

NEVADA DIVISION OF ENVIRONMENTAL PROTECTION
FACT SHEET
(pursuant to NAC 445A.236)

Permittee Name: Titanium Metals Corporation
PO Box 2128
Henderson, NV 89009

Permit Number: NV0000060

Location: Section 12, T22S, R62E, MDB&M, in the
181 North Water Street, Gate 3
Black Mountain Industrial Park
Henderson, NV 89015

Plant Site

Latitude: 36° 02' 48" N
Longitude: 115° 00' 02" W

Outfall to Wash

Latitude: 36° 05' 09" N
Longitude: 114° 59' 10" W

General: Headquartered in Dallas, Texas, Titanium Metals Corporation (TIMET) is one of the world's largest producers of titanium products, which are used in commercial, industrial and consumer applications. Titanium is used extensively in the aerospace industry. Titanium is also used in other applications, including high-tech architectural material, deep-sea drilling operations, power generation, chemical processing, pollution control, sporting goods, medical instruments, and medical implants.

TIMET's Henderson, Nevada facility is located in the eastern portion of the Black Mountain Industrial Complex (BMI). Operation at the location began in 1950. At peak operation, it has a workforce of over 450 local workers, making it one of the largest industrial facilities in the state. TIMET proposes to produce approximately 67,900 pounds titanium metal per day using a chlorination/purification/vacuum distillation process to process rutile ore to titanium metal sponge, followed by a triple melting process to produce titanium ingots.

Description of Discharge: Under the originally issued NPDES and State of Nevada Groundwater Discharge permits, the Permittee was authorized to discharge up to 6.2 MGD of non-process wastewater, consisting of storm water, non-contact cooling water, descaling water, Venturi scrubber water, swamp cooler water, referred to as Outfall 001. These streams were co-mingled before discharge to the Pittman Bypass Pipeline, which transmits the flow to the Las Vegas Wash. The wastewater generated in the titanium production process, up to 0.20 MGD, was discharged to the Pabco Pond System for management and disposal under Nevada Groundwater Discharge Permit NEV2000510. The non-process wastewater was of very high quality and generally met effluent limitations. Pollutants of concern that were found to be present in the non-process wastewater are oil and grease (2.2 mg/l), copper (0.046 mg/l), perchlorate (0.008 mg/l), and titanium (0.032 mg/l). Review of Discharge Monitoring Reports (DMRs) for this facility indicate compliance with permit limitations during the term of the applicable permit, with the exception of low pH readings on three days during second and third quarters, 2003. The DMRs listed pH readings of 4.9, 6.4, and 6.4 Standard Units, while the pH limitation was 6.5 to 9.0 Standard Units (SU).

In November 2004, the Permittee requested modification of the NPDES permit to reflect proposed changes to the management of process wastewater. The Permittee proposed the discontinuation of process water discharge to the Pabco Pond System, and the construction of a Water Conservation Facility (WCF), utilizing a wastewater neutralization process and reverse osmosis treatment system. The Permittee also planned to route the Venturi scrubber water, formerly included in the stream of Outfall 001, to the WCF. Additionally, the process wastewater included the following streams: SO_x Scrubber spent caustic; Continuous Sludge Dryer effluent; and Acid Drain effluent (also called Other Process Wastes). The Continuous Sludge Dryer effluent included the following elements: Lid Washing/Cold Well water, Chip washing discharge to the floor drains; VDP Sponge Wash Area water, and VDP Scrubber wet air pollution control water. The Acid Drain effluent, or Other Process Wastes (OPW), included wash water used to clean scrap titanium prior to recycling, and incidental streams, including annual plant wash-down water and initial storm runoff that impinges the production area. The new treatment strategy results in a highly treated permeate flow of 0.208 MGD, a wastewater stream of approximately 0.03 MGD, and approximately 10 tons per day of precipitated solids. The wastewater stream and the solids are administered under the current Groundwater Discharge Permit NEV2000510, which was modified to reflect the changes in the process and became a Zero Discharge Permit. The Permittee discharges the high-quality permeate to the Las Vegas Wash as Outfall 002. The two permits, NV0000060 and NEV2000510, were modified accordingly, and these changes to the process and non-process fluid streams were implemented in May, 2005. The 2005 version of Permit NV0000060 listed the following limits:

