














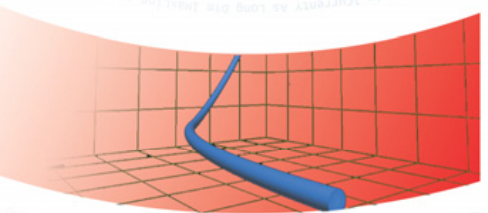
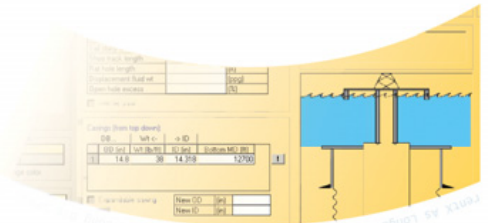
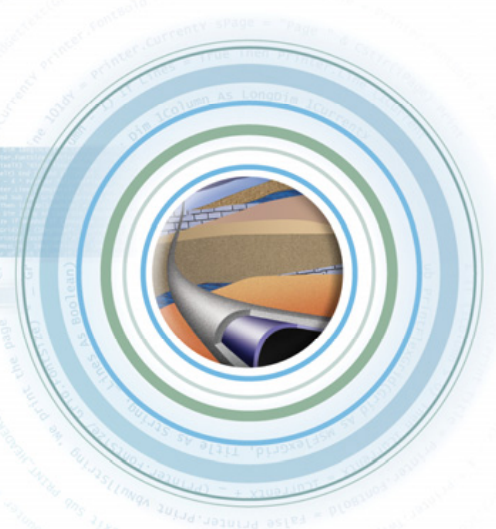
CEMVIEW

Cementing engineering toolbox

Calculation of volumes, material, cost required for cementing operations has been challenging.

CEMVIEW, jointly developed by PVI and Unocal, allows users to quickly and accurately perform the calculation through visual and animated schematics. User can create realistic, various combinations of casing/liner strings for land or offshore wells in one session.

-  Full casing string, liner, or inner string
-  Expandable casing and tie back
-  Balanced plug cement
-  String Wizard: step-by-step string construction
-  Support fraction input of tubular sizes, e.g. 9 7/8"
-  Wellbore and string schematics
-  Volume and cost
-  Pumping schedule table
-  Tubular database
-  Slurry formula for spacer and cement slurries
-  3D well path visualization from survey data
-  Pore and frac gradient and display
-  Sensitivity analysis—open hole excess, TOC, etc.



Quantity	Unit	Price	Amount	Unit	Price	Amount
100	100	0.1405	14.05	750	250	187,500
100	100	4.5000	4,500.00	9,730.00	470.00	4,561.00
100	100	4.0000	4,000.00	10,000.00	10,000.00	10,000.00
100	100	1.0000	1,000.00	10,000.00	10,000.00	10,000.00
100	100	1.0000	1,000.00	10,000.00	10,000.00	10,000.00
100	100	1.0000	1,000.00	10,000.00	10,000.00	10,000.00
100	100	1.0000	1,000.00	10,000.00	10,000.00	10,000.00
100	100	1.0000	1,000.00	10,000.00	10,000.00	10,000.00
100	100	1.0000	1,000.00	10,000.00	10,000.00	10,000.00
100	100	1.0000	1,000.00	10,000.00	10,000.00	10,000.00

Wellbore	Depth	Pressure	Temperature	Slurry Type	Volume	Cost
12700 MD	12700 PLS	13.00%	49.2 MPa	12.5 (ppg / 1.93 (m³/m³))	241.9 (bbl)	1,420.9 (k\$)
12600 MD	12600 PLS	14.0%	54.8 MPa	16.2 (ppg / 1.13 (m³/m³))	281.1 (bbl)	1,462.9 (k\$)
12500 MD	12500 PLS	30%	89.6 MPa	75% show in 100% vs 28.1 (bbl)	284.8 (bbl)	902.8 (k\$)
12400 MD	12400 PLS	10%	12.0 MPa	Mix and pump lead / tail	7 (bbl) / 7 (bbl)	
12300 MD	12300 PLS	13.00%	73.8 MPa	18" casing	14,107 MD / 13,877 PVD	
12200 MD	12200 PLS	18" casing		4,320 (bbl)		
12100 MD	12100 PLS	Lead density / yield		14.5 (ppg / 1.42 (m³/m³))		
12000 MD	12000 PLS	Tail density / yield		16.2 (ppg / 1.42 (m³/m³))		
11900 MD	11900 PLS	700 H head in 100% vs		90.2 (bbl)		
11800 MD	11800 PLS	200 H head in 100% vs		100.2 (bbl)		

