Avalon WIO Meeting April 26, 1994

Meeting Purpose

Provide potential Working Interest Owners of the Avalon (New Mexico) Unit with a recommended Unit Agreement and Unit Operating Agreement

Attendees

The following persons attended this WIO Meeting.

Person	Company	Position	phone/fax
. Ron Mayhew	Exxon	Project Mgr.	915-688-7841/7847
. Gil Beuhler	Exxon	Reservoir Engr.	915-688-7849/7847
. Joe Thomas	Exxon	Landman	915-688-7162
. Tom Kane	Exxon	Geologist	
. Scott Lansdown	Exxon	Law	915-688-4982/~~6199~~ 4989
. Larry Long	Exxon	Reservoir Engr.	
. Bill Duncan	Exxon	Regulatory Affairs	
. Donna Bauer	Exxon	Regulatory Affairs	
. Greg Fisher	Exxon	Accounting Supr.	
. Dave Boneau	Yates Petroleum	Reservoir Supr.	505-748-1471/4585
. Bob Fant	Yates Petroleum	Reservoir Engr.	505-748-4185/4816
. Janet Richardson	Yates Petroleum	Landman	505-748-1471
. Rosalie Jones	Premier	Owner	505-748-2093
. Ken Jones	Premier	Owner	214-386-6200
. Paul White	Premier	Consultant	505-746-9507
. Barbara Lalicker	Penzoil	Reservoir Engr.	713-546-4240/4261
. Bob Hodge	MWJ Producing	Land Mgr.	915-682-5216
. Bill Hayworth	American National Petroleum (ANPC)		713-780-9494

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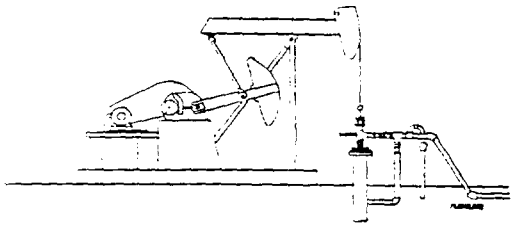
Avalon April 26 (Potential) WIO Meeting

Name	Company	Position	Phone/F
DAVE BONEAU	YATES PETROLEUM	RESERVOIR SUPERVISOR	505-748-1471/4
Janet Richardson	Yates Petroleum	Landman	505-748-1471
Bob Fant	Yates Pet	Res. Engineer	505 748 4185 /
Barbara Lalicker	Pennzoil	Resvr. Engr.	713-546-4240 / 4
Larry Long	Exxon	Reservoir Engr	915-688-7932
Scott Lousdown	Exxon	Atty.	915-688-4582 FAX-6199
Bill Duncan	"	Engr - Reg. Affairs	915-688-6174
DONNA BAUER	EXXON	REGULATORY AFFAIRS ENGR	915-688-6172
Greg Fisher	Exxon	Accountant	915-688-665
BOB HODGE	MWJ Producing Co	LAND MANAGER	915-692-5214
Joe B Thomas	Exxon	Land	915-688-716
Tom Kane	Exxon	GEOLOGIST	915-688-79
Ken Jones	Premier	OWNER	214-368-62
Paul G. White	Consulting Engineer	—	(505) 746-95
Rosalie Jones	Premier	owner	(505) 748-209
BILL HAYWORTH	American National	Eng Manager	713-780-94

BONEAU

Attachment I: Meeting Agenda



Topic: **Proposed Avalon Field Unit**
Date: **Tuesday, April 26, 1994**
Location: **Exxon Building PC #4 Training Room, 3300 N. A St. Midland, Tx**

Purpose: **Provide potential Working Interest Owners of the Avalon Unit with a recommended Unit Agreement and Unit Operating Agreement**

Desired Outcomes:
1. Attendees understand significant aspects of proposed Unit and how they affect the proposed agreements
2. Attendees understand what they will & will not be bound to by approving UA/UOA

Steps	Methods/Presenter	Min.	Time
Introduction	Welcome/ Ron Mayhew opens & Attendees introduce selves	5	10:00 am
Agenda Review	Ron Mayhew	5	10:05 am
Exxon Role & Interest	Ron Mayhew presents, group asks for clarifications	10	10:10 am
Overview of Proposed Project and Participation Formula	Gil Beuhler presents, group asks questions at end of each section	45	10:20 am
Unit Agreement	Joe Thomas presents, clarifying questions asked at end of each article	45	11:05 am
Lunch	Provided onsite	30	11:50 am
Unit Operating Agreement	Joe Thomas presents, clarifying questions asked at end of each article	90	12:20 pm
Current Development Plan/Ongoing Optimization	Gil Beuhler presents, group asks questions	20	1:50 pm
Next Steps/Meeting; Exxon Contacts	Ron Mayhew presents	15	2:10 pm
Adjourn			2:25 pm

KEN JONES - PREMIER

Avalon Field Unitization

- **Purpose**
  - Provide potential W I Os with recommended Unit Agreement (UA) and Unit Operating Agreement (UOA)
- **Desired Outcomes**
  - Understand significant aspects of proposed Unit and how they affect the agreements
  - Understand what will & will not be bound to by approving UA/UOA

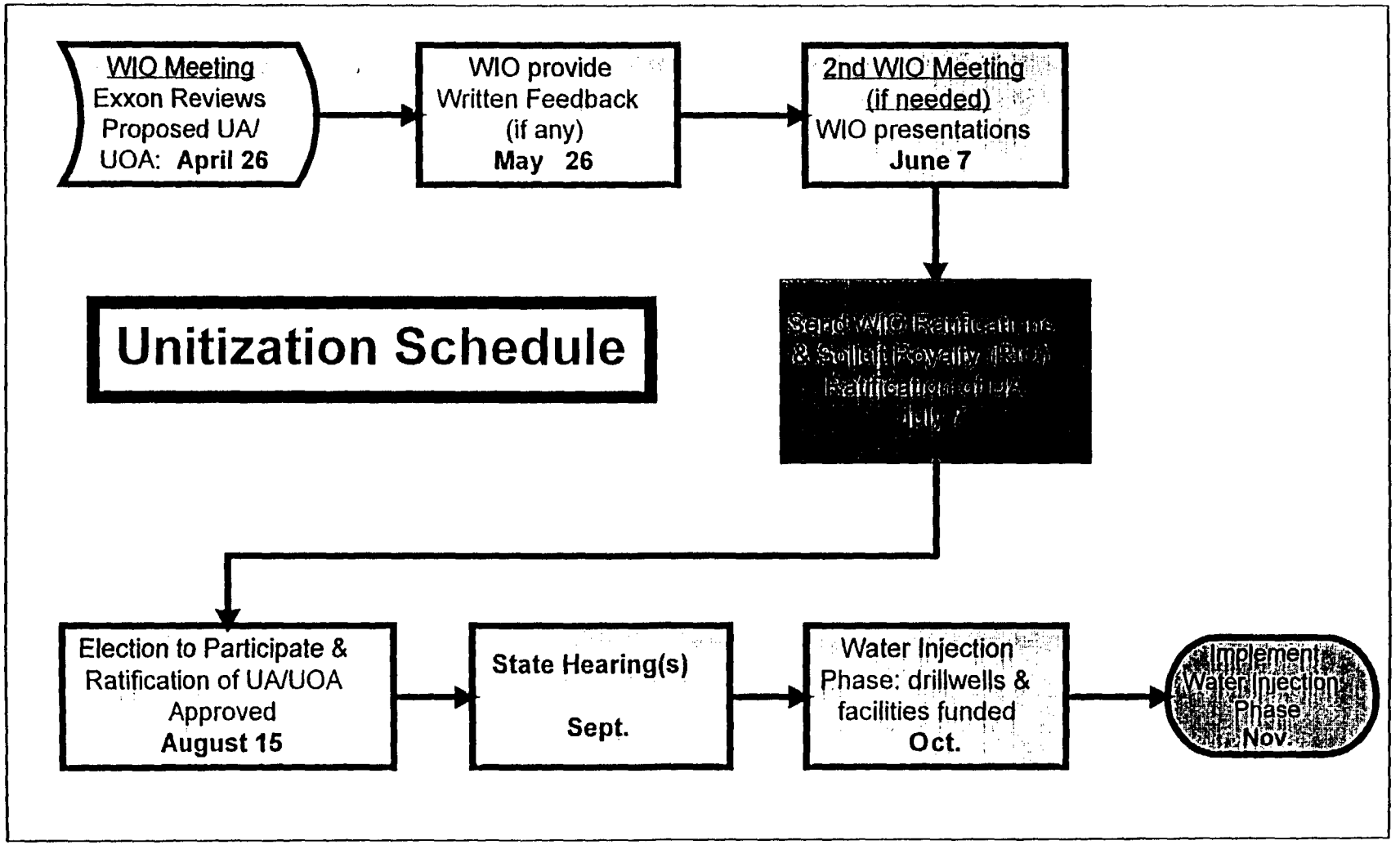
Avalon Field Unitization

- **Exxon Role**
  - Reservoir Management & Profitability
  - Technical Analysis (Exxon & WIOs)
  - Understand & Address WIO Needs
- **Project Manager Role**
  - Coordinate Unitization Activities
  - Focal Point for Water Injection & CO_2 Phases of Project
  - Project Profitability
  - Endorse Project Design Basis (test need vs. traditional)

