

Upper Ohio Creek Flow Restoration Project

Final Report to:

Colorado Water Conservation Board

Submitted: Dec 18th, 2014

Grantee

Trout Unlimited, Inc.

Jesse Kruthaupt, Upper Gunnison Project Specialist

604 Elsa Court, Gunnison, CO 81230

jkruthaupt@tu.com | 970-209-0976 | www.tu.org

Introduction:

In the spring of 2014 Trout Unlimited requested funding assistance from the Colorado River Water Conservation District, the Upper Gunnison River Water Conservation District, and the Colorado Water Conservation Board for the Upper Ohio Creek Flow Restoration Project. The goals of this project are to improve irrigation water use efficiency for water diverted from Castle Creek into Acme Ditch in order to maintain a minimum flow in Castle Creek. The two construction phases of this project are completed and described below. Trout Unlimited will continue to work with the Acme Ditch users to adjust the newly installed equipment (as necessary), monitor production changes in the area converted to sprinkler, and support irrigators as they fine tune irrigation management in order to meet the flow target in Castle Creek.

Phase 1: Irrigation Infrastructure and water management improvements on Rock House Ranch

Construction of the Reinke center pivot, delivery pipe, and settling structure has been completed. The new irrigation system will be operational for the 2015 irrigation season. The pivot will make a complete circle, covering approximately 40 acres. This will allow irrigators at the Rock House to effectively irrigate their hay meadow while improving stream flow below the diversion.

TU and partners installed 2000ft of 8 inch delivery pipe and a bubbler screen to feed the pivot that is located on a lower portion of the meadow. There will be about 70 feet of head above the pivot. The delivery pipe proved to be more challenging than anticipated as bands of rock and clay were frequently encountered while digging the trench the pipe was buried in. Rocks had to be sorted out and clay broken down once dried in order to properly bed the pipe. Material that was not used to back fill the trench was hauled from the meadow, some was used for the settling structure and the rest was stock piled and will be used to fill in existing ditches under the pivot. This work was completed by Rock House Ranch employees with assistance from Trout Unlimited staff.

Construction of both the pivot and the delivery pipe was delayed slightly while the meadow was allowed to dry out from heavy rains in late September and early October. Aside from that delay, the pivot installation went as planned. The total length of pivot is 685 ft and the end gun will extend range another 80 to 100 feet. After installation the pivot was tested to mark locations for gates in a cross fence.

Forage samples were taken in 2012, 2013 and 2014. The samples were sent to Servi-Tech laboratories for analysis. The following table depicts the scores for percent crude protein and total digestible nutrients. Additional scoring categories are included in the Feed Analysis Reports attached in

Appendix B. It is worth noting that the irrigated meadow is typically grazed with cattle until the beginning of July. Then allowed to grow from July to September, hayed in September, and the residual grass is grazed in late September and October. Tonnage and quantity tests are representative of July through September growth.

Rock House production analysis results

	Crude Protein	Total Digestible Nutrients (100% dry matter)	Avg. Tons per Acre
2014	7.8%	71.3%	1.48
2013	6.1%	67.8%	1.52
2012	10.1%	67.8%	.6

The following pictures sequence the pipe installation down to the constructed pivot. Invoices for this phase of the project are labeled Task 1 in Appendix A.



Bubbler Screen



Pipe intake



Pipe Start below bubbler screen



Bubbler finished



Halfway & Airvac at 1000 ft



Getting closer



Final Piece



Welding Z pipe, which connects 8in PVC to the Pivot



Constructed Pivot

Phase 2: Monitoring Equipment at Acme Head gate

Installation of the remote monitoring equipment at Acme head gate was completed in early July of 2014. An ultrasonic sensor was installed on the Acme Ditch flume and a pressure transducer installed in Castle Creek below the Acme diversion. Both sensors will record stage height which is converted to CFS and displayed on a website for Acme ditch users to view. Manual measurements of flows in Castle Creek were taken to develop the relationship between stage height and discharge volume. Data transmitted was adjusted from once an hour to twice a day on July 10th as the diurnal flows from snow melt subsided. Dynatek Inc. installed the hardware and American Millennium Corp will manage the data plan and web service. The least expensive data plan was used during the 2014 irrigation season which allowed data to be transmitted to the website twice a day for \$33 dollars a month. This equipment will allow irrigators to be aware of what is available for diversion in the creek without having to make the trip up to the headgate. Record of 2014 data is located in Appendix C. Invoices for this phase of the project are labeled Task 2 in Appendix A (description of expenses). The following pictures depict the Ultra sonic sensor on the flume, installation the satellite transmitter, and a screen shot of the website ditch users have access to.



AMCI SatAlarm



13:28:54 9/21/2014
WEB1 Browser Info
Technical Support
303-279-2002

Page 1 of 1

Company Select
Acme Ditch Search

Current Status

Alarming	0
Warning	0
OK	1
Offline	0
View All	1
No Communication	0

Navigate

SITES
REPORTS
RUNTIME REPORTING
PREFERENCES
LOGOFF

AMCI Links

- Visit the AMCI corporate website
- Download AMCI documentation
- Customer Support Information

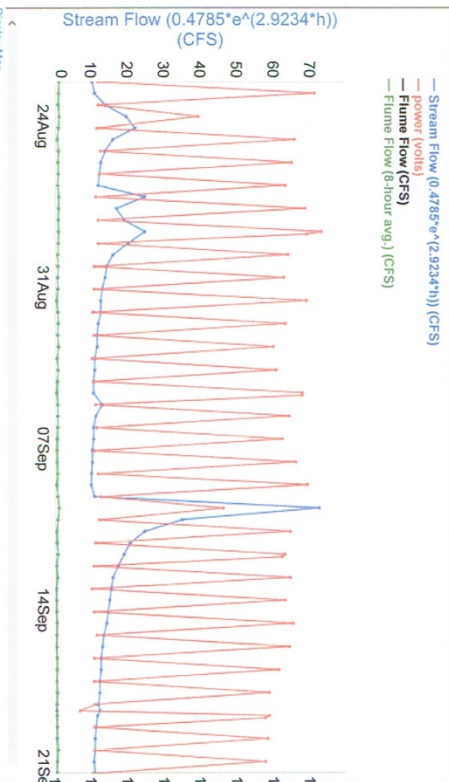
Site Name: Castle Creek & Acme Ditch Flows
Company Name: Acme Ditch

Current Site Status: OK

Component	Status	Value	Last Update
Stream Stage	NORMAL	1.06 feet	09/21/2014 01:38:00
Stream Flow	OK	10.81 CFS	09/21/2014 01:38:00
Flow	OK	0.4785 e ⁴ (2.9234*10 ⁴)	09/21/2014 01:38:00
Flume Stage	OK	0.066 feet	09/21/2014 01:38:00
Flume Flow	OK	0.41 CFS	09/21/2014 01:38:00

expand channel summary

AMCI Serial Number	Terminal Serial Number	Last Incoming AM Message	Last Reported Location	Cty/State	Time Zone
SM4890145	010570679KYO14	9/21/2014 1:38:00	Garrison, CO	Garrison, CO	Mountain Time



Activity

Event Date/Time	Activity Type	Max Records	Begin Date	End Date	Creation Date/Time
09/21/2014 01:38:00	Message: EIO Status Report	50	9/21/2014 12:00 AM	9/22/2014 12:00 AM	09/21/2014 01:38:41

Hardware Status: Poll Water Flows

Details:
The Stream Stage is NORMAL (1.06 feet)
The Stream Flow (0.4785 e⁴ (2.9234*10⁴)) is still OK (10.81 CFS)
The Flume Stage is still OK (0.066 feet)
The Flume Flow is still OK (0.41 CFS)
The power is still OK (12.942 volts)

Graph | Export | Refresh

http://www.satalarm.com/SatAlarm.asp?U=acmed%20&p=AMCI_Logo.jpg

9/21/2014

Phase 3: User Coordination

The completion of phase 1 and 2 will make it easier to meet the flow target, but without a concerted effort between the different users on the ditch this goal may prove difficult to meet. Coordination between users will play a critical part of tracing the delivery efficiency changes back to the head gate. Because 2014 was an above average water year the target of 7 cfs was met almost all year without the infrastructure improvements on the Rock House installed. However, there was a period on August 3rd and 4th when flows did drop below the target of 7cfs. Acme ditch users made adjustments and flows remained above the target for the remainder of the season. Coordination between users and additional irrigation management planning will continue and will be fine-tuned as the center pivot on the Rock House comes on line during the 2015 irrigation year.

Budget:

We came in under the total proposed budget of \$120,000 and actual expenditures were \$115,113.52. Of this adjusted project total the requested CWCB contribution is \$5,560 which is presented in the table on the following page. This contribution will reimburse Trout Unlimited for purchase of the pivot equipment.

