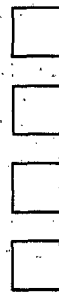
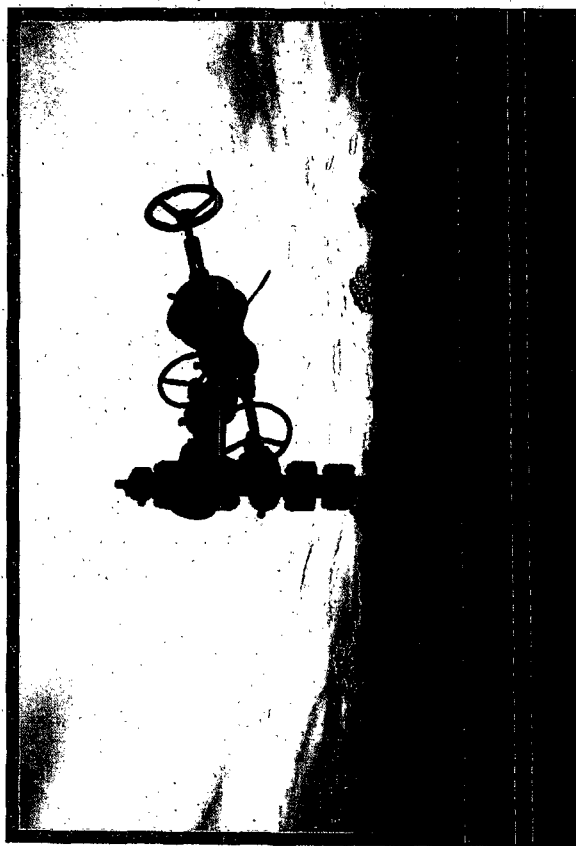




