BENSON DELAWARE WATERFLOOD ANALYSIS

An analysis has been performed on the Benson Delaware Field operated by Chi Operating of Midland, Texas to determine its waterflood feasibility and potential. The field is located primarily in Sections 1, 11 & 12, T-19-S, R-30-E, Eddy County, New Mexico. The field was discovered in 2001 and produces from the Cherry Canyon and Brushy Canyon horizons at a depth ranging from 4800-5200'. Current cumulative production is 900 MBO, 597 MMCF & 1073 MBW. The current daily rate from the 9 producing wells is 553 BOPD, 583 MCFD & 1638 BWPD.

Based on the reservoir parameters, production characteristics and analog floods in the area, the Benson Delaware Field is deemed to be an excellent waterflood candidate. The reservoir is calculated to contain Original Oil in Place (OOIP) of 31,051 MBO. The estimated current primary reserves, based on zones currently producing, are 2,952 MBO, 9.5% OOIP. This was ascertained using production decline curve analysis on each well. The field summary production plot is attached, Curve #1.

There are 7 wells with 16 potentially productive behind pipe zones. The proposed intervals are shown on Table #4. These 16 intervals are expected to be developed with 11 completions at 150 M$/completion for a total capital expenditure of 1650 M$. The incremental reserves these recompletions will add is 601 MBO, 1.9% OOIP. If all productive zones are completed, the primary recovery would increase to 3,553 MBO, 11.4% OOIP. A plot showing the impact of the expected oil and gas production is attached, Curve #2.

The waterflood implementation is estimated to cost 11,478 M$. This would involve drilling eleven 20 acre injection wells at a cost of 900 M$ each and building a waterflood facility at a cost of 1578 M$. The secondary reserves to be realized from a waterflood are 4,620 MBO. This is based on a 1.3 secondary to primary ratio, which is the average of three offset Delaware waterfloods. The percent OOIP to be recovered from the waterflood is 14.9%. Curve #3 shows the expected waterflood production scenario. Therefore the total potential oil recovery of this field is 8,174 MBO, 26.3% OOIP.

Curve #4 portrays the total expected production scenario for the Benson Delaware Field.

HISTORY

The Benson Delaware field was discovered February 2001 with the drilling of the Munchkin #1. This well was completed with perfs from 4954' to 5122' and came in flowing 170 BOPD. Since then, eight additional wells have been drilled defining the limits of the reservoir. These wells are typically drilled to a depth of approximately 5400'. The wells are completed and each zone fraced with about 19,000 gallons & 38,000# of sand. There are eight identified sands in the field. As mentioned above, not all wells were completed in all pay zones. There are differing names for the zones between Chi and Steve Mitchell, the geologist for Murchinson Oil. Mr. Mitchell has mapped most of these intervals and his maps were used in this analysis when available. The Lima/Kilo, November and Oscar Sands were mapped by Mr. Jerry Tochterman. The

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names of the eight zones from top to bottom, the number of completions and number of completions remaining in each zone are:

Unconformity (AA Sand-Mitchell Designation)(0 Completions, 1 Remaining)

Tinman (A Sand-Mitchell Designation) (1 Completions, 5 Remaining)

Lima/Kilo (Wet)

Mike (E sand-Mitchell Designation) (6 Completions, 2 Remaining)

November (8 Completions, 0 Remaining)

Oscar (2 Completions, 3 Remaining)

Papa (H sand- Mitchell Designation) (7 Completions, 0 Remaining)

Munchkin (6 Completions, 0 Remaining)

Not all sands are productive in all wells. The lower zones in the pay section become wet structurally downdip. These eight intervals appear not to be in communication vertically, therefore these zones appear to be discrete reservoirs. If during completion the frac job grows vertically, then the reservoirs can be in communication near the well bores. The Lima/Kilo zone appears to be wet based on the production data.

An attached cross-section shows each well, where it is completed and where any proposed perfs are recommended based on Mr. Tochterman's analysis.

RESERVOIR CHARACTER-CORE DATA

A full core was obtained in the Munchkin Fed #9 and side wall cores were taken in 8 other wells. The full core extended from 4509' to 5106'. The top sand, the Tinman, is at 4566' in this core. The bottom sand, the Munchkin, is at 5081' and is only partially cored. A permeability versus porosity plot for the core is attached, Table #6. A best fit line through this data indicates a permeability of 6.5 md. at 15% porosity.