**Outfall 001 Monitoring Requirements and Limitations, Non-Contact Effluent,
2005 Permit Limits**

PARAMETERS	EFFLUENT DISCHARGE LIMITATIONS		MONITORING REQUIREMENTS	
	30-Day Average	Daily Maximum	Measurement Frequency	Sample Type
Outfall 001 Flow (MGD)	6.2		Continuous	Recorder
pH ⁽¹⁾ (Standard Units)	6.5 to 9.0		Continuous	pH Meter
Temperature (°F)	Monitor & Report		Monthly	Discreet
Oil and Grease ⁽²⁾ (mg/L)	10	15	Monthly	24-hr Composite
Total Inorganic Nitrogen (mg/L)	10	--	Monthly	24-hr Composite
Ammonia as N (mg/L)	Monitor & Report		Monthly	24-hr Composite
Total Phosphorus (mg/L)	Monitor & Report		Monthly	24-hr Composite
Total Dissolved Solids (mg/L)	2300	2600	Monthly	24-hr Composite
Copper ⁽³⁾ (mg/L)	0.85exp(0.8545 ln H - 1.465)		Quarterly	24-hr Composite
Hardness (mg/l as CaCO ₃)	Monitor and Report-		Quarterly	24-hr Composite
Titanium (mg/L)	Monitor & Report		Quarterly	24-hr Composite
Chloride (mg/L)	Monitor & Report		Quarterly	24-hr Composite
Magnesium (mg/L)	Monitor & Report		Quarterly	24-hr Composite
Perchlorate ⁽⁴⁾ (mg/L)	Monitor & Report		Quarterly	24-hr Composite

1. pH excursions from the specified range are permitted, subject to the following conditions:

- a. The total time during which the pH values are outside the required range shall not exceed 3 hours in any calendar month; and

- b. No individual excursion shall exceed 15 minutes duration.
2. Oil and grease shall be monitored by 24-hour composite sample. If a daily maximum reading exceeds 15 mg/l, an additional set of samples shall be run to determine the concentrations of benzene, toluene, xylene, ethyl-benzene and total petroleum hydrocarbons.
 3. H = Hardness, mg/l as CaCO₃
 4. This analyte shall be monitored for a minimum period of four consecutive quarters. The Permittee may then request discontinuation of monitoring. NDEP shall determine if additional monitoring is required. Should removal of this analyte from the monitoring protocol be approved by NDEP, the removal shall constitute a minor modification to the permit.

**Outfall 002 Monitoring Requirements and Limitations, WCF Treated Stream,
2005 Permit Limits**

PARAMETERS	EFFLUENT DISCHARGE LIMITATIONS		MONITORING REQUIREMENTS	
	30-Day Average	Daily Maximum	Measurement Frequency	Sample Type
Flow (MGD)	0.208		Continuous	Recorder
pH ⁽¹⁾ (Standard Units)	6.5 to 9.0		Continuous	pH Meter
Temperature (°F)	Monitor & Report		Monthly	Discreet
Oil and Grease (lb/day)	42.93	71.57	Monthly	24 hr Composite
Total Suspended Solids (lb/day)	69.76	146.66	Monthly	24 hr Composite
Total Chromium (lb/day)	0.116	0.286	Monthly	24 hr Composite
Lead (lb/day)	0.101	0.217	Monthly	24 hr Composite
Nickel (lb/day)	0.286	0.426	Monthly	24 hr Composite
Titanium (lb/day)	0.178	0.410	Monthly	24 hr Composite
Total Inorganic Nitrogen (mg/L)	17		Quarterly	24-hr Composite
Total Ammonia ⁽²⁾ (lb/day)	1.0		Quarterly	24-hr Composite
Total Phosphorus ⁽²⁾ (lb/day)	1.0		Monthly	24-hr Composite
Total Dissolved Solids (mg/L)	---	3000	Monthly	24-hr Composite
Hardness (mg/l as CaCO ₃)	Monitor & Report		Quarterly	24-hr Composite
Arsenic (µg/L)	Monitor & Report		Quarterly	24-hr Composite
Selenium (µg/L)	Monitor & Report		Quarterly	24-hr Composite
Silver (µg/L)	Monitor & Report		Quarterly	24-hr Composite
Mercury (µg/L)	Monitor & Report		Quarterly	24-hr Composite
Vanadium (µg/L)	Monitor & Report		Quarterly	24-hr Composite

