



THE CITY OF
MT. PLEASANT, MICHIGAN

CITY HALL

320 W. Broadway • 48858-2447
(989) 779-5300
(989) 773-4691 fax

PUBLIC SAFETY

804 E. High • 48858-3595
(989) 779-5100
(989) 773-4020 fax

PUBLIC WORKS

1303 N. Franklin • 48858-4682
(989) 779-5400
(989) 772-6250 fax

PRE-BID ADDENDUM NUMBER 2

Project Bid: WELL 6 REHABILITATION, PUMP AND MOTOR INSPECTION AND REPAIR

Bid Time & Date:

Tuesday, February 11, 2014 at 1:30 pm (no change)

Opening: Office of City Clerk
City of Mt. Pleasant
320 West Broadway Street
Mount Pleasant, MI 48858

Addendum Issued By:

City of Mt. Pleasant
Division of Public Works
1303 North Franklin Street
Mount Pleasant, MI 48858

Date Issued: January 8, 2014

Intent:

1. To clarify that that the Well 6 pump is actually an eight-stage Layne 10RKHC, serial number 21934. It is not an 8RKHC, serial number 21933 as indicated in the bid package.

Bid Proposal: No change

Specifications: No change



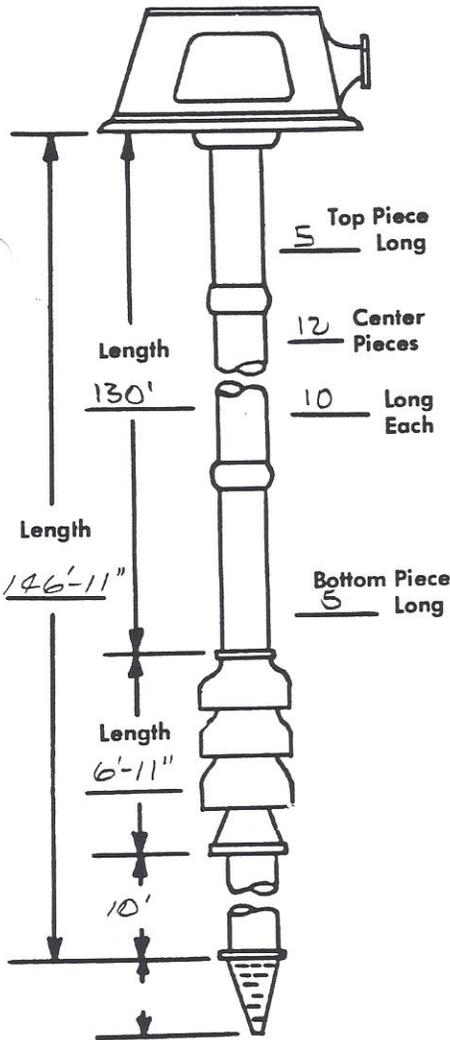
NORTHERN COMPANY

INDIANAPOLIS • MISHAWAKA • LANSING

PUMP INSTALLATION REPORT

File No. P-21934
 Sales Order No. 54-5220 Date 1-22-96
 Pump Mfg. LAYNE Serial No. 21934 Well No. 6
 Owner CITY City MT PLEASANT State MI
 Location of Well SOUTH OF BROOMFIELD ROAD
 MOTOR: Make U.S. Type CFU Frame 444-6 Ser. No. 869512
 HP 60 Volts 440 Line Voltage 440 Phase 3 RPM 1800
 Was Motor Taken to a repair shop at this time? YES Where? L.E.M. (REWIND)
 GEAR DRIVE: Make N/A Serial No. _____ Gear Ratio _____
 ENGINE: Make N/A Model _____ Serial No. _____

PUMP HEAD Type TF-818 **COLUMN** Pipe Size 8"
 Discharge Pipe Size 8" Flanged _____ Coupled X
 Located 2' above ground Special Paint? Yes
 Flanged X Threaded _____ Oil Lube _____ Water Lube X
 Separate Base Plate? NO Shaft Size 1 3/16 SS X or CS _____
 Head Shaft Length 5'-2" Tubing Size N/A Stl _____ or Br _____
 Dia. 1 3/16" Coupled above X below _____
MOTOR SHAFT: Dia. 1 1/2 x 1 3/16 Length 39"
 Thread Size in Head 1 3/16 Keyway 3/8
PUMP BOWL Type RKHC
 Dia. 10" No. of Stages 8
 Bowls - Cast Iron or Bronze? CI Strainer NO Size _____
 Shaft - SS X CS _____ Length _____ Rubber Bumper? NO
 Well Seal? NO



