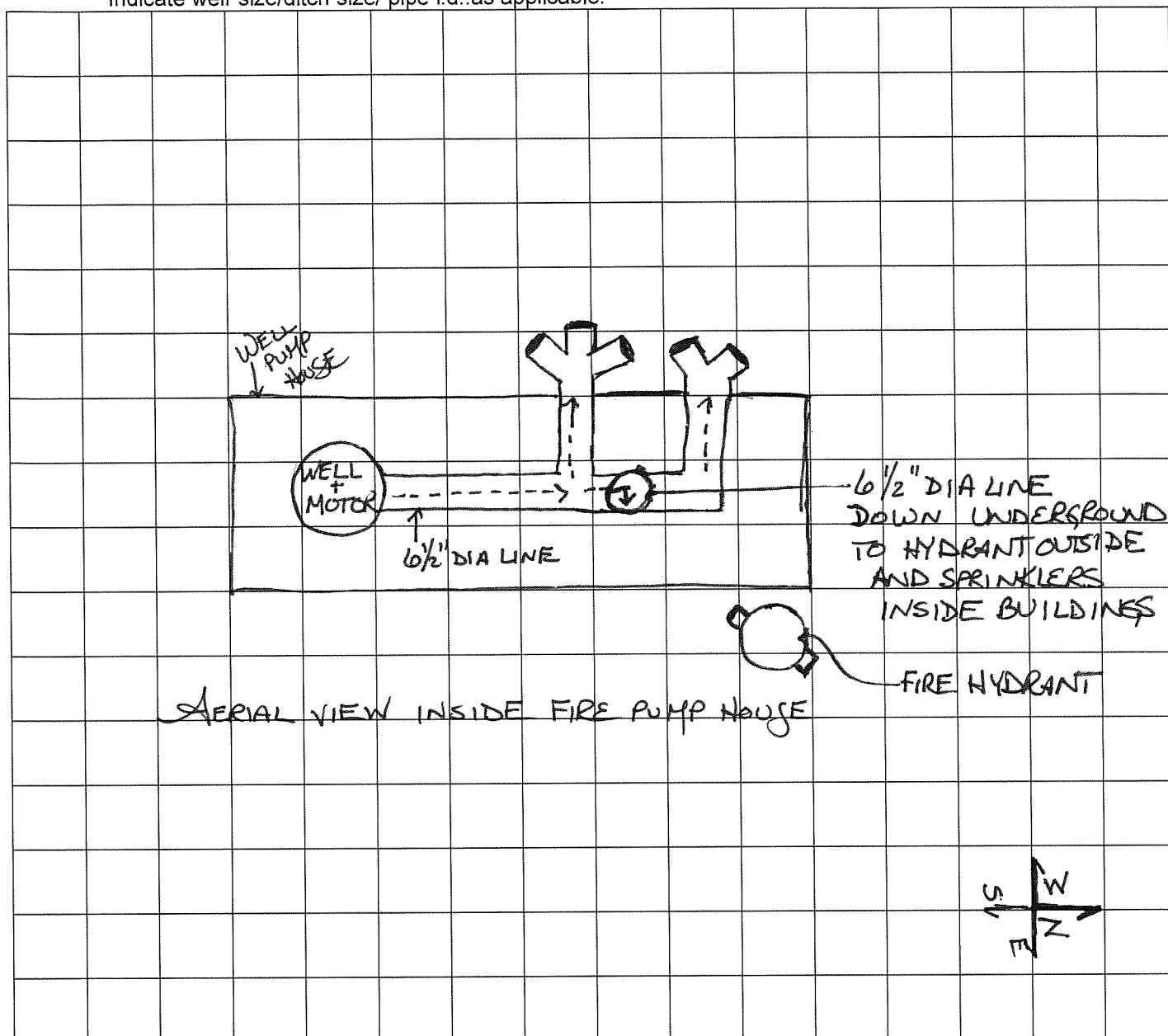


STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

3. Delivery System Diagram. Indicate all major components and distances between components.
Indicate weir size/ditch size/ pipe i.d..as applicable.



Scale 1"= NOT TO SCALE

- ☒ Copy of USGS Quadrangle attached showing location(s) of diversion and place(s) of use (required).
- ☒ Aerial photo attached (required for irrigation of 10+ acres).
- ☒ Photo of diversion and system attached.

Well or Diversion Identification No.*	Motor Make	HP	Motor Serial Number	Pump Make	Pump Serial No. or Discharge Size
D0018533 (Tag not visible @ exam)	US Electric	60	H060S2BLG	Floway	SN # 46219-1-1 6 1/2" dia line

*Code to correspond with No. on map and aerial photo

D. FLOW MEASUREMENTS

Measurement Equipment	Type	Make	Model No.	Serial No.	Size	Calibration Date

Measurements: No measurements taken. Well not turned on during exam. Pump curve and flow test information from previous tests preformed by consultant(s) and driller provided by the permit holder representative.

E. NARRATIVE/REMARKS/COMMENTS

Well is used for fire protection use (this permit) only. Single pump with a 60 hp motor. Well piped underground to school for fire sprinklers inside building(s) and outside to fire hydrant. Also piped to 2 other hose hookups outside and adjacent to the pump house building.

Permit holder representative provided manufacturer representative's pump test and curve data from test preformed with installed diversion works (pump, motor, etc.). Data from the pump test preformed by consultant when well was drilled (consultant report and well report) available on file in water right permit record. Appears pump test preformed/observed by the consultant is same as the one recorded on the well report. This test information indicates the well was pumped at 1594 gpm (3.55 cfs) for 3 hours with 43 ft drawdown. The static water level @ time of this test was 17.5 feet per the well report. The pump manufacturer data indicates the pump installed is rated for capacity of 750 gpm (1.67 cfs) (See Centrifugal Fire Pumps, Vertical Turbine handout attached). The pump test and curve data preformed by the manufacturer's rep indicates @ 750 gpm there was 20 ft drawdown (pumping level 36 ft = 16 ft static WL + 20 ft drawdown), with net system pressure of 65 psi, and pump efficiency of approximately 59%. This test was conducted on Feb 25, 2002. The same data and curve indicated manufacturer's rep tested system up to 1,125 gpm (2.51 cfs) => 150% of capacity point.

