

erated: 07/2013

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES

RECEIVED
SEP 10 2013
Department of Water Resources
Eastern Region

Measurement and Control Requirement Response Form

Please note: completion of this form does not constitute an approval for the measurement method proposed. You must have received an approval from IDWR before you may install a flow meter or use any alternate measurement method.

Your Name: Laura Jorgenson

Your Address: PO Box 4758 Hailey, Idaho 83338
Street City, State Zip

WMIS Number: 305 Metal Tag Number: D0062803 PLS: _____

CHECK ONE OF THE FOLLOWING THREE MEASUREMENT OPTIONS FOR THIS WELL:

☒ A. I PLAN TO INSTALL A CERTIFIED FLOW METER PURSUANT TO IDWR'S ORDER AND CRITERIA.

Manufacturer and Model of flow meter you have selected: Not selected yet

If you have selected this option, you do not need to complete the questionnaire on the back of this page. Please sign and submit this form to the address provided. Please attach a diagram or photo of the wellhead and pumping plant. Show locations of all proposed or existing flow meters, and the locations of boosters, valves, elbows, chemigation ports, etc., and the spacing between each.

☐ B. NO MEASUREMENT, THE WELL IS ABANDONED OR UNUSED.

If the well is abandoned or unused, you do not need to complete the questionnaire on the back of this page. Please sign and submit this form to IDWR. No measuring device will be required at this time. However, if the well is ever brought back into use, a measuring device will be required.

☐ C. I AM REQUESTING A VARIANCE OF THE CERTIFIED METER REQUIREMENT.

Please indicate the method of measurement you wish to use and have approved:

Existing operating device	
Hour meter / Time clock	

New, non-certified flow meter	
Power Consumption Coefficient (PCC)	

If you have selected this option, you must to complete the questionnaire on the back of this page, sign and submit this form to the address provided and attach a diagram or photo of the wellhead and pumping plant. Include or show locations of all proposed or existing flow meters, and the locations of boosters, valves, elbows, chemigation ports, etc., and the spacing between each.

PLEASE PROVIDE YOUR SIGNATURE AND A CONTACT PHONE NUMBER, AND RETURN THIS FORM AND SUPPLEMENTAL INFORMATION TO:

Idaho Department of Water Resources
Water Distribution Section
322 East Front Street
PO Box 83720
Boise, ID 83720-0098

Laura B. Jorgenson
Name/ Title

303-748-7110
Phone Number

8/29/13
Date



BROCKWAY
ENGINEERING
P.L.L.C.

Hydraulics

Hydrology

Water Resources

September 3, 2013

Laura Jorgenson
PO Box 4758
Hailey, Idaho 83338

Re: Mackay Water Rights

Dear Mrs. Jorgenson:

I have prepared a Memo summarizing our meeting from last week. I have had a few maps prepared for you and I have done some initial calculations for the irrigation system. I came to the realization that the permanent system is going to require some decision making. The permanent system has lots of design issues and concerns depending on how many acres you want to permanently irrigate. The decision also needs to be made concerning drilling a second well that will be used strictly for irrigation.

I know that we did not discuss a second well at our meeting, but I think it will be cost effective when compared to modifying your current well. Discussions and quotes from a local well driller will help determine what is most cost effective.

Review the Memo that I have prepared and give me a call if there are additional questions or issues that we need to discuss.

Sincerely,

Greg Sullivan, M.S.

CHARLES E.
BROCKWAY,
PH.D., P.E.

CHARLES G.
BROCKWAY,
PH.D., P.E.

2016 NORTH
WASHINGTON
STREET • SUITE 4

TWIN FALLS,
IDAHO 83301

208•736•8543

FAX: 736•8506



Memo

To: Laura Jorgenson
From: Greg Sullivan
Cc:
Date: September 3, 2013
Re: Water Rights 34-2425D and 34-13914

The property owned by Laura Jorgenson is located in Township 07 North Range 25 East Section 31 NWSE and SWSE. There are two irrigation water rights owned by Laura Jorgenson, 34-2425D and 34-13914. Water right 34-2425D is a ground water irrigation right that has a priority date of December 17, 1961, a diversion rate of 0.208 cfs, volume limit of 36.4 acre-feet per year and can irrigate 10.4 acres. Water right 34-13914 is a ground water irrigation right that has a priority date of December 17, 1961, a diversion rate of 0.11 cfs, a volume limit of 19.4 acre-feet per year and can irrigate 5.53 acres.