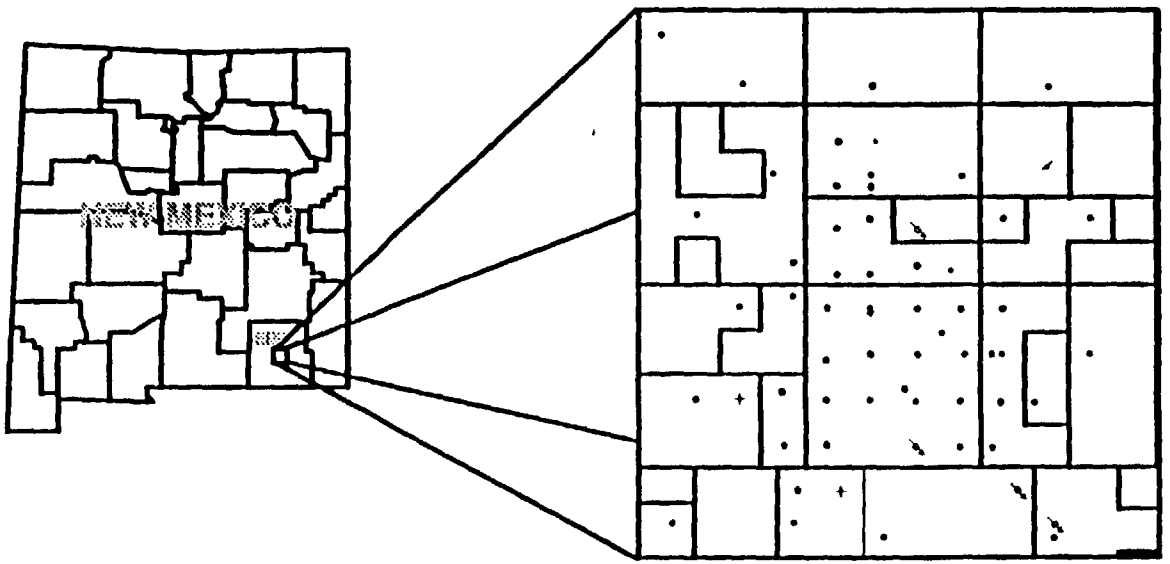
Avalon Field Unitization

- **Exxon Commitment**
  - Prize is CO_2 Project
    - » CO_2 Recoverable Reserves
    - » Water Injection Phase Carries Itself
  - Manpower & Funds Expended
- **Exxon Funding & Implementation Ability**
  - 1994 $ available
  - Future years pace depends on attractiveness and Water Injection Phase performance