1. pH excursions from the specified range are permitted, subject to the following conditions:
 - a. The total time during which the pH values are outside the required range shall not exceed 3 hours in any calendar month; and
 - b. No individual excursion shall exceed 15 minutes.
2. The Administrator has proposed that in order to permit small volume discharges to the Las Vegas Wash/Las Vegas Bay System it is necessary to modify the manner in which the Total Maximum Daily Load (TMDL) is allocated. This action does not increase or decrease the TMDL for the Las Vegas Bay. Discharges with less than 1lb/day total phosphorus or total ammonia will be exempt from obtaining an individual waste load allocation. Discharges will be required to monitor and report their flow and concentration.

Since modification of the TIMET NPDES permit in May 2005, the following water quality permit exceedances have been reported. All other permit limits were met.

Outfall 001:

PARAMETER	PERMIT LIMIT	DATE	REPORTED VALUE	CAUSE
Total Dissolved Solids, (mg/l) 30-Day Average Daily Maximum	<i>2300 mg/l</i> <i>2600 mg/l</i>	02/2007	5300	Unknown
pH, (Standard Units)	<i>6.5 to 9.0</i>	04/2007 03/2008	5.4 5.9	Meter Calibration Meter Failure

Outfall 002:

PARAMETER	PERMIT LIMIT	DATE	REPORTED VALUE	CAUSE
Total Dissolved Solids, (mg/l) Daily Maximum	<i>3000</i>	03/2007	5800	Unknown
		06/2007	4900	Unknown
		07/2007	3700	Mechanical Failure
		08/2007	15,000	Mechanical Failure
pH, (Standard Units)	<i>6.5 to 9.0</i>	04/01/2007	14.5	Failure of in-line meter. Bench meter read: 7.1, 7.95
		04/14/2007	14.5	7.1
		04/15/2007	4.5	7.4-8.6
		05/07/2007	6.4	6.72
		05/13/2007	6.2	7.15
		05/15/2007	6.4	7.0
		06/05/2007	5.9	7.7
		06/13/2007	5.9	7.2
		06/29/2007	14.5	7.6

With the permit renewal application and subsequent modifications submitted (2007-2009), TIMET requested changes to the effluent limitations that will reflect titanium production increases. TIMET has implemented facility expansions that result in a 40% increase in titanium metal and titanium tetrachloride production. All other production figures (lbs/day Titanium Cast and lbs/day Scrap Titanium Washed) shall also increase by 40%. Both Outfall 001 and Outfall 002 discharge volumes will increase. Total volume of fluid to be discharged will increase by approximately 28%. Expansions will be complete by the time the permit is renewed.

Additionally, the Permittee has requested the inclusion of impacted groundwater extracted during groundwater remediation activities into the Other Process Wastes that are currently treated in the WCF. It is anticipated that this stream will be approximately 120 gallons/minute, thus increasing the flow at Outfall 002 by 0.174 MGD to a total flow of 0.464 MGD. The extracted groundwater has been deemed "contained-in" wastes by NDEP Bureau of Waste Management under RCRA regulations.

Because the permeate is a process stream, the Best Available Technology based effluent limitation guidelines for the Primary and Secondary Titanium Subcategory (40 CFR Part 421 Subpart AB §303) apply to this stream. The applicable processes within Subpart AB are listed in the following table.

PROCESS STREAM DESIGNATION		APPLICABLE CATEGORY
Continuous Sludge Dryer	Spent Caustic	(c) TiCl4 handling wet air pollution control
	VDP Scrubber	(d) Reduction area wet air pollution control
	Floor Drain	(h) Chip crushing wet air pollution control
	Lid Washing/ Cold Well	(n) Casting crucible wash water
	VDP Sponge Wash Area	(g) Sodium Reduction container reconditioning wash water
SOx Scrubber Spent Caustic	PVS Scrubber	(a) Chlorination off-gas wet air pollution control
Other Process Wastes	Titanium Recycling Wash Water	(m) Scrap detergent wash water
	Misc. Plant Wash-down Water	N/A
	Initial Storm Runoff	N/A
	Extracted Groundwater	N/A

The outfall for discharge of the high-quality, treated permeate (Outfall 002) are monitored separately from the non-contact cooling water (Outfall 001) because this process stream accounts for only about 5.6% of the total requested permit flow, and would be so diluted by the non-process water as to make monitoring impracticable (40 CFR Part 122.45(h)).

