

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

A. GENERAL INFORMATION

Permit No: 37-8848

Exam Date: 5/11/2012

1. Current Owner: CITY OF BELLEVUE
PO BOX 825
BELLEVUE ID 83313-0449
(208)788-2128
2. Accompanied by: Dan Black
Phone No: 481-1190
Relationship to Permit Holder: public works administrator (city employee)

3. SOURCE

GROUND WATER

B. OVERLAP REVIEW

1. Other water rights with the same place of use: water right portfolio for the city of Bellevue (see attachment)
2. Other water rights with the same point of diversion: 37-8862

C. DIVERSION AND DELIVERY SYSTEM1. LOCATION OF POINT(S) OF DIVERSION:

GROUND WATER L3 SW1/4SW1/4 Sec. 25, Twp 02N, Rge 18E, B.M. BLAINE County

Method of Determination: field visit and existing WMIS point

2.

<u>PLACE OF USE:</u>			MUNICIPAL--																Totals
Twp	Rge	Sec	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
01N	18E	1		X	X	X	X												
				L 2			L 3												
02N	18E	25										X	X	X	X	X	X	X	
02N	18E	26			X	X									X	X	X	X	
02N	18E	35	X			X													
02N	18E	36	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X		
								L 3											
02N	19E	31						X	X										
								L 1	L 2										

Method of Determination: Recently decreed city rights contain the above large POU

3. ☒ Delivery System Diagram Attached (required). Indicate all major components and distances between components. Indicate weir size/pipe as applicable.
- ☐ Map Attached Showing Location(s) of point(s) of diversion and place(s) of use (required). Scale must be 1:24,000 or greater.
- ☐ Aerial Photo Attached (required for irrigation of 10+ acres).
- ☐ Photo of Diversion and System Attached

4.

Well or DiversionID No.* Motor MakeHp Motor Serial No.

A0018529 Premium Efficiency High Thrust Motor US Electric 150 B41Z-Z03Y314R050M

D. FLOW MEASUREMENTS

1.