The installation of monitoring equipment at the head gate and purchase of the pivot equipment was slightly more expensive than originally quoted. This is attributed to increase of equipment/material costs between the time the proposal was submitted and equipment was ordered and installed. There was also a significant amount of time spent by Trout Unlimited taking manual flow measurements in Castle Creek to developing the relationship between discharge and stage height. As noted above, installation of the delivery pipe also took about a week longer than anticipated.

Total cost for the center pivot equipment and installation was \$92,956.32.

- | | |
|---|--|
| • \$60,062.94 pivot (High Country Equipment) | • \$20.00 hay test (2014) |
| • \$10,690.06 delivery pipe and (Bollinger and Queen) | • \$13,320 Rock House labor and equipment |
| • \$4,830 electrical cable (High Country Equipment) | • \$1,125 K.R. Welding dozer for cable trench |
| • \$300 SGM survey | • \$2518.32 Trout Unlimited labor and expenses |
| • \$90.00 CB rental trencher | |

Total costs for the automation equipment installation and monitoring was \$10,465.30.

- \$7,619 Dynotek equipment and labor
- \$2846.30 additional materials, installation labor, TU monitoring

Pivot design planning, engineering, and coordination between the Rock House, contractors, and NRCS totaled \$7,687 dollars. Of that amount \$6,300 was time contributed from the NRCS and \$1737.60 was time and expenses contributed from Trout Unlimited.

The following table displays the project total and individual contributions from partners as compared to the budget as approved in the funding agreement. All project receipts and checks that have been processed are attached in appendix A.

	Rock House flume Purchase and installation	Rock House Pivot Design engineering & coordination	Rock House pivot equipment and installation	Acme Head gate Automation and monitoring	totals \$	Status	% of Total
Trout Unlimited	\$3,500.00	\$5,000.00	\$19,000.00	\$1,000.00	\$28,500.00	paid	23.80%
Updated TU	\$3,500.00	\$1,737.60	\$17,123.14	\$4,190.01	\$26,550.75		23.06%
Rock House Ranch	\$500.00	\$0.00	\$40,000.00	\$0.00	\$40,000.00	paid	33.80%
Updated Rock House	\$500.00	\$0.00	\$37,370.00	\$735.00	\$38,605.00		33.54%
Castle Creek Ranch	\$0.00	\$0.00	\$0.00	\$1,000.00	\$1,000.00	paid	0.80%
Updated CCR	\$0.00	\$0.00	\$0.00	\$1,000.00	\$1,000.00		0.87%
NRCS	\$0.00	\$4,000.00	\$0.00	\$0.00	\$4,000.00	completed	3.30%
Updated NRCS	\$0.00	\$5,950.00	\$0.00	\$0.00	\$5,950.00		5.17%
UGRWCD	\$0.00	\$0.00	\$10,000.00	\$5,000.00	\$15,000.00	secured	12.50%
Updated UGRWCD	\$0.00	\$0.00	\$9,791.29	\$4,540.29	\$14,331.58	requesting	12.45%
CRWCD	\$0.00	\$0.00	\$25,000.00	\$0.00	\$25,000.00	secured	20.80%
Updated CRWCD	\$0.00	\$0.00	\$23,116.29	\$0.00	\$23,116.29	75% paid	20.08%
CWCB	\$0.00	\$0.00	\$6,000.00	\$0.00	\$0.00	secured	5.00%
Updated CWCB	\$0.00	\$0.00	\$5,560.00	\$0.00	\$5,560.00	processing	4.83%
Proposed Totals	\$4,000.00	9000	\$100,000.00	\$7,000.00	\$120,000		100.00%
Updated Costs	\$4,000.00	\$7,687.60	\$92,960.72	\$10,465.30	\$115,113.62		100.00%

Conclusion:

Trout Unlimited will continue to work with the Rock House Ranch and other Acme Ditch users to adjust equipment and tune the irrigation management improvements. Monitoring of flows in Castle Creek and changes in production for the area converted to sprinkler irrigation will continue for at least the 2015 and 2016 irrigation seasons. Trout Unlimited will provide a report describing the monitoring results after each of the next two production seasons. To date there has not been a lot of public outreach related to this project. However, I plan to circulate a summary type article highlighting the project goals on the Trout Unlimited Website and possibly in the Gunnison Country Times. I would like to coordinate this summary with the funding partners and hope this will provide an opportunity to communicate water conservation objectives with a range of TU members as well as the general public in the Upper Gunnison Valley.

Sincerely,
Jesse Kruthaupt
Upper Gunnison Project Specialist
970-209-0976
Jkruthaupt@hotmail.com

Appendix A: Description of expenses



Phase 1: Pipe

BOLINGER & QUEEN, INC.

718 Lane 348
Olathe, CO 81425

(970) 323-5030
Fax (970) 323-5943

Number

2246417

INVOICE

Date

Time

Page

08/01/14 16:22 01

I

CHARGE ACCOUNT

MISC: TROUT UNLIMITED
CUST PO:JESSE

S 2
P 122
A 1
W 69
C 2
P 1

CUST#:106030.0000 DEL DATE:06/18/14 TERMS: NET CASH

L#	QTY	DESCRIPTION	ITEM #	UNITS	PRICE		AMOUNT
1	2640	8"x20' SDR51 80# PIP	110808010	2640	2.36	LF	6230.40
2	1	8" 80# 22-1/2 ELL PIP	310820220	1	13.99	EA	13.99
3	1	8" 80# 45 ELL PIP	310820450	1	19.73	EA	19.73
4	2	8"x6"x3" VENT CHAMBER TEE 100#	310811520	2	56.70	EA	113.40
5	2	3" X 2" SCH 40 BUSHING SXS	40373380A	2	3.17	EA	6.34
6	10	2"x20' SCH40 BE IPS	13024000A	10	.95	LF	9.50
7	4	2" SCH 40 MALE ADAPTER	403602000	4	.70	EA	2.80
8	2	2" FRESNO 3000 AIRVENT	222100020	2	25.92	EA	51.84
9	40	10"x20' SDR51 80# PIP	111008010	40	3.62	LF	144.80
10	100	12"x20' SDR51 80# PIP	111208010	100	5.24	LF	524.00
11	1	10X8 100# RED COUPLER PIP	311030050	1	22.27	EA	22.27
12	1	12X10 100# RED COUPLER PIP	311230060	1	32.15	EA	32.15
13	1	12" X 10" 80# TEE PIP	311220560	1	74.47	EA	74.47
14	1	10" LO-HEAD CAP PIP	311010300	1	9.07	EA	9.07
15	1	12" 80# 90 ELL PIP	311220900	1	90.07	EA	90.07
16	2	2" MATCO RS GATE VAVLE FPTxFPT	463526200	2	149.62	EA	299.24
17	1	8" X 2" 100# TEE PIP	310830510	1	23.23	EA	23.23
18	2	4020 GALLON SWAB	330100090	2	10.68	EA	21.36
19	1	1 GALLON W 2-7/8 NECK EMPTY CAN	330100100	1	9.05	EA	9.05
20	1	1 GALLON 711 GLUE	330101170	1	53.68	EA	53.68
21	1	1 GALLON P-70 PRIMER	330102070	1	55.62	EA	55.62
22	1	5' BUBBLE SCREEN TOP ONLY	30000500A	1	856.75	EA	856.75
23	1	48" MH X 4'W/ 2 12" BOOTSW/BASE	88888888E	1	1020.00	EA	1020.00
24	1	12" X 2" 100# TEE PIP	311230510	1	46.46	EA	46.46
25	1	8" X 8" 100# TEE PIP	310830500	1	41.05	EA	41.05
26	1	8" END CAP 100# PIP	310830300	1	16.24	EA	16.24

SUBTOTAL 9787.51

D OLA GOV EXEMPT

TOTAL 9787.51

THANK YOU VERY MUCH! PAYMENTS ARE DUE BY THE 10TH OF THE FOLLOWING MONTH.

Purchases made up to and including the close of our billing cycle are due and payable the 10th of the following month. A FINANCE CHARGE may be imposed on amounts not paid in full by the 10th of the month. The FINANCE CHARGE is computed by a periodic rate of 2% PER MONTH (or a minimum charge of \$2.00 for balances under \$100.00) which is an ANNUAL PERCENTAGE RATE of 24% applied to the previous balance without deducting current payments and/or credits appearing on your statement.

REC'D BY

CLAIMS FOR SHORTAGE MUST BE PRESENTED WITHIN 24 HOURS FOLLOWING DELIVERY.

Customer Copy



Phase 1: Pipe

BOLINGER & QUEEN, INC.

