

NEVADA DIVISION OF ENVIRONMENTAL PROTECTION
FACT SHEET

(pursuant to NAC 445A.236)

Permittee Name: Firth Rixson Viking Metallurgical
P.O. Box 339
Verdi, NV 89439-0339

Permit Number: NEV00021

Location: 1 Erik Circle
Verdi, Washoe County
Latitude: 39° 31' 20"N, Longitude: 119° 58' 39"W
Township 19N, Range 18E, Section 8

Drinking Water Protection Area / Wellhead Protection Area: The Firth Rixson Viking Metallurgical facility is located within the 3000' but outside the 1000' zones around multiple public water supply wells. The facility meets the recognized Nevada zero-discharge standard of performance.

General: Firth Rixson Viking Metallurgical manufactures seamless-rolled rings from non-ferrous alloys for the aerospace industry. The manufacturing facility is located in Verdi between Old Highway 40 and the Truckee River and dates from the early 1960's. According to Division files, this facility has held a permit since 1983.

The manufacturing presses use a hydraulic fluid consisting of water (97% by volume) and synthetic lubrication oils. The hydraulic fluid is maintained in a closed-loop, zero-discharge storage facility, located outdoors near the northeast side of the manufacturing building. A concrete reservoir (shop pond) is used for interim storage, cooling and oil skimming of this fluid. Two 10,000 gallon polyethylene storage tanks are also used to store and recycle hydraulic fluid supplied to the presses.

Upon process demand, water is pumped from the concrete shop storage pond and poly tanks, replenished with fresh lubrication oil, and delivered to the presses. A local waste oil recycler is contracted to remove waste oil recovered from the Oil/Water Separator and that skimmed from the hydraulic fluid.

Spent rinse waters from the metal parts washing/degreasing operations are now separately handled in an evaporation process. A steel ½ & ½ tank (i.e., half-exposed/half-buried) is no longer used for fluid storage, but the Permittee has requested that it remain permitted to serve as an emergency storage container for the hydraulic fluid.

Table 1 indicates the zero-discharge containment systems for the proposed permit conditions.

Table 1: Zero-Discharge Storage Units

Containment System	Dimensions	Function
Concrete O/W Separator	----	Oil and water separation of the hydraulic fluid discharged from the presses
Concrete Shop Pond	57½' (L) x 41½' (W) x 4½' (D) normal operating volume of 50,000 gallons	Storage & cooling pond for the hydraulic fluid, additional oil skimming
HDPE Waste Oil Tank	10,000 gallons, secondary containment is a concrete-bermed enclosure	Stores waste oil removed and skimmed from the hydraulic fluid
Steel ½ & ½ Tank	10,000 gallons	Currently empty, formerly used to store cogging press hydraulic fluid
Concrete Blue Tank	Secondary containment berm for (2) 10,000 gallon polyethylene tanks	Stores hydraulic fluid for the cogging presses

Receiving Water Characteristics: The hydraulic fluid storage system is to be maintained in a zero-discharge condition with no discharge allowed to ground or surface waters. Groundwater is monitored in three monitor wells V-1, V-2, and V-3. Monitor well V-3 is generally upgradient of the fluid storage system. Further, samples of the Truckee River, which flows adjacent to the property, are taken quarterly both upgradient and downgradient of the facility.

Quarterly measurements indicate depth to groundwater averages 12.5 feet below ground surface (bgs). The groundwater flow path is north-northeast toward the river. During the period from August 2002 to February 2007, quarterly sampling indicates the following water quality:

	PARAMETER	AVERAGE	MAX	MIN
Well V-1	Oil & Grease (mg/l)	3.45	46	<5
	Chemical Oxygen Demand (mg/l)	38.95	100	12
	Zinc (mg/l)	0.029	<0.1	<0.02
	Lead (mg/l)	0.0019	<0.006	<0.002
	Total Petroleum Hydrocarbons (mg/l)	<0.5	<0.5	<0.5
Well V-2	Oil & Grease (mg/l)	<5	<5	<5
	Chemical Oxygen Demand (mg/l)	13.45	44	<5
	Zinc (mg/l)	0.028	<0.1	<0.02
	Lead (mg/l)	0.0021	<0.005	<0.002
	Total Petroleum Hydrocarbons (mg/l)	<0.5	<0.5	<0.5
Well V-3	Oil & Grease (mg/l)	<5	<5	<5
	Chemical Oxygen Demand (mg/l)	9.4	26	<5
	Zinc (mg/l)	0.028	<0.1	<0.02
	Lead (mg/l)	0.0021	<0.008	<0.002
	Total Petroleum Hydrocarbons (mg/l)	<0.5	<0.5	<0.5
Sampling Point V-4 Truckee River (Upgradient)	Oil & Grease (mg/l)	<5	<5	<5
	Chemical Oxygen Demand (mg/l)	7.63	22	<5
	Total Petroleum Hydrocarbons (mg/l)	0.6	7	<0.5
Sampling Point V-5 Truckee River (Downgradient)	Oil & Grease (mg/l)	<5	<5	<5
	Chemical Oxygen Demand (mg/l)	6.32	10	<5
	Total Petroleum Hydrocarbons (mg/l)	<0.5	<0.5	<0.5

Analysis of the data reported since 2002 indicates a slight upward trend in Chemical Oxygen Demand in all three groundwater monitoring wells, including the well upgradient of the fluid handling system. The groundwater downgradient of the fluid handling system does show some impact from facility activities, particularly around monitor well V-1. This well has shown a general decrease in COD since 2005, when the highest COD of 100 mg/l was reported. Operation of the facility appears to have no impact on the quality of the Truckee River.

