***FORSPAN* ASSESSMENT MODEL FOR CONTINUOUS ACCUMULATIONS--BASIC INPUT DATA FORM (NOGA, Version 7, 6-30-00)**

IDENTIFICATION INFORMATION

Assessment Geologist:…	R.T. Ryder	Date:	1/10/2002
Region:……	North America	Number:	5
Province:……	Appalachian Basin	Number:	5067
Total Petroleum System:.	Utica-Lower Paleozoic	Number:	506703
Assessment Unit:…….	Clinton-Medina Transitional	Number:	50670363
Based on Data as of:……	State-Supplied Data, Atlas of Major Appalachian Gas Plays (1996), and PI/Dwights (2000)		
Notes from Assessor…..	Approximately 45% of the cells contain oil. Replaces play 6732 and parts of 6729 and 6730.		

CHARACTERISTICS OF ASSESSMENT UNIT

Assessment-Unit type: Oil (<20,000 cfg/bo) **or Gas** (≥20,000 cfg/bo) Gas

What is the minimum total recovery per cell?… 0.01 (mmbo for oil A.U.; bcfg for gas A.U.)

Number of tested cells:…… 55250

Number of tested cells with total recovery per cell ≥ minimum: …….. 43040

Established (>24 cells ≥ min.) X Frontier (1-24 cells) _____ Hypothetical (no cells) _____

Median total recovery per cell (for cells ≥ min.): (mmbo for oil A.U.; bcfg for gas A.U.)

1st 3rd discovered 0.04 2nd 3rd 0.04 3rd 3rd 0.06

Assessment-Unit Probabilities:

Attribute	Probability of occurrence (0-1.0)
1. **CHARGE:** Adequate petroleum charge for an untested cell with total recovery ≥ minimum ……	1.0
2. **ROCKS:** Adequate reservoirs, traps, seals for an untested cell with total recovery ≥ minimum.	1.0
3. **TIMING:** Favorable geologic timing for an untested cell with total recovery ≥ minimum……..	1.0

Assessment-Unit GEOLOGIC Probability (Product of 1, 2, and 3):……..…… 1.0

4. **ACCESS:** Adequate location for necessary petroleum-related activities for an untested cell with total recovery ≥ minimum …… 1.0

NO. OF UNTESTED CELLS WITH POTENTIAL FOR ADDITIONS TO RESERVES IN THE NEXT 30 YEARS

1. Total assessment-unit area (acres): (uncertainty of a fixed value)
   minimum 12,414,000 median 13,067,000 maximum 13,720,000

2. Area per cell of untested cells having potential for additions to reserves in next 30 years (acres):
   (values are inherently variable) minimum 10 median 40 maximum 110

3. Percentage of total assessment-unit area that is untested (%): (uncertainty of a fixed value)
   minimum 64 median 81 maximum 89

4. Percentage of untested assessment-unit area that has potential for additions to reserves in next 30 years (%): (a necessary criterion is that total recovery per cell ≥ minimum)
   (uncertainty of a fixed value) minimum 40 median 55 maximum 77

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TOTAL RECOVERY PER CELL

Total recovery per cell for untested cells having potential for additions to reserves in next 30 years:
(values are inherently variable)

(mmbo for oil A.U.; bcfg for gas A.U.)	minimum	median	maximum
	0.01	0.06	1

AVERAGE COPRODUCT RATIOS FOR UNTESTED CELLS, TO ASSESS COPRODUCTS

(uncertainty of fixed but unknown values)

Oil assessment unit:	minimum	median	maximum
Gas/oil ratio (cfg/bo)…….……			
NGL/gas ratio (bngl/mmcfg)……			
Gas assessment unit:			
Liquids/gas ratio (bliq/mmcfg)…..…….……	6	12	18

SELECTED ANCILLARY DATA FOR UNTESTED CELLS

(values are inherently variable)

Oil assessment unit:	minimum	median	maximum
API gravity of oil (degrees)……			
Sulfur content of oil (%)……..…			
Drilling depth (m) ……...……..……			
Depth (m) of water (if applicable)…….			
Gas assessment unit:			
Inert-gas content (%)……...…..	1	5	15
CO_2 content (%)……..…..	0	0.1	0.5
Hydrogen-sulfide content (%)……..……	0	0	0
Drilling depth (m)…….	400	1000	1500
Depth (m) of water (if applicable)…….	0	22	50

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ALLOCATIONS OF POTENTIAL ADDITIONS TO RESERVES TO STATES
Surface Allocations (uncertainty of a fixed value)

1. Kentucky represents 1.55 areal % of the assessment unit

	minimum	median	maximum
Oil in oil assessment unit:			
Volume % in entity……		0.5	
Portion of volume % that is offshore (0-100%)..			
Gas in gas assessment unit:			
Volume % in entity……		1.55	
Portion of volume % that is offshore (0-100%)..			