When the two irrigation water rights are combined, a total allowed diversion for these water rights is 0.318 cfs (143 gpm or 15.9 inches of water) and can irrigate 15.93 acres. The priority dates for these water rights would be considered good. During dry water years or drought conditions, it would be likely that 34-2425D and 34-13914 would be cut by the water master to allow more senior water rights to be pumped.

There are two phases to consider when evaluating these water rights and utilizing them for irrigation. The two phases are the resumption of use phase and the permanent irrigation phase.

During the resumptions phase, a semi-temporary irrigation system will be installed to provide adequate irrigation on the entire 15.93 acres. This temporary system would utilize the existing domestic well that has been drilled on the property. A three horse power pump would be installed in the domestic well. Approximately 1000 feet of 3 or 4 inch PVC main line would be installed underground with risers every 100 feet with a shut off valve near the domestic well. Two to four mobile sprinkler units capable of providing a wetted area of 100-120 feet in diameter with approximately 300 feet of hoses would be utilized. The mobile sprinklers will be manually moved. The total instantaneous design flow from this system would be 30 gpm.

The design flow is limited to the capacity of the domestic well. When the domestic well was drilled and pump tested. A flow of 40 gpm was sustained for two hours. However, the draw down of the water level during the pump test was within 5 feet of the bottom of the well casing. The 30 gpm design flow is a conservative design flow to prevent the pump from sucking air and damaging the system.

It will be necessary to document the location and date the mobile sprinklers are being used for irrigation. The resumption of the water rights will be verified by the documenting the irrigation location and date. Photographs of irrigation system installation and of water actually being applied to the 15.93 acres will also be necessary.

Resumption of irrigation water rights requires the water be used for the beneficial use identified in the partial decree of the water rights. This means that as long as the water rights are beneficially used to irrigate the entire 15.93 acres during a year, that the water right has been used fully for that year. Meaning that the 15.93 acres have been irrigated. The water rights are capable of irrigating longer and it would be necessary to irrigate more regularly to sustain a pasture or an agricultural crop.

This approach will be adequate to verify and document that the water rights have indeed been used and the forfeiture is no longer an issue. After the resumption of use phase has been incorporated and irrigation has resumed on the 15.93 acres the second phase of permanent irrigation can begin.

The permanent irrigation phase must be started by applying for a transfer to correctly identify the POD (point of diversion) for water rights 34-2425D and 34-13914. The transfer to correct the POD should only be submitted to IDWR after irrigation of the 15.93 acres has commenced during the resumption phase. The permanent irrigation phase can only be implemented after the transfer to change the POD is approved by IDWR. After the transfer is approved, a permanent irrigation system can be installed and would allow additional sprinklers to be utilized simultaneously.

There are several scenarios to consider regarding the permanent irrigation phase. This memo discusses two possible scenarios.

Scenario 1:

Full irrigation of the 15.93 acres, there are two options regarding the POD for 34-2425D and 34-13914. The first option is to continue to utilize the domestic well for irrigation purposes. The second option is to drill a second well that will be used to provide irrigation water to 34-2425D and 34-13914. Both options would be connected into the existing mainline installed during the resumption phase.

The domestic well as it is currently constructed can only provide 30 gpm for irrigation. The water rights allow the diversion of 143 gpm. Modification to the existing domestic well would have to be performed to increase the amount of water that can be diverted from the well. Increase water availability can be accomplished by perforating the existing casing between the depths of 40 to 60 feet or drill and drive pre-perforated 5 or 4 inch casing down another 40 feet. The exact cost and ability to perform these modification varies between different well drillers.