Avalon Field Unitization

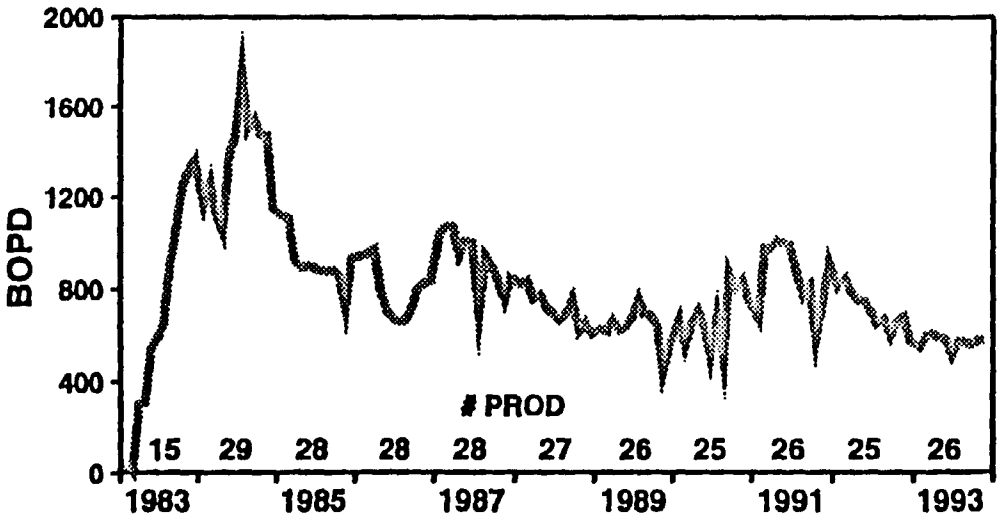


AVALON (DELAWARE) PROJECT
FIELD SUMMARY



1100 ACRES PRIMARY PRODUCTIVE ACREAGE
26ACTIVE PRODUCERS
4 ACTIVE INJECTORS/SWD

• DELAWARE WELLS



DEVELOPMENT HISTORY

1978: FIRST DELAWARE PRODUCTION IN AREA

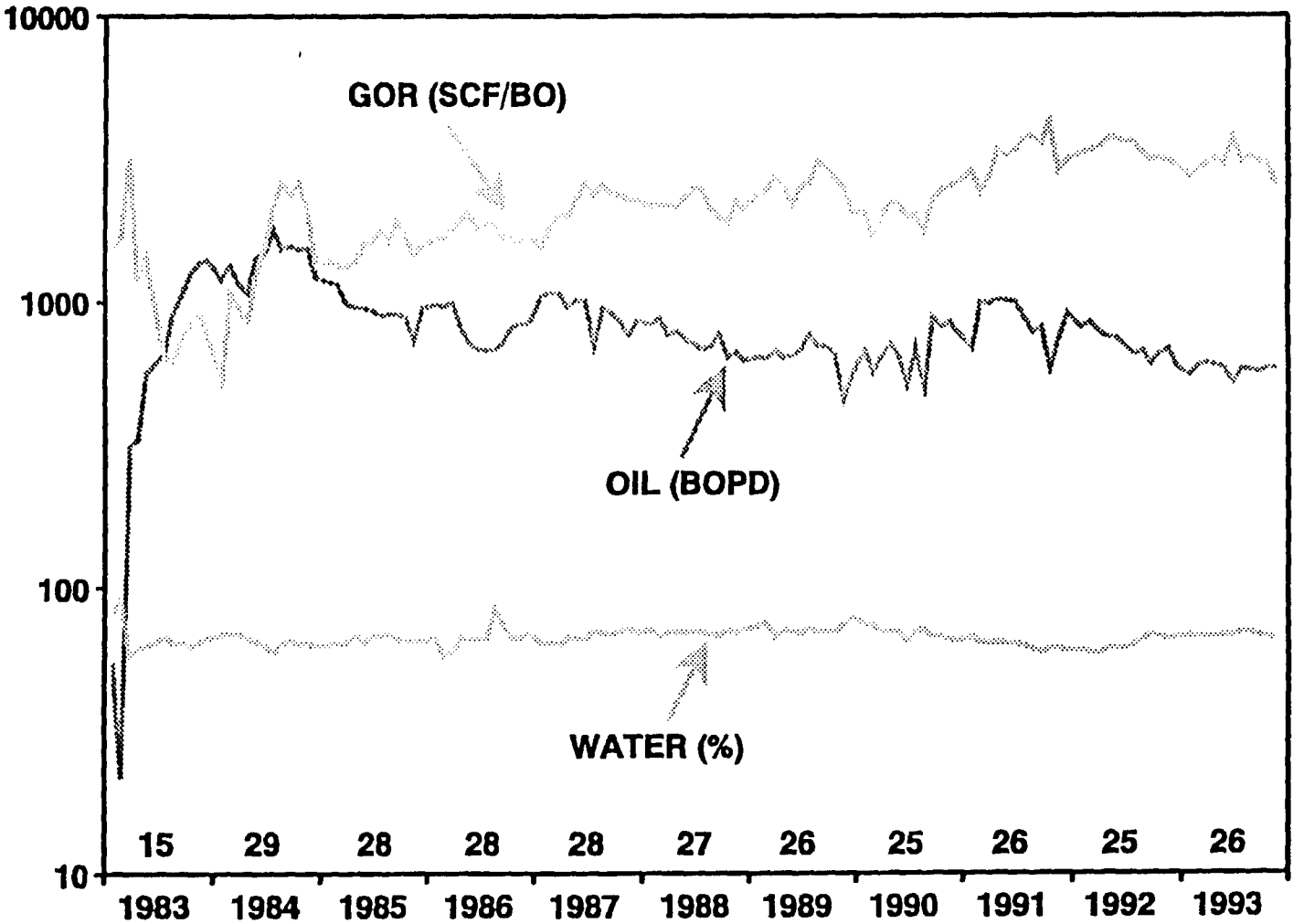
1982: PRODUCTION FROM MAJOR PRODUCTIVE HORIZONS BEGINS

1983: FIELD DEVELOPED ON 40-ACRE SPACING

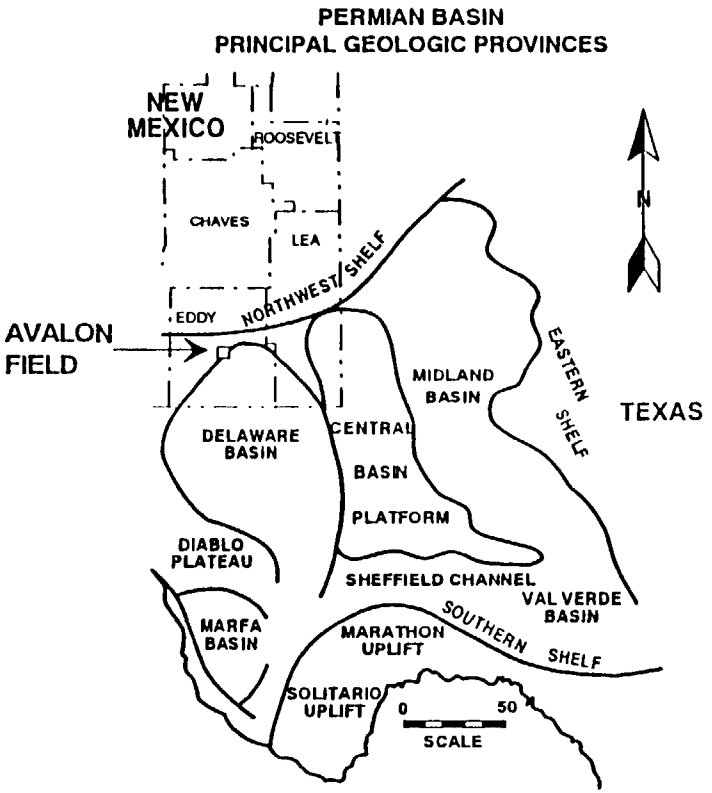
1990: FIRST 20-ACRE WELL DRILLED

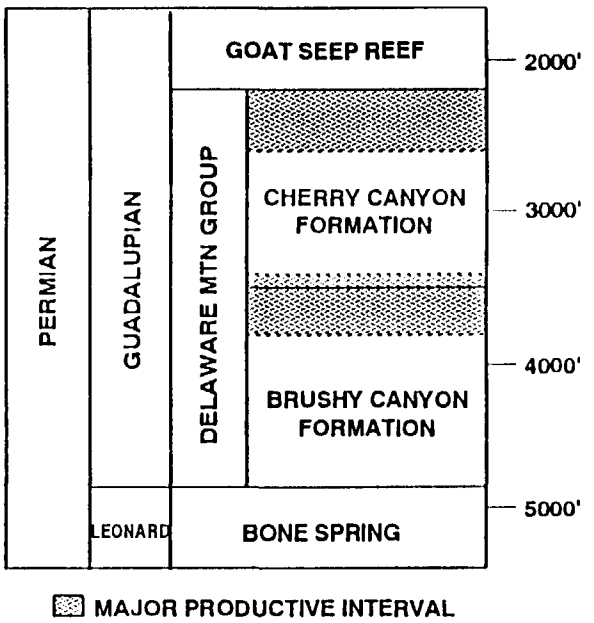
