



SAN DIEGO REGIONAL  
WATER QUALITY  
CONTROL BOARD

2010 SEP - 1 P 1: 43

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Ms. Whitney Ghoram  
California Regional Water Quality Control Board  
San Diego Region  
9174 Sky Park Court, Suite 100  
San Diego, California 92123

Subject:

Request to Increase Daily Average Discharge Rate under Order No. R9-2008-0002, NPDES Permit No. CAG919002; Mission Valley Terminal, 9950 and 9966 San Diego Mission Road, San Diego, California

Dear Ms. Ghoram:

ARCADIS U.S., Inc. (ARCADIS), formerly LFR Inc., has prepared this submittal on behalf of SFPP, L.P., operating partner of Kinder Morgan Energy Partners, L.P. (Kinder Morgan) to request modifications to the existing enrollment under Order No. R9-2008-0002, National Pollutant Discharge Elimination System (NPDES) General Permit No. CAG919002 (RWQCB 2008) for the Mission Valley Terminal (MVT), which is located at 9950 and 9960 San Diego Mission Road, San Diego, California (Figure 1). The discharge to Murphy Canyon Creek is a result of groundwater extraction and treatment conducted as part of the ongoing remediation activities occurring in accordance with Addendum No. 5 to Cleanup and Abatement Order (CAO) No. 92-01 (RWQCB 2005).

ARCADIS seeks the approval of the California Regional Water Quality Control Board, San Diego Region (RWQCB) to modify enrollment in the General Permit to allow an increase in the average daily discharge rate to 1.26 million gallons per day (mgd) from the currently approved 0.795 mgd. This increase in the average daily discharge rate is requested to allow for additional groundwater extraction that will accelerate cleanup of groundwater to meet the compliance criteria set forth in Directive No. 3 of Addendum No. 5 ahead of the December 31, 2013 cleanup deadline. This increased discharge rate will only be necessary until December 31, 2013; the average discharge will likely decrease to approximately 0.33 mgd thereafter.

This request has been prepared in accordance with the approach used in previous requests for modification to the allowable average daily discharge rate (LFR 2005, 2009) that were approved by the RWQCB (2005, 2009). In the most recent modification of enrollment under Order R9-2008-0002, the RWQCB approved an "increase in the

ENVIRONMENT

Date:  
August 24, 2010

Contact:  
Marcelo Garbiero

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714.444.0111

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Our ref:  
CM010143.0082

Imagine the result

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Ms. Whitney Ghoram  
August 24, 2010

existing permitted discharge rate of 0.505 mgd (approximately 350 gpm) to 0.795 mgd (approximately 550 gpm)."

The scope of work completed to support this request includes the following:

- evaluation of the alternative groundwater disposal options
- presentation of the basis for the requested enrollment modification
- determination of the current and future constituent mass discharge rates to the receiving water (Murphy Canyon Creek)
- evaluation of the potential impact of the increased flow and mass discharge rates on the receiving water.

The methodologies and results of these activities are presented below.

### **Alternative Disposal Option**

The discharger submitted an evaluation of groundwater disposal alternatives in the application for re-enrollment (LFR 2009a) under Order No. R9-2008-0002, which was approved by the RWQCB (2009). Alternative disposal options were evaluated for technical and economic feasibility as required by the Notice of Intent application. The alternative disposal options evaluated included aquifer re-injection, discharge to a Publicly Owned Treatment Works, and discharge to a water reclamation facility. Based on the general assessment of technical and economic feasibility of alternate disposal options, it was concluded that continued discharge to surface waters under NPDES General Permit No. CAG919002 is the only feasible option.

Further evidence of the infeasibility of aquifer reinjection was presented in support documentation submitted to the RWQCB (LFR 2009b) for the Board Meeting held on August 12, 2009. In part, this document presents additional discussion that supports the reinjection of treated groundwater as an infeasible option due to the technical risks associated with this approach such as chemical encrustation within the aquifer, chemical encrustation and biofouling within the injection system, and potentially compromising the existing property boundary hydraulic barrier.

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Ms. Whitney Ghoram  
August 24, 2010

### **Reasons for Enrollment Modification**

The enrollment modification to increase the average daily discharge rate is requested to allow for additional groundwater extraction that will accelerate cleanup of groundwater to meet the compliance criteria and schedule set forth in Directive No. 3 of Addendum No. 5. This schedule requires compliance to be met "as soon as practicable and no later than December 31, 2013." The objective is to enhance and accelerate groundwater remediation activities in order to comply with the criteria ahead of the deadline specified.

The existing groundwater extraction treatment system (GWETS) will be supplemented with a new, stand-alone GWETS that will focus on accelerating the groundwater cleanup. The existing GWETS will remain in operation and focus on other remedial objectives including maintaining the downgradient property boundary hydraulic containment barrier that prevents impacted groundwater from leaving the MVT property. The new GWETS will include pumping of up to 12 groundwater extraction wells (6 existing and 6 proposed). An increase in the allowable average daily discharge rate would allow an increase in pumping flow rates from the groundwater extraction wells, thereby accelerating the removal of contaminant mass from the aquifer and enhancing the incidental biodegradation of contaminants in the aquifer through groundwater mixing.

It is anticipated that the increased allowable average daily discharge rate of 1.26 mgd (875 gallons per minute [gpm]) will only be necessary through 2013. At that time, the new groundwater treatment plant (GWTP) that is a component of the proposed GWETS would remain in operation and be refocused on future remedial objectives including continued operation of the downgradient property boundary hydraulic containment barrier and on-property remediation of soil and groundwater. It is anticipated that these future needs would only require a discharge rate of approximately 0.33 mgd (200 gpm).

### **Data Collection and Evaluation**

#### ***Detected Constituents and Mass Discharge Estimations***

The monitoring and reporting program for the current NPDES permit requires that the effluent be monitored on a monthly, quarterly, and semi-annual basis. The analytical results from the most recent 12 months of compliance monitoring between July 2009 and June 2010 ("the evaluation period") were used in estimating the mass discharge

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Ms. Whitney Ghoram  
August 24, 2010

rates for each constituent. This period of time was selected because it is most representative of the future operation for the new GWTP that will employ the same technologies used by the existing GWTP (i.e., granular activated carbon adsorption and anoxic denitrification). A complete list of the constituents that are routinely monitored in accordance with the NPDES permit is listed in Table 1 along with their analytical results during the evaluation period. Table 2 presents only those constituents for which detectable concentrations were reported by the analytical laboratory during the evaluation period.

Mass discharge was estimated as the mass of the constituent entering Murphy Canyon Creek per gallon of total flow in the creek. The mass discharge rate was estimated for each of the detected constituents at the historic effluent allowable effluent flow rates of 205 gpm, 350 gpm, the current allowable flow rate of 550 gpm, and the proposed allowable flow rate of 875 gpm. The mass of each detected constituent entering the creek as grams per minute was then divided by the total flow in gallons per minute flowing in the creek to obtain the mass of each constituent per gallon of water flowing downstream of the discharge outfall point. Results of the mass discharge estimations are summarized in Table 2.

### **Evaluation of Potential Impacts of Increased Discharge Flow**

The purpose of this evaluation is to review the available data and assess whether the proposed increase in discharge flow will result in detrimental effects to the receiving water, particularly the aquatic biota.

Information used in this evaluation included the following:

- NPDES Discharge Permit No. CAG919002
- Water Quality and Aquatic Habitat Assessment (LFR 2003)
- data presented in this letter
- relevant literature and correspondence (as cited).

### ***Changes in Water Chemistry***

There is no indication that the chemical composition of the effluent at the proposed maximum discharge rate of 875 gpm will differ significantly from existing conditions.

## ARCADIS

Ms. Whitney Ghoram  
August 24, 2010

Process water to be treated by the proposed system is being pumped from the same water-bearing unit in Mission Valley, and as such the water chemistry is expected to be very similar. Additionally, these proposed modifications do not seek any variance to permitted discharge limits. The proposed maximum discharge of 875 gpm would continue to meet these requirements. Table 3 lists all analytes that were detected in the evaluation period. All analytical results for these constituents were within permitted discharge limits.

To assess the potential issues associated with the water chemistry in terms of aquatic resource protection, analytical data for the evaluation period have been further assessed with respect to receiving water criteria. The data from Table 2 (indicating detected compounds during the evaluation period) are presented with relevant comparison values in Table 3. Where available, relevant comparison values in Table 3 include values for upstream Murphy Canyon Creek samples (LFR 2003), upstream San Diego River samples (LFR 2003), surface aquatic life protection (Marshack 2008), and freshwater quality criteria promulgated by the National Oceanic and Atmospheric Administration (NOAA) as Screening Quick Reference Tables (SQuiRT tables; NOAA 2008 update). This evaluation assumes that the downstream concentrations associated with the current permitted discharge limit are protective of aquatic resources.

All of the constituent concentrations detected in the evaluation period are below the relevant comparison values, and most are an order of magnitude below the relevant value. Arsenic and copper concentrations are well below the 4-day average continuous concentration value (Marshack) and the NOAA "chronic" exposure value. Hardness is similar to the upstream Murphy Canyon Creek value. Manganese is below the NOAA "chronic" exposure value (no 4-day average continuous concentration value is available), and well below the limit established in the NPDES permit. Nickel is well below both the 4-day average continuous concentration value and the NOAA "chronic" exposure value. Sodium was recorded at a concentration of 320 milligrams per liter (mg/L) in the effluent, compared to 220 mg/L recorded upstream in Murphy Canyon Creek in 2003 and 200 mg/L in the San Diego River in 2003. A relevant comparison value was not available for this constituent. Values of pH are comparable to those previously measured upstream in the San Diego River. A relevant comparison value was not identified for total nitrogen, total suspended solids, fecal coliforms, or total coliforms; however, these constituents were maintained below the limit established in the NPDES permit.

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Ms. Whitney Ghoram  
August 24, 2010

**Summary**

Based on the relevant comparison values identified for the detectable constituents in the discharge and NPDES permit discharge limitations, discharge concentrations are expected to be protective of freshwater aquatic life and in compliance with permit requirements. Additionally, the effluent discharge will become mixed with natural stream flows in Murphy Canyon Creek and the San Diego River, and most constituent concentrations will decrease with downstream movement.

Based on the results of this evaluation, modification of the existing enrollment under Order No. R9-2008-0002, NPDES Permit No. CAG919002 is requested such that the maximum allowable discharge rate for the site is modified to 1.26 mgd (approximately 875 gpm). We request your expedited review and response to this proposed modification which will assist Kinder Morgan in accelerating groundwater cleanup to meet the compliance criteria set forth in Directive No. 3 of Addendum No. 5 of CAO No. 92-01. We look forward to receiving your response, and are available to meet and discuss this request.

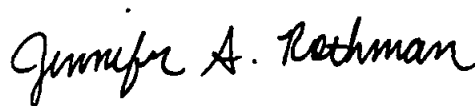
Please contact either of the undersigned at 714.444.0111 or Scott Martin (Kinder Morgan) at 714.560.4775 with any questions or comments you may have regarding this matter.

Sincerely,

ARCADIS U.S., Inc.



Marcelo A. Garbiero, P.E.  
Senior Civil Engineer



Jennifer S. Rothman, P.E.  
Principal Civil Engineer

**Attachments**

Copies:

Scott Martin, Kinder Morgan  
Sean McClain, RWQCB

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Ms. Whitney Ghoram  
August 24, 2010

## References Cited

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Ms. Whitney Ghoram  
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**Tables**

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM  
 TABLE 1: SUMMARY OF ANALYTICAL RESULTS FOR EFFLUENT SAMPLES FROM  
 Mission Valley Terminal  
 San Diego, California

June 13, 2012  
 Item No. 13  
 Supporting Document No. 4

Site Address:

Permit / Discharge No.:

Kinder Morgan Energy Partners  
 9950 San Diego Mission Road  
 San Diego, California 92108

CAG919002/001

PARAMETER	Sample Date	Analytical Laboratory	Lab ID	Method	Permit Limits				Quality or Concentration	Quantity or Loading	Units
					Min.	Ave.	Max.	Units			
Flowrate	7/1/09	Field	--	Field Measurement	--	--	0.51	MGD	--	0.44	MGD
Flowrate	7/2/09	Field	--	Field Measurement	--	--	0.51	MGD	--	0.42	MGD
Flowrate	7/3/09	Field	--	Field Measurement	--	--	0.51	MGD	--	0.47	MGD
Flowrate	7/4/09	Field	--	Field Measurement	--	--	0.51	MGD	--	0.44	MGD
Flowrate	7/5/09	Field	--	Field Measurement	--	--	0.51	MGD	--	0.45	MGD
Flowrate	7/6/09	Field	--	Field Measurement	--	--	0.51	MGD	--	0.40	MGD
Flowrate	7/7/09	Field	--	Field Measurement	--	--	0.51	MGD	--	0.40	MGD
Flowrate	7/8/09	Field	--	Field Measurement	--	--	0.51	MGD	--	0.39	MGD
Flowrate	7/9/09	Field	--	Field Measurement	--	--	0.51	MGD	--	0.44	MGD
Flowrate	7/10/09	Field	--	Field Measurement	--	--	0.51	MGD	--	0.44	MGD
Flowrate	7/11/09	Field	--	Field Measurement	--	--	0.51	MGD	--	0.40	MGD
Flowrate	7/12/09	Field	--	Field Measurement	--	--	0.51	MGD	--	0.46	MGD
Flowrate	7/13/09	Field	--	Field Measurement	--	--	0.51	MGD	--	0.39	MGD
Flowrate	7/14/09	Field	--	Field Measurement	--	--	0.51	MGD	--	0.33	MGD
Flowrate	7/15/09	Field	--	Field Measurement	--	--	0.51	MGD	--	0.42	MGD
Flowrate	7/16/09	Field	--	Field Measurement	--	--	0.51	MGD	--	0.43	MGD
Flowrate	7/17/09	Field	--	Field Measurement	--	--	0.51	MGD	--	0.30	MGD
Flowrate	7/18/09	Field	--	Field Measurement	--	--	0.51	MGD	--	0.44	MGD
Flowrate	7/19/09	Field	--	Field Measurement	--	--	0.51	MGD	--	0.46	MGD
Flowrate	7/20/09	Field	--	Field Measurement	--	--	0.51	MGD	--	0.41	MGD
Flowrate	7/21/09	Field	--	Field Measurement	--	--	0.51	MGD	--	0.47	MGD
Flowrate	7/22/09	Field	--	Field Measurement	--	--	0.51	MGD	--	0.41	MGD
Flowrate	7/23/09	Field	--	Field Measurement	--	--	0.51	MGD	--	0.38	MGD
Flowrate	7/24/09	Field	--	Field Measurement	--	--	0.51	MGD	--	0.39	MGD
Flowrate	7/25/09	Field	--	Field Measurement	--	--	0.51	MGD	--	0.35	MGD
Flowrate	7/26/09	Field	--	Field Measurement	--	--	0.51	MGD	--	0.46	MGD
Flowrate	7/27/09	Field	--	Field Measurement	--	--	0.51	MGD	--	0.36	MGD
Flowrate	7/28/09	Field	--	Field Measurement	--	--	0.51	MGD	--	0.36	MGD
Flowrate	7/29/09	Field	--	Field Measurement	--	--	0.51	MGD	--	0.29	MGD
Flowrate	7/30/09	Field	--	Field Measurement	--	--	0.51	MGD	--	0.46	MGD
Flowrate	7/31/09	Field	--	Field Measurement	--	--	0.51	MGD	--	0.38	MGD
Flowrate	8/1/09	Field	--	Field Measurement	--	--	0.51	MGD	--	0.43	MGD
Flowrate	8/2/09	Field	--	Field Measurement	--	--	0.51	MGD	--	0.46	MGD
Flowrate	8/3/09	Field	--	Field Measurement	--	--	0.51	MGD	--	0.37	MGD
Flowrate	8/4/09	Field	--	Field Measurement	--	--	0.51	MGD	--	0.45	MGD
Flowrate	8/5/09	Field	--	Field Measurement	--	--	0.51	MGD	--	0.47	MGD
Flowrate	8/6/09	Field	--	Field Measurement	--	--	0.51	MGD	--	0.45	MGD
Flowrate	8/7/09	Field	--	Field Measurement	--	--	0.51	MGD	--	0.39	MGD
Flowrate	8/8/09	Field	--	Field Measurement	--	--	0.51	MGD	--	0.46	MGD
Flowrate	8/9/09	Field	--	Field Measurement	--	--	0.51	MGD	--	0.44	MGD
Flowrate	8/10/09	Field	--	Field Measurement	--	--	0.51	MGD	--	0.45	MGD
Flowrate	8/11/09	Field	--	Field Measurement	--	--	0.51	MGD	--	0.41	MGD
Flowrate	8/12/09	Field	--	Field Measurement	--	--	0.51	MGD	--	0.47	MGD
Flowrate	8/13/09	Field	--	Field Measurement	--	--	0.51	MGD	--	0.47	MGD
Flowrate	8/14/09	Field	--	Field Measurement	--	--	0.51	MGD	--	0.44	MGD
Flowrate	8/15/09	Field	--	Field Measurement	--	--	0.51	MGD	--	0.46	MGD
Flowrate	8/16/09	Field	--	Field Measurement	--	--	0.51	MGD	--	0.36	MGD

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM  
**TABLE 1: SUMMARY OF ANALYTICAL RESULTS FOR EFFLUENT SAMPLES**  
 Mission Valley Terminal  
 San Diego, California

June 13, 2012  
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 Supporting Document No. 4

Site Address:

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 9950 San Diego Mission Road  
 San Diego, California 92108

CAG919002 / 001

PARAMETER	Sample Date	Analytical Laboratory	Lab ID	Method	Permit Limits				Quality or Concentration	Quantity or Loading	Units
					Min.	Ave.	Max.	Units			
<b>Flowrate</b>											
Flowrate	8/17/09	Field	--	Field Measurement	--	--	0.51	MGD	--	0.30	MGD
Flowrate	8/18/09	Field	--	Field Measurement	--	--	0.51	MGD	--	0.47	MGD
Flowrate	8/19/09	Field	--	Field Measurement	--	--	0.51	MGD	--	0.46	MGD
Flowrate	8/20/09	Field	--	Field Measurement	--	--	0.51	MGD	--	0.36	MGD
Flowrate	8/21/09	Field	--	Field Measurement	--	--	0.51	MGD	--	0.43	MGD
Flowrate	8/22/09	Field	--	Field Measurement	--	--	0.51	MGD	--	0.43	MGD
Flowrate	8/23/09	Field	--	Field Measurement	--	--	0.51	MGD	--	0.30	MGD
Flowrate	8/24/09	Field	--	Field Measurement	--	--	0.51	MGD	--	0.41	MGD
Flowrate	8/25/09	Field	--	Field Measurement	--	--	0.51	MGD	--	0.35	MGD
Flowrate	8/26/09	Field	--	Field Measurement	--	--	0.51	MGD	--	0.37	MGD
Flowrate	8/27/09	Field	--	Field Measurement	--	--	0.51	MGD	--	0.44	MGD
Flowrate	8/28/09	Field	--	Field Measurement	--	--	0.51	MGD	--	0.38	MGD
Flowrate	8/29/09	Field	--	Field Measurement	--	--	0.51	MGD	--	0.42	MGD
Flowrate	8/30/09	Field	--	Field Measurement	--	--	0.51	MGD	--	0.46	MGD
Flowrate	8/31/09	Field	--	Field Measurement	--	--	0.51	MGD	--	0.41	MGD
Flowrate	9/1/09	Field	--	Field Measurement	--	--	0.51	MGD	--	0.41	MGD
Flowrate	9/2/09	Field	--	Field Measurement	--	--	0.51	MGD	--	0.43	MGD
Flowrate	9/3/09	Field	--	Field Measurement	--	--	0.51	MGD	--	0.41	MGD
Flowrate	9/4/09	Field	--	Field Measurement	--	--	0.51	MGD	--	0.42	MGD
Flowrate	9/5/09	Field	--	Field Measurement	--	--	0.51	MGD	--	0.46	MGD
Flowrate	9/6/09	Field	--	Field Measurement	--	--	0.51	MGD	--	0.40	MGD
Flowrate	9/7/09	Field	--	Field Measurement	--	--	0.51	MGD	--	0.45	MGD
Flowrate	9/8/09	Field	--	Field Measurement	--	--	0.51	MGD	--	0.36	MGD
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Flowrate	9/11/09	Field	--	Field Measurement	--	--	0.51	MGD	--	0.37	MGD
Flowrate	9/12/09	Field	--	Field Measurement	--	--	0.51	MGD	--	0.45	MGD
Flowrate	9/13/09	Field	--	Field Measurement	--	--	0.51	MGD	--	0.049	MGD
Flowrate	9/14/09	Field	--	Field Measurement	--	--	0.51	MGD	--	0.26	MGD
Flowrate	9/15/09	Field	--	Field Measurement	--	--	0.51	MGD	--	0.36	MGD
Flowrate	9/16/09	Field	--	Field Measurement	--	--	0.51	MGD	--	0.45	MGD
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Flowrate	9/28/09	Field	--	Field Measurement	--	--	0.51	MGD	--	0.44	MGD
Flowrate	9/29/09	Field	--	Field Measurement	--	--	0.51	MGD	--	0.43	MGD
Flowrate	9/30/09	Field	--	Field Measurement	--	--	0.51	MGD	--	0.23	MGD
Flowrate	10/1/09	Field	--	Field Measurement	--	--	0.51	MGD	--	0.16	MGD
Flowrate	10/2/09	Field	--	Field Measurement	--	--	0.51	MGD	--	0.35	MGD