Receiving Water Characteristics: The discharge enters the Pittman Bypass pipeline and then flows to the Las Vegas Wash. The Las Vegas Wash is the natural drainage in the Las Vegas Valley and is the receiving stream for all Las Vegas area surface water dischargers. The water flowing in the wash is predominantly treated wastewater from the Clark County Water Reclamation District, City of Las Vegas, and the City of Henderson. Titanium Metals Corporation, TRONOX LLC, and Olin ChlorAlkali Products d.b.a. Pioneer Americas LLC are the major non-government facilities using the Las Vegas Wash as a receiving stream.

The designated beneficial uses for the affected reach of Las Vegas Wash, Pabco Road to Lake Mead, are listed in NAC 445A.200. These are: irrigation; watering of livestock; recreation not involving contact with the water; maintenance of a freshwater marsh; propagation of wildlife; and propagation of aquatic life, excluding fish. (This does not preclude the establishment of a fishery.)

Rationale for Permit Requirements:

OUTFALL 001

Monitoring requirements and, in some cases, effluent limitations, are in place for certain pollutants (oil and grease, copper, titanium, and perchlorate) that are found to be present in the wastewater. Regular monitoring for magnesium and chloride, which are used in the chemical processes at this facility, is used to verify that these elements do not enter the wastewater stream in sufficient quantities to threaten the water quality of the receiving water. Water quality standards for pH and total inorganic nitrogen for the Las Vegas Wash as described in NAC 445A.201 are reflected in the proposed requirements for these constituents. Requirements for flow rate, ammonia, total phosphorus, and total dissolved solids are based on the need to preserve the present water quality in

the Las Vegas Wash and Lake Mead. Ammonia and total phosphorus were not detected in recent sampling events. However, previous monitoring has shown these constituents to be present in the wastewater in de minimus amounts. Therefore, the requirement for monitoring and reporting is proposed to verify that significant quantities of these nutrients are not discharged. The permit limitations and monitoring requirements for this Outfall are not changed from that required in the 2005 permit.

OUTFALL 002

Review of analytical results for permeate produced in bench scale testing indicate levels of most inorganic and organic pollutants of concern below appropriate detection limits. Those metals with inconclusive/inadequate detection limits were Arsenic (<0.05 mg/L), and Selenium (<0.07 mg/L). Mercury (<0.001 mg/L) was below the USEPA Primary Drinking Water Standard Maximum Contaminant Level (MCL) of 0.002 mg/L, but it is not known if the concentration exceeds the Aquatic Life Standard listed in Nevada Administrative Code (NAC) 445A.144 (0.0014 µg/L acute, 0.00077 µg/L chronic). Likewise, it is not known if the concentration reported for Silver (<0.01 mg/L) is below the Aquatic Life Standard listed in NAC 445A.144. In addition, Vanadium was detected, at a concentration of 0.08 mg/l.

As stated, the technology based effluent limitations for the Primary and Secondary Titanium Subcategory apply to this discharge stream. Therefore, Outfall 002 will be monitored and limited according to the Best Available Technology guidelines for Chromium (Total), Lead, Nickel, and Titanium, which are the most stringent of the technology based guidelines that apply. The Outfall will also be monitored and limited according to the Best Practicable Technology guidelines for Oil and Grease, Total Suspended Solids, and pH, because the Best Available Technology guidelines do not address these conventional pollutants. The Total Allowable Discharges listed in the following table are based on the reported annual production levels of 322,000 lb/day Titanium Tetrachloride (TiCl₄), 67,900 lbs/day Titanium metal produced, 59,900 lbs/day Titanium cast, and 9,429 lbs/day Scrap Titanium Washed. Additionally, the process stream will be limited and/or monitored for the following: Arsenic, Selenium, Silver, Mercury, and Vanadium. While it is unlikely that Arsenic, Selenium, Silver and Mercury are present, these parameters will be monitored with appropriate detection limits. Based on the NPDES application document, it is believed that the original process stream did not contain any organic compounds or other toxic materials of concern in appreciable amounts. However, documentation has indicated that the impacted groundwater extracted during groundwater remediation activities may contain significant amounts of the following constituents which were not monitored or limited in the 2005 permit: Perchlorate, Sulfate, Carbon Tetrachloride, Chloroform, Tetrachloroethene, Trichloroethene, Aluminum, Iron, Manganese, Molybdenum, Total Uranium, Vanadium, and various Radionuclides and their decay products. These constituents shall be limited according to their appropriate levels for beneficial use. Impacted groundwater is expected to be extracted at a rate of approximately 120 gallons/minute, or about 0.174 million gallons per day (MGD).