RANGE RESOURCES



East Loving Delaware Waterflood Pilot

February, 2006



Recommendation

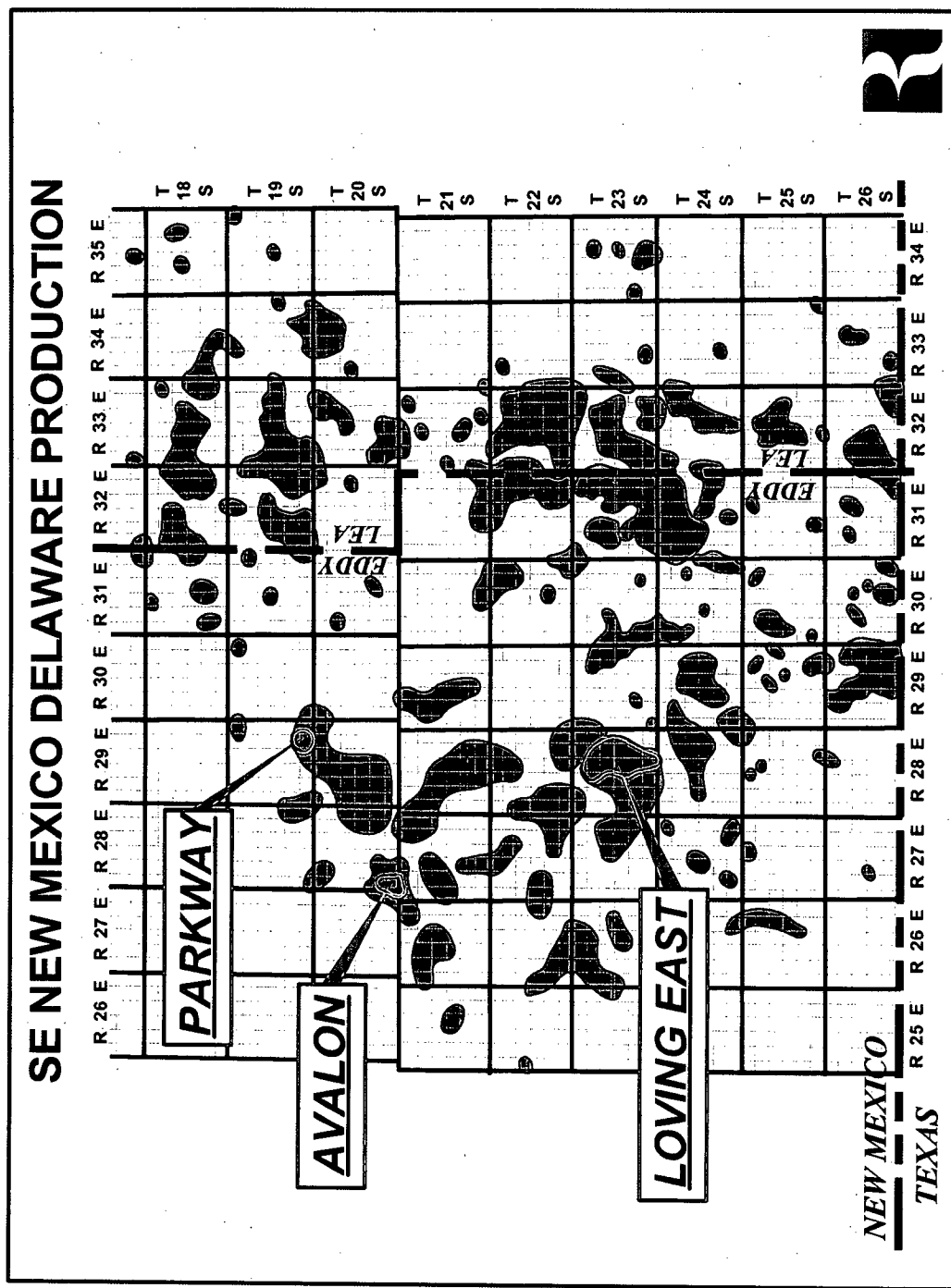
- Initiate 6-pattern 5-spot pilot in Section 23
- 20 acre well spacing
- C & D reservoirs
- Initial expansion Area south of river
- \$5.4 MM estimated cost for pilot
- Expected incremental recovery 900 – 1900 MSTB
- COF < \$8/STB

Why a Pilot?

- Evaluation of Parkway and Avalon wells showed significant difference in injection rate and oil response in the LBC
- East Loving LBC appears to have lower average permeability than Parkway
- Comparison of net pay parameters to cumulative recovery in East Loving Section 23 wells shows inconsistent correlation (best producers did not have highest SoPhiH)
- CD interval has 1/3 of OOIP in Section 23 and AaAB have 2/3
- RFT data on recent wells showed consistent depletion at the CD zones while other zones showed little or inconsistent depletion



Orientation Map



Analog Comparison

Parkway

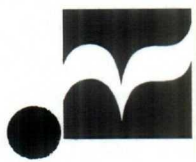
- Initial GOR 1340
- OOIP C 28 MMstb
A-C 67 MMstb
- $S_{wc} = 33 \%$
- Pinit – 1800 psi
- Dim Pri Void = 8.3 %
- $S_{gi} = 2 \%$
- $B_o = 1.22$

Reference – Case 10618 & 10619; Exhibit 12 - Parkway (Delaware)
Unitization Proposal; Seite Oil & Gas Company; 12-03-1992