The side wall core data is consistently more conservative than the full core; that is, the permeabilities are lower at any porosity value. The data for all sands is shown on the attached plot, Table #7. The indicated permeability at 15% porosity is slightly over 2 md. Note that the Munchkin 4 data is not included as the data is abnormally low and appears to be bad. Also attached is a plot of the data with the values for each sand differentiated, Table #8. Best fit correlations for each sand show a permeability variation at 15% from 1.2 to 4.5 md., indicating that all six sands are similar.

Porosity and permeability data from the Munchkin wells were compared to the analogous Parkway Delaware Unit. The permeability for the Parkway Delaware Unit is similar to the Munchkin data. One set of core data including all three Parkway sands is reported to have a best fit permeability of 2 md at 15%. Data for the "C" sand only in the PDU 506 is reported to have a permeability of 4 md.

GEOLOGY

The Benson Delaware Field is located on structural nose comprised of various Guadalupian Age sands from the lower Cherry Canyon Formation and the upper Brushy Canyon Formation. Mr. Lee has previously listed the nomenclature for the different zones used by Chi Operating and Murchinson Oil. These zones from the Delaware Mountain Group are characteristically medium to fine grained sandstone and siltstone deposited by turbidity currents as submarine fans with some channels in the fan. Structure maps were made using marker beds for all eight zones.

Net pay isopachs were constructed for each zone above the oil/water cutoff using a 15% porosity cutoff. Abrupt changes in layer lithology results in multiple oil/water contacts and varying water saturations. Oil/water contacts were determined by utilizing test data from each of the wells and Sw calculations from the different zones.

A fairly simplistic model of the reservoir is represented by the structure and isopach maps of the different zones. These Delaware Sand Reservoirs have a complex depositional setting which could explain any anomaly in test or production reports. The cross section through Chi wells was constructed to show existing perfs and the resulting production and the proposed perfs. It is a structural cross section which shows the oil water contacts along with the structural position of each of the wells.

RESERVE ANALYSIS

A well-by-well decline curve analysis was performed on each well in the field. The drive mechanism for the reservoir is solution gas. The current cumulative production for these wells is 900 MBO & 596 MMCF. Based on the decline curve analysis the remaining reserves from these wells are 2051 MBO & 1783 MMCF. The typical decline scenario utilized a hyperbolic b factor of 1.3 and a Dmin of 6%. The wells often have completions in more than one pay interval. In order to discern the reserve and waterflood potential for each zone an estimate was made to calculate the primary reserves that have been produced from each zone. Table #1 shows the results of the analysis to allocate the current reserves back to each zone based on porosity-height.

A net pay isopach map was created for each sand and was planimetered. The OOIP was calculated for each zone and shown on Table #2. For this calculation the parameters used were:

Sw	51.4%
Porosity	15.1%
Boi	1.11

The expected recoveries appear reasonable compared to the OOIP. The three sands contributing the bulk of OOIP to the reservoir are:

Mike	6331 MBO
November	6495 MBO
Oscar	7314 MBO

These zones comprise 65 % of the reservoir.

The Sw and porosity are based on core data taken from various wells. The intervals used in the calculation were based on the sidewall cores and full core thru the Delaware section with porosity greater than 10% and oil saturation greater than zero. Based on the porosity vs. permeability plot, a porosity of 15% yields a permeability of 6.5 md.

The core saturations appear to be less than the calculated log saturations. This is very unusual and is not fully understood. It may be a function of tight wet sands being intermingled with productive porous sands. This is demonstrated by wells calculating wet on conventional log analysis but the CMR log revealing the well to be productive. The core Sw's are generally considered to be pessimistic due to flushing during the coring process. However, in this instance the core saturations compare better with the actual production results than the log calculations.

WATERFLOOD ANALOGIES

There are several analogous Delaware waterfloods on trend with the Benson Field. They are:

Avalon operated by Exxon Mobil located in T-20-S, R-28-E, Eddy Co
Parkway operated by St. Mary located in T-19-S, R-29-E, Eddy Co
East Shugart operated by St. Mary located in T-18-S, R-31-E, Eddy Co

Production curves of these units are attached as Curves #5 thru #7. The Shugart Field was placed under flood in January 2001. It is currently responding and has not reached peak production.

