

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
BENEFICIAL USE FIELD REPORT

A. GENERAL INFORMATION

Permit No: 63-11851

Exam Date: 8/30/2012

1. Current Owner: MICHEL J SWARTZ
8827 S POWERLINE RD
NAMPA ID 83686
(208)466-3823
2. Accompanied by: Michel Swartz
Phone No: Same
Address: Same
Relationship to Permit Holder: Same

3. **SOURCE**

GROUND WATER

TRIBUTARY

N/A

B. OVERLAP REVIEW

1. Other water rights with the same place of use: Boise-Kuna Irrigation Dist. + Nampa & Meridian Irrigation Dist.
2. Other water rights with the same point of diversion: None

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

GROUND WATER

NE1/4NE1/4

Sec. 22, Twp 02N, Rge 02W, B.M.

CANYON County

Method of Determination: GPS Location N43° 30.162' W116° 33.478' Garmin model GPSmap 76 Datum NAD 83

2. **PLACE OF USE:**

IRRIGATION

Twp	Rge	Sec	NE				NW				SW				SE				Totals
			<u>NE</u>	<u>NW</u>	<u>SW</u>	<u>SE</u>	<u>NE</u>	<u>NW</u>	<u>SW</u>	<u>SE</u>	<u>NE</u>	<u>NW</u>	<u>SW</u>	<u>SE</u>	<u>NE</u>	<u>NW</u>	<u>SW</u>	<u>SE</u>	
02N	02W	22	35			38													73

Total Acres: 73

Method of Determination: Bing (2011) Aerial Photography w/ field verification.

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 Diversion****ID No.*****Motor Make****Hp****Motor Serial No.****Pump Make****Pump Serial No. or Discharge Size**Well - No Metal TagUS Motors50R3937410Unknown12" Discharge PipeBooster Pump -Magnetek M Century Electric E Plus Motor - 30 HP

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

D. FLOW MEASUREMENTS**1. Measurement**

<u>Equipment</u>	<u>Type</u>	<u>Make</u>	<u>Model No.</u>	<u>Serial No.</u>	<u>Size</u>	<u>Calib. Date</u>
Stop watch, tape measure + wood pieces	N/A	N/A	N/A	N/A	N/A	N/A

=> Time Volume Measured Estimation (travel time of piece(s) of wood 85 ft along trapezoidal cement ditch)

=> Manning Flow Rate Estimation (based on wetted perimeter dimensions of trapezoidal cement ditch & topo map slope est.)

2. Measurements:**a. Trapezoidal cement ditch wetted perimeter dimensions:**

h (height – depth of water in center of ditch) = 0.25 ft

a (length longer parallel side – width of water surface) = 1.8 ft

b (length shorter parallel side – width of ditch bottom) = 1.2 ft

b. Travel time small, light weight, piece of wood 85 ft down straight section of cement ditch:

Time #1 = 11.1 sec

Time #2 = 11.1 sec

Time #3 = 11.0 sec

Avg = [(11.1 + 11.1 + 11.0)/3] = 11.1 sec

E. FLOW CALCULATIONS

 X Additional Computation Sheets Attached

Measured Method: Time Volume Measured Estimation:

$$A = [h(a+b)]/2 = [0.25 \text{ ft} (1.8 \text{ ft} + 1.2 \text{ ft})]/2 = 0.4 \text{ ft}^2$$

$$V = 85 \text{ ft}/11.1 \text{ sec} = 7.7 \text{ ft/sec}$$

$$Q = A \times V = 0.4 \text{ ft}^2 \times 7.7 \text{ ft/sec} = 3.1 \text{ cfs}$$

Measured Method: Manning Flow Rate Estimation:

$$Q = 2.14 \text{ cfs (see attached "Manning Flow Rate Calculation Summary Report" for details)}$$

Time Volume Measure Estimation = **3.1 cfs**

Manning Flow Rate Estimation = **2.14 cfs**

Permitted Rate = **1.60 cfs**

Beneficial Use Limit = 73 ac x 0.02 cfs/ac = **1.46 cfs**

Proof of Beneficial Use fee paid = \$125.00 = up to **2.00 cfs**

Recommend Beneficial Use Limit = 1.46 cfs

F. VOLUME CALCULATIONS**1. Volume Calculations for Irrigation:**

$$V_{I.R.} = (\text{Acres Irrigated}) \times (\text{Irrigation Requirement}) = 73 \text{ ac} \times 4.5 \text{ afa/ac} = 328.5 \text{ afa}$$

$$V_{D.R.} = [\text{Diversion Rate (cfs)}] \times (\text{Days in Irrigation season}) \times 1.9835 = 1.46 \text{ cfs} \times 260 \text{ days} \times 1.9835 = 752.9 \text{ afa}$$

$$V = \text{Smaller of } V_{I.R.} \text{ and } V_{D.R.} = 328.5 \text{ afa} < 752.9 \text{ afa} = \text{Recommend } 328.5 \text{ afa}$$