The second option is to drilling a new well specifically for irrigation. The diameter of the well would need to be either 6 or 8 inch The irrigation well would need to be drilled to a minimum depth of 100 feet. The perforations in the casing should be between 50 and 100 feet? The irrigation well would be tied into the existing irrigation mainline. A new pump would need to be installed in the irrigation well. The sizing (horse power) depends on the size of the irrigation mainline and the design flow of the irrigation system.

The cost to modify the existing domestic well may cost as much to drill a new irrigation well. Local well drillers can provide estimates of expected cost to perform both tasks.

Examples of possible a permanent irrigation system for 15.93 acres:

Example 1

- 143 gpm
- 3 inch mainline
- 60 psi operating pressure
- 12.7 horse power required
- 15 horse power pump installed (may require three phase electrical hook up)

Example 2

- 143 gpm
- 4 inch mainline
- 60 psi operating pressure
- 12.1 horse power required
- 15 horse power pump installed (may require three phase electrical hook up)

Scenario 2:

After the transfer has been approved and the water right is in good standing with IDWR, a smaller more manageable acre amount can be irrigated. The remaining acres can be leased to the Idaho Water Supply Bank or can be sold off. The existing domestic well could be utilized with the 3 hp pump. Adding perforations to the well casing between 40 and 60 feet would increase the wells productive capacity.

Example 3

- 3.5 acres
- 30 gpm
- 3 inch mainline
- 60 psi operating pressure
- 2.8 horse power required
- 3.0 horse power pump installed

12.43 acres leased to Idaho Water Supply Bank or sold off

IDWR has instated a Final Order requiring measurement devices for ground water diversions. The water measurement plans for this order need to be submitted to IDWR by September 6, 2013. The flow meter needs to be installed in the spring of 2014. IDWR will be testing this fall an E-Series flow meter manufactured by Badger that can be installed onto a 3 inch pipe. The expected cost will be \$700-\$1000. If a 4 inch mainline is installed, then a Badger model M2000 (\$1,700.00-\$2,000.00) or a Master Meter mode Octave (\$1,900.00-\$2,100.00) would be recommended to meet IDWR requirements.

