

# Clean N Cor<sup>®</sup> CORR11509A

## Success On Midwest Injection



### Situation

An operator in Wyoming was experiencing frequent plugging of injection wells due to the buildup of oily pipeline deposits, which are a combination of hydrocarbons, asphaltenes, iron and other components. These deposits were increasing well downtime and creating additional costs associated with screen cleaning and well maintenance. A two-man crew was needed to perform weekly screen cleanings, which resulted in one-hour downtime per well every week. The operator had attempted back-flowing the wells and lateral lines but the results were discouraging. Well downtime and production losses were a growing concern, in addition to under-deposit corrosion due to the increased buildup of this pipeline deposit.

### Program

Four injection wells, A, B, C, and D, were selected as a pilot program to investigate the results of using Clean n Cor CORR11509A. CORR11509A was selected due to the chemical's winterized multifunctional cleaning capabilities and proven best-in-class corrosion performance. Each well was treated upstream at various distances from the injection well. Well A was treated very close to the injection well while well D was treated at a location furthest from the injection well. Initially the wells were treated at a rate of between 5 and 20 ppm. The rates were increased every three weeks up to 100 ppm, which was then held for three months. The screens were examined and cleaned periodically.

### Results

After only three months, injection on all four wells had increased by 282 bbls/day, which was a 50 percent increase over previous injection rates. This increase injection resulted in 94 additional bbl/day of oil production, based on an average recovery of 1 bbl oil to every 3 bbls injected water. The weekly screen cleanings were reduced from once per week to once every six weeks, thus saving 344 man-hours and 172 hours of well downtime. As a result of the decreased amount of pipeline deposition, the risk of under-deposit corrosion in the system was greatly reduced.

Injection Well Number	Initial Injection bbls/day	Final, Injection bbls/day	Injection Increase bbls/day
A	112	158	46
B	172	242	70
C	228	357	129
D	18	55	37
Total	530	812	282

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### Return on Investment (ROI) Per Year

#### Previous Manpower Usage

52 hours x 2 workers x 4 wells = 416 hours  
 Previous Man Power Cost = \$16,640/yr

#### New Manpower Usage

9 hours x 2 workers x 4 wells = 72 hours  
 New Man Power Cost = \$2,880/yr

**Manpower Savings = \$13,760**

#### Deferred Production from Weekly 1-hour Shut-Ins

\*7 bbls/wk x 52 weeks = 364 bbls/yr

#### Total Increased Injection

282 bbl/day total injection x 365 days = 102,930 bbls/yr

**Total Increased Oil Production = 34,310 bbls/yr**  
 (3 bbls water injected = 1 bbl oil produced)

#### Total ROI

Increased Production @ \$95/bbl = \$3,259,450  
 + Man Power Savings = \$13,760  
 + Deferred Production Recovered  
 (364 bbls/yr @ \$95/bbl) = \$34,580  
 - Clean n Cor Program Cost = \$2,520

**Clean n Cor Program ROI = \$3,305,270**

\* Lost production of 7 bbls/wk calculated based off initial injection of 530 bbls/ day (every 3 bbls injected equated to 1 bbl oil produced).

### Conclusions

Clean n Cor CORR11509A was able to solve the operator's problems in a very short period of time. The results of the trial were outstanding, as the amount of pipeline deposition decreased over time and was no longer plugging the injection wells. The CORR11509A pilot program was very successful in increasing the production of each well, while reducing operating costs and increasing equipment protection. As a result of this pilot program, the entire field is now being treated with Clean n Cor CORR11509A.



Nalco Champion  
 Global Headquarters  
 7705 Highway 90-A  
 Sugar Land, TX 77478 USA  
 Telephone: +1-281-263-7000

Nalco Company  
 WPS Headquarters  
 1601 W. Diehl Road  
 Naperville, IL 60563 USA  
 Telephone: +1-630-305-1000

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