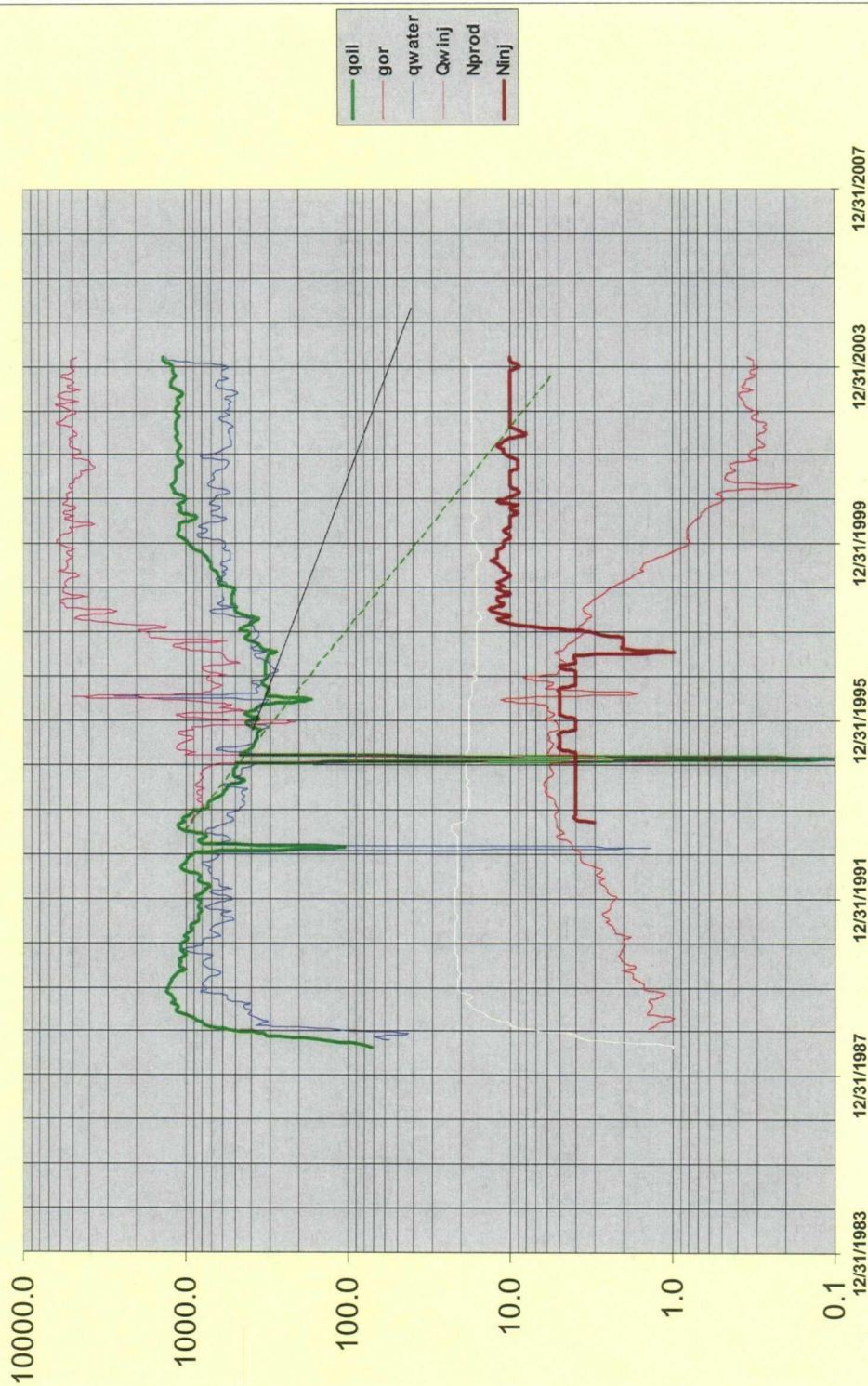
East Loving LBC

- Initial GOR 680
- OOIP Total Range
Operated
AA-D 62 MMstb
- Study area
AA-D 41 MMstb
C-D – 14 MMstb
- $S_{wc} = 46 \%$
- Pinit – 2600 psi
- Dim Pri Void = 9.3 %
- $S_{gi} = 3 \%$
- $B_o = 1.34$