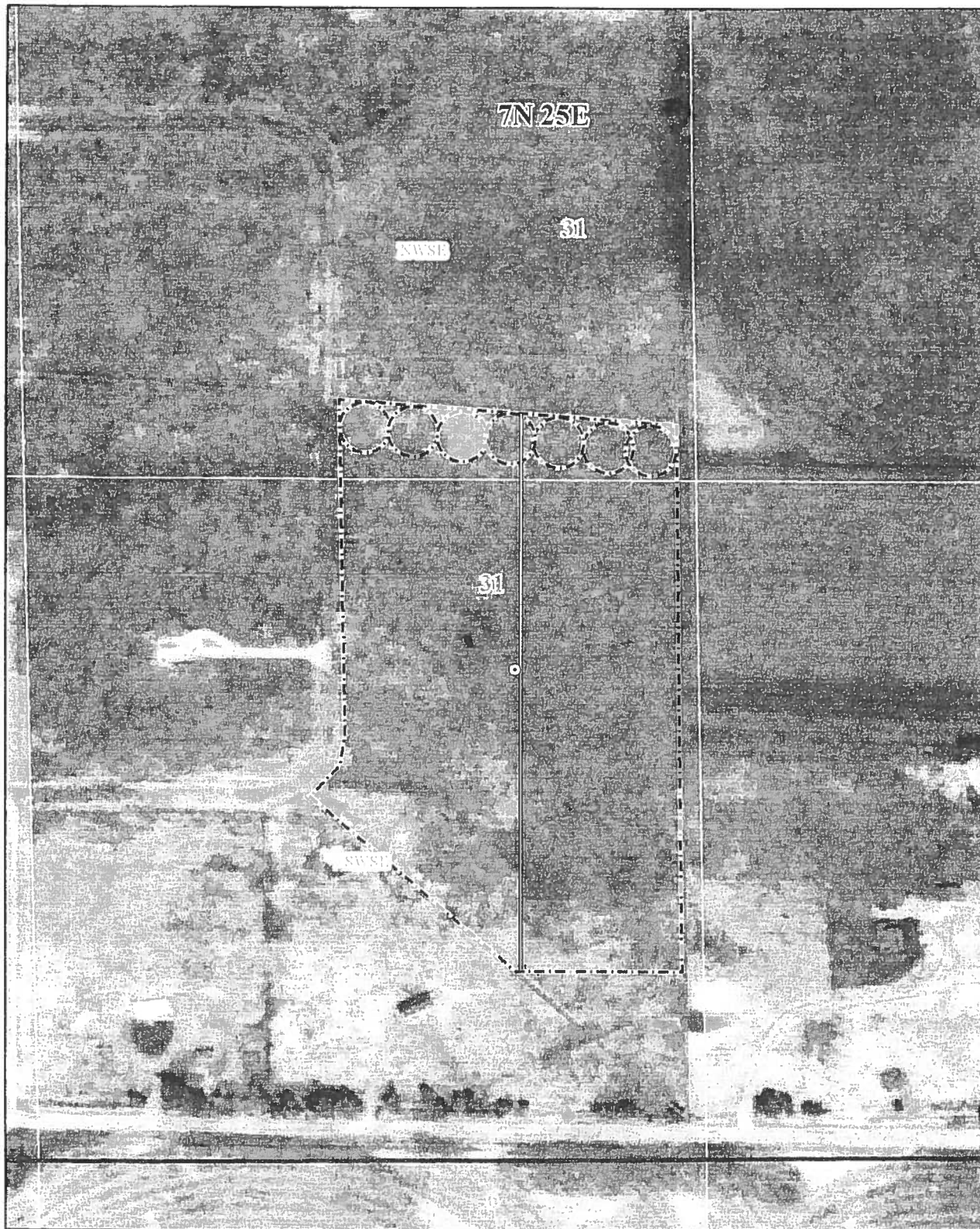
A flow meter would have to be installed in a manner that the flow meter would be able to record the flow coming from the domestic well and the proposed irrigation (if constructed) well into the irrigation system.

Resumption of the irrigation can start after April 1, 2014 and can continue through out the summer. The transfer application should be submitted to IDWR a month or two after resumption irrigation has started. It will take IDWR about three months to process the transfer and then the transfer will have to be advertised in the local news paper to allow for a public comment or protest period. If no one protests the transfer, the transfer can be approved and the permanent irrigation system can then be installed. If someone protests the transfer, their

concern regarding the transfer will have to be addressed and resolved before the transfer can be approved.

After the transfer is approved and completed it will be necessary to protect the 15.93 acres of irrigation water. The forfeiture clock on the water rights will start over and there will be a five year period that the water rights will be protected from forfeiture. During that five year period, the decision for long term management of the water rights on the property needs to be made.

Attached are several aerial maps. One aerial map identifies your property boundary and the 15.93 acres that need to be irrigated. The map also includes 100 foot diameter rings representing proposed irrigation locations for the mobile sprinklers. The second map identifies local wells in the area and their water production capabilities when the wells were drilled. Copies of the well logs for each of these wells are attached to this report.



