994	2.19	14.32	31.36	0.00	72.06	-40.70	4.56	0.00	-45.26
1995	4.38	14.36	62.88	30.31	81.94	-49.37	8.55	0.00	-57.92
1996	4.38	14.39	63.03	0.00	81.94	-18.91	8.53	0.00	-27.44
1997	4.38	14.42	63.17	0.00	81.94	-18.77	8.50	0.00	-27.27
1998	9.13	14.45	131.97	52.25	102.15	-22.43	17.11	0.00	-39.54
1999	9.13	14.48	132.24	52.25	102.15	-22.16	17.82	0.00	-39.97
2000	18.25	14.51	264.87	99.28	140.71	24.88	34.39	0.00	-9.50
2001	18.25	14.54	265.37	0.00	140.71	124.66	34.41	0.00	90.25
2002	27.38	14.57	398.85	88.83	177.56	132.46	53.20	0.00	79.26
2003	27.38	14.59	399.54	0.00	177.56	221.98	53.10	24.51	144.37
2004	36.50	14.62	533.50	114.95	218.72	199.83	72.41	53.16	74.26
2005	36.50	14.64	534.34	0.00	218.72	315.63	72.26	71.60	171.76
2006	54.75	14.66	802.72	203.78	304.94	294.01	120.19	81.67	92.15
2007	54.75	14.68	803.88	26.13	317.95	459.80	115.64	105.71	238.45
2008	54.75	14.70	804.99	88.83	340.14	376.03	105.22	93.20	177.61
2009	54.75	14.72	806.05	0.00	349.85	456.20	104.71	105.79	245.70
2010	51.10	14.74	753.26	0.00	343.17	410.08	97.48	95.72	216.88
2011	43.80	14.76	646.43	0.00	277.16	369.27	83.95	89.24	196.07
2012	34.68	14.78	512.42	0.00	245.94	266.48	66.34	62.88	137.25
2013	27.38	14.79	405.00	0.00	215.73	189.27	52.19	43.33	93.75
2014	21.90	14.81	324.28	0.00	164.91	159.37	41.83	38.30	79.24
2015	18.25	14.82	270.50	0.00	147.89	122.62	34.53	28.93	59.16
2016	14.60	14.84	216.61	0.00	108.88	107.73	27.51	26.75	53.46
2017	0.00	14.85	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2018	0.00	14.86	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2019	0.00	14.88	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2020	0.00	14.89	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL	632.94	PV AMORT PRICE $'S/BBL	9289.73	830.78	4549.56	3909.39	1244.31	920.80	1744.28
NPV'S BEG YR 1 @ PCT									
0.00	632.94	14.68	9289.73	830.78	4549.56	3909.39	1244.31	920.80	1744.28
5.00	280.61	14.65	4111.33	472.58	2143.14	1495.61	553.19	370.07	572.35
10.00	136.47	14.62	1995.62	293.33	1138.80	563.49	269.69	158.64	135.16
15.00	72.36	14.59	1055.89	197.80	675.24	182.85	143.36	71.97	-32.49
20.00	41.55	14.56	605.04	143.72	439.88	21.44	82.61	34.32	-95.50
25.00	25.66	14.53	372.80	111.30	309.35	-47.85	51.27	17.10	-116.22

PER BBL PV'S @ PCT	FIELD PS #1 GROSS WELLHEAD PRICE @PIPE PR $'S/BBL CONSTANT	CAPITAL COSTS MM$'S CONSTANT	OPER COSTS MM$'S CONSTANT	ECONOMIC RENT MM$'S CONSTANT	STATE GOVT REVS W/O FIN MM$'S CONSTANT	FED GOVT REVS W/O FIN MM$'S CONSTANT	CO NET CASHFLOW W/O FIN MM$'S CONSTANT
0.00	14.68	1.31	7.19	6.18	1.97	1.45	2.76
5.00	14.65	1.68	7.64	5.33	1.97	1.32	2.04
10.00	14.62	2.15	8.34	4.13	1.98	1.16	0.99
15.00	14.59	2.73	9.33	2.53	1.98	0.99	-0.45
20.00	14.56	3.46	10.59	0.52	1.99	0.83	-2.30
25.00	14.53	4.34	12.06	-1.86	2.00	0.67	-4.53