Driller/consultant construction pump test = 1,594 gpm (3.55 cfs)

Pump Manufacturer Representative's test = 750 gpm (1.67 cfs) = capacity rate for pump

Permit diversion rate = 1.0 cfs (448.8 gpm)

Field Exam Fee paid = \$100 (Receipt # C067598) = Up to 1.00 cfs

Recommended diversion rate limited by permit = 1.00 cfs

POD GPS recorded just outside of the pump house adjacent to well location.

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

F. FLOW CALCULATIONS

Measured Method:

☐ Additional Computation Sheets Attached

Verified manufacturer representative's test flow rate (750 gpm) based on recorded conditions. See attached Flow Calculations section in "Notes".

G. VOLUME CALCULATIONS

1. Volume Calculations for Irrigation: N/A

VI.R. = (Acres Irrigated)x (Irrigation Requirement) = N/A

VD.R. = [Diversion Rate (cfs)] x (Days in Irragions Season) x 1.9835 = N/A

V = Smaller of VI.R. and VD.R. = N/A

2. Volume Calculations for Other Uses: N/A

H. RECOMMENDATIONS

1. Recommended Amount

BENEFICIAL USE	PERIOD OF USE		RATE OF DIVERSION ANNUAL	
	From	To	Q(cfs)	V(afa)
Fire Protection	01/01	12/31	1.00	

TOTALS 1.00

2. Recommended Amendments

- ☐ Change P.D. as reflected above
☐ Change P.U. as reflected above

- ☐ Add P.D. as reflected above
☐ Add P.U. as reflected above

- ☒ None
☐ Other

I. AUTHENTICATION

Field Examiner's Name



Reviewer

Date 11/9/2010
Date

NOTES

STATE OF IDAHO DEPARTMENT OF WATER RESOURCES BENEFICIAL USE FIELD REPORT

A. GENERAL INFORMATION

Permit No. 03-31131

1. Owner VALLEY SCHOOL DISTRICT No. 139 Phone No. (208) 454-0445

Current address 5207 S MONTANA CROWLEY, ID 83607

2. Examiner's name ANGIE GRIMM EXAM DATE 10/22/2010

3. Accompanied by DAVE HAYES Email _____

Address SAME AS ABOVE

Relationship to permit holder MAINTENANCE SUPERVISOR Phone No. (208) 880-1644

4. Source GROUND WATER tributary to N/A

B. OVERLAP REVIEW

1. Other water rights with the same place of use 03-10161 (DOM & IRR USE @ SCHOOL - EAST CANYON ELEV.)

2. Other water rights with the same point of diversion NONE. THIS WELL ONLY USED FOR FIRE PROTECTION.

C. DIVERSION AND DELIVERY SYSTEM

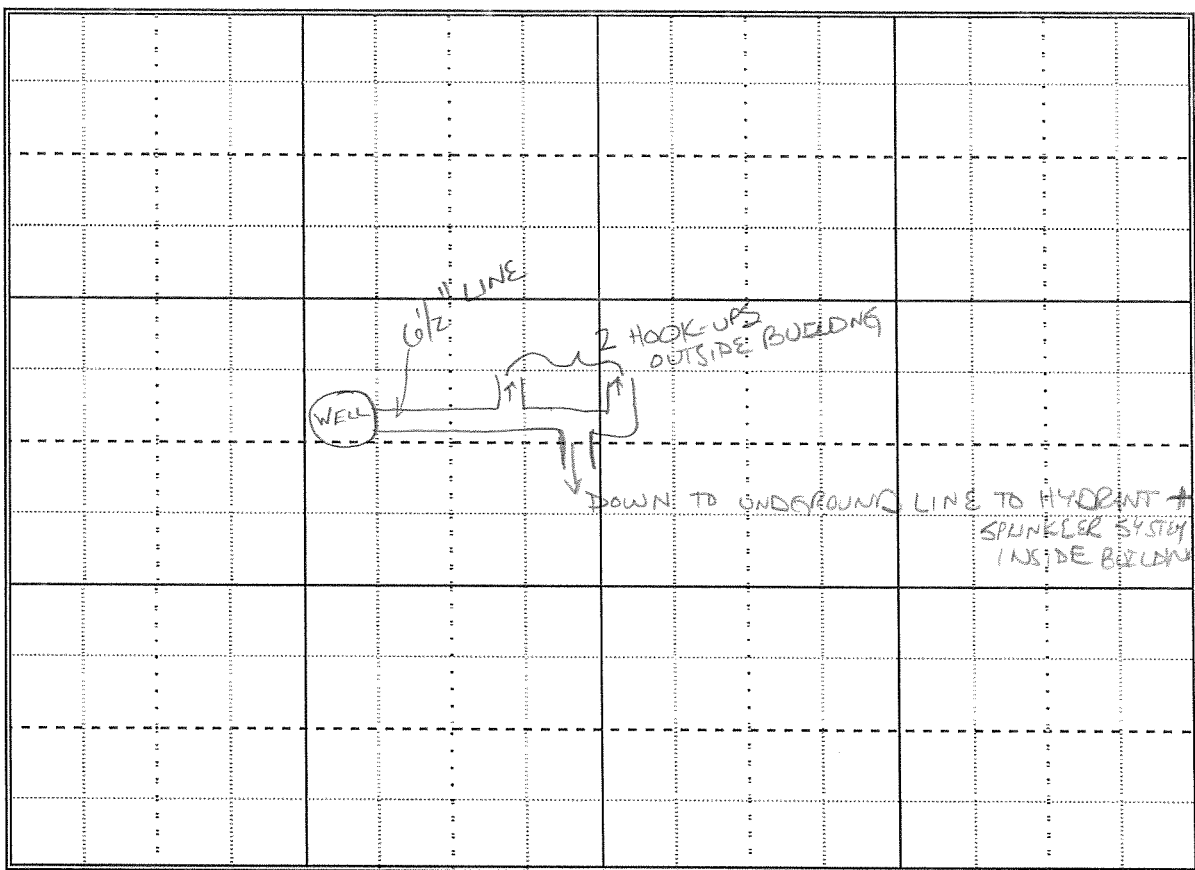
1. Point(s) of Diversion:

Ident. No.	Gov't Lot	1/4	1/4	1/4	Sec	Twp	Rge	County	Method of Determination/Remarks
			NW	SW	34	4N	2W	CANYON	GPS ID#M: 1385260 N 2292541 E

2. Place(s) of Use: Method of determination AERIAL PHOTO CONFIRMED w/ SITE VISIT/SMPL.

Twp	Rge	Sec	NE				NW				SW				SE				Totals
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
4N	2W	34																	

3. **Delivery System Diagram:** Indicate all major components and distances between components. Indicate weir size/ditch size/pipe diameter (inside), as applicable. Use the space provided or ☐ see attached.