Calculations: Previous and proposed production levels of Titanium, titanium tetrachloride, titanium castings, and titanium scrap washing are listed in the following Table:

PRODUCT OR INTERMEDIARY	PREVIOUS PRODUCTION LEVEL (LBS/DAY)	PROPOSED PRODUCTION LEVEL (LBS/DAY)
Titanium Metal Produced	48,500	67,900
Titanium Tetrachloride	230,000	322,000
Titanium Metal Cast	42,850	59,990
Scrap Titanium Washed	6,735	9,429

Post-Expansion:

As stated earlier, since the previous permit in 2005, TIMET has instituted a 40% increase in titanium and titanium tetrachloride production. The following table lists the numerical Best Available Technology effluent guidelines used in calculating the total allowable discharge for Chromium (Total), Lead, Nickel, and Titanium, given in pounds/million pounds of product or intermediary material produced, based on the new production schedule:

Applicable 40 CFR 421.303 Regulation	Chromium		Lead		Nickel		Titanium	
	Daily Max	Max Monthly Average						
(a) EQN 1 A&B	0.346	0.140	0.262	0.122	0.515	0.346	0.496	0.215
(c) EQN 1 A&B	0.069	0.028	0.052	0.024	0.103	0.069	0.099	0.043
(d) EQN 2 A&B	1.528	0.620	1.156	0.537	2.272	1.528	2.189	0.950
(g) EQN 2 A&B	0.474	0.192	0.359	0.167	0.705	0.474	0.679	0.295
(h) EQN 2 A&B	0.848	0.344	0.642	0.298	1.261	0.848	1.215	0.527
(m) EQN 3 A&B	6.684	2.71	5.058	2.348	9.935	6.684	9.574	4.155
(n) EQN 4 A&B	0.176	0.072	0.134	0.062	0.262	0.176	0.253	0.110
Total Allowable Discharge (lbs/day) (Sum of Calculated Values EQN 1 A&B thru EQN 4 A&B)	0.401	0.162	0.303	0.141	0.596	0.401	0.574	0.249

Likewise, the post-expansion Total Allowable Discharge amounts for Outfall 002 for the conventional contaminants Oil and Grease, Total Suspended Solids, and pH, based on the Best Practicable Technology guidelines given in 40 CFR Part 421.302 are given in the following table.

Applicable 40 CFR 421.302 Regulation	Oil and Grease		Total Suspended Solids		pH	
	Daily Max	Max Monthly Average	Daily Max	Max Monthly Average	Daily Max	Max Monthly Average
(a) EQN 1 A&B	18.720	11.230	38.380	18.250	Within the range of 6.5 to 9.0 at all times (based on Water Quality Standards for the Las Vegas Wash, per Nevada Administrative Code 445A.199)	
(c) EQN 1 A&B	3.740	2.244	7.667	3.647		
(d) EQN 2 A&B	826.100	495.600	1693.000	805.400		
(g) EQN 2 A&B	25.640	15.380	52.560	25.000		
(h) EQN 2 A&B	458.400	275.100	939.800	447.000		
(m) EQN 3 A&B	361.300	216.800	740.600	352.300		
(n) EQN 4 A&B	9.540	5.724	19.560	9.302		
Total Allowable Discharge (lbs/day) (Sum of Calculated Values EQN 1 A&B thru EQN 4 A&B)	100.170	60.101	205.320	97.666		

Where:

EQN 1A

(Daily Max lbs/million lbs TiCl₄ produced) X (322,000 lbs TiCl₄ per day) / (1,000,000 lbs)

EQN 1B

(Max Monthly Average lbs/million lbs TiCl₄ produced) X (322,000 lbs TiCl₄ per day) / (1,000,000 lbs)

EQN 2A

(Daily Max lbs/million lbs Ti produced) X (67,900 lbs Ti per day) / (1,000,000 lbs)

EQNB2B

(Max Monthly Average lbs/million lbs Ti produced) X (67,900 lbs Ti per day) / (1,000,000 lbs)