1994: CUMULATIVE PRODUCTION 3.3 MBO

AVALON (DELAWARE) FIELD
PAST PRODUCTION



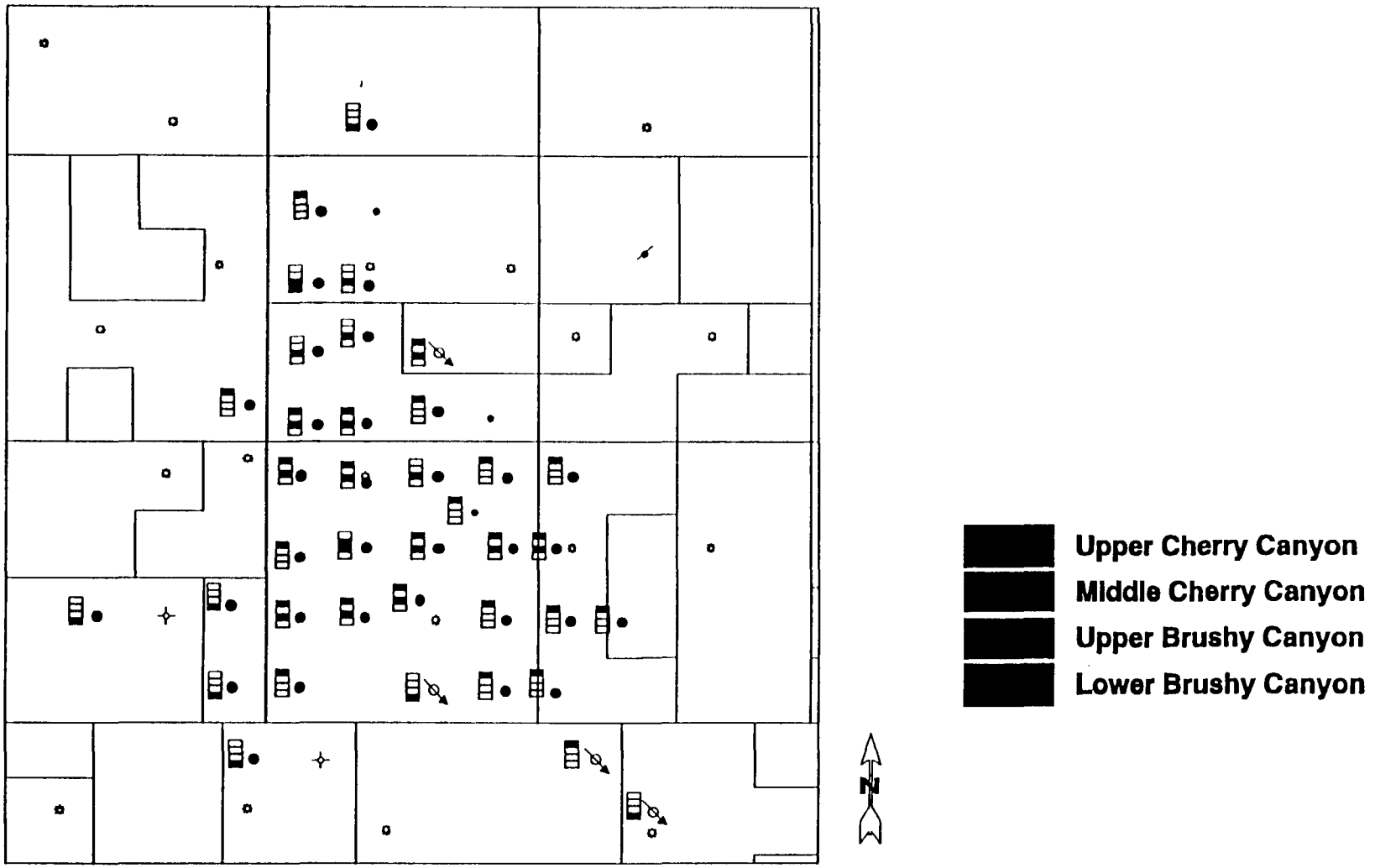
AVALON EOR PROJECT
GEOLOGIC OVERVIEW



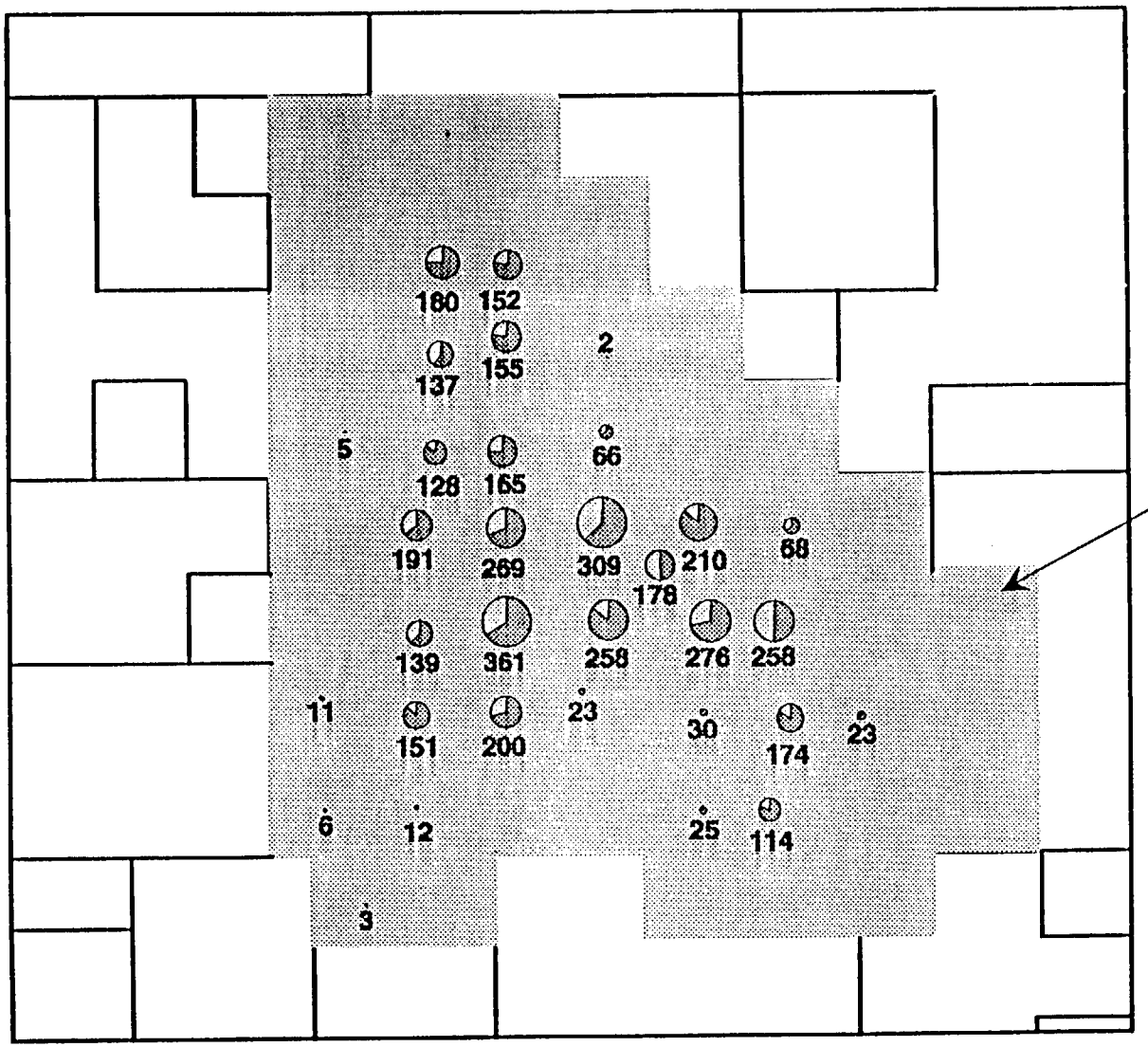


RESERVOIR DESCRIPTION		
PRODUCING FORMATION	UPPER CHERRY CANYON	UPPER BRUSHY CANYON
DEPTH	2600 FT	3500 FT
RESERVOIR LITHOLOGIES	SAND	SAND & SILTSTONE
NET THICKNESS (PAY)	132 FT	158 FT
AVERAGE ϕ	14.4%	14.8%
AVERAGE K	2.3 md	1.1 md

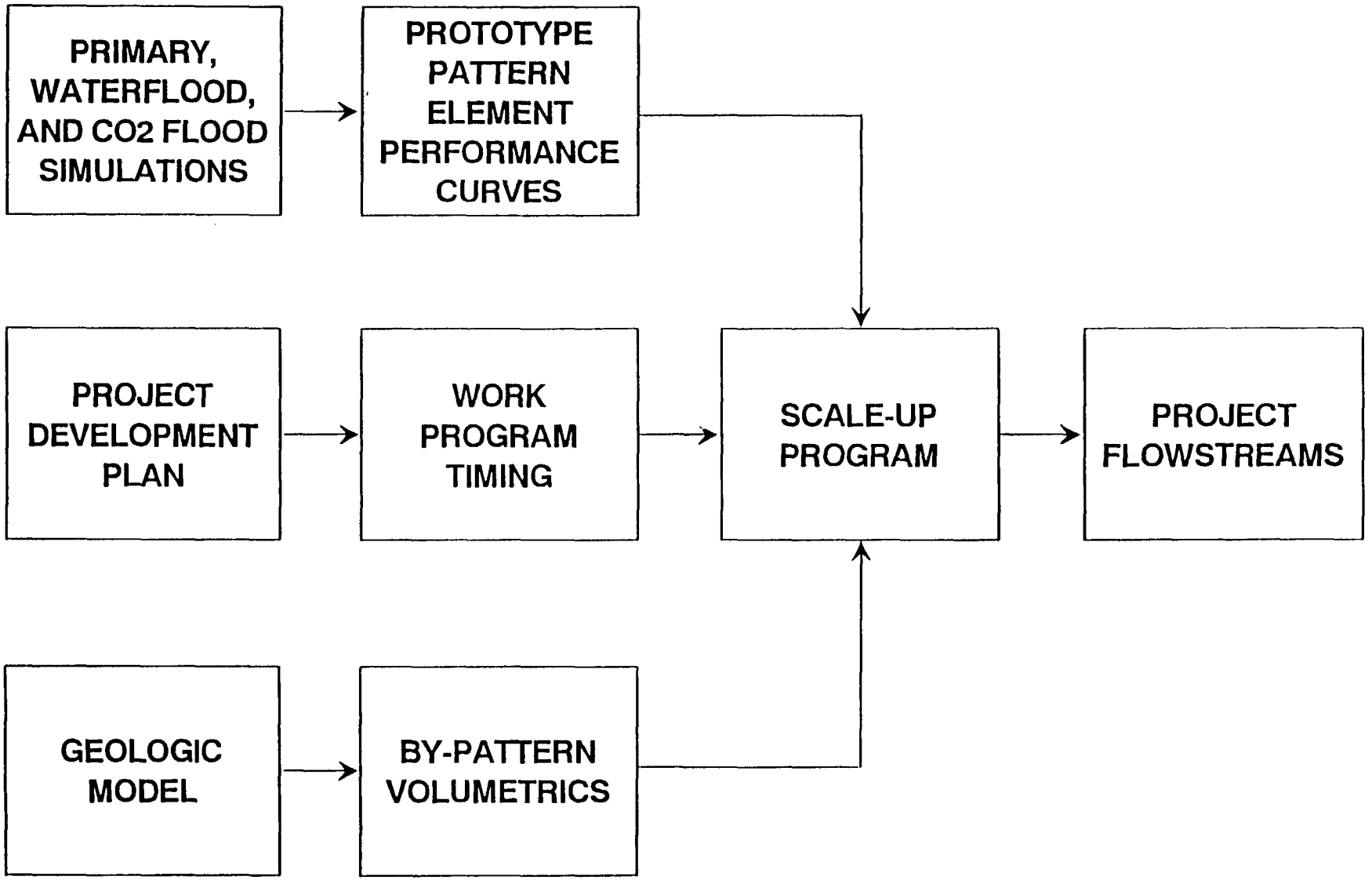
AVALON (DELAWARE) FIELD
COMPLETION ZONES



