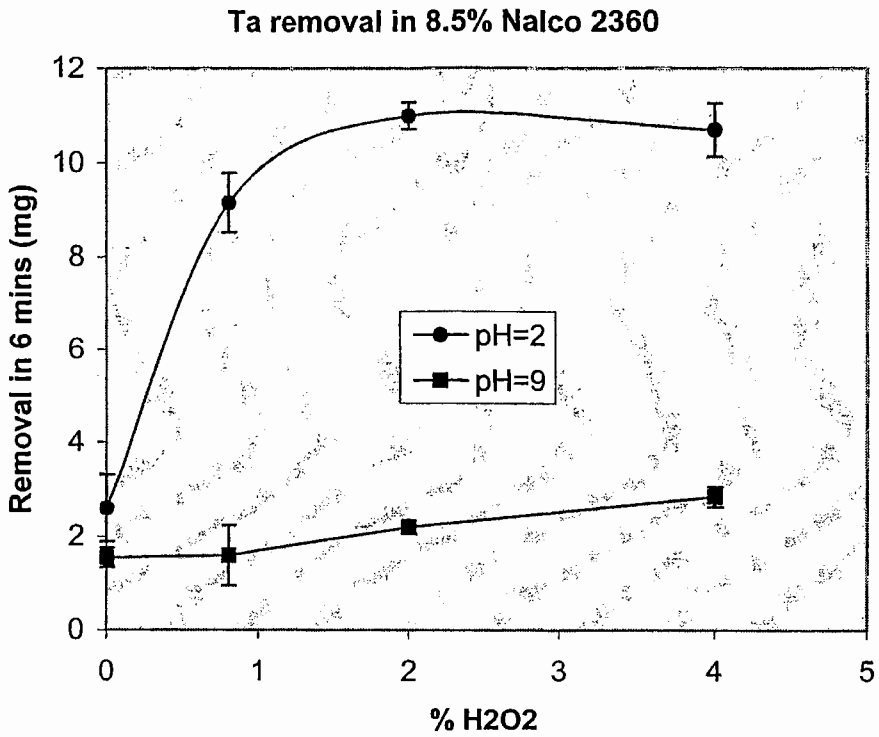
Ta removal in 8.5% Nalco 2360
Removal in 6 mins (mg)
% H2O2
pH=2
pH=9
0
2
4
6
8
10
12
0
1
2
3
4
5

FIG. 1

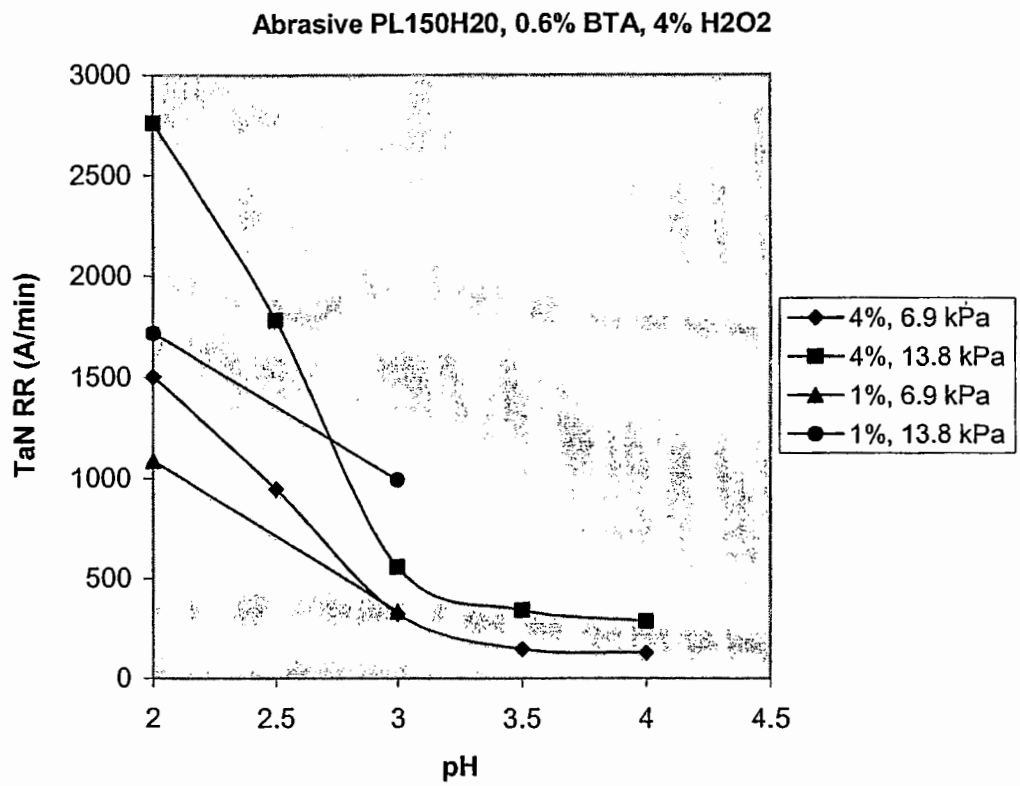
Abrasive PL150H20, 0.6% BTA, 4% H2O2
TaN RR (A/min)
3000
2500
2000
1500
1000
500
0
2
2.5
3
3.5
4
4.5
pH
4%, 6.9 kPa
4%, 13.8 kPa
1%, 6.9 kPa
1%, 13.8 kPa