PERCENTAGE DIVISION OF PV ECON RENT ---------

@ PCT	ECONOMIC RENT	STATE	FED	CO
0.00	100.00	31.83	23.55	44.62
5.00	100.00	36.99	24.74	38.27
10.00	100.00	47.86	28.15	23.99
15.00	100.00	78.41	39.36	-17.77
20.00	100.00	385.34	160.08	-445.42
25.00	100.00	-107.14	-35.75	242.88

PAY OUT TIME IN YEARS ------------ 14.10

ROR % W/O FIN -------------------- 13.58

PROFITABILITY RATIOS W/O FIN ------

	@ PCT	
(PVNCF+PVCAPC)	0.00	3.10
---------------	5.00	2.21
PVCAPC	10.00	1.46
	15.00	0.84
	20.00	0.34
	25.00	-0.04

MAX CASH EXPOSURE MM$'S CONSTANT -- 405.37
W/O FIN

2

Bettye,

Consultants to the International Tax Comparison Group. They are here for a work session with the Group on their preliminary draft report.

Peter Gaffney --He is a Senior partner with the firm of Gaffney, Cline and Associates. He is currently based in London.

Dr. Homa Motamen, economic consultant. She is also based in London.

Professor Kemp --He is with Aberdeen University, Department of Economics and is from Aberdeen Scotland.

Jerry Schilz

INTERNATIONAL TAX COMPARISON GROUP

<u>SUNDAY, MARCH 18</u>--Commissioner Malone, Jim Rhode dinner (Jim)

<u>MONDAY, MARCH 19</u>

9:00-11:00---Part One...Presentation by consultants to ITC Group...Speaker's Chambers (Billy)

11:00-12:00 House and Senate floor sessions (Jerry)

LUNCH---OPEN

1:30-3:30---Part Two...Presentation by consultants to ITC Group...Speaker's Chambers (Nancy)

3:30-5:30---~~Presentation to 'Other' Administration officials...Governor's Conference Room (Jim~~)

7:00---DINNER...Hosted by Sen. Fahrenkamp--Summit (Nancy)
Guests: Nine committee members; Consultants; B. Wade and John Roots of Arco; Bob Van Hook and Jim Palmer of BP; Dave Parrish and Ken Rather of Exxon (Billy)

<u>TUESDAY, MARCH 20</u>

8:30a-10:00---Presentation to House and Senate Resources and House Finance Committees...location to be announced (Tally) + House Finance

10:30-12
11:00-12:00---OPEN

12:00-1:30---LUNCH...Brown Bag lunch for staffers and legislators in Speaker's Chambers...general Q and A (Billy)

1:30-~~5:00~~ 4:00---Meeting with Oil Industry staff in Gastineau Suite, Baranof Hotel (Jim)
4:30-7PM
6:30---~~DINNER...OPEN~~

<u>WEDNESDAY, MARCH 21</u>

8:30-9:30a...Presentation to Senate Finance Committee (Tally)

9:30-12:00---OPEN 10 session
~~H— — office BF~~
12:00-1:30---LUNCH...(tentative) Governor's Mansion...Governor, Mary Halloran and Consultants only (Jim)

1:30-:5:00---OPEN
130-330 - Sen Res.

Alaska State Legislature

Senate Resources Committee

Senator Bettye Fahrenkamp, Chairman
Senator Jay Kerttula, Vice Chairman
Senator Dick Eliason
Senator Steve Frank
Senator Rick Halford
Senator Arliss Sturgulewski
Senator Fred Zharoff

P.O. Box V
Juneau, Alaska 99811
(907) 465-4907

To: All Senate and House Members

From: Senator Bettye Fahrenkamp
Chair, International Tax Comparison Group

Bettye F

Re: Report by International Tax Consultants

Date: March 9, 1990

The International Tax Comparison Group, comprised of three senate members, three house members, and three administration members, has met throughout the interim in order to develop economic models to compare Alaska's tax policy to that of other countries. Three international tax consultants have been under contract to provide advice and technical analysis to the group. The consultants were in Juneau in January to meet with the group and will be here again March 19 - 21.

On Tuesday, March 20, from 8:30 a.m. to 10:00 a.m., the consultants will present a progress report to the Joint House and Senate Resources Committees and House Finance Committee. The meeting will be held in the House Finance Committee Room.

On Wednesday, March 21, from 8:30 a.m. to 9:30 a.m., the consultants will present a progress report to the Senate Finance Committee, to be held in the Senate Finance Committee Room.

I welcome your participation.