

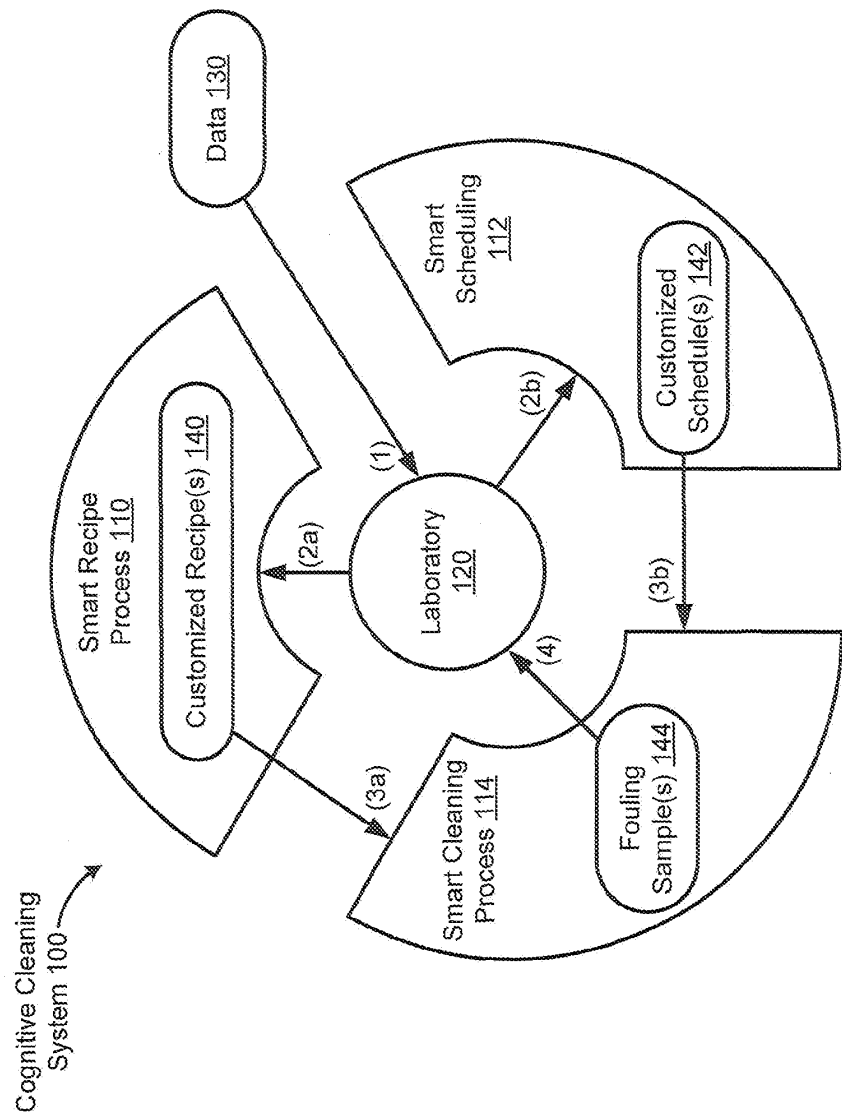
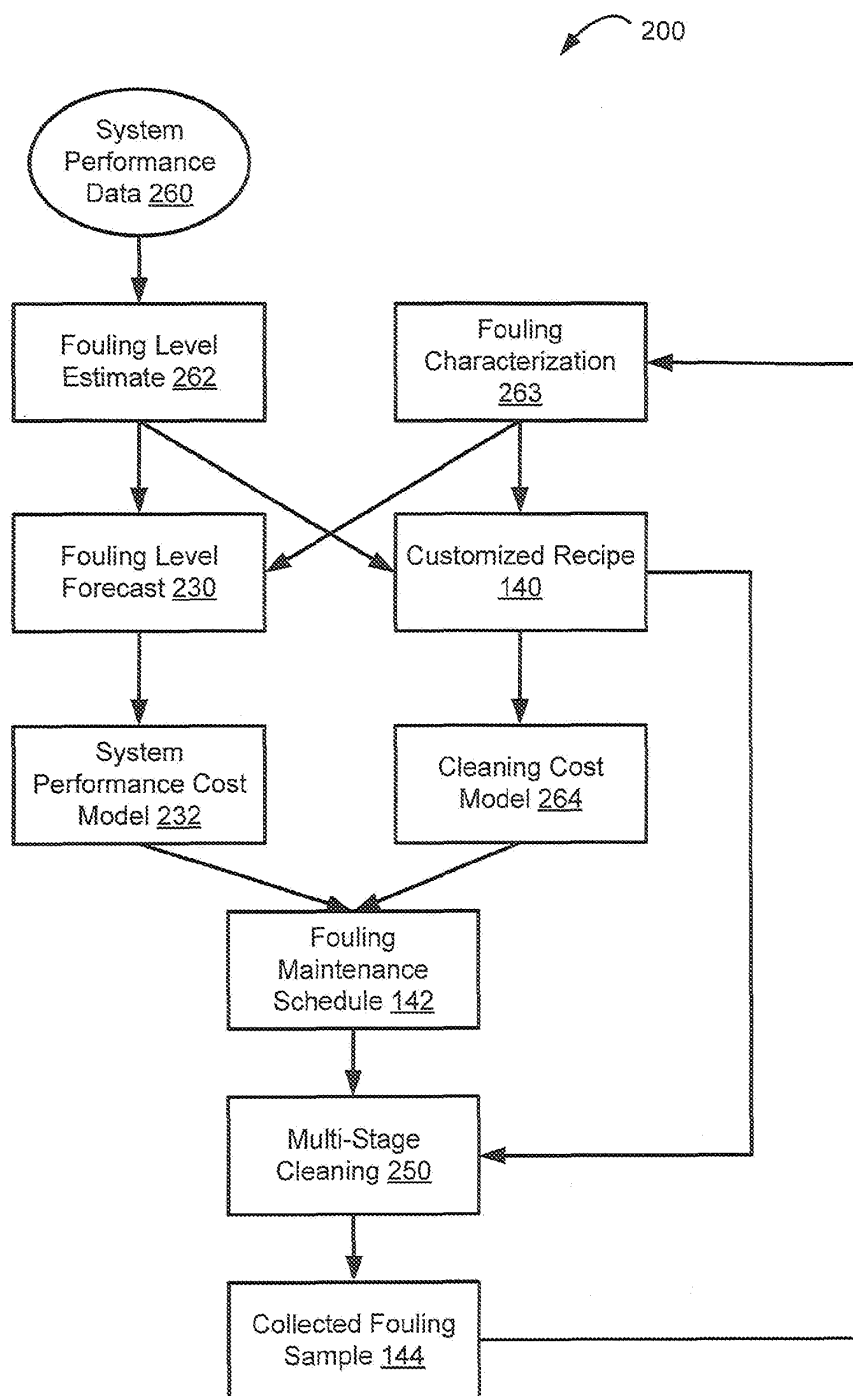