EQN 3A

(Daily Max lbs/million lbs Ti scrap washed) X (9,429 lbs Ti scrap washer per day) / (1,000,000 lbs)

EQN 3B

(Max Monthly Average lbs/million lbs Ti scrap washed) X (9,429 lbs Ti scrap washer per day) / (1,000,000 lbs)

EQN 4A

(Daily Max lbs/million lbs Ti Cast) X (59,990 lbs Ti Cast per day) / (1,000,000 lbs)

EQN 4B

(Max Monthly Average lbs/million lbs Ti Cast) X (59,990 lbs Ti Cast per day) / (1,000,000 lbs)

Proposed Effluent Limitations and Special Conditions: As stated above, the non-contact cooling water will dilute the process stream, making monitoring of the process stream impractical. Each outfall will be monitored and limited separately according to the Tables below.

The post-expansion production levels, where all products and intermediaries are increased by 40%,

result in increases of both non-contact cooling water and process water. The process fluid streams will increase by 40% (from 0.208 to 0.0.291 MGD), and the non-contact cooling water will increase by approximately 26.5% (from 6.20 to 7.84 MGD). The addition of the 0.174 MGD impacted groundwater stream will increase the process fluid stream to 0.465 MGD, and results in total permitted flow of non-contact cooling water and process fluid stream of 8.305 MGD . The following tables list the post expansion monitoring requirements and permit limitations for the two Outfalls, 001 and 002.

**Table I.1
 Outfall 001 Monitoring Requirements and Limitations, Non-Contact Effluent**

PARAMETERS	EFFLUENT DISCHARGE LIMITATIONS		MONITORING REQUIREMENTS	
	30-Day Average	Daily Maximum	Measurement Frequency	Sample Type
Outfall 001 Flow (MGD)	Monitor & Report	7.84	Continuous	Recorder
pH ⁽¹⁾ (Standard Units)	6.5 to 9.0		Continuous	pH Meter
Temperature (°F)	Monitor & Report		Monthly	Discreet
Oil and Grease ⁽²⁾ (mg/L)	10	15	Monthly	24-hr Composite
Total Inorganic Nitrogen as N (mg/L)	10	--	Monthly	24-hr Composite
Total Ammonia as N ⁽³⁾ (mg/L)	Monitor & Report		Monthly	24-hr Composite
Total Phosphorus ⁽³⁾ (mg/L)	Monitor & Report		Monthly	24-hr Composite
Total Dissolved Solids (mg/L)	2300	2600	Monthly	24-hr Composite
Dissolved Copper ⁽⁴⁾ (mg/L)	0.96exp(0.8545[ln(H)]-1.702)		Quarterly	24-hr Composite
Hardness (mg/l as CaCO ₃)	Monitor & Report		Quarterly	24-hr Composite
Titanium (mg/L)	Monitor & Report		Quarterly	24-hr Composite
Chloride (mg/L)	Monitor & Report		Quarterly	24-hr Composite
Magnesium (mg/L)	Monitor & Report		Quarterly	24-hr Composite
Perchlorate (mg/L)	Monitor & Report		Quarterly	24-hr Composite

1. pH excursions from the specified range are permitted, subject to the following conditions:
 - a. The total time during which the pH values are outside the required range shall not exceed 3 hours in any calendar month; and
 - b. No individual excursion shall exceed 15 minutes duration.
2. Oil and grease shall be monitored by 24-hour composite sample. If a daily maximum reading exceeds 15

mg/l, an additional set of samples shall be run to determine the concentrations of benzene, toluene, xylene, ethyl-benzene and total petroleum hydrocarbons.

3. The Administrator has proposed that in order to permit small volume discharges to the Las Vegas Wash/Las Vegas Bay System it is necessary to modify the manner in which the Total Maximum Daily Load (TMDL) is allocated. This action does not increase or decrease the TMDL for the Las Vegas Bay. Discharges with less than 1lb/day total phosphorus or total ammonia will be exempt from obtaining an individual waste load allocation. Discharges will be required to monitor and report their flow and concentration.
4. USEPA, "National Recommended Water Quality Criteria", 2006, chronic and acute limits. The calculation for Dissolved Copper shall use H = Hardness, mg/l as CaCO₃. The calculated limit shall also be reported.