Scale: 1" = _____

- ☐ Copy of USGS Quadrangle attached showing location(s) of point(s) of diversion and place(s) of use (**required**)
☐ Aerial photo attached (required for irrigation of 10+ acres)
☐ Photo of diversion and system attached

4.

Well or Diversion Identification No.*	Motor Make	Hp	Motor Serial No.	Pump Make	Pump Serial No. or Discharge Size
D0018533 (NOT VISIBLE @ EXAM)	USELECTAC	600	(DIFFICULT TO READ) H06052BLG-0	FLOWAY	SN# 46219-1-1
					6 1/2" DIA LINE (DISCHARGE)

*Code to correspond with no. on map and aerial photo

D. FLOW MEASUREMENTS

1.

Measurement Equipment	Type	Make	Model No.	Serial No.	Size	Calib. Date

2. Measurements:

NO FLOW MEASUREMENTS TAKEN. WELL NOT TURNED ON DURING EXAM. PUMP CURVE AND FLOW TEST INFORMATION PROVIDED BY PERMIT HOLDER REP.

E. NARRATIVE/REMARKS/COMMENTS

WELL USED ONLY FOR FIRE PROTECTION. SINGLE PUMP W/ 60 HP MOTOR.

WELL PIPED TO SCHOOL FOR FIRE SPRINKLERS INSIDE BUILDING(S) AND OUTSIDE TO HYDRANT + 2 OTHER HOSE HOOK-UPS ADJACENT TO PUMP HOUSE BUILDING

PERMIT HOLDER REP PROVIDED PUMP TEST + CURVE DATA FROM TEST PERFORMED WITH INSTALLED DIVERSION WORKS (PUMP, MOTOR, ETC). ALSO PUMP TEST PERFORMED BY CONSULTANT & WELL LOG PUMP TEST DATA AVAILABLE ON FILE W/ DEPT IN 63-31131 BUR FILE. APPEARS PUMP TEST PERFORMED/OBSERVED BY CONSULTANT IS SAME AS INFO FOR WELL TEST RECORDED ON LOG. INDICATES WELL PUMPED @ 1594 gpm FOR 3 HOURS WITH 43' DRAWDOWN STATIC WATER LEVEL @ TIME TEST PERFORMED (8/9/01) 17.5'. PUMP MANUFACTURE DATA INDICATES PUMP RATED FOR CAPACITY OF 750 GPM. PUMP TEST + CURVE DATA PERFORMED BY MANUFACTURER REP INDICATES @ 750 GPM, THERE WAS 20 FT OF DRAWDOWN (PUMPING LEVEL IS 36' $\Rightarrow$ 16' STATIC + 20' DRAWDOWN), WITH NET SYSTEM PRESSURE OF 65 PSI, AND PUMP EFFICIENCY OF 59%. THIS TEST PERFORMED ON 2/25/2002. SAME DATA + CURVE INDICATES MANUFACTURER REP TESTED SYSTEM UP TO 1125 GPM (150% OF CAPACITY POINT).

DRILLER/CONSULTANT CONSTRUCTION PUMP TEST = 1,594 GPM (3.55 CFS)
PUMP MANUFACTURER TEST = 750 GPM (1.67 CFS) = CAPACITY RATE FOR PUMP
PERMIT DIV RATE = 1.0 CFS = 448.8 GPM
FIELD EXAM FEE PAID = \$100 (C067598 RECEIPT #) = UP TO 1.00 CFS
RECOMMENDED DIVERSION RATE LIMITED BY PERMIT = 1.0 CFS

Has the permit holder met all conditions of permit approval, including any mitigation requirements and/or measuring device installation requirements? ☒ Yes ☐ No If no, what must be done to meet the permit requirements?

F. FLOW CALCULATIONS

Additional computation sheets attached

Measured Method:

Measured Method:
THEORETICAL CAPACITY (BASED ON RATED CAPACITY OF PUMP INSTALLED + MANUFACTURER'S RPT. TEST)

$$Q = \frac{8.8 \times \text{EFF} \times \text{HP}}{Z + 2.31(\text{PSI})}$$

$Z = \text{STATIC WL } 16' + \text{DRAWDOWN } 20' = 36'$
 $\text{PSI} = 65$
 $\text{EFF} = 0.59 \text{ (FROM PUMP CURVE)}$
 $\text{HP} = 60$

$$Q = \frac{8.8 \times 0.59 \times 60}{36 + 2.31(65)} \approx 1.67 \text{ cfs} \approx 750 \text{ gpm}$$

G. VOLUME CALCULATIONS

- ### 1. Volume Calculations for Irrigation: N/A

$$V_{I.R} = (\text{Acres Irrigated}) \times (\text{Irrigation Requirement}) = \underline{\hspace{2cm}}$$

$$V_{D,R} = [\text{Diversion Rate (cfs)}] \times (\text{Days in Irrigation Season}) \times 1.9835 =$$

$V = \text{Smaller of } V_{I.R.} \text{ and } V_{D.R.} = \underline{\hspace{2cm}}$

- ## 2. Volume Calculations for Other Uses:

H. RECOMMENDATIONS

- ## 1. Recommended Amounts

Beneficial Use	Period of Use From To		Rate of Diversion Q (cfs)	Annual Volume V (afa)
FIRE PROTECTION	01/01	12/31	1.00 cfs	
		Totals:	1.00 cfs	

- ## 2. Recommended Amendments

- ☐ Change P.D. as reflected on page 1 ☐ Add P.D. as reflected on page 1 ☐ None
☐ Change P.U. as reflected on page 1 ☐ Add P.U. as reflected on page 1 ☐ Other

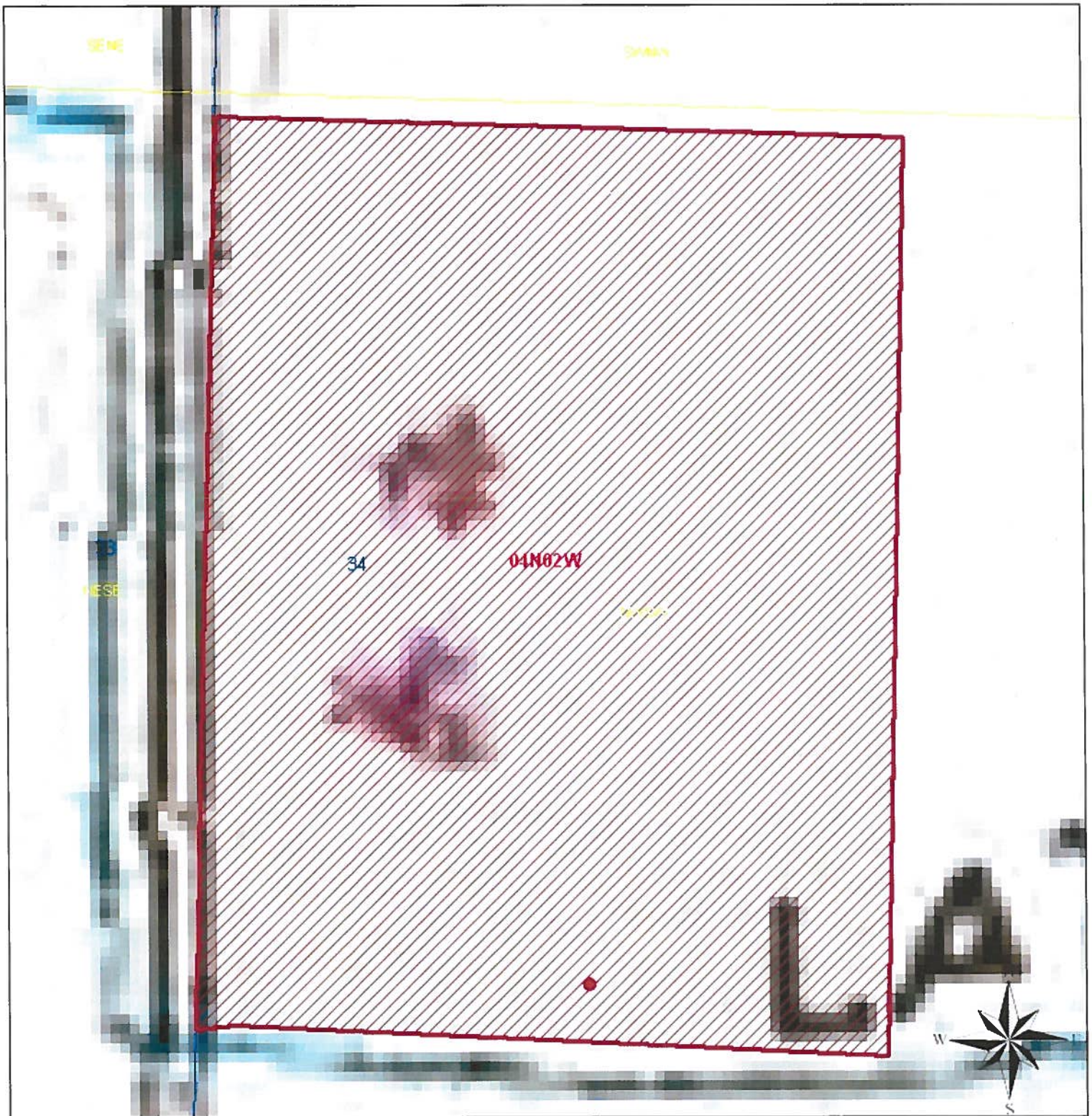
I. AUTHENTICATION

Field Examiner's Signature _____ Date _____

SEAL

Reviewer _____ Date _____

63-31131 POD & POU



0 50 100 200 300 400 500 Feet

Legend

- POD
- ▨ POU
- ▭ Township/Range
- ▭ Sections
- ▭ QQ

63-31131 POD & POU



2009 Aerial Photo

Legend

- | | | | |
|--|----------------|---|----------|
| ● | POD |  | Sections |
|  | POU |  | QQ |
|  | Township/Range | | |

By Angela Grimm 11/9/2010



63-31131 License Exam 10/22/2010 Photo #1: US Electric motor (Serial # H060S2BLG) mounted on well head. Note pressure gage with release pipe.



63-31131 License Exam 10/22/2010 Photo #2: Valves and pipes from well discharge pipe (at very bottom of this photo) to outside fire hose hookups.



63-31131 License Exam 10/22/2010 Photo #3: Fire hydrant and hose hookups outside fire pump house, where well is, facing northeast. One of several school buildings in the background (main building to the east/northeast of fire pump house).