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM  
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Flowrate	10/5/09	Field	--	Field Measurement	--	--	0.51	MGD	--	0.39	MGD
Flowrate	10/6/09	Field	--	Field Measurement	--	--	0.51	MGD	--	0.41	MGD
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Flowrate	10/9/09	Field	--	Field Measurement	--	--	0.51	MGD	--	0.41	MGD
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Flowrate	10/12/09	Field	--	Field Measurement	--	--	0.51	MGD	--	0.45	MGD
Flowrate	10/13/09	Field	--	Field Measurement	--	--	0.51	MGD	--	0.40	MGD
Flowrate	10/14/09	Field	--	Field Measurement	--	--	0.51	MGD	--	0.46	MGD
Flowrate	10/15/09	Field	--	Field Measurement	--	--	0.51	MGD	--	0.46	MGD
Flowrate	10/16/09	Field	--	Field Measurement	--	--	0.51	MGD	--	0.39	MGD
Flowrate	10/17/09	Field	--	Field Measurement	--	--	0.51	MGD	--	0.44	MGD
Flowrate	10/18/09	Field	--	Field Measurement	--	--	0.51	MGD	--	0.46	MGD
Flowrate	10/19/09	Field	--	Field Measurement	--	--	0.51	MGD	--	0.46	MGD
Flowrate	10/20/09	Field	--	Field Measurement	--	--	0.51	MGD	--	0.43	MGD
Flowrate	10/21/09	Field	--	Field Measurement	--	--	0.51	MGD	--	0.44	MGD
Flowrate	10/22/09	Field	--	Field Measurement	--	--	0.51	MGD	--	0.46	MGD
Flowrate	10/23/09	Field	--	Field Measurement	--	--	0.51	MGD	--	0.43	MGD
Flowrate	10/24/09	Field	--	Field Measurement	--	--	0.51	MGD	--	0.45	MGD
Flowrate	10/25/09	Field	--	Field Measurement	--	--	0.51	MGD	--	0.45	MGD
Flowrate	10/26/09	Field	--	Field Measurement	--	--	0.51	MGD	--	0.46	MGD
Flowrate	10/27/09	Field	--	Field Measurement	--	--	0.51	MGD	--	0.41	MGD
Flowrate	10/28/09	Field	--	Field Measurement	--	--	0.51	MGD	--	0.44	MGD
Flowrate	10/29/09	Field	--	Field Measurement	--	--	0.51	MGD	--	0.44	MGD
Flowrate	10/30/09	Field	--	Field Measurement	--	--	0.51	MGD	--	0.39	MGD
Flowrate	10/31/09	Field	--	Field Measurement	--	--	0.51	MGD	--	0.45	MGD
Flowrate	11/1/09	Field	--	Field Measurement	--	--	0.51	MGD	--	0.39	MGD
Flowrate	11/2/09	Field	--	Field Measurement	--	--	0.51	MGD	--	0.44	MGD
Flowrate	11/3/09	Field	--	Field Measurement	--	--	0.51	MGD	--	0.46	MGD
Flowrate	11/4/09	Field	--	Field Measurement	--	--	0.51	MGD	--	0.45	MGD
Flowrate	11/5/09	Field	--	Field Measurement	--	--	0.51	MGD	--	0.46	MGD
Flowrate	11/6/09	Field	--	Field Measurement	--	--	0.51	MGD	--	0.44	MGD
Flowrate	11/7/09	Field	--	Field Measurement	--	--	0.51	MGD	--	0.39	MGD
Flowrate	11/8/09	Field	--	Field Measurement	--	--	0.51	MGD	--	0.45	MGD
Flowrate	11/9/09	Field	--	Field Measurement	--	--	0.51	MGD	--	0.45	MGD
Flowrate	11/10/09	Field	--	Field Measurement	--	--	0.51	MGD	--	0.44	MGD
Flowrate	11/11/09	Field	--	Field Measurement	--	--	0.51	MGD	--	0.43	MGD
Flowrate	11/12/09	Field	--	Field Measurement	--	--	0.51	MGD	--	0.45	MGD
Flowrate	11/13/09	Field	--	Field Measurement	--	--	0.51	MGD	--	0.45	MGD
Flowrate	11/14/09	Field	--	Field Measurement	--	--	0.51	MGD	--	0.47	MGD
Flowrate	11/15/09	Field	--	Field Measurement	--	--	0.51	MGD	--	0.46	MGD
Flowrate	11/16/09	Field	--	Field Measurement	--	--	0.51	MGD	--	0.46	MGD
Flowrate	11/17/09	Field	--	Field Measurement	--	--	0.51	MGD	--	0.47	MGD
Flowrate	11/18/09	Field	--	Field Measurement	--	--	0.51	MGD	--	0.43	MGD

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June 13, 2012  
 Item No. 13  
 Supporting Document No. 4

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM  
 TABLE 1: SUMMARY OF ANALYTICAL RESULTS FOR EFFLUENT SAMPLES  
 Mission Valley Terminal  
 San Diego, California

Site Address:

Permit / Discharge No.:

Kinder Morgan Energy Partners  
 9950 San Diego Mission Road  
 San Diego, California 92108

CAG919002 / 001

PARAMETER	Sample Date	Analytical Laboratory	Lab ID	Method	Permit Limits				Quality or Concentration	Quantity or Loading	Units
					Min.	Ave.	Max.	Units			
Flowrate	11/19/09	Field	--	Field Measurement	--	--	0.51	MGD	--	0.45	MGD
Flowrate	11/20/09	Field	--	Field Measurement	--	--	0.51	MGD	--	0.32	MGD
Flowrate	11/21/09	Field	--	Field Measurement	--	--	0.51	MGD	--	0.43	MGD
Flowrate	11/22/09	Field	--	Field Measurement	--	--	0.51	MGD	--	0.45	MGD
Flowrate	11/23/09	Field	--	Field Measurement	--	--	0.51	MGD	--	0.36	MGD
Flowrate	11/24/09	Field	--	Field Measurement	--	--	0.51	MGD	--	0.32	MGD
Flowrate	11/25/09	Field	--	Field Measurement	--	--	0.51	MGD	--	0.43	MGD
Flowrate	11/26/09	Field	--	Field Measurement	--	--	0.51	MGD	--	0.42	MGD
Flowrate	11/27/09	Field	--	Field Measurement	--	--	0.51	MGD	--	0.37	MGD
Flowrate	11/28/09	Field	--	Field Measurement	--	--	0.51	MGD	--	0.41	MGD
Flowrate	11/29/09	Field	--	Field Measurement	--	--	0.51	MGD	--	0.47	MGD
Flowrate	11/30/09	Field	--	Field Measurement	--	--	0.51	MGD	--	0.42	MGD
Flowrate	12/1/09	Field	--	Field Measurement	--	--	0.51	MGD	--	0.46	MGD
Flowrate	12/2/09	Field	--	Field Measurement	--	--	0.51	MGD	--	0.43	MGD
Flowrate	12/3/09	Field	--	Field Measurement	--	--	0.51	MGD	--	0.30	MGD
Flowrate	12/4/09	Field	--	Field Measurement	--	--	0.51	MGD	--	0.46	MGD
Flowrate	12/5/09	Field	--	Field Measurement	--	--	0.51	MGD	--	0.47	MGD
Flowrate	12/6/09	Field	--	Field Measurement	--	--	0.51	MGD	--	0.39	MGD
Flowrate	12/7/09	Field	--	Field Measurement	--	--	0.51	MGD	--	0.29	MGD
Flowrate	12/8/09	Field	--	Field Measurement	--	--	0.51	MGD	--	0.42	MGD
Flowrate	12/9/09	Field	--	Field Measurement	--	--	0.51	MGD	--	0.36	MGD
Flowrate	12/10/09	Field	--	Field Measurement	--	--	0.51	MGD	--	0.46	MGD
Flowrate	12/11/09	Field	--	Field Measurement	--	--	0.51	MGD	--	0.48	MGD
Flowrate	12/12/09	Field	--	Field Measurement	--	--	0.51	MGD	--	0.47	MGD
Flowrate	12/13/09	Field	--	Field Measurement	--	--	0.51	MGD	--	0.46	MGD
Flowrate	12/14/09	Field	--	Field Measurement	--	--	0.51	MGD	--	0.43	MGD
Flowrate	12/15/09	Field	--	Field Measurement	--	--	0.51	MGD	--	0.26	MGD
Flowrate	12/16/09	Field	--	Field Measurement	--	--	0.51	MGD	--	0.47	MGD
Flowrate	12/17/09	Field	--	Field Measurement	--	--	0.51	MGD	--	0.43	MGD
Flowrate	12/18/09	Field	--	Field Measurement	--	--	0.51	MGD	--	0.47	MGD
Flowrate	12/19/09	Field	--	Field Measurement	--	--	0.51	MGD	--	0.47	MGD
Flowrate	12/20/09	Field	--	Field Measurement	--	--	0.51	MGD	--	0.49	MGD
Flowrate	12/21/09	Field	--	Field Measurement	--	--	0.51	MGD	--	0.47	MGD
Flowrate	12/22/09	Field	--	Field Measurement	--	--	0.51	MGD	--	0.45	MGD
Flowrate	12/23/09	Field	--	Field Measurement	--	--	0.51	MGD	--	0.47	MGD
Flowrate	12/24/09	Field	--	Field Measurement	--	--	0.51	MGD	--	0.46	MGD
Flowrate	12/25/09	Field	--	Field Measurement	--	--	0.51	MGD	--	0.48	MGD
Flowrate	12/26/09	Field	--	Field Measurement	--	--	0.51	MGD	--	0.46	MGD
Flowrate	12/27/09	Field	--	Field Measurement	--	--	0.51	MGD	--	0.46	MGD
Flowrate	12/28/09	Field	--	Field Measurement	--	--	0.51	MGD	--	0.45	MGD
Flowrate	12/29/09	Field	--	Field Measurement	--	--	0.51	MGD	--	0.42	MGD
Flowrate	12/30/09	Field	--	Field Measurement	--	--	0.51	MGD	--	0.45	MGD
Flowrate	12/31/09	Field	--	Field Measurement	--	--	0.51	MGD	--	0.48	MGD
Flowrate	1/1/10	Field	--	Field Measurement	--	--	0.51	MGD	--	0.48	MGD
Flowrate	1/2/10	Field	--	Field Measurement	--	--	0.51	MGD	--	0.48	MGD
Flowrate	1/3/10	Field	--	Field Measurement	--	--	0.51	MGD	--	0.48	MGD
Flowrate	1/4/10	Field	--	Field Measurement	--	--	0.51	MGD	--	0.41	MGD

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM  
 TABLE 1: SUMMARY OF ANALYTICAL RESULTS FOR EFFLUENT SAMPLES  
 Mission Valley Terminal  
 San Diego, California

June 13, 2012  
 Item No. 13  
 Supporting Document No. 4

Site Address:

Permit / Discharge No.:

Kinder Morgan Energy Partners  
 9950 San Diego Mission Road  
 San Diego, California 92108

CAC919002/001

PARAMETER	Sample Date	Analytical Laboratory	Lab ID	Method	Permit Limits				Quality or Concentration	Quantity or Loading	Units
					Min.	Ave.	Max.	Units			
Flowrate	1/5/10	Field	--	Field Measurement	--	--	0.51	MGD	--	0.44	MGD
Flowrate	1/6/10	Field	--	Field Measurement	--	--	0.51	MGD	--	0.43	MGD
Flowrate	1/7/10	Field	--	Field Measurement	--	--	0.51	MGD	--	0.42	MGD
Flowrate	1/8/10	Field	--	Field Measurement	--	--	0.51	MGD	--	0.45	MGD
Flowrate	1/9/10	Field	--	Field Measurement	--	--	0.51	MGD	--	0.49	MGD
Flowrate	1/10/10	Field	--	Field Measurement	--	--	0.51	MGD	--	0.48	MGD
Flowrate	1/11/10	Field	--	Field Measurement	--	--	0.51	MGD	--	0.47	MGD
Flowrate	1/12/10	Field	--	Field Measurement	--	--	0.51	MGD	--	0.41	MGD
Flowrate	1/13/10	Field	--	Field Measurement	--	--	0.51	MGD	--	0.46	MGD
Flowrate	1/14/10	Field	--	Field Measurement	--	--	0.51	MGD	--	0.49	MGD
Flowrate	1/15/10	Field	--	Field Measurement	--	--	0.51	MGD	--	0.40	MGD
Flowrate	1/16/10	Field	--	Field Measurement	--	--	0.51	MGD	--	0.48	MGD
Flowrate	1/17/10	Field	--	Field Measurement	--	--	0.51	MGD	--	0.48	MGD
Flowrate	1/18/10	Field	--	Field Measurement	--	--	0.51	MGD	--	0.34	MGD
Flowrate	1/19/10	Field	--	Field Measurement	--	--	0.51	MGD	--	0.33	MGD
Flowrate	1/20/10	Field	--	Field Measurement	--	--	0.51	MGD	--	0.44	MGD
Flowrate	1/21/10	Field	--	Field Measurement	--	--	0.51	MGD	--	0.46	MGD
Flowrate	1/22/10	Field	--	Field Measurement	--	--	0.51	MGD	--	0.47	MGD
Flowrate	1/23/10	Field	--	Field Measurement	--	--	0.51	MGD	--	0.48	MGD
Flowrate	1/24/10	Field	--	Field Measurement	--	--	0.51	MGD	--	0.47	MGD
Flowrate	1/25/10	Field	--	Field Measurement	--	--	0.51	MGD	--	0.47	MGD
Flowrate	1/26/10	Field	--	Field Measurement	--	--	0.51	MGD	--	0.46	MGD
Flowrate	1/27/10	Field	--	Field Measurement	--	--	0.51	MGD	--	0.32	MGD
Flowrate	1/28/10	Field	--	Field Measurement	--	--	0.51	MGD	--	0.48	MGD
Flowrate	1/29/10	Field	--	Field Measurement	--	--	0.51	MGD	--	0.37	MGD
Flowrate	1/30/10	Field	--	Field Measurement	--	--	0.51	MGD	--	0.48	MGD
Flowrate	1/31/10	Field	--	Field Measurement	--	--	0.51	MGD	--	0.48	MGD
Flowrate	2/1/10	Field	--	Field Measurement	--	--	0.51	MGD	--	0.37	MGD
Flowrate	2/2/10	Field	--	Field Measurement	--	--	0.51	MGD	--	0.48	MGD
Flowrate	2/3/10	Field	--	Field Measurement	--	--	0.51	MGD	--	0.43	MGD
Flowrate	2/4/10	Field	--	Field Measurement	--	--	0.51	MGD	--	0.32	MGD
Flowrate	2/5/10	Field	--	Field Measurement	--	--	0.51	MGD	--	0.40	MGD
Flowrate	2/6/10	Field	--	Field Measurement	--	--	0.51	MGD	--	0.47	MGD
Flowrate	2/7/10	Field	--	Field Measurement	--	--	0.51	MGD	--	0.46	MGD
Flowrate	2/8/10	Field	--	Field Measurement	--	--	0.51	MGD	--	0.25	MGD
Flowrate	2/9/10	Field	--	Field Measurement	--	--	0.51	MGD	--	0.31	MGD
Flowrate	2/10/10	Field	--	Field Measurement	--	--	0.51	MGD	--	0.47	MGD
Flowrate	2/11/10	Field	--	Field Measurement	--	--	0.51	MGD	--	0.46	MGD
Flowrate	2/12/10	Field	--	Field Measurement	--	--	0.51	MGD	--	0.45	MGD
Flowrate	2/13/10	Field	--	Field Measurement	--	--	0.51	MGD	--	0.39	MGD
Flowrate	2/14/10	Field	--	Field Measurement	--	--	0.51	MGD	--	0.48	MGD
Flowrate	2/15/10	Field	--	Field Measurement	--	--	0.51	MGD	--	0.32	MGD
Flowrate	2/16/10	Field	--	Field Measurement	--	--	0.51	MGD	--	0.48	MGD
Flowrate	2/17/10	Field	--	Field Measurement	--	--	0.51	MGD	--	0.46	MGD
Flowrate	2/18/10	Field	--	Field Measurement	--	--	0.51	MGD	--	0.49	MGD
Flowrate	2/19/10	Field	--	Field Measurement	--	--	0.51	MGD	--	0.47	MGD
Flowrate	2/20/10	Field	--	Field Measurement	--	--	0.51	MGD	--	0.49	MGD

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM  
 TABLE 1: SUMMARY OF ANALYTICAL RESULTS FOR EFFLUENT SAMPLES  
 Mission Valley Terminal  
 San Diego, California

June 13, 2012  
 Item No. 13  
 Supporting Document No. 4

Site Address:

Permit / Discharge No.:

Kinder Morgan Energy Partners  
 9950 San Diego Mission Road  
 San Diego, California 92108

CAG919002/001

PARAMETER	Sample Date	Analytical Laboratory	Lab ID	Method	Permit Limits				Quality or Concentration	Quantity or Loading	Units
					Min.	Ave.	Max.	Units			
<b>Flowrate</b>											
Flowrate	2/21/10	Field	--	Field Measurement	--	--	0.51	MGD	--	0.45	MGD
Flowrate	2/22/10	Field	--	Field Measurement	--	--	0.51	MGD	--	0.45	MGD
Flowrate	2/23/10	Field	--	Field Measurement	--	--	0.51	MGD	--	0.35	MGD
Flowrate	2/24/10	Field	--	Field Measurement	--	--	0.51	MGD	--	0.45	MGD
Flowrate	2/25/10	Field	--	Field Measurement	--	--	0.51	MGD	--	0.47	MGD
Flowrate	2/26/10	Field	--	Field Measurement	--	--	0.51	MGD	--	0.41	MGD
Flowrate	2/27/10	Field	--	Field Measurement	--	--	0.51	MGD	--	0.41	MGD
Flowrate	2/28/10	Field	--	Field Measurement	--	--	0.51	MGD	--	0.41	MGD
Flowrate	3/1/10	Field	--	Field Measurement	--	--	0.51	MGD	--	0.36	MGD
Flowrate	3/2/10	Field	--	Field Measurement	--	--	0.51	MGD	--	0.40	MGD
Flowrate	3/3/10	Field	--	Field Measurement	--	--	0.51	MGD	--	0.38	MGD
Flowrate	3/4/10	Field	--	Field Measurement	--	--	0.51	MGD	--	0.35	MGD
Flowrate	3/5/10	Field	--	Field Measurement	--	--	0.51	MGD	--	0.22	MGD
Flowrate	3/6/10	Field	--	Field Measurement	--	--	0.51	MGD	--	0.43	MGD
Flowrate	3/7/10	Field	--	Field Measurement	--	--	0.51	MGD	--	0.43	MGD
Flowrate	3/8/10	Field	--	Field Measurement	--	--	0.51	MGD	--	0.40	MGD
Flowrate	3/9/10	Field	--	Field Measurement	--	--	0.51	MGD	--	0.45	MGD
Flowrate	3/10/10	Field	--	Field Measurement	--	--	0.51	MGD	--	0.41	MGD
Flowrate	3/11/10	Field	--	Field Measurement	--	--	0.51	MGD	--	0.41	MGD
Flowrate	3/12/10	Field	--	Field Measurement	--	--	0.51	MGD	--	0.47	MGD
Flowrate	3/13/10	Field	--	Field Measurement	--	--	0.51	MGD	--	0.43	MGD
Flowrate	3/14/10	Field	--	Field Measurement	--	--	0.51	MGD	--	0.46	MGD
Flowrate	3/15/10	Field	--	Field Measurement	--	--	0.51	MGD	--	0.28	MGD
Flowrate	3/16/10	Field	--	Field Measurement	--	--	0.51	MGD	--	0.48	MGD
Flowrate	3/17/10	Field	--	Field Measurement	--	--	0.51	MGD	--	0.44	MGD
Flowrate	3/18/10	Field	--	Field Measurement	--	--	0.51	MGD	--	0.37	MGD
Flowrate	3/19/10	Field	--	Field Measurement	--	--	0.51	MGD	--	0.40	MGD
Flowrate	3/20/10	Field	--	Field Measurement	--	--	0.51	MGD	--	0.45	MGD
Flowrate	3/21/10	Field	--	Field Measurement	--	--	0.51	MGD	--	0.48	MGD
Flowrate	3/22/10	Field	--	Field Measurement	--	--	0.51	MGD	--	0.42	MGD
Flowrate	3/23/10	Field	--	Field Measurement	--	--	0.51	MGD	--	0.46	MGD
Flowrate	3/24/10	Field	--	Field Measurement	--	--	0.51	MGD	--	0.42	MGD
Flowrate	3/25/10	Field	--	Field Measurement	--	--	0.51	MGD	--	0.47	MGD
Flowrate	3/26/10	Field	--	Field Measurement	--	--	0.51	MGD	--	0.41	MGD
Flowrate	3/27/10	Field	--	Field Measurement	--	--	0.51	MGD	--	0.46	MGD
Flowrate	3/28/10	Field	--	Field Measurement	--	--	0.51	MGD	--	0.47	MGD
Flowrate	3/29/10	Field	--	Field Measurement	--	--	0.51	MGD	--	0.42	MGD
Flowrate	3/30/10	Field	--	Field Measurement	--	--	0.51	MGD	--	0.46	MGD
Flowrate	3/31/10	Field	--	Field Measurement	--	--	0.51	MGD	--	0.43	MGD
Flowrate	4/1/10	Field	--	Field Measurement	--	--	0.51	MGD	--	0.43	MGD
Flowrate	4/2/10	Field	--	Field Measurement	--	--	0.51	MGD	--	0.43	MGD
Flowrate	4/3/10	Field	--	Field Measurement	--	--	0.51	MGD	--	0.45	MGD
Flowrate	4/4/10	Field	--	Field Measurement	--	--	0.51	MGD	--	0.44	MGD
Flowrate	4/5/10	Field	--	Field Measurement	--	--	0.51	MGD	--	0.43	MGD
Flowrate	4/6/10	Field	--	Field Measurement	--	--	0.51	MGD	--	0.45	MGD
Flowrate	4/7/10	Field	--	Field Measurement	--	--	0.51	MGD	--	0.46	MGD
Flowrate	4/8/10	Field	--	Field Measurement	--	--	0.51	MGD	--	0.42	MGD