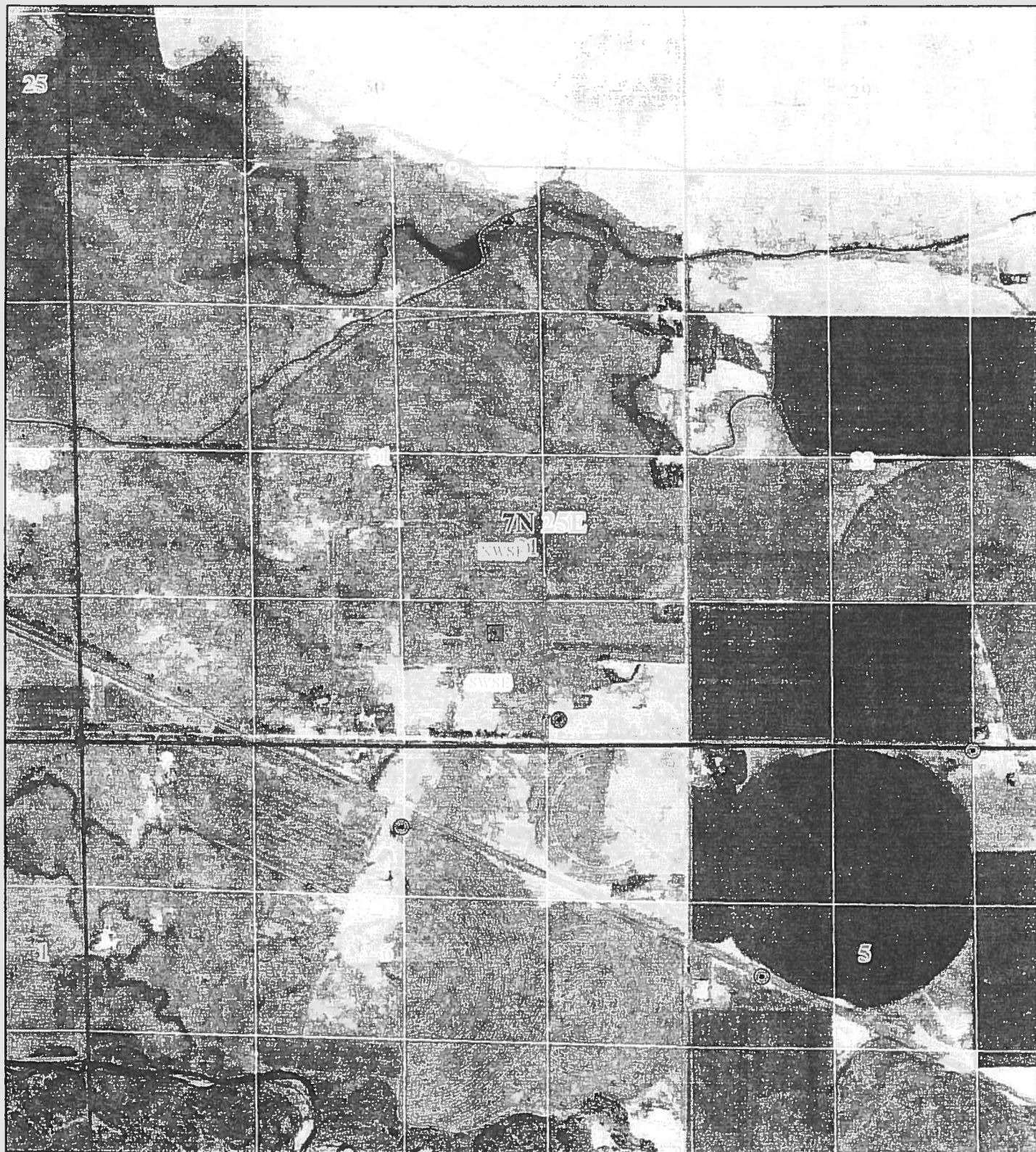
0 115 230 460 Feet

**JORGENSEN, LAURA
PROPOSED IRRIGATION LAYOUT
NAIP 2011 AERIAL PHOTO.**

Legend

- Jorgenson_Property 18.6 AC.
- Mainline 1,095'
- sprinklers
- Well
- twrshp
- Sections
- QQ lines