IDAHO DEPARTMENT OF WATER RESOURCES

WELL INSPECTION FORM

1. DRILLING PERMIT NO: 769286 OTHER APPLICABLE NO: D0018533
(NOT VISIBLE UPON INSPECTION)
2. OWNER: VALUVE SCHOOL DISTRICT # 139 Phone: 208-454-0445
Address: 5207 S MONTANA CAIDWELL, ID 83607 (OWNER)
3. WELL LOCATION: Twp 4N, Rge. 2W, Sec. 34, NW 1/4 SW 1/4
County CANYON CO. (Provide sketch map and photo on reverse.)
EAST CANYON ELEMENTARY @ 18408 NORTHSIDE BLVD BLAHPA, ID 83687
4. DRILLER: RIVERSIDE INC. Lic. No. 333
When Drilled? COMPLETED 10/11/01
5. WELL CONSTRUCTION:
Casing Diameter 16 inches Water tight cap? ☒ Yes ☐ No Access Port: ☒ Yes ☐ No
Casing $\geq$ 12 inches above ground? ☐ Yes ☒ No - Describe CASING W/IN CEMENT PAD MOTOR MOUNTED ON.
Depth of Casing 255 ft. (LOG) Method Drilled REVERSE
Condition of Well Casing: ☐ Good ☐ Fair ☐ Poor Describe COULD NOT SEE CASING
Control Valve? ☐ Yes ☒ No Pressure Gauge: ☒ Yes ☐ No
Condition of Piping and Valving GOOD
Auger to a depth of N/A ft. Evidence of Annular Seal ☐ Yes ☐ No NOT SEEN @ EXAM
Are there obvious constuction problems that may be a source for contamination or waste of water?
☐ Yes ☒ No (Describe in Remarks and Attach Photo - On Reverse)
6. HYDROLOGIC INFORMATION:
Depth to Static Water 17.5 ft. (LOG) Water Temperature 57 °F (LOG)
Flowing Artesian ☐ Yes ☒ No Pressure: N/A (psi)
Water Sample Taken? ☐ Yes ☒ No If yes, describe purpose N/A
Water Quality Measurements/Observations (Describe) N/A
7. WELL USE:
☐ Domestic ☐ Irrigation ☐ Stock
☐ Test ☐ Municipal ☐ Industrial
☐ Abandoned ☐ Waste Disposal/Injection ☐ Not Used
☒ Other: FIRE PROTECTION

8. POSSIBLE CONTAMINATION SOURCES:

Is there evidence of Chemigation? ☐ Yes ☒ No

If yes, is there a check-valve present? ☐ Yes ☒ No *N/A*

Is there a possible source of contamination nearby? ☐ Yes ☒ No

If yes, what Type? NA

How far away from the well is this source? 21A

9. REMARKS:

1. *Phragmites australis* (Common reed)
 2. *Spartina patens* (Cordgrass)
 3. *Scirpus americanus* (Burreed)
 4. *Distichlis spicata* (Spartan)
 5. *Eleocharis acicularis* (Spikerush)
 6. *Cyperus tenuifolius* (Sedges)
 7. *Eleocharis obtusa* (Spikerush)
 8. *Eleocharis palustris* (Spikerush)
 9. *Eleocharis acicularis* (Spikerush)
 10. *Eleocharis obtusa* (Spikerush)

Signature of Dept. Representative

Signature of Dept. Representative & Title

10/22/2010

Inspection Date

PHOTOS, DRAWINGS, OTHER ATTACHMENTS:

IDAHO DEPARTMENT OF WATER RESOURCES WELL DRILLER'S REPORT

Office Use Only			
Inspected by _____			
Twp _____	Rge _____	Sec _____	
_____ 1/4	_____ 1/4	_____ 1/4	
Lat: _____		Long: _____	

1. WELL TAG NO. D 18533
DRILLING PERMIT NO. _____
Other IDWR No. _____

2. OWNER:

Name Carol Dyer #189-East Canyon 41mi.
Address 5007 South Montana
City Caldwell State ID Zip 83417

3. LOCATION OF WELL by legal description:

Sketch map location must agree with written location.

N		Twp. <u>4</u>		North ☒ or South ☐	
E		Rge. <u>2</u>		East ☐ or West ☒	
S		Sec. <u>34</u>		Gov't Lot _____ County <u>Carleton</u>	
W		Lat: _____		Long: _____	
X		Address of Well Site <u>18408-14441616</u>		City <u>Chapin</u>	

(Give at least name of road + Distance to Road or Landmark)

Lt. _____ Blk. _____ Sub. Name EAST
Chapin Elementary

4. USE:

☐ Domestic ☐ Municipal ☐ Monitor ☐ Irrigation
☐ Thermal ☐ Injection ☒ Other Water for irrigation

5. TYPE OF WORK check all that apply (Replacement etc.)

☒ New Well ☐ Modify ☐ Abandonment ☐ Other _____

6. DRILL METHOD

☐ Air Rotary ☐ Cable ☐ Mud Rotary ☒ Other Rotary

7. SEALING PROCEDURES

SEAL/FILTER PACK			AMOUNT		METHOD
Material	From	To	Sacks or Pounds		
5k Bentonite	0	210	12,500		Vertical
#2 #16	210	305	33,000		Vertical
Filter Pack					

Was drive shoe used? ☒ Y ☐ N Shoe Depth(s) _____
Was drive shoe seal tested? ☐ Y ☐ N How? _____

8. CASING/LINER:

Diameter	From	To	Gauge	Material	Casing	Liner	Welded	Threaded
110"	13	210	325	Steel	☒	☐	☒	☐
110"	230	255	325	Steel	☒	☐	☒	☐

Length of Headpipe _____ Length of Tailpipe 10'

9. PERFORATIONS/SCREENS

Perforations Method Hydroblasting
Screens Screen Type Slotted Steel

From	To	Slot Size	Number	Diameter	Material	Casing	Liner
210	230	.035		110"	S.S.	☒	☐
255	295	.035		110"	S.S.	☒	☐

10. STATIC WATER LEVEL OR ARTESIAN PRESSURE:

17'6" ft. below ground Artesian pressure _____ lb.
Depth flow encountered _____ ft. Describe access port or control devices: 1 1/2 Access