FIG. 1

**FIG. 2B**

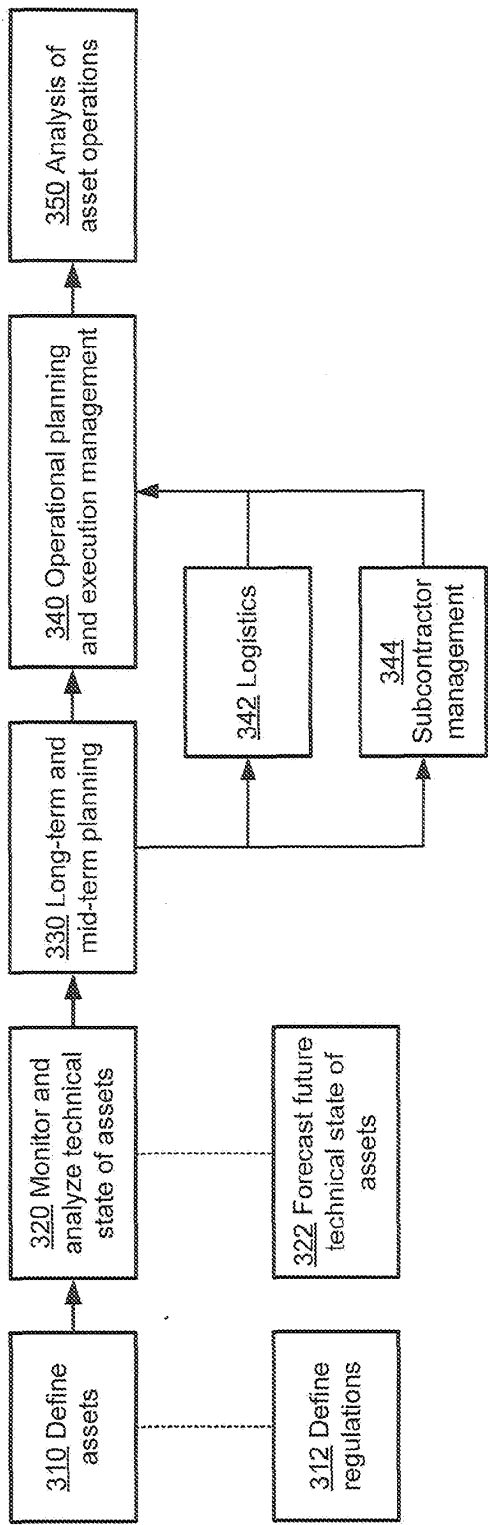
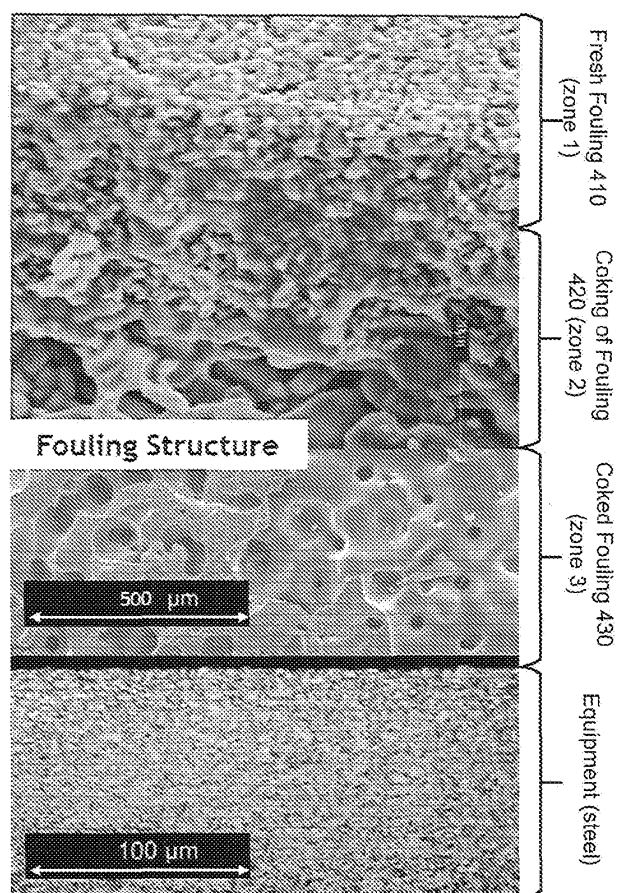


FIG. 3

**FIG. 4**

1. Matrix preparation – removal of gel layer and pores cleaning with solvents (zone 1)
2. Pores preparation – reduce surface / interfacial tensions with surfactants
3. Multistage fouling fracturing:
 - Pores flooding with the catalyst
 - Matrix treatment with Alfa PEROX and management of decomposition reaction
 - Supply excessive pore pressure to produce tensional stress overiding tensile strength of the fouling
 - Removal of the fouling debris with the flow