718 Lane 348
Olathe, CO 81425

(970) 323-5030

Fax (970) 323-5943

NUMBER

2246952

INVOICE

DATE

TIME

PAGE

10/01/14 11:04 01

I

CHARGE ACCOUNT

SHIP TROUT UNLIMITED

TO:

MISC: JESSE

S 2
P 21
A 1
W 69
C 2
P 1

CUST#:106030.0000
209-0976

TERMS: NET CASH

FROM: O 4210352

L#	QTY	DESCRIPTION	ITEM #	UNITS	PRICE		AMOUNT
1	60	12"x20' SDR51 80# PIP	111208010	60	5.24	LF	314.40
2	2	#248 - 15" STAINLESS HOSE CLAMP	36000248A	2	12.94	EA	25.88
3	1	12" C-8 GATE	221200120	1	115.67	EA	115.67
4	1	12" DRAW BAND	22150012A	1	6.89	EA	6.89
5	1	12" LINE GATE ADAPTER	311205010	1	17.14	EA	17.14

SUBTOTAL

479.98

N DELIVERY

75.00

D OLA GOV EXEMPT

HANK YOU VERY MUCH! PAYMENTS ARE DUE BY THE 10TH OF THE FOLLOWING MONTH TOTAL

554.98

Purchases made up to and including the close of our billing cycle are due and payable the 10th of the following month. A FINANCE CHARGE may be imposed on amounts not paid in full by the 10th of the month. The FINANCE CHARGE is computed by a periodic rate of 2% PER MONTH (or a minimum charge of \$2.00 for balances under \$100.00) which is an ANNUAL PERCENTAGE RATE of 24% applied to the previous balance without deducting current payments and/or credits appearing on your statement.

C'D BY

CLAIMS FOR SHORTAGE MUST BE PRESENTED WITHIN 24 HOURS FOLLOWING DELIVERY.

Customer Copy



Phase: 1 survey

Invoice

Schmueser Gordon Meyer, Inc. dba SGM
118 West 6th Street, Suite 200
Glenwood Springs, CO 81601
(970) 945-1004 Fax (970) 945-5948

JESSE KRUTHAAPT
604 ELSA COURT
GUNNISON, CO 81230

Invoice Date: August 21, 2014
Invoice No: 2014-226.001 - 1

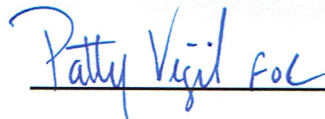
Project 2014-226.001 Rock House Ranch Irrigation

For Professional Services through August 16, 2014

Phase	01	IRRIGATION MAPPING			
Professional Labor					
			Hours	Rate	Amount
<u>Existing Conditions Mapping</u>					
Bjornstad, Erik	1 Man Crew		1.00	150.00	150.00
<u>Project Set-up</u>					
Bjornstad, Erik	Survey Technician		2.00	75.00	150.00
	Totals		3.00		300.00
	Total Labor				300.00
			Phase Total		\$300.00
			Invoice Total		\$300.00

If you have any questions regarding this bill, please call.

Project Manager:



Erik Bjornstad



Phase: 1 Pivot

Invoice

High Country Equipment, LLC

36356 Hwy 92
Hotchkiss, CO 81419

Voice: 970-872-3890
Fax: 970-872-3892

Date	Invoice #
8/18/2014	2265

Bill To
Trout Unlimited 604 Elsa Court Gunnison, CO 81203 Upper Ohio Flow Restoration Project

P.O. No.	Terms
	Due on receipt

Quantity	Description	Rate	Amount
1	REINKE ELECTROGATOR II MODEL: 5T E2060-G LP 54" SERIAL NUMBER: 0814-62181-2060 LP ROCK HOUSE RANCH	60,062.94	60,062.94
	-40% DUE ON DELIVERY	-24,050.35	-24,050.35
	-10% DUE ON COMPLETION	-6,012.59	-6,012.59

Thank you for your business.

Total

\$30,000.00



Phase 1: Pivot

Invoice

High Country Equipment, LLC

36356 Hwy 92
Hotchkiss, CO 81419

Voice: 970-872-3890
Fax: 970-872-3892

Date	Invoice #
9/24/2014	2269

Bill To
Trout Unlimited 604 Elsa Court Gunnison, CO 81203

P.O. No.	Terms
	Due on receipt

Quantity	Description	Rate	Amount
	REINKE ELECTROGATOR II MODEL: 5T E2060-G LP 54" SERIAL NUMBER: 0814-62181-2060 LP ROCK HOUSE RANCH 40% DUE ON DELIVERY	24,050.35	24,050.35
We appreciate your business		Total	\$24,050.35



High Country Equipment, LLC

36356 Hwy 92
Hotchkiss, CO 81419

Voice: 970-872-3890
Fax: 970-872-3892

Invoice

Date	Invoice #
11/7/2014	2290

Bill To
Trout Unlimited 604 Elsa Court Gunnison, CO 81203

P.O. No.	Terms
	Due on receipt

Quantity	Description	Rate	Amount
	ROCK HOUSE RANCH BOLINGER & QUEEN INVOICES #2166539	263.60	263.60

Thank you for your business.

Total

\$263.60



BOLINGER & QUEEN, INC.
32874 J Road
Hotchkiss, CO 81419
(970) 872-3371
Fax (970) 872-4813

Number
2166539

INVOICE

Date: **10/20/14** Time: **09:10** Page: **01**

HIGH COUNTRY EQUIPMENT

36356 HWY 92

HOTCHKISS, CO

81419

CUST PO: ROCKHOUSE R

CUST# 116470-0000 DEL DATE 10/20/14 TERMS: NET 10TH
970-872-3890

S 1
P 6
A 1
W 78
C 1
P 5

L#	QTY	DESCRIPTION	ITEM #	UNITS	PRICE		AMOUNT
1	1	6" SCH 80 FLANGE SLIP	80540600A	1	24.88	EA	24.88
2	1	8X6 100# RED COUPLER PIP	31083004A	1	16.24	EA	16.24
3	1	12" 100# COUPLING PIP	31123000A	1	28.96	EA	28.96
4	20	12"x20' SDR41 100# PIP	11121001A	20	7.42	LF	148.40
5	1	1 QUART 711 GLUE	33010119A	1	15.88	EA	15.88
6	1	1 QUART P-70 PRIMER	33010223A	1	16.93	EA	16.93

SUBTOTAL 251.29
D COUN/STATE TAX 12.31
TOTAL 263.60

THANK YOU VERY MUCH! PAYMENTS ARE DUE BY THE 10TH OF THE FOLLOWING MONTH.

Purchases made up to and including the close of our billing cycle are due and payable the 10th of the following month. A FINANCE CHARGE may be imposed on amounts not paid in full by the 10th of the month. The FINANCE CHARGE is computed by a periodic rate of 3% PER MONTH (or a minimum charge of \$2.00 for balances under \$100.00) which is an ANNUAL PERCENTAGE RATE of 36% applied to the previous balance without deducting current payments and/or credits appearing on your statement.

REC'D BY

CLAIMS FOR SHORTAGE MUST BE PRESENTED WITHIN 24 HOURS FOLLOWING DELIVERY.

Original



Phase 1: Pivot

Invoice

High Country Equipment, LLC

36356 Hwy 92
Hotchkiss, CO 81419

Voice: 970-872-3890
Fax: 970-872-3892

Date	Invoice #
10/13/2014	2285

Bill To

Trout Unlimited
604 Elsa Court
Gunnison, CO 81203

P.O. No.	Terms
	Due on receipt

Quantity	Description	Rate	Amount
	REINKE ELECTROGATOR II MODEL: 5T E2060-G LP SERIAL NUMBER: 0814-62181-2060 LP ROCK HOUSE RANCH		
	10% DUE ON COMPLETION	6,012.59	6,012.59
1,150	3 - #4/0 + 1 - #2 UNDERGROUND ELECTRICAL CABLE WITH CONDUIT	4.20	4,830.00
We appreciate your business		Total	\$10,842.59

Phase 1 trench for cable

K.R. Welding
33 County Road 51
Gunnison, CO 81230

(970)-275-4455

krobbins2011@hotmail.com

Invoice

Date	Invoice #
10/28/2014	296

Bill To

Trout Unlimited
Jesse Kruthaupt
604 Elsa Ct.
Gunnison, CO 81230

P.O.	Payment Terms	Due Date
Rock House Pivot	Net 15	11/12/2014

Quantity	Description	Rate	Amount
4.5	Install 2" electrical conduit from pivot to electrical post. Pre- rip and level ground to assure proper depth of conduit, plow in conduit with ripper on bulldozer.	190.00	855.00
2.25	Mobilize bulldozer from shop to Rock House and back.	120.00	270.00
Thank you for your business.		Total	\$1,125.00

