

Oil & Gas Modeling

– Certification Quiz Questions

Module 7 – Oil & Gas Merger Model

23. You have built a merger model for an M&A deal between two E&P companies, with the Target valued at a \$9.5 billion Purchase Enterprise Value.

The image below this question shows the accretion/dilution across various metrics in a 100% Stock acquisition with Expense Synergies, CapEx Synergies, and near-0 Revenue Synergies.

The CapEx Synergies affect the Combined Income Statement by reducing DD&A for the combined company.

Note that the Adjusted Funds Flow from Operations (AFFO) metric below is defined as Cash Flow from Operations plus reversals for the Change in Working Capital and the Cash Decommissioning Expenditures.

Which of the following statements represent **VALID** conclusions based on this description and these metrics?

This question has **2 correct answers** and 3 incorrect answers. You must select **BOTH** correct answers and no incorrect answers to earn a point for this question.

	A	B	C	D	H	I	J	K	L	M
	Combined Income Statement:			Units:	Historical:	Projected:				
					Year 0:	Year 1	Year 2	Year 3	Year 4	Year 5
148	Earnings Per Share (EPS):			<i>C\$ / Share</i>		\$ 1.04	\$ 1.03	\$ 1.02	\$ 0.98	
149	Accretion / (Dilution) - C\$:			<i>C\$ / Share</i>		\$ (0.02)	\$ 0.03	\$ 0.13	\$ 0.19	
150	Accretion / (Dilution) - %:			%		(2.1%)	3.2%	14.5%	23.8%	
152	Pro-Forma Earnings Per Share (EPS):			<i>C\$ / Share</i>		\$ 1.19	\$ 1.14	\$ 1.10	\$ 1.06	
153	Pro-Forma Accretion / (Dilution) - C\$:			<i>C\$ / Share</i>		\$ 0.12	\$ 0.15	\$ 0.21	\$ 0.26	
154	Pro-Forma Accretion / (Dilution) - %:			%		11.2%	14.9%	24.0%	32.7%	
156	Adjusted Funds Flow from Ops. per Share (AFFOPS):			<i>C\$ / Share</i>		\$ 3.05	\$ 3.20	\$ 3.32	\$ 3.35	
157	Accretion / (Dilution) - C\$:			<i>C\$ / Share</i>		\$ (0.01)	\$ 0.02	\$ 0.11	\$ 0.13	
158	Accretion / (Dilution) - %:			%		(0.4%)	0.7%	3.3%	4.0%	
160	Pre-Synergy AFFO per Share:			<i>C\$ / Share</i>		\$ 3.05	\$ 3.17	\$ 3.26	\$ 3.28	
161	Accretion / (Dilution) - C\$:			<i>C\$ / Share</i>		\$ (0.02)	\$ (0.01)	\$ 0.05	\$ 0.06	
162	Accretion / (Dilution) - %:			%		(0.5%)	(0.2%)	1.4%	1.8%	
164	Acquirer - Standalone NAVPS:			<i>C\$ / Share</i>	\$	10.54				
166	Acquirer - Net Asset Value in Selected Case:			<i>C\$ M</i>		6,267.8				
167	Target - Net Asset Value in Selected Case:			<i>C\$ M</i>		6,622.3				
168	Debt and Cash Changes in Transaction:			<i>C\$ M</i>		(70.9)				
169	Post-Transaction Net Asset Value:			<i>C\$ M</i>		12,819.2				
171	Net Asset Value Per Share (NAVPS):			<i>C\$ / Share</i>	\$	10.29				
172	Accretion / (Dilution) - C\$:			<i>C\$ / Share</i>		(0.25)				
173	Accretion / (Dilution) - %:			%		(2.4%)				

- Using at least some Cash or Debt rather than 100% Stock would improve all these metrics.
- The Synergies do not seem to make a major impact on these metrics, but other acquisition effects, such as the Merger & Integration Costs, are significant.
- The biggest potential issue in this deal might be a short-term drop in the Acquirer's share price once the acquisition is announced.
- The AFFOPS metrics add little over the GAAP EPS numbers because they follow the same basic trend (dilutive initially, but accretive in later years).
- The NAVPS dilution and its calculation method imply that the Target is overvalued at this \$9.5 billion Purchase Enterprise Value.

24. You are analyzing this same M&A deal, and you've created an IRR vs. Discount Rate Analysis and a Relative Contribution Analysis based on the merger model and the separate projections for each company.

However, these analyses (summaries shown below) produce contradictory results. The IRR vs. Discount Rate Analysis shows that within a standard range of Purchase Enterprise Values and Synergy Realizations, the IRR meets or exceeds the 10% Discount Rate (WACC) the Acquirer is targeting.