Parkway Delaware Field Performance



Parkway



Analog Comparison



Avalon

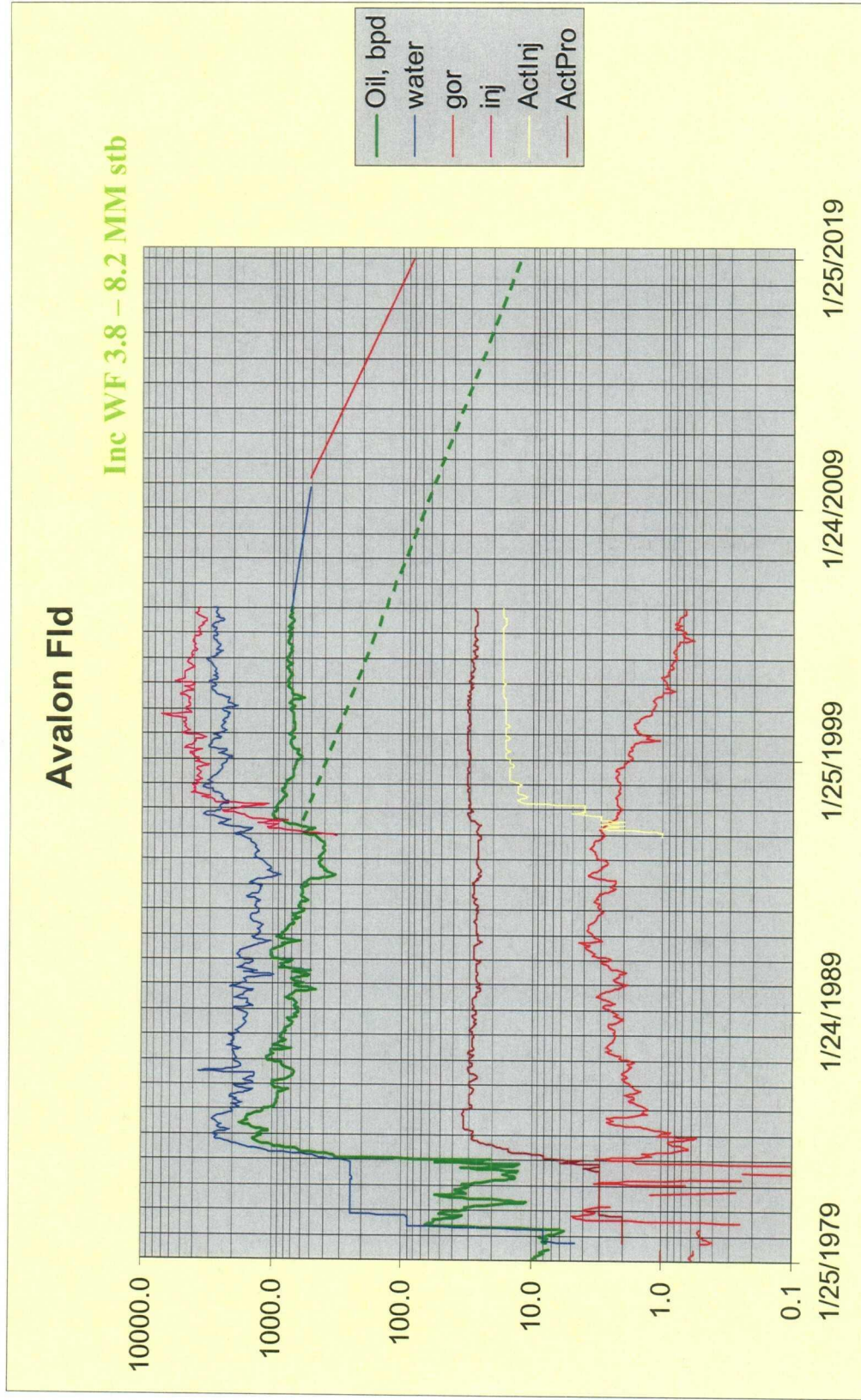
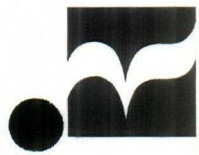
East Loving Delaware