2. New York represents 19.44 areal % of the assessment unit

	minimum	median	maximum
Oil in oil assessment unit:			
Volume % in entity……		0.5	
Portion of volume % that is offshore (0-100%)..			
Gas in gas assessment unit:			
Volume % in entity……		19.44	
Portion of volume % that is offshore (0-100%)..			

3. Ohio represents 63.88 areal % of the assessment unit

	minimum	median	maximum
Oil in oil assessment unit:			
Volume % in entity……		98	
Portion of volume % that is offshore (0-100%)..			
Gas in gas assessment unit:			
Volume % in entity……		63.88	
Portion of volume % that is offshore (0-100%)..			

4. Pennsylvania represents 11.61 areal % of the assessment unit

	minimum	median	maximum
Oil in oil assessment unit:			
Volume % in entity……		1	
Portion of volume % that is offshore (0-100%)..			
Gas in gas assessment unit:			
Volume % in entity……		11.61	
Portion of volume % that is offshore (0-100%)..			

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5. West Virginia represents 5.53 areal % of the assessment unit

Oil in oil assessment unit:	minimum	median	maximum
Volume % in entity……		0	
Portion of volume % that is offshore (0-100%)..			
Gas in gas assessment unit:			
Volume % in entity……		3.53	
Portion of volume % that is offshore (0-100%)..			

6. _____ represents _____ areal % of the assessment unit

Oil in oil assessment unit:	minimum	median	maximum
Volume % in entity……			
Portion of volume % that is offshore (0-100%)..			
Gas in gas assessment unit:			
Volume % in entity……			
Portion of volume % that is offshore (0-100%)..			

7. _____ represents _____ areal % of the assessment unit

Oil in oil assessment unit:	minimum	median	maximum
Volume % in entity……			
Portion of volume % that is offshore (0-100%)..			
Gas in gas assessment unit:			
Volume % in entity……			
Portion of volume % that is offshore (0-100%)..			

8. _____ represents _____ areal % of the assessment unit

Oil in oil assessment unit:	minimum	median	maximum
Volume % in entity……			
Portion of volume % that is offshore (0-100%)..			
Gas in gas assessment unit:			
Volume % in entity……			
Portion of volume % that is offshore (0-100%)..			

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ALLOCATIONS OF POTENTIAL ADDITIONS TO RESERVES TO LAND ENTITIES

Surface Allocations (uncertainty of a fixed value)

1. Federal Lands represents 4.43 areal % of the assessment unit

	minimum	median	maximum
Oil in oil assessment unit:			
Volume % in entity……		4.21	
Portion of volume % that is offshore (0-100%)..		0	
Gas in gas assessment unit:			
Volume % in entity……		3.54	
Portion of volume % that is offshore (0-100%)..		0	

2. Private Lands represents areal % of the assessment unit

	minimum	median	maximum
Oil in oil assessment unit:			
Volume % in entity……			
Portion of volume % that is offshore (0-100%)..			
Gas in gas assessment unit:			
Volume % in entity……			
Portion of volume % that is offshore (0-100%)..			

3. Tribal Lands represents 0.23 areal % of the assessment unit

	minimum	median	maximum
Oil in oil assessment unit:			
Volume % in entity……		0	
Portion of volume % that is offshore (0-100%)..		0	
Gas in gas assessment unit:			
Volume % in entity……		0	
Portion of volume % that is offshore (0-100%)..		0	

4. Other Lands (includes private, state, etc) represents 77.49 areal % of the assessment unit

	minimum	median	maximum
Oil in oil assessment unit:			
Volume % in entity……		90.79	
Portion of volume % that is offshore (0-100%)..		0	
Gas in gas assessment unit:			
Volume % in entity……		76.45	
Portion of volume % that is offshore (0-100%)..		0	

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5. NY Offshore represents 2.8 areal % of the assessment unit

Oil in oil assessment unit:	minimum	median	maximum
Volume % in entity……		0.5	
Portion of volume % that is offshore (0-100%)..		100	
Gas in gas assessment unit:			
Volume % in entity……		3.14	
Portion of volume % that is offshore (0-100%)..		100	

6. OH Offshore represents 11.42 areal % of the assessment unit

Oil in oil assessment unit:	minimum	median	maximum
Volume % in entity……		3.5	
Portion of volume % that is offshore (0-100%)..		100	
Gas in gas assessment unit:			
Volume % in entity……		12.8	
Portion of volume % that is offshore (0-100%)..		100	