2. Volume Calculations for Other Uses: N/A. No other uses permitted.**G. NARRATIVE/REMARKS/COMMENTS****SYSTEM DESCRIPTION:**

System consists of a 12" dia, 160 ft deep well (ID Power meter # 41-018-323 – irrigation well only use of power on

G. NARRATIVE/REMARKS/COMMENTS CONTINUED

this meter) with a 12" discharge to booster pump (ID Power meter # 41-018-219 – booster only use of power on this meter) discharges to cement ditch and/or sprinkler line. System set up so well water discharged to open channel, piped to booster then discharged to open channel, OR piped to booster then piped to sprinkler system. Well construction permit attached to report, but no well log on file documenting construction. However, owner showed me Layne Pump Co. pump installation receipt that indicates total well depth of 160 ft with static water level at 52 ft and total dynamic head (TDH) of 176 ft for the well constructed on 8/3/92. Sprinkler system (southern portion of SENE) consists of 138 oscillating sprinkler heads rated at ~ 4 gpm per head (per owner).

IRRIGATION PRACTICES:

This well is used to supplement surface water irrigation within the POU. Same distribution system for both ground and surface water. Field in the southern portion of the SENE irrigated via gravity for tall crops and sprinkler for shorter crops. Remainder of fields in POU gravity irrigated from a series of ditches. Crops grown include sugar beets, wheat, seed corn, alfalfa seed, carrot seed, onion seed, mint, turnip seed, and garden bean seed. Supplemental well used when canal water not available (low water years).

MEASUREMENT(S):

Owner turned supplemental well on for field examination. Water discharged from well past booster into cement ditch. Booster pump not on during exam. Measurements of wetted perimeter and travel time/distance taken at location marked on exam map. The trapezoidal cement ditch was very straight with rough joints. No measurements taken during field exam to determine slope, but ~~slope~~ ^{SLOPE} estimation based on topographic map representative of field conditions.

OVERLAP:

Surface water from Nampa and Meridian Irrigation District and Boise-Kuna Irrigation District serves as primary source of water for irrigation of POU. There are no other overlapping rights associated with the POU or POD.

COMPLIANCE WITH PERMIT CONDITIONS:

Permit conditioned owner shall measure and report diversions of water annually. Currently there is no measuring device on the discharge line from the well. Due to the change in administration of water rights in Bs 63, measuring devices and reporting are not currently necessary for supplemental irrigation wells in this area. Swartz requested these conditions be waived/modified during licensing. Recommend modifying these conditions to condition 01M stating a device shall be installed and reporting done if/when the Department requests it in the future. Use of ground water under this right is supplemental to surface water in accordance with conditions of the right. No new land irrigated, no new well drilled, nor an existing well enlarged or deepened after this permit was applied for. To the best of my knowledge, owner has complied with all other permit conditions.

Have conditions of permit approval been met? Yes X No – Modifications of measurement device and reporting as discussed above approvable per Supervisor. All other conditions met.

H. RECOMMENDATIONS**1. Recommended Amounts**

<u>BENEFICIAL USE</u>	<u>PERIOD OF USE</u>	<u>DIVERSION RATE</u>	<u>ANNUAL VOLUME</u>
IRRIGATION	03/01 to 11/15	1.46 CFS	328.5 AF
<u>Totals:</u>		1.46 CFS	328.5 AF