- Initial GOR 800
- OOIP Cherry 68 MMstb
Brushy 82 MMstb
- $S_{wc} = 40 \%$
- Pinit – 1800 psi
- Dim Pri Void = 5 to 9 %
- $S_{gi} = 1$ to 3 %
- $B_o = 1.35$

Case 11297 & 11298; Avalon Waterflood Project; Exxon Corporation; June 29, 1995

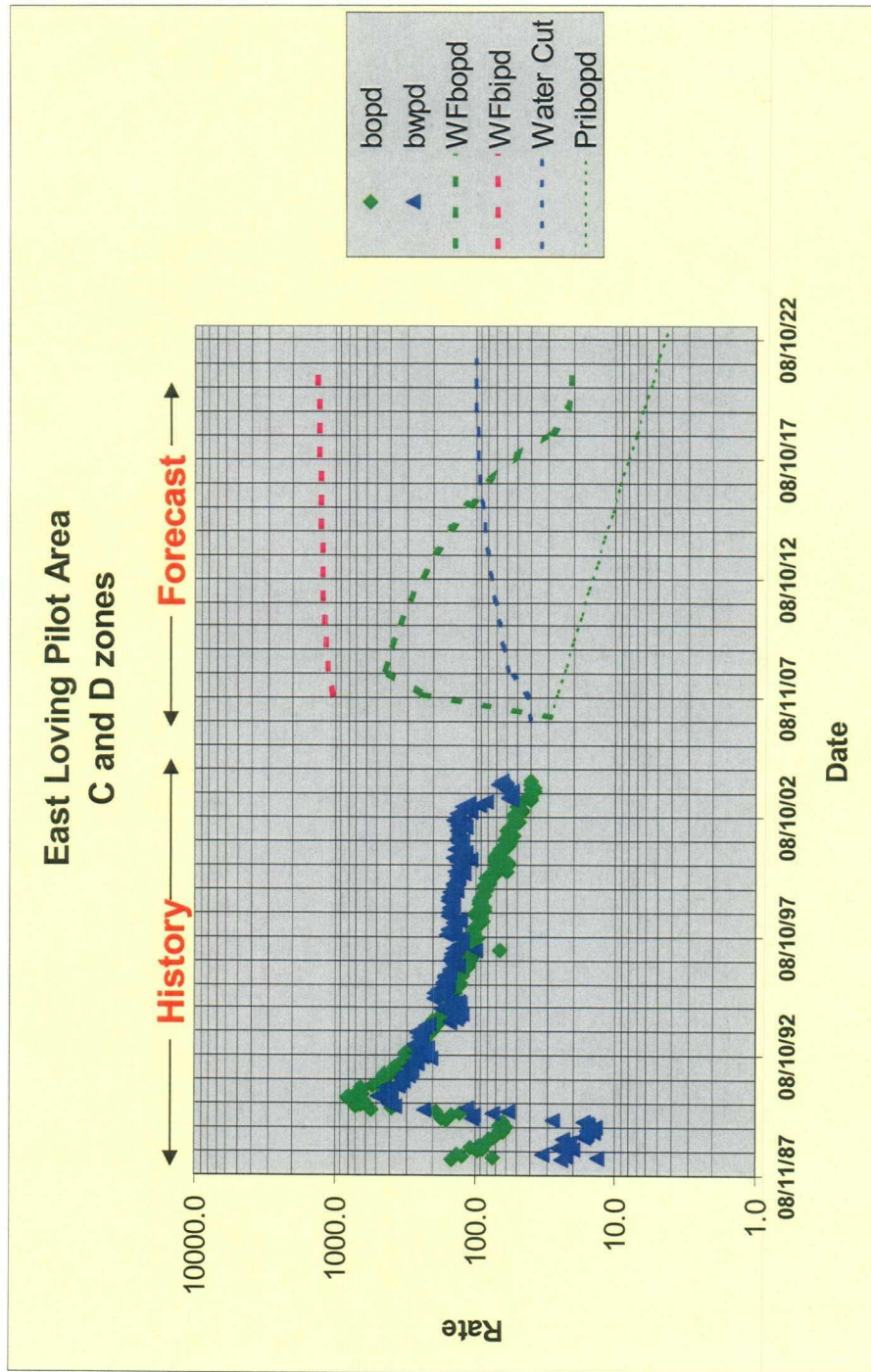
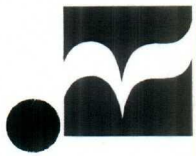
- Initial GOR 680
- OOIP AA-D 62
MMstb Study area
AA-D 41 MMstb
Study area C-D – 14
MMstb
- $S_{wc} = 46 \%$
- Pinit – 2600 psi
- Dim Pri Void = 9.3 %
- $S_{gi} = 3 \%$
- $B_o = 1.34$

