

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. Televiser, 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



WATER • MINERAL • ENERGY

## 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: \_\_\_\_\_