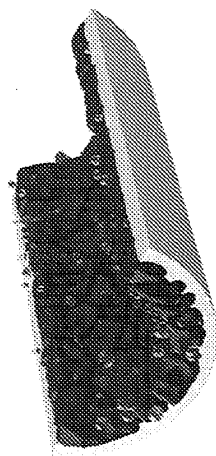


FIG. 5A

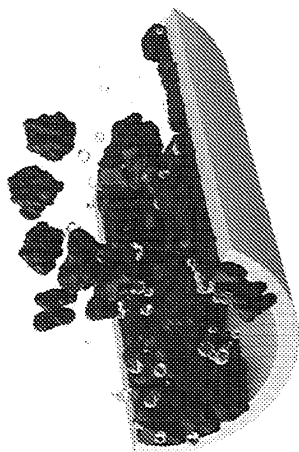


FIG. 5B

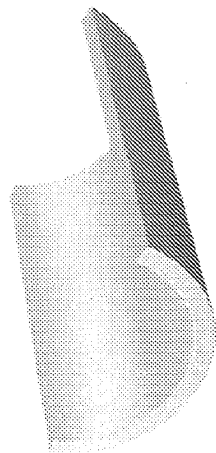


FIG. 5C



FIG. 5D

FIG. 5E

FIG. 5F

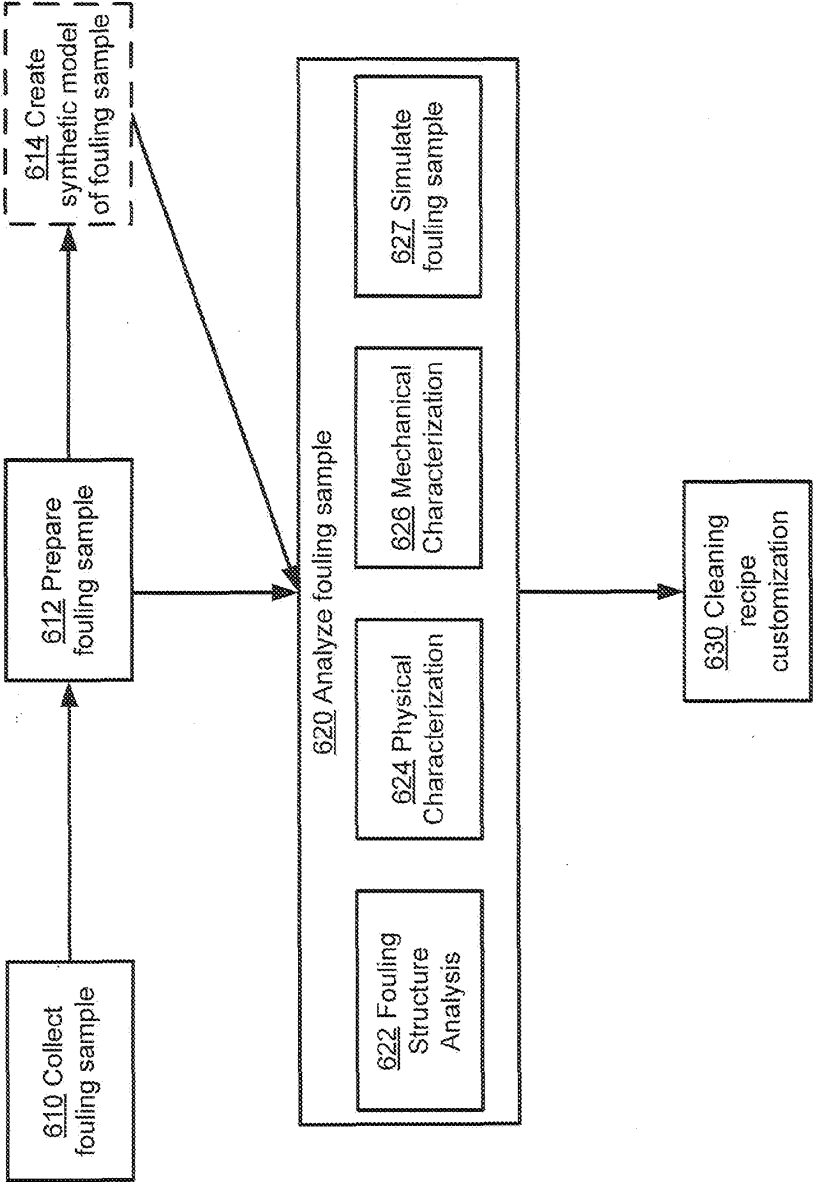
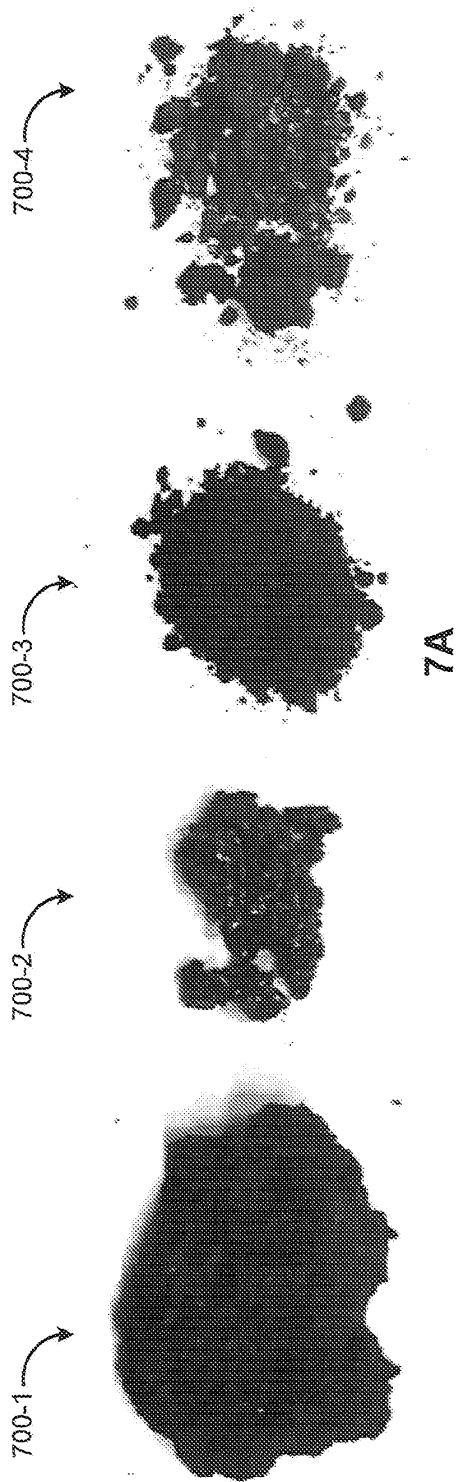


FIG. 6



710

Sample	Inorganics (%)	Organics (%)	Carbon and Carboids (%)
700-1	< 1	15	75
700-2	20	75	5
700-3	< 1	> 95	< 4
700-4	50	< 1	50

FIG. 7B

720 

Sample	XRF and ICP-AES Results
700-2	62% Fe ₂ O ₃
	3% SiO ₂
	1.4% Al
	0.6% MnO
	0.6% S
	0.6% CaO
700-4	22% Fe ₂ O ₃
	14% Cr ₂ O ₃
	6.2% S
	4% NiO
	1.2% SiO ₂
	0.9% CaO
	0.6% MnO

