



February 2, 2017

Mr. Robert Leible
City of Aurora
44 E. Downer Place
Aurora, IL 60507

Re: Well #101

Mr. Leible:

Well 101 is starting to break suction. From a brief metered test on January 23, the well's specific capacity (SpQ) is at 6.5 gallons per foot of drawdown as compared to its 2002 SpQ of 10.8 when the pump was last removed for repairs. The pump is approximately 20% off in performance which is most likely attributable to normal wear after 14 years of operation.

Layne recommends a scope of work to include:

- Mobilize and remove pump, rack pump onsite
- Perform a visual inspection of pump components on site
- Perform a field mechanical and field electrical inspection of the Byron Jackson motor
- Disassemble, clean and inspect bowl assembly
- Anticipation of rebuild bowl assembly with wear rings, bushings, and impeller shaft
- Anticipation of motor service
- Televising Well
- Anticipation of well rehabilitation utilizing Sonar Jet and surge block
- Furnish and install transducer (mounting of receiver and wiring from well head by City)
- Set and test pump

If contracted, Layne will perform the work on a time and material basis per the attached Work Order Form and will follow the terms and conditions of our Professional Services Agreement (PSA) with the City. The attached Work Order Form, Schedule B, lists Layne's standard published rates. The estimates in this letter include the PSA stipulated 5% deduct applied toward labor and 10% deduct applied toward special services.

Estimates for the recommended scope items break down as follows:

| | |
|--|-----------------|
| 1. Mobilize, pull pump, and perform visual inspection of pump components on site; perform mechanical and electrical field inspections on Byron Jackson motor; disassemble, clean and inspect bowl assembly | \$10,000 |
| 2. Televis, Sonar Jet rehab, chemical rehab, surge block, bail | \$14,750 |
| 3. Rebuild bowl, service motor, replace column components | \$14,800 |
| 4. Transducer and accessories | \$ 3,685 |
| 5. Set and test after necessary repairs | <u>\$10,000</u> |
| Total Budget Estimate | \$53,235 |

It is difficult to determine the cost of necessary repairs prior to component inspection. It is Layne custom to meet with the City to inspect after disassembly and clean up. At that time, Layne is in position to submit a Pump Inspection Report with observations, recommendations, and an accurate repair cost estimate. The scope's budget estimate is conservative (high side) for standard repairs but will be exceeded if circumstances require major component replacement such as bowl assembly or motor.

I trust that this provides the information you require. If you have any questions, or if we may be of any service, please do not hesitate to contact me.

Layne Christensen Company



William Balluff, P.E.
Project Manager



WORK ORDER



Layne Christensen Company

721 W. Illinois Avenue, Aurora, IL 60506; Phone (630) 897-6941
 229 W. Indiana Ave., P.O. Box 489, Beecher, IL 60401; Phone (708) 946-2244

SCHEDULE B

Purchaser: City of Aurora
 Job Location: Well 101

SERVICE RATES - EFFECTIVE OCTOBER 1, 2016

| | Straight Time | | Overtime | Doubletime |
|--|---------------|-----------|----------|------------|
| | Per Hr. | 8 Hr. Day | Per Hr. | Per Hr. |
| Serviceman w/hand tools | 184.00 | 1472.00 | 276.00 | 368.00 |
| Serviceman w/service truck and hand tools, or welder | 213.00 | 1704.00 | 305.00 | 397.00 |
| Helper | 150.00 | 1200.00 | 225.00 | 300.00 |
| Serviceman and 1 Helper | 334.00 | 2672.00 | 501.00 | 668.00 |
| <u>Small Rig or Winch Truck (\$48.00)</u> | | | | |
| 1 Man Crew | 232.00 | 1856.00 | 324.00 | 416.00 |
| 2 Man Crew | 382.00 | 3056.00 | 549.00 | 716.00 |
| 3 Man Crew | 532.00 | 4256.00 | 774.00 | 1016.00 |
| <u>Middle Rig, Large Hoist or Flatbed Crane (\$64.00)</u> | | | | |
| 1 Man Crew | 248.00 | 1984.00 | 340.00 | 432.00 |
| 2 Man Crew | 398.00 | 3184.00 | 565.00 | 732.00 |
| 3 Man Crew | 548.00 | 4384.00 | 790.00 | 1032.00 |
| <u>Big Rig, Large Hoist and Poles, or Large Crane (\$105.00)</u> | | | | |
| 1 Man Crew | 289.00 | 2312.00 | 381.00 | 473.00 |
| 2 Man Crew | 439.00 | 3512.00 | 606.00 | 773.00 |
| 3 Man Crew | 589.00 | 4712.00 | 831.00 | 1073.00 |
| 4 Man Crew | 739.00 | 5912.00 | 1056.00 | 1373.00 |
| Power Tong Usage, per 8 hour shift | | 460.00 | | |
| <u>Machine Shop/Yard Labor and Equipment</u> | | | | |
| Machinist and Equipment | 177.00 | 1416.00 | 257.00 | 337.00 |
| 12" Threading Machine and Operator | 203.00 | 1624.00 | 283.00 | 363.00 |
| Serviceman w/hand tools | 160.00 | 1280.00 | 240.00 | 320.00 |
| Helper | 147.00 | 1176.00 | 220.50 | 294.00 |
| Sandblast Equipment and 2 man crew | 355.00 | 2840.00 | 508.50 | 662.00 |

Mileage: Auto: \$0.55 Pickup: \$0.70 1-Ton:\$1.00 2-1/2 Ton Flatbed: \$2.10 Semi-Tractor: \$2.75

Subsistence-Per Man
 Over 55 miles radius from home office.....\$60.00 + Hotel

REMARKS:

 Work Authorized on Behalf of Purchaser By: _____
 Date: _____ Title: _____