FIG. 2

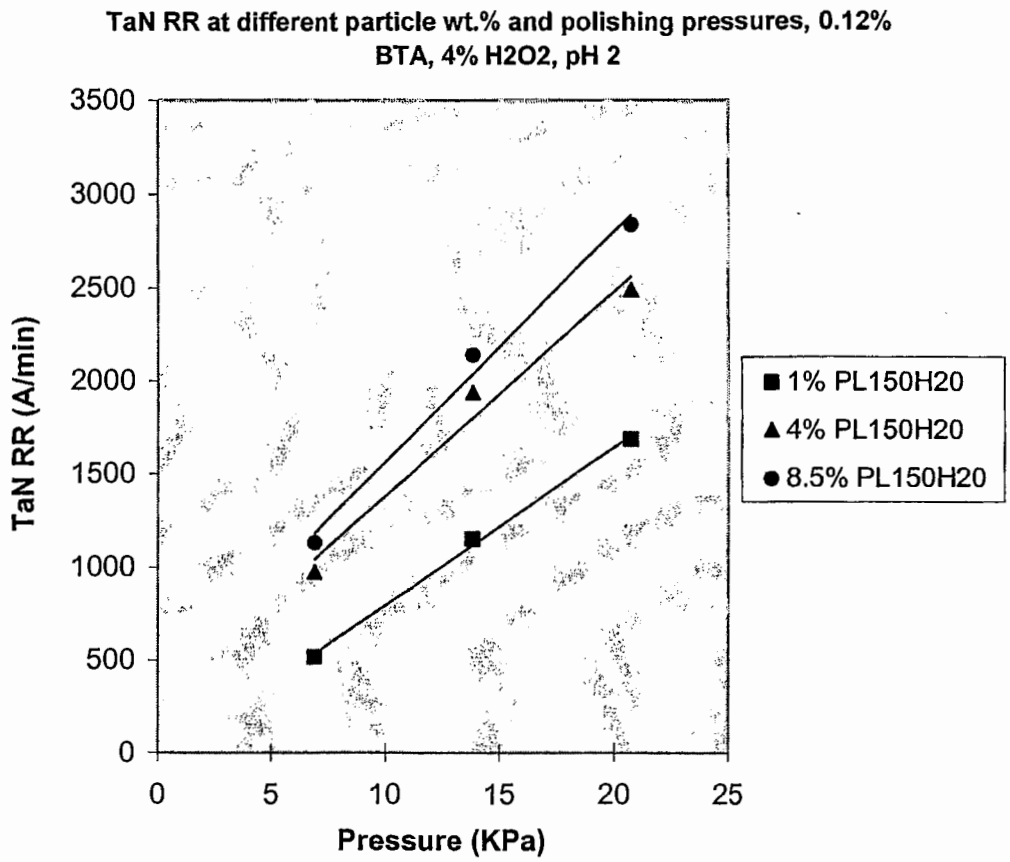
TaN RR at different particle wt.% and polishing pressures, 0.12% BTA, 4% H2O2, pH 2
TaN RR (A/min)
3500
3000
2500
2000
1500
1000
500
0
0
5
10
15
20
25
Pressure (KPa)
1% PL150H20
4% PL150H20
8.5% PL150H20