2. Recommended Amendments

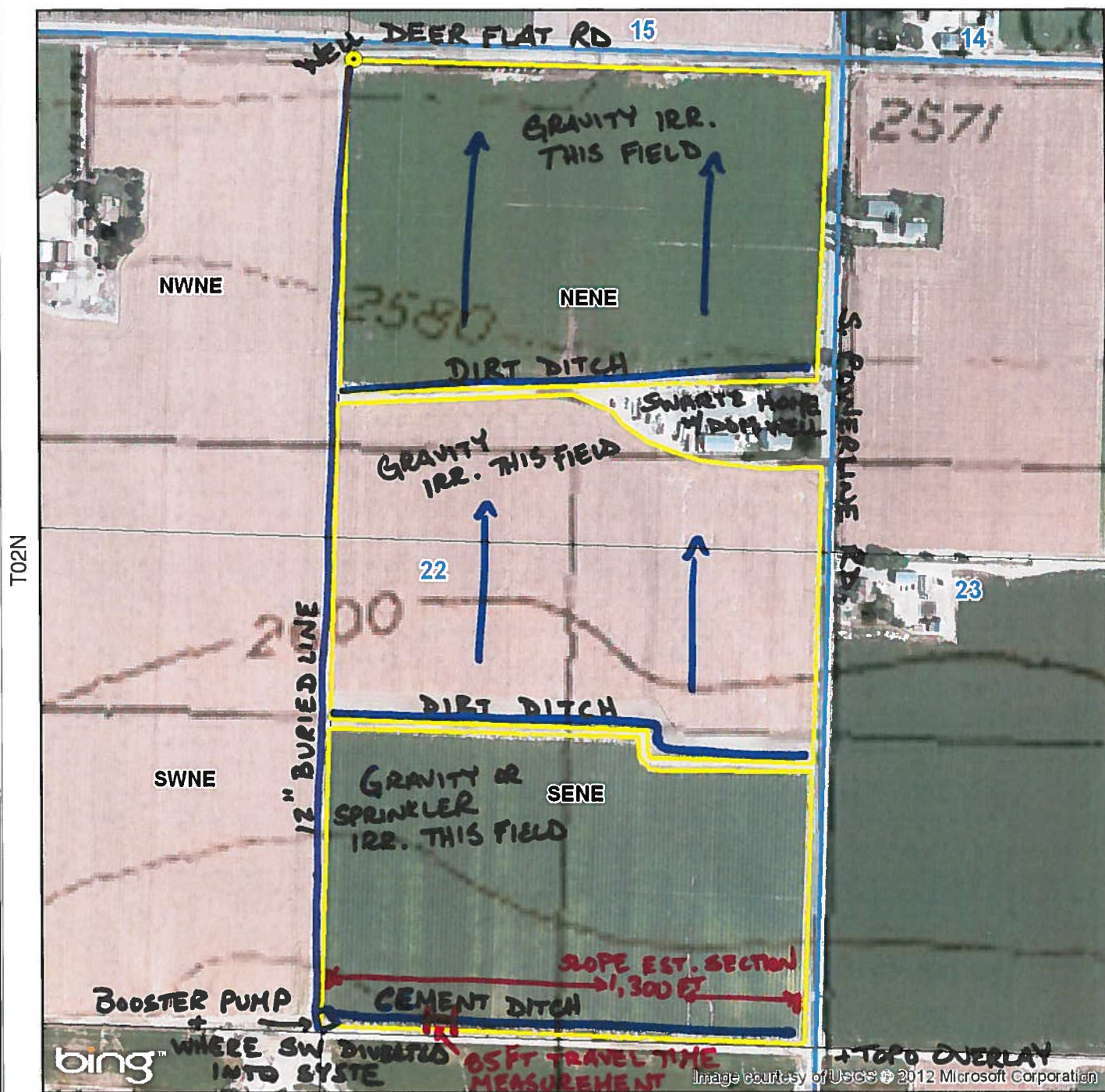
Change P.D. as reflected above Add P.D. as reflected above X None
Change P.U. as reflected above Add P.U. as reflected above Other

I. AUTHENTICATION

Field Examiner's Name Angela M. Gumm Date 12/13/2012
 Reviewer _____ Date _____

63-11851 Beneficial Use Field Report System Diagram & Map

R02W



● Point of Diversion

Place Of Use Boundary

Townships

PLS Sections

Quarter Quarters

Manning Flow Rate Calculation Summary Report

General Information:

Permit/Claim Number(s): 63-11851

Name of Claimant/Permit Holder: Michel J. Swartz

Name of Ditch, Canal, or Stream: cement ditch on Swartz property

Date of Measurement: Aug-12 Data Collect By: Angie Grimm

Measurement Location: SE 1/4 NE 1/4 Section: 22 TWNS: 2N RNG: 2W

Channel Description Information:

Channel Type ☐ Pipe Full ☐ Circular ☐ Rectangular ☐ V-Notch ☒ Trapezoidal ☐ User Defined

Channel Description: Straight cement ditch diverts water from booster pump across property from west to east.