Phase 1: pipe

THANK YOU FOR SHOPPING AT
FULLMER'S ACE HARDWARE
(970) 641-1212

VISIT OUR WEBSITE AT
WWW.FULLMERACE.COM

ALL RETURNS REQUIRE RECEIPT DATED WITHIN
60 DAYS AND ARE SUBJECT TO A RESTOCK FEE
10/23/14 11:01AM MAT 554 SALE

42639	1	FU	7.99	FU
SCH40 PIPE PVC DWV2"X10'				7.99
42639	1	HA	4.99	HA
SCH40 PIPE PVC DWV2"X10'				5.00
1/HALF STICK- \$4.99		per	HA	
5606439	5	EA	4.99	EA
CONCRETE MIX 80# QUIKRETE				24.95
192295	2	EA	3.99	EA
2"SCH 40 221/2 EL EL				7.98
43115	2	EA	1.99	EA
ADAPTR 40PVC2"SL2"FPT				3.98

SUB-TOTAL: 49.90 TAX: 4.12
TOTAL: 54.02
BC AMT: 54.02

BK CARD#: XXXXXXXXXXXX8647

ID: 670120677499

AUTH: 023062 AMT: 54.02

Host reference #:650091 Bat#1185

SWIPED

CARD TYPE:VISA EXPR: XXXX

Bank card 54.02



==> JRN#G50091 <<==
CUST # *739
ACE REWARDS ID # 19724132100

THANK YOU JESSE KRUTHAUP
FOR YOUR PATRONAGE

Name : X
I agree to pay above total amount
according to card issuer agreement
(merchant agreement if credit voucher)
Acct: GREG KRUTHAUP

RADIO SHACK #22-F903

THANK YOU FOR SHOPPING AT
FULLMER'S ACE HARDWARE
(970) 641-1212

VISIT OUR WEBSITE AT
WWW.FULLMERACE.COM

ALL RETURNS REQUIRE RECEIPT DATED WITHIN
60 DAYS AND ARE SUBJECT TO A RESTOCK FEE
10/23/14 11:08AM MELISSA 553 SALE

5606439	-5	EA	4.99	EA	R
CONCRETE MIX 80# QUIKRETE					-24.95
Orig: G50091/1			10/23/14 TX:		
52375	7	EA	4.99	EA	
CONCRETE MIX 60#QUIKRETE					34.93

SUB-TOTAL: 9.98 TAX: .82
TOTAL: 10.80
EC AMT: 10.80

BK CARD#: XXXXXXXXXXXX8647

ID: 670120677499

AUTH: 023360 AMT: 10.80

Host reference #:650095 Bat#1185

SWIPED

CARD TYPE:VISA EXPR: XXXX

Bank card 10.80



==> JRN#G50095 <<==
CUST # *739
ACE REWARDS ID # 19724132100

THANK YOU JESSE KRUTHAUP
FOR YOUR PATRONAGE

Acct: GREG KRUTHAUP

RADIO SHACK #22-F903

Customer Copy

Phase 1: Pipe



BOLINGER & QUEEN, INC.
 718 Lane 348
 Olathe, CO 81425
 (970) 323-5030
 Fax (970) 323-5943

Number
1229253

CASH SALE

Date Time Page
10/15/14 13:48 01

CASH SALES - OLATHE

SHIP TO: **TROUT UNLIMITED**

S
P
A
W
C
P

CUST#: **2.0000** TERMS:

L#	QTY	DESCRIPTION	ITEM #	UNITS	PRICE	AMOUNT
1	1	1" X 14.5' BIDCO SEALANT	332510140	1	18.30	18.30

BOLINGER & QUEEN, INC.
 718 LANE 348
 OLATHE, CO 81425
 970-323-5030
 543684555509115
 Merchant ID: 555550911500 Ref #: 0003

Sale

XXXXXXXXXXXX8647
 VISA

Entry Method: Swiped

Amount: \$ 18.30
 Tax: \$ 0.85
 Total: \$ 19.15

10/15/14 12:42:14
 Inv #: 000003 Appr Code: 015557
 Transaction ID: 464286673346606
 Apprvd: OnLine Batch#: 000639

PAID BY: VISA 19.15

SUBTOTAL 18.30
 D COUN/STATE TAX .85
TOTAL 19.15

THANK YOU VERY MUCH! HAVE A GREAT DAY.

Purchases made up to and including the close of our billing cycle are due and payable the 10th of the following month. A FINANCE CHARGE may be imposed on amounts not paid in full by the 10th of the month. The FINANCE CHARGE is computed by a periodic rate of 2% PER MONTH (or a minimum charge of \$2.00 for balances under \$100.00) which is an ANNUAL PERCENTAGE RATE of 24% applied to the previous balance without deducting current payments and/or credits appearing on your statement.

REC'D BY _____
 CLAIMS FOR SHORTAGE MUST BE PRESENTED WITHIN 24 HOURS FOLLOWING DELIVERY.
Customer Copy

Phase 1: Trench

Crested Butte Rental Center

571 Riverland Drive
Crested Butte
Colorado 81224
Phone: 970-349-5508
Fax: 970-349-5299
Email: herzappy@yahoo.com

Customer #: 025481
Customer: Trout Unlimited
Name: Cary Denison
1300 Arlington, Virginia, 22209, 239 Grand Ave Delta 81416
Date: 10/21/14 at 1:13 pm

Invoice for return of rental items: #00171857, from rental #00171853 (10/21/14)

Stock #	Description	Return	Cost (\$)
001571	Trencher Ditchwitch	10/21/14, 1:09 pm	90.00
		Amount due (net):	90.00

Paid by: Account

Site address: 1300 Arlington, Virginia, 22209, 239 Grand Ave Delta 81416

Crested Butte Rental
571 Riverland Dr
Crested Butte, CO 81224
970-349-5508
27440003881701

C O P Y
10/22/2014 18:28:56
Sale:

Transaction # 1.2
Card Type: Visa
Card #: *****8647
Exp. Date: **/**
Entry: Swiped
Invoice # 1435
Amount: 90.00

Reference No.: 0002
Auth.Code: 022733
Response: AP
Cust Code: 254
Tax Amount: 1.00
CUSTOMER COPY

MONEY RECEIPT


No. 9/19/14 ~~15~~

Received of Gunnison Extension

twenty Dollars

For Hay Test

\$ Cash 20⁰⁰ EMH

TOPS  FORM 4161

Phase 2: Headgate Equipment

Dynotek Inc

13931 W 54th Ave
Arvada, CO 80002**Invoice**

Date	Invoice #
7/7/2014	140707-2

Bill To
Trout Unlimited Attn: Jesse Kruthaupt 604 Elsa Court Gunnison, CO 81230

Ship To

P.O. Number	Terms	Rep	Ship	Via	F.O.B.	Project
Acme Ditch	Net 30		7/7/2014	Hand Deliver	Arvada CO	

Quantity	Item Code	Description	Price Each	Amount
	Misc	Solar powered, satellite-based monitoring system for measuring and reporting flow at the headgate flume and river level below the Acme Ditch diversion. Flow will be measured in a stilling well to be constructed and level will be measured by a pressure transducer located in a low spot in the creek. Both will be connected to a satellite modem that will send data to a hosted website maintained by AMCi of Golden, CO. The system will be compatible with an automated headgate actuator if the Ditch Company desires to upgrade at a later date and will include a LPU-2428-C10 Ultrasonic sensor for measurement of level in the stilling well.	3,739.00	3,739.00
	Slimline	Dynotek Slimline Submersible Pressure Transmitter, 4-20mA Output, 0-5 psig range to be located in a pool in the creek about 50 ft. below the headgate to measure the status of the river flow.	750.00	750.00
	Misc	Installation including all labor and materials for setup of the satellite modem, solar panel and all instrumentation. Client will be responsible for construction of the stilling well and trenching for all site cable.	3,130.00	3,130.00
			Total	\$7,619.00

THANK YOU FOR SHOPPING AT
FULLMER'S ACE HARDWARE
(970) 641-1212

VISIT OUR WEBSITE AT
WWW.FULLMERACE.COM

ALL RETURNS REQUIRE RECEIPT DATED WITHIN
60 DAYS AND ARE SUBJECT TO A RESTOCK FEE
6/24/14 10:18AM JUSTIN 554 SALE

3339884	1	EA	6.49	EA
CEMENT PVC ELECTR CLEAR				6.49
3189420	3	EA	.59	EA
COUPLING PVC 1/2"				1.77
43155	4	EA	.39	EA
CAP 1/2" SLIP PVC SCH40				1.56
3189420	1	EA	.59	EA
COUPLING PVC 1/2"				.59
33230	4	EA	1.29	EA
ELBOW PVC 90D SCH40 1/2"				5.16
33200	17	EA	2.29	EA
CONDUIT PVC SCH 40 1/2" X10'				38.93

