

**CLAIM OF BENEFICIAL USE  
SITE REPORT FOR T-6833  
20 DECEMBER 1996**

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WATER RESOURCES DEPT.  
SALEM, OREGON

General Information

Double M Ranch, Inc.  
77197 Highway 207  
Echo, Oregon 97826

Mike Taylor (Mike) (541/376-8317), corporate owner and operator, was the person SCM communicated with during the inspection and survey.

T-6833 involves two water rights from two open pit wells; Permit G-3971 and Permit G-10222. Permit G-3971 is for the irrigation of 65.3 acres. Under this transfer, all of the 65.3 acres were to be relocated to a new area and be irrigated within two center pivots. Both permits were authorized to have both pit wells as their source of water under this transfer.

Water Source Described in Transfer

Section 13 Pit Well - located 270 feet south and 2,540 feet west from the northeast corner, Section 13, being within the NW1/4 NE1/4, Section 13, Township 3 North, Range 28 East, W.M. At land surface, the pit is 20 feet wide and 40 feet long with the water surface 6 feet below land surface. Mike reported the pit was dug with a clam shell 20 years ago and is currently about 20 feet deep.

Section 18 Pit Well - located 1,450 feet south and 3,160 feet west from the north 1/4 corner of Section 18 being within the SW1/4 NW1/4, Section 18, Township 3 North, Range 29 East, W.M. This pit well is about 15 feet wide by 30 feet long at land surface. Water surface was 8 feet below land surface. Mike reported the well was dug by a drag line 14-16 years ago and is currently 20 feet deep.

Both pit wells had 3 inches to 4 inches of ice on the surface of the water on the day of inspection.

Description of Equipment

Pit Well in section 13 is equipped with 20 hp G.E. electrical motor attached to a centrifugal pump. The pump had 8" suction and 6" discharge. Mike reported the pump to be a Cornell Model 3W-20 hp. He reported the pump yield to be 375 gpm with 150 feet of head. We have included as part of this report Cornell's pump curve for this model of pump. A 6" McCrometer flow meter (Serial No. 95-744-6") is properly located on the 6" discharge side of the pump.

Pit Well in section 18 had no informational plate on the motor. Mike advised it to be a 25 hp motor. It was attached to an 8" suction by 6" discharge Jacuzzi centrifugal

model GM4 pump. Mike stated the pump yield is 300 gpm with 150 feet of head. We have included as part of this report a pump curve for this model of pump. A 6" McCrometer flow meter (Serial No. 95-740-6) is properly located on the 6" discharge line.

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The location, kind, and size of the pipes are located on the Final Proof Map.

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Both pit well pumps are plumbed into the same delivery system with seven valves (location and size shown on attached Final Proof Map) so water can be controlled to all areas of irrigation. In the NW1/4 of Section 13, Township 3 North, Range 28 East, W.M., is a four-tower, 726 feet, Pierce circle irrigating 38 acres. In the NE1/4 of Section 13, is a seven-tower Zimmatic 1,130 feet circle irrigating 92.1 acres. In the NW1/4 NW1/4 of Section 18, Township 3 North, Range 29 East, W.M., is located a 1,400 foot wheel line equipped with 35 Nelson sprinklers (F-33). The F-33 Nelson sprinklers have #7 flow control nozzles. In the SW1/4 NW1/4 of Section 18, Township 3 North, Range 29 East, W.M., is a Nelson big gun with a 1.2" nozzle mounted on a four-wheel cart.

Mike reported that the 38-acre circle is nozzled for 300 gpm at 30 psi. The 92.1 acre circle is nozzled for 800 gpm at 45 psi. In the 92.1 acre circle, only 27.3 acres are involved in T-6833, Permit G-3971. The balance (64.8 acres) has Westland Irrigation District water rights. Mike controls the water from Westland irrigation District and the two pit wells to this circle with three valves at the base of the center tower. The wheel line operates at 55 psi. Each flow control nozzle delivers 7 gpm. The big gun operates at 200 gpm at 70 psi.