Avalon Field Production



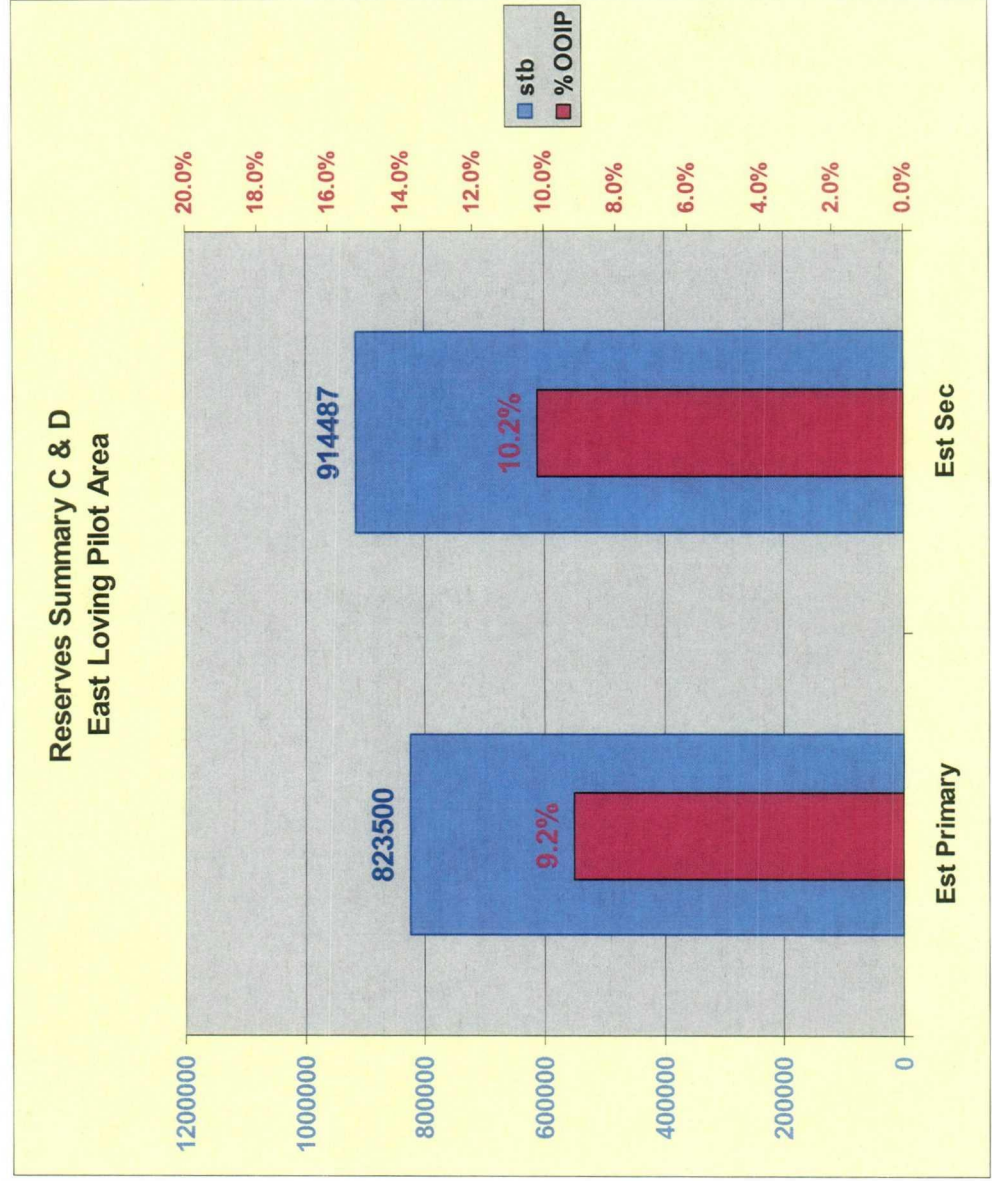
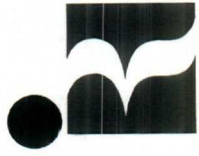
Pilot Forecast