SUB-TOTAL:	54.50	TAX:	4.50
		TOTAL:	59.00
	BC AMT:		59.00

BK CARD#: XXXXXXXXXXXX9325
ID: 670120677499
AUTH: 024787 AMT: 59.00
Host reference #:577428 Bat#1070
SWIPED
CARD TYPE:VISA EXPR: XXXX

Bank card 59.00



==>> JRNL#F77428 <<==
CUST # *739
ACE REWARDS ID # 1972413210

THANK YOU JESSE KRUTHAUP
FOR YOUR PATRONAGE

[Handwritten signature]

Name : X
I agree to pay above total amount
according to card issuer agreement
(merchant agreement if credit voucher)
Acct: GREG KRUTHAUP

Phase 2: Head gate equipment install

WESTERN SLOPE CONNECTION
522 W GUNNISON #2
GUNNISON CO 81230
970-641-5171

Merchant ID: 27440004592903
Record Num.: 0001

Sale

XXXXXXXXXXXX9325

VISA

Entry Method: Swiped

Amount:	\$	15.11
Tax:	\$	1.15
Total:	\$	16.26

06/30/14

11:32:55

Inv#: 000001

Appr Code: 030664

Apprvd: Online

Batch#: 000683

TRN Ref #:

584181631587901

Validation Code:

KXNH

STGN X
KRUTHAUP, JESSE

CARDHOLDER ACKNOWLEDGES RECEIPT OF FUNDS
IN THE AMOUNT OF THE TOTAL INDICATED AND
AGREES TO PERFORM THE OBLIGATIONS NOTED
IN THE CARDHOLDER'S AGREEMENT WITH THE
ISSUER

THANK YOU!
PLEASE COME AGAIN!

MERCHANT COPY

Phase 2: Head gate equipment install

THANK YOU FOR SHOPPING AT
FULLMER'S ACE HARDWARE
(970) 641-1212

VISIT OUR WEBSITE AT
WWW.FULLMERACE.COM

ALL RETURNS REQUIRE RECEIPT DATED WITHIN
60 DAYS AND ARE SUBJECT TO A RESTOCK FEE
6/30/14 9:24AM SPENDER 553 SALE

41430	1	EA	7.99	EA
CAP MALL 2" GALV				7.99
5606439	1	EA	5.99	EA
CONCRETE MIX 80# QUIKRETE				5.99
41382	1	LG	67.99	LG
2X10 FT G/STL PIPE				67.99
1/LG= 10FT PER LG-			\$67.99	pe

SUB-TOTAL:	81.97	TAX:	6.76
		TOTAL:	88.73
	BC AMT:		88.73

BK CARD#: XXXXXXXXXXXX9325
ID: 670120677499
AUTH: 030011 AMT: 88.73
Host reference #:501039 Bat#1076
SWIPED
CARD TYPE:VISA EXPR: XXXX

Bank card 88.73



==>> JRNL#F81839 <<==
CUST # *739
ACE REWARDS ID # 1972413210

THANK YOU JESSE KRUTHAUP
FOR YOUR PATRONAGE

Name : X
I agree to pay above total amount
according to card issuer agreement
(merchant agreement if credit voucher)
Acct: GREG KRUTHAUP

YOU SAVED \$ 16.91 BY SHOPPING AT
FULLMER'S ACE HARDWARE

RADIO SHACK #22-F903

Customer Copy

Phase 2: Head gate equipment install

THANK YOU FOR SHOPPING AT
FULLMER'S ACE HARDWARE
(970) 641-1212

VISIT OUR WEBSITE AT
WWW.FULLMERACE.COM

ALL RETURNS REQUIRE RECEIPT DATED WITHIN
60 DAYS AND ARE SUBJECT TO A RESTOCK FEE
6/30/14 11:51AM JUSTIN 552 SALE

BOLTS	4	EA	.14	EA
BOLTS, NUTS, SCREWS				.56
BOLTS	4	EA	.07	EA
BOLTS, NUTS, SCREWS				.28
BOLTS	4	EA	.11	EA
BOLTS, NUTS, SCREWS				.44
28575	1	EA	5.99	EA
BIT DRILL 13/64" COBALT CD				5.99
22147	2	EA	4.29	EA
BIT DRILL 1/8" COBALT CD				8.58

SUB-TOTAL:	15.85	TAX:	1.31
		TOTAL:	17.16
		BC AMT:	17.16

BK CARD#: XXXXXXXXXXXX9325
ID: 670120677499
AUTH: 030740 AMT: 17.16
Host reference #:582057 Bat#1076
SWIPED
CARD TYPE:VISA EXPR: XXXX

Bank card 17.16



==>> JRNL#F82057 <<==
CUST # *739
ACE REWARDS ID # 1972413210

THANK YOU JESSE KRUTHAAPT
FOR YOUR PATRONAGE

Acct: GREG KRUTHAAPT

RADIO SHACK #22-F903

Customer Copy

Jesse Kruthaupt

From: American Millenium Corp <notifications@paytrace.com>
Sent: Tuesday, July 29, 2014 11:22 AM
To: Jesse Kruthaupt
Subject: American Millenium Corp transaction receipt. 7/29/2014 11:21:59 AM Mountain - Invoice: 5000041

American Millenium Corp

17301 W Colfax Ave
Suite 230
Golden, CO 80401
303-279-2002

7/29/2014 11:21:43 AM

Reference Number:61088082
Total: \$135.80
Transaction Type: Sale
Transaction Status: Pending Settlement
Card Type: Visa
Card Number: xxxxxxxxxxxxx9325
Entry Method: Keyed
Approval Code: 029915
Approval Message:EXACT MATCH
AVS Result: Full Exact Match
CSC Result: Match
Customer Name: Rock House Ranch
Invoice: 5000041

NRCS Time

	Site Visits, Survey, Meetings, Inventory	Pivot/Big Gun design evaluation.	Bubbler Screen and delivery pipe design.	Irrigation management Engineering	Total
David Drewry Engineer Montrose Field Office	8 hrs	40 hrs	20 hrs	2 hrs	70 hrs @ \$75/hr \$5250
Liz With Rangeland Management Specialist	20 hrs	4hrs		8 hrs	32 hrs @ \$25/hr \$800
Brook Vasquez Gunnison Soil Conservation District	10 hrs				10 hrs \$250
Total					\$6,300

Trout Unlimited time and expenses

	Coordination NRCS, contractors	Installation monitoring equipment and flow measurement	Installation of delivery pipe Pivot Construction	Total
Hours	62	65	84	184 @ \$25 \$5,275
Mileage Expense	335	304	747	\$1386 @ .56 \$776.16
Total	\$1737.60	1,795.24	2518.32	\$6051.16

Rock House and other Acme ditch users time and expenses

	Installation Monitoring Equipment	Installation of Delivery pipe Settling Structure	Pivot Construction	Total
Excavator w/operator	7hrs @ \$85/hr	86hrs @ \$85/hr		93@ \$85/hr \$7905
Dump w/operator		31hrs @ \$50/hr		31 @ \$50/hr \$1550
Loader w/operator		38hrs @ \$85/hr	6hrs @ \$85/hr	44 @ \$85/hr \$3,740
Labor	7hrs @ \$20/hr	34hrs @ \$20/hr	2hrs @ \$20/hr	43 @ \$20/hr \$860
Total	\$735	\$12,770	\$550	\$14,055

Appendix B: Forage Test results



Servi-Tech Laboratories



1602 Park West Dr. • PO Box 169 • Hastings, NE 68902

www.servitechlabs.com

Phone: 402.463.3522

800.557.7509

Fax: 402.463.8132

Lab No.: 49387		FEED ANALYSIS REPORT		Date Reported: 09/23/2014																																		
Send To: 31200		GUNNISON COUNTY EXTENSION ERIC MC PHAIL 275 S SPRUCE GUNNISON, CO 81230																																				
Results For: Feedstuff Description: Sample Identification: Date Received:		STEVE MERRIFIELD MEADOW HAY ROCK HOUSE 2014 09/22/2014		 Hans Burken Agronomist																																		
Invoice No.:		721237																																				
Feed Analysis Results																																						
<table><thead><tr><th></th><th>As Received</th><th>100% Dry Matter</th></tr></thead><tbody><tr><td>Moisture, %</td><td>12.7</td><td></td></tr><tr><td>Dry Matter, %</td><td>87.3</td><td></td></tr><tr><td>Crude Protein, %</td><td>6.8</td><td>7.8</td></tr><tr><td>Acid Detergent Fiber, % ADF</td><td>24.0</td><td>27.5</td></tr><tr><td>Total Digestible Nutrients, % TDN</td><td>62.3</td><td>71.3</td></tr><tr><td>Net Energy, Maint, Mcal/lb</td><td>0.66</td><td>0.76</td></tr><tr><td>Net Energy, Gain, Mcal/lb</td><td>0.42</td><td>0.48</td></tr><tr><td>Net Energy, Lact, Mcal/lb</td><td>0.65</td><td>0.74</td></tr><tr><td>Digestible Energy, Mcal/lb</td><td>1.25</td><td>1.43</td></tr><tr><td>Met. Energy, Beef, Mcal/lb</td><td>1.02</td><td>1.17</td></tr></tbody></table>							As Received	100% Dry Matter	Moisture, %	12.7		Dry Matter, %	87.3		Crude Protein, %	6.8	7.8	Acid Detergent Fiber, % ADF	24.0	27.5	Total Digestible Nutrients, % TDN	62.3	71.3	Net Energy, Maint, Mcal/lb	0.66	0.76	Net Energy, Gain, Mcal/lb	0.42	0.48	Net Energy, Lact, Mcal/lb	0.65	0.74	Digestible Energy, Mcal/lb	1.25	1.43	Met. Energy, Beef, Mcal/lb	1.02	1.17
	As Received	100% Dry Matter																																				
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Servi-Tech Laboratories