In 1996, the 38-acre circle, wheel lines, and big gun irrigated pasture grass; the 92.1-acre circle grew alfalfa hay.

### System Capacity

We calculated the horsepower requirement to deliver 300 gpm through 1,980 feet of 6" PVC to irrigate 38-acre circle.

### Pump Requirements

Misc. Valves and Fittings		15 ft.
Friction Head	1,980 ft. 6" PVC x .24 psi/100 ft. = 4.75 x 2.31 =	11 ft.
Suction Head		12 ft.
Elevation Head	from U.S.G.S. map	20 ft.
Pressure Head	45 psi x 2.31	<u>104 ft.</u>
		162 ft.

### Horsepower Required

$$\frac{300 \text{ gpm} \times 162 \text{ ft.}}{3,960} = 12.2 \text{ hp}$$

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12.2 hp ÷ 70% Efficiency = 17.5 hp

20 hp at Pit Well in section 13 is adequate and can deliver quantities allowed on the order.

Below we have calculated horsepower required to operate the wheel line; (35 sprinklers @ 7 gpm per sprinkler at 55 psi).

Misc. Valves and Fittings	15 ft.
Friction Head      1,320 ft. 8" aluminum x 3 ft./1,000 ft. =	4 ft.
Suction Head	12 ft.
Elevation Head	5 ft.
Pressure Head	<u>127 ft.</u>
	163 ft.

Horsepower Required

$$\frac{35 \text{ sp} \times 7 \text{ gpm} \times 163 \text{ ft.}}{3,960} = 10 \text{ hp}$$

10 hp ÷ 70% Efficiency = 14.2 hp

25 hp at Pit Well in section 18 is adequate.

Permit G-3971

The following acres listed by 1/4 - 1/4 section were found to be irrigated under the 92.1 center pivot and 38 acres center pivot authorized by this transfer for Permit G-3961.

	<u>G-3971</u>	<u>District</u>	<u>Westland Irr. Total</u>
NE1/4 NE1/4	3.1	28.5	31.6
NW1/4 NE1/4	22.1	0	22.1
SW1/4 NE1/4	2.1	15.2	17.3
SE1/4 NE1/4	0	21.1	21.1
NE1/4 NW1/4	2.4	0	2.4
NW1/4 NW1/4	33.0	0	33.0
SW1/4 NW1/4	<u>2.6</u>	<u>0</u>	<u>2.6</u>
Total	65.3	64.8	130.1

All in Section 13, Township 3 North, Range 28 East, W.M.

The pit well pumps and the pipeline system have the capacity to serve the above-described area.

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Permit G-10222

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WATER CONTROL

The following acres listed by 1/4 - 1/4 section were found irrigated as described in the approving order.

NW1/4 NW1/4 (Lot 1)	32.6 Acres
SW1/4 NW1/4 (Lot 2)	17.2 Acres

All in Section 18, Township 3 North, Range 28 East W.M.

The pit well pumps and the pipeline system have the capacity to irrigate the ground described under Permit G-10222.

The Final Proof Survey and Inspection of the use was found to be complete under the terms and conditions of T-6833. No variation was found from the order approving T-6833.

This Final Proof Survey and Inspection was completed under my direct supervision on 30 December 1996 and the facts contained in this report and accompanying the Final Proof Map are correct to the best of my knowledge.

Dale G. Van Schoiack  
3/7/97

Dale G. Van Schoiack, P.E.

Mike Taylor, Corporate Owner and Operator, agrees to the findings of the CWRE and does submit this site report and map as my Claim of Beneficial Use of the water as provided under the terms and conditions of my transfer 6833.