7. PA Offshore represents 3.63 areal % of the assessment unit

Oil in oil assessment unit:	minimum	median	maximum
Volume % in entity……		1	
Portion of volume % that is offshore (0-100%)..		100	
Gas in gas assessment unit:			
Volume % in entity……		4.07	
Portion of volume % that is offshore (0-100%)..		100	

8. _____ represents _____ areal % of the assessment unit

Oil in oil assessment unit:	minimum	median	maximum
Volume % in entity……			
Portion of volume % that is offshore (0-100%)..			
Gas in gas assessment unit:			
Volume % in entity……			
Portion of volume % that is offshore (0-100%)..			

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9. _____ represents _____ areal % of the assessment unit

Oil in oil assessment unit:	minimum	median	maximum
Volume % in entity……			
Portion of volume % that is offshore (0-100%)..			
Gas in gas assessment unit:			
Volume % in entity……			
Portion of volume % that is offshore (0-100%)..			

10. _____ represents _____ areal % of the assessment unit

Oil in oil assessment unit:	minimum	median	maximum
Volume % in entity……			
Portion of volume % that is offshore (0-100%)..			
Gas in gas assessment unit:			
Volume % in entity……			
Portion of volume % that is offshore (0-100%)..			

11. _____ represents _____ areal % of the assessment unit

Oil in oil assessment unit:	minimum	median	maximum
Volume % in entity……			
Portion of volume % that is offshore (0-100%)..			
Gas in gas assessment unit:			
Volume % in entity……			
Portion of volume % that is offshore (0-100%)..			

12. _____ represents _____ areal % of the assessment unit

Oil in oil assessment unit:	minimum	median	maximum
Volume % in entity……			
Portion of volume % that is offshore (0-100%)..			
Gas in gas assessment unit:			
Volume % in entity……			
Portion of volume % that is offshore (0-100%)..			

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ALLOCATIONS OF POTENTIAL ADDITIONS TO RESERVES TO FEDERAL LAND SUBDIVISIONS
Surface Allocations (uncertainty of a fixed value)

1. Bureau of Land Management (BLM) represents _____ areal % of the assessment unit

Oil in oil assessment unit:	minimum	median	maximum
Volume % in entity……			
Portion of volume % that is offshore (0-100%)..			
Gas in gas assessment unit:			
Volume % in entity……			
Portion of volume % that is offshore (0-100%)..			

2. BLM Wilderness Areas (BLMW) represents _____ areal % of the assessment unit

Oil in oil assessment unit:	minimum	median	maximum
Volume % in entity……			
Portion of volume % that is offshore (0-100%)..			
Gas in gas assessment unit:			
Volume % in entity……			
Portion of volume % that is offshore (0-100%)..			

3. BLM Roadless Areas (BLMR) represents _____ areal % of the assessment unit

Oil in oil assessment unit:	minimum	median	maximum
Volume % in entity……			
Portion of volume % that is offshore (0-100%)..			
Gas in gas assessment unit:			
Volume % in entity……			
Portion of volume % that is offshore (0-100%)..			

4. National Park Service (NPS) represents _____ areal % of the assessment unit

Oil in oil assessment unit:	minimum	median	maximum
Volume % in entity……			
Portion of volume % that is offshore (0-100%)..			
Gas in gas assessment unit:			
Volume % in entity……			
Portion of volume % that is offshore (0-100%)..			

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5. NPS Wilderness Areas (NPSW) represents _____ areal % of the assessment unit

Oil in oil assessment unit:	minimum	median	maximum
Volume % in entity……			
Portion of volume % that is offshore (0-100%)..			
Gas in gas assessment unit:			
Volume % in entity……			
Portion of volume % that is offshore (0-100%)..			

6. NPS Protected Withdrawals (NPSP) represents _____ areal % of the assessment unit

Oil in oil assessment unit:	minimum	median	maximum
Volume % in entity……			
Portion of volume % that is offshore (0-100%)..			
Gas in gas assessment unit:			
Volume % in entity……			
Portion of volume % that is offshore (0-100%)..			

7. US Forest Service (USFS) represents 3.77 areal % of the assessment unit

Oil in oil assessment unit:	minimum	median	maximum
Volume % in entity……		3.58	
Portion of volume % that is offshore (0-100%)..		0	
Gas in gas assessment unit:			
Volume % in entity……		3.01	
Portion of volume % that is offshore (0-100%)..		0	

8. USFS Wilderness Areas (USFSW) represents _____ areal % of the assessment unit

Oil in oil assessment unit:	minimum	median	maximum
Volume % in entity……			
Portion of volume % that is offshore (0-100%)..			
Gas in gas assessment unit:			
Volume % in entity……			
Portion of volume % that is offshore (0-100%)..			