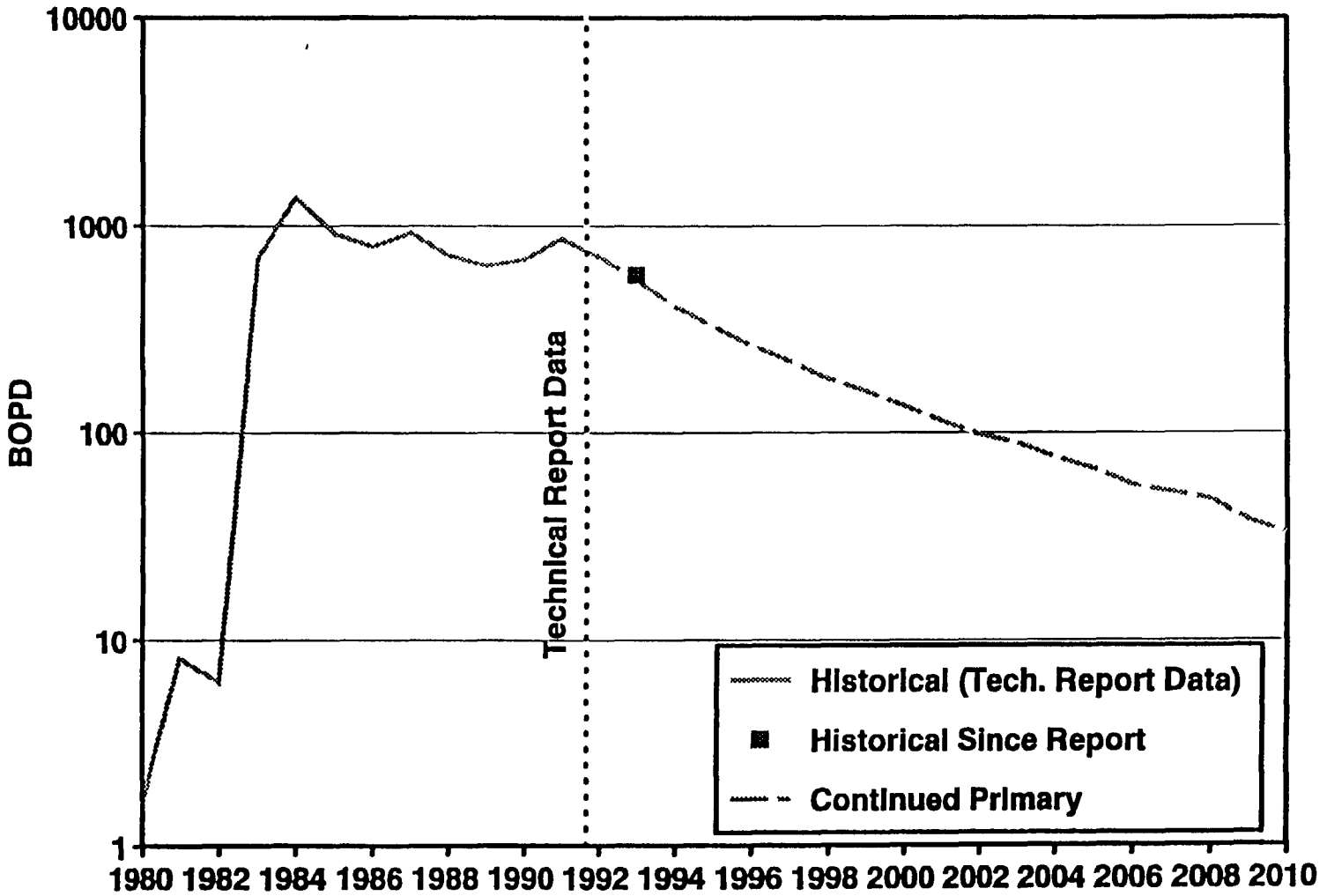
AVALON (DELAWARE) FIELD
PRODUCTION MAP



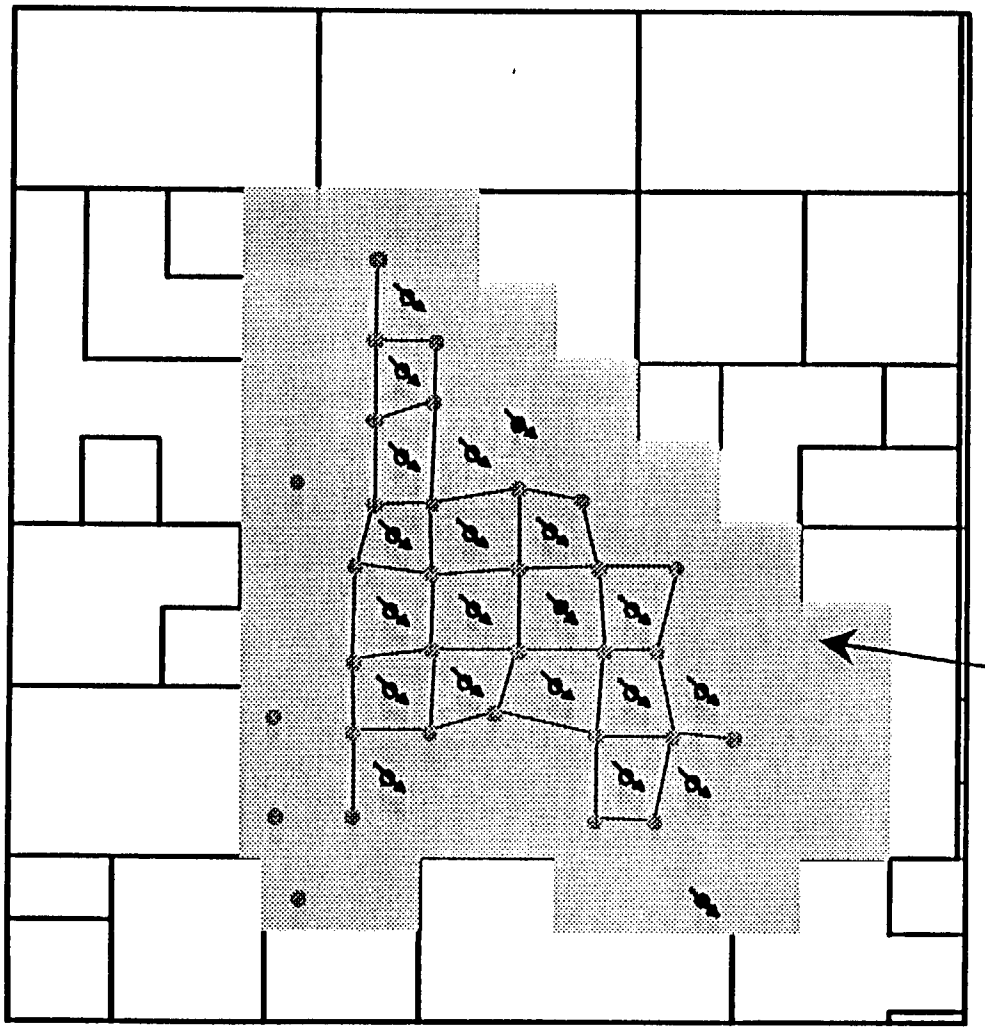
PROJECT FLOWSTREAM METHODOLOGY



AVALON (DELAWARE) FIELD
CONTINUED OPERATIONS



AVALON (DELAWARE) FIELD
WATER INJECTION PHASE DEVELOPMENT



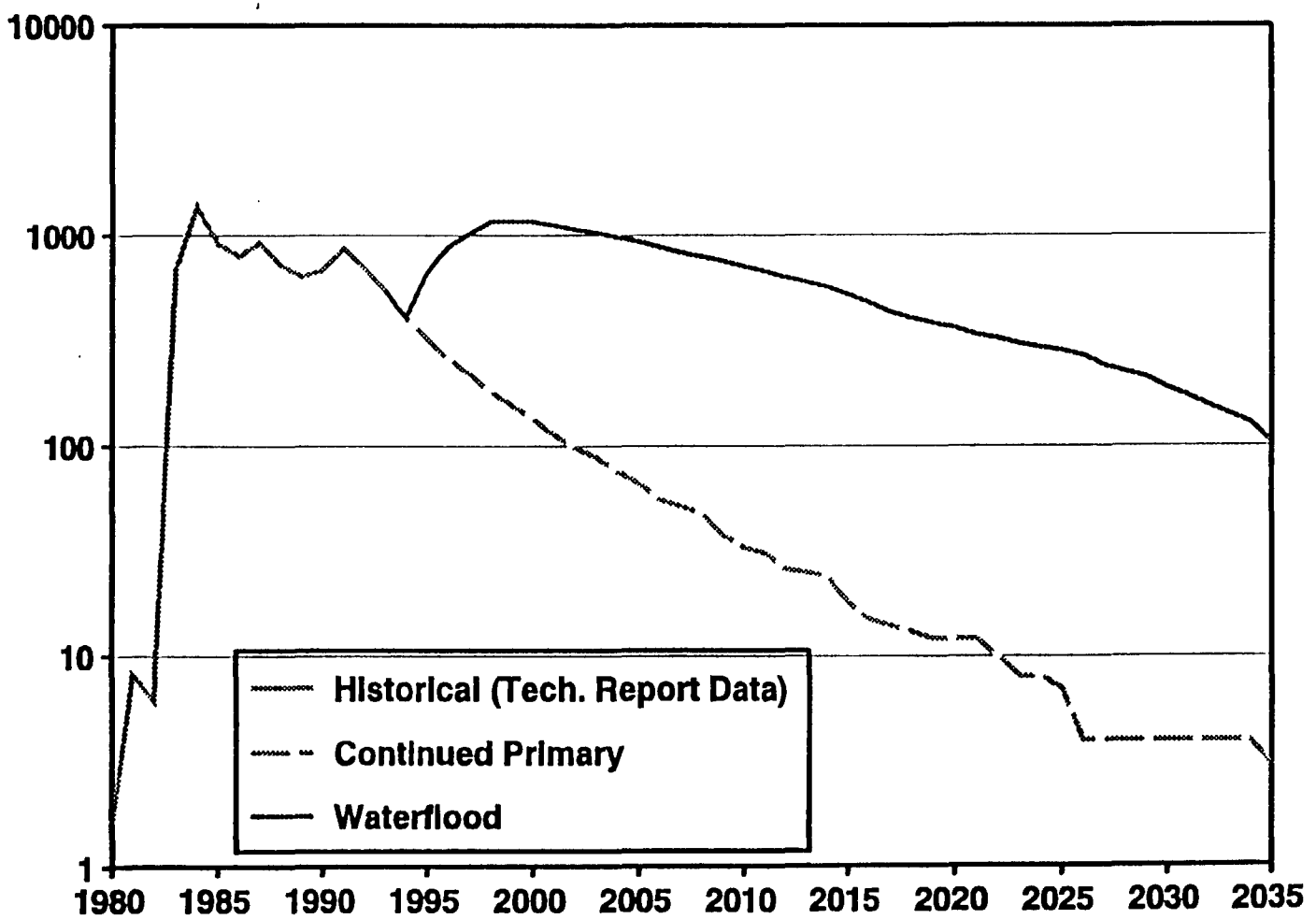
DEVELOPMENT SUMMARY

- START 4Q94
- 18 INJECTOR DRILLWELLS
- $12M GROSS INVESTMENT
- 8 MBO GROSS RESERVES