But the Contribution Analysis shows that the Acquirer is overpaying for the Target since the median Implied Share Price is \$9.31 vs. an Offer Price of \$9.82 in the deal.

How can both results be true at the same time? This question has **2 correct answers** and 2 incorrect answers. You must select **BOTH** correct answers and no incorrect answers to earn a point for this question.

	A	B	C	D	E	F	G	H	I	J
47										
48			Relative Contribution Analysis Results:				Acquirer:	Target:	Offer Price:	Implied Price:
49			Common Shareholders' Equity:				44.6%	55.4%	\$ 9.82	\$ 11.12
50			Total Assets:				44.4%	55.6%	9.82	11.23
51			Gross Proved + Probable Reserves:				51.5%	48.5%	9.82	5.67
52			Gross Proved Reserves:				52.2%	47.8%	9.82	5.37
53			Daily Production - Combined Year 2 - FY 27:				45.6%	54.4%	9.82	8.62
54			Daily Production - Combined Year 1 - FY 26:				46.3%	53.7%	9.82	8.26
55			Adjusted Funds Flow from Operations - Combined Year 2 - FY 27:				47.6%	52.4%	9.82	9.87
56			Adjusted Funds Flow from Operations - Combined Year 1 - FY 26:				47.7%	52.3%	9.82	9.83
57			EBITDA - Combined Year 2 - FY 27:				44.0%	56.0%	9.82	9.57
58			EBITDA - Combined Year 1 - FY 26:				44.9%	55.1%	9.82	9.05
59										
60			Current Deal Terms				47.7%	52.3%	9.82	9.82

	A	B	C	D	I	J	K	L	M	
28			Target - After-Tax Unlevered Free Cash Flow:	C\$ M		686.2	924.6	1,172.5	1,304.3	
29			(+/-) Cash Expense Synergies, Net of Integration:	C\$ M		(5.5)	44.7	101.1	123.4	
30			(-) Amount Not Realized:	C\$ M		-	-	-	-	
31			(-) Amount Attributed to Acquirer:	C\$ M		2.7	(22.3)	(50.6)	(61.2)	
32			(-) Additional Taxes on Net Synergies:	C\$ M		0.7	(5.4)	(12.1)	(14.8)	
33			(-) Lost Tax Deduction from DD&A Reduction:	C\$ M		(21.5)	(26.8)	(31.6)	(34.1)	
34			(+) Amount Not Realized:	C\$ M		-	-	-	-	
35			(+) Amount Attributed to Acquirer:	C\$ M		10.7	13.4	15.8	17.1	
36			(+) CapEx Synergies:	C\$ M		100.0	103.7	105.5	104.1	
37			(-) Amount Not Realized:	C\$ M		-	-	-	-	
38			(-) Amount Attributed to Acquirer:	C\$ M		(50.0)	(51.9)	(52.8)	(52.1)	
39			Total Unlevered FCF from Core E&P Business:	C\$ M	\$ (9,061.1)	\$ 723.4	\$ 980.1	\$ 1,247.9	\$ 1,386.1	
40										
41			Net Cash Expense Synergies per BOE:	C\$ / BOE		(0.07)	0.50	1.09	1.31	
42			% Growth Rate:	%		N/A	(847.0%)	119.5%	21.9%	
43										
44			Lost Tax Deduction % CapEx Synergies:	%		21.5%	25.8%	29.9%	33.2%	
45										
46			CapEx Synergies % Revenue:	%		2.2%	2.1%	2.1%	2.1%	
47										
48			Internal Rate of Return (IRR):	%		12.1%				
49										
50			Sensitivity - Internal Rate of Return (IRR) on Acquisition vs. Purchase Enterprise Value and Synergy Realization Factor:							
51										
52						Purchase Enterprise Value:				
53						\$ 8,493.2	\$ 8,993.2	\$ 9,493.2	\$ 9,993.2	\$ 10,493.2
54			200.0%			15.1%	14.0%	13.0%	12.0%	11.1%
55			150.0%			14.7%	13.6%	12.5%	11.6%	10.7%
56			100.0%			14.2%	13.1%	12.1%	11.2%	10.3%
57			50.0%			13.7%	12.7%	11.7%	10.8%	9.9%
58			-			13.3%	12.2%	11.2%	10.4%	9.5%

- The IRR Analysis appears to credit 50% of the Synergies to the Target, which is too much given the relative sizes of these companies.
- The Contribution Analysis may not factor in Synergies, but the IRR Analysis clearly includes Synergies and attributes a portion of them to the Target.
- Capital structure could distort some of the results in the Contribution Analysis if the companies have different Debt / Total Capital percentages.
- The 10% Discount Rate is not the appropriate comparison in the IRR Analysis; it should be a blended Discount Rate based on the Acquirer and the Target.