

علوم و تکنولوژی محیط زیست، شماره ۲۸، بهار ۸۵

èéí ê

pH

/ - ÿ/ÿ

/

/

```

graph TD
    pHs[pHs] --> mgCaCO3[CaCO3]
    pHs --> mgCaCO3
    mgCaCO3 --> ALK[ALK]
    mgCaCO3 --> DO[DO]
    DO --> pHs
    mgCaCO3 --> RSI[RSI]
    RSI --> LSI[LSI]

```

LSI = $pH - pH_s$

$pH_s = A + B \cdot \log [Ca^{2+}] - \text{Log}[Alkalinity]$

$pH_s = \frac{mg}{lit}$

$ALK = \frac{mg}{lit}$

$pH_s = Ca^{2+}$

$DO = \frac{mg}{lit}$

$pH_s = \frac{mg}{lit}$

$RSI = 2(pH_s - pH)$

$LSI = RSI - pH$

1-Langelier Saturation Index 2-Rizener Stability Index

RSI<<
RSI>>
RSI>>

ê

-y/y í éí

/

m^3 / hr

ê

/

/ yyy m^3

ê

y y

/ y/

)
. (

pH

RSI LSI

RSI		LSI			
/		-	-		
ÿ/	ÿ	/			
/	ÿ	ÿ/			
/		/			
-	-	-	-		
% Ÿ		% Ÿ			

RSI LSI

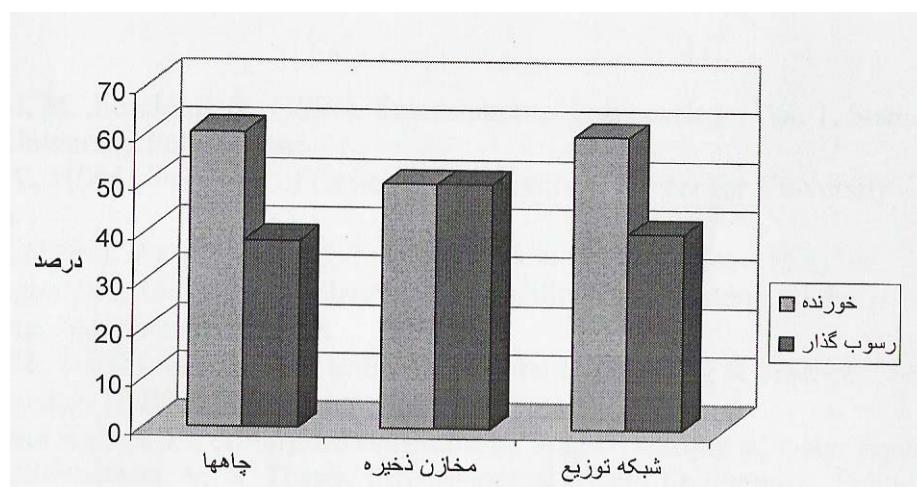
RSI		LSI			
-	-	-	-		
ÿ		ÿ			
		-	-		
		ÿ			
-	-	-	-		
% Ÿ	ÿ	% Ÿ	ÿ		

: **RSI LSI**

RSI		LSI			
/		-	-		
/		ÿ/			
/		/			
-	-	/			
-	-	-	-		
% Ÿ		% Ÿ			

RSI LSI

RSI		LSI			
-	-	-	-		
yy		ÿ			
-	-	-	-		
-	-	ÿ			
-	-	-	-		
% yy		% ÿ			

**References**

- Keznejad, M., Ebrahimi, S., (1997). *Environmental Engineering*. Vol. 1, Shand Technical University Publications.
- Horfar, A., (1996). *Principal of Corrosion Technology*. Center for University Publication
- AWWA, (1991). *Water Quality & Treatment*. New York, McGraw Hill, Inc.
- HDR Engineering INC, (2001). *Handbook of Public Water Systems*.
- John Willy & Sons, Inc, New York, USA
- Gilbert, M., (1991). *Introduction to Environmental Engineering & Science*. London, Prentice- Hall.
- Mohammedi Kalhor, E., (1996). *Investigation on internal coating of water pipes and their health effects*. M. S. Thesis, Environmental Health Engineering, School of Public Health, Tehran University

7. AWWA, (1995). *Water Treatment Principles and Practices of Water Supply Operations. Second Edition*, American Water Work Association, INC.
8. R. A. Ryder, (1980). *The Cost of Internal Corrosion in Water System*. J. AWWA, 72(5) 267.
9. Daneshvar, N., (1992). *Water Chemistry*. Amid Publications, Tabriz
10. Ramezani, P., (2001). *Corrosion and scaling of drinking water wells* in Rasht. Water and Environment Journal, Vol. 28.
11. Hossainian, S. M., Mirsadeghi, J., (1998). *Corrosion and its control in water pipes*. Water and Environment Journal, Vol. 28.
12. A.P.H.A, A.W.W.A, W.P.C.F, (1998). *Standard Methods for the Examination of Water and Wastewater*. 20th Edition, Washington, DC.