FIG. 3

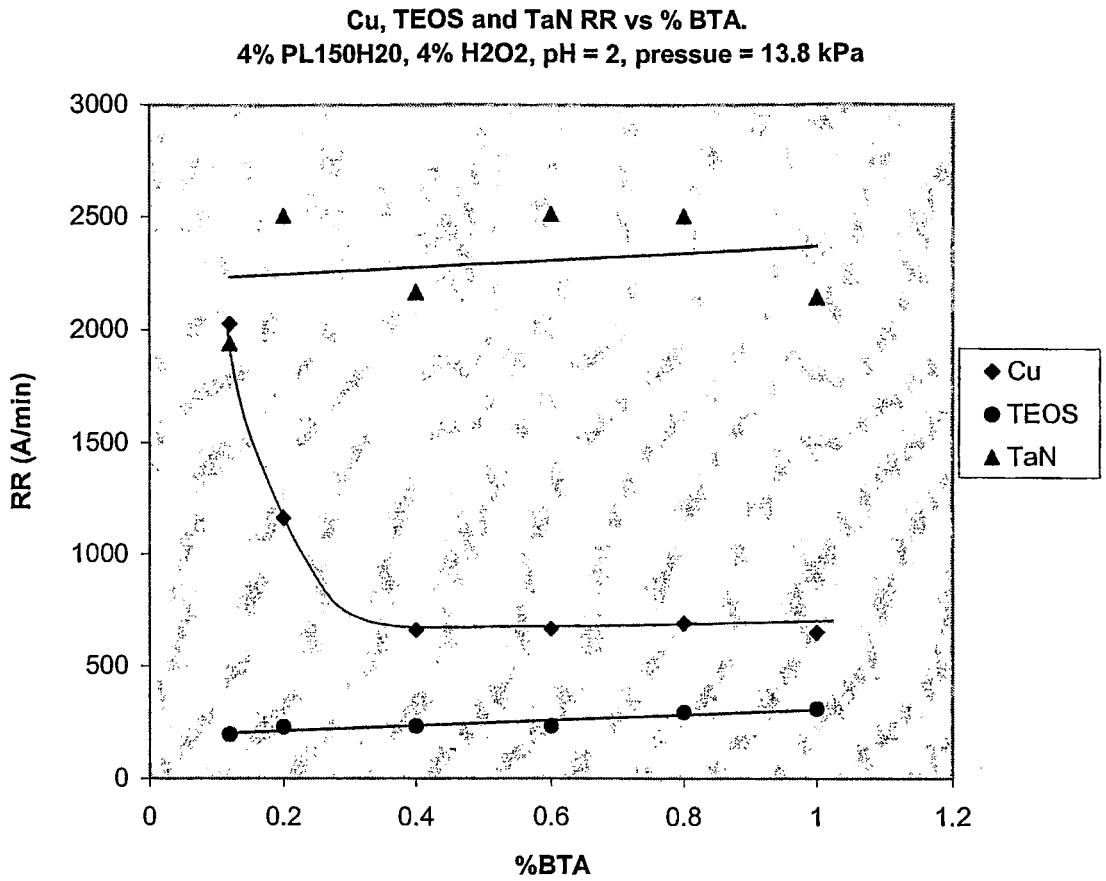
Cu, TEOS and TaN RR vs % BTA.
4% PL150H20, 4% H2O2, pH = 2, pressue = 13.8 kPa
RR (A/min)
3000
2500
2000
1500
1000
500
0
0
0.2
0.4
0.6
0.8
1
1.2
%BTA
Cu
TEOS
TaN