☒ Photo(s) Attached

☒ Map(s) Attached

Channel Cross Sectional Information:

Basis ☐ High Water Mark ☒ Water Surface

Pipe Full Radius: <u> </u>	Circular Channel Radius: <u> </u> Depth of Flow: <u> </u>	Rectangular Channel Width: <u> </u> Depth of Flow: <u> </u>	User Defined Channel: <table border="0" style="width: 100%;"> <tr> <th>Meas. No.</th> <th>Distance (ft)</th> <th>Depth (ft)</th> </tr> <tr><td>1</td><td><u> </u></td><td><u> </u></td></tr> <tr><td>2</td><td><u> </u></td><td><u> </u></td></tr> <tr><td>3</td><td><u> </u></td><td><u> </u></td></tr> <tr><td>4</td><td><u> </u></td><td><u> </u></td></tr> <tr><td>5</td><td><u> </u></td><td><u> </u></td></tr> <tr><td>6</td><td><u> </u></td><td><u> </u></td></tr> <tr><td>7</td><td><u> </u></td><td><u> </u></td></tr> <tr><td>8</td><td><u> </u></td><td><u> </u></td></tr> <tr><td>9</td><td><u> </u></td><td><u> </u></td></tr> <tr><td>10</td><td><u> </u></td><td><u> </u></td></tr> <tr><td>11</td><td><u> </u></td><td><u> </u></td></tr> <tr><td>12</td><td><u> </u></td><td><u> </u></td></tr> <tr><td>13</td><td><u> </u></td><td><u> </u></td></tr> </table>	Meas. No.	Distance (ft)	Depth (ft)	1	<u> </u>	<u> </u>	2	<u> </u>	<u> </u>	3	<u> </u>	<u> </u>	4	<u> </u>	<u> </u>	5	<u> </u>	<u> </u>	6	<u> </u>	<u> </u>	7	<u> </u>	<u> </u>	8	<u> </u>	<u> </u>	9	<u> </u>	<u> </u>	10	<u> </u>	<u> </u>	11	<u> </u>	<u> </u>	12	<u> </u>	<u> </u>	13	<u> </u>	<u> </u>
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V-Notch Channel Height: <u> </u> Depth of Flow: <u> </u> Top Width: <u> </u>	Trapezoidal Channel Height: <u>not collected</u> Depth of Flow: <u>0.25 ft</u> Top Width: <u>1.8 ft</u> Bottom Width: <u>1.2 ft</u>																																												

Channel Slope Information:

Basis ☐ High Water Mark ☐ Channel Bottom ☒ Land Surface

	Upstream Elevation Meas. (ft)	Downstream Elev. Meas. (ft)	Distance Between US & DS Points (ft)	Slope (ft/ft) US - DS / Dist.
Upper Alignment:	<u> </u>	<u> </u>	<u> </u>	<u> </u>
Middle Alignment:	<u> </u>	<u> </u>	<u> </u>	<u> </u>
Topo Map Est.	<u>2660</u>	<u>2630</u>	<u>1300</u>	<u>0.02</u>

Manning Calculation Output

Q = 2.14 CFS

V = 5.63 FPS

A = 0.38 SF

S = 0.02 FT/FT

n = 0.013

Drilling Permit No. 63-92-W-571
Water Right Permit No. 63-11851
Injection Permit No. _____

State of Idaho
Department of Water Resources

~~826832~~-
725911

APPLICATION FOR DRILLING PERMIT

1. Applicant (please print) MICHEL J. SWARTZ
2. Mailing Address 8827 S. POWERLINE RD
City & State NAMPA Zip Code 83686 Telephone 466-3823
☒ Well Owner ☐ Well Operator ☐ Other, specify _____
3. Proposed well location NE 1/4 NE 1/4, or Gov't Lot No. _____
Sec. 22, Twp. 2N, Rge. 2W, County CANYON
Street Address of Well Site _____
Lot, block and subdivision _____
4. Proposed use of well:
☐ Domestic: The use of water for homes, organization camps, public campgrounds, livestock and for any other purpose in connection therewith, including irrigation of up to 1/2 acre of land, if the total use is not in excess of 13,000 gpd; or any other uses, if the total use does not exceed a diversion rate of 0.04 cfs and a diversion volume of 2500 gpd.
Domestic does not include water for multiple ownership subdivisions, mobile home parks, commercial or business establishments, unless the use does not exceed a diversion rate of 0.04 cfs and a diversion volume of 2500 gpd.
☒ Non-Domestic: Any beneficial use not included within the definition of domestic.
☐ Injection
☐ Monitoring - A well bore schematic and map is required for each well.
No. of proposed wells: _____
☐ Other _____ (Describe) _____
5. Well construction information:
A. ☒ New well ☐ Deepen ☐ Modify ☐ Replace - See Condition 9
B. Proposed Casing Diameter 12" Proposed Maximum Depth 200'
C. Anticipated bottom hole temperature:
☒ 85°F or less (Cold water well)
☐ 85°F to 212°F (Low temp. geothermal well)
☐ 212° or more (Geothermal well)
6. Construction Start Date 7/22/92
Anticipated Well Driller ROBINSON #490
NOTE: The actual well driller must be identified prior to drilling.
8. Applicant's signature Michel Swartz Date 7-21-92
Title _____ (Owner, Firm Representative, Other)