0 625 1,250 2,500 Feet

**JORGENSEN, LAURA
HIGH PRODUCTION WELLS IN AREA
NAIP 2011 AERIAL PHOTO.**

Legend

Wells_within_1_mi

Owner, Production

- DALE MARIE HUNT, 100
- GARY L KIMBALL, 600
- GEORGE ADAMS, 1800
- IRA C LAMBERT, 3080
- KENNETH STEWART, 1620

- Jorgenson 18.6 AC.
- Jorgenson Well
- townshp
- Sections
- QQ lines

N

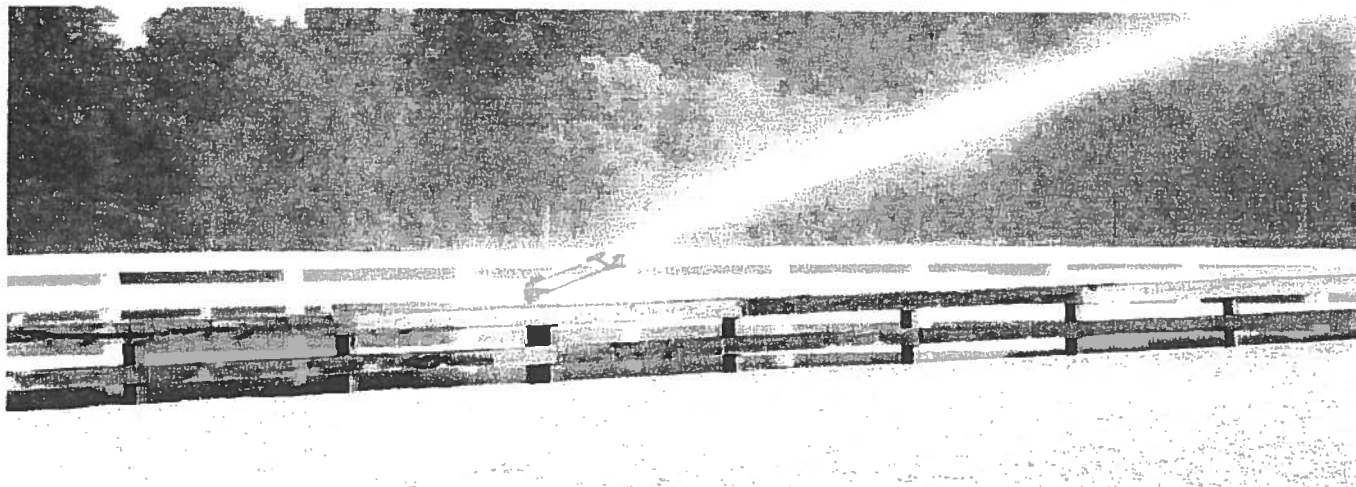
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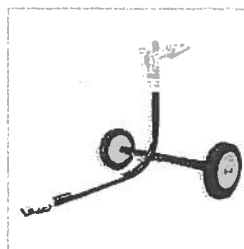
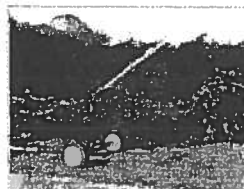
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TOLL FREE: 1-855-805-7901

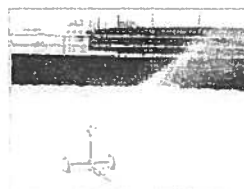
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1000F Wheeled Sprinkler Cart

The 1000F-Heavy Duty Sprinkler Cart is constructed with a 1" heavy gauge steel pipe, a solid 1.5" steel axle for weight, and a durable "baked on" powder coat finish. It also comes standard with a 3/4" brass garden hose swivel and commercial grade Sime model "Funny" impact style sprinkler that can be set to a full or part circle spray pattern with area coverages up to 120 feet in diameter!! This sprinkler includes 5 nozzle sizes so you can match sprinkler output to your water supply capability. This portable wheeled sprinkler cart is an excellent and affordable option for irrigating a variety of areas such as gardens, large yards or acreages, playgrounds, natural and artificial sports fields, horse arenas or round pens for dust control, mining projects, and much more. Our carts are fabricated in house with heavy steel tubing and a solid axle design to prevent tipping while the sprinkler is in operation or when pulling the supply hose to reposition the sprinkler cart. Portable stand sprinkler carts are a great alternative to traveling irrigation sprinklers when a lower cost option is needed, the area to be irrigated is too small, or terrain is too rough for a traveling sprinkler.