11. WELL TESTS:

☒ Pump ☐ Bailer ☐ Air ☐ Flowing Artesian

Yield gal/min	Drawdown	Pumping Level	Time
1500	43'		3 HRS

Water Temp. 57 Bottom hole temp. _____

Water Quality test or comments: _____

12. LITHOLOGIC LOG: (Describe repairs or abandonment)

Bore Dia.	From	To	Remarks: Lithology, Water Quality & Temperature	Y	N
28"	0	6	Top Soil		
	6	8	Clay		
	8	10	Burnt Clay		
	10	39	Sand Gravel & Gravel		
	39	60	tan clay		
	60	70	mod to coarse sand		
	70	74	tan clay		
	74	80	fine sand		
	80	92	mod to coarse sand		
	92	99	tan clay		
	99	102	mod to coarse sand		
	102	120	tan clay		
	120	133	mod to coarse sand		
	133	130	tan clay sand mix lumps		
	130	145	mod to coarse sand		
	145	150	tan clay w/ some sand mix		
	150	155	mod to coarse sand		
	155	159	tan clay		
	159	169	mod to coarse sand		
	169	173	tan clay		
	173	190	mod to coarse sand		
	190	210	tan clay (some sand lumps)		
	210	233	mod to coarse sand		
	233	259	tan clay / sand / clay		
			(+ 213' to 219') 0		
	259	274	mod to coarse sand		
			274' to 283' clay		
	274	300	tan clay w/ some sand / silt		
	300	302	sand		
28"	302	305	tan clay		

MICROFILMED

Completed Depth 305' (Measurable)
Date: Started 6-15-01 Completed 10-11-01

13. DRILLER'S CERTIFICATION

I/We certify that all minimum well construction standards were complied with at the time the rig was removed.

Company Name Kindred & Co Firm No. 333

Firm Official _____ Date _____

and _____
Driller or Operator _____ Date 10-11-01

(Sign once if Firm Official & Operator)

ATTN: Stan. 2 pages

APPEARS HP WAS RECORDED
INCORRECTLY HERE BASED ON
OBSERVATION @ EXAM AND DATA
as "EIA TEST POINTS and 21610"

PUMP MANUFACTURER: Floway S/N: 46219-1-1 MODEL: 12-K KM-FD/4
 SIZE: SUCTION well DISCHARGE 6"
 RATINGS: GPM 750 PSI 77 c Pump Flow TDH/HF _____ RPM 1770
 CERTIFIED FACTORY TEST CURVE #: 46219-1-1-T TEST CURVE S.O.H. PSI: 2200 HF: 2.95'
 MOTOR MANUFACTURER: Floway S/N: 442 KM MODEL: WPI 1/2 HP 28-6
 FULL LOAD RPM: 1800 VOLTAGE: 460 FULL LOAD AMPS: 12.5 HORSE POWER: 100
 CONTROLLER MANUFACTURER: Firetrol S/N: ~ MODEL: _____
 COMPLETE MODEL NUMBER: Firetrol - AEA60B

COMPLETE MODEL NUMBER: _____

Static well level = 16' above
FLOW TEST CONDUCTED WITH: 02112" Nozzle MODEL #: _____ PIPE SIZE: _____
STATIC SUCTION PRESSURE: Deep Well SUCTION SOURCE: Deep well
STATIC VOLTS (AVERAGE): 490 OVERALL INSTALLATION: Excellent ALIGNMENT OK
BEARINGS: OK CCRV SET: OK STUFFING BOXES ADJUSTED: Yes

CAPACITY POINT	GPM	FLOWMETER / GPM RDG.	PITOT RDG.	DISCH. PSI	SUCTION PSI	NET PSI PSI/HF	RPM	AMPS	VOLTS (AVE.)
CHURN 1ST	-0-		X	120	+16' (weir)	126	790	38 41 39	489
100% 1ST	750		20	95	+20 (weir)	605	1790	62 67 63	487
150% 1ST	1125		45	71	+45 (weir)	26	1790	69 69	489
1ST									
1ST									
CHURN 2ND	-0-		X						

MAIN RELIEF VALVE SETTING: _____ PSI JOCKEY PUMP RELIEF VALVE SETTING: _____ PSI
JOCKEY PUMP RUN PERIOD TIMER SETTING: _____ SECONDS
CONTROLLER ALARM CONTACTS CHECKED: _____ REMOTE ALARMS CHECKED: _____

PERSONNEL PRESENT: Trent - Shilo Antro
Russ Barlett

PUMP MANUFACTURER'S REP. SIGNATURE: [Signature]
CONTROLLER MANUFACTURER'S REP. SIGNATURE: [Signature]