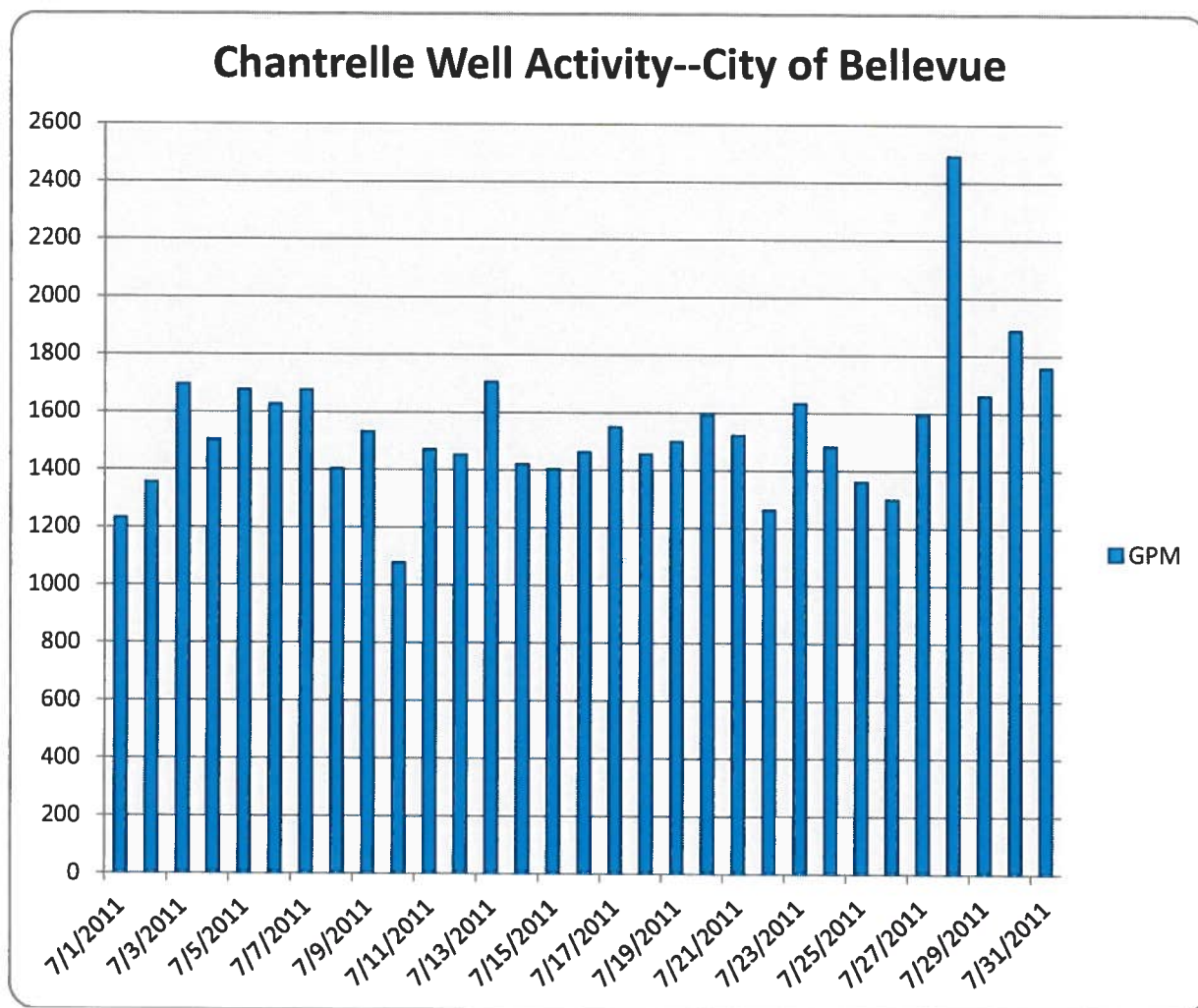
MeasurementEquipment Type Make Model No. Serial No. Size Calib. Date

NA—There was not an open length of pipe that I could attach the polysonic for a measurement. I did acquire measurement records and system specs to compare a theoretical estimate against the actual readings.

2. Measurements: Diversion records and theoretical

E. FLOW CALCULATIONS x Additional Computation Sheets Attached

Measured Method: In 2011, Dan Black took measurement readings on the well every day in July. The measurements were taken on the Water Specialties measuring device. The measuring device consists of an electronic propeller meter that has transmitter FC101 that is remote mounted.



FLOW CALCULATIONS CONTINUED

There is a major outlier in the measurement records that occurred on 7/28/2011. On this day the daily well log reflected a measurement of 2492 gpm while it was typical that ~1200 to ~1600 gpm was being diverted. I believe that the next largest diversion rate of 1888 (4.21 cfs) is close to what the well can produce. The following theoretical estimate yielded the following diversion rate:

$$\text{TDH} = 215.42 \qquad \frac{8.8 \times 0.7 \times 150}{26 + (2.31 \times 82)} = \frac{924}{215.42} = 4.29 \text{ cfs}$$

$$\text{hp} = 150$$

$$26 + (2.31 \times 82) = 215.42$$

$$\text{depth to water} = 26$$

$$\text{psi} = 70$$

$$\text{efficiency (standard)} = 0.7$$

The limiting factor in the case of permit 37-8848 is the permitted rate of 3.35 cfs. The license will reflect a diversion rate of 3.35 cfs. No combined limit with 37-8862 will be necessary since the two diversion rates are less than 4.21 cfs.

F. VOLUME CALCULATIONS

1. Volume Calculations for Irrigation: NA
2. Volume Calculations for Other Uses: NA

G. NARRATIVE/REMARKS/COMMENTS

This well is known as the Chantrelle Well. It is only used in the summer. During the winter and spring there is enough water that is captured in the city's reservoir from a spring source that is authorized under 37-1208. The demand is higher in the summer and the Chantrelle well must be turned on where it is discharged in the city's distribution system.