<http://bigsprinkler.com/files/1000F-web.jpg>

<http://bigsprinkler.com/files/DSC01796.JPG>

<http://bigsprinkler.com/files/DSC01764.JPG>

<http://bigsprinkler.com/files/DSC01805.JPG>

http://bigsprinkler.com/files/100_8956.JPG

\$189.00

Price: \$189.00

General Information

Specifications:

Flow Rate: 6 - 26 GPM, Pressure: 20 - 80 PSI, Trajectory: 28°, Sprinkler Stand Body Size: 1" Heavy Gauge Tubing, Inlet Size: ¾" Standard, Adaptable to 1", Overall Height (w/ Sprinkler): 22", Overall Length: 28", Total Weight: 25 lbs., Nozzle Sizes Included: 5mm, 6mm, 7mm, 8mm, & 9mm

1000F Sprinkler Performance Table

Nozzle Size	PSI	GPM	Jet Length/Feet (One Direction)	Wetted Circle (Diameter/Feet)
5 mm (0.20")	22	5.3	42	84
	29	6	46	92
	44	7	50	100
	58	9	54	108
6 mm (0.24")	22	7	43	86
	29	8.5	48	96
	44	10	54	108
	58	12	58	116
7 mm (0.28")	22	10	46	92
	29	11	50	100
	44	14	56	112
	58	16	61	122
9 mm (0.35")	22	16.4	50	100
	29	19	54	108
	44	23	61	122
	58	26	64	128

Features and Benefits:

Heavy Gauge Steel Tube Construction, Solid 1.5" Steel Axle, Brass Garden Hose Swivel Adapter, Solid 8" Rubber Wheel Assembly, Durable "Baked On" Powder Coat Finish, Commercial Grade Full or Part Circle Impact Sprinkler w/ Brass Base

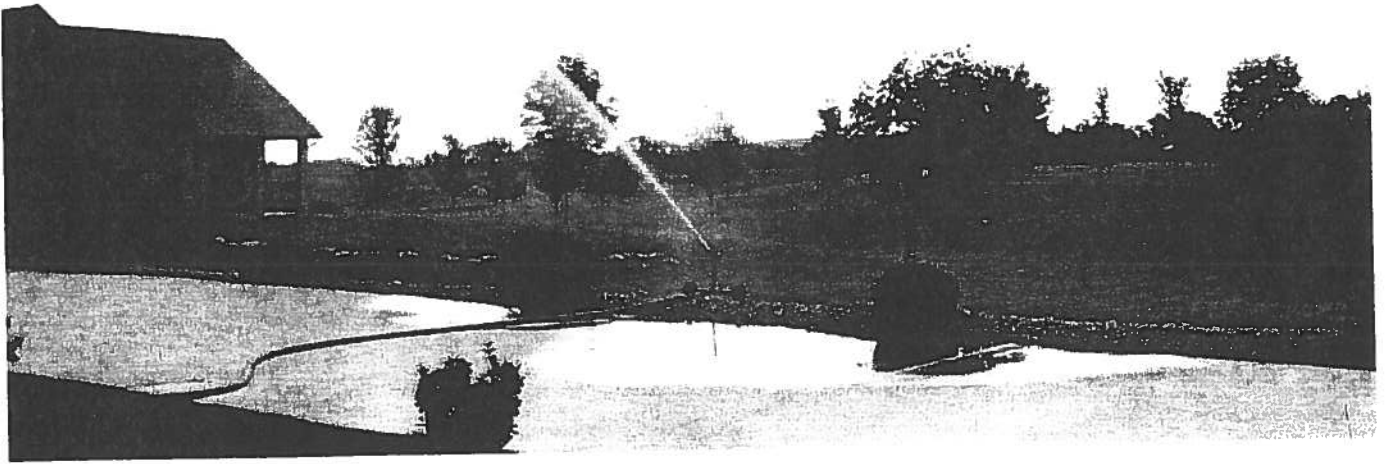
Primary Applications:

Garden Irrigation, Residential or Acreage Yard Irrigation, Horse Arena Dust Control, School Playground Irrigation, Natural Sports Turf Irrigation, Artificial

