



# STATE OF NEVADA

Department of Conservation & Natural Resources

DIVISION OF ENVIRONMENTAL PROTECTION

Brian Sandoval, Governor

Leo M. Drozdoff, P.E., Director

Colleen Cripps, Ph.D., Acting Administrator

## FACT SHEET

(Pursuant to NAC 445A.236)

**Permittee Name:**

Homestretch Geothermal 2010, LLC  
611 West 1760 North  
Washington, UT 84780

**Permit Number:**

NEV92037

**Facility Location:**

Wabuska Power Plant  
15 Julian Lane  
Yerington, NV 89447  
Latitude: 39° 09' 30" N, Longitude: 119° 10' 50" W  
T15N, R25E, SW ¼ Section 15 & SE ¼ Section 16, MDB&M

**Discharge Outfalls:**

- 001 - Weir #1 (West Basin)  
Latitude: 39° 09' 48.2" N, Longitude: 119° 10' 57.2" W
- 002 - Weir #2 (West Basin)  
Latitude: 39° 09' 47.3" N, Longitude: 119° 10' 48.7" W
- 003 - Weir #3 (Alkali Flat)  
Latitude: 39° 09' 47.3" N, Longitude: 119° 10' 48.7" W
- 004 - Pipeline to the ski lake  
Latitude: 39° 09' 52.7" N, Longitude: 119° 10' 46" W
- 005 - Pipeline to the future meat processing plant  
Latitude: 39° 09' 52.7" N, Longitude: 119° 10' 46" W

**General:** Homestretch Geothermal 2010, LLC (Homestretch), has applied for renewal of groundwater discharge permit NEV92037. Homestretch owns and operates the Wabuska Power Plant (WPP), a 2.0 megawatt power generating facility located approximately 12 miles north of Yerington, in Lyon County. WPP consist of seven 800-kilowatt generating units; however, power production is limited due to available geothermal resources and equipment rotation.

WPP uses extracted geothermal water in the operation of their facility. The water, which enters the plant at approximately 220°F, is first used to vaporize liquid isopentane for use in the generator turbines. From the heat exchangers, a portion of the spent geothermal water is diverted to a series of four (4) storage ponds and two (2) cooling ponds. The cooled water ( $\approx$  ambient temperature) is used, as needed, to condense the vaporized isopentane for re-use in the generating units. The remainder of the spent geothermal water is currently discharged through an

aboveground pipeline to a man-made ski lake located 1.5 miles east of the facility, and through a series of ditches to an alkali flat (East Basin) located to the southeast of the facility and to a wetland (West Basin) located west of US 95A. A future pipeline (Outfall 005) may be built, which will divert a portion of the spent geothermal water to a proposed meat processing plant for general plant requirements. Water discharged to the pipelines and ditches exits the facility property at approximately 120°F.

**Flow:** The applicant has requested an increase in their permitted discharge rate from a combined total of 7.0 million gallons per day (MGD) to a total of 7.2 MGD. Break-A-Heart, LLC, who owns the property where West Basin is located, has agreed to accept no more than 1.9 MGD.

**Site Groundwater:** Depth to groundwater in the area is approximately eight (8) feet. Groundwater flow is to the south.

**Well Head and Drinking Water Supply Protection:** The facility is not located within a Drinking Water Protection Area or a Wellhead Protection Area established for any well sources.

**Corrective Action Sites:** There are no Bureau of Corrective Actions remediation sites within a one-mile radius of the facility.

**Receiving Water Characteristics:** Discharge is to groundwater of the state via percolation. Any discharge from the meat processing plant will be covered under a separate permit issued to the owners of the meat processing plant.

**Proposed Effluent Limitations:** The discharge shall be limited and monitored according to the following table.

Sampling locations:

- 001 - Weir #1 (West Basin)
- 002 - Weir #2 (West Basin)
- 003 - Weir #3 (Alkali Flat)
- 004 - Pipeline to the ski lake
- 005 - Pipeline to future meat processing plant

**Table I. Discharge Limitations, Sampling, and Monitoring Requirements**

Parameters	Units	Discharge Limitations	Monitoring Requirements		
		30-day Average	Sampling Locations	Monitoring Frequency	Sample Type
Flow	MGD	M&R	001	Weekly	Weir
Flow	MGD	M&R	002	Weekly	Weir
Flow	MGD	M&R	003	Weekly	Weir
Flow	MGD	M&R	004	Weekly	Meter
Flow	MGD	M&R	005	Weekly	Meter
Flow	MGD	1.9	Σ(001, 002)	Weekly	Calculation
Flow	MGD	5.3	Σ(003, 004, 005)	Weekly	Calculation