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9. USFS Roadless Areas (USFSR) represents _____ areal % of the assessment unit

Oil in oil assessment unit:	minimum	median	maximum
Volume % in entity……			
Portion of volume % that is offshore (0-100%)..			
Gas in gas assessment unit:			
Volume % in entity……			
Portion of volume % that is offshore (0-100%)..			

10. USFS Protected Withdrawals (USFSP) represents _____ areal % of the assessment unit

Oil in oil assessment unit:	minimum	median	maximum
Volume % in entity……			
Portion of volume % that is offshore (0-100%)..			
Gas in gas assessment unit:			
Volume % in entity……			
Portion of volume % that is offshore (0-100%)..			

11. US Fish and Wildlife Service (USFWS) represents _____ areal % of the assessment unit

Oil in oil assessment unit:	minimum	median	maximum
Volume % in entity……			
Portion of volume % that is offshore (0-100%)..			
Gas in gas assessment unit:			
Volume % in entity……			
Portion of volume % that is offshore (0-100%)..			

12. USFWS Wilderness Areas (USFWSW) represents _____ areal % of the assessment unit

Oil in oil assessment unit:	minimum	median	maximum
Volume % in entity……			
Portion of volume % that is offshore (0-100%)..			
Gas in gas assessment unit:			
Volume % in entity……			
Portion of volume % that is offshore (0-100%)..			

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13. USFWS Protected Withdrawals (USFWSP) represents _____ areal % of the assessment unit

Oil in oil assessment unit:	minimum	median	maximum
Volume % in entity……			
Portion of volume % that is offshore (0-100%)..			
Gas in gas assessment unit:			
Volume % in entity……			
Portion of volume % that is offshore (0-100%)..			

14. Wilderness Study Areas (WS) represents _____ areal % of the assessment unit

Oil in oil assessment unit:	minimum	median	maximum
Volume % in entity……			
Portion of volume % that is offshore (0-100%)..			
Gas in gas assessment unit:			
Volume % in entity……			
Portion of volume % that is offshore (0-100%)..			

15. Department of Energy (DOE) represents _____ areal % of the assessment unit

Oil in oil assessment unit:	minimum	median	maximum
Volume % in entity……			
Portion of volume % that is offshore (0-100%)..			
Gas in gas assessment unit:			
Volume % in entity……			
Portion of volume % that is offshore (0-100%)..			

16. Department of Defense (DOD) represents _____ areal % of the assessment unit

Oil in oil assessment unit:	minimum	median	maximum
Volume % in entity……			
Portion of volume % that is offshore (0-100%)..			
Gas in gas assessment unit:			
Volume % in entity……			
Portion of volume % that is offshore (0-100%)..			

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17. Bureau of Reclamation (BOR) represents areal % of the assessment unit

Oil in oil assessment unit:	minimum	median	maximum
Volume % in entity……			
Portion of volume % that is offshore (0-100%)..			
Gas in gas assessment unit:			
Volume % in entity……			
Portion of volume % that is offshore (0-100%)..			

18. Tennessee Valley Authority (TVA) represents areal % of the assessment unit

Oil in oil assessment unit:	minimum	median	maximum
Volume % in entity……			
Portion of volume % that is offshore (0-100%)..			
Gas in gas assessment unit:			
Volume % in entity……			
Portion of volume % that is offshore (0-100%)..			

19. Other Federal represents 0.66 areal % of the assessment unit

Oil in oil assessment unit:	minimum	median	maximum
Volume % in entity……		0.63	
Portion of volume % that is offshore (0-100%)..		0	
Gas in gas assessment unit:			
Volume % in entity……		0.53	
Portion of volume % that is offshore (0-100%)..		0	

20. _____ represents _____ areal % of the assessment unit

Oil in oil assessment unit:	minimum	median	maximum
Volume % in entity……			
Portion of volume % that is offshore (0-100%)..			
Gas in gas assessment unit:			
Volume % in entity……			
Portion of volume % that is offshore (0-100%)..			