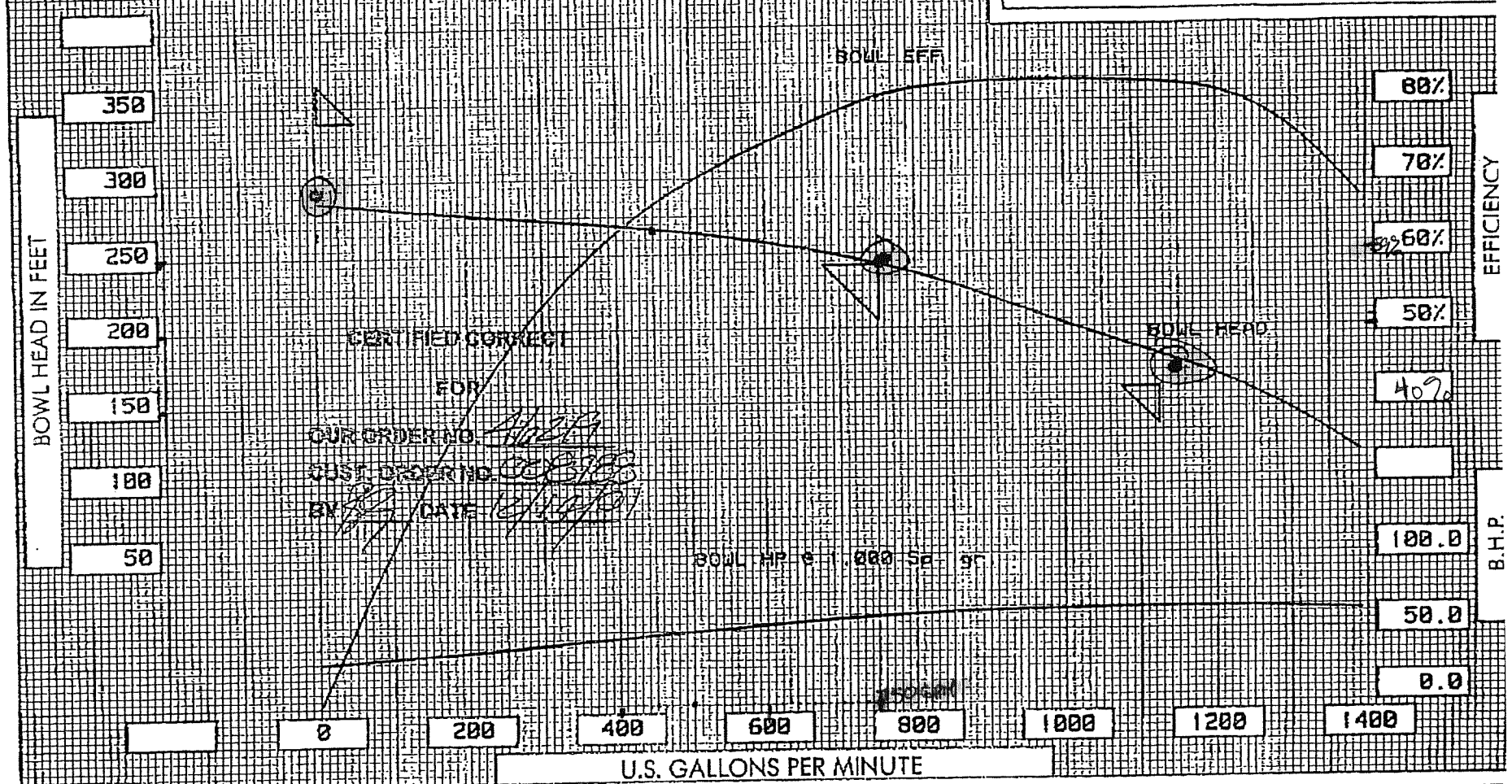
WRIGHT BROTHERS
THE BUILDING COMPANY

FEB - 4 2002

FEB - 4 2002
RECEIVED

fire test points on 2/25/02

EAST CANYON MIDDLE SCHOOL
 750 GPM UL/FM LABELED FIRE PUMP
 60 HP ELECTRIC MOTOR FIRE PUMP
 PUMP TEST: PC # 27688



NICKERSON COMPANY, INC
 2301 W. INDIANA AVE.
 P. O. BOX 25425
 SALT LAKE CITY UT 84104
 DWG. NO. 46219-1-1-T1

Floway Pumps
 FRESNO, CALIFORNIA
 A WEBB COMPANY

TYPE 12 LKM-FP
 NO. OF STAGES 4
 R.P.M. 1770
 PUMP SERIAL NO. 46219-1-1
 DWN. BY BMT DATE 12-12-2001

*BLUE INK: AG NOTES DURING REVIEW OF DATA FOR 63-3131 WR B.O. EXAM.



QXXW.EX3013 Centrifugal Fire Pumps, Vertical Turbine

[Page Bottom](#)

Centrifugal Fire Pumps, Vertical Turbine

[See General Information for Centrifugal Fire Pumps, Vertical Turbine](#)

WEIR FLOWAY INC, DBA FLOWAY PUMPS

EX3013

2494 RAILROAD AVE
PO BOX 164
FRESNO, CA 93707 USA

Fire pumps having the following capacities, models, net pressures and speeds include lift from water surface:

Rated Capacity GPM	Model Dsg	Rated Net Pressure Range psi	Approx Speed RPM
250*	8JKH-FP	26-188	1770
500	10DKH-FP	67-255	1770
500***	10DKH-FP	67-194	1770
750*	12LKM-FP	68-500	1770
750	12LKH-FP	70-230	1770
880	14LKM-FP	173	1460
1000	12FKL-FP	145	1770
1000	14LKM-FP	66-404	1770
1000**	14LKM-FP	66-404	1770
1000	14DKH-FP	87	1480
1050	14DKH-FP	86	1480
1250	14DKH	186	1770
1500	12FKH-FP	70-83	1770
1500	12FKH-FP	93-111	1770
1500	12FKH-FP	116-222	1770
1750	16MKL	155	1700
2000	15DKH-FP	67-267	1770
2000	15DKH-FP	136	1450
2500	15DKH-FP	98-100	1770
2500	15DKH-FP	147-150	1770
2500	15DKH-FP	196-200	1770
2500	15DKH-FP	245-250	1770
2500	16MKM-FP	66-220	1770
3000	18MKL-FP	97-132	1770
3000	18MKL-FP	145-230	1770
3000	18MKL/20MKL	152	1755

3500	18MKH/20MKL	133	1700
3500	18MKM/20MKL-FP	112-125	1770
3500	18MKM/20MKL-FP	158-187	1770
3500	18MKM/20MKL-FP	205-232	1770
3500	19FKM-FP	115-139	1770
3500	19FKM-FP	173-209	1770
3500	19FKM-FP	228-277	1770
4000	19FKH-FP	62-71	1770
4000	19FKH-FP	124-142	1770
4000	19FKH-FP	179-218	1770
4000	19FKH-FP	238-290	1770
4000	19FKM-FP	107-131	1770
4000	19FKM-FP	161-197	1770
4000	19FKM-FP	220-257	1770
4000	19FKMH-FP	124	1770
4000	19FKMH-FP	177-198	1770
4000	18MKH/20MKL-FP	111-121	1770
4000	18MKH/20MKL-FP	165-188	1770
4500	19FKH-FP	60-68	1770
4500	19FKH-FP	120-135	1770
4500	19FKH-FP	169-207	1770
4500	19FKH-FP	225-277	1770
4500	19FKMH-FP	118	1770
4500	19FKMH-FP	172-187	1770
5000	19FKH-FP	59-65	1770
5000	19FKH-FP	118-130	1770
5000	19FKH-FP	167-201	1770
5000	19FKH-FP	223-267	1770

*This pump can be installed in a suction vessel where the inlet pressure does not exceed 100 psi.