FIG. 7C

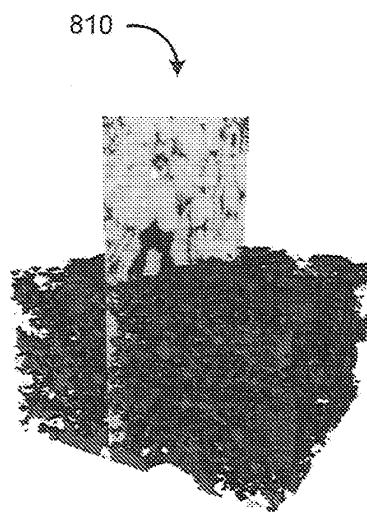


FIG. 8A

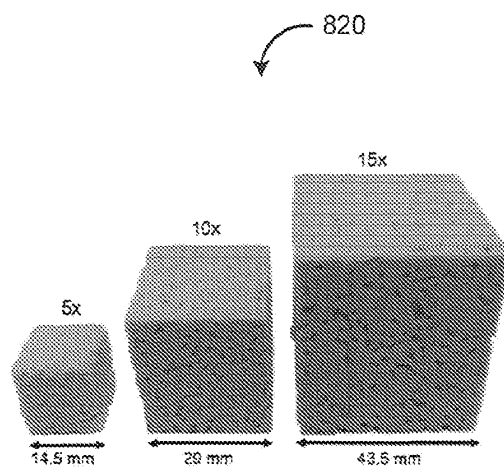


FIG. 8B

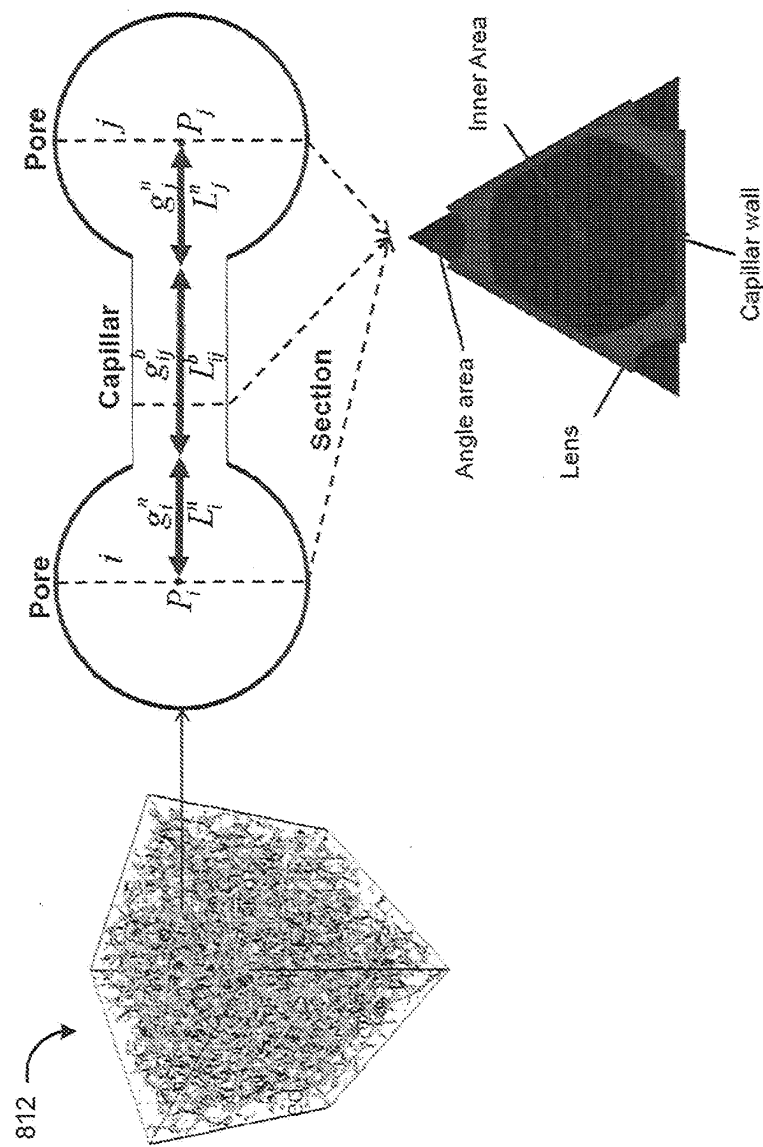


FIG. 8C

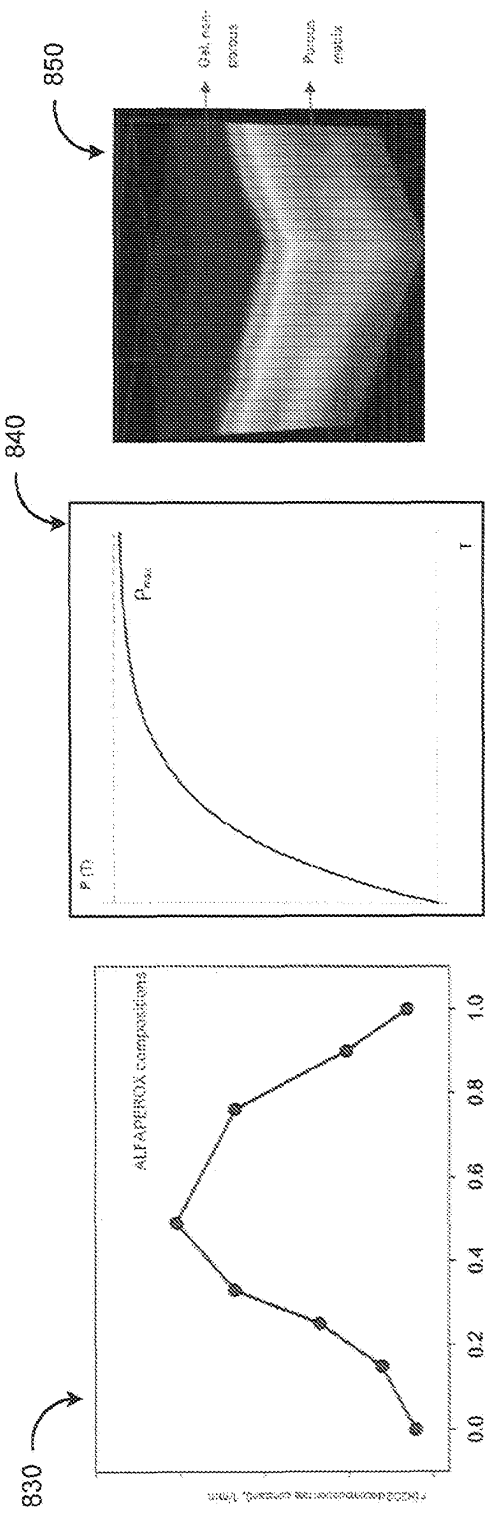


FIG. 8D



FIG. 8E

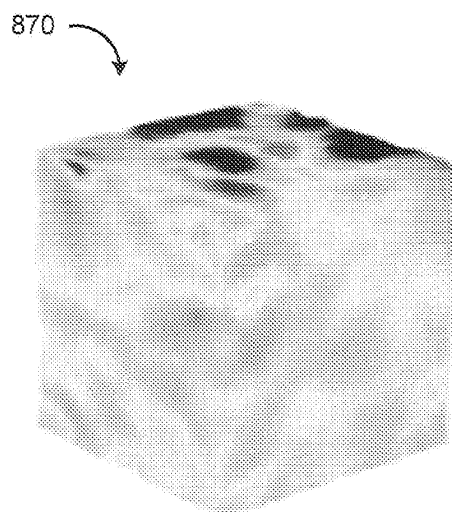


FIG. 8F

Sample	OS1	OS2	OS3	OS4	OS5
700-1	inefficient	inefficient	partial dispersion	swelling	swelling
700-2	inefficient	inefficient	swelling	partial dispersion	inefficient
700-3	partial dispersion	swelling	swelling	inefficient	inefficient
700-4	swelling	inefficient	inefficient	swelling	partial dispersion