WELL SYMBOL LEGEND

- OIL WELL
- OIL WELL (PROPOSED)
- INJECTOR
- INJECTOR (PROPOSED)

AVALON (DELAWARE) FIELD
WATERFLOOD vs CONTINUED PRIMARY

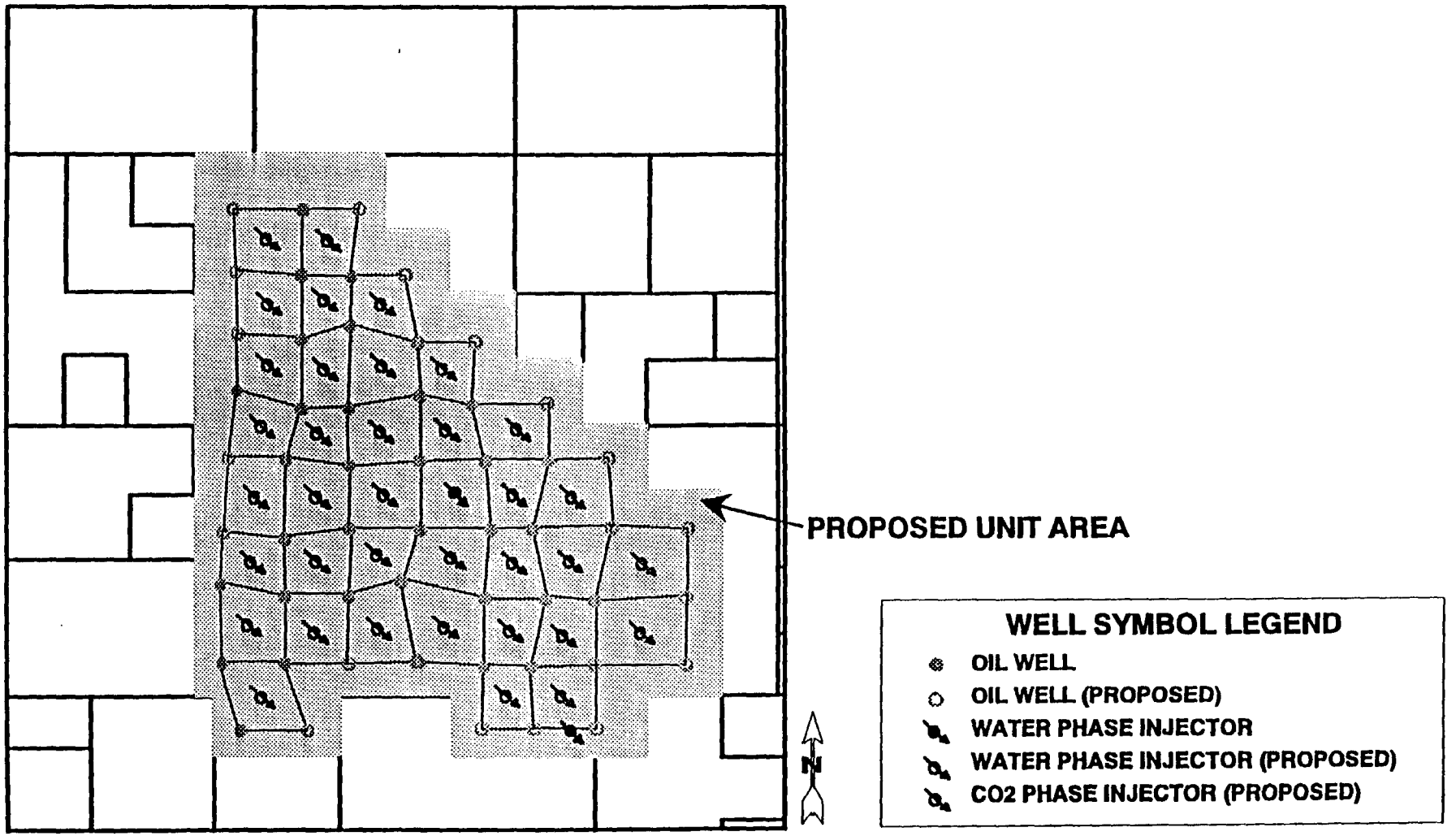


AVALON PROJECT
RESERVES SUMMARY

CASE	EFFECTIVE OOIP (MBO)	EUR (MBO)	EUR (% OOIP)	△ EUR (MBO)	△ EUR (% OOIP)
CONTINUED PRIMARY	86 (1)	4.2	4.9	4.2	4.9
WATERFLOOD	80 (2)	12.4 (3)	15.5	8.2	10.3
CO2 FLOOD	171 (2)	52.3	30.6	39.9	23.3