ACTION OF THE DEPARTMENT OF WATER RESOURCES

This Permit is Approved

Date 7/21/1992

If approved, this permit authorizes the construction or modification of a well subject to the following conditions. READ CAREFULLY

GENERAL CONDITIONS:

1. The well must be constructed in compliance with the applicable statutes, specific conditions of approval shown on the water right permit, injection well permit, transfer or amendment and the rules and regulations of the Department for water appropriation, injection wells and well construction standards.
2. This drilling permit is valid for two (2) months from the above approval date for the start of construction and is valid for one (1) year from the approval date for completion of the well unless an extension has been granted.
3. This permit does not constitute an approval of the District Health Department or the Idaho Department of Health and Welfare which may be required before construction of this well.
4. The well shall be constructed by a driller currently licensed in the State of Idaho who must maintain a copy of the drilling permit at the drilling site.
5. Approval of this drilling permit does not authorize trespass on the land of another party.
6. This permit does not constitute other local, county, state or federal approvals which may be required for construction of a well.
7. This drilling permit does not represent a right to divert and use the water of the State of Idaho.
8. If a bottom hole temperature of 85° or greater is encountered, well construction shall cease and the well driller and the well owner shall contact the Department immediately.
9. If this permit is for a replacement well, the well being replaced must be abandoned in accordance with Department Rules and Regulations.

SPECIFIC CONDITIONS:

1. The drilling permit holder assumes all risks and recognizes that the department can not assure that a water right for use of water from the well will be approved.
2. The drilling permit holder is not authorized to divert or use any water from the well until the department issues the appropriate water right authorization.
3. The drilling permit holder agrees to be bound by the conditions of approval which may be issued in connection with the water right authorization.

David R. Tuttle
Signature of Authorized Department Representative

Mgr. Western Reg. Off
Title

Receipt No. W015100 Received by Ly Fee 200 Date 7/21/92

EXTENSION OF DRILLING PERMIT

Extension approved by _____ Approval Date _____

This extension expires: _____

63-11851 Beneficial Use Field Report Photos



63-11851 Exam 8/30/2012: POD facing west.



63-11851 Exam 8/30/2012: Location where water discharges from well into cement ditch at top of hill (southern most edge of POU). Portion of booster pump visible in right side of photo foreground. Cement box visible where water diverted for surface water irrigation. Portion of POU left side of photo, sprinkler irrigation with surface water occurring during exam. All water in cement ditch at time of exam from well.



State of Idaho

DEPARTMENT OF WATER RESOURCES

Western Region, 2735 Airport Way • Boise, Idaho 83705-5082

Phone: (208) 334-2190 • Fax: (208) 334-2348 • Web Site: www.idwr.idaho.gov

C. L. "BUTCH" OTTER
Governor

GARY SPACKMAN
Interim Director

August 17, 2012

Michel J. Swartz
8827 S. Powerline Rd.
Nampa, ID 83686

RE: Scheduling Field Exam for Water Right Permit No. 63-11851

Dear Mr. Swartz:

We are planning to **conduct water right examinations** in the vicinity of the above-referenced permit **during the weeks of August 20 and August 27, 2012**. An examination is needed to verify your water use in order to issue a water right license.

Please be advised that you will need to operate your system under normal conditions during the examination. The permit authorizes diversion of ground water for supplemental irrigation of up to 80 acres.

In order to conduct your exam as efficiently as possible, we ask that you call this office to schedule a day and time convenient for you. **Please call me at 208-334-2190 by August 24, 2012.** If there is a problem with scheduling or conducting the examination at this time, please call and other arrangements can be made. I appreciate your attention in this matter and I look forward to hearing from you.

Sincerely,

A handwritten signature in black ink that reads "Angela M. Grimm". The signature is fluid and cursive, with the first name "Angela" being the most prominent part.

Angela M. Grimm, P.G.
Water Resource Agent, Sr.