When this right was being developed, the city thought they could develop two PDs. A second well was drilled, D0002506, and later perforated. However, the well was never fully developed. Rights 37-8848 and 37-8862 both divert from one well; Chantrelle well ID#A0018529.

Have conditions of permit approval been met? ☒ Yes ☐ No

H. RECOMMENDATIONS**1. Recommended Amounts**

<u>BENEFICIAL USE</u>	<u>PERIOD OF USE</u>	<u>DIVERSION RATE</u>	<u>ANNUAL VOLUME</u>
MUNICIPAL	1/01 to 12/31	3.350 CFS	NA
<u>Totals:</u>		3.350 CFS	NA

2. Recommended Amendments

☐ Change P.D. as reflected above ☐ Add P.D. as reflected above ☒ None

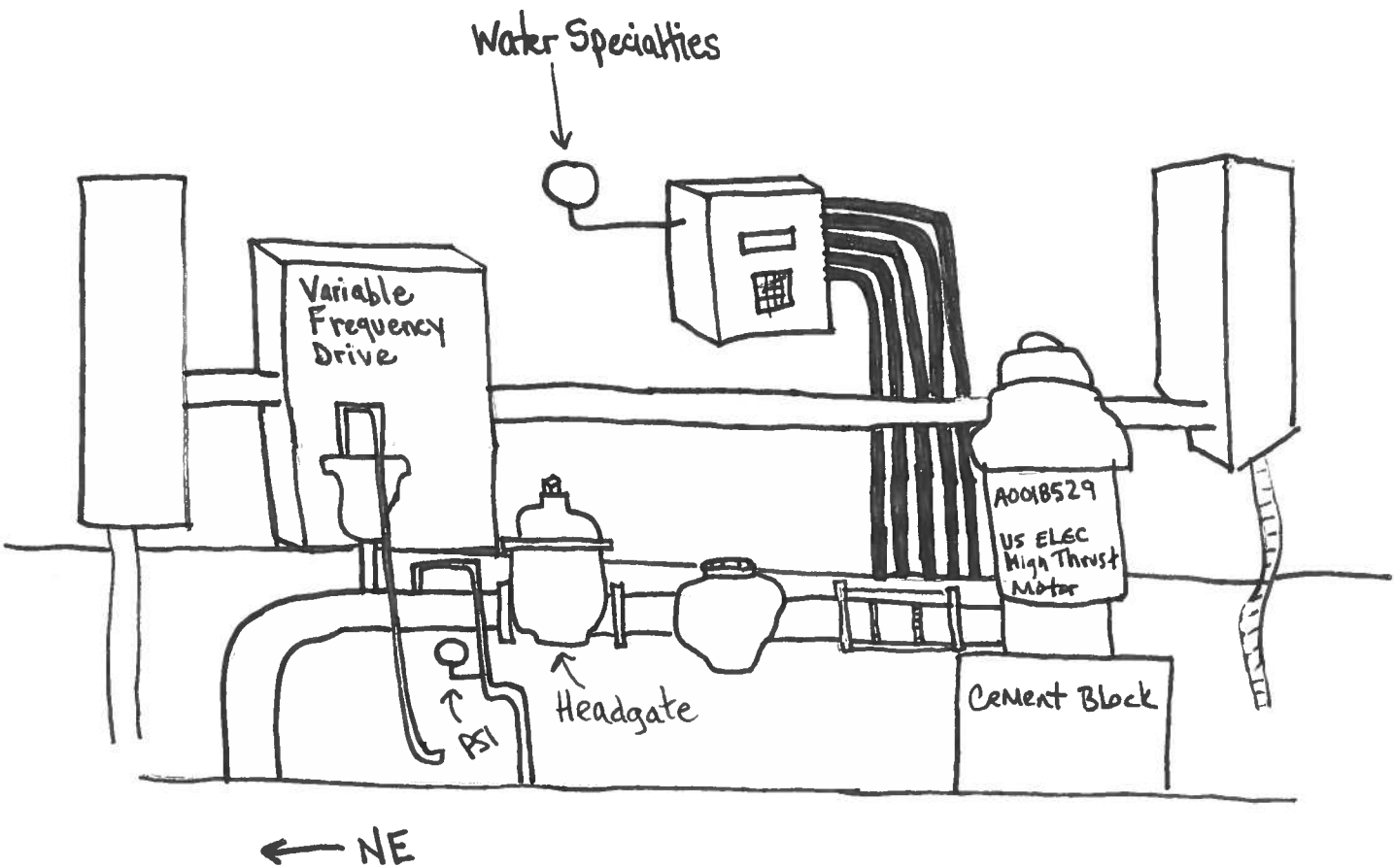
☐ Change P.U. as reflected above ☐ Add P.U. as reflected above ☐ Other