(1) HISTORY MATCH OOIP
(2) FLOOD-AFFECTED AREAS
(3) INCLUDES WORKOVER RESERVES

AVALON (DELAWARE) FIELD
CO2 INJECTION PHASE DEVELOPMENT



AVALON (DELAWARE) FIELD
TRACT MAP

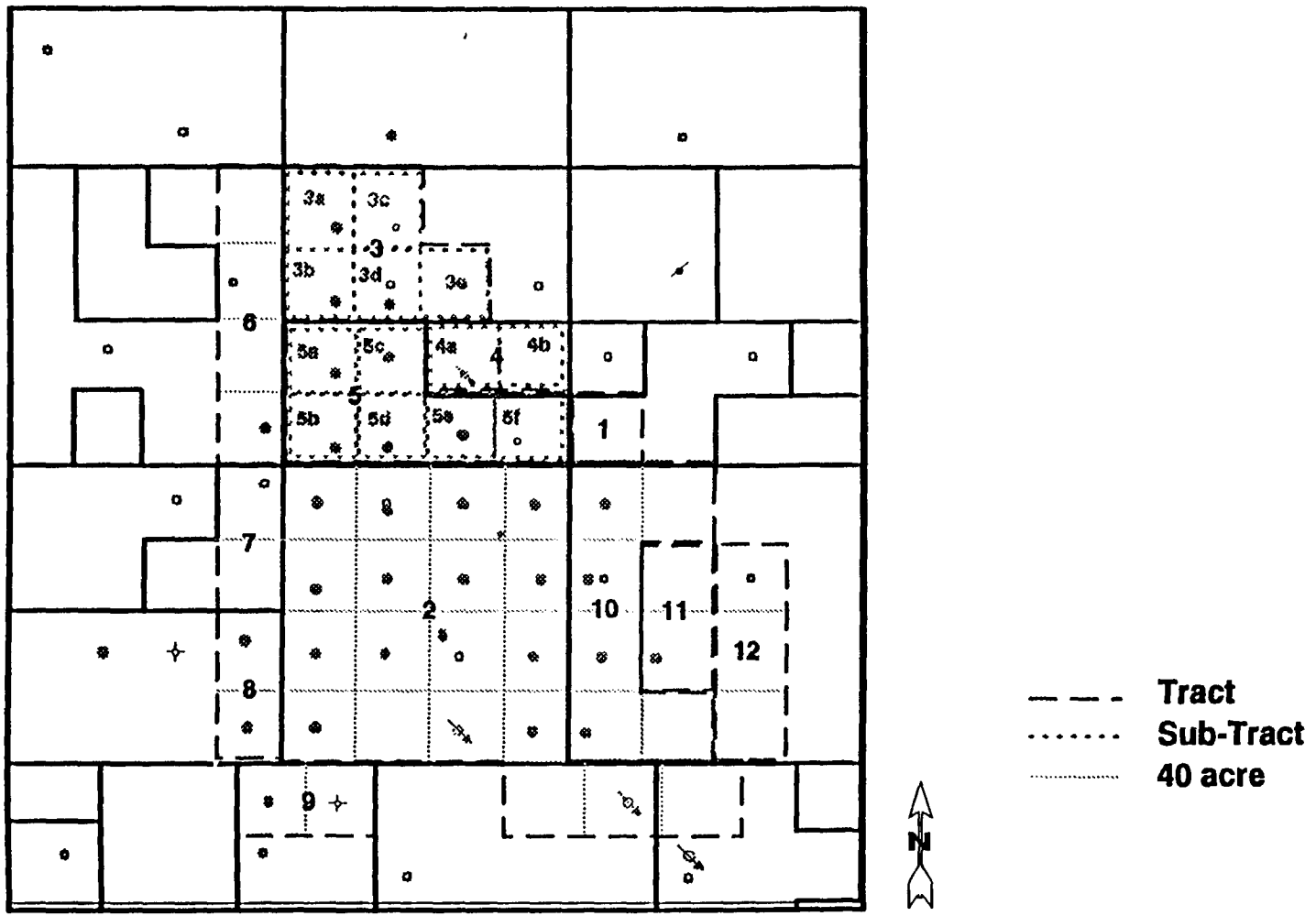


EXHIBIT "D"
RESERVES BY TRACT

TRACT	REMAINING PRIMARY RESERVES	WATERFLOOD RESERVES	TERTIARY RESERVES
1	0.00	0.00	203.90
2	741.80	4,368.20	18,995.00
3-A	0.00	345.10	530.60
3-B	43.40	403.60	1,693.00
3-C	0.00	0.80	446.70
3-D	33.40	373.30	1,045.90
3-E	0.00	0.00	362.50
4-A	0.00	0.00	852.50
4-B	0.00	0.00	247.40
5-A	53.40	368.10	1,425.90
5-B	19.30	174.50	1,189.70
5-C	33.80	741.50	2,177.20
5-D	40.30	698.40	2,009.30
5-E	20.20	157.50	966.20
5-F	0.00	69.30	481.00
6	0.00	0.00	1,626.00
7	0.00	0.00	427.60
8	0.70	0.00	165.80
9	0.00	0.00	444.30
10	202.80	499.40	3,350.90
11	3.10	69.70	1,050.50
12	0.00	0.00	191.10
TOTAL	1,192.20	8,269.40	39,883.00

RESERVE DATA
UNITS ARE THOUSAND OF BARRELS

It is understood and agreed that the above numbers are estimates that were utilized in determining Tract Participation for the Unit; they do not constitute any representation as to the amount of oil that may actually be recovered by each tract or by the unit as a whole.

PARTICIPATION CONCERNS/SOLUTIONS

Summary:

- **Two Phase**
- **Phase Change by Vote**
- **Participation Based on Weighted Reserves**

ITEM	TYPICAL CONDITIONS	CONDITIONS AT AVALON	CONCERN	SOLUTION
Economic Uncertainty	Project approved & implemented up front	Future implementation of tertiary project	Oil prices have major impact on viability of future tertiary project	Use two phases
Project Life	10-40 Years	40-60 Years	Present worth of future production less than near term production	Use reserve weighting factors that incorporate timing of production
Production Costs	WF costs only	Tertiary & WF costs	Tertiary expense/BOPD higher than for waterflood	Use reserve weighting factors that incorporate production costs

AVALON (DELAWARE) FIELD
TRACT PARTICIPATION FORMULA

$$\text{PARTICIPATION} = \underset{\text{(Pri)}}{C*A/B} + \underset{\text{(Sec)}}{F*D/E} + \underset{\text{(Tert)}}{I*G/H}$$

Where:

A = Tract's remaining primary reserves as of 1/1/93; see Exhibit D
B = Total remaining primary reserves as of 1/1/93 = 1192.2 MBO
C = Primary reserve weighting factor; see table below
D = Tract's waterflood reserves; see Exhibit D
E = Total waterflood reserves = 8269.4 MBO
F = Waterflood reserve weighting factor; see table below
G = Tract's tertiary reserves; see Exhibit D
H = Total tertiary reserves = 39883.0 MBO
I = Tertiary reserve weighting factor; see table below

Where:

	Phase 1	Phase 2
C	62.4312%	23.4552%
F	37.5688%	20.6375%
I	0	55.9073%

AVALON (DELAWARE) FIELD
WEIGHTING FACTORS FOR TRACT PARTICIPATION FORMULA

Phase 1:

$/BO

Define:

$$C_1 = \left[\text{Total Remaining Primary Reserves at Phase 1 start; assume 1-1-94}\right] * \left[\frac{\text{Primary Case PVP @ 20\%}}{\text{Primary Reserves Used in Economics}}\right]$$

$$= 986.6\ \text{KBO} * \$8\text{M}/1187.4\ \text{KBO}$$

$$= \$6.647128\text{M}$$

F_1 = Waterflood Case PVP @ 20%

= $4M

Then:

$C = C_1/(C_1 + F_1) = 62.4312\%$

$F = F_1/(C_1 + F_1) = 37.5688\%$

AVALON (DELAWARE) FIELD
WEIGHTING FACTORS FOR TRACT PARTICIPATION FORMULA

Phase 2:

Define:

C_2 = [Total Remaining Primary Reserves at Phase 2 start; assume 1-1-97] * [Primary Case PVP @ 20% / Primary Reserves Used in Economics]

= 622.7 KBO * $8M/1187.4 KBO

= $4.195385M

F_2 = [Total Remaining Waterflood Reserves at Phase 2 start; assume 1-1-97] * [Waterflood Case PVP @ 20% / Waterflood Reserves Used in Economics]

= 7631.3 KBO * $4M/8269.3 KBO

= $3.691389M

I_2 = Tertiary Case PVP @ 20%

= $10M

Then:

$C = C_2 / (C_2 + F_2 + I_2) = 23.4552\%$

$F = F_2 / (C_2 + F_2 + I_2) = 20.6375\%$

$I = I_2 / (C_2 + F_2 + I_2) = 55.9073\%$

EXHIBIT "C"
SCHEDULE OF TRACT PARTICIPATION

TRACT	PHASE 1 PARTICIPATION	PHASE 2 PARTICIPATION
1	0.000000	0.285823
2	58.690598	52.122430
3-A	1.567828	1.605034
3-B	4.106300	4.234308
3-C	0.003634	0.628173
3-D	3.444980	3.054857
3-E	0.000000	0.508146
4-A	0.000000	1.195020
4-B	0.000000	0.346801
5-A	4.468684	3.968035
5-B	1.803444	2.482897
5-C	5.138700	5.567460
5-D	5.283274	5.352419
5-E	1.773341	2.144879
5-F	0.314838	0.847206
6	0.000000	2.279299
7	0.000000	0.599402
8	0.036656	0.246187
9	0.000000	0.622812
10	12.888732	9.933423
11	0.478991	1.707508
12	0.000000	0.267881
TOTAL	100.000000	100.000000

4/25/94

PHASE PARTICIPATIONS BY WIO GROUP

WIO GROUP*	PHASE 1 PERCENTAGE	PHASE 2 PERCENTAGE
ANPC	4.833638	5.481625
Chevron (Pennzoil)	0.522045	1.260513
Claremont	0.211755	0.239281
Devon	0.635433	0.720320
Exxon	79.718394	72.529551
Hayes	0.000000	0.023017
Hudson	3.388077	3.828488
Kerr-McGee	0.204154	0.230691
McCall	0.000000	0.000194
Merit	0.000000	0.622812
Moore	0.000000	0.000078
MWJ	0.451003	0.663202
Oliver	0.000000	0.000048
Oxy	0.000000	0.339883
Premier	0.000000	2.279299
Redfern	0.099094	0.111975
Redfern, John	0.099094	0.111975
SSC	0.000000	0.004465
TROil	0.000000	0.002333
Yates	9.837315	11.550251
	100.000000	100.000000