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM  
 TABLE 1: SUMMARY OF ANALYTICAL RESULTS FOR EFFLUENT SAMPLES FROM  
 Mission Valley Terminal  
 San Diego, California

June 13, 2012  
 Item No. 13  
 Supporting Document No. 4

Site Address:

Permit / Discharge No.:

Kinder Morgan Energy Partners  
 9950 San Diego Mission Road  
 San Diego, California 92108

CAG919002 / 001

PARAMETER	Sample Date	Analytical Laboratory	Lab ID	Method	Permit Limits				Quality or Concentration	Quantity or Loading	Units
					Min.	Ave.	Max.	Units			
<b>Flowrate</b>											
Flowrate	4/9/10	Field	--	Field Measurement	--	--	0.51	MGD	--	0.18	MGD
Flowrate	4/10/10	Field	--	Field Measurement	--	--	0.51	MGD	--	0.20	MGD
Flowrate	4/11/10	Field	--	Field Measurement	--	--	0.51	MGD	--	0.17	MGD
Flowrate	4/12/10	Field	--	Field Measurement	--	--	0.51	MGD	--	0.27	MGD
Flowrate	4/13/10	Field	--	Field Measurement	--	--	0.51	MGD	--	0.45	MGD
Flowrate	4/14/10	Field	--	Field Measurement	--	--	0.51	MGD	--	0.45	MGD
Flowrate	4/15/10	Field	--	Field Measurement	--	--	0.51	MGD	--	0.42	MGD
Flowrate	4/16/10	Field	--	Field Measurement	--	--	0.51	MGD	--	0.45	MGD
Flowrate	4/17/10	Field	--	Field Measurement	--	--	0.51	MGD	--	0.45	MGD
Flowrate	4/18/10	Field	--	Field Measurement	--	--	0.51	MGD	--	0.45	MGD
Flowrate	4/19/10	Field	--	Field Measurement	--	--	0.51	MGD	--	0.42	MGD
Flowrate	4/20/10	Field	--	Field Measurement	--	--	0.51	MGD	--	0.42	MGD
Flowrate	4/21/10	Field	--	Field Measurement	--	--	0.51	MGD	--	0.40	MGD
Flowrate	4/22/10	Field	--	Field Measurement	--	--	0.51	MGD	--	0.42	MGD
Flowrate	4/23/10	Field	--	Field Measurement	--	--	0.51	MGD	--	0.38	MGD
Flowrate	4/24/10	Field	--	Field Measurement	--	--	0.51	MGD	--	0.45	MGD
Flowrate	4/25/10	Field	--	Field Measurement	--	--	0.51	MGD	--	0.48	MGD
Flowrate	4/26/10	Field	--	Field Measurement	--	--	0.51	MGD	--	0.39	MGD
Flowrate	4/27/10	Field	--	Field Measurement	--	--	0.51	MGD	--	0.48	MGD
Flowrate	4/28/10	Field	--	Field Measurement	--	--	0.51	MGD	--	0.40	MGD
Flowrate	4/29/10	Field	--	Field Measurement	--	--	0.51	MGD	--	0.45	MGD
Flowrate	4/30/10	Field	--	Field Measurement	--	--	0.51	MGD	--	0.44	MGD
Flowrate	5/1/10	Field	--	Field Measurement	--	--	0.51	MGD	--	0.43	MGD
Flowrate	5/2/10	Field	--	Field Measurement	--	--	0.51	MGD	--	0.48	MGD
Flowrate	5/3/10	Field	--	Field Measurement	--	--	0.51	MGD	--	0.43	MGD
Flowrate	5/4/10	Field	--	Field Measurement	--	--	0.51	MGD	--	0.32	MGD
Flowrate	5/5/10	Field	--	Field Measurement	--	--	0.51	MGD	--	0.0040	MGD
Flowrate	5/6/10	Field	--	Field Measurement	--	--	0.51	MGD	--	0.24	MGD
Flowrate	5/7/10	Field	--	Field Measurement	--	--	0.51	MGD	--	0.48	MGD
Flowrate	5/8/10	Field	--	Field Measurement	--	--	0.51	MGD	--	0.47	MGD
Flowrate	5/9/10	Field	--	Field Measurement	--	--	0.51	MGD	--	0.48	MGD
Flowrate	5/10/10	Field	--	Field Measurement	--	--	0.51	MGD	--	0.34	MGD
Flowrate	5/11/10	Field	--	Field Measurement	--	--	0.51	MGD	--	0.46	MGD
Flowrate	5/12/10	Field	--	Field Measurement	--	--	0.51	MGD	--	0.47	MGD
Flowrate	5/13/10	Field	--	Field Measurement	--	--	0.51	MGD	--	0.39	MGD
Flowrate	5/14/10	Field	--	Field Measurement	--	--	0.51	MGD	--	0.43	MGD
Flowrate	5/15/10	Field	--	Field Measurement	--	--	0.51	MGD	--	0.40	MGD
Flowrate	5/16/10	Field	--	Field Measurement	--	--	0.51	MGD	--	0.40	MGD
Flowrate	5/17/10	Field	--	Field Measurement	--	--	0.51	MGD	--	0.38	MGD
Flowrate	5/18/10	Field	--	Field Measurement	--	--	0.51	MGD	--	0.41	MGD
Flowrate	5/19/10	Field	--	Field Measurement	--	--	0.51	MGD	--	0.36	MGD
Flowrate	5/20/10	Field	--	Field Measurement	--	--	0.51	MGD	--	0.39	MGD
Flowrate	5/21/10	Field	--	Field Measurement	--	--	0.51	MGD	--	0.41	MGD
Flowrate	5/22/10	Field	--	Field Measurement	--	--	0.51	MGD	--	0.41	MGD
Flowrate	5/23/10	Field	--	Field Measurement	--	--	0.51	MGD	--	0.42	MGD
Flowrate	5/24/10	Field	--	Field Measurement	--	--	0.51	MGD	--	0.40	MGD
Flowrate	5/25/10	Field	--	Field Measurement	--	--	0.51	MGD	--	0.41	MGD



NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM  
 TABLE 1: SUMMARY OF ANALYTICAL RESULTS FOR EFFLUENT SAMPLES

Mission Valley Terminal  
 San Diego, California

June 13, 2012  
 Item No. 13  
 Supporting Document No. 4

Site Address:

Permit / Discharge No.:

Kinder Morgan Energy Partners  
 9950 San Diego Mission Road  
 San Diego, California 92108

CAC919002/001

PARAMETER	Sample Date	Analytical Laboratory	Lab ID	Method	Permit Limits				Quality or Concentration	Quantity or Loading	Units
					Min.	Ave.	Max.	Units			
<b>Flowrate</b>											
Flowrate	5/26/10	Field	--	Field Measurement	--	--	0.51	MGD	--	0.40	MGD
Flowrate	5/27/10	Field	--	Field Measurement	--	--	0.51	MGD	--	0.42	MGD
Flowrate	5/28/10	Field	--	Field Measurement	--	--	0.51	MGD	--	0.40	MGD
Flowrate	5/29/10	Field	--	Field Measurement	--	--	0.51	MGD	--	0.40	MGD
Flowrate	5/30/10	Field	--	Field Measurement	--	--	0.51	MGD	--	0.39	MGD
Flowrate	5/31/10	Field	--	Field Measurement	--	--	0.51	MGD	--	0.39	MGD
Flowrate	6/1/10	Field	--	Field Measurement	--	--	0.51	MGD	--	0.27	MGD
Flowrate	6/2/10	Field	--	Field Measurement	--	--	0.51	MGD	--	0.40	MGD
Flowrate	6/3/10	Field	--	Field Measurement	--	--	0.51	MGD	--	0.32	MGD
Flowrate	6/4/10	Field	--	Field Measurement	--	--	0.51	MGD	--	0.22	MGD
Flowrate	6/5/10	Field	--	Field Measurement	--	--	0.51	MGD	--	0.37	MGD
Flowrate	6/6/10	Field	--	Field Measurement	--	--	0.51	MGD	--	0.43	MGD
Flowrate	6/7/10	Field	--	Field Measurement	--	--	0.51	MGD	--	0.37	MGD
Flowrate	6/8/10	Field	--	Field Measurement	--	--	0.51	MGD	--	0.46	MGD
Flowrate	6/9/10	Field	--	Field Measurement	--	--	0.51	MGD	--	0.45	MGD
Flowrate	6/10/10	Field	--	Field Measurement	--	--	0.51	MGD	--	0.43	MGD
Flowrate	6/11/10	Field	--	Field Measurement	--	--	0.51	MGD	--	0.38	MGD
Flowrate	6/12/10	Field	--	Field Measurement	--	--	0.51	MGD	--	0.44	MGD
Flowrate	6/13/10	Field	--	Field Measurement	--	--	0.51	MGD	--	0.42	MGD
Flowrate	6/14/10	Field	--	Field Measurement	--	--	0.51	MGD	--	0.45	MGD
Flowrate	6/15/10	Field	--	Field Measurement	--	--	0.51	MGD	--	0.43	MGD
Flowrate	6/16/10	Field	--	Field Measurement	--	--	0.51	MGD	--	0.45	MGD
Flowrate	6/17/10	Field	--	Field Measurement	--	--	0.51	MGD	--	0.36	MGD
Flowrate	6/18/10	Field	--	Field Measurement	--	--	0.51	MGD	--	0.34	MGD
Flowrate	6/19/10	Field	--	Field Measurement	--	--	0.51	MGD	--	0.44	MGD
Flowrate	6/20/10	Field	--	Field Measurement	--	--	0.51	MGD	--	0.44	MGD
Flowrate	6/21/10	Field	--	Field Measurement	--	--	0.51	MGD	--	0.43	MGD
Flowrate	6/22/10	Field	--	Field Measurement	--	--	0.51	MGD	--	0.44	MGD
Flowrate	6/23/10	Field	--	Field Measurement	--	--	0.51	MGD	--	0.42	MGD
Flowrate	6/24/10	Field	--	Field Measurement	--	--	0.51	MGD	--	0.40	MGD
Flowrate	6/25/10	Field	--	Field Measurement	--	--	0.51	MGD	--	0.40	MGD
Flowrate	6/26/10	Field	--	Field Measurement	--	--	0.51	MGD	--	0.43	MGD
Flowrate	6/27/10	Field	--	Field Measurement	--	--	0.51	MGD	--	0.43	MGD
Flowrate	6/28/10	Field	--	Field Measurement	--	--	0.51	MGD	--	0.23	MGD
Flowrate	6/29/10	Field	--	Field Measurement	--	--	0.51	MGD	--	0.094	MGD
Flowrate	6/30/10	Field	--	Field Measurement	--	--	0.51	MGD	--	0.34	MGD
<b>Inorganics</b>											
Total Residual Chlorine	7/2/09	Field	--	Field Measurement	--	2.0	8.0	µg/L	<1.2	<0.0049	lb/d
Total Residual Chlorine	7/6/09	Field	--	Field Measurement	--	2.0	8.0	µg/L	<1.2	<0.0049	lb/d
Total Residual Chlorine	7/7/09	Field	--	Field Measurement	--	2.0	8.0	µg/L	<1.2	<0.0049	lb/d
Total Residual Chlorine	7/9/09	Field	--	Field Measurement	--	2.0	8.0	µg/L	<1.2	<0.0049	lb/d
Total Residual Chlorine	7/10/09	Field	--	Field Measurement	--	2.0	8.0	µg/L	<1.2	<0.0049	lb/d
Total Residual Chlorine	7/13/09	Field	--	Field Measurement	--	2.0	8.0	µg/L	<1.2	<0.0049	lb/d
Total Residual Chlorine	7/14/09	Field	--	Field Measurement	--	2.0	8.0	µg/L	<1.2	<0.0049	lb/d
Total Residual Chlorine	7/16/09	Field	--	Field Measurement	--	2.0	8.0	µg/L	<1.2	<0.0049	lb/d
Total Residual Chlorine	7/20/09	Field	--	Field Measurement	--	2.0	8.0	µg/L	<1.2	<0.0049	lb/d
Total Residual Chlorine	7/21/09	Field	--	Field Measurement	--	2.0	8.0	µg/L	<1.2	<0.0049	lb/d

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM  
 TABLE 1: SUMMARY OF ANALYTICAL RESULTS FOR EFFLUENT SAMPLES  
 Mission Valley Terminal  
 San Diego, California

June 13, 2012  
 Item No. 13  
 Supporting Document No. 4

Site Address:

Permit / Discharge No.:

Kinder Morgan Energy Partners  
 9950 San Diego Mission Road  
 San Diego, California 92108

CAG919002 / 001

PARAMETER	Sample Date	Analytical Laboratory	Lab ID	Method	Permit Limits				Quality or Concentration	Quantity or Loading	Units
					Min.	Ave.	Max.	Units			
<b>Chlorides</b>											
Total Residual Chlorine	7/22/09	Field	--	Field Measurement	--	2.0	8.0	µg/L	<1.2	<0.0049	lb/d
Total Residual Chlorine	7/23/09	Field	--	Field Measurement	--	2.0	8.0	µg/L	<1.2	<0.0049	lb/d
Total Residual Chlorine	7/24/09	Field	--	Field Measurement	--	2.0	8.0	µg/L	<1.2	<0.0049	lb/d
Total Residual Chlorine	7/25/09	Field	--	Field Measurement	--	2.0	8.0	µg/L	<1.2	<0.0049	lb/d
Total Residual Chlorine	7/27/09	Field	--	Field Measurement	--	2.0	8.0	µg/L	<1.2	<0.0049	lb/d
Total Residual Chlorine	7/28/09	Field	--	Field Measurement	--	2.0	8.0	µg/L	<1.2	<0.0049	lb/d
Total Residual Chlorine	8/4/09	Field	--	Field Measurement	--	2.0	8.0	µg/L	<1.2	<0.0049	lb/d
Total Residual Chlorine	8/5/09	Field	--	Field Measurement	--	2.0	8.0	µg/L	<1.2	<0.0049	lb/d
Total Residual Chlorine	8/11/09	Field	--	Field Measurement	--	2.0	8.0	µg/L	<1.2	<0.0049	lb/d
Total Residual Chlorine	8/12/09	Field	--	Field Measurement	--	2.0	8.0	µg/L	<1.2	<0.0049	lb/d
Total Residual Chlorine	8/13/09	Field	--	Field Measurement	--	2.0	8.0	µg/L	<1.2	<0.0049	lb/d
Total Residual Chlorine	8/14/09	Field	--	Field Measurement	--	2.0	8.0	µg/L	<1.2	<0.0049	lb/d
Total Residual Chlorine	8/15/09	Field	--	Field Measurement	--	2.0	8.0	µg/L	<1.2	<0.0049	lb/d
Total Residual Chlorine	8/16/09	Field	--	Field Measurement	--	2.0	8.0	µg/L	<1.2	<0.0049	lb/d
Total Residual Chlorine	8/17/09	Field	--	Field Measurement	--	2.0	8.0	µg/L	<1.2	<0.0049	lb/d
Total Residual Chlorine	8/18/09	Field	--	Field Measurement	--	2.0	8.0	µg/L	<1.2	<0.0049	lb/d
Total Residual Chlorine	8/19/09	Field	--	Field Measurement	--	2.0	8.0	µg/L	<1.2	<0.0049	lb/d
Total Residual Chlorine	8/20/09	Field	--	Field Measurement	--	2.0	8.0	µg/L	<1.2	<0.0049	lb/d
Total Residual Chlorine	8/21/09	Field	--	Field Measurement	--	2.0	8.0	µg/L	<1.2	<0.0049	lb/d
Total Residual Chlorine	8/22/09	Field	--	Field Measurement	--	2.0	8.0	µg/L	<1.2	<0.0049	lb/d
Total Residual Chlorine	8/23/09	Field	--	Field Measurement	--	2.0	8.0	µg/L	<1.2	<0.0049	lb/d
Total Residual Chlorine	8/24/09	Field	--	Field Measurement	--	2.0	8.0	µg/L	<1.2	<0.0049	lb/d
Total Residual Chlorine	8/25/09	Field	--	Field Measurement	--	2.0	8.0	µg/L	<1.2	<0.0049	lb/d
Total Residual Chlorine	8/26/09	Field	--	Field Measurement	--	2.0	8.0	µg/L	<1.2	<0.0049	lb/d
Total Residual Chlorine	8/27/09	Field	--	Field Measurement	--	2.0	8.0	µg/L	<1.2	<0.0049	lb/d
Total Residual Chlorine	8/28/09	Field	--	Field Measurement	--	2.0	8.0	µg/L	<1.2	<0.0049	lb/d
Total Residual Chlorine	9/15/09	Field	--	Field Measurement	--	2.0	8.0	µg/L	<1.2	<0.0049	lb/d
Total Residual Chlorine	9/17/09	Field	--	Field Measurement	--	2.0	8.0	µg/L	<1.2	<0.0049	lb/d
Total Residual Chlorine	9/18/09	Field	--	Field Measurement	--	2.0	8.0	µg/L	<1.2	<0.0049	lb/d
Total Residual Chlorine	9/19/09	Field	--	Field Measurement	--	2.0	8.0	µg/L	<1.2	<0.0049	lb/d
Total Residual Chlorine	9/22/09	Field	--	Field Measurement	--	2.0	8.0	µg/L	<1.2	<0.0049	lb/d
Total Residual Chlorine	9/23/09	Field	--	Field Measurement	--	2.0	8.0	µg/L	<1.2	<0.0049	lb/d
Total Residual Chlorine	10/16/09	Field	--	Field Measurement	--	2.0	8.0	µg/L	<1.2	<0.0049	lb/d
Total Residual Chlorine	11/7/09	Field	--	Field Measurement	--	2.0	8.0	µg/L	<1.2	<0.0049	lb/d
Total Residual Chlorine	11/13/09	Field	--	Field Measurement	--	2.0	8.0	µg/L	<1.2	<0.0049	lb/d
Total Residual Chlorine	11/14/09	Field	--	Field Measurement	--	2.0	8.0	µg/L	<1.2	<0.0049	lb/d
Total Residual Chlorine	11/15/09	Field	--	Field Measurement	--	2.0	8.0	µg/L	<1.2	<0.0049	lb/d
Total Residual Chlorine	11/16/09	Field	--	Field Measurement	--	2.0	8.0	µg/L	<1.2	<0.0049	lb/d
Total Residual Chlorine	11/17/09	Field	--	Field Measurement	--	2.0	8.0	µg/L	<1.2	<0.0049	lb/d
Total Residual Chlorine	11/18/09	Field	--	Field Measurement	--	2.0	8.0	µg/L	<1.2	<0.0049	lb/d
Total Residual Chlorine	11/19/09	Field	--	Field Measurement	--	2.0	8.0	µg/L	<1.2	<0.0049	lb/d
Total Residual Chlorine	11/20/09	Field	--	Field Measurement	--	2.0	8.0	µg/L	<1.2	<0.0049	lb/d
Total Residual Chlorine	11/21/09	Field	--	Field Measurement	--	2.0	8.0	µg/L	<1.2	<0.0049	lb/d
Total Residual Chlorine	11/22/09	Field	--	Field Measurement	--	2.0	8.0	µg/L	<1.2	<0.0049	lb/d
Total Residual Chlorine	11/23/09	Field	--	Field Measurement	--	2.0	8.0	µg/L	<1.2	<0.0049	lb/d
Total Residual Chlorine	11/24/09	Field	--	Field Measurement	--	2.0	8.0	µg/L	<1.2	<0.0049	lb/d
Total Residual Chlorine	11/25/09	Field	--	Field Measurement	--	2.0	8.0	µg/L	<1.2	<0.0049	lb/d

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM  
 TABLE 1: SUMMARY OF ANALYTICAL RESULTS FOR EFFLUENT SAMPLES  
 Mission Valley Terminal  
 San Diego, California

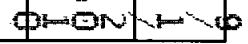
Site Address:

Permit / Discharge No.:

Kinder Morgan Energy Partners  
 9950 San Diego Mission Road  
 San Diego, California 92108