I. AUTHENTICATION

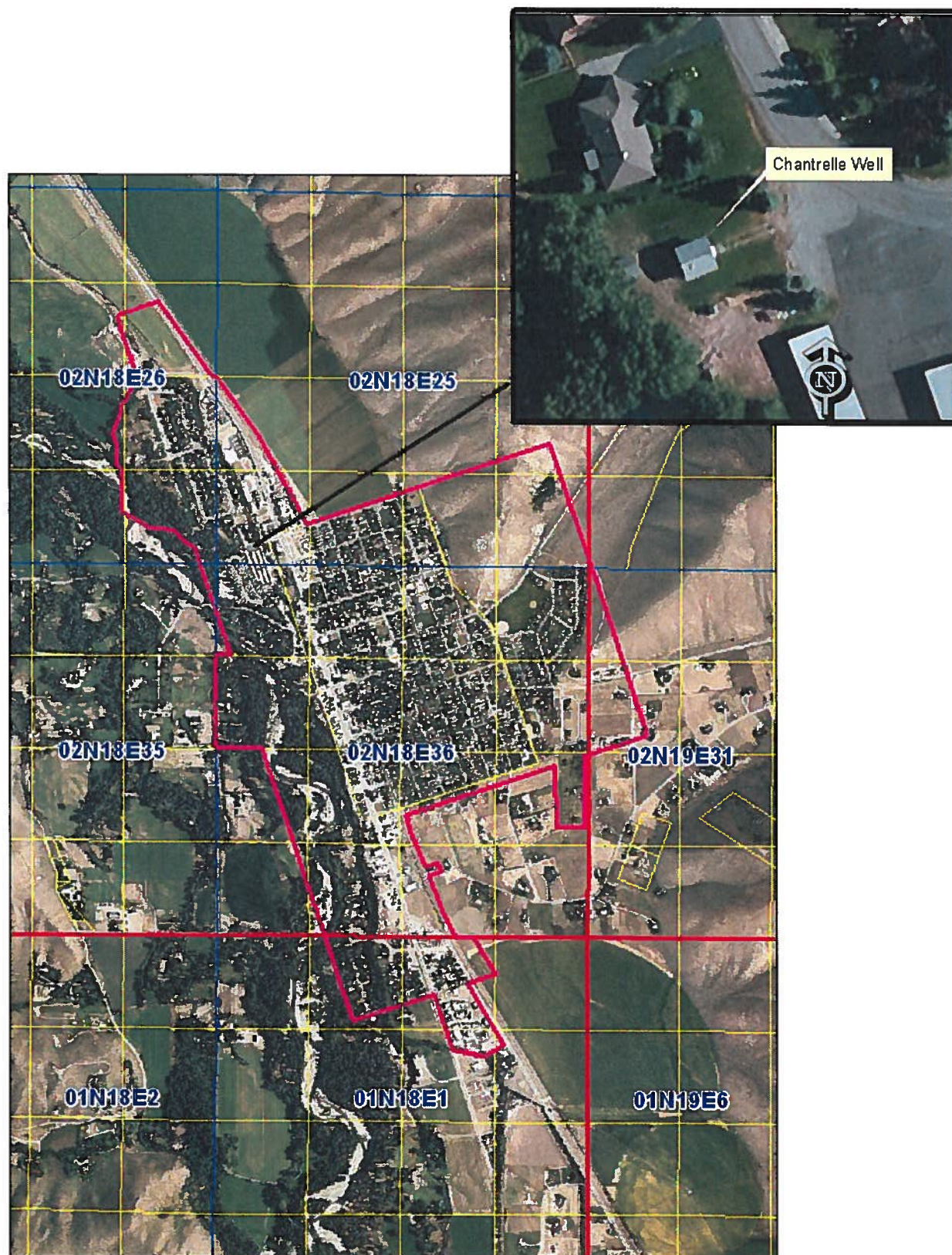
Field Examiner's Name Cherie Palmer Date 6/11/2012