1602 Park West Dr. • PO Box 169 • Hastings, NE 68902
www.servitechlabs.com

Phone: 402.463.3522

800.557.7509

Fax: 402.462.8132

Lab No.: 13215

FEED ANALYSIS REPORT

Date Reported: 12/09/2013

Send To:
31200

GUNNISON COUNTY EXTENSION
ERIC MC PHAIL
275 S SPRUCE
GUNNISON, CO 81230



Results For: STEVE MERRIFIELD
Feedstuff Description: HAY
Sample Identification: ROCKHOUSE RANCH
Date Received: 12/06/2013

Invoice No.: 712322

Hans Burken
Agronomist

Feed Analysis Results As Received 100% Dry Matter

Moisture, %	14.7	
Dry Matter, %	85.3	
Crude Protein, %	5.2	6.1
Acid Detergent Fiber, % ADF	26.4	30.9
Total Digestible Nutrients, % TDN	57.8	67.8
Net Energy, Maint, Mcal/lb	0.61	0.71
Net Energy, Gain, Mcal/lb	0.38	0.44
Net Energy, Lact, Mcal/lb	0.60	0.70
Digestible Energy, Mcal/lb	1.16	1.36
Met. Energy, Beef, Mcal/lb	0.95	1.11
Calcium, % Ca	0.35	0.40
Phosphorus, % P	0.10	0.11



Servi-Tech Laboratories

1602 Park West Dr. • PO Box 169 • Hastings, NE 68902
www.servitechlabs.com

Phone: 402.463.3522

800.557.7509

Fax: 402.462.8132

Lab No.: 19588

FEED ANALYSIS REPORT

Date Reported: 02/05/2013

Send To:
31200

GUNNISON COUNTY EXTENSION
ERIC MC PHAIL
275 S SPRUCE
GUNNISON, CO 81230



Results For: MERRIFIELD
Feedstuff Description: MEADOW HAY
Sample Identification: ROCK HOUSE
Date Received: 02/04/2013

Invoice No.: 701680

Hans Burken
Agronomist

Feed Analysis Results As Received 100% Dry Matter

Moisture, %	11.5	
Dry Matter, %	88.5	
Crude Protein, %	8.9	10.1
Acid Detergent Fiber, % ADF	27.2	30.7
Total Digestible Nutrients, % TDN	60.0	67.8
Net Energy, Maint, Mcal/lb	0.63	0.71
Net Energy, Gain, Mcal/lb	0.39	0.44
Net Energy, Lact, Mcal/lb	0.62	0.70
Digestible Energy, Mcal/lb	1.20	1.36
Met. Energy, Beef, Mcal/lb	0.98	1.11
Calcium, % Ca	0.54	0.61
Phosphorus, % P	0.15	0.17

Appendix C: Flow Data

Acme Ditch and Castle Creek monitoring data 2014

Time	Date	Stream Stage	Flume Stage	Stream Flow (Flume Flow	Total
12:38:01 AM	7/10/2014	1.55	0.72	45.28	18.88	64.16
1:38:00 AM	7/10/2014	1.54	0.732	43.97	19.39	63.36
2:38:00 AM	7/10/2014	1.53	0.782	42.71	21.56	64.27
3:38:00 AM	7/10/2014	1.54	0.716	43.97	18.71	62.68
4:38:01 AM	7/10/2014	1.54	0.752	43.97	20.24	64.21
5:38:00 AM	7/10/2014	1.52	0.702	41.48	18.13	59.61
6:38:00 AM	7/10/2014	1.49	0.704	37.99	18.21	56.2
7:38:00 AM	7/10/2014	1.48	0.678	36.9	17.14	54.04
8:38:01 AM	7/10/2014	1.46	0.736	34.8	19.56	54.36
9:38:00 AM	7/10/2014	1.46	0.681	34.8	17.26	52.06
10:08:24 AM	7/10/2014					0
10:29:25 AM	7/10/2014					0
10:34:10 AM	7/10/2014	1.43	0.641	31.88	15.66	47.54
12:38:00 PM	7/10/2014	1.42	0.669	30.96	16.78	47.74
4:23:00 PM	7/10/2014					0
4:24:01 PM	7/10/2014	1.45	0.718	33.8	18.79	52.59
4:27:44 PM	7/10/2014	1.44	0.769	32.83	20.98	53.81
1:38:01 AM	7/11/2014	1.56	0.776	46.62	21.29	67.91
1:38:00 PM	7/11/2014	1.46	0.727	34.8	19.17	53.97
1:38:01 AM	7/12/2014	1.55	0.776	45.28	21.29	66.57
1:38:00 PM	7/12/2014	1.42	0.678	30.96	17.14	48.1
1:38:00 AM	7/13/2014	1.55	0.704	45.28	18.21	63.49
1:38:00 PM	7/13/2014	1.39	0.769	28.36	20.98	49.34
1:38:01 AM	7/14/2014	1.44	0.789	32.83	21.87	54.7
1:38:00 PM	7/14/2014	1.45	0.396	33.8	7.22	41.02
1:38:01 AM	7/15/2014	1.51	0.431	40.28	8.28	48.56
1:38:00 PM	7/15/2014	1.42	0.389	30.96	7.02	37.98
1:38:01 AM	7/16/2014	1.49	0.392	37.99	7.11	45.1
1:38:00 PM	7/16/2014	1.46	0.38	34.8	6.76	41.56
1:38:00 AM	7/17/2014	1.48	0.38	36.9	6.76	43.66
1:38:00 PM	7/17/2014	1.4	0.394	29.2	7.17	36.37
4:22:00 PM	7/17/2014					0
1:38:00 AM	7/18/2014	1.39	0.614	28.36	14.62	42.98
1:38:00 PM	7/18/2014	1.28	0.6	20.56	14.08	34.64
1:38:00 AM	7/19/2014	1.34	0.651	24.51	16.06	40.57
1:38:00 PM	7/19/2014	1.25	0.563	18.84	12.72	31.56
1:38:00 AM	7/20/2014	1.3	0.584	21.8	13.49	35.29
1:38:00 PM	7/20/2014	1.21	0.533	16.76	11.64	28.4
1:38:01 AM	7/21/2014	1.26	0.627	19.4	15.12	34.52
1:38:00 PM	7/21/2014	1.18	0.623	15.35	14.96	30.31
1:38:01 AM	7/22/2014	1.24	0.563	18.29	12.72	31.01
1:38:00 PM	7/22/2014	1.15	0.545	14.06	12.07	26.13
1:38:00 AM	7/23/2014	1.19	0.567	15.81	12.86	28.67
1:38:01 PM	7/23/2014	1.11	0.505	12.51	10.68	23.19
1:38:00 AM	7/24/2014	1.22	0.597	17.25	13.97	31.22