CAG919002 / 001

PARAMETER	Sample Date	Analytical Laboratory	Lab ID	Method	Permit Limits				Quality or Concentration	Quantity or Loading	Units
					Min.	Ave.	Max.	Units			
<i>(inorganic)</i>											
Total Residual Chlorine	11/26/09	Field	--	Field Measurement	--	2.0	8.0	µg/L	<1.2	<0.0049	lb/d
Total Residual Chlorine	11/27/09	Field	--	Field Measurement	--	2.0	8.0	µg/L	<1.2	<0.0049	lb/d
Total Residual Chlorine	11/28/09	Field	--	Field Measurement	--	2.0	8.0	µg/L	<1.2	<0.0049	lb/d
Total Residual Chlorine	11/29/09	Field	--	Field Measurement	--	2.0	8.0	µg/L	<1.2	<0.0049	lb/d
Total Residual Chlorine	11/30/09	Field	--	Field Measurement	--	2.0	8.0	µg/L	<1.2	<0.0049	lb/d
Total Residual Chlorine	12/1/09	Field	--	Field Measurement	--	2.0	8.0	µg/L	<1.2	<0.0049	lb/d
Total Residual Chlorine	12/2/09	Field	--	Field Measurement	--	2.0	8.0	µg/L	<1.2	<0.0049	lb/d
Total Residual Chlorine	12/3/09	Field	--	Field Measurement	--	2.0	8.0	µg/L	<1.2	<0.0049	lb/d
Total Residual Chlorine	12/4/09	Field	--	Field Measurement	--	2.0	8.0	µg/L	<1.2	<0.0049	lb/d
Total Residual Chlorine	12/5/09	Field	--	Field Measurement	--	2.0	8.0	µg/L	<1.2	<0.0049	lb/d
Total Residual Chlorine	12/6/09	Field	--	Field Measurement	--	2.0	8.0	µg/L	<1.2	<0.0049	lb/d
Total Residual Chlorine	12/8/09	Field	--	Field Measurement	--	2.0	8.0	µg/L	<1.2	<0.0049	lb/d
Total Residual Chlorine	12/9/09	Field	--	Field Measurement	--	2.0	8.0	µg/L	<1.2	<0.0049	lb/d
Total Residual Chlorine	12/10/09	Field	--	Field Measurement	--	2.0	8.0	µg/L	<1.2	<0.0049	lb/d
Total Residual Chlorine	12/11/09	Field	--	Field Measurement	--	2.0	8.0	µg/L	<1.2	<0.0049	lb/d
Total Residual Chlorine	12/12/09	Field	--	Field Measurement	--	2.0	8.0	µg/L	<1.2	<0.0049	lb/d
Total Residual Chlorine	12/14/09	Field	--	Field Measurement	--	2.0	8.0	µg/L	<1.2	<0.0049	lb/d
Total Residual Chlorine	12/15/09	Field	--	Field Measurement	--	2.0	8.0	µg/L	<1.2	<0.0049	lb/d
Total Residual Chlorine	12/16/09	Field	--	Field Measurement	--	2.0	8.0	µg/L	<1.2	<0.0049	lb/d
Total Residual Chlorine	12/17/09	Field	--	Field Measurement	--	2.0	8.0	µg/L	<1.2	<0.0049	lb/d
Total Residual Chlorine	12/18/09	Field	--	Field Measurement	--	2.0	8.0	µg/L	<1.2	<0.0049	lb/d
Total Residual Chlorine	12/19/09	Field	--	Field Measurement	--	2.0	8.0	µg/L	<1.2	<0.0049	lb/d
Total Residual Chlorine	12/20/09	Field	--	Field Measurement	--	2.0	8.0	µg/L	<1.2	<0.0049	lb/d
Total Residual Chlorine	12/21/09	Field	--	Field Measurement	--	2.0	8.0	µg/L	<1.2	<0.0049	lb/d
Total Residual Chlorine	12/22/09	Field	--	Field Measurement	--	2.0	8.0	µg/L	<1.2	<0.0049	lb/d
Total Residual Chlorine	12/23/09	Field	--	Field Measurement	--	2.0	8.0	µg/L	<1.2	<0.0049	lb/d
Total Residual Chlorine	12/24/09	Field	--	Field Measurement	--	2.0	8.0	µg/L	<1.2	<0.0049	lb/d
Total Residual Chlorine	12/25/09	Field	--	Field Measurement	--	2.0	8.0	µg/L	<1.2	<0.0049	lb/d
Total Residual Chlorine	12/26/09	Field	--	Field Measurement	--	2.0	8.0	µg/L	<1.2	<0.0049	lb/d
Total Residual Chlorine	12/27/09	Field	--	Field Measurement	--	2.0	8.0	µg/L	<1.2	<0.0049	lb/d
Total Residual Chlorine	12/28/09	Field	--	Field Measurement	--	2.0	8.0	µg/L	<1.2	<0.0049	lb/d
Total Residual Chlorine	1/13/10	Test Am.	ITA0910-01	EPA 330.5	--	2.0	8.0	µg/L	<100	<0.41	lb/d
Total Residual Chlorine	1/29/10	Field	--	Field Measurement	--	2.0	8.0	µg/L	<1.2	<0.0049	lb/d
Total Residual Chlorine	2/1/10	Field	--	Field Measurement	--	2.0	8.0	µg/L	<1.2	<0.0049	lb/d
Total Residual Chlorine	2/3/10	Field	--	Field Measurement	--	2.0	8.0	µg/L	<1.2	<0.0049	lb/d
Total Residual Chlorine	3/9/10	Test Am.	ITC0999-01	SM 4500-Cl G	--	2.0	8.0	µg/L	<100	<0.41	lb/d
Total Residual Chlorine	4/6/10	Test Am.	ITD0395-01	SM 4500-Cl G	--	2.0	8.0	µg/L	<100	<0.41	lb/d
Total Residual Chlorine	5/4/10	Test Am.	FTE0182-01	SM 4500-Cl G	--	2.0	8.0	µg/L	<100	<0.41	lb/d
Total Residual Chlorine	6/2/10	Field	--	Field Measurement	--	2.0	8.0	µg/L	<2.4	<0.0099	lb/d
Total Residual Chlorine	6/3/10	Field	--	Field Measurement	--	2.0	8.0	µg/L	<1.2	<0.0049	lb/d
Total Residual Chlorine	6/4/10	Field	--	Field Measurement	--	2.0	8.0	µg/L	<1.2	<0.0049	lb/d
Total Residual Chlorine	6/17/10	Field	--	Field Measurement	--	2.0	8.0	µg/L	<1.2	<0.0049	lb/d
pH	7/15/09	Field	--	Field Measurement	6.5	--	8.5	s.u.	7.1	--	--
pH	7/29/09	Field	--	Field Measurement	6.5	--	8.5	s.u.	7.1	--	--
pH	8/11/09	Field	--	Field Measurement	6.5	--	8.5	s.u.	7.3	--	--
pH	8/25/09	Field	--	Field Measurement	6.5	--	8.5	s.u.	7.3	--	--
pH	9/8/09	Field	--	Field Measurement	6.5	--	8.5	s.u.	7.2	--	--



NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM  
 TABLE 1: SUMMARY OF ANALYTICAL RESULTS FOR EFFLUENT SAMPLES  
 Mission Valley Terminal  
 San Diego, California

June 13, 2012  
 Item No. 13  
 Supporting Document No. 4

Site Address:

Permit / Discharge No.:

Kinder Morgan Energy Partners  
 9950 San Diego Mission Road  
 San Diego, California 92108

CAG919002 / 001

PARAMETER	Sample Date	Analytical Laboratory	Lab ID	Method	Permit Limits				Quality or Concentration	Quantity or Loading	Units
					Min.	Ave.	Max.	Units			
<b>(Inorganics)</b>											
pH	9/22/09	Field	--	Field Measurement	6.5	--	8.5	s.u.	7.2	--	--
pH	10/6/09	Field	--	Field Measurement	6.5	--	8.5	s.u.	7.2	--	--
pH	10/20/09	Field	--	Field Measurement	6.5	--	8.5	s.u.	7.3	--	--
pH	11/4/09	Field	--	Field Measurement	6.5	--	8.5	s.u.	6.8	--	--
pH	12/1/09	Field	--	Field Measurement	6.5	--	8.5	s.u.	7.5	--	--
pH	12/15/09	Field	--	Field Measurement	6.5	--	8.5	s.u.	7.3	--	--
pH	12/29/09	Field	--	Field Measurement	6.5	--	8.5	s.u.	7.5	--	--
pH	1/13/10	Field	--	Field Measurement	6.5	--	8.5	s.u.	7.5	--	--
pH	1/26/10	Field	--	Field Measurement	6.5	--	8.5	s.u.	7.5	--	--
pH	2/9/10	Field	--	Field Measurement	6.5	--	8.5	s.u.	7.6	--	--
pH	2/23/10	Field	--	Field Measurement	6.5	--	8.5	s.u.	7.5	--	--
pH	3/9/10	Field	--	Field Measurement	6.5	--	8.5	s.u.	7.6	--	--
pH	3/23/10	Field	--	Field Measurement	6.5	--	8.5	s.u.	7.7	--	--
pH	4/6/10	Field	--	Field Measurement	6.5	--	8.5	s.u.	7.2	--	--
pH	4/20/10	Field	--	Field Measurement	6.5	--	8.5	s.u.	7.1	--	--
pH	5/4/10	Field	--	Field Measurement	6.5	--	8.5	s.u.	7.2	--	--
pH	5/19/10	Field	--	Field Measurement	6.5	--	8.5	s.u.	7.3	--	--
pH	6/15/10	Field	--	Field Measurement	6.5	--	8.5	s.u.	7.3	--	--
Turbidity	7/15/09	Test Am.	ISG1246-01	EPA 180.1	--	--	<1.0	NTU	<1.0	--	--
Turbidity	8/11/09	Test Am.	ISH0881-02	EPA 180.1	--	--	1.3	NTU	<1.0	--	--
Turbidity	9/8/09	Test Am.	ISI0620-01	EPA 180.1	--	--	<1.0	NTU	<1.0	--	--
Turbidity	10/6/09	Test Am.	ISJ0412-01	EPA 180.1	--	--	<1.0	NTU	<1.0	--	--
Turbidity	11/4/09	Test Am.	ISK0491-01	EPA 180.1	--	--	<1.0	NTU	<1.0	--	--
Turbidity	12/1/09	Test Am.	ISI0127-01	EPA 180.1	--	--	<1.0	NTU	<1.0	--	--
Turbidity	1/13/10	Test Am.	ITA0910-01	EPA 180.1	--	--	<1.0	NTU	<1.0	--	--
Turbidity	2/9/10	Test Am.	ITB1080-01	EPA 180.1	--	--	1.4	NTU	<1.0	--	--
Turbidity	3/9/10	Test Am.	ITC0999-01	EPA 180.1	--	--	2.5	NTU	<1.0	--	--
Turbidity	4/6/10	Test Am.	ITD0395-01	EPA 180.1	--	--	3.4	NTU	<1.0	--	--
Turbidity	5/4/10	Test Am.	ITE0182-01	EPA 180.1	--	--	<1.0	NTU	1.0	--	--
Turbidity	6/1/10	Test Am.	ITF0008-01	EPA 180.1	--	--	<1.0	NTU	<1.0	--	--
Phosphorus	7/15/09	Test Am.	ISG1234-01	EPA 365.3	--	0.10	0.20	mg/L	<0.050	<0.21	lb/d
Phosphorus	12/9/09	Test Am.	ISL1162-01	EPA 365.3	--	0.10	0.20	mg/L	0.10	0.41	lb/d
Phosphorus	1/13/10	Test Am.	ITA0909-01	EPA 365.3	--	0.10	0.20	mg/L	0.054	0.22	lb/d
Phosphorus	4/6/10	Test Am.	ITD0439-01	EPA 365.3	--	0.10	0.20	mg/L	<0.050	<0.21	lb/d
Settleable Solids	7/15/09	Test Am.	ISG1234-01	EPA 160.5	--	0.10	0.20	mL/hr	<0.10	--	--
Settleable Solids	12/9/09	Test Am.	ISL1162-01	EPA 160.5	--	0.10	0.20	mL/hr	0.10	--	--
Settleable Solids	1/13/10	Test Am.	ITA0909-01	EPA 160.5	--	0.10	0.20	mL/hr	<0.10	--	--
Settleable Solids	4/6/10	Test Am.	ITD0439-01	SM2540F	--	0.10	0.20	mL	<0.10	--	--
Total Suspended Solids	7/15/09	Test Am.	ISG1234-01	EPA 160.2	--	30	50	mg/L	<10	<41	lb/d
Total Suspended Solids	12/9/09	Test Am.	ISL1162-01	EPA 160.2	--	30	50	mg/L	21	87	lb/d
Total Suspended Solids	1/13/10	Test Am.	ITA0909-01	EPA 160.2	--	30	50	mg/L	<10	<41	lb/d
Total Suspended Solids	4/6/10	Test Am.	ITD0439-01	SM 2540D	--	30	50	mg/L	<10	<41	lb/d
Lead	7/15/09	Test Am.	ISG1234-01	EPA 6020-Diss	--	28	720	µg/L	<1.0	<0.0041	lb/d
Lead	12/9/09	Test Am.	ISL1162-01	EPA 6020-Diss	--	24	611	µg/L	<1.0	<0.0041	lb/d
Lead	1/13/10	Test Am.	ITA0909-01	EPA 6020-Diss	--	45	1,151	µg/L	<1.0	<0.0041	lb/d
Lead	4/6/10	Test Am.	ITD0439-01	EPA 6020	--	19	496	µg/L	<1.0	<0.0041	lb/d
Dissolved Sulfide	7/15/09	Test Am.	ISG1235-01	SM4500-S D	--	--	--	mg/L	<0.10	<0.41	lb/d

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM  
 TABLE 1: SUMMARY OF ANALYTICAL RESULTS FOR EFFLUENT SAMPLES FROM  
 Mission Valley Terminal  
 San Diego, California

June 13, 2012  
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 Supporting Document No. 4

Site Address:

Permit / Discharge No.:

Kinder Morgan Energy Partners  
 9950 San Diego Mission Road  
 San Diego, California 92108

CAG919002 / 001

PARAMETER	Sample Date	Analytical Laboratory	Lab ID	Method	Permit Limits				Quality or Concentration	Quantity or Loading	Units
					Min.	Ave.	Max.	Units			
<b>NOX/PHOS</b>											
Dissolved Sulfide	1/13/10	Test Am.	ITA0906-01	SM4500-S D	--	--	--	mg/L	<0.10	<0.41	lb/d
Hydrogen Sulfide	7/15/09	Test Am.	ISG1235-01	SM4500-S, F	--	0.0020	0.010	mg/L	<0.10	<0.41	lb/d
Hydrogen Sulfide	1/13/10	Test Am.	ITA0906-01	SM4500-S, F	--	0.0020	0.010	mg/L	<0.10	<0.41	lb/d
Tributyltin	7/15/09	EnviroMat	ISG1235-01	GC - FPD	--	--	--	µg/L	<0.0050	<0.000021	lb/d
Arsenic	7/15/09	Test Am.	ISG1235-01	EPA 6020-Diss	--	150	340	µg/L	4.0	0.016	lb/d
Arsenic	1/13/10	Test Am.	ITA0906-01	EPA 6020-Diss	--	150	340	µg/L	3.0	0.012	lb/d
Cadmium	7/15/09	Test Am.	ISG1235-01	EPA 6020-Diss	--	11	44	µg/L	<1.0	<0.0041	lb/d
Cadmium	1/13/10	Test Am.	ITA0906-01	EPA 6020-Diss	--	15	66	µg/L	<1.0	<0.0041	lb/d
Chromium VI	7/15/09	Test Am.	ISG1235-01	EPA 7199	--	0.011	0.016	mg/L	<0.0020	<0.0082	lb/d
Chromium VI	1/13/10	Test Am.	ITA0906-01	EPA 7199	--	0.011	0.016	mg/L	<0.0020	<0.0082	lb/d
Copper	7/15/09	Test Am.	ISG1235-01	EPA 6020-Diss	--	55	99	µg/L	2.5	0.010	lb/d
Copper	1/13/10	Test Am.	ITA0906-01	EPA 6020-Diss	--	75	140	µg/L	1.7	0.0070	lb/d
Mercury	7/15/09	Test Am.	ISG1235-01	EPA 7470A	--	0.051	--	µg/L	<0.20	<0.00082	lb/d
Mercury	1/13/10	Test Am.	ITA0906-01	EPA 7470A	--	0.051	--	µg/L	<0.20	<0.00082	lb/d
Nickel	7/15/09	Test Am.	ISG1235-01	EPA 6020-Diss	--	312	2,805	µg/L	6.3	0.026	lb/d
Nickel	1/13/10	Test Am.	ITA0906-01	EPA 6020-Diss	--	426	3,832	µg/L	3.7	0.015	lb/d
Silver	7/15/09	Test Am.	ISG1235-01	EPA 6020-Diss	--	--	131	µg/L	<1.0	<0.0041	lb/d
Silver	1/13/10	Test Am.	ITA0906-01	EPA 6020-Diss	--	--	248	µg/L	<1.0	<0.0041	lb/d
Zinc	7/15/09	Test Am.	ISG1235-01	EPA 6020-Diss	--	710	704	µg/L	<10	<0.041	lb/d
Zinc	1/13/10	Test Am.	ITA0906-01	EPA 6020-Diss	--	970	962	µg/L	22	0.091	lb/d
Cyanide	7/15/09	Test Am.	ISG1235-01	SM4500CN-E	--	5.2	22	µg/L	<25	<0.10	lb/d
Cyanide	1/13/10	Test Am.	ITA0906-01	SM4500CN-E	--	5.2	22	µg/L	<25	<0.10	lb/d
Dissolved Oxygen	7/15/09	Field	--	Field Measurement	5.0	--	--	mg/L	7.9	33	lb/d
Dissolved Oxygen	7/29/09	Field	--	Field Measurement	5.0	--	--	mg/L	8.0	33	lb/d
Dissolved Oxygen	8/11/09	Field	--	Field Measurement	5.0	--	--	mg/L	7.9	33	lb/d
Dissolved Oxygen	8/25/09	Field	--	Field Measurement	5.0	--	--	mg/L	7.3	30	lb/d
Dissolved Oxygen	9/8/09	Field	--	Field Measurement	5.0	--	--	mg/L	8.0	33	lb/d
Dissolved Oxygen	9/22/09	Field	--	Field Measurement	5.0	--	--	mg/L	8.3	34	lb/d
Dissolved Oxygen	10/6/09	Field	--	Field Measurement	5.0	--	--	mg/L	8.0	33	lb/d
Dissolved Oxygen	10/20/09	Field	--	Field Measurement	5.0	--	--	mg/L	7.9	33	lb/d
Dissolved Oxygen	11/4/09	Field	--	Field Measurement	5.0	--	--	mg/L	5.6	23	lb/d
Dissolved Oxygen	11/23/09	Field	--	Field Measurement	5.0	--	--	mg/L	8.8	36	lb/d
Dissolved Oxygen	12/1/09	Field	--	Field Measurement	5.0	--	--	mg/L	8.8	36	lb/d
Dissolved Oxygen	12/15/09	Field	--	Field Measurement	5.0	--	--	mg/L	8.8	36	lb/d
Dissolved Oxygen	12/29/09	Field	--	Field Measurement	5.0	--	--	mg/L	9.1	38	lb/d
Dissolved Oxygen	1/13/10	Field	--	Field Measurement	5.0	--	--	mg/L	9.5	39	lb/d
Dissolved Oxygen	1/26/10	Field	--	Field Measurement	5.0	--	--	mg/L	8.9	37	lb/d
Dissolved Oxygen	2/9/10	Field	--	Field Measurement	5.0	--	--	mg/L	9.5	39	lb/d
Dissolved Oxygen	2/23/10	Field	--	Field Measurement	5.0	--	--	mg/L	9.5	39	lb/d
Dissolved Oxygen	3/9/10	Field	--	Field Measurement	5.0	--	--	mg/L	9.2	38	lb/d
Dissolved Oxygen	3/23/10	Field	--	Field Measurement	5.0	--	--	mg/L	9.1	38	lb/d
Dissolved Oxygen	4/6/10	Field	--	Field Measurement	5.0	--	--	mg/L	8.2	34	lb/d
Dissolved Oxygen	4/20/10	Field	--	Field Measurement	5.0	--	--	mg/L	9.1	37	lb/d
Dissolved Oxygen	5/4/10	Field	--	Field Measurement	5.0	--	--	mg/L	8.9	37	lb/d
Dissolved Oxygen	5/19/10	Field	--	Field Measurement	5.0	--	--	mg/L	8.7	36	lb/d
Dissolved Oxygen	6/15/10	Field	--	Field Measurement	5.0	--	--	mg/L	8.5	35	lb/d
Antimony	7/15/09	Test Am.	ISG1235-01	EPA 6020-Diss	--	4,300	--	µg/L	<1.0	<0.0041	lb/d

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM  
 TABLE 1: SUMMARY OF ANALYTICAL RESULTS FOR EFFLUENT SAMPLES  
 Mission Valley Terminal  
 San Diego, California

June 13, 2012  
 Item No. 13  
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Site Address:

Permit / Discharge No.:

Kinder Morgan Energy Partners  
 9950 San Diego Mission Road  
 San Diego, California 92108

