



**FACTSHEET**  
**(pursuant to NAC 445A.236)**

**Permittee Name:** OLAM SPICES AND VEGETABLES, INC  
EXIT 65 I-80 EAST CHURCHILL COUNTY, NV  
FERNLEY, NV - 89408

**Permit Number:** NS0080024

**Location:** OLAM SPICES AND VEGETABLES, INC., CHURCHILL  
EXIT 65, I-80 EAST, FERNLEY, NV - 89408  
LATITUDE: 39.791111, LONGITUDE: -119.020833  
TOWNSHIP: 22 N, RANGE: 26 E, SECTION: 12

Outfall / Well Num	Outfall / Well Name	Location Type	Well Log Num	Outfall City	Outfall State	Outfall Zip	Outfall County	Latitude	Longitude	Receiving Water
001	INFILTRATION BASINS	External Outfall		FERNLEY	NV	89408	CHURCHILL	39.791111	-119.020833	GROUNDWATER
002	UNNAMED DITCH	External Outfall		FERNLEY	NV	89408	CHURCHILL	39.7911	-119.0208	GROUNDWATER
003	SUM OF OUTFALLS 001 + 002	Sum		FERNLEY	NV	89408	CHURCHILL	39.7911	-119.0208	GROUNDWATER

**General:**

Olam Spices and Vegetables, Inc. (Olam) uses geothermal water to wash down processing equipment and clean and dehydrate onions during their processing season, which generally runs from May to December each year. During the non-processing period, the facility uses a reduced flow of the geothermal water to heat the facility in order to keep the building and their processing equipment from freezing. Surrounding areas are generally undeveloped property, with the exception of the Brady Power Plant. The Brady Power Plant, through contractual agreement, supplies Olam with geothermal water via a dedicated pipeline.

Upon delivery to the facility, the geothermal water is first used to operate two dehydration units. The water enters the units at a temperature near 300° F and exits the units at a temperature around 160° F. After the non-contact process water exits the dehydrators the flow stream is split. A portion of the water (approximately 20% ) is cooled to no more than 110° F, and then stored for use as onion and equipment wash water. After use, the wash water is filtered through a 0.054-inch Hydro-sieve screen to remove vegetable matter, the water is collected in a detention sump, and intermittently discharged to any of 18 onsite infiltration basins (Outfall 001).

The remaining non-contact process water (approximately 80% of inflow) is diverted into a pond to cool prior to release into an unnamed ditch (Outfall 002) that discharges to an alkali flat.

**Discharge Characteristics:**

Outfall 001 – Geothermal water is used to wash onions and associated processing equipment before being discharged to the infiltration basins. Previous monitoring results have shown BOD5 concentrations as high as 2200 mg/L and pH readings as low as 3.79 Standard Units . The elevated BOD5 levels are due to small amounts of vegetable particulate and other organic matter that remain in the wash water after screening. The low pH is likely due to prolonged comingling of the wash water with onion residues which contain sulfides.

Outfall 002 – Geothermal water discharged to the alkali flat is non-contact process water reflecting the

unaltered characteristics of the geothermal resource.

This facility is considered to be in substantial compliance with its permit.

**Receiving Water:**

Olam is located on a known geothermal resource area associated with Brady's Hot Springs. Groundwater quality is brackish and of non-potable quality. Analyses conducted in September and October of 2010 reveal high levels of arsenic (0.094 mg/L), chloride (1300 mg/L), fluoride (6 mg/L), and TDS (3000 mg/L). Depth to the unconfined groundwater aquifer varies from approximately 20 feet to 160 feet below ground surface. Regional groundwater flow is reported to be to the southwest.

**Summary of Changes From Previous Permit:**

Due to a change in the facility process, the flow limit has been increased. The daily maximum total flow limit has been changed from 2.160 to 2.805 million gallons per day (MGD), and the 30-day average total flow limit has been changed from 2.128 to 2.75 MGD.

**Proposed Effluent Limitations:**

The facility will be sampled, monitored, and limited in accordance with the tables below.

**NS OTHER - Discharge Limitations Table for Sample Location 002 (Unnamed Ditch) To Be Reported Monthly**

Parameter	Discharge Limitations			Monitoring Requirements			
	Base	Quantity	Concentration	Monitoring Loc	Sample Loc	Measurement Frequency	Sample Type
BOD, 5-day	Monthly Maximum		M&R Milligrams per Liter (mg/L)	Effluent Gross	002	Monthly	DISCRT
Temperature, water deg. centigrade	Monthly Maximum		M&R Degrees Centigrade (deg C) <sup>[1]</sup>	Effluent Gross	002	Monthly	DISCRT
pH, maximum	Monthly Maximum		M&R Standard Units (SU) <sup>[1]</sup>	Effluent Gross	002	Monthly	DISCRT
pH, minimum	Monthly Minimum		M&R Standard Units (SU) <sup>[1]</sup>	Effluent Gross	002	Monthly	DISCRT
Solids, total suspended	Monthly Maximum		M&R Milligrams per Liter (mg/L)	Effluent Gross	002	Monthly	DISCRT
Flow rate	Daily Maximum	M&R Million Gallons per Day (Mgal/d)		Effluent Gross	002	Continuous	METER
Flow rate	30 Day Average	M&R Million Gallons per Day (Mgal/d)		Effluent Gross	002	Continuous	METER

Notes (NS OTHER - Discharge Limitations Table):

1. Initial results of pH and temperature measurements should be recorded at the time of sampling.

**NS OTHER - Discharge Limitations Table for Sample Location 002 (Unnamed Ditch) To Be Reported Quarterly**

Discharge Limitations				Monitoring Requirements			
Parameter	Base	Quantity	Concentration	Monitoring Loc	Sample Loc	Measurement Frequency	Sample Type
Hydrocarbons, total petroleum <sup>[1]</sup>	Quarterly Maximum		<= 1.0 Milligrams per Liter (mg/L)	Effluent Gross	002	Quarterly	DISCRT