Reviewer _____ Date _____

System Diagram



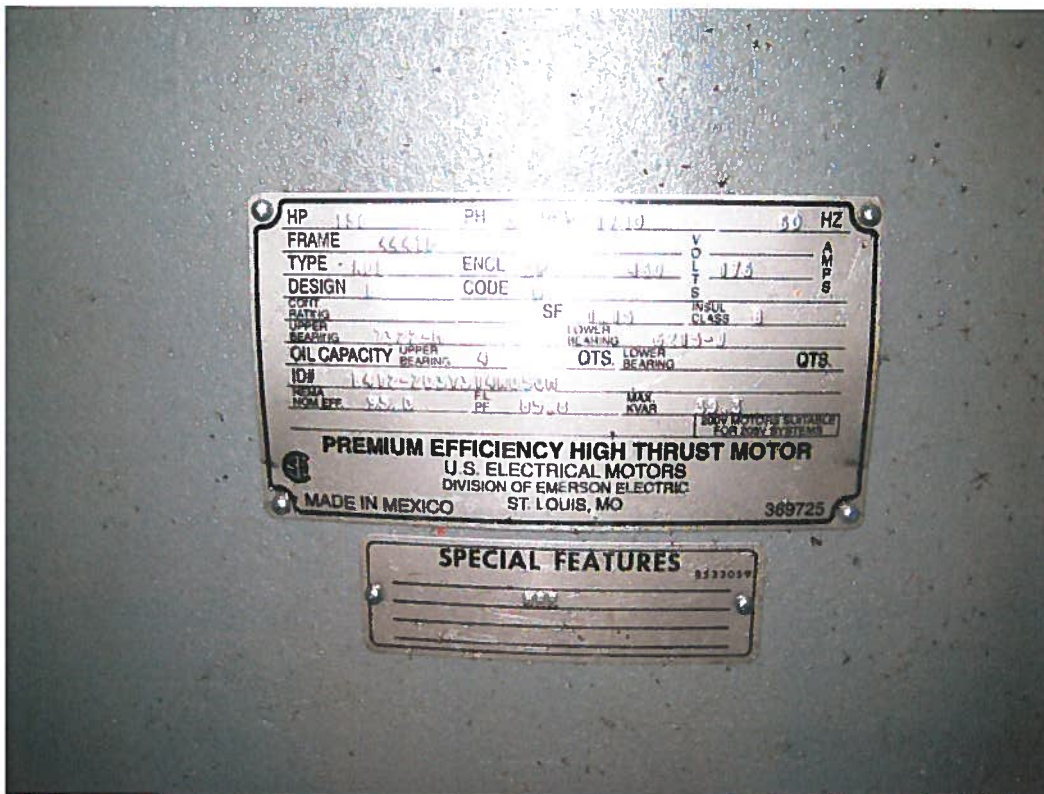
Map/Aerial Photo



Photos







Overlap Analysis for City of Bellevue

Basir	Sequence	Process	Basis	Draft	Priority	Date	Diversion	Source	List	Water Use	List	Current Owner
37	1208	Water Right	Decreed	N	7/20/1880	3.00	SPRINGS	MUNICIPAL	CITY OF BELLEVUE			
37	7637	Water Right	Decreed	N	6/1/1977	2.00	GROUND WATER	MUNICIPAL	CITY OF BELLEVUE			
37	8848	Water Right	License	Y	6/6/1995	3.35	GROUND WATER	MUNICIPAL	CITY OF BELLEVUE			
37	8862	Water Right	License	Y	5/23/1997	0.67	GROUND WATER	MUNICIPAL	CITY OF BELLEVUE			

There are two wells for the city of Bellevue.

The well that is associated with 37-7637 is known as the Chestnut well and the second well that is associated with 37-8848 and 37-8862 is known as the Chantrelle well.

The springs under 37-1208 provide the majority of the city for municipal purposes.

Guidance in App. Processing No. 18 says:

PAST DEPARTMENT POLICY AND PRACTICE (prior to 1996)

Installed Capacity for Municipalities

An incorporated city or a municipal provider serving an incorporated city could perfect a water right based on the maximum instantaneous diversion rate for the pumping system that was installed and operational during the development period of the permit (limited by the permitted amount), even if the city did not beneficially use the entire capacity during the development period of the permit. Note that even though a municipal system may have included multiple wells and pumps, the Department typically licensed a water right based on the diversion capacity of an individual well and pump listed as a single point of diversion on the water right. The Department typically did not review the overall system capacity and evaluate the new well as an additional increment of diversion capacity or beneficial use under the entire system due to that point of diversion.