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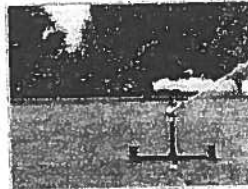
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1250K Wheeled Sprinkler Cart

1250K-Heavy Duty Sprinkler Cart is constructed with 1-1/4" heavy gauge steel pipe and a solid 1-1/2" steel axle for weight; complimented by a durable "baked on" powder coat finish. It also comes standard with 1-1/4" standard national pipe threads and the large commercial grade Sime model "K1" impact style sprinkler that may be set to a full or part circle spray pattern. This cart is a very popular choice and a great setup for 10 to 50 gallon per minute flow rates with coverages up to 150 feet in diameter! The 1250K may be adapted to 1", 1-1/2", or 2" supply lines (A full performance chart may be viewed at the bottom of the page). Also see this cart in our BigSprinkler complete irrigation packages complimented by a pump and hoses; complete and ready to pump from your pond or stream!


<http://bigsprinkler.com/files/1250k-Cutout-web.jpg>

http://bigsprinkler.com/files/Guncart_091307_021_0.jpg

http://bigsprinkler.com/files/Guncart_091307_022.jpg

Portable wheeled sprinkler carts are an excellent and affordable option for irrigating a variety of areas such as gardens, large yards or acreages, playgrounds, natural and artificial sports fields, horse arenas or round pens for dust control, mining projects, and much more. Our carts are fabricated "in house" with heavy steel tubing and a solid axle design to prevent tipping while the sprinkler is in operation or when pulling the supply hose to reposition the sprinkler cart. These portable wheeled sprinkler carts are a great alternative to traveling irrigation sprinklers when a lower cost option is needed, the area to be irrigated is too small, or the terrain is too rough for a traveling sprinkler.

\$299.00

Price: \$299.00

General Information

Specifications:

Flow Rate: 10 - 47 GPM; Pressure: 20 - 80 PSI; Sime K1 Sprinkler; Trajectory: 30°; Sprinkler Stand Body Size: 1-1/4" Heavy Gauge Tubing; Inlet Size: 1-1/4" Standard, Adaptable to 1" or 2"; Overall Height (w/ Sprinkler): 33"; Overall Length: 34"; Overall Width: 38"; Total Weight: 40 lb.

1250K Sprinkler Cart Performance Chart

Nozzle Size	PSI	GPM	Jet Length/Feet (One Direction)	Wetted Circle (Diameter/Feet)
7 mm (0.28")	22	10	46	82
	29	11	50	100
	44	13	56	112
	58	16	61	122
8 mm (0.315")	22	13	51	102
	29	15	56	112
	44	18	62	124
	58	21	67	134
9 mm (0.354")	22	16	54	108
	29	19	57	114
	44	23	64	128
	58	26	69	138
10 mm (0.394")	22	20	56	112
	29	23	59	118
	44	28	67	134
	58	33	72	144
12 mm (0.472")	22	24	56	112
	29	28	62	124
	44	31	68	136
	58	37	77	154

Features and Benefits:

Heavy Gauge Steel Tube Construction, Solid 1.5" Steel Axle, Solid 10" Rubber Wheel Assembly, Durable, "Baked On" Powder Coat Finish, Commercial Grade Full or Part Circle Impact Sprinkler w/ Brass Base, Full Range of Nozzles

Included:

Primary Applications:

General Irrigation Use, Gardens, Residences or Acreages, Horse Arena Dust Control, School Playgrounds, Natural Sports Turf, Artificial Sports Turf Cooling, Mining Dust Control, Pastures, Hobby Farms, Wildlife Food Plot

Add to cart

Attachment

[K1_Product_Sheet.pdf](http://bigsprinkler.com/files/K1_Product_Sheet.pdf) (http://bigsprinkler.com/files/K1_Product_Sheet.pdf)

Size

68.38 KB

[1250K_Performance_Chart.pdf](http://bigsprinkler.com/files/1250K_Performance_Chart.pdf) (http://bigsprinkler.com/files/1250K_Performance_Chart.pdf)

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