NOTE - All measurements from top of pump foundation. **WELL INFORMATION** Gravel Wall Tubular Rock G.W.
 Inside Dia. 30" Depth 179'-6" Static 33'-8" Type: _____
 Air Line Length 130' Strapped to Column? AT TOP
 Type Airline LAYNE (Plastic) 1/2" Copper Tubing _____ Steel Pipe _____
PUMPING TEST - Pumped 726 GPM at 145'-7" Ft. Pumping Level _____
 with 0 lbs. discharge pressure after 3 HRS hours.
 Pump to Waste Outside X Inside _____ Size 6" THD.O. _____

PULLING INSTRUCTIONS

Length of Poles required _____ Special equipment or pulling instructions _____
 Power Lines: _____

REMARKS: _____

Installer T. Giles

CURVE: 18-071

PUMP DATA SHEET

Catalog: L&B60 v. 1.0

TYPE - SPEED: VERT.TURBINE - 1800

FLUID Water tmp: 60 °F

PUMP Size: 10RKHC - 8 stage

SG: 1

Speed: 1760 rpm

vsc: 1.1 cpois

Imp dia: 7.5 in

vapor: 0.26 psi

atm: 14.7 psi

Maximum tmp: - °F
 pres: - psi

AVAILABLE HEAD NPSHa: - ft

Minimum flow: - % of BEP

PIPING Pressure: - psi

Suction elev: - ft

Suction size: 6 in

size: - in

Discharge size: 6 in

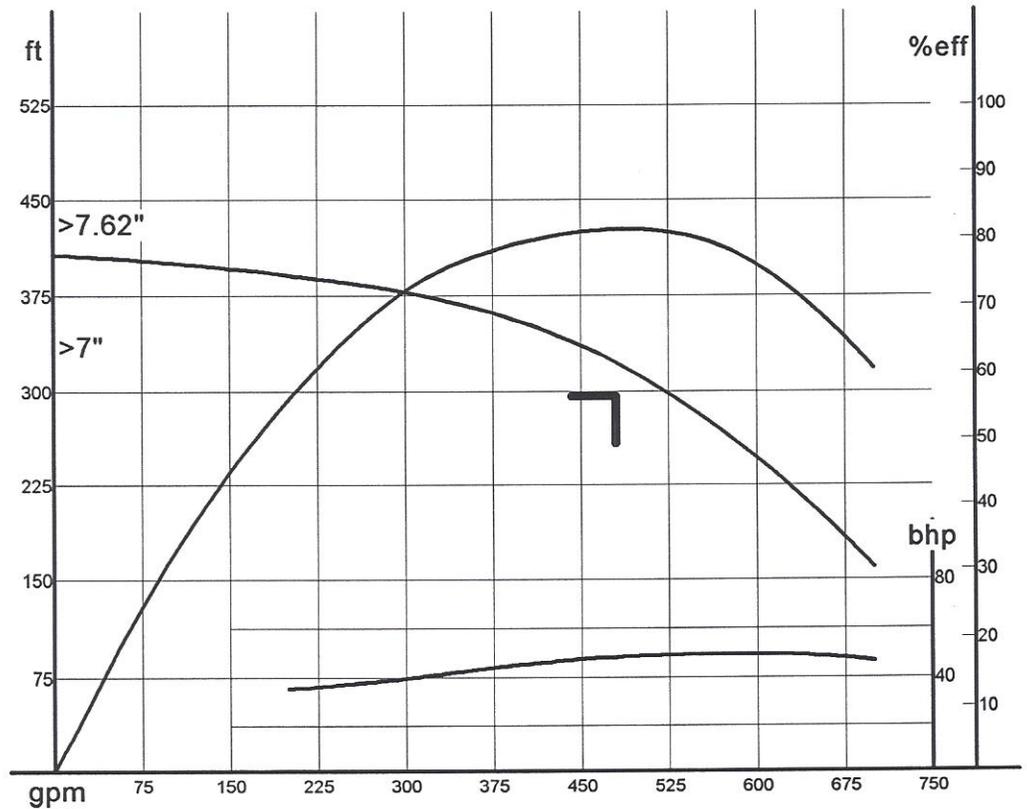
Discharge size: - in

DESIGN CONDITIONS

FLOW: 480 gpm
 TDH: 322.3 ft
 EFF: 81 %
 POWER: 48.23 bhp
 NPSHr: 9.45 ft ***

DESIGN NOTES

BEP: 81%eff @ 504
 MAX: 49.26 bhp @ 590
 SHUTOFF: 407 ft
 MIN FLOW: - gpm
 SPECIFIC Speed: 2540
 Suction: 7030



PERFORMANCE EVALUATION

	FLOW gpm	SPEED rpm	TDH ft	PUMP %eff	POWER bhp	NPSHr ft	MOTOR %eff	POWER kWh	HRS/YR	COST
120%	576	1760	263.6	78	49.16	11.9				
100%	480	1760	322.3	81	48.23	9.45				
80%	384	1760	359	79	44.07	7.28				
60%	288	1760	379.3	70	39.41	5.86				
40%	192	1760	391.5	54	35.15	5.6				