When licensing a municipal water right, the Department did not include an annual volume limit on the license. In addition, the place of use was described as the city limits and was allowed to change as the city limits expanded. A city's water use under a license could expand over time as demand for water increased by pumping the maximum rate over longer periods that may have included storage tanks to provide for higher peak demands.

Conclusion: This right can be licensed for the full permitted rate as the well has the capacity to provide 4.21 cfs to the system.

City of Bellevue

Daily Well Log

Month of

July

Year

2011

Date	Time	Well #1 GPM	Total	Well #2 GPM	Total	On/Off
7-1-11	1:20	off	off	1231	569362	on
7-2-11	0900	"	"	1356	570442	on
7-3-11	6:45	off	off	1696	571269	on
7-4-11	6:30	off	off	1503	572684	on
7-5-11	7:30	off	off	1677	574125	on
7-6-11		off	off	1627	575379	on
7-7-11		off	off	1676	576773	on
7-8-11	8:50AM	off	off	1404	578154	on
7-9-11	6:45	off	off	1532	578946	on
7-10-11		off	off	1077	57958	on
7-11-11	8:00	off	off	1471	581457	
7-12-11	8:30	off	off	1453	583005	on
7-13-11	8:00	off	off	1706	584278	on
7-14-11	8:00	off	off	1421	585615	on
7-15-11	8:20	off	off	1403	586555	on
7-16-11		off	off	1462	588110	on
7-17-11	9:45	off	off	1550	588410	on
7-18-11		off	off	1456	590050	on
7-19-11	8:15	off	off	1499	591920	on
7-20-11	8:30	off	off	1591	593485	on
7-21-11		off	off	1521	594769	on
7-22-11	8:45	off	off	1263	595993	on
7-23-11	1000	off	off	1633	597440	on
7-24-11	9:30	off	off	1782	599083	on
7-25-11	8:00	off	338518 off	1762	600715	on
7-26-11	8:10	off	331872 off	1300	602613	on
7-27-11	8:00	off	339872	1592	603903	on
7-28-11	8:45	off	339872	2492	606104	on
7-29-11	8:00	off	339872	1660	607462	on
7-30-11	8:00	off		1888	609471	on
7-31-11	0431	"	"	1758	611200	on

1507280

Low Tank
Level
Triggered
on
Turned
off