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ALLOCATIONS OF POTENTIAL ADDITIONS TO RESERVES TO ECOSYSTEMS
Surface Allocations (uncertainty of a fixed value)

1. Central Till Plains, Beech-Maple (CTPB) represents 2.75 areal % of the assessment unit

	minimum	median	maximum
Oil in oil assessment unit:			
Volume % in entity……		2.75	
Portion of volume % that is offshore (0-100%)..		0	
Gas in gas assessment unit:			
Volume % in entity……		2.75	
Portion of volume % that is offshore (0-100%)..		0	

2. Erie and Ontario Lake Plain (EOLP) represents 17.48 areal % of the assessment unit

	minimum	median	maximum
Oil in oil assessment unit:			
Volume % in entity……		17.48	
Portion of volume % that is offshore (0-100%)..		0	
Gas in gas assessment unit:			
Volume % in entity……		17.48	
Portion of volume % that is offshore (0-100%)..		0	

3. Northern Glaciated Allegheny Plateau (NGAP) represents 3.49 areal % of the assessment unit

	minimum	median	maximum
Oil in oil assessment unit:			
Volume % in entity……		3.49	
Portion of volume % that is offshore (0-100%)..		0	
Gas in gas assessment unit:			
Volume % in entity……		3.49	
Portion of volume % that is offshore (0-100%)..		0	

4. Southern Unglaciated Allegheny Plateau (SUAP) represents 24.46 areal % of the assessment unit

	minimum	median	maximum
Oil in oil assessment unit:			
Volume % in entity……		24.46	
Portion of volume % that is offshore (0-100%)..		0	
Gas in gas assessment unit:			
Volume % in entity……		24.46	
Portion of volume % that is offshore (0-100%)..		0	

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5. Western Glaciated Allegheny Plateau (WGAP) represents 33.96 areal % of the assessment unit

Oil in oil assessment unit:	minimum	median	maximum
Volume % in entity……		33.96	
Portion of volume % that is offshore (0-100%)..		0	
Gas in gas assessment unit:			
Volume % in entity……		33.96	
Portion of volume % that is offshore (0-100%)..		0	

6. _____ represents _____ areal % of the assessment unit

Oil in oil assessment unit:	minimum	median	maximum
Volume % in entity……			
Portion of volume % that is offshore (0-100%)..			
Gas in gas assessment unit:			
Volume % in entity……			
Portion of volume % that is offshore (0-100%)..			

7. _____ represents _____ areal % of the assessment unit

Oil in oil assessment unit:	minimum	median	maximum
Volume % in entity……			
Portion of volume % that is offshore (0-100%)..			
Gas in gas assessment unit:			
Volume % in entity……			
Portion of volume % that is offshore (0-100%)..			

8. _____ represents _____ areal % of the assessment unit

Oil in oil assessment unit:	minimum	median	maximum
Volume % in entity……			
Portion of volume % that is offshore (0-100%)..			
Gas in gas assessment unit:			
Volume % in entity……			
Portion of volume % that is offshore (0-100%)..			

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9. _____ represents _____ areal % of the assessment unit

	minimum	median	maximum
Oil in oil assessment unit:			
Volume % in entity……			
Portion of volume % that is offshore (0-100%)..			
Gas in gas assessment unit:			
Volume % in entity……			
Portion of volume % that is offshore (0-100%)..			

10. _____ represents _____ areal % of the assessment unit

	minimum	median	maximum
Oil in oil assessment unit:			
Volume % in entity……			
Portion of volume % that is offshore (0-100%)..			
Gas in gas assessment unit:			
Volume % in entity……			
Portion of volume % that is offshore (0-100%)..			

11. _____ represents _____ areal % of the assessment unit

	minimum	median	maximum
Oil in oil assessment unit:			
Volume % in entity……			
Portion of volume % that is offshore (0-100%)..			
Gas in gas assessment unit:			
Volume % in entity……			
Portion of volume % that is offshore (0-100%)..			

12. _____ represents _____ areal % of the assessment unit

	minimum	median	maximum
Oil in oil assessment unit:			
Volume % in entity……			
Portion of volume % that is offshore (0-100%)..			
Gas in gas assessment unit:			
Volume % in entity……			
Portion of volume % that is offshore (0-100%)..			

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ALLOCATIONS OF POTENTIAL ADDITIONS TO RESERVES TO LAND ENTITIES
Subsurface Allocations (uncertainty of a fixed value)

Based on Data as of: _____

1. All Federal Subsurface represents _____ areal % of the assessment unit

Oil in oil assessment unit:	minimum	median	maximum
Volume % in entity……			
Portion of volume % that is offshore (0-100%)..			
Gas in gas assessment unit:			
Volume % in entity……			
Portion of volume % that is offshore (0-100%)..			

2. Other Subsurface represents _____ areal % of the assessment unit

Oil in oil assessment unit:	minimum	median	maximum
Volume % in entity……			
Portion of volume % that is offshore (0-100%)..			
Gas in gas assessment unit:			
Volume % in entity……			
Portion of volume % that is offshore (0-100%)..			