Mike Taylor

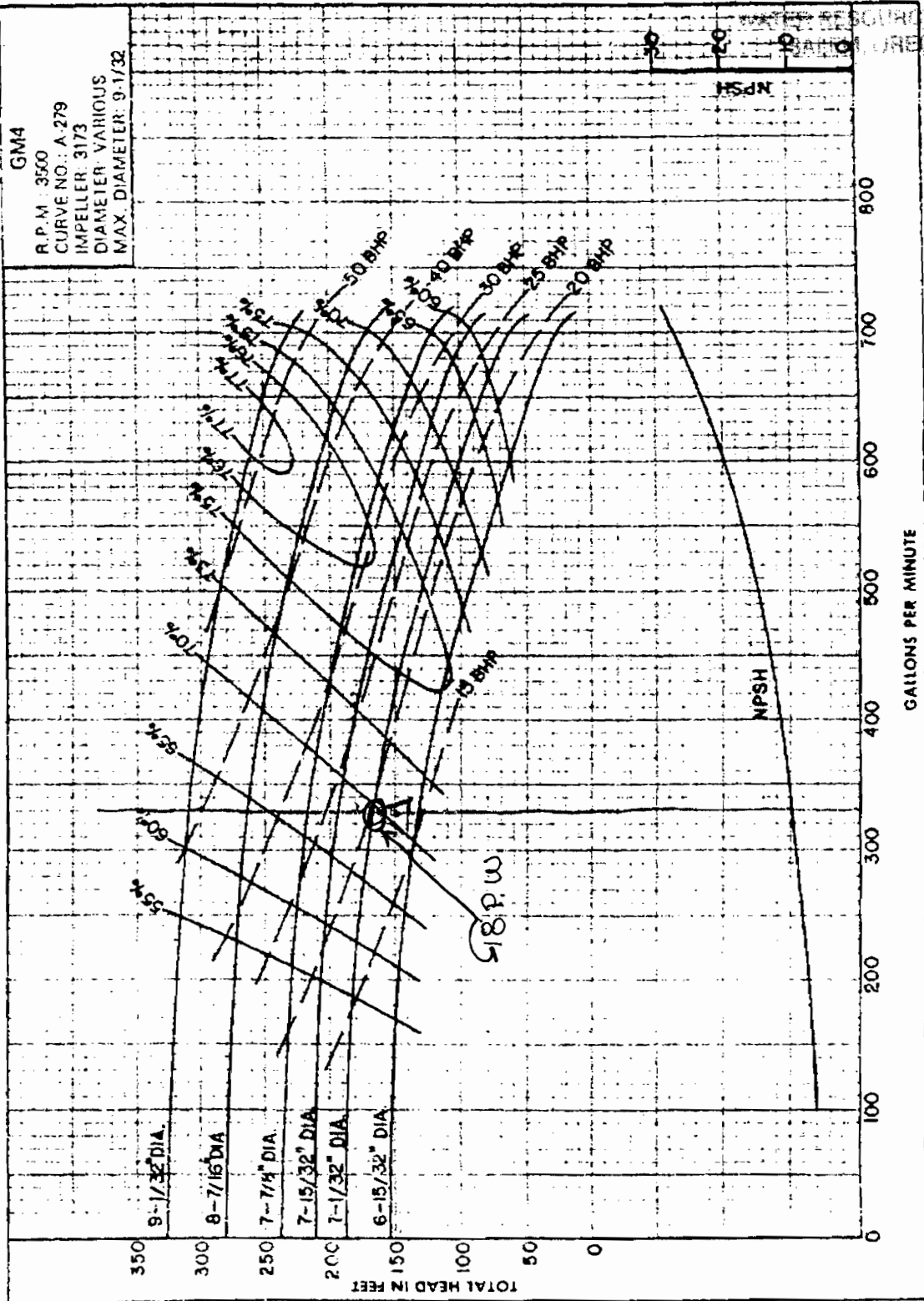
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Jacuzzi

# Model GM4

SINGLE-STAGE CENTRIFUGAL PUMPS

TW1  
sump  
w/leak  
and  
GRA



GM4  
R.P.M. 3500  
CURVE NO. A-279  
IMPELLER: 3173  
DIAMETER: VARIOUS  
MAX. DIAMETER: 9-1/32

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GM4  
R.P.M. VARIOUS  
CURVE NO. A-339  
IMPELLER: 3173

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