1:38:00 PM	7/24/2014	1.13	0.572	13.26	13.04	26.3
4:21:00 PM	7/24/2014					0
1:38:00 AM	7/25/2014	1.19	0.572	15.81	13.04	28.85
1:38:00 PM	7/25/2014	1.12	0.579	12.88	13.3	26.18
1:38:00 AM	7/26/2014	1.17	0.616	14.91	14.69	29.6
1:38:01 PM	7/26/2014	1.08	0.53	11.46	11.54	23
1:38:01 AM	7/27/2014	1.14	0.526	13.66	11.4	25.06
1:38:01 PM	7/27/2014	1.04	0.533	10.19	11.64	21.83
1:38:01 AM	7/28/2014	1.09	0.614	11.8	14.62	26.42
1:38:01 PM	7/28/2014	1.03	0.604	9.9	14.24	24.14
1:38:01 AM	7/29/2014	1.2	0.6	16.27	14.08	30.35
1:38:01 PM	7/29/2014	1.14	0.597	13.66	13.97	27.63
1:38:01 AM	7/30/2014	1.24	0.547	18.29	12.14	30.43
1:38:00 PM	7/30/2014	1.08	0.514	11.46	10.98	22.44
1:38:00 AM	7/31/2014	1.08	0.574	11.46	13.12	24.58
1:38:00 PM	7/31/2014	1.01	0.577	9.34	13.23	22.57
4:21:00 PM	7/31/2014					0
1:38:01 AM	8/1/2014	1.07	0.605	11.13	14.27	25.4
1:38:00 PM	8/1/2014	1	0.554	9.07	12.39	21.46
1:38:00 AM	8/2/2014	1.05	0.535	10.5	11.71	22.21
1:38:01 PM	8/2/2014	0.96	0.549	8.07	12.21	20.28
1:38:01 AM	8/3/2014	0.94	0.553	7.61	12.35	19.96
1:38:01 PM	8/3/2014	0.87	0.567	6.2	12.86	19.06
1:38:01 AM	8/4/2014	0.9	0.551	6.77	12.28	19.05
1:38:01 PM	8/4/2014	0.86	0.526	6.02	11.4	17.42
1:38:02 AM	8/5/2014	1.08	0.531	11.46	11.57	23.03
1:38:01 PM	8/5/2014	1.18	0.558	15.35	12.53	27.88
1:38:01 AM	8/6/2014	1.19	0.237	15.81	3.17	18.98
1:38:00 PM	8/6/2014	1.13	0.205	13.26	2.51	15.77
1:38:00 AM	8/7/2014	1.14	0.2	13.66	2.41	16.07
1:38:00 PM	8/7/2014	1.09	0.205	11.8	2.51	14.31
4:20:00 PM	8/7/2014					0
1:38:00 AM	8/8/2014	1.09	0.2	11.8	2.41	14.21
1:38:00 PM	8/8/2014	1.07	0.198	11.13	2.37	13.5
1:38:00 AM	8/9/2014	1.07	0.214	11.13	2.69	13.82
1:38:01 PM	8/9/2014	1.05	0.196	10.5	2.33	12.83
1:38:01 AM	8/10/2014	1.05	0.186	10.5	2.15	12.65
1:38:00 PM	8/10/2014	1.04	0.219	10.19	2.79	12.98
1:38:00 AM	8/11/2014	1.04	0.223	10.19	2.87	13.06
1:38:00 PM	8/11/2014	1.01	0.219	9.34	2.79	12.13
1:38:01 AM	8/12/2014	1.02	0.2	9.62	2.41	12.03
1:38:00 PM	8/12/2014	1.01	0.221	9.34	2.83	12.17
1:38:00 AM	8/13/2014	1.02	0.228	9.62	2.98	12.6
1:38:00 PM	8/13/2014	1.01	0.219	9.34	2.79	12.13
1:38:00 AM	8/14/2014	1.01	0.239	9.34	3.21	12.55
1:38:00 PM	8/14/2014	1.03	0.244	9.9	3.32	13.22
4:19:00 PM	8/14/2014					0

1:38:01 AM	8/15/2014	1.02	0.233	9.62	3.08	12.7
1:38:00 PM	8/15/2014	1.1	0.002	12.15	0	12.15
1:38:01 AM	8/16/2014	1.1	0	12.15	0	12.15
1:38:00 PM	8/16/2014	1.09	0	11.8	0	11.8
1:38:01 AM	8/17/2014	1.1	0	12.15	0	12.15
1:38:00 PM	8/17/2014	1.07	0.059	11.13	0.34	11.47
1:38:01 AM	8/18/2014	1.08	0.055	11.46	0.3	11.76
1:38:01 PM	8/18/2014	1.07	0.055	11.13	0.3	11.43
1:38:01 AM	8/19/2014	1.07	0.059	11.13	0.34	11.47
1:38:00 PM	8/19/2014	1.07	0.043	11.13	0.2	11.33
1:38:01 AM	8/20/2014	1.11	0.047	12.51	0.24	12.75
1:38:00 PM	8/20/2014	1.1	0.027	12.15	0.1	12.25
1:38:01 AM	8/21/2014	1.09	0.041	11.8	0.19	11.99
1:38:01 PM	8/21/2014	1.07	0.032	11.13	0.13	11.26
4:18:00 PM	8/21/2014					0
1:38:01 AM	8/22/2014	1.04	0.119	10.19	1.05	11.24
1:38:00 PM	8/22/2014	1.06	0.11	10.81	0.92	11.73
1:38:01 AM	8/23/2014	1.14	0.105	13.66	0.86	14.52
1:38:01 PM	8/23/2014	1.26	0.122	19.4	1.09	20.49
1:38:00 AM	8/24/2014	1.3	0.106	21.8	0.87	22.67
1:38:00 PM	8/24/2014	1.19	0.084	15.81	0.6	16.41
1:38:00 AM	8/25/2014	1.14	0.108	13.66	0.9	14.56
1:38:00 PM	8/25/2014	1.11	0.099	12.51	0.78	13.29
1:38:00 AM	8/26/2014	1.1	0.106	12.15	0.87	13.02
1:38:00 PM	8/26/2014	1.09	0.098	11.8	0.77	12.57
1:38:00 AM	8/27/2014	1.34	0.114	24.51	0.98	25.49
1:38:00 PM	8/27/2014	1.21	0.11	16.76	0.92	17.68
1:38:00 AM	8/28/2014	1.25	0.103	18.84	0.83	19.67
1:38:00 PM	8/28/2014	1.34	0.108	24.51	0.9	25.41
4:17:00 PM	8/28/2014					0
1:38:01 AM	8/29/2014	1.27	0.103	19.97	0.83	20.8
1:38:00 PM	8/29/2014	1.19	0.091	15.81	0.68	16.49
1:38:00 AM	8/30/2014	1.15	0.099	14.06	0.78	14.84
1:38:01 PM	8/30/2014	1.14	0.094	13.66	0.72	14.38
1:38:00 AM	8/31/2014	1.12	0.099	12.88	0.78	13.66
1:38:00 PM	8/31/2014	1.11	0.075	12.51	0.5	13.01
1:38:00 AM	9/1/2014	1.11	0.096	12.51	0.74	13.25
1:38:00 PM	9/1/2014	1.09	0.103	11.8	0.83	12.63
1:38:00 AM	9/2/2014	1.08	0.092	11.46	0.69	12.15
1:38:00 PM	9/2/2014	1.08	0.108	11.46	0.9	12.36
1:38:00 AM	9/3/2014	1.06	0.082	10.81	0.58	11.39
1:38:00 PM	9/3/2014	1.06	0.098	10.81	0.77	11.58
1:38:01 AM	9/4/2014	1.05	0.089	10.5	0.66	11.16
1:38:00 PM	9/4/2014	1.05	0.08	10.5	0.55	11.05
4:17:00 PM	9/4/2014					0
1:38:01 AM	9/5/2014	1.12	0.096	12.88	0.74	13.62
1:38:00 PM	9/5/2014	1.07	0.096	11.13	0.74	11.87