The estimated primary and secondary recoveries for these units are shown on Table #3. In general the average primary production was 170 MBO/primary well with ultimate recovery of 240 MBO/well with a S/P Ratio of 1.3. This S/P ratio was used to determine the potential waterflood reserves for the Benson Delaware Field.

The Benson Field has average primary reserves of 395 MBO/well, which includes the PDP and PDNP reserves. The estimated ultimate recovery is 409 MBO/well, including the 11 new wells to be drilled.

These units were all originally developed on 40-acre well spacing for the primary development. When the waterflood was implemented, 20-acre injection wells were drilled. This same program is recommended for the Benson Delaware Field.

WATERFLOOD IMPLEMENTATION

To develop this reservoir by implementing a waterflood, it is recommended to drill 11 injection wells on 20 acre spacing. Map #1 shows the proposed locations of these injection wells. These wells should be completed in the productive interval of the

offsetting producing wells. Each wells completion will depend on it structural position and the productivity of the offset producers.

The water source for the flood will be the Capitan Reef. Larry Brooks with the NMOCD has suggested that if the chloride content is greater than 10,000 PPM the water could be used for injection water. This is the same interval the Parkway Unit uses for makeup water.

The estimated cost for scoping economics to implement the waterflood is 11,478 M$. A break out of expected capital is shown on Table #5. The cost to drill 11 wells is estimated to be 900M$ for a total drilling expenditure of 9,900 M$. The waterflood facility is expected to cost 1,578 M$.

ECONOMICS

A future projection of oil & gas production was created for the Benson field. This proposed production profile assumes recompletions of the remaining pay zones would be performed commencing 9/1/08. The pricing used in the economics is 80 $/Bbl and 7 $/MCF. This work will cost 1650 M$ and add 602 MBO & 482 MMCF in reserves. The economics for this project are:

Capital cost	1650 M$
Reserves	602 MBO
	482 MMCF
	682 MNEB
Payout	1.02 Yrs.
ROI	9.9 Times Investment
ROR	501 %
PWP @ 10%	13627 M$

It is assumed for economic purposes the Waterflood is initiated in 6/09. The Parkway and Avalon floods had a peak secondary rate approximately equal to the peak primary production. Based on the offset floods, the Benson Unit is expected to reach a peak total production rate of 33,000 BOPM, which is an incremental waterflood production rate of 22,500 BOPM by 1/2013. This is shown on Curve #4. The economics for this project are:

Capital cost	11,478 M$
Reserves	4624 MBO
	4624 MNEB
Payout	5.28 Yrs.
ROI	6.8 Times Investment
ROR	40 %
PWP @ 10%	56,177 M$

The detailed recompletion and waterflood economics are shown as Economics #1 and Economics #2, respectively.

CONCLUSIONS AND RECOMMENDATIONS

The Benson Delaware Field is a very prolific field with total expected reserves of 8,174 MBO. It appears to be analogous to other fields on this Delaware trend that have been successfully waterflooded.

There are several behind pipe intervals that can be completed. These intervals were included in the reserve calculations as primary production. The capital required to perform these recompletions is 1,650 M$ to recover 682 MNEB.

A waterflood implemented in this field is expected to cost 11,478 M$ and recover 4,624 MBO in incremental waterflood reserves. This work should be considered as a viable project that should be implemented as soon as practical.

Benson Facility Capital

3- 1000 Bbl FG Tanks @ 26870 ea		$80,610
1-1500 Bbl FG Gun barrel @ 51000 ea		$51,000
Horizontal Injection pump 8000 BWPD		$156,000
3.5 mi. FG Injection line + installation		$301,000
3 miles Surface Pipe with connections		$166,000
Wellhead Connections		$363,000
Labor		$100,000
	Subtotal	$1,217,610
tax at 8%		$97,409
	Total	$1,315,019
20% Contingency Cost		$263,004
	Total Facility	**$1,578,023**
Drill 11 wells @ 900 M$ each		$9,900,000
	GRAND TOTAL	$11,478,023

TABLE #5