CAG919002 / 001

PARAMETER	Sample Date	Analytical Laboratory	Lab ID	Method	Permit Limits				Quality or Concentration	Quantity or Loading	Units
					Min.	Ave.	Max.	Units			
<b>Inorganics</b>											
Antimony	1/13/10	Test Am.	ITA0906-01	EPA 6020-Diss	--	4,300	--	µg/L	<1.0	<0.0041	lb/d
Beryllium	7/15/09	Test Am.	ISG1235-01	EPA 6020-Diss	--	--	--	µg/L	<1.0	<0.0041	lb/d
Beryllium	1/13/10	Test Am.	ITA0906-01	EPA 6020-Diss	--	--	--	µg/L	<1.0	<0.0041	lb/d
Chromium	7/15/09	Test Am.	ISG1235-01	EPA 6020-Diss	--	1,007	3,105	µg/L	<2.0	<0.0082	lb/d
Chromium	1/13/10	Test Am.	ITA0906-01	EPA 6020-Diss	--	1,362	4,200	µg/L	<2.0	<0.0082	lb/d
Selenium	7/15/09	Frontier	0907126-01	FGS-055	--	5.0	--	µg/L	1.5	0.0062	lb/d
Selenium	7/15/09	Frontier	0907127-01	FGS-054	--	5.0	--	µg/L	1.5	0.0061	lb/d
Thallium	7/15/09	Test Am.	ISG1235-01	EPA 6020-Diss	--	6.3	--	µg/L	<1.0	<0.0041	lb/d
Thallium	1/13/10	Test Am.	ITA0906-01	EPA 6020	--	6.3	--	µg/L	<1.0	<0.0041	lb/d
Iron, Dissolved	7/15/09	Test Am.	ISG1235-01	EPA 6010B-Diss	--	--	0.30	mg/L	<0.040	<0.16	lb/d
Sodium	7/15/09	Test Am.	ISG1235-01	EPA 6010B-Diss	--	--	60,000	mg/L	370	1,526	lb/d
Sodium	1/13/10	Test Am.	ITA0906-01	EPA 6010B-Diss	--	--	60,000	mg/L	350	1,443	lb/d
Surfactants (MBAS)	7/15/09	Test Am.	ISG1235-01	SM5540-C	--	--	0.50	mg/L	<0.10	<0.41	lb/d
Surfactants (MBAS)	1/13/10	Test Am.	ITA0906-01	SM5540-C	--	--	0.50	mg/L	<0.10	<0.41	lb/d
Fluoride	7/15/09	Test Am.	ISG1235-01	EPA 300.0	--	--	1.0	mg/L	<0.50	<2.1	lb/d
Fluoride	1/13/10	Test Am.	ITA0906-01	EPA 300.0	--	--	1.0	mg/L	<0.50	<2.1	lb/d
Hardness (as CaCO3)	7/15/09	Test Am.	ISG1246-01	EPA 130.2	--	--	--	mg/L	770	3,176	lb/d
Hardness (as CaCO3)	8/11/09	Test Am.	ISH0881-02	EPA 130.2	--	--	--	mg/L	830	3,423	lb/d
Hardness (as CaCO3)	9/8/09	Test Am.	ISI0620-01	EPA 130.2	--	--	--	mg/L	880	3,629	lb/d
Hardness (as CaCO3)	10/6/09	Test Am.	ISJ0412-01	EPA 130.2	--	--	--	mg/L	940	3,877	lb/d
Hardness (as CaCO3)	11/4/09	Test Am.	ISK0491-01	EPA 130.2	--	--	--	mg/L	880	3,629	lb/d
Hardness (as CaCO3)	12/1/09	Test Am.	ISI0127-01	EPA 130.2	--	--	--	mg/L	860	3,547	lb/d
Hardness (as CaCO3)	1/13/10	Test Am.	ITA0910-01	EPA 130.2	--	--	--	mg/L	740	3,052	lb/d
Hardness (as CaCO3)	2/9/10	Test Am.	ITB1080-01	SM2340C	--	--	--	mg/L	880	3,629	lb/d
Hardness (as CaCO3)	3/9/10	Test Am.	ITC0999-01	SM2340C	--	--	--	mg/L	900	3,712	lb/d
Hardness (as CaCO3)	4/6/10	Test Am.	ITD0395-01	SM2340C	--	--	--	mg/L	870	3,588	lb/d
Hardness (as CaCO3)	5/4/10	Test Am.	ITE0182-01	SM2340C	--	--	--	mg/L	920	3,794	lb/d
Hardness (as CaCO3)	6/1/10	Test Am.	ITF0008-01	SM2340C	--	--	--	mg/L	820	3,382	lb/d
Manganese, Dissolved	7/15/09	Test Am.	ISG1246-01	EPA 200.8-Diss	--	--	1.0	mg/L	0.014	0.058	lb/d
Manganese, Dissolved	8/27/09	Test Am.	ISH2378-01	EPA 6020-Diss	--	--	1.0	mg/L	0.0035	0.014	lb/d
Manganese, Dissolved	9/8/09	Test Am.	ISI0620-01	EPA 200.8-Diss	--	--	1.0	mg/L	0.016	0.066	lb/d
Manganese, Dissolved	10/6/09	Test Am.	ISJ0412-01	EPA 6010B-Diss	--	--	1.0	mg/L	<0.020	<0.082	lb/d
Manganese, Dissolved	11/4/09	Test Am.	ISK0491-01	EPA 6020-Diss	--	--	1.0	mg/L	0.040	0.16	lb/d
Manganese, Dissolved	12/1/09	Test Am.	ISI0127-01	EPA 6020-Diss	--	--	1.0	mg/L	0.0076	0.031	lb/d
Manganese, Dissolved	1/13/10	Test Am.	ITA0910-01	EPA 6020-Diss	--	--	1.0	mg/L	0.047	0.19	lb/d
Manganese, Dissolved	2/9/10	Test Am.	ITB1080-01	EPA 6020-Diss	--	--	1.0	mg/L	0.063	0.26	lb/d
Manganese, Dissolved	3/9/10	Test Am.	ITC0999-01	EPA 6020	--	--	1.0	mg/L	0.0061	0.025	lb/d
Manganese, Dissolved	4/6/10	Test Am.	ITD0395-01	EPA 6020	--	--	1.0	mg/L	0.039	0.16	lb/d
Manganese, Dissolved	5/4/10	Test Am.	ITE0182-01	EPA 6020-Diss	--	--	1.0	mg/L	0.021	0.087	lb/d
Manganese, Dissolved	6/1/10	Test Am.	ITF0008-01	EPA 6020-Diss	--	--	1.0	mg/L	0.0081	0.033	lb/d
Total Nitrogen	7/15/09	Test Am.,N	ISG1246-01	Calculation	--	1.0	2.0	mg/L	0.22	0.90	lb/d
Total Nitrogen	8/27/09	Test Am.,N	ISH2378-01	Calculation	--	1.0	2.0	mg/L	0.39	1.6	lb/d
Total Nitrogen	9/8/09	Test Am.,N	ISI0620-01	Calculation	--	1.0	2.0	mg/L	1.1	4.6	lb/d
Total Nitrogen	9/30/09	Test Am.,N	ISJ0080-01	Calculation	--	1.0	2.0	mg/L	<0.32	<1.3	lb/d
Total Nitrogen	10/6/09	Test Am.,N	ISJ0412-01	Calculation	--	1.0	2.0	mg/L	<0.32	<1.3	lb/d
Total Nitrogen	11/4/09	Test Am.,N	ISK0491-01	Calculation	--	1.0	2.0	mg/L	<0.21	<0.87	lb/d
Total Nitrogen	12/1/09	Test Am.,N	ISI0127-01	Calculation	--	1.0	2.0	mg/L	0.60	2.5	lb/d

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM  
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 9950 San Diego Mission Road  
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CAG919002 / 001

PARAMETER	Sample Date	Analytical Laboratory	Lab ID	Method	Permit Limits				Quality or Concentration	Quantity or Loading	Units
					Min.	Ave.	Max.	Units			
<b>Inorganics</b>											
Total Nitrogen	1/13/10	Test Am.,N	ITA0910-01RE1	Calculation	--	1.0	2.0	mg/L	0.55	2.3	lb/d
Total Nitrogen	2/9/10	Test Am.,N	ITB1080-01	Calculation	--	1.0	2.0	mg/L	0.39	1.6	lb/d
Total Nitrogen	3/9/10	Test Am.,N	ITC0999-01RE1	Calculation	--	1.0	2.0	mg/L	0.22	0.90	lb/d
Total Nitrogen	4/6/10	Test Am.,N	ITD0395-01RE1	Calculation	--	1.0	2.0	mg/L	<0.21	<0.87	lb/d
Total Nitrogen	5/4/10	Test Am.,N	ITE0182-01	Calculation	--	1.0	2.0	mg/L	<0.32	<1.3	lb/d
Total Nitrogen	6/1/10	Test Am.,N	ITF0008-01	Calculation	--	1.0	2.0	mg/L	0.21	0.86	lb/d
<b>Biologics</b>											
Fecal Coliforms	7/15/09	Enviromat	ISG1246-02	SM 9221 B, E	--	--	200	MPN/100 mL	<2.0	--	--
Fecal Coliforms	8/11/09	Enviromat	ISH0881-01	SM 9221 B, E	--	--	200	MPN/100 mL	<2.0	--	--
Fecal Coliforms	9/8/09	Enviromat	ISI0620-02	SM 9221 B, E	--	--	200	MPN/100 mL	<2.0	--	--
Fecal Coliforms	10/6/09	Sierra	0910079-01	SM 9221 B,E	--	--	200	MPN/100 mL	<2.0	--	--
Fecal Coliforms	11/4/09	Test Am.,O	ISK0491-01	SM9221 A,B,C,E	--	--	200	MPN/100 mL	2.0	--	--
Fecal Coliforms	12/1/09	Sierra	ISI0127-01	SM 9221 B,E	--	--	200	MPN/100 mL	<2.0	--	--
Fecal Coliforms	1/13/10	Test Am.	ITA0910-02	SM9221 A,B,C,E	--	--	200	MPN/100 mL	<2.0	--	--
Fecal Coliforms	2/9/10	Sierra	ITB1080-02	SM 9221E	--	--	200	MPN/100 mL	<2.0	--	--
Fecal Coliforms	3/9/10	Sierra	ITC0999-01	SM 9221E	--	--	200	MPN/100 mL	<2.0	--	--
Fecal Coliforms	4/6/10	Test Am.	ITD0395-02	SM9221 A,B,C,E	--	--	200	MPN/100 mL	<2.0	--	--
Fecal Coliforms	5/4/10	Test Am.	ITE0182-02	SM9221 A,B,C,E	--	--	200	MPN/100 mL	<2.0	--	--
Fecal Coliforms	6/1/10	Test Am.	ITF0008-02	SM9221 A,B,C,E	--	--	200	MPN/100 mL	<2.0	--	--
Total Coliforms	7/15/09	Enviromat	ISG1246-02	SM 9221 B, E	--	--	1,000	MPN/100 mL	2.0	--	--
Total Coliforms	8/11/09	Enviromat	ISH0881-01	SM 9221 B, E	--	--	1,000	MPN/100 mL	<2.0	--	--
Total Coliforms	9/8/09	Enviromat	ISI0620-02	SM 9221 B, E	--	--	1,000	MPN/100 mL	<2.0	--	--
Total Coliforms	10/6/09	Sierra	0910079-01	SM 9221 B,E	--	--	1,000	MPN/100 mL	8.0	--	--
Total Coliforms	11/4/09	Test Am.,O	ISK0491-01	SM9221 A,B,C,E	--	--	1,000	MPN/100 mL	4.0	--	--
Total Coliforms	12/1/09	Sierra	ISI0127-01	SM 9221B	--	--	1,000	MPN/100 mL	<2.0	--	--
Total Coliforms	1/13/10	Test Am.	ITA0910-02	SM9221 A,B,C,E	--	--	1,000	MPN/100 mL	23	--	--
Total Coliforms	2/9/10	Sierra	ITB1080-02	SM 9221B	--	--	1,000	MPN/100 mL	<2.0	--	--
Total Coliforms	3/9/10	Sierra	ITC0999-01	SM 9221B	--	--	1,000	MPN/100 mL	<2.0	--	--
Total Coliforms	4/6/10	Test Am.	ITD0395-02	SM9221 A,B,C,E	--	--	1,000	MPN/100 mL	<2.0	--	--
Total Coliforms	5/4/10	Test Am.	ITE0182-02	SM9221 A,B,C,E	--	--	1,000	MPN/100 mL	<2.0	--	--
Total Coliforms	6/1/10	Test Am.	ITF0008-02	SM9221 A,B,C,E	--	--	1,000	MPN/100 mL	<2.0	--	--
<b>Volatile Organic Compounds (VOCs)</b>											
Benzene	7/15/09	Test Am.	ISG1235-01	EPA 8260B	--	71	--	µg/L	<0.50	<0.0021	lb/d
Benzene	7/29/09	Test Am.	ISG2314-01	EPA 8260B	--	71	--	µg/L	<0.50	<0.0021	lb/d
Benzene	8/11/09	Test Am.	ISH0881-02	EPA 8260B	--	71	--	µg/L	<0.50	<0.0021	lb/d
Benzene	8/25/09	Test Am.	ISH2186-01	EPA 8260B	--	71	--	µg/L	<0.50	<0.0021	lb/d
Benzene	9/8/09	Test Am.	ISI0620-01	EPA 8260B	--	71	--	µg/L	<0.50	<0.0021	lb/d
Benzene	9/22/09	Test Am.	ISJ1875-01	EPA 8260B	--	71	--	µg/L	<0.50	<0.0021	lb/d
Benzene	10/6/09	Test Am.	ISJ0412-01	EPA 8260B	--	71	--	µg/L	<0.50	<0.0021	lb/d
Benzene	10/20/09	Test Am.	ISJ2207-01	EPA 8260B	--	71	--	µg/L	<0.50	<0.0021	lb/d
Benzene	11/4/09	Test Am.	ISK0491-01	EPA 8260B	--	71	--	µg/L	<0.50	<0.0021	lb/d
Benzene	11/17/09	Test Am.	ISK1850-01	EPA 8260B	--	71	--	µg/L	<0.50	<0.0021	lb/d
Benzene	12/1/09	Test Am.	ISI0127-01	EPA 8260B	--	71	--	µg/L	<0.50	<0.0021	lb/d
Benzene	12/15/09	Test Am.	ISL1940-01	EPA 8260B	--	71	--	µg/L	<0.50	<0.0021	lb/d
Benzene	12/29/09	Test Am.	ISL2870-01	EPA 8260B	--	71	--	µg/L	<0.50	<0.0021	lb/d
Benzene	1/13/10	Test Am.	ITA0910-01	EPA 8260B	--	71	--	µg/L	<2.5	<0.010	lb/d
Benzene	1/26/10	Test Am.	ITA2425-01	EPA 8260B	--	71	--	µg/L	<0.50	<0.0021	lb/d

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NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM  
 TABLE 1: SUMMARY OF ANALYTICAL RESULTS FOR EFFLUENT SAMPLES  
 Mission Valley Terminal  
 San Diego, California

June 13, 2012  
 Item No. 13  
 Supporting Document No. 4

Site Address:

Permit / Discharge No.:

Kinder Morgan Energy Partners  
 9950 San Diego Mission Road  
 San Diego, California 92108

CAG919002 / 001

PARAMETER	Sample Date	Analytical Laboratory	Lab ID	Method	Permit Limits				Quality or Concentration	Quantity or Loading	Units
					Min.	Ave.	Max.	Units			
<b>Volatiles Organic Compounds (VOCs)</b>											
Benzene	2/9/10	Test Am.	ITB1080-01	EPA 8260B	--	71	--	µg/L	<0.50	<0.0021	lb/d
Benzene	2/23/10	Test Am.	ITB2401-01	EPA 8260B	--	71	--	µg/L	<0.50	<0.0021	lb/d
Benzene	3/9/10	Test Am.	ITC0999-01	EPA 8260B	--	71	--	µg/L	<0.50	<0.0021	lb/d
Benzene	3/23/10	Test Am.	ITC2301-01	EPA 8260B	--	71	--	µg/L	<0.50	<0.0021	lb/d
Benzene	4/6/10	Test Am.	ITD0395-01	EPA 8260B	--	71	--	µg/L	<0.50	<0.0021	lb/d
Benzene	4/20/10	Test Am.	ITD1904-01	EPA 8260B	--	71	--	µg/L	<0.50	<0.0021	lb/d
Benzene	5/4/10	Test Am.	ITE0182-01	EPA 8260B	--	71	--	µg/L	<0.50	<0.0021	lb/d
Benzene	5/19/10	Test Am.	ITE1884-01	EPA 8260B	--	71	--	µg/L	<0.50	<0.0021	lb/d
Benzene	6/1/10	Test Am.	ITF0008-01	EPA 8260B	--	71	--	µg/L	<0.50	<0.0021	lb/d
Benzene	6/15/10	Test Am.	ITF1444-01	EPA 8260B	--	71	--	µg/L	<0.50	<0.0021	lb/d
Ethylbenzene	7/15/09	Test Am.	ISG1235-01	EPA 8260B	--	29,000	--	µg/L	<0.50	<0.0021	lb/d
Ethylbenzene	7/29/09	Test Am.	ISG2314-01	EPA 8260B	--	29,000	--	µg/L	<0.50	<0.0021	lb/d
Ethylbenzene	8/11/09	Test Am.	ISH0881-02	EPA 8260B	--	29,000	--	µg/L	<0.50	<0.0021	lb/d
Ethylbenzene	8/25/09	Test Am.	ISH2186-01	EPA 8260B	--	29,000	--	µg/L	<0.50	<0.0021	lb/d
Ethylbenzene	9/8/09	Test Am.	ISI0620-01	EPA 8260B	--	29,000	--	µg/L	<0.50	<0.0021	lb/d
Ethylbenzene	9/22/09	Test Am.	ISI1875-01	EPA 8260B	--	29,000	--	µg/L	<0.50	<0.0021	lb/d
Ethylbenzene	10/6/09	Test Am.	ISJ0412-01	EPA 8260B	--	29,000	--	µg/L	<0.50	<0.0021	lb/d
Ethylbenzene	10/20/09	Test Am.	ISJ2207-01	EPA 8260B	--	29,000	--	µg/L	<0.50	<0.0021	lb/d
Ethylbenzene	11/4/09	Test Am.	ISK0491-01	EPA 8260B	--	29,000	--	µg/L	<0.50	<0.0021	lb/d
Ethylbenzene	11/17/09	Test Am.	ISK1850-01	EPA 8260B	--	29,000	--	µg/L	<0.50	<0.0021	lb/d
Ethylbenzene	12/1/09	Test Am.	ISI0127-01	EPA 8260B	--	29,000	--	µg/L	<0.50	<0.0021	lb/d
Ethylbenzene	12/15/09	Test Am.	ISL1940-01	EPA 8260B	--	29,000	--	µg/L	<0.50	<0.0021	lb/d
Ethylbenzene	12/29/09	Test Am.	ISL2870-01	EPA 8260B	--	29,000	--	µg/L	<0.50	<0.0021	lb/d
Ethylbenzene	1/13/10	Test Am.	ITA0906-01	EPA 8260B	--	29,000	--	µg/L	<2.5	<0.010	lb/d
Ethylbenzene	1/26/10	Test Am.	ITA2425-01	EPA 8260B	--	29,000	--	µg/L	<0.50	<0.0021	lb/d
Ethylbenzene	2/9/10	Test Am.	ITB1080-01	EPA 8260B	--	29,000	--	µg/L	<0.50	<0.0021	lb/d
Ethylbenzene	2/23/10	Test Am.	ITB2401-01	EPA 8260B	--	29,000	--	µg/L	<0.50	<0.0021	lb/d
Ethylbenzene	3/9/10	Test Am.	ITC0999-01	EPA 8260B	--	29,000	--	µg/L	<0.50	<0.0021	lb/d
Ethylbenzene	3/23/10	Test Am.	ITC2301-01	EPA 8260B	--	29,000	--	µg/L	<0.50	<0.0021	lb/d
Ethylbenzene	4/6/10	Test Am.	ITD0395-01	EPA 8260B	--	29,000	--	µg/L	<0.50	<0.0021	lb/d
Ethylbenzene	4/20/10	Test Am.	ITD1904-01	EPA 8260B	--	29,000	--	µg/L	<0.50	<0.0021	lb/d
Ethylbenzene	5/4/10	Test Am.	ITE0182-01	EPA 8260B	--	29,000	--	µg/L	<0.50	<0.0021	lb/d
Ethylbenzene	5/19/10	Test Am.	ITE1884-01	EPA 8260B	--	29,000	--	µg/L	<0.50	<0.0021	lb/d
Ethylbenzene	6/1/10	Test Am.	ITF0008-01	EPA 8260B	--	29,000	--	µg/L	<0.50	<0.0021	lb/d
Ethylbenzene	6/15/10	Test Am.	ITF1444-01	EPA 8260B	--	29,000	--	µg/L	<0.50	<0.0021	lb/d
Toluene	7/15/09	Test Am.	ISG1246-01	EPA 8260B	--	200,000	--	µg/L	<0.50	<0.0021	lb/d
Toluene	7/29/09	Test Am.	ISG2314-01	EPA 8260B	--	200,000	--	µg/L	<0.50	<0.0021	lb/d
Toluene	8/11/09	Test Am.	ISH0881-02	EPA 8260B	--	200,000	--	µg/L	<0.50	<0.0021	lb/d
Toluene	8/25/09	Test Am.	ISH2186-01	EPA 8260B	--	200,000	--	µg/L	<0.50	<0.0021	lb/d
Toluene	9/8/09	Test Am.	ISI0620-01	EPA 8260B	--	200,000	--	µg/L	<0.50	<0.0021	lb/d
Toluene	9/22/09	Test Am.	ISI1875-01	EPA 8260B	--	200,000	--	µg/L	<0.50	<0.0021	lb/d
Toluene	10/6/09	Test Am.	ISJ0412-01	EPA 8260B	--	200,000	--	µg/L	<0.50	<0.0021	lb/d
Toluene	10/20/09	Test Am.	ISJ2207-01	EPA 8260B	--	200,000	--	µg/L	<0.50	<0.0021	lb/d
Toluene	11/4/09	Test Am.	ISK0491-01	EPA 8260B	--	200,000	--	µg/L	<0.50	<0.0021	lb/d
Toluene	11/17/09	Test Am.	ISK1850-01	EPA 8260B	--	200,000	--	µg/L	<0.50	<0.0021	lb/d
Toluene	12/1/09	Test Am.	ISI0127-01	EPA 8260B	--	200,000	--	µg/L	<0.50	<0.0021	lb/d
Toluene	12/15/09	Test Am.	ISL1940-01	EPA 8260B	--	200,000	--	µg/L	<0.50	<0.0021	lb/d



NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM  
 TABLE 1: SUMMARY OF ANALYTICAL RESULTS FOR EFFLUENT SAMPLES  
 Mission Valley Terminal  
 San Diego, California

June 13, 2012  
 Item No. 13  
 Supporting Document No. 4

Site Address:

Permit / Discharge No.:

Kinder Morgan Energy Partners  
 9950 San Diego Mission Road  
 San Diego, California 92108

CAG919002/001

PARAMETER	Sample Date	Analytical Laboratory	Lab ID	Method	Permit Limits				Quality or Concentration	Quantity or Loading	Units
					Min.	Ave.	Max.	Units			
<b>Volatile Organic Compounds (VOGs)</b>											
Toluene	12/29/09	Test Am.	ISL2870-01	EPA 8260B	--	200,000	--	µg/L	<0.50	<0.0021	lb/d
Toluene	1/13/10	Test Am.	ITA0910-01	EPA 8260B	--	200,000	--	µg/L	<2.5	<0.010	lb/d
Toluene	1/26/10	Test Am.	ITA2425-01	EPA 8260B	--	200,000	--	µg/L	<0.50	<0.0021	lb/d
Toluene	2/9/10	Test Am.	ITB1080-01	EPA 8260B	--	200,000	--	µg/L	<0.50	<0.0021	lb/d
Toluene	2/23/10	Test Am.	ITB2401-01	EPA 8260B	--	200,000	--	µg/L	<0.50	<0.0021	lb/d
Toluene	3/9/10	Test Am.	ITC0999-01	EPA 8260B	--	200,000	--	µg/L	<0.50	<0.0021	lb/d
Toluene	3/23/10	Test Am.	ITC2301-01	EPA 8260B	--	200,000	--	µg/L	<0.50	<0.0021	lb/d
Toluene	4/6/10	Test Am.	ITD0395-01	EPA 8260B	--	200,000	--	µg/L	<0.50	<0.0021	lb/d
Toluene	4/20/10	Test Am.	ITD1904-01	EPA 8260B	--	200,000	--	µg/L	<0.50	<0.0021	lb/d
Toluene	5/4/10	Test Am.	ITE0182-01	EPA 8260B	--	200,000	--	µg/L	<0.50	<0.0021	lb/d
Toluene	5/19/10	Test Am.	ITE1884-01	EPA 8260B	--	200,000	--	µg/L	<0.50	<0.0021	lb/d
Toluene	6/1/10	Test Am.	ITF0008-01	EPA 8260B	--	200,000	--	µg/L	<0.50	<0.0021	lb/d
Toluene	6/15/10	Test Am.	ITF1444-01	EPA 8260B	--	200,000	--	µg/L	<0.50	<0.0021	lb/d
Xylene	7/15/09	Test Am.	ISG1235-01	EPA 8260B	--	--	5.0	µg/L	<1.5	<0.0062	lb/d
Xylene	7/29/09	Test Am.	ISG2314-01	EPA 8260B	--	--	5.0	µg/L	<1.5	<0.0062	lb/d
Xylene	8/11/09	Test Am.	ISH0881-02	EPA 8260B	--	--	5.0	µg/L	<1.5	<0.0062	lb/d
Xylene	8/25/09	Test Am.	ISH2186-01	EPA 8260B	--	--	5.0	µg/L	<1.5	<0.0062	lb/d
Xylene	9/8/09	Test Am.	ISIO620-01	EPA 8260B	--	--	5.0	µg/L	<1.5	<0.0062	lb/d
Xylene	9/22/09	Test Am.	ISI1875-01	EPA 8260B	--	--	5.0	µg/L	<1.5	<0.0062	lb/d
Xylene	10/6/09	Test Am.	ISJ0412-01	EPA 8260B	--	--	5.0	µg/L	<1.5	<0.0062	lb/d
Xylene	10/20/09	Test Am.	ISJ2207-01	EPA 8260B	--	--	5.0	µg/L	<1.5	<0.0062	lb/d
Xylene	11/4/09	Test Am.	ISK0491-01	EPA 8260B	--	--	5.0	µg/L	<1.5	<0.0062	lb/d
Xylene	11/17/09	Test Am.	ISK1850-01	EPA 8260B	--	--	5.0	µg/L	<1.5	<0.0062	lb/d
Xylene	12/1/09	Test Am.	ISIO127-01	EPA 8260B	--	--	5.0	µg/L	<1.5	<0.0062	lb/d
Xylene	12/15/09	Test Am.	ISL1940-01	EPA 8260B	--	--	5.0	µg/L	<1.5	<0.0062	lb/d
Xylene	12/29/09	Test Am.	ISL2870-01	EPA 8260B	--	--	5.0	µg/L	<1.5	<0.0062	lb/d
Xylene	1/13/10	Test Am.	ITA0910-01	EPA 8260B	--	--	5.0	µg/L	<5.5	<0.023	lb/d
Xylene	1/26/10	Test Am.	ITA2425-01	EPA 8260B	--	--	5.0	µg/L	<1.5	<0.0062	lb/d
Xylene	2/9/10	Test Am.	ITB1080-01	EPA 8260B	--	--	5.0	µg/L	<1.5	<0.0062	lb/d
Xylene	2/23/10	Test Am.	ITB2401-01	EPA 8260B	--	--	5.0	µg/L	<1.5	<0.0062	lb/d
Xylene	3/9/10	Test Am.	ITC0999-01	EPA 8260B	--	--	5.0	µg/L	<1.5	<0.0062	lb/d
Xylene	3/23/10	Test Am.	ITC2301-01	EPA 8260B	--	--	5.0	µg/L	<1.5	<0.0062	lb/d
Xylene	4/6/10	Test Am.	ITD0395-01	EPA 8260B	--	--	5.0	µg/L	<1.5	<0.0062	lb/d
Xylene	4/20/10	Test Am.	ITD1904-01	EPA 8260B	--	--	5.0	µg/L	<1.5	<0.0062	lb/d
Xylene	5/4/10	Test Am.	ITE0182-01	EPA 8260B	--	--	5.0	µg/L	<1.5	<0.0062	lb/d
Xylene	5/19/10	Test Am.	ITE1884-01	EPA 8260B	--	--	5.0	µg/L	<1.5	<0.0062	lb/d
Xylene	6/1/10	Test Am.	ITF0008-01	EPA 8260B	--	--	5.0	µg/L	<1.5	<0.0062	lb/d
Xylene	6/15/10	Test Am.	ITF1444-01	EPA 8260B	--	--	5.0	µg/L	<1.5	<0.0062	lb/d
Methyl-tert-butyl Ether (MTBE)	7/15/09	Test Am.	ISG1235-01	EPA 8260B	--	--	--	µg/L	<1.0	<0.0041	lb/d
Methyl-tert-butyl Ether (MTBE)	7/29/09	Test Am.	ISG2314-01	EPA 8260B	--	--	--	µg/L	<1.0	<0.0041	lb/d
Methyl-tert-butyl Ether (MTBE)	8/11/09	Test Am.	ISH0881-02	EPA 8260B	--	--	--	µg/L	<1.0	<0.0041	lb/d
Methyl-tert-butyl Ether (MTBE)	8/25/09	Test Am.	ISH2186-01	EPA 8260B	--	--	--	µg/L	<1.0	<0.0041	lb/d
Methyl-tert-butyl Ether (MTBE)	9/8/09	Test Am.	ISIO620-01	EPA 8260B	--	--	--	µg/L	<1.0	<0.0041	lb/d
Methyl-tert-butyl Ether (MTBE)	9/22/09	Test Am.	ISI1875-01	EPA 8260B	--	--	--	µg/L	<1.0	<0.0041	lb/d

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM  
 TABLE 1: SUMMARY OF ANALYTICAL RESULTS FOR EFFLUENT SAMPLES FROM  
 Mission Valley Terminal  
 San Diego, California

June 13, 2012  
 Item No. 13  
 Supporting Document No. 4

Site Address:

Permit / Discharge No.:

Kinder Morgan Energy Partners  
 9950 San Diego Mission Road  
 San Diego, California 92108

CAC919002/001

PARAMETER	Sample Date	Analytical Laboratory	Lab ID	Method	Permit Limits				Quality or Concentration	Quantity or Loading	Units
					Min.	Ave.	Max.	Units			
<b>Volatile Organic Compounds (VOCs)</b>											
Methyl-tert-butyl Ether (MTBE)	10/6/09	Test Am.	ISJ0412-01	EPA 8260B	--	--	--	µg/L	<1.0	<0.0041	lb/d
Methyl-tert-butyl Ether (MTBE)	10/20/09	Test Am.	ISJ2207-01	EPA 8260B	--	--	--	µg/L	<1.0	<0.0041	lb/d
Methyl-tert-butyl Ether (MTBE)	11/4/09	Test Am.	ISK0491-01	EPA 8260B	--	--	--	µg/L	<1.0	<0.0041	lb/d
Methyl-tert-butyl Ether (MTBE)	11/17/09	Test Am.	ISK1850-01	EPA 8260B	--	--	--	µg/L	<1.0	<0.0041	lb/d
Methyl-tert-butyl Ether (MTBE)	12/1/09	Test Am.	ISI0127-01	EPA 8260B	--	--	--	µg/L	<1.0	<0.0041	lb/d
Methyl-tert-butyl Ether (MTBE)	12/15/09	Test Am.	ISL1940-01	EPA 8260B	--	--	--	µg/L	<1.0	<0.0041	lb/d
Methyl-tert-butyl Ether (MTBE)	12/29/09	Test Am.	ISL2870-01	EPA 8260B	--	--	--	µg/L	<1.0	<0.0041	lb/d
Methyl-tert-butyl Ether (MTBE)	1/13/10	Test Am.	ITA0910-01	EPA 8260B	--	--	--	µg/L	<1.0	<0.0041	lb/d
Methyl-tert-butyl Ether (MTBE)	1/26/10	Test Am.	ITA2425-01	EPA 8260B	--	--	--	µg/L	<1.0	<0.0041	lb/d
Methyl-tert-butyl Ether (MTBE)	2/9/10	Test Am.	ITB1080-01	EPA 8260B	--	--	--	µg/L	<1.0	<0.0041	lb/d
Methyl-tert-butyl Ether (MTBE)	2/23/10	Test Am.	ITB2401-01	EPA 8260B	--	--	--	µg/L	<1.0	<0.0041	lb/d
Methyl-tert-butyl Ether (MTBE)	3/9/10	Test Am.	ITC0999-01	EPA 8260B	--	--	--	µg/L	<1.0	<0.0041	lb/d
Methyl-tert-butyl Ether (MTBE)	3/23/10	Test Am.	ITC2301-01	EPA 8260B	--	--	--	µg/L	<1.0	<0.0041	lb/d
Methyl-tert-butyl Ether (MTBE)	4/6/10	Test Am.	ITD0395-01	EPA 8260B	--	--	--	µg/L	<1.0	<0.0041	lb/d
Methyl-tert-butyl Ether (MTBE)	4/20/10	Test Am.	ITD1904-01	EPA 8260B	--	--	--	µg/L	<1.0	<0.0041	lb/d
Methyl-tert-butyl Ether (MTBE)	5/4/10	Test Am.	ITE0182-01	EPA 8260B	--	--	--	µg/L	<1.0	<0.0041	lb/d
Methyl-tert-butyl Ether (MTBE)	5/19/10	Test Am.	ITE1884-01	EPA 8260B	--	--	--	µg/L	<1.0	<0.0041	lb/d
Methyl-tert-butyl Ether (MTBE)	6/1/10	Test Am.	ITF0008-01	EPA 8260B	--	--	--	µg/L	<1.0	<0.0041	lb/d
Methyl-tert-butyl Ether (MTBE)	6/15/10	Test Am.	ITF1444-01	EPA 8260B	--	--	--	µg/L	<1.0	<0.0041	lb/d
TPH (C6-C40)	7/15/09	Test Am.	ISG1246-01	EPA 8015B	--	--	0.50	mg/L	<0.47	<1.9	lb/d
TPH (C6-C40)	8/11/09	Test Am.	ISH0881-02	EPA 8015B	--	--	0.50	mg/L	<0.47	<1.9	lb/d
TPH (C6-C40)	9/8/09	Test Am.	ISI0620-01	EPA 8015B	--	--	0.50	mg/L	<0.47	<1.9	lb/d
TPH (C6-C40)	10/6/09	Test Am.	ISJ0412-01	EPA 8015B	--	--	0.50	mg/L	<0.50	<2.1	lb/d
TPH (C6-C40)	11/4/09	Test Am.	ISK0491-01	EPA 8015B	--	--	0.50	mg/L	<0.47	<1.9	lb/d
TPH (C6-C40)	12/1/09	Test Am.	ISI0127-01	EPA 8015B	--	--	0.50	mg/L	<0.47	<1.9	lb/d
TPH (C6-C40)	1/13/10	Test Am.	ITA0910-01	EPA 8015B	--	--	0.50	mg/L	<0.47	<1.9	lb/d
TPH (C6-C40)	2/9/10	Test Am.	ITB1080-01	EPA 8015B	--	--	0.50	mg/L	<0.47	<1.9	lb/d
TPH (C6-C40)	3/9/10	Test Am.	ITC0999-01	EPA 8015B	--	--	0.50	mg/L	<0.47	<1.9	lb/d
TPH (C6-C40)	4/6/10	Test Am.	ITD0395-01	EPA 8015B	--	--	0.50	mg/L	<0.47	<1.9	lb/d
TPH (C6-C40)	5/4/10	Test Am.	ITE0182-01	EPA 8015B	--	--	0.50	mg/L	<0.47	<1.9	lb/d
TPH (C6-C40)	6/1/10	Test Am.	ITF0008-01	EPA 8015B	--	--	0.50	mg/L	<0.47	<1.9	lb/d
1,1,2,2-Tetrachloroethane	7/15/09	Test Am.	ISG1235-01	EPA 8260B	--	11	--	µg/L	<1.0	<0.0041	lb/d
1,1,2,2-Tetrachloroethane	1/13/10	Test Am.	ITA0906-01	EPA 8260B	--	11	--	µg/L	<3.0	<0.012	lb/d
1,1,1-Trichloroethane	7/15/09	Test Am.	ISG1235-01	EPA 8260B	--	--	--	µg/L	<1.0	<0.0041	lb/d
1,1,1-Trichloroethane	1/13/10	Test Am.	ITA0906-01	EPA 8260B	--	--	--	µg/L	<3.0	<0.012	lb/d
1,1,2-Trichloroethane	7/15/09	Test Am.	ISG1235-01	EPA 8260B	--	42	--	µg/L	<1.0	<0.0041	lb/d

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM  
 TABLE 1: SUMMARY OF ANALYTICAL RESULTS FOR EFFLUENT SAMPLES  
 Mission Valley Terminal  
 San Diego, California

June 13, 2012  
 Item No. 13  
 Supporting Document No. 4

Site Address:

Permit / Discharge No.:

Kinder Morgan Energy Partners  
 9950 San Diego Mission Road  
 San Diego, California 92108

CAG919002/001

PARAMETER	Sample Date	Analytical Laboratory	Lab ID	Method	Permit Limits				Quality or Concentration	Quantity or Loading	Units
					Min.	Ave.	Max.	Units			
<b>Volatiles Organic Compounds (VOCs)</b>											
1,1,2-Trichloroethane	1/13/10	Test Am.	ITA0906-01	EPA 8260B	--	42	--	µg/L	<3.0	<0.012	lb/d
1,2-Dichloroethane	7/15/09	Test Am.	ISG1235-01	EPA 8260B	--	99	--	µg/L	<0.50	<0.0021	lb/d
1,2-Dichloroethane	1/13/10	Test Am.	ITA0906-01	EPA 8260B	--	99	--	µg/L	<2.5	<0.010	lb/d
Tetrachloroethene	7/15/09	Test Am.	ISG1235-01	EPA 8260B	--	8.9	--	µg/L	<1.0	<0.0041	lb/d
Tetrachloroethene	1/13/10	Test Am.	ITA0906-01	EPA 8260B	--	8.9	--	µg/L	<3.0	<0.012	lb/d
Trichloroethene	7/15/09	Test Am.	ISG1235-01	EPA 8260B	--	81	--	µg/L	<1.0	<0.0041	lb/d
Trichloroethene	1/13/10	Test Am.	ITA0906-01	EPA 8260B	--	81	--	µg/L	<3.0	<0.012	lb/d
Vinyl chloride	7/15/09	Test Am.	ISG1235-01	EPA 8260B	--	525	--	µg/L	<0.50	<0.0021	lb/d
Vinyl chloride	1/13/10	Test Am.	ITA0906-01	EPA 8260B	--	525	--	µg/L	<5.5	<0.023	lb/d
Carbon tetrachloride	7/15/09	Test Am.	ISG1235-01	EPA 8260B	--	4.4	--	µg/L	<0.50	<0.0021	lb/d
Carbon tetrachloride	1/13/10	Test Am.	ITA0906-01	EPA 8260B	--	4.4	--	µg/L	<5.5	<0.023	lb/d
Acrolein	7/15/09	Test Am.	ISG1235-01	EPA 8260B	--	780	--	µg/L	<50	<0.21	lb/d
Acrolein	1/13/10	Test Am.	ITA0906-01	EPA 8260B	--	780	--	µg/L	<50	<0.21	lb/d
Acrylonitrile	7/15/09	Test Am.	ISG1235-01	EPA 8260B	--	0.66	--	µg/L	<50	<0.21	lb/d
Acrylonitrile	1/13/10	Test Am.	ITA0906-01	EPA 8260B	--	0.66	--	µg/L	<50	<0.21	lb/d
Bromoform	7/15/09	Test Am.	ISG1235-01	EPA 8260B	--	360	--	µg/L	<1.0	<0.0041	lb/d
Bromoform	1/13/10	Test Am.	ITA0906-01	EPA 8260B	--	360	--	µg/L	<6.0	<0.025	lb/d
Chlorobenzene	7/15/09	Test Am.	ISG1235-01	EPA 8260B	--	21,000	--	µg/L	<1.0	<0.0041	lb/d
Chlorobenzene	1/13/10	Test Am.	ITA0906-01	EPA 8260B	--	21,000	--	µg/L	<3.0	<0.012	lb/d
Dibromochloromethane	7/15/09	Test Am.	ISG1235-01	EPA 8260B	--	34	--	µg/L	<1.0	<0.0041	lb/d
Dibromochloromethane	1/13/10	Test Am.	ITA0906-01	EPA 8260B	--	34	--	µg/L	<3.0	<0.012	lb/d
Chloroethane	7/15/09	Test Am.	ISG1235-01	EPA 8260B	--	--	--	µg/L	<1.0	<0.0041	lb/d
Chloroethane	1/13/10	Test Am.	ITA0906-01	EPA 8260B	--	--	--	µg/L	<6.0	<0.025	lb/d
2-Chloroethyl vinyl ether	7/15/09	Test Am.	ISG1235-01	EPA 8260B	--	--	--	µg/L	<5.0	<0.021	lb/d
2-Chloroethyl vinyl ether	1/13/10	Test Am.	ITA0906-01	EPA 8260B	--	--	--	µg/L	<5.0	<0.021	lb/d
Chloroform	7/15/09	Test Am.	ISG1235-01	EPA 8260B	--	--	--	µg/L	<1.0	<0.0041	lb/d
Chloroform	1/13/10	Test Am.	ITA0906-01	EPA 8260B	--	--	--	µg/L	<3.0	<0.012	lb/d
Bromodichloromethane	7/15/09	Test Am.	ISG1235-01	EPA 8260B	--	46	--	µg/L	<1.0	<0.0041	lb/d
Bromodichloromethane	1/13/10	Test Am.	ITA0906-01	EPA 8260B	--	46	--	µg/L	<3.0	<0.012	lb/d
1,1-Dichloroethane	7/15/09	Test Am.	ISG1235-01	EPA 8260B	--	--	--	µg/L	<1.0	<0.0041	lb/d
1,1-Dichloroethane	1/13/10	Test Am.	ITA0906-01	EPA 8260B	--	--	--	µg/L	<3.0	<0.012	lb/d
1,1-Dichloroethene	7/15/09	Test Am.	ISG1235-01	EPA 8260B	--	3.2	--	µg/L	<1.0	<0.0041	lb/d
1,1-Dichloroethene	1/13/10	Test Am.	ITA0906-01	EPA 8260B	--	3.2	--	µg/L	<6.0	<0.025	lb/d
1,2-Dichloropropane	7/15/09	Test Am.	ISG1235-01	EPA 8260B	--	39	--	µg/L	<1.0	<0.0041	lb/d
1,2-Dichloropropane	1/13/10	Test Am.	ITA0906-01	EPA 8260B	--	39	--	µg/L	<3.0	<0.012	lb/d
1,3-Dichloropropylene	7/15/09	Test Am.	ISG1235-01	EPA 8260B	--	1,700	--	µg/L	<1.0	<0.0041	lb/d
1,3-Dichloropropylene	1/13/10	Test Am.	ITA0906-01	EPA 8260B	--	1,700	--	µg/L	<5.0	<0.021	lb/d
Bromomethane	7/15/09	Test Am.	ISG1235-01	EPA 8260B	--	4,000	--	µg/L	<1.0	<0.0041	lb/d
Bromomethane	1/13/10	Test Am.	ITA0906-01	EPA 8260B	--	4,000	--	µg/L	<6.0	<0.025	lb/d
Chloromethane	7/15/09	Test Am.	ISG1235-01	EPA 8260B	--	--	--	µg/L	<1.0	<0.0041	lb/d
Chloromethane	1/13/10	Test Am.	ITA0906-01	EPA 8260B	--	--	--	µg/L	<6.0	<0.025	lb/d
Methylene chloride	7/15/09	Test Am.	ISG1235-01	EPA 8260B	--	1,600	--	µg/L	<5.0	<0.021	lb/d
Methylene chloride	1/13/10	Test Am.	ITA0906-01	EPA 8260B	--	1,600	--	µg/L	<10	<0.041	lb/d
trans-1,2-Dichloroethene	7/15/09	Test Am.	ISG1235-01	EPA 8260B	--	140,000	--	µg/L	<1.0	<0.0041	lb/d
trans-1,2-Dichloroethene	1/13/10	Test Am.	ITA0906-01	EPA 8260B	--	140,000	--	µg/L	<3.0	<0.012	lb/d
1,2,4-Trichlorobenzene	7/15/09	Test Am.	ISG1235-01	EPA 8270C	--	--	10	µg/L	<21	<0.086	lb/d
1,2,4-Trichlorobenzene	1/13/10	Test Am.	ITA0906-01	EPA 8270C	--	--	10	µg/L	<21	<0.086	lb/d