Beginning on the effective date of this permit, and lasting until the extracted groundwater from the proposed groundwater remediation system is introduced into the WCF, the permit limitations and monitoring requirements in Table I.2 apply.

Table I.2
Outfall 002 Monitoring Requirements and Limitations, WCF Treated Stream
No Inclusion of Extracted Groundwater from Groundwater Remediation System

PARAMETERS	EFFLUENT DISCHARGE LIMITATIONS		MONITORING REQUIREMENTS	
	30-Day Average	Daily Maximum	Measurement Frequency	Sample Type
Outfall 002 Flow (MGD)	Monitor & Report	0.465	Continuous	Recorder
pH ⁽¹⁾ (Standard Units)	6.5 to 9.0		Continuous	pH Meter
Temperature (°F)	Monitor & Report		Monthly	Discreet
Oil and Grease (lb/day)	60.101	100.170	Monthly	24 hr Composite
Total Suspended Solids (lb/day)	97.666	205.320	Monthly	24 hr Composite
Total Chromium (lb/day)	0.162	0.401	Monthly	24 hr Composite
Lead (lb/day)	0.141	0.303	Monthly	24 hr Composite
Nickel (lb/day)	0.401	0.596	Monthly	24 hr Composite
Titanium (lb/day)	0.249	0.574	Monthly	24 hr Composite
Total Inorganic Nitrogen as N (mg/L)	---	17	Quarterly	24-hr Composite
Total Ammonia as N ⁽²⁾ (lb/day)	1.0	---	Quarterly	24-hr Composite
Total Phosphorus ⁽²⁾ (lb/day)	1.0	---	Monthly	24-hr Composite
Total Dissolved Solids (mg/L)	---	3000	Monthly	24-hr Composite
Hardness (mg/L as CaCO ₃)	Monitor & Report		Quarterly	24-hr Composite
Arsenic (µg/L)	Monitor & Report		Quarterly	24-hr Composite
Mercury (µg/L)	Monitor & Report		Quarterly	24-hr Composite
Selenium (µg/L)	Monitor & Report		Quarterly	24-hr Composite
Silver (µg/L)	Monitor & Report		Quarterly	24-hr Composite
Vanadium (µg/L)	Monitor & Report		Quarterly	24-hr Composite

1. pH excursions from the specified range are permitted, subject to the following conditions:
 - a. The total time during which the pH values are outside the required range shall not exceed 3 hours in any calendar month; and
 - b. No individual excursion shall exceed 15 minutes.
2. The Administrator has proposed that in order to permit small volume discharges to the Las Vegas Wash/Las Vegas Bay System it is necessary to modify the manner in which the Total Maximum Daily

Load (TMDL) is allocated. This action does not increase or decrease the TMDL for the Las Vegas Bay. Discharges with less than 1lb/day total phosphorus or total ammonia will be exempt from obtaining an individual waste load allocation. Discharges will be required to monitor and report their flow and concentration.

Beginning on the date the extracted groundwater from the proposed groundwater remediation system is introduced into the WCF and lasting until the permit expires, the permit limitations and monitoring requirements in Table I.3 apply.

**Table I.3
Outfall 002 Monitoring Requirements and Limitations, WCF Treated Stream
Inclusion of Extracted Groundwater from Groundwater Remediation System**