Generated from Screening Model



C & D Pilot Area Forecast

Generated from Screening model



LOVING EAST WELL SUMMARIES
NORTH 3/4 SECTION 23

WELL	1ST DELAWARE PROD	CUM OIL MBBLS	CUM GAS MMCF	REM OIL MBBLS	REM GAS MMCF	EST. ULT OIL	EST. ULT GAS	CURRENT RATES MCFD	BOPD	AVG GOR CF/BO
DONALDSON COMM A1	1990	93.2	547	23.2	331	116.4	878	100	8	5,869
SCB #23-1	1988	190.3	857	74.8	377	265.1	1,234	118	19	4,503
SCB #23-2	1989	99.0	649	27.0	373	126.0	1,022	80	8	6,559
SCB #23-4	1990	87.0	640	8.1	186	95.1	826	64	4	7,354
SCB #23-5	1990	146.2	705	76.0	421	222.2	1,126	123	27	4,821
SCB #23-6	1990	134.9	840	13.9	178	148.9	1,018	40	3	6,221
SCB #23-7	1990	49.3	214	10.3	15	59.7	229	8	6	4,338
SCB #23-8	2005	7.8	25	34.7	142	42.5	167	86	12	3,196
SCB #23-11	1990	106.1	670	31.0	160	137.1	830	60	9	6,317
SCB #23-12	1990	38.3	197	29.2	132	67.5	328	43	8	5,127
SCB #23-13	1998	17.4	242	9.4	83	26.8	325	48	5	13,994
SCB #23-15	2005	4.4	27	30.7	141	35.1	169	93	13	6,182
SCB #3B	1990	82.6	498	23.6	246	106.2	745	48	6	6,037
SCB #4B	1990	59.4	445	21.4	18	80.8	463	7	8	7,494
		TOTAL PRODUCTION @1/2006		1,116 MBBLS 6,555 MMCF						136 BOPD 918 MCFD

REMAINING RECOVERABLE RES	413 MBBLS 2,801 MMCF
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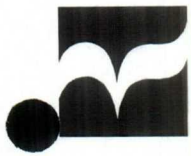
TOTAL RECOVERABLE RESERVES	1,529 MBBLS 9,357 MMCF
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LOVING EAST DELAWARE LEASE FLOOD ECONOMICS TABLE

	Current Operations	Incremental Proposed Flood
Reserves	413 MBO 2801 MMCF	915 MBO 288 MMCF
Capital	0 M\$	5,415 M\$
Undiscounted Income	25,322 M\$	30,003 M\$
PW Profit @ 10%	16,259 M\$	12,919 M\$

PRICE SCENARIO

Year	Oil Price \$/BBL	Gas Price \$/MMBTU
2006	63.75	7.90
2007	65.95	9.57
2008	65.54	9.10
2009	64.81	8.51
2010	63.97	7.94
2011	63.13	7.44
2012	62.52	7.12
2013	62.29	6.87
2014	62.19	6.67
2015	62.14	6.52
	Flat	Flat



Pilot Forecast

Generated from Parkway Analog