*Individual owner participation given in Exhibit "E"

AVALON ECONOMIC SUMMARY
(EXHIBIT H-5)

WORKING INTEREST = 100%
NET INTEREST = 87.5%

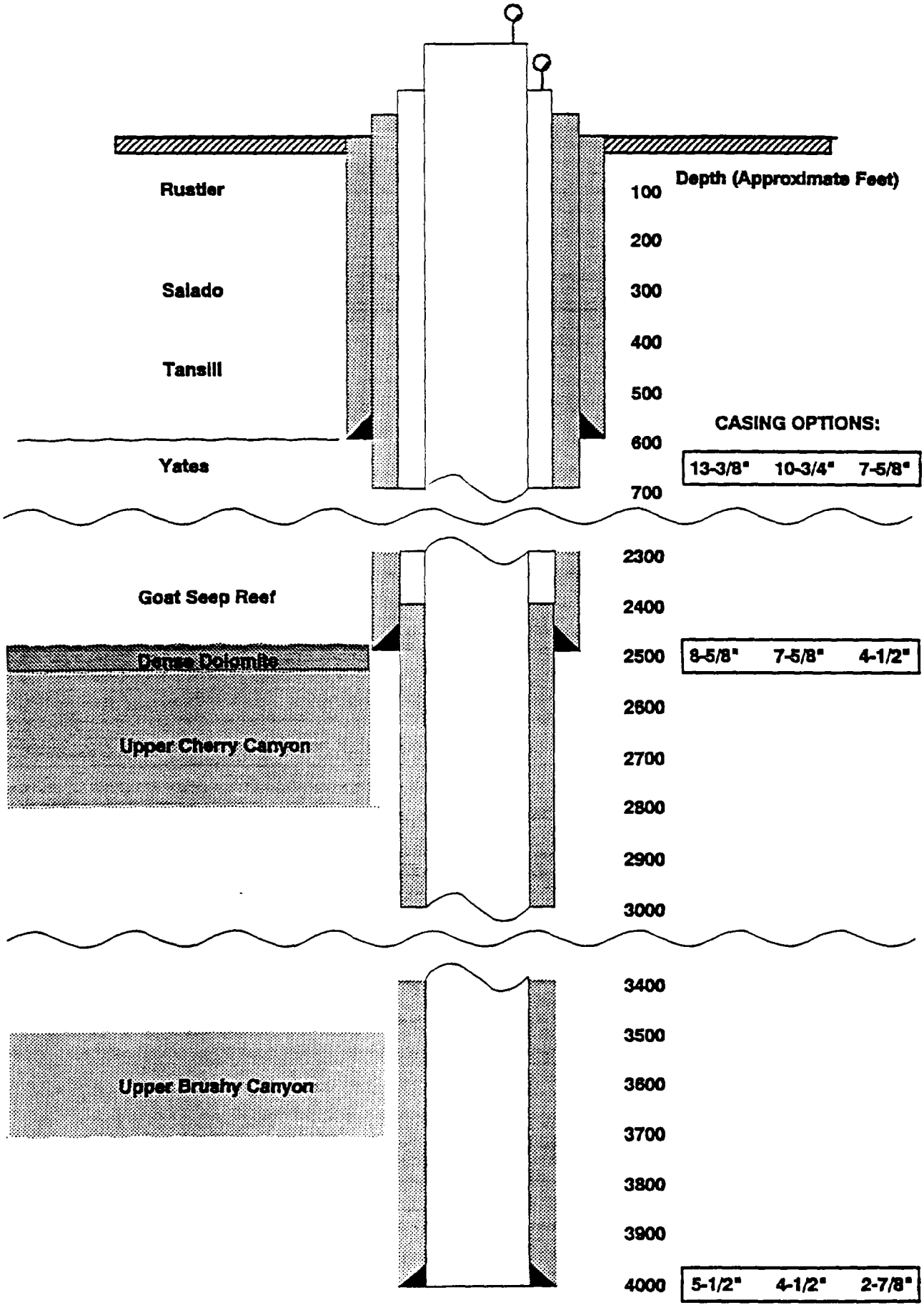
CASE#	CASE DESCRIPTION (1)	GROSS INVESTMENT (M$) 1992$	GROSS INVESTMENT (M$) AS SPENT $	NET RESERVES (MBO)	ROR (%)	PAYOUT (YRS)	PRESENT VALUE PROFIT (M$) 0%	5%	10%	15%	20%	CASE#
	BASE CASES:											
1	EOR PROJECT	84.2	102.7	42.2	25%	9.6	2,157	434	134	47	14	1
2	EOR PROJECT (INCREMENTAL OVER WF)	61.0	77.9	34.9	25%	-	1,927	364	106	35	10	2
	PRICING SENSITIVITIES:											
3	OIL PRICE UP $2 ($23/BO)	84.2	102.7	42.2	27%	9.3	2,457		155		20	3
4	OIL PRICE DOWN $2 ($19/BO)	84.2	102.7	42.2	23%	10.0	1,857		113		8	4
5	FLAT PRICING (NO REAL GROWTH)	84.2	102.7	42.2	23%	9.9	1,177		99		8	5
6	CO2 PRICE UP $0.25 ($1.25/KCF)	84.2	102.7	42.2	24%	9.9	2,135		128		11	6
7	CO2 PRICE DOWN $0.25 ($0.75/KCF)	84.2	102.7	42.2	26%	9.4	2,179		140		17	7
8	INVESTMENTS UP 10%	92.7	113.0	42.2	23%	9.9	2,151		130		11	8
9	INVESTMENTS DOWN 10%	75.8	92.4	42.2	26%	9.4	2,163		139		18	9
	PRODUCTION SENSITIVITIES:											
10	PRIMARY ONLY	0.2	0.2	1.0	>100%	-	17	13	11	9	8	10
11	WATERFLOOD	23.3	24.7	7.2	24%	5.9	230	70	28	12	4	11
12	HIGHER OIL SATURATION (+3% So)	84.2	102.7	50.6	30%	8.7	2,805		182		30	12
13	LOWER OIL SATURATION (-6% So)	84.2	102.7	25.8	17%	11.5	908		58		(9)	13
14	HIGHER INJECTIVITY (+40%)	91.0	111.1	43.7	29%	8.6	1,527		159		28	14
15	LOWER INJECTIVITY (-30%)	79.2	96.4	39.4	21%	10.8	2,667		107		3	15
16	HIGHER SLUG SIZE (.6 HCPV)	84.2	102.7	42.2	25%	9.6	2,200		131		13	16
17	LOWER SLUG SIZE (.4 HCPV)	84.2	102.7	38.3	24%	9.6	1,812		122		13	17

(1) UNLESS NOTED, ECONOMICS ARE INCREMENTAL OVER PRIMARY

INVESTMENT OPTIMIZATION IN PROGRESS

CATEGORY	INVESTMENTS (M$)		COMMENTS
	TECH. REPORT	CURRENT	
Drilling	9.0	6.3	4-1/2" casing (vs. 5-1/2"); 19 wells (vs. 20); no CRA
Production Facilities	7.4	0.2	No CPF
Injection Facilities	5.8	4.0	Using mostly surplus equipment
Workover	0.9	1.0	13 add pays; 1 conversion
Artificial Lift	0.3	0.3	5 upgrades
Other	0.2	0.1	Formulation evaluation
Total	23.6	11.9	

Avalon EOR Project
Proposed Drillwell



ECONOMIC OPTIMIZATION IN PROGRESS

CASE	ROR	CHANGE
Technical Report (WF)	24%	---
New Pricing	13%	$21/BO @ 6% Escal. --> $15/BO @ 4% Escal. (@ Startup)
Investments	24%	$24M --> $12M
Updated Timing	24%	10/92 Startup --> 10/94 Startup (Unit Approval)
CO2	18%	Not completely optimized for new pricing

Avalon Field Unitization

- **Next Meeting Proposed Agenda**
  - Significant issues (if any) provided Exxon in writing 1 week in advance of meeting
  - Review UA/UOA significant issues (if any)
    - » WIOs Present Suggested UA & UOA changes that have significant financial impact
    - » Group discusses, comments, & offers solutions
  - Provide any legal input on wording if time permits. Lawyers can coordinate in future.
- **Next Meeting Date (June 7 ; ??)**
  - WIO presentations on UA/UOA revisions if needed
- **Critique**