Effluent Flow and Characteristics: The process is a zero-discharge system with water being discharged to and recycled on demand from the concrete shop pond and storage tanks. The system is not equipped with inlet or outlet flow meters. The facility estimates that the daily hydraulic fluid demand supplied to the presses is less than 50,000 gallons per day. Neglecting evaporation losses in the concrete shop pond, the only discharge of fluid from this system should be waste oil, which is recovered and transported to an off-site facility for recycling.

Proposed Monitoring Requirements and Special Conditions The Permittee shall be required to monitor activities at the facility according to the following groundwater and surface storage monitoring schedule:

Table 2: Groundwater Monitoring (V1, V2 & V3)¹

PARAMETER	GROUNDWATER LIMITATIONS		MONITORING REQUIREMENTS	
	30-Day Average	Daily Maximum	Measurement Frequency	Sample Type
COD, mg/L	Monitor & Report		Quarterly	Discrete
Oil & Grease, mg/L	Monitor & Report		Quarterly	Discrete
TPH, mg/L	1.0		Quarterly	Discrete
Depth to Groundwater, ft	Monitor & Report		Quarterly	Field Measurement
Groundwater Elevation, ft AMSL	Monitor & Report		Quarterly	Field Measurement

1. Groundwater samples shall be taken only after purging at least three (3) well volumes of groundwater from each monitoring well.

Table 3: Surface Water Monitoring (V4 & V5)^{1,2}

PARAMETER	SURFACE WATER LIMITATIONS		MONITORING REQUIREMENTS	
	30-Day Average	Daily Maximum	Measurement Frequency	Sample Type
COD, mg/L	Monitor & Report		Quarterly	Discrete
Oil & Grease, mg/L	Monitor & Report		Quarterly	Discrete
TPH, mg/L	Monitor & Report		Quarterly	Discrete

1. Upstream sample (V4) shall be collected one meter from the southwest bank of the Truckee River where the upstream property-line of Firth Rixson Viking Metallurgical intersects the river bank.
2. Downstream sample (V5) shall be collected one meter from the west river bank directly beneath the Old Highway 40 Bridge.

Schedule of Compliance:

The Permittee shall comply with the terms of the permit upon renewal. The following Schedule of Compliance items shall be completed:

- **By December 31, 2008** or prior to use for emergency hydraulic fluid storage, the “ ½ & 1/2 “ tank shall be leak tested.

Rationale for Permit Requirements: The Division’s rationale for the proposed monitoring conditions is as follows:

- *Groundwater Monitoring:* The facility monitors three groundwater monitoring wells (V1, V2 & V3) quarterly for Chemical Oxygen Demand (COD), Oil and Grease (O&G), Total Petroleum Hydrocarbons (TPH), Zinc and Lead, as an indication of contaminant migration in the groundwater towards the river. Depth and elevation of the groundwater in these wells is also monitored. The groundwater contaminants monitored in these wells are constituents of the lubricant oils handled in the manufacturing process, and metallic alloys present in the original galvanized well casings. A five-year review of the Discharge Monitoring Reports (DMRs) shows no apparent trend indicating leakage from the containment structures into the groundwater.

Further, lead and zinc have been monitored constituents in the past due to their presence in the substrate used in the galvanizing process used to treat the well casings. The well casings have been replaced since the last permit cycle, and the two metals have not been detected to any appreciable extent during the permit from 2002 to 2007. Zinc and Lead analyses will no longer be required.

- *Surface Water Monitoring:* Presently, the facility is required to conduct quarterly sampling at upstream (V-4) and downstream (V-5) sampling points for COD, O&G and TPH contaminants. A five-year review of the DMRs shows no apparent trend indicating discharge of these contaminants into the river. Any such increase of these contaminants over the flow course alongside the facility could be an indication of a direct (surface) or indirect (contaminated groundwater recharge) discharge from the facility. The Division proposes that the surface water monitoring be continued on a quarterly basis for this zero-discharge permit (see Table 3).

Procedures for Public Comment: The Notice of the Division’s intent to issue (renew) a zero-discharge permit to the applicant, subject to the conditions contained within the permit is being sent to the **Reno Gazette-Journal** 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 for a period of thirty (30) days following the date of publication of the public notice in the newspaper. The comment period can be extended at the discretion of the Administrator. The deadline date and time by which all comments are to be submitted (via postmarked mail or time-stamped faxes, e-mails, or hand-delivered items) to the Division is **September 24, 2007 by 5:00 P.M.**

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.

Proposed Determination:

The Division has made the tentative determination to issue the renewal of the proposed zero-discharge permit for a period of five (5) years.

Prepared by: Janine O. Hartley
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