1:38:01 AM	9/6/2014	1.05	0.094	10.5	0.72	11.22
1:38:01 PM	9/6/2014	1.05	0.084	10.5	0.6	11.1
1:38:00 AM	9/7/2014	1.04	0.08	10.19	0.55	10.74
1:38:00 PM	9/7/2014	1.04	0.082	10.19	0.58	10.77
1:38:00 AM	9/8/2014	1.03	0.089	9.9	0.66	10.56
1:38:01 PM	9/8/2014	1.03	0.08	9.9	0.55	10.45
1:38:00 AM	9/9/2014	1.06	0.099	10.81	0.78	11.59
1:38:00 PM	9/9/2014	1.71	0.124	72.28	1.12	73.4
1:38:01 AM	9/10/2014	1.46	0.101	34.8	0.8	35.6
1:38:01 PM	9/10/2014	1.34	0.08	24.51	0.55	25.06
1:38:01 AM	9/11/2014	1.28	0.084	20.56	0.6	21.16
1:38:00 PM	9/11/2014	1.25	0.098	18.84	0.77	19.61
4:16:00 PM	9/11/2014					0
1:38:00 AM	9/12/2014	1.22	0.071	17.25	0.46	17.71
1:38:00 PM	9/12/2014	1.19	0.089	15.81	0.66	16.47
1:38:00 AM	9/13/2014	1.18	0.062	15.35	0.37	15.72
1:38:00 PM	9/13/2014	1.17	0.066	14.91	0.41	15.32
1:38:00 AM	9/14/2014	1.16	0.064	14.48	0.39	14.87
1:38:00 PM	9/14/2014	1.15	0.08	14.06	0.55	14.61
1:38:00 AM	9/15/2014	1.13	0.071	13.26	0.46	13.72
1:38:00 PM	9/15/2014	1.12	0.061	12.88	0.36	13.24
1:38:01 AM	9/16/2014	1.11	0.075	12.51	0.5	13.01
1:38:01 PM	9/16/2014	1.11	0.08	12.51	0.55	13.06
1:38:01 AM	9/17/2014	1.1	0.064	12.15	0.39	12.54
1:38:01 PM	9/17/2014	1.1	0.084	12.15	0.6	12.75
1:38:00 AM	9/18/2014	1.09	0.075	11.8	0.5	12.3
8:23:23 AM	9/18/2014	1.1	0.066	12.15	0.41	12.56
1:38:01 PM	9/18/2014	1.08	0.078	11.46	0.53	11.99
4:16:00 PM	9/18/2014					0
1:38:00 AM	9/19/2014	1.07	0.08	11.13	0.55	11.68
1:38:00 PM	9/19/2014	1.06	0.077	10.81	0.52	11.33
1:38:00 AM	9/20/2014	1.06	0.091	10.81	0.68	11.49
1:38:00 PM	9/20/2014	1.05	0.077	10.5	0.52	11.02
1:38:00 AM	9/21/2014	1.06	0.066	10.81	0.41	11.22
1:38:00 PM	9/21/2014	1.16	0.073	14.48	0.48	14.96
1:38:00 AM	9/22/2014	1.11	0.084	12.51	0.6	13.11
1:38:00 PM	9/22/2014	1.29	0.08	21.17	0.55	21.72
1:38:01 AM	9/23/2014	1.37	0.055	26.75	0.3	27.05
1:38:00 PM	9/23/2014	1.36	0.055	25.98	0.3	26.28
1:38:01 AM	9/24/2014	1.26	0.05	19.4	0.26	19.66
1:38:01 PM	9/24/2014	1.23	0.054	17.77	0.29	18.06
1:38:01 AM	9/25/2014	1.2	0.043	16.27	0.2	16.47
1:38:00 PM	9/25/2014	1.18	0.05	15.35	0.26	15.61
4:15:00 PM	9/25/2014					0
1:38:00 AM	9/26/2014	1.16	0.043	14.48	0.2	14.68
1:38:00 PM	9/26/2014	1.15	0.034	14.06	0.14	14.2
1:38:01 AM	9/27/2014	1.14	0.022	13.66	0.07	13.73

1:38:00 PM	9/27/2014	1.14	0.043	13.66	0.2	13.86
1:38:01 AM	9/28/2014	1.13	0.036	13.26	0.15	13.41
1:38:00 PM	9/28/2014	1.21	0.05	16.76	0.26	17.02
1:38:00 AM	9/29/2014	1.18	0.036	15.35	0.15	15.5
1:38:00 PM	9/29/2014	1.18	0.029	15.35	0.11	15.46
1:38:01 AM	9/30/2014	1.22	0.027	17.25	0.1	17.35
1:38:00 PM	9/30/2014	1.18	0.047	15.35	0.24	15.59
1:38:00 AM	10/1/2014	1.19	0.039	15.81	0.17	15.98
1:38:00 PM	10/1/2014	1.2	0.043	16.27	0.2	16.47
1:38:00 AM	10/2/2014	1.24	0.038	18.29	0.17	18.46
1:38:00 PM	10/2/2014	1.19	0.059	15.81	0.34	16.15
4:15:00 PM	10/2/2014					0
1:38:00 AM	10/3/2014	1.2	0.036	16.27	0.15	16.42
1:38:00 PM	10/3/2014	1.17	0.05	14.91	0.26	15.17
1:38:00 AM	10/4/2014	1.17	0.029	14.91	0.11	15.02
1:38:00 PM	10/4/2014	1.16	0.048	14.48	0.24	14.72
1:38:00 AM	10/5/2014	1.16	0.036	14.48	0.15	14.63
1:38:00 PM	10/5/2014	1.15	0.066	14.06	0.41	14.47
1:38:00 AM	10/6/2014	1.14	0.041	13.66	0.19	13.85
1:38:00 PM	10/6/2014	1.13	0.047	13.26	0.24	13.5
1:38:00 AM	10/7/2014	1.13	0.038	13.26	0.17	13.43
1:38:00 PM	10/7/2014	1.12	0.036	12.88	0.15	13.03
1:38:01 AM	10/8/2014	1.12	0.038	12.88	0.17	13.05
1:38:00 PM	10/8/2014	1.11	0.029	12.51	0.11	12.62
1:38:01 AM	10/9/2014	1.1	0.043	12.15	0.2	12.35
1:38:01 PM	10/9/2014	1.13	0.032	13.26	0.13	13.39
4:15:00 PM	10/9/2014					0
1:38:01 AM	10/10/2014	1.22	0.031	17.25	0.12	17.37
1:38:00 PM	10/10/2014	1.17	0.034	14.91	0.14	15.05
1:38:00 AM	10/11/2014	1.19	0.043	15.81	0.2	16.01
1:38:00 PM	10/11/2014	1.16	0.05	14.48	0.26	14.74
1:38:00 AM	10/12/2014	1.15	0.041	14.06	0.19	14.25
1:38:00 PM	10/12/2014	1.17	0.047	14.91	0.24	15.15
1:38:01 AM	10/13/2014	1.18	0.041	15.35	0.19	15.54
1:38:00 PM	10/13/2014	1.15	0.05	14.06	0.26	14.32
1:38:00 AM	10/14/2014	1.18	0.055	15.35	0.3	15.65
1:38:00 PM	10/14/2014	1.14	0.062	13.66	0.37	14.03
1:38:00 AM	10/15/2014	1.16	0.038	14.48	0.17	14.65
1:38:00 PM	10/15/2014	1.13	0.05	13.26	0.26	13.52
1:38:00 AM	10/16/2014	1.14	0.05	13.66	0.26	13.92
1:38:00 PM	10/16/2014	1.13	0.052	13.26	0.28	13.54
4:15:00 PM	10/16/2014					0
1:38:01 AM	10/17/2014	1.14	0.047	13.66	0.24	13.9
1:38:01 PM	10/17/2014	1.12	0.057	12.88	0.32	13.2
1:38:01 AM	10/18/2014	1.11	0.045	12.51	0.22	12.73
1:38:00 PM	10/18/2014	1.1	0.048	12.15	0.24	12.39
1:38:00 AM	10/19/2014	1.11	0.043	12.51	0.2	12.71

1:38:00 PM	10/19/2014	1.1	0.038	12.15	0.17	12.32
1:38:00 AM	10/20/2014	1.1	0.052	12.15	0.28	12.43
1:38:00 PM	10/20/2014	1.09	0.047	11.8	0.24	12.04
1:38:01 AM	10/21/2014	1.11	0.038	12.51	0.17	12.68
1:38:01 PM	10/21/2014	1.08	0.05	11.46	0.26	11.72
1:38:00 AM	10/22/2014	1.13	0.039	13.26	0.17	13.43
1:38:00 PM	10/22/2014	1.16	0.05	14.48	0.26	14.74
1:38:00 AM	10/23/2014	1.16	0.041	14.48	0.19	14.67
1:38:00 PM	10/23/2014	1.12	0.05	12.88	0.26	13.14
4:15:00 PM	10/23/2014					0
1:38:01 AM	10/24/2014	1.12	0.041	12.88	0.19	13.07
1:38:00 PM	10/24/2014	1.1	0.038	12.15	0.17	12.32
1:38:00 AM	10/25/2014	1.1	0.041	12.15	0.19	12.34
1:38:00 PM	10/25/2014	1.09	0.054	11.8	0.29	12.09
1:38:01 AM	10/26/2014	1.09	0.048	11.8	0.24	12.04
1:38:00 PM	10/26/2014	1.09	0.052	11.8	0.28	12.08
1:38:00 AM	10/27/2014	1.09	0.043	11.8	0.2	12
1:38:00 PM	10/27/2014	1.09	0.041	11.8	0.19	11.99
1:38:01 AM	10/28/2014	1.09	0.043	11.8	0.2	12
1:38:00 PM	10/28/2014	1.08	0.041	11.46	0.19	11.65
1:38:01 AM	10/29/2014	1.07	0.047	11.13	0.24	11.37
1:38:01 PM	10/29/2014	1.14	0.08	13.66	0.55	14.21
1:38:01 AM	10/30/2014	1.07	0.041	11.13	0.19	11.32
1:38:01 PM	10/30/2014	1.07	0.052	11.13	0.28	11.41
4:15:00 PM	10/30/2014					0
1:38:01 AM	10/31/2014	1.07	0.036	11.13	0.15	11.28