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM  
**TABLE 1: SUMMARY OF ANALYTICAL RESULTS FOR EFFLUENT SAMPLES**  
 Mission Valley Terminal  
 San Diego, California

June 13, 2012  
 Item No. 13  
 Supporting Document No. 4

Site Address:

Permit / Discharge No.:

**Kinder Morgan Energy Partners**  
 9950 San Diego Mission Road  
 San Diego, California 92108

**CAG919002 / 001**

PARAMETER	Sample Date	Analytical Laboratory	Lab ID	Method	Permit Limits				Quality or Concentration	Quantity or Loading	Units
					Min.	Ave.	Max.	Units			
<b>Volatle Organic Compounds (VOCs)</b>											
1,2-Dibromo-3-chloropropane	7/15/09	Test Am.	ISG1235-01	EPA 8260B	--	--	0.20	µg/L	<5.0	<0.021	lb/d
1,2-Dibromo-3-chloropropane	1/13/10	Test Am.	ITA0906-01	EPA 8260B	--	--	0.20	µg/L	<5.0	<0.021	lb/d
1,2-Dibromoethane (EDB)	7/15/09	Test Am.	ISG1235-01	EPA 8260B	--	--	0.020	µg/L	<1.0	<0.0041	lb/d
1,2-Dibromoethane (EDB)	1/13/10	Test Am.	ITA0906-01	EPA 8260B	--	--	0.020	µg/L	<1.0	<0.0041	lb/d
Bromobenzene	7/15/09	Test Am.	ISG1235-01	EPA 8260B	--	--	--	µg/L	<1.0	<0.0041	lb/d
Bromobenzene	1/13/10	Test Am.	ITA0906-01	EPA 8260B	--	--	--	µg/L	<1.0	<0.0041	lb/d
Bromochloromethane	7/15/09	Test Am.	ISG1235-01	EPA 8260B	--	--	--	µg/L	<1.0	<0.0041	lb/d
Bromochloromethane	1/13/10	Test Am.	ITA0906-01	EPA 8260B	--	--	--	µg/L	<1.0	<0.0041	lb/d
cis-1,2-Dichloroethene	7/15/09	Test Am.	ISG1235-01	EPA 8260B	--	--	--	µg/L	<1.0	<0.0041	lb/d
cis-1,2-Dichloroethene	1/13/10	Test Am.	ITA0906-01	EPA 8260B	--	--	--	µg/L	<3.0	<0.012	lb/d
<b>Organic Compounds</b>											
Bases/Neutrals	7/15/09	Test Am.	ISG1235-01	EPA 8270C	--	--	10	µg/L	<571	<2.4	lb/d
Bases/Neutrals	1/13/10	Test Am.	ITA0906-01	EPA 8270C	--	--	10	µg/L	<558	<2.3	lb/d
Acenaphthene	7/15/09	Test Am.	ISG1235-01	EPA 8270C	--	2,700	--	µg/L	<9.4	<0.039	lb/d
Acenaphthene	1/13/10	Test Am.	ITA0906-01	EPA 8270C	--	2,700	--	µg/L	<9.4	<0.039	lb/d
Acenaphthylene	7/15/09	Test Am.	ISG1235-01	EPA 8270C	--	--	--	µg/L	<9.4	<0.039	lb/d
Acenaphthylene	1/13/10	Test Am.	ITA0906-01	EPA 8270C	--	--	--	µg/L	<9.4	<0.039	lb/d
Anthracene	7/15/09	Test Am.	ISG1235-01	EPA 8270C	--	110,000	--	µg/L	<9.4	<0.039	lb/d
Anthracene	1/13/10	Test Am.	ITA0906-01	EPA 8270C	--	110,000	--	µg/L	<9.4	<0.039	lb/d
Benzidine	7/15/09	Test Am.	ISG1235-01	EPA 8270C	--	0.00054	--	µg/L	<19	<0.078	lb/d
Benzidine	1/13/10	Test Am.	ITA0906-01	EPA 8270C	--	0.00054	--	µg/L	<19	<0.078	lb/d
Benzo(a)anthracene	7/15/09	Test Am.	ISG1235-01	EPA 8270C	--	0.049	--	µg/L	<9.4	<0.039	lb/d
Benzo(a)anthracene	1/13/10	Test Am.	ITA0906-01	EPA 8270C	--	0.049	--	µg/L	<9.4	<0.039	lb/d
Benzo(a)pyrene	7/15/09	Test Am.	ISG1235-01	EPA 8270C	--	0.049	--	µg/L	<9.4	<0.039	lb/d
Benzo(a)pyrene	1/13/10	Test Am.	ITA0906-01	EPA 8270C	--	0.049	--	µg/L	<9.4	<0.039	lb/d
Benzo(b)fluoranthene	7/15/09	Test Am.	ISG1235-01	EPA 8270C	--	0.049	--	µg/L	<9.4	<0.039	lb/d
Benzo(b)fluoranthene	1/13/10	Test Am.	ITA0906-01	EPA 8270C	--	0.049	--	µg/L	<9.4	<0.039	lb/d
Benzo(g,h,i)perylene	7/15/09	Test Am.	ISG1235-01	EPA 8270C	--	--	--	µg/L	<9.4	<0.039	lb/d
Benzo(g,h,i)perylene	1/13/10	Test Am.	ITA0906-01	EPA 8270C	--	--	--	µg/L	<9.4	<0.039	lb/d
Benzo(k)fluoranthene	7/15/09	Test Am.	ISG1235-01	EPA 8270C	--	0.049	--	µg/L	<9.4	<0.039	lb/d
Benzo(k)fluoranthene	1/13/10	Test Am.	ITA0906-01	EPA 8270C	--	0.049	--	µg/L	<9.4	<0.039	lb/d
Bis(2-chloroethoxy)methane	7/15/09	Test Am.	ISG1235-01	EPA 8270C	--	--	--	µg/L	<9.4	<0.039	lb/d
Bis(2-chloroethoxy)methane	1/13/10	Test Am.	ITA0906-01	EPA 8270C	--	--	--	µg/L	<9.4	<0.039	lb/d
Bis(2-chloroethyl)ether	7/15/09	Test Am.	ISG1235-01	EPA 8270C	--	1.4	--	µg/L	<9.4	<0.039	lb/d
Bis(2-chloroethyl)ether	1/13/10	Test Am.	ITA0906-01	EPA 8270C	--	1.4	--	µg/L	<9.4	<0.039	lb/d
Bis(2-chloroisopropyl)ether	7/15/09	Test Am.	ISG1235-01	EPA 8270C	--	170,000	--	µg/L	<9.4	<0.039	lb/d
Bis(2-chloroisopropyl)ether	1/13/10	Test Am.	ITA0906-01	EPA 8270C	--	170,000	--	µg/L	<9.4	<0.039	lb/d
Bis(2-ethylhexyl)phthalate	7/15/09	Test Am.	ISG1235-01	EPA 8270C	--	5.9	--	µg/L	<47	<0.19	lb/d
Bis(2-ethylhexyl)phthalate	1/13/10	Test Am.	ITA0906-01	EPA 8270C	--	5.9	--	µg/L	<47	<0.19	lb/d
4-Bromophenyl phenyl ether	7/15/09	Test Am.	ISG1235-01	EPA 8270C	--	--	--	µg/L	<9.4	<0.039	lb/d
4-Bromophenyl phenyl ether	1/13/10	Test Am.	ITA0906-01	EPA 8270C	--	--	--	µg/L	<9.4	<0.039	lb/d
Butyl benzyl phthalate	7/15/09	Test Am.	ISG1235-01	EPA 8270C	--	5,200	--	µg/L	<19	<0.078	lb/d
Butyl benzyl phthalate	1/13/10	Test Am.	ITA0906-01	EPA 8270C	--	5,200	--	µg/L	<19	<0.078	lb/d
2-Chloronaphthalene	7/15/09	Test Am.	ISG1235-01	EPA 8270C	--	4,300	--	µg/L	<9.4	<0.039	lb/d
2-Chloronaphthalene	1/13/10	Test Am.	ITA0906-01	EPA 8270C	--	4,300	--	µg/L	<9.4	<0.039	lb/d
4-Chlorophenyl phenyl ether	7/15/09	Test Am.	ISG1235-01	EPA 8270C	--	--	--	µg/L	<9.4	<0.039	lb/d

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM  
 TABLE 1: SUMMARY OF ANALYTICAL RESULTS FOR EFFLUENT SAMPLES

Mission Valley Terminal  
 San Diego, California

June 13, 2012  
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Site Address:

Permit / Discharge No.:

Kinder Morgan Energy Partners  
 9950 San Diego Mission Road  
 San Diego, California 92108

CAG919002/001

PARAMETER	Sample Date	Analytical Laboratory	Lab ID	Method	Permit Limits				Quality or Concentration	Quantity or Loading	Units
					Min.	Ave.	Max.	Units			
<b>Bases/Neutrals</b>											
4-Chlorophenyl phenyl ether	1/13/10	Test Am.	ITA0906-01	EPA 8270C	--	--	--	µg/L	<9.4	<0.039	lb/d
Chrysene	7/15/09	Test Am.	ISG1235-01	EPA 8270C	--	0.049	--	µg/L	<9.4	<0.039	lb/d
Chrysene	1/13/10	Test Am.	ITA0906-01	EPA 8270C	--	0.049	--	µg/L	<9.4	<0.039	lb/d
Dibenz(a,h)anthracene	7/15/09	Test Am.	ISG1235-01	EPA 8270C	--	0.049	--	µg/L	<19	<0.078	lb/d
Dibenz(a,h)anthracene	1/13/10	Test Am.	ITA0906-01	EPA 8270C	--	0.049	--	µg/L	<19	<0.078	lb/d
1,2-Dichlorobenzene	7/15/09	Test Am.	ISG1235-01	EPA 8270C	--	17,000	--	µg/L	<10	<0.043	lb/d
1,2-Dichlorobenzene	1/13/10	Test Am.	ITA0906-01	EPA 8270C	--	17,000	--	µg/L	<12	<0.051	lb/d
1,3-Dichlorobenzene	7/15/09	Test Am.	ISG1235-01	EPA 8270C	--	2,600	--	µg/L	<10	<0.043	lb/d
1,3-Dichlorobenzene	1/13/10	Test Am.	ITA0906-01	EPA 8270C	--	2,600	--	µg/L	<12	<0.051	lb/d
1,4-Dichlorobenzene	7/15/09	Test Am.	ISG1235-01	EPA 8270C	--	2,600	--	µg/L	<10	<0.043	lb/d
1,4-Dichlorobenzene	1/13/10	Test Am.	ITA0906-01	EPA 8270C	--	2,600	--	µg/L	<12	<0.051	lb/d
3,3-Dichlorobenzidine	7/15/09	Test Am.	ISG1235-01	EPA 8270C	--	0.077	--	µg/L	<19	<0.078	lb/d
Diethyl phthalate	7/15/09	Test Am.	ISG1235-01	EPA 8270C	--	120,000	--	µg/L	<9.4	<0.039	lb/d
Diethyl phthalate	1/13/10	Test Am.	ITA0906-01	EPA 8270C	--	120,000	--	µg/L	<9.4	<0.039	lb/d
Dimethyl phthalate	7/15/09	Test Am.	ISG1235-01	EPA 8270C	--	2,900,000	--	µg/L	<9.4	<0.039	lb/d
Dimethyl phthalate	1/13/10	Test Am.	ITA0906-01	EPA 8270C	--	2,900,000	--	µg/L	<9.4	<0.039	lb/d
Di-n-butyl phthalate	7/15/09	Test Am.	ISG1235-01	EPA 8270C	--	12,000	--	µg/L	<19	<0.078	lb/d
Di-n-butyl phthalate	1/13/10	Test Am.	ITA0906-01	EPA 8270C	--	12,000	--	µg/L	<19	<0.078	lb/d
2,4-Dinitrotoluene	7/15/09	Test Am.	ISG1235-01	EPA 8270C	--	9.1	--	µg/L	<9.4	<0.039	lb/d
2,4-Dinitrotoluene	1/13/10	Test Am.	ITA0906-01	EPA 8270C	--	9.1	--	µg/L	<9.4	<0.039	lb/d
2,6-Dinitrotoluene	7/15/09	Test Am.	ISG1235-01	EPA 8270C	--	--	--	µg/L	<9.4	<0.039	lb/d
2,6-Dinitrotoluene	1/13/10	Test Am.	ITA0906-01	EPA 8270C	--	--	--	µg/L	<9.4	<0.039	lb/d
Di-n-octyl phthalate	7/15/09	Test Am.	ISG1235-01	EPA 8270C	--	--	--	µg/L	<19	<0.078	lb/d
Di-n-octyl phthalate	1/13/10	Test Am.	ITA0906-01	EPA 8270C	--	--	--	µg/L	<19	<0.078	lb/d
1,2-Diphenylhydrazine/Azo benzene	7/15/09	Test Am.	ISG1235-01	EPA 8270C	--	0.54	--	µg/L	<19	<0.078	lb/d
1,2-Diphenylhydrazine/Azo benzene	1/13/10	Test Am.	ITA0906-01	EPA 8270C	--	0.54	--	µg/L	<19	<0.078	lb/d
Fluoranthene	7/15/09	Test Am.	ISG1235-01	EPA 8270C	--	370	--	µg/L	<9.4	<0.039	lb/d
Fluoranthene	1/13/10	Test Am.	ITA0906-01	EPA 8270C	--	370	--	µg/L	<9.4	<0.039	lb/d
Fluorene	7/15/09	Test Am.	ISG1235-01	EPA 8270C	--	14,000	--	µg/L	<9.4	<0.039	lb/d
Fluorene	1/13/10	Test Am.	ITA0906-01	EPA 8270C	--	14,000	--	µg/L	<9.4	<0.039	lb/d
Hexachlorobenzene	7/15/09	Test Am.	ISG1235-01	EPA 8270C	--	0.00077	--	µg/L	<9.4	<0.039	lb/d
Hexachlorobenzene	1/13/10	Test Am.	ITA0906-01	EPA 8270C	--	0.00077	--	µg/L	<9.4	<0.039	lb/d
Hexachlorobutadiene	7/15/09	Test Am.	ISG1235-01	EPA 8270C	--	50	--	µg/L	<10	<0.043	lb/d
Hexachlorobutadiene	1/13/10	Test Am.	ITA0906-01	EPA 8270C	--	50	--	µg/L	<10	<0.043	lb/d
Hexachlorocyclopentadiene	7/15/09	Test Am.	ISG1235-01	EPA 8270C	--	17,000	--	µg/L	<19	<0.078	lb/d
Hexachlorocyclopentadiene	1/13/10	Test Am.	ITA0906-01	EPA 8270C	--	17,000	--	µg/L	<19	<0.078	lb/d
Hexachloroethane	7/15/09	Test Am.	ISG1235-01	EPA 8270C	--	8.9	--	µg/L	<9.4	<0.039	lb/d
Hexachloroethane	1/13/10	Test Am.	ITA0906-01	EPA 8270C	--	8.9	--	µg/L	<9.4	<0.039	lb/d
Indeno(1,2,3-cd)pyrene	7/15/09	Test Am.	ISG1235-01	EPA 8270C	--	0.049	--	µg/L	<19	<0.078	lb/d
Indeno(1,2,3-cd)pyrene	1/13/10	Test Am.	ITA0906-01	EPA 8270C	--	0.049	--	µg/L	<19	<0.078	lb/d
Isophorone	7/15/09	Test Am.	ISG1235-01	EPA 8270C	--	600	--	µg/L	<9.4	<0.039	lb/d
Isophorone	1/13/10	Test Am.	ITA0906-01	EPA 8270C	--	600	--	µg/L	<9.4	<0.039	lb/d
Naphthalene	7/15/09	Test Am.	ISG1235-01	EPA 8270C	--	--	--	µg/L	<10	<0.043	lb/d
Naphthalene	1/13/10	Test Am.	ITA0906-01	EPA 8270C	--	--	--	µg/L	<10	<0.043	lb/d
Nitrobenzene	7/15/09	Test Am.	ISG1235-01	EPA 8270C	--	1,900	--	µg/L	<19	<0.078	lb/d
Nitrobenzene	1/13/10	Test Am.	ITA0906-01	EPA 8270C	--	1,900	--	µg/L	<19	<0.078	lb/d

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM  
**TABLE 1: SUMMARY OF ANALYTICAL RESULTS FOR EFFLUENT SAMPLES**  
 Mission Valley Terminal  
 San Diego, California

June 13, 2012  
 Item No. 13  
 Supporting Document No. 4

Site Address:

Permit / Discharge No.:

Kinder Morgan Energy Partners  
 9950 San Diego Mission Road  
 San Diego, California 92108

CAG919002 / 001

PARAMETER	Sample Date	Analytical Laboratory	Lab ID	Method	Permit Limits				Quality or Concentration	Quantity or Loading	Units
					Min.	Ave.	Max.	Units			
<b>Amides/Nitriles</b>											
n-Nitrosodimethylamine	7/15/09	Test Am.	ISG1235-01	EPA 8270C	--	8.1	--	µg/L	<19	<0.078	lb/d
n-Nitrosodimethylamine	1/13/10	Test Am.	ITA0906-01	EPA 8270C	--	8.1	--	µg/L	<19	<0.078	lb/d
N-Nitroso-di-n-propylamine	7/15/09	Test Am.	ISG1235-01	EPA 8270C	--	1.4	--	µg/L	<9.4	<0.039	lb/d
N-Nitroso-di-n-propylamine	1/13/10	Test Am.	ITA0906-01	EPA 8270C	--	1.4	--	µg/L	<9.4	<0.039	lb/d
n-Nitrosodiphenylamine	7/15/09	Test Am.	ISG1235-01	EPA 8270C	--	16	--	µg/L	<9.4	<0.039	lb/d
n-Nitrosodiphenylamine	1/13/10	Test Am.	ITA0906-01	EPA 8270C	--	16	--	µg/L	<9.4	<0.039	lb/d
Phenanthrene	7/15/09	Test Am.	ISG1235-01	EPA 8270C	--	--	--	µg/L	<9.4	<0.039	lb/d
Phenanthrene	1/13/10	Test Am.	ITA0906-01	EPA 8270C	--	--	--	µg/L	<9.4	<0.039	lb/d
Pyrene	7/15/09	Test Am.	ISG1235-01	EPA 8270C	--	11,000	--	µg/L	<9.4	<0.039	lb/d
Pyrene	1/13/10	Test Am.	ITA0906-01	EPA 8270C	--	11,000	--	µg/L	<9.4	<0.039	lb/d
2-Nitroaniline	7/15/09	Test Am.	ISG1235-01	EPA 8270C	--	--	--	µg/L	<19	<0.078	lb/d
2-Nitroaniline	1/13/10	Test Am.	ITA0906-01	EPA 8270C	--	--	--	µg/L	<19	<0.078	lb/d
<b>Chlorinated Phenols</b>											
Chlorinated Phenolics	7/15/09	Test Am.	ISG1235-01	EPA 8270C	--	--	10	µg/L	<76	<0.31	lb/d
Chlorinated Phenolics	1/13/10	Test Am.	ITA0906-01	EPA 8270C	--	--	10	µg/L	<76	<0.31	lb/d
2-Chlorophenol	7/15/09	Test Am.	ISG1235-01	EPA 8270C	--	400	--	µg/L	<9.4	<0.039	lb/d
2-Chlorophenol	1/13/10	Test Am.	ITA0906-01	EPA 8270C	--	400	--	µg/L	<9.4	<0.039	lb/d
2,4-Dichlorophenol	7/15/09	Test Am.	ISG1235-01	EPA 8270C	--	790	--	µg/L	<9.4	<0.039	lb/d
2,4-Dichlorophenol	1/13/10	Test Am.	ITA0906-01	EPA 8270C	--	790	--	µg/L	<9.4	<0.039	lb/d
4-Chloro-3-methylphenol	7/15/09	Test Am.	ISG1235-01	EPA 8270C	--	--	--	µg/L	<19	<0.078	lb/d
4-Chloro-3-methylphenol	1/13/10	Test Am.	ITA0906-01	EPA 8270C	--	--	--	µg/L	<19	<0.078	lb/d
Pentachlorophenol	7/15/09	Test Am.	ISG1235-01	EPA 8270C	--	7.3	--	µg/L	<19	<0.078	lb/d
Pentachlorophenol	1/13/10	Test Am.	ITA0906-01	EPA 8270C	--	11	--	µg/L	<19	<0.078	lb/d
2,4,6-Trichlorophenol	7/15/09	Test Am.	ISG1235-01	EPA 8270C	--	6.5	--	µg/L	<19	<0.078	lb/d
2,4,6-Trichlorophenol	1/13/10	Test Am.	ITA0906-01	EPA 8270C	--	6.5	--	µg/L	<19	<0.078	lb/d
2,4,5-Trichlorophenol	7/15/09	Test Am.	ISG1235-01	EPA 8270C	--	--	10	µg/L	<19	<0.078	lb/d
2,4,5-Trichlorophenol	1/13/10	Test Am.	ITA0906-01	EPA 8270C	--	--	10	µg/L	<19	<0.078	lb/d
<b>Non-Chlorinated Phenols</b>											
Non-Chlorinated Phenolics	7/15/09	Test Am.	ISG1235-01	EPA 8270C	--	--	--	µg/L	<95	<0.39	lb/d
Non-Chlorinated Phenolics	1/13/10	Test Am.	ITA0906-01	EPA 8270C	--	--	--	µg/L	<95	<0.39	lb/d
2,4-Dimethylphenol	7/15/09	Test Am.	ISG1235-01	EPA 8270C	--	2,300	--	µg/L	<19	<0.078	lb/d
2,4-Dimethylphenol	1/13/10	Test Am.	ITA0906-01	EPA 8270C	--	2,300	--	µg/L	<19	<0.078	lb/d
4,6-Dinitro-2-methylphenol	7/15/09	Test Am.	ISG1235-01	EPA 8270C	--	765	--	µg/L	<19	<0.078	lb/d
4,6-Dinitro-2-methylphenol	1/13/10	Test Am.	ITA0906-01	EPA 8270C	--	765	--	µg/L	<19	<0.078	lb/d
2,4-Dinitrophenol	7/15/09	Test Am.	ISG1235-01	EPA 8270C	--	14,000	--	µg/L	<19	<0.078	lb/d
2,4-Dinitrophenol	1/13/10	Test Am.	ITA0906-01	EPA 8270C	--	14,000	--	µg/L	<19	<0.078	lb/d
2-Nitrophenol	7/15/09	Test Am.	ISG1235-01	EPA 8270C	--	--	--	µg/L	<9.4	<0.039	lb/d
2-Nitrophenol	1/13/10	Test Am.	ITA0906-01	EPA 8270C	--	--	--	µg/L	<9.4	<0.039	lb/d
4-Nitrophenol	7/15/09	Test Am.	ISG1235-01	EPA 8270C	--	--	--	µg/L	<19	<0.078	lb/d
4-Nitrophenol	1/13/10	Test Am.	ITA0906-01	EPA 8270C	--	--	--	µg/L	<19	<0.078	lb/d
Phenol	7/15/09	Test Am.	ISG1235-01	EPA 8270C	--	4,600,000	--	µg/L	<9.4	<0.039	lb/d
Phenol	1/13/10	Test Am.	ITA0906-01	EPA 8270C	--	4,600,000	--	µg/L	<9.4	<0.039	lb/d
<b>Pesticides</b>											
2,3,7,8-TCDD	7/15/09	Test Am.,S	ISG1235-01	SW846 8290	--	0.014	--	pg/L	<9.4	<0.00000039	lb/d
2,3,7,8-TCDD	1/13/10	Test Am.,S	ITA0906-01	SW846 8290	--	0.014	--	pg/L	<9.7	<0.00000040	lb/d
<b>PCBs</b>											
Aldrin	7/15/09	Test Am.	ISG1235-01	EPA 3510C/8081A	--	0.00014	3.0	µg/L	<0.10	<0.00041	lb/d
Aldrin	1/13/10	Test Am.	ITA0906-01	EPA 3510C/8081A	--	0.00014	3.0	µg/L	<0.094	<0.00039	lb/d