PARAMETERS	EFFLUENT DISCHARGE LIMITATIONS		MONITORING REQUIREMENTS	
	30-Day Average	Daily Maximum	Measurement Frequency	Sample Type
Outfall 002 Flow (MGD)	Monitor & Report	0.465	Continuous	Recorder
pH ⁽¹⁾ (Standard Units)	6.5 to 9.0		Continuous	pH Meter
Temperature (°F)	Monitor & Report		Monthly	Discreet
Oil and Grease (lb/day)	60.101	100.170	Monthly	24 hr Composite
Total Suspended Solids (lb/day)	97.666	205.320	Monthly	24 hr Composite
Total Chromium (lb/day)	0.162	0.401	Monthly	24 hr Composite
Lead (lb/day)	0.141	0.303	Monthly	24 hr Composite
Nickel (lb/day)	0.401	0.596	Monthly	24 hr Composite
Titanium (lb/day)	0.249	0.574	Monthly	24 hr Composite
Total Inorganic Nitrogen as N (mg/L)	---	17	Quarterly	24-hr Composite
Total Ammonia as N ⁽²⁾ (lb/day)	1.0	---	Quarterly	24-hr Composite
Total Phosphorus ⁽²⁾ (lb/day)	1.0	---	Monthly	24-hr Composite
Total Dissolved Solids (mg/L)	---	3000	Monthly	24-hr Composite
Magnesium (mg/L)	Monitor & Report		Quarterly	24-hr Composite
Sulfate (mg/L)	Monitor & Report		Quarterly	24-hr Composite
Hardness (mg/L as CaCO ₃)	Monitor & Report		Quarterly	24-hr Composite
Aluminum (mg/L)	Monitor & Report		Quarterly	24-hr Composite
Arsenic (µg/L)	Monitor & Report		Quarterly	24-hr Composite
Iron (mg/L)	1.0 ⁽³⁾		Quarterly	24-hr Composite
Manganese (mg/L)	0.2 ⁽⁴⁾		Quarterly	24-hr Composite
Mercury (µg/L)	Monitor & Report		Quarterly	24-hr Composite
Molybdenum (mg/L)	1.65 ⁽³⁾	6.16 ⁽³⁾	Quarterly	24-hr Composite
Selenium (µg/L)	Monitor & Report		Quarterly	24-hr Composite
Silver (µg/L)	Monitor & Report		Quarterly	24-hr Composite
Total Uranium (µg/L)	30 ⁽⁵⁾		Quarterly	24-hr Composite
Vanadium (µg/L)	Monitor & Report		Quarterly	24-hr Composite
Gross Alpha (pCi/L)	---	15 ⁽⁵⁾	Quarterly	24-hr Composite
Gross Beta (mrem/yr)	---	4 ⁽⁵⁾	Quarterly	24-hr Composite
Perchlorate (µg/L)	---	18 ⁽⁶⁾	Quarterly	24-hr Composite

PARAMETERS	EFFLUENT DISCHARGE LIMITATIONS		MONITORING REQUIREMENTS	
	30-Day Average	Daily Maximum	Measurement Frequency	Sample Type
Carbon Tetrachloride ($\mu\text{g/L}$)	---	5 ⁽⁷⁾	Quarterly	24-hr Composite
Chloroform ($\mu\text{g/L}$)	---	80 ⁽⁵⁾	Quarterly	24-hr Composite
Tetrachloroethene (PCE) ($\mu\text{g/L}$)	---	5 ⁽⁵⁾	Quarterly	24-hr Composite
Trichloroethene (TCE) ($\mu\text{g/L}$)	---	5 ⁽⁷⁾	Quarterly	24-hr Composite

1. pH excursions from the specified range are permitted, subject to the following conditions:
 - a. The total time during which the pH values are outside the required range shall not exceed 3 hours in any calendar month; and
 - b. No individual excursion shall exceed 15 minutes.
2. The Administrator has proposed that in order to permit small volume discharges to the Las Vegas Wash/Las Vegas Bay System it is necessary to modify the manner in which the Total Maximum Daily Load (TMDL) is allocated. This action does not increase or decrease the TMDL for the Las Vegas Bay. Discharges with less than 1lb/day total phosphorus or total ammonia will be exempt from obtaining an individual waste load allocation. Discharges will be required to monitor and report their flow and concentration.
3. Nevada Administrative Code (NAC) 445A.144, Standards for toxic materials applicable to designated waters, protective of Aquatic Life beneficial use.
4. NAC 445A.144, Standards for toxic materials applicable to designated waters, protective of Irrigation beneficial use.
5. USEPA "2006 Edition of the Drinking Water Standards and Health Advisories".
6. Nevada Interim Action Level
7. NAC 445A.144, Standards for toxic materials applicable to designated waters, protective of Municipal of Domestic Supply beneficial use.

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

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. **All compliance deliverables shall be submitted to the attention of the Compliance Coordinator.**

- a. The Permittee shall achieve compliance with the effluent limitations upon issuance of the permit.

Procedures for Public Comment: Public comment may be made only on the modifications to the permit: Outfall 002. Notice of the Division's intent to reissue Permit NV0000060, subject to the conditions contained within the permit, is being sent to the **Las Vegas Review-Journal** and the **Henderson Home 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, postmarked no later than 5:00 PM on **November 14, 2009**. 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: Janine O. Hartley, P.E., Bureau of Water Pollution Control
April, 2009

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