

# NEVADA DIVISION OF ENVIRONMENTAL PROTECTION

## FACT SHEET

(pursuant to NAC 445A.236)

**Permittee:** ConocoPhillips Company  
1230 W. Washington St.  
Suite 212  
Tempe, AZ 85281

**Permit:** NV0023663

**Location:** Former Conoco Station No. 28003  
1420 W. Bonanza Road  
Las Vegas, Clark County, Nevada. 89106-3505  
Township 20 S, Range 61 E, Section 28  
Latitude: 36° 10' 44.2" N  
Longitude: 115° 09' 38.2" W

**Flow:** Daily Maximum: 0.0072 million gallons per day (MGD), (5 gallons per minute)

**Corrective Actions Sites:** There are ten (10) Bureau of Corrective Actions remediation sites located within a one-mile radius of the permitted site.

**Well Head and Drinking Water Supply Protection:** The Former Conoco Station No. 28003 site does not discharge to groundwater of the State of Nevada. However, the facility is located at the extreme edge of two (2) 6000' Drinking Water Protection Areas (DWPAs). One DWPA is for a public water supply well owned by Shady Acres Trailer Park. The other DWPA is for a well owned by Las Vegas Valley Water District. The facility is outside any established Well Head Protection Zone.

**General:** The Permittee has applied for a National Pollutant Discharge Elimination System (NPDES) permit, to discharge treated groundwater to the Las Vegas Wash via the Clark County storm drain system. The application submitted 27 February, 2009 is for a new permit.

The former Conoco Service Station 28003 is located at 1420 W. Bonanza Road, on the northeast corner of the intersection of Martin Luther King Boulevard and Bonanza Road. The service station is no longer owned or operated ConocoPhillips. All structures, pumps and tanks related to the operation of the service station have been transferred to the new station operator.

Groundwater below the site is encountered at approximately 14 feet below ground surface (bgs), at elevation 2037 feet AMSL. Groundwater gradient is toward the north east. The groundwater is contaminated with petroleum hydrocarbons due to a fuel leakage from underground storage tanks. The recovery/remediation system consists of 18 on-site dual phase extraction (DPE) wells, from which impacted groundwater is routed to an air/water separator, utilizing thermal oxidation of the vapor phase. Following vapor removal, the aqueous stream is treated in an aeration tank, and is then directed through a two-step activated carbon system for polishing. The activated carbon treatment system consists of two 1000 pound carbon vessels connected in series. To ensure full treatment in the event of breakthrough due to carbon loading, an intermediate monitoring point will be set at the

inlet to the second carbon vessel, which will contain the most recently added fresh carbon. Ultimate disposal of the treated groundwater will be to the Las Vegas Wash via the Clark County storm drain system. Effluent flow will be 0.0072 MGD, or 5 gallons per minute, the design treatment capacity of the facility. The Bureau of Corrective Actions, Nevada Division of Environmental Protection will continue to regulate the soil and groundwater remediation activities at this site.

**Receiving Water Characteristics:** The receiving water for the treated groundwater is the Las Vegas Wash via the Clark County storm drain system. The beneficial uses of the Upper Las Vegas Wash as cited at NAC 445A.198 include 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. The establishment of a fishery is not precluded. Water quality standards for the Upper Las Vegas Wash are specified at NAC 445A.199.

**Proposed Effluent Limitations and Requirements:** Samples and measurements taken in compliance with the monitoring requirements specified below shall be taken from:

Samples shall be taken on a monthly basis at the sampling port located between the two carbon vessels (ii). Laboratory results of the samples shall be received and reviewed by the Permittee within five (5) calendar days of sample collection to evaluate whether a breakthrough of any monitored parameter has occurred from the lead carbon vessel. If breakthrough from the first vessel occurs, additional sampling shall proceed on a daily basis at the discharge of the second carbon canister (location iii). Laboratory results of these samples shall be received and reviewed by the Permittee within 24 hours of sample collection to evaluate whether a breakthrough has occurred from the lag vessel. Daily collection and analysis of the samples collected at location iii shall continue until the spent carbon has been replaced and laboratory results for a subsequent ii sample demonstrates no breakthrough is occurring from the lead carbon vessel.

Spent carbon shall be replaced when breakthrough has been detected, with the fresh carbon being placed in the final canister and the other canisters rotated so that the oldest carbon is placed in the first position, and subsequent positions are occupied by decreasingly spent carbon. A sufficient amount of virgin carbon shall be available at all times to replace the activated carbon in both vessels at the same time.

The discharge shall be limited and monitored by the Permittee at the locations listed below, according to the following Table:

- i. the flow meter downgradient of the air stripper;
- ii. the sample port on the discharge line from the first activated carbon vessel, prior to the second activated carbon vessel; and
- iii. the sample port on the discharge line from the second carbon vessel, prior to discharge to the storm drain.