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM  
 TABLE 1: SUMMARY OF ANALYTICAL RESULTS FOR EFFLUENT SAMPLES FROM  
 Mission Valley Terminal  
 San Diego, California

June 13, 2012  
 Item No. 13  
 Supporting Document No. 4

Site Address:

Permit / Discharge No.:

Kinder Morgan Energy Partners  
 9950 San Diego Mission Road  
 San Diego, California 92108

CAG919002 / 001

PARAMETER	Sample Date	Analytical Laboratory	Lab ID	Method	Permit Limits				Quality or Concentration	Quantity or Loading	Units
					Min.	Ave.	Max.	Units			
<b>Pesticides</b>											
alpha-BHC	7/15/09	Test Am.	ISG1235-01	EPA 3510C/8081A	--	0.013	--	µg/L	<0.10	<0.00041	lb/d
alpha-BHC	1/13/10	Test Am.	ITA0906-01	EPA 3510C/8081A	--	0.013	--	µg/L	<0.094	<0.00039	lb/d
beta-BHC	7/15/09	Test Am.	ISG1235-01	EPA 3510C/8081A	--	0.046	--	µg/L	<0.10	<0.00041	lb/d
beta-BHC	1/13/10	Test Am.	ITA0906-01	EPA 3510C/8081A	--	0.046	--	µg/L	<0.094	<0.00039	lb/d
gamma-BHC (Lindane)	7/15/09	Test Am.	ISG1235-01	EPA 3510C/8081A	--	0.063	0.95	µg/L	<0.10	<0.00041	lb/d
gamma-BHC (Lindane)	1/13/10	Test Am.	ITA0906-01	EPA 3510C/8081A	--	0.063	0.95	µg/L	<0.094	<0.00039	lb/d
delta-BHC	7/15/09	Test Am.	ISG1235-01	EPA 3510C/8081A	--	--	--	µg/L	<0.20	<0.00082	lb/d
delta-BHC	1/13/10	Test Am.	ITA0906-01	EPA 3510C/8081A	--	--	--	µg/L	<0.19	<0.00078	lb/d
Chlordane	7/15/09	Test Am.	ISG1235-01	EPA 3510C/8081A	--	0.00059	2.4	µg/L	<1.0	<0.0041	lb/d
Chlordane	1/13/10	Test Am.	ITA0906-01	EPA 3510C/8081A	--	0.00059	2.4	µg/L	<0.94	<0.0039	lb/d
4,4'-DDT	7/15/09	Test Am.	ISG1235-01	EPA 3510C/8081A	--	0.00059	1.1	µg/L	<0.10	<0.00041	lb/d
4,4'-DDT	1/13/10	Test Am.	ITA0906-01	EPA 3510C/8081A	--	0.00059	1.1	µg/L	<0.094	<0.00039	lb/d
4,4'-DDE	7/15/09	Test Am.	ISG1235-01	EPA 3510C/8081A	--	0.00059	--	µg/L	<0.10	<0.00041	lb/d
4,4'-DDE	1/13/10	Test Am.	ITA0906-01	EPA 3510C/8081A	--	0.00059	--	µg/L	<0.094	<0.00039	lb/d
4,4'-DDD	7/15/09	Test Am.	ISG1235-01	EPA 3510C/8081A	--	0.00084	--	µg/L	<0.10	<0.00041	lb/d
4,4'-DDD	1/13/10	Test Am.	ITA0906-01	EPA 3510C/8081A	--	0.00084	--	µg/L	<0.094	<0.00039	lb/d
Dieldrin	7/15/09	Test Am.	ISG1235-01	EPA 3510C/8081A	--	0.00014	0.24	µg/L	<0.10	<0.00041	lb/d
Dieldrin	1/13/10	Test Am.	ITA0906-01	EPA 3510C/8081A	--	0.00014	0.24	µg/L	<0.094	<0.00039	lb/d
Endosulfan I	7/15/09	Test Am.	ISG1235-01	EPA 3510C/8081A	--	0.056	0.22	µg/L	<0.10	<0.00041	lb/d
Endosulfan I	1/13/10	Test Am.	ITA0906-01	EPA 3510C/8081A	--	0.056	0.22	µg/L	<0.094	<0.00039	lb/d
Endosulfan II	7/15/09	Test Am.	ISG1235-01	EPA 3510C/8081A	--	0.056	0.22	µg/L	<0.10	<0.00041	lb/d
Endosulfan II	1/13/10	Test Am.	ITA0906-01	EPA 3510C/8081A	--	0.056	0.22	µg/L	<0.094	<0.00039	lb/d
Endosulfan sulfate	7/15/09	Test Am.	ISG1235-01	EPA 3510C/8081A	--	240	--	µg/L	<0.20	<0.00082	lb/d
Endosulfan sulfate	1/13/10	Test Am.	ITA0906-01	EPA 3510C/8081A	--	240	--	µg/L	<0.19	<0.00078	lb/d
Endrin	7/15/09	Test Am.	ISG1235-01	EPA 3510C/8081A	--	0.036	0.086	µg/L	<0.10	<0.00041	lb/d
Endrin	1/13/10	Test Am.	ITA0906-01	EPA 3510C/8081A	--	0.036	0.086	µg/L	<0.094	<0.00039	lb/d
Endrin aldehyde	7/15/09	Test Am.	ISG1235-01	EPA 3510C/8081A	--	0.81	--	µg/L	<0.10	<0.00041	lb/d
Endrin aldehyde	1/13/10	Test Am.	ITA0906-01	EPA 3510C/8081A	--	0.81	--	µg/L	<0.094	<0.00039	lb/d
Heptachlor	7/15/09	Test Am.	ISG1235-01	EPA 3510C/8081A	--	0.00021	0.52	µg/L	<0.10	<0.00041	lb/d
Heptachlor	1/13/10	Test Am.	ITA0906-01	EPA 3510C/8081A	--	0.00021	0.52	µg/L	<0.094	<0.00039	lb/d
Heptachlor epoxide	7/15/09	Test Am.	ISG1235-01	EPA 3510C/8081A	--	0.00011	0.52	µg/L	<0.10	<0.00041	lb/d
Heptachlor epoxide	1/13/10	Test Am.	ITA0906-01	EPA 3510C/8081A	--	0.00011	0.52	µg/L	<0.094	<0.00039	lb/d
Toxaphene	7/15/09	Test Am.	ISG1235-01	EPA 3510C/8081A	--	0.00020	0.73	µg/L	<5.0	<0.021	lb/d
Toxaphene	1/13/10	Test Am.	ITA0906-01	EPA 3510C/8081A	--	0.00020	0.73	µg/L	<4.7	<0.019	lb/d
Polychlorinated Biphenyls (PCBs)	7/15/09	Test Am.	ISG1235-01	EPA 8082	--	0.00017	--	µg/L	<7.0	<0.029	lb/d
Polychlorinated Biphenyls (PCBs)	1/13/10	Test Am.	ITA0906-01	EPA 8082	--	0.00017	--	µg/L	<6.6	<0.027	lb/d
<b>Toxicity</b>											
Acute Toxicity	See cover letter for details										
Chronic Toxicity	See cover letter for details										

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM  
**TABLE 1: SUMMARY OF ANALYTICAL RESULTS FOR EFFLUENT SAMPLES**  
 Mission Valley Terminal  
 San Diego, California

June 13, 2012  
 Item No. 13  
 Supporting Document No. 4

Site Address:

Permit / Discharge No.:

**Kinder Morgan Energy Partners**  
 9950 San Diego Mission Road  
 San Diego, California 92108

CAG919002/001

PARAMETER	Sample Date	Analytical Laboratory	Lab ID	Method	Permit Limits				Quality or Concentration	Quantity or Loading	Units
					Min.	Ave.	Max.	Units			

Notes:  
 TPH (C6-C40) reported as the sum of VFH (C6-C12) and EFH (C8-C40).  
 Total Nitrogen reported as the calculated sum of Total Kjeldahl Nitrogen, Nitrate-N, and Nitrite-N.  
 Test Am. = TestAmerica - Irvine, CA.  
 Test Am,N = TestAmerica - Nashville, CA.  
 Test Am,S = TestAmerica - Sacramento, CA.  
 Test Am,O = TestAmerica - Ontario, CA.  
 Enviromat = Enviromatrix Analytical, Inc., San Diego, CA.  
 Frontier = Frontier Geosciences Inc.  
 Sierra = Sierra analytical, Laguna Hills, CA.  
 Field = Measurement collected in the field with handheld meter.  
 MGD = million gallons per day.  
 mg/L = milligrams per liter.  
 µg/L = micrograms per liter.  
 pg/L = picograms per liter.  
 lb/d = pounds per day.  
 < = Not detected above laboratory reporting limit indicated.  
 s.u. = standard units.  
 NTU = Nephelometric Turbidity Units.  
 ml/L/hr = milliliters per liter per hour.



**Table 2**  
**Mass Discharge Rates for Detected Constituents**  
**Based on Treated Discharge Analytical Results from July 2009 through June 2010**  
**Mission Valley Terminal**  
**CM010143.0082**

Analyte	Result <sup>b</sup>	Units	Mass Discharge Rate (g/min)				Mass Loading of Stream <sup>a</sup> (g/min)		
			205 gpm	350 gpm	550 gpm	875 gpm	Feb, 2005 Flow Rate	Current Flow Rate	Proposed Flow Rate
Arsenic	4	ug/l	0.003	0.005	0.008	0.013	4.0E-06	7.5E-06	8.8E-06
Copper	2.5	ug/l	0.002	0.003	0.005	0.008	2.5E-06	4.7E-06	5.5E-06
Hardness (CaCO <sub>3</sub> )	940	mg/l	729	1245	1957	3113	0.95	1.76	2.06
Manganese	63	ug/l	0.049	0.083	0.131	0.209	6.4E-05	1.2E-04	1.4E-04
Nickel	6.3	ug/l	0.005	0.008	0.013	0.021	6.4E-06	1.2E-05	1.4E-05
Phosphorous	0.1	mg/L	0.078	0.132	0.208	0.331	1.0E-04	1.9E-04	2.2E-04
Total Nitrogen	1.1	mg/l	0.854	1.457	2.290	3.643	1.1E-03	2.1E-03	2.4E-03
Selenium	1.5	ug/L	0.001	0.002	0.003	0.005	1.5E-06	2.8E-06	3.3E-06
Sodium	370	mg/L	287	490	770	1226	0.37	0.69	0.81
Total Suspended Solids	21	mg/L	16	28	44	69.6	0.02	3.9E-02	4.6E-02
Settleable Solids	0.1	ml/L/hr	n	n	n	n	n	n	n
Fecal Coliforms	2	MPN/100 mL	n	n	n	n	n	n	n
Total Coliforms	23	MPN/100 mL	n	n	n	n	n	n	n

Notes:

a = mass loading of stream includes the Total Stream Flow Rate which was determined to be 562 gpm in February 2005 (LFR 2008)

b = maximum detected level in discharges during evaluation period from July 2009 through June 2010

n = mass loading not calculated because analyte is not measured in mass units

**Table 3**  
**Discharge Concentrations and Relevant Comparison Values**  
**Based on Treated Discharge Analytical Results from July 2009 through June 2010**  
**Mission Valley Terminal**  
**CM010143.0082**

Analyte in Effluent	Result <sup>f</sup>	Units	NPDES Permit Max	Upstream Murphy Canyon Creek (LFR 2003) <sup>a</sup>	Upstream San Diego River (LFR 2003) <sup>b</sup>	4-day Average Continuous Concentration Value (Marshack 2008) <sup>c</sup>	Maximum Concentration 1-hour Average (Marshack 2008) <sup>c</sup>	NOAA Screening Quick Reference Table "Chronic" values (NOAA, 2008)
Arsenic	4	ug/l	150			150	340	190
Copper	2.5	ug/l	50 <sup>e</sup>			29 <sup>e</sup>	50 <sup>e</sup>	9 <sup>e</sup>
Hardness (CaCO <sub>3</sub> )	940	mg/l	-	1000 <sup>f</sup>	400			
Manganese	63	ug/l	1000					80
Nickel	6.3	ug/l	1520 <sup>e</sup>			170 <sup>e</sup>	1500 <sup>e</sup>	52 <sup>e</sup>
Phosphorous	0.1	mg/l	0.2					
Total Nitrogen	1.1	mg/l	2					
Sodium	370	mg/l	60,000	220 (0.02%)	200 (0.02%)			
Selenium	1.5	ug/L	5.0			5	135	5
pH	7.7		g	8	7.7			
Total Suspended Solids	21	mg/l	50					
Settleable Solids	0.1	ml/L/hr	0.2					
Fecal Coliforms	2	MPN/100 mL	200					
Total Coliforms	23	MPN/100 mL	1000					

a = Upstream of Discharge Point

b = Upstream of Discharge of Murphy Canyon Creek (LFR 2003)

c = Inland Surface Waters, Freshwater Aquatic Life Protection (Marshack 2008)

d = Ambient Water Quality Criteria, Freshwater CCC "chronic" values (NOAA, 2008)

e = At greater than 400 hardness

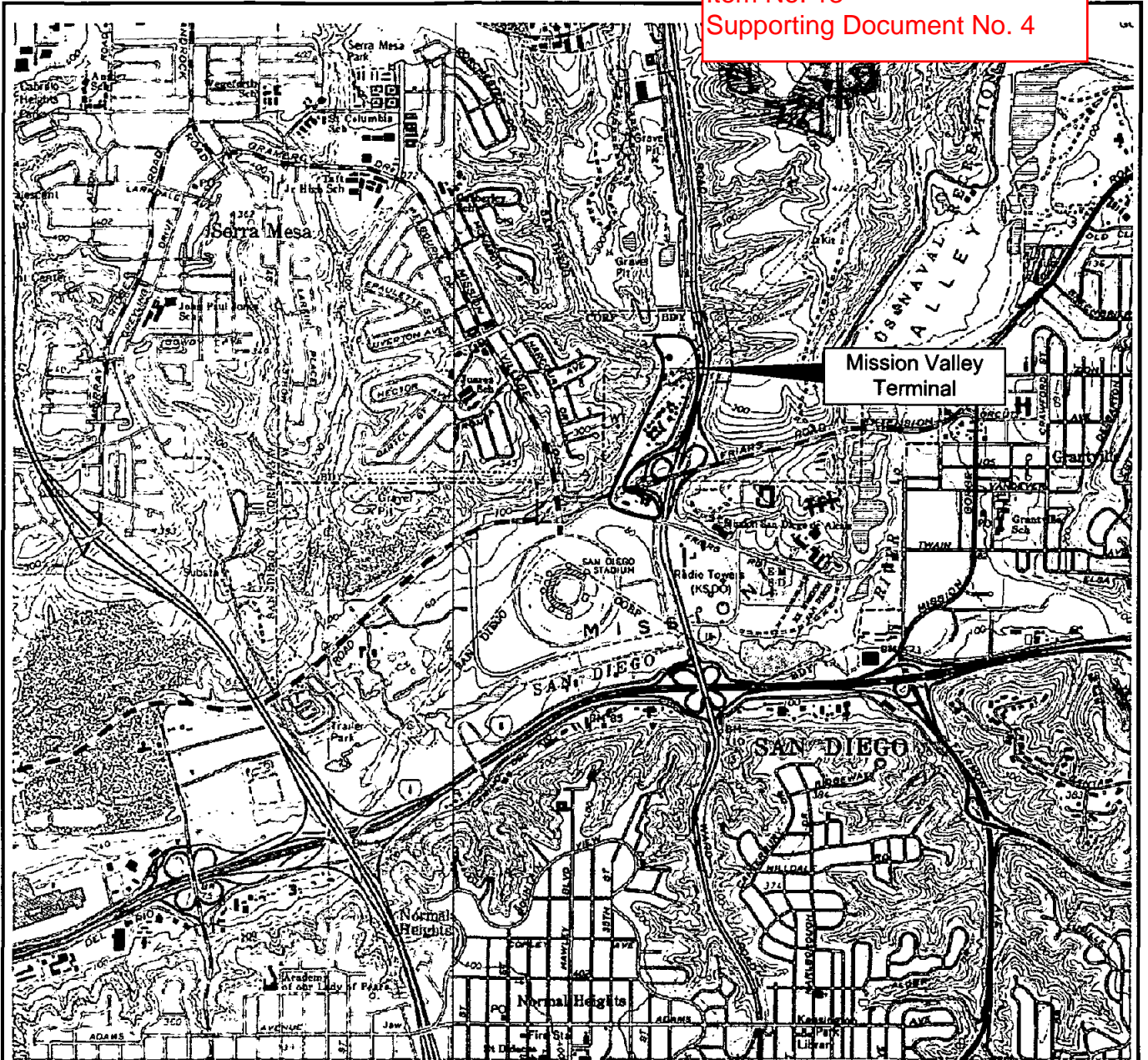
f = maximum detected level in discharges during evaluation period from July 2009 through June 2010

g = pH limit between 6.5 and 8.5

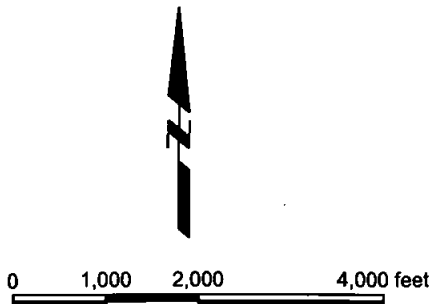
**ARCADIS**

**Figure**

CITY:Coita Mesa DIV:GROUP:(Reqd) DB:(Reqd) PM:(Reqd) G:\ENV\CA\CostaMesa\ACT\CM010000\CM010143\0069201\Fig1 Vicinity Map.dwg LAYOUT: 1 SAVED: 7/1/2010 11:28 AM ACADEVER: 18.0S (LMS TECH) PAGESSETUP: --- PLOTSTYLETABLE: ACAD.CTB PLOTTED: 7/1/2010 11:28 AM BY: ROBITALLE, BEVERLY



MAP SOURCE: National Geographic Holdings, TOPOI 2001.



MISSION VALLEY TERMINAL  
SAN DIEGO, CALIFORNIA  
SECOND QUARTER 2010

VICINITY MAP  
MAY 2010

 FIGURE  
1