**This pump can be installed in a suction vessel where the inlet pressure does not exceed 125 psi.

***This pump is intended to be installed in a suction vessel where the inlet pressure does not exceed 100 psi.

Last Updated on 2001-04-16

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NAMEPLATE DATA

CATALOG NUMBER:		HO60S2BLG		NAMEPLATE PART #:		422703-004	
MODEL	BF59	FR	364TP	TYPE	RU	ENCL	WPI
SHAFT END BRG		6211-J		OPP END BRG		7220 BEP	
PH	3	MAX AMB	40 C	ID#			
INSUL CLASS	F	Asm. Pos.			DUTY	CONT	
HP	60	RPM	1775	HP		RPM	
VOLTS	230	460		VOLTS			
FL AMPS	143.0	71.0		FL AMPS			
SF AMPS	165.0	83.0		SF AMPS			
SF	1.15	DESIGN	B	CODE	F		
NEMA NOM EFFICIENCY	90.2	NOM PF	87.1	KiloWatt			
GUARANTEED EFFICIENCY	88.5	MAX KVAR	13.9	HZ	60		

UL DATA (IF APPLICABLE):

DIVISION		CLASS I		GROUP I	
TEMP CODE		CLASS II		GROUP II	

VFD DATA (IF APPLICABLE):

VOLTS			
AMPS			
TORQUE 1		TORQUE 2	
VFD LOAD TYPE 1		VFD LOAD TYPE 2	
VFD HERTZ RANGE 1		VFD HERTZ RANGE 2	
VFD SPEED RANGE 1		VFD SPEED RANGE 2	
SERVICE FACTOR		FL SLIP	
NO. POLES		MAGNETIZING AMPS	
VECTOR MAX RPM		Encoder PPR	
Radians / Seconds		Encoder Volts	

TEAO DATA (IF APPLICABLE):

HP (AIR OVER)		HP (AIR OVER M/S)		RPM (AIR OVER)		RPM (AIR OVER M/S)	
FPM AIR VELOCITY		FPM AIR VELOCITY M/S		FPM AIR VELOCITY SEC			

ADDITIONAL NAMEPLATE DATA:

Decal / Plate	WD=159833	Customer PN	
Notes		Non Rev Ratchet	NRR
Max Temp Rise		OPP/Upper Oil Cap	3
Thermal (WDG)		SHAFT/Lower Oil Cap	GREASE
Altitude			
EPACT Note		EPACT Compliance	
COS		Marine Duty	
Balance	0.08 IN/SEC	Arctic Duty	
3/4 Load Eff.		Inrush Limit	
Motor Weight	730	Direction of Rotation	
Sound Level		Special Note 1	
Vertical Thrust		Special Note 2	
Thrust Percentage		Special Note 3	
Bearing Life		Special Note 4	
Starting Method		Special Note 5	
Number of Starts		Special Note 6	
200/208V 60Hz Max Amps		SH Max. Temp.	
190V 50 hz Max Amps		SH Voltage	115
380V 50 Hz Max Amps		SH Watts	96
NEMA Inertia		Load Inertia	
Sumphheater Voltage		Sumphheater Wattage	
Special Accessory Note 1		Special Accessory Note 16	
Special Accessory Note 2		Special Accessory Note 17	
Special Accessory Note 3		Special Accessory Note 18	
Special Accessory Note 4		Special Accessory Note 19	
Special Accessory Note 5		Special Accessory Note 20	
Special Accessory Note 6		Special Accessory Note 21	
Special Accessory Note 7		Special Accessory Note 22	
Special Accessory Note 8		Special Accessory Note 23	
Special Accessory Note 9		Special Accessory Note 24	
Special Accessory Note 10		Special Accessory Note 25	
Special Accessory Note 11		Special Accessory Note 26	
Special Accessory Note 12		Special Accessory Note 27	
Special Accessory Note 13		Special Accessory Note 28	
Special Accessory Note 14		Special Accessory Note 29	
Special Accessory Note 15		Special Accessory Note 30	



EMERSON MOTOR COMPANY
ST. LOUIS, MO



TYPICAL NAMEPLATE DATA
ACTUAL MOTOR NAMEPLATE LAYOUT MAY VARY
SOME FIELDS MAY BE OMITTED

MOTOR PERFORMANCE

MODEL NO.	CATALOG NO.	PHASE	TYPE	FRAME
BF59	HO60S2BLG	3	RU	364TP

ORDER NO.	NA	LINE NO.	
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MPI:	89169	89467	105008
HP:	60	60	50
POLES:	4	4	4
VOLTS:	460	230	208
HZ:	60	60	60
SERVICE FACTOR:	1.15	1.15	1.15
EFFICIENCY (%):			
S.F.	89.6	89.6	89.7
FULL	90.2	90.2	90.2
3/4	92.1	92.1	92.1
1/2	92.1	92.1	92
1/4	88.9	88.9	88.8
POWER FACTOR (%):			
S.F.	87.3	87.3	87.7
FULL	87.1	87.1	87.9
3/4	85.3	85.3	86.9
1/2	79	79	82.4
1/4	60.2	60.2	66.3
NO LOAD	7	7	8.6
LOCKED ROTOR	44.7	44.7	44.2
AMPS:			
S.F.	83	165	151
FULL	71	143	131
3/4	54	107	97
1/2	39	77	68
1/4	26.2	52	44
NO LOAD	20.5	41	31.4
LOCKED ROTOR	406	813	713
NEMA CODE LETTER	F	F	F
NEMA DESIGN LETTER	B	B	B
FULL LOAD RPM	1775	1775	1775
NEMA NOMINAL EFFICIENCY (%)	90.2	90.2	90.2
GUARANTEED EFFICIENCY (%)	88.5	88.5	88.5
MAX KVAR	13.9	13.9	9.6
AMBIENT (°C)	40	40	40
ALTITUDE (FASL)	3300	3300	3300
SAFE STALL TIME-HOT (SEC)	10	10	9
SOUND PRESSURE (DBA @ 1M)	65	65	65
TORQUES:			
BREAKDOWN{% F.L.}	223	223	212
LOCKED ROTOR{% F.L.}	175	175	167
FULL LOAD{LB-FT}	177.5	177.5	147.9

The Above Data Is Typical, Sinewave Power Unless Noted Otherwise