**Table 1: Discharge Limitations**

PARAMETERS	EFFLUENT DISCHARGE LIMITATIONS		MONITORING REQUIREMENTS		
	30-Day Average	Daily Maximum	Sample Location	Measurement Frequency	Sample Type
Flow, MDG	M&R	0.0072	i.	Continuous	Flow meter
VOC EPA Method 8260, µg/L	Monitor & Report (report all parameters)		iii.	Annually <sup>1</sup>	Discrete
Benzene, µg/L	---	M&R	ii.	Monthly	Discrete
	---	5	iii.		
1,2 Dichloroethane (DCA) µg/L	---	M&R	ii.	Monthly	Discrete
	---	5	iii.		
Ethlybenzene, µg/L	---	M&R	ii.	Monthly	Discrete
	---	100	iii.		
Toluene, µg/L	---	M&R	ii.	Monthly	Discrete
	---	100	iii.		
Xylenes, Total, µg/L	---	M&R	ii.	Monthly	Discrete
	---	200	iii.		
Total Petroleum Hydrocarbons <sup>2</sup> , mg/L	---	M&R	ii.	Monthly	Discrete
	---	1.0	iii.		
Methyl tertiary butyl ether, µg/L	---	M&R	ii.	Monthly	Discrete
	---	20	iii.		
Activated Carbon Addition and Advancement, Date and Pounds	---	M&R	Carbon Canisters	Each Event	Discrete
Total Inorganic Nitrogen as N, mg/L	---	20	iii.	Quarterly	Discrete
Total Dissolved Solids, mg/L	Monitor and Report		iii.	Quarterly	Discrete
Total Phosphorus as P, lb/day	< 1.0		iii.	Quarterly	Discrete
Total Ammonia as N, lb/day	< 1.0		iii.	Quarterly	Discrete
pH, SU	6.5 ≤ pH ≤ 9.0		iii.	Quarterly	Discrete

Notes: 1: To be analyzed in the fourth quarter and submitted to the Division with the Annual Report.  
 2: Purgable and extractable ranges.

mg/L: Milligram per liter. µg/L: Micrograms per liter. gpd: Gallons per day.  
 P: Phosphorus. N: Nitrogen. VOC: Volatile organic compound.  
 SU: Standard units M&R: Monitor and Report

**Rationale for Permit Requirements:** Monitoring requirements for the parameters specified in Table 1 above have been established to ensure that the receiving water, the Las Vegas Wash, is not degraded as a result of the Permittee's discharge of treated groundwater. Monitoring is required to assess the level of treatment being provided and to assure that the treated groundwater will not impact the beneficial uses of Las Vegas Wash.

**Flow:** The Daily Maximum flow effluent discharge limitation is based on the values requested by the Permittee, and is reflective of the design treatment capacity.

**Total Petroleum Hydrocarbons:** The shallow groundwater in the vicinity of the recovery system was contaminated by a gasoline leak from an underground storage tank. The 1.0 mg/L TPH limit is

the State standard for remediation projects.

**Volatile Organic Compounds (VOC):** The shallow groundwater in the immediate area of the former service station is impacted by petroleum hydrocarbons containing VOCs. Annual analysis of the full suite of EPA Method 8260 influent VOCs is required to verify that no VOCs have been drawn to the site by the Permittee's recovery of hydrocarbon contaminated groundwater.

Discharge Limitations. The specific VOC daily maximum discharge limits have been set at the following State standards for remediation projects: Benzene 5 µg/L, 1,2 Dichloroethane 5 µg/L, Ethylbenzene 100 µg/L, Toluene 100 µg/L, and Total Xylenes 200 µg/L. The 20 µg/L action level for MTBE in groundwater for sites in close proximity to receptors and/or sensitive environments applies.

**Total Dissolved Solids (TDS):** The shallow groundwater with naturally occurring elevated TDS levels would flow to the Wash, if it was not intercepted by the dewatering system, therefore, the TDS standard is not applied to dewatering discharges in this area. The permit requirement is to Monitor and Report.

This permit is for the interception and passage of groundwater and thus is exempted under the Colorado River Basin Salinity Control Forum's policy on groundwater interception.

**Total Inorganic Nitrogen as Nitrogen (TIN):** NAC 445A.199 includes a requirement to maintain existing higher quality TIN standard of 95% of the samples  $\leq 20.0$  mg/L.

**pH:** NAC 445A.199 includes a single value pH water quality standard for beneficial uses within the range of 6.5 – 9.0 SU.

**Total Phosphorus as Phosphorus and Total Ammonia as N:** Total Maximum Daily Loads (TMDLs) of 434 lb/day Total Phosphorus and 970 lb/day Total Ammonia have been established for the Las Vegas Bay/Wash. The waste load allocations (WLAs) have been assigned only to the Cities of Las Vegas and Henderson and the Clark County Water Reclamation District.

Based on the State's de minimis policy of exempting discharges of less than 1 lb/day TP from the TMDL analysis, a WLA has not been assigned to this Permittee. At the maximum permitted flow of 0.0072 MGD, the groundwater Total Phosphorus and Total Nitrogen concentrations would each have to exceed 16.64 mg/L to violate the 1 lb/day of the de minimis policy.

**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, 2009**, (within 14 days of first discharge under this permit), the

Permittee shall submit written notice of commencement of discharge.

- c. **By MMM DD, 2009**, (within forty-five (45) days of the first discharge under this permit), the Permittee shall submit an Operations and Maintenance Manual stamped by a Nevada licensed Professional Engineer to the Division for review and approval.

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

**Procedures for Public Comment:** Notice of the Division's intent to issue a permit authorizing the facility to continue to discharge to surface waters of the State of Nevada subject to the conditions contained within the permit, is being sent to the **Las Vegas Review Journal** for publication. The notice is also 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. **June 17, 2009**, 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 will 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 to accordance with NAC 445A.238.

The final determination of the Administrator may be appealed to the State Environmental Commission pursuant to NRS 445A.238

Prepared by: Janine O. Hartley, P.E.  
March, 2009