Alkalinity, Bicarbonate as CaCO <sub>3</sub>	mg/L	M&R	001, 003, (004/005)	Semi-annually	Discrete
Alkalinity, Total as CaCO <sub>3</sub>	mg/L	M&R	001, 003, (004/005)	Semi-annually	Discrete
Aluminum	mg/L	M&R	001, 003, (004/005)	Semi-annually	Discrete
Antimony	mg/L	M&R	001, 003, (004/005)	Semi-annually	Discrete
Arsenic	mg/L	M&R	001, 003, (004/005)	Semi-annually	Discrete
Barium	mg/L	M&R	001, 003, (004/005)	Semi-annually	Discrete
Beryllium	mg/L	M&R	001, 003, (004/005)	Semi-annually	Discrete
Boron	Mg/L	M&R	001, 003, (004/005)	Semi-annually	Discrete
Cadmium	mg/L	M&R	001, 003, (004/005)	Semi-annually	Discrete
Calcium	mg/L	M&R	001, 003, (004/005)	Semi-annually	Discrete
Chloride	mg/L	M&R	001, 003, (004/005)	Semi-annually	Discrete
Chromium	mg/L	M&R	001, 003, (004/005)	Semi-annually	Discrete
Copper	mg/L	M&R	001, 003, (004/005)	Semi-annually	Discrete
Fluoride	mg/L	M&R	001, 003, (004/005)	Semi-annually	Discrete
Iron	mg/L	M&R	001, 003, (004/005)	Semi-annually	Discrete
Lead	mg/L	M&R	001, 003, (004/005)	Semi-annually	Discrete
Magnesium	mg/L	M&R	001, 003, (004/005)	Semi-annually	Discrete
Manganese	mg/L	M&R	001, 003, (004/005)	Semi-annually	Discrete
Mercury	mg/L	M&R	001, 003, (004/005)	Semi-annually	Discrete
Nickel	mg/L	M&R	001, 003, (004/005)	Semi-annually	Discrete
Nitrate + Nitrite, Total as N	mg/L	M&R	001, 003, (004/005)	Semi-annually	Discrete
Nitrogen, Total as N	mg/L	M&R	001, 003, (004/005)	Semi-annually	Discrete
pH	S.U.	M&R	001, 003, (004/005)	Semi-annually	Discrete
Phosphorus, Total	mg/L	M&R	001, 003, (004/005)	Semi-annually	Discrete
Potassium	mg/L	M&R	001, 003, (004/005)	Semi-annually	Discrete
Selenium	mg/L	M&R	001, 003, (004/005)	Semi-annually	Discrete

Silver	mg/L	M&R	001, 003, (004/005)	Semi-annually	Discrete
Sodium	mg/L	M&R	001, 003, (004/005)	Semi-annually	Discrete
Sulfate	mg/L	M&R	001, 003, (004/005)	Semi-annually	Discrete
Thallium	mg/L	M&R	001, 003, (004/005)	Semi-annually	Discrete
TDS	mg/L	M&R	001, 003, (004/005)	Semi-annually	Discrete
Zinc	mg/L	M&R	001, 003, (004/005)	Semi-annually	Discrete

Analyses for metals shall be for total recoverable

**Rationale for Permit Requirements:** Monitor and report boron and all NDEP Profile I parameters semi-annually. The Division has established the monitoring requirements in Table I to track the quantity and makeup of spent geothermal water discharged to groundwater of the State and to the future meat processing plant.

**Schedule of Compliance:** The Permittee shall implement and comply with the provisions of the schedule of compliance after approval by the Administrator, including in said implementation and compliance, any additions or modifications that the Administrator may make in approving the schedule of compliance:

- a. The Permittee shall achieve compliance with the effluent limitations upon issuance of the permit.
- b. By **MMM DD, 2012** (60 days), the Permittee shall submit two (2) copies of an updated Operations and Maintenance (O&M) Manual for review and approval by the Division. If no updates or revisions are required, the Permittee shall submit a letter by the above due date stating that there have been no changes to the previously approved O&M Manual.

Before implementing changes to an approved O&M Manual, the Permittee shall submit proposed changes to the Division for review and approval.

All schedule of compliance submittals and evidence of compliance documents shall be submitted to the Bureau of Water Pollution Control at the address listed below:

**Nevada Division of Environmental Protection  
Bureau of Water Pollution Control  
901 S. Stewart Street, Suite 4001  
Carson City, Nevada 89701**

**Proposed Determination:** The Division has made the tentative determination to renew the proposed permit for a period of five (5) years.

**Procedures for Public Comment:** The Notice of the Division's intent to reissue a groundwater discharge permit authorizing this facility to discharge spent geothermal water to groundwater of the State of Nevada subject to the conditions contained within the permit is being sent to the **Reno**

**Gazette-Journal** and the **Mason Valley News** for publication. The Notice is being mailed to interested persons on our mailing list. Anyone wishing to comment on the proposed permit can do so in writing until **5:00 P.M. October 26, 2012**, a period of thirty (30) days following the date of public notice. The comment period can be extended at the discretion of the Administrator.

A public hearing on the proposed determination can be requested by the applicant, any affected State, any affected interstate agency, the Regional Administrator or any interested agency, person or group of persons. The request must be filed within the comment period and must indicate the interest of the person filing the request and the reasons why a hearing is warranted. Any public hearing determined by the Administrator to be held must be conducted in the geographical area of the proposed discharge or any other area the Administrator determines to be appropriate. All public hearings must be conducted in accordance with NAC 445A.238.

The final determination of the Administrator may be appealed to the State Environmental Commission pursuant to NRS 445A.605.

Prepared by: Arthur Marr, P.E.  
Date: September, 2012