FIG. 9A

Sample	A1	B1	B2	B3	B4
700-1	inefficient	complete dispersion	partial dispersion	swelling	inefficient
700-2	inefficient	partial dispersion	swelling	partial dispersion	complete dispersion
700-3	inefficient	inefficient	complete dispersion	partial dispersion	swelling
700-4	inefficient	inefficient	complete dispersion	swelling	inefficient

FIG. 9B

Sample	Most Efficient Formulation(s)	Test Results
700-1	OS3+B1	partial dispersion (75%), complete dispersion
700-2	OS4+B4+OX	partial dissolution (35%), complete dispersion
700-3	OS1+B2+OX	partial dissolution (15%), complete dispersion
700-4	OS5+B3+OX	partial dissolution (25%), complete dispersion

FIG. 9C

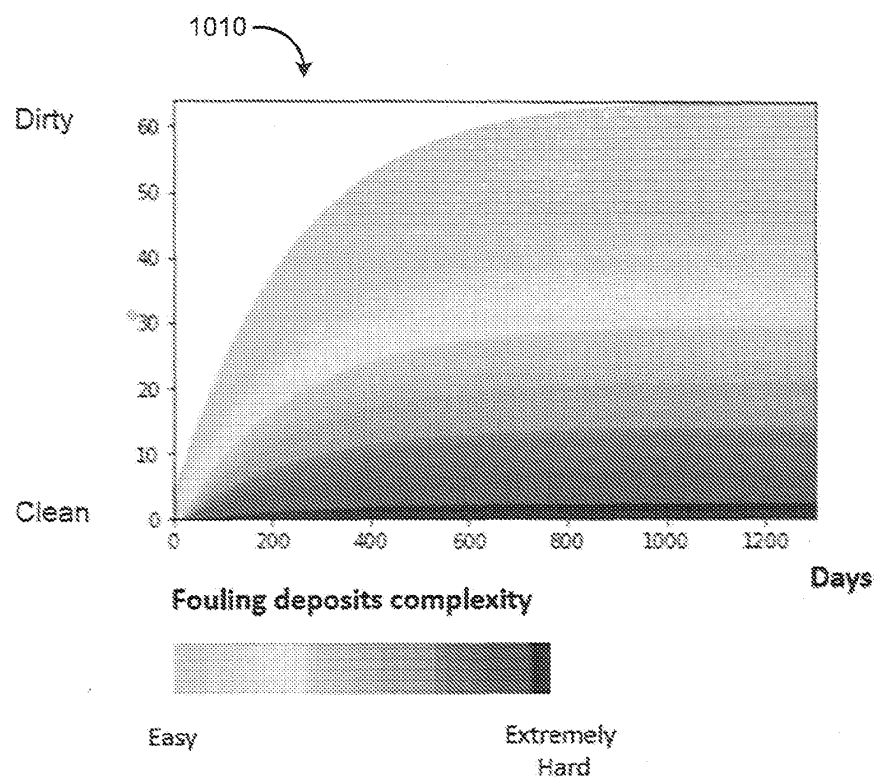


FIG. 10

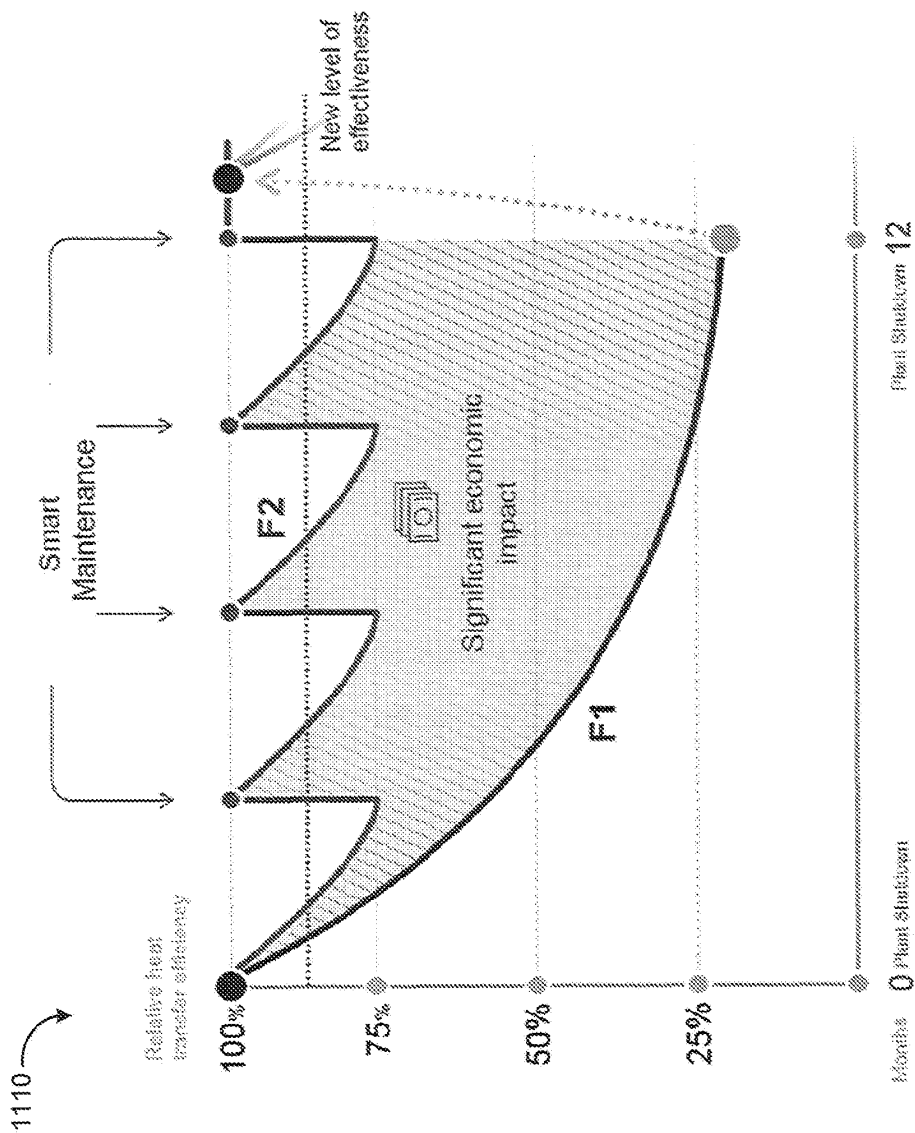


FIG. 11

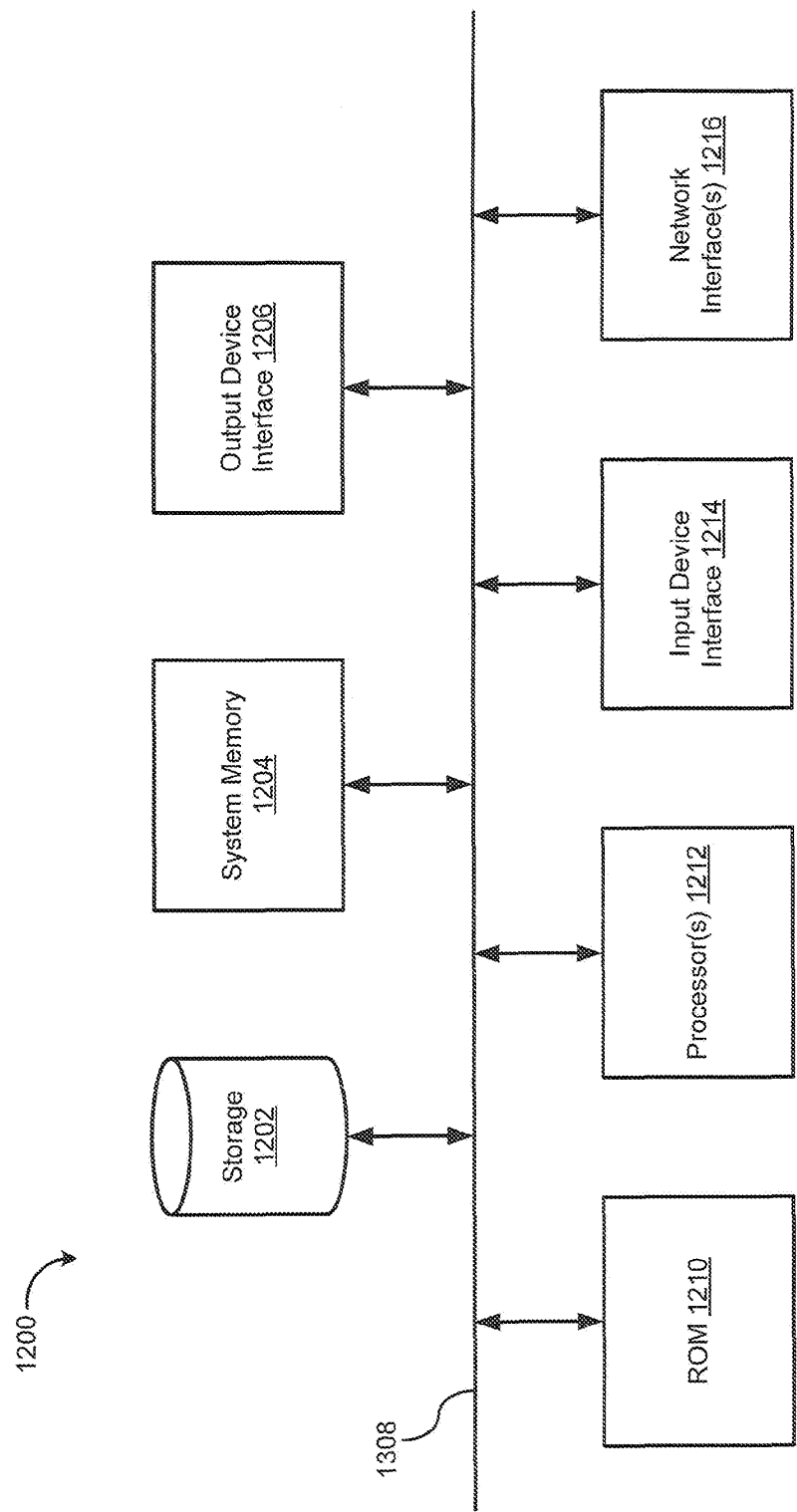