Notes (NS OTHER - Discharge Limitations Table):

1. Sample and report purgeable and extractible TPH quarterly. Report the full range of hydrocarbons, C6 – C40.

**NS OTHER - Discharge Limitations Table for Sample Location 003 (Sum Of Outfalls 001 + 002) To Be Reported Monthly**

Discharge Limitations				Monitoring Requirements			
Parameter	Base	Quantity	Concentration	Monitoring Loc	Sample Loc	Measurement Frequency	Sample Type
Flow rate	Daily Maximum	<= 2.805 Million Gallons per Day (Mgal/d)		Effluent Gross	003	Continuous	METER
Flow rate	30 Day Average	<= 2.75 Million Gallons per Day (Mgal/d)		Effluent Gross	003	Continuous	METER

## Ponds / Rapid Infiltration Basins for Sample Location 001 (Infiltration Basins) To Be Reported Monthly

Parameter	Discharge Limitations			Monitoring Requirements			
	Base	Quantity	Concentration	Monitoring Loc	Sample Loc	Measurement Frequency	Sample Type
BOD, 5-day	Monthly Maximum		M&R Milligrams per Liter (mg/L)	Effluent Gross	001	Monthly	DISCRT
Flow rate	Daily Maximum	M&R Million Gallons per Day (Mgal/d)		Effluent Gross	001	Continuous	METER
Flow rate	30 Day Average	M&R Million Gallons per Day (Mgal/d)		Effluent Gross	001	Continuous	METER
pH, maximum	Monthly Maximum		M&R Standard Units (SU)	Effluent Gross	001	Monthly	DISCRT
pH, minimum	Monthly Minimum		M&R Standard Units (SU)	Effluent Gross	001	Monthly	DISCRT
Solids, total suspended	Monthly Maximum		M&R Milligrams per Liter (mg/L)	Effluent Gross	001	Monthly	DISCRT

### Rationale for Permit Requirements:

Flow: The flow rate is limited by the plant capacity.

5-Day Biochemical Oxygen Demand (BOD5): Due to the remote facility location, odors associated with the surrounding geothermal vents, and the poor quality of area groundwater, no limitation for BOD5 has been included in this permit. Sampling is required to allow the Division to monitor the amount of BOD5 discharged to the infiltration basins.

Total Suspended Solids (TSS): A limit for TSS has not been included in this permit. TSS concentrations due to organic matter (vegetable particulate, soils, etc) introduced into the wash water during food processing activities are not expected to adversely impact the geothermal area. Sampling is required to allow the Division to compare the amount of TSS discharged to the infiltration basins (Outfall 001), to the background level of TSS discharged to the un-named ditch (Outfall 002).

pH: Due to the poor quality of area groundwater, no limit for pH has been included in this permit. Sampling is required to allow the Division to monitor the pH of water discharged to the infiltration basins (Outfall 001), and to confirm that the pH level of the geothermal resource is unaffected.

Temperature: Water discharged from the cooling pond to the un-named ditch requires monitoring to determine the amount of cooling achieved during containment, and to ensure that no water above 49° C (120° F) extends beyond the fenced portion of the un-named ditch.

Total Petroleum Hydrocarbons (TPH): No additives are used by Olam for dehydration or washing purposes, however, water supplied by Brady Power Plant may contain traces of lubricants used for their well pumping equipment. A limit of 1.0 mg/L has been determined by the Division to be reasonably obtainable using best management practices.

Mortality/Morbidity Survey: The length of the discharge path, from the cooling pond to the alkali flat, shall be surveyed bi-weekly to ensure that discharged water is not negatively impacting wildlife.

**Special Conditions:**

SA – Special Approvals / Conditions Table

Item #	Description
1	Mortality/Morbidity Surveys: The length of the discharge path, from the collection pond to the alkali flat, shall be surveyed bi-weekly for the presence of non-mortally and mortally injured wildlife within 25 feet of the discharge ditch. The total number and species of wildlife observed to be impaired or dead shall be recorded and reported on the quarterly DMR submittals.

**Flow:**

The daily maximum total flow limit is 2.805 MGD, and the 30-day average total flow limit is 2.75 MGD.

**Corrective Action Sites:**

There are no Bureau of Corrective Actions remediation sites within one mile of this facility.

**Wellhead Protection Program:**

The facility is not located within a Drinking Water Protection Area (DWPA) nor is it located within a Well Head Protection Area (WHPA).

**Schedule of Compliance:**

SOC – Schedule of Compliance Table

Item #	Description	Due Date
1	The Permittee shall submit an updated Operations & Maintenance (O&M) Manual for Division review. The O&M Manual shall be prepared by a qualified person.	9/1/2015

**Deliverable Schedule:**

## DLV– Deliverable Schedule for Reports, Plans, and Other Submittals

Item #	Description	Interval	First Scheduled Due Date
1	Quarterly DMRs	Quarterly	10/28/2015
2	Annual Reports	Annually	1/28/2016

**Procedures for Public Comment:**

The Notice of the Division's intent to issue a permit authorizing the facility to discharge to groundwater of the State of Nevada subject to the conditions contained within the permit, is being sent to the **Reno Gazette Journal, Lahontan 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. **9/1/2015**, a period of 30 days following the date of the 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 of EPA Region IX 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 determined to be appropriate. All public hearings must be conducted to accordance with NAC 445A.238.

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

**Proposed Determination:**

The Division has made the tentative determination to issue / re-issue the proposed 5-year permit.

Prepared by: **Peter Lassaline**

Date: **7/27/2015**

Title: **Environmental Scientist**