FIG. 4

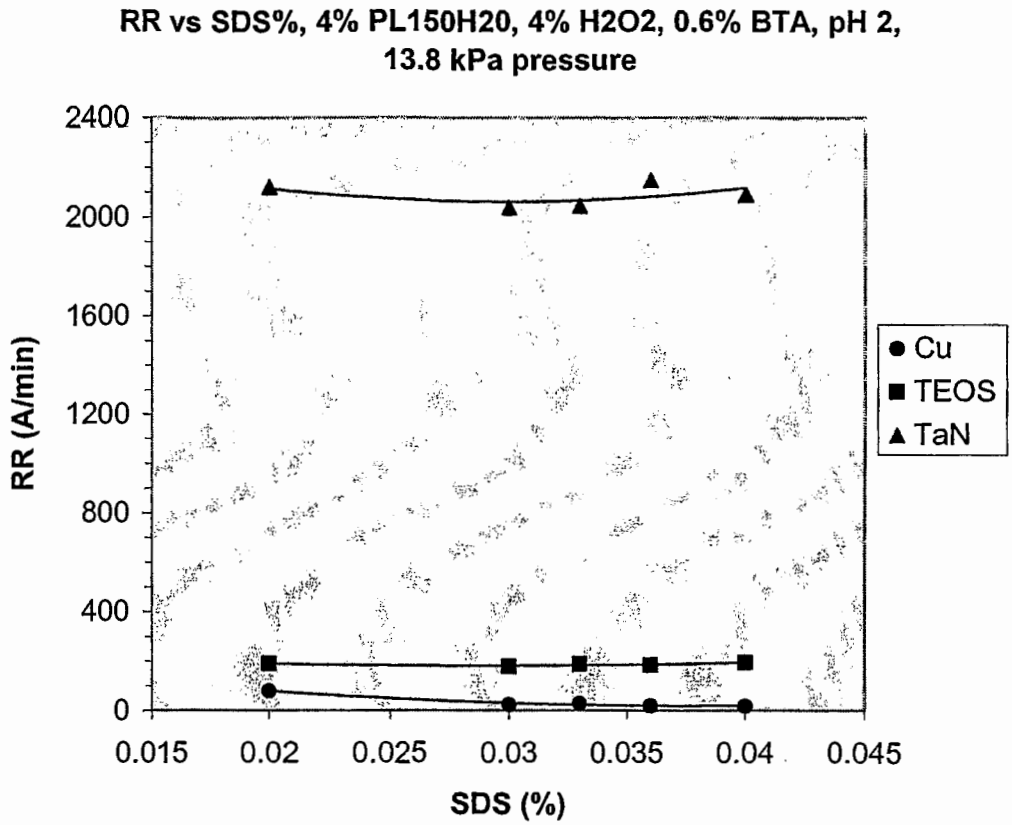
RR vs SDS%, 4% PL150H20, 4% H2O2, 0.6% BTA, pH 2, 13.8 kPa pressure
RR (A/min)
2400
2000
1600
1200
800
400
0
0.015
0.02
0.025
0.03
0.035
0.04
0.045
SDS (%)
Cu
TEOS
TaN

FIG. 5

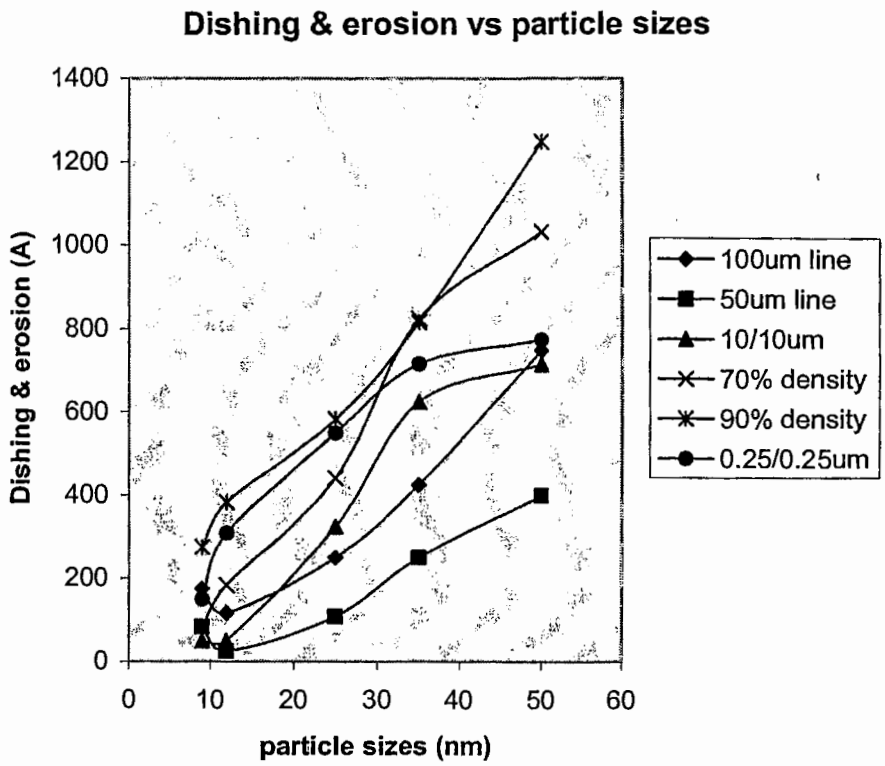
Dishing & erosion vs particle sizes
Dishing & erosion (A)
1400
1200
1000
800
600
400
200
0
0
10
20
30
40
50
60
particle sizes (nm)
100um line
50um line
10/10um
70% density
90% density
0.25/0.25um

FIG. 6