FIG. 12

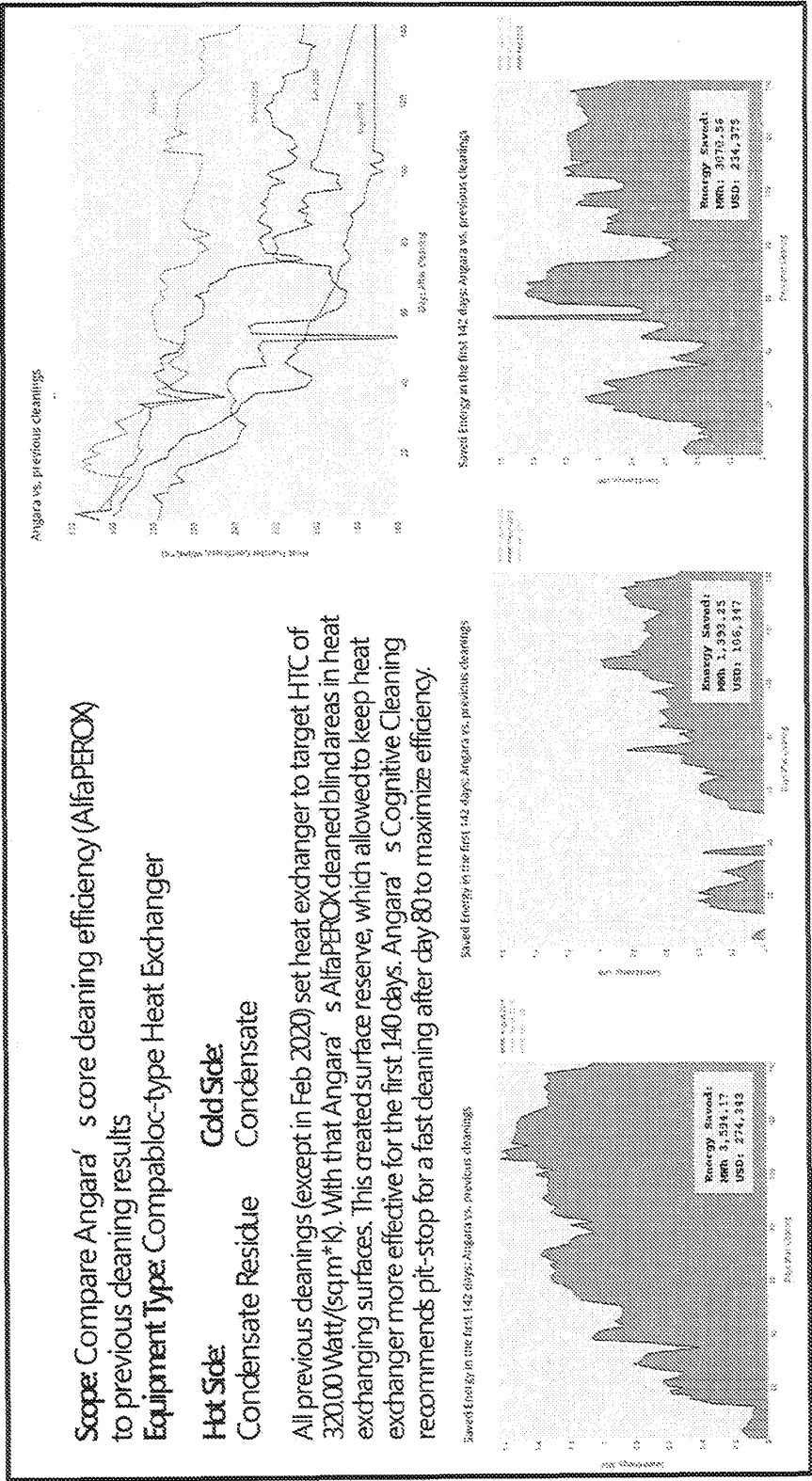


FIG. 13

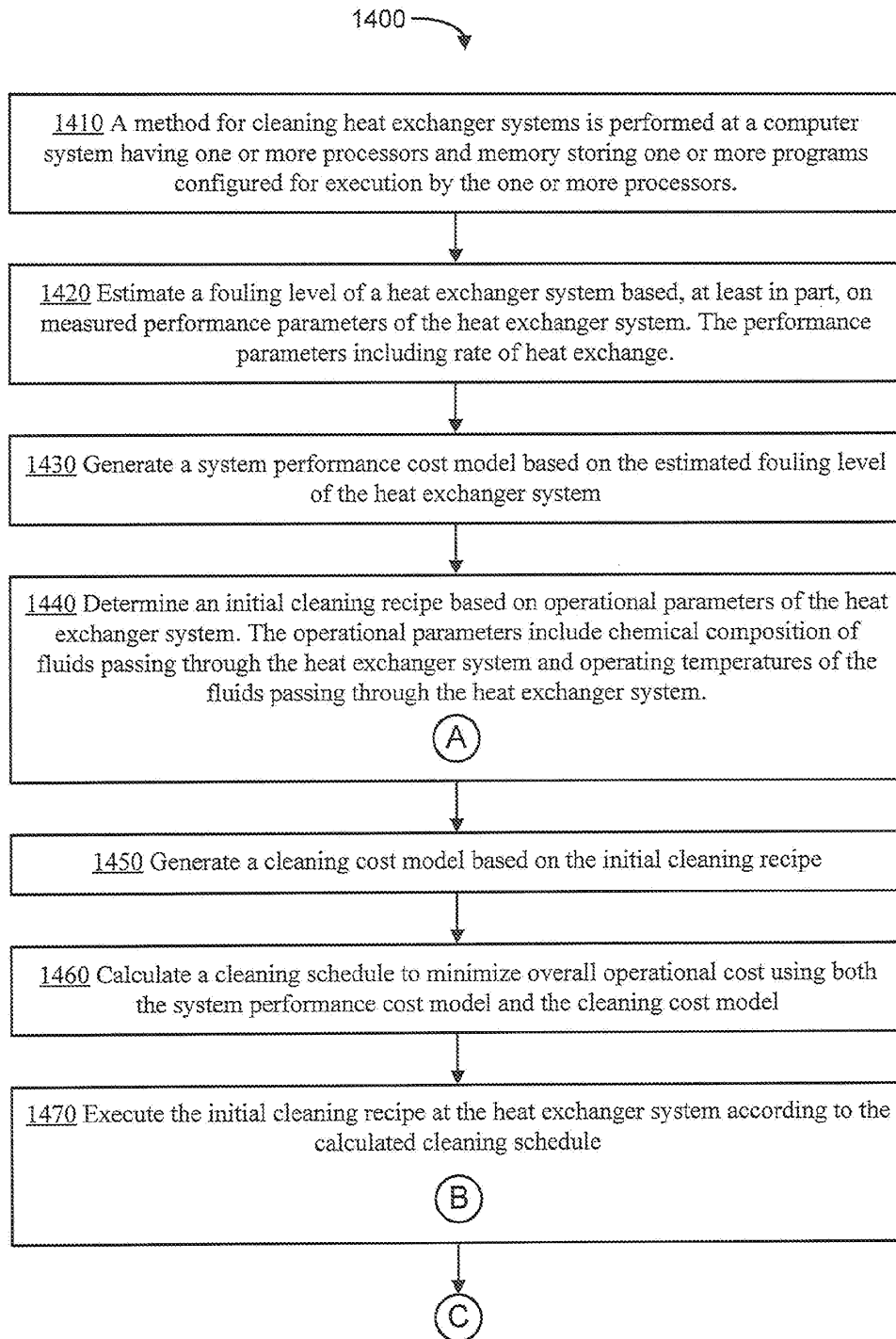


FIG. 14A

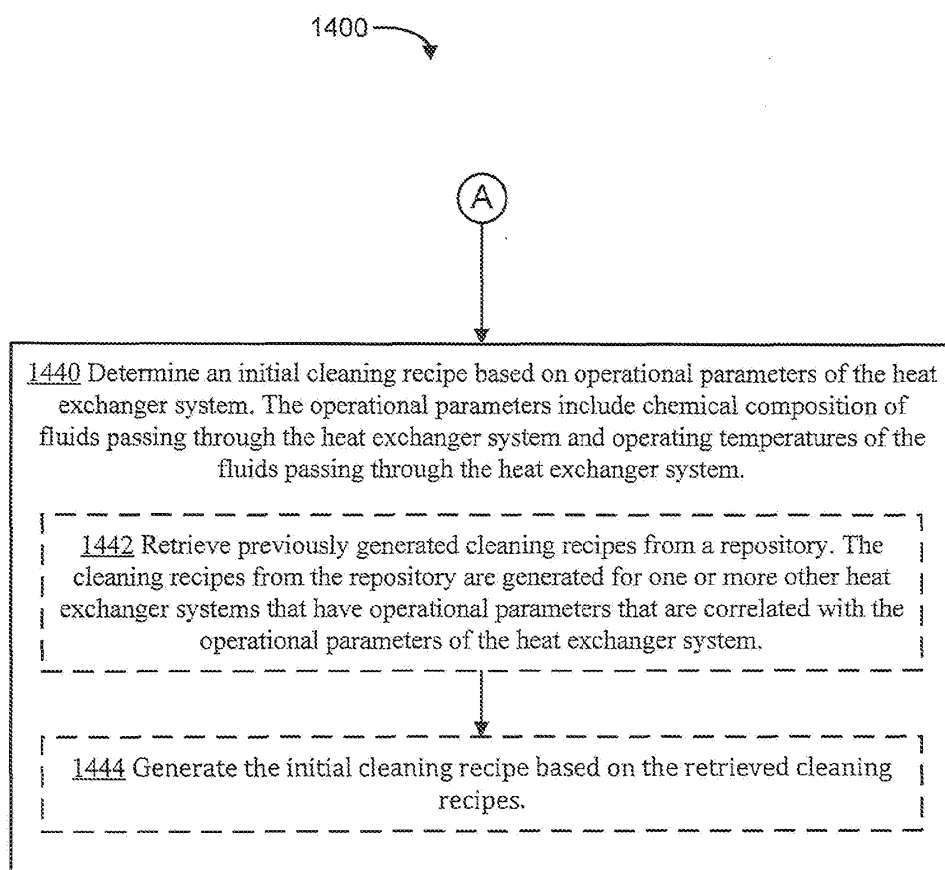


FIG. 14B

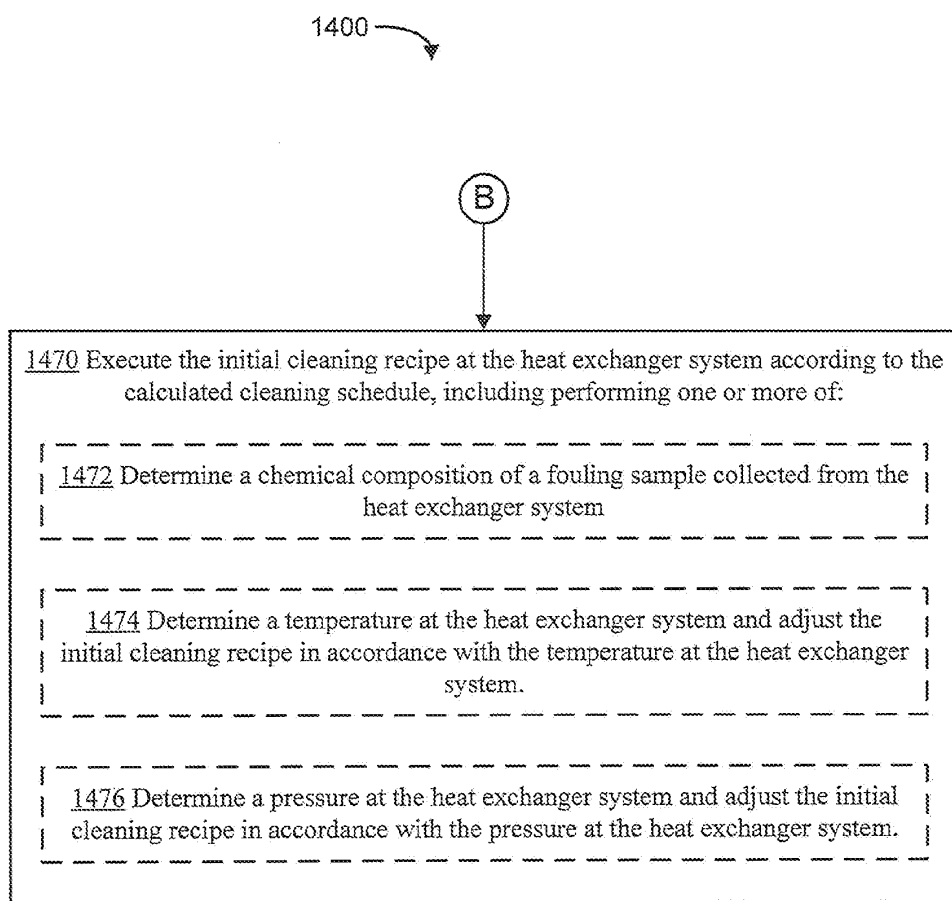


FIG. 14C

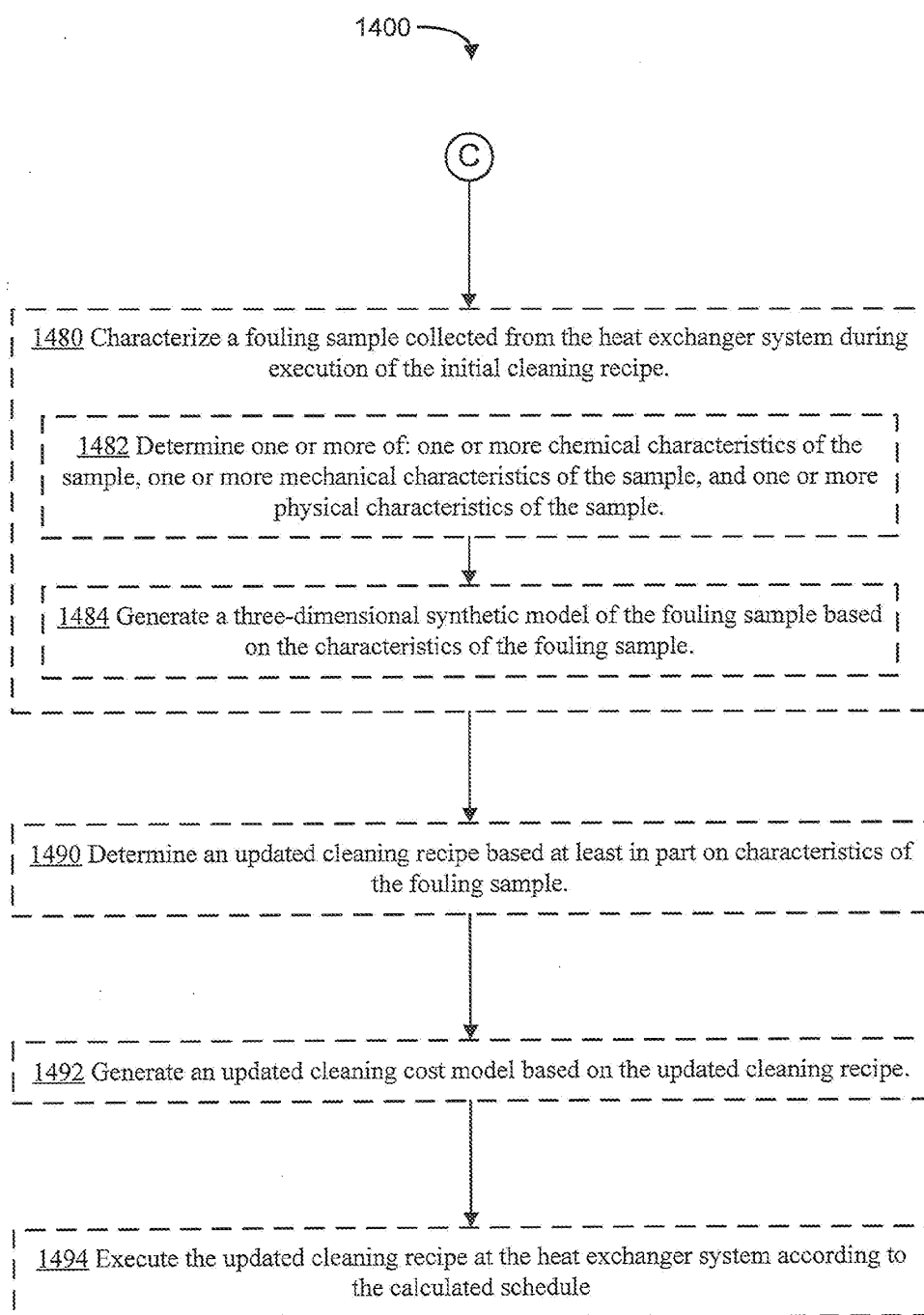


FIG. 14D