National Pollutant Discharge Elimination System Permit 2011 Annual Report Executive Summary Exhibit G3

CITY OF
WICHITA
Department of Public Works & Utilities
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CHAPTER 16.32. STORMWATER POLLUTION PREVENTION

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A. *Purposes.* The purpose and objective of this chapter are as follows:

1. To maintain and improve the quality of surface water and groundwater within the city;

2. To attenuate the discharge of contaminated storm water runoff from industrial, commercial, residential, and construction sites into the municipal separate storm sewer system (MS4) and natural waters within the city;

3. To promote public awareness of the hazards involved in the improper discharge of hazardous substances, petroleum products, household hazardous waste, industrial waste, sediment from construction sites, pesticides, herbicides, fertilizers, and other contaminants into the storm sewers of the city;

4. To encourage recycling of used motor oil and safe disposal of other hazardous consumer products;

5. To facilitate compliance with state and federal standards and permits by owners of industrial and construction sites within the city;

6. To enable the city to comply with all federal and state laws and regulations applicable to its NPDES permit for storm water discharges.

7. To regulate the management of storm water for purposes of public safety, welfare and quality of life;

8. To manage and maintain local floodplains; and,

9. To facilitate compliance with city standards and permits by owners of developed, redeveloped and undeveloped properties within the city.

B. *Administration.* Except as otherwise provided herein, the director, or his appointed representative, shall administer, implement, and enforce the provisions of this chapter.

C. *Authority.* The Director may develop additional policies, criteria, specifications and standards in a Storm Water Manual and/or in other policy, master plans, watershed plans or guidance documents as necessary to effectively implement the requirements of this chapter. The policies, criteria and requirements of the Storm Water Manual and/or other policy, plans or guidance documents may be implemented and amended by the Director, are referenced in this

chapter when required, and shall be enforceable, consistent with the provisions contained in this chapter. A public meeting shall be held bi-annually to allow public comment on this chapter and the Storm Water Manual.

In the event that a violation of any provision of this chapter has occurred, or that work does not have a required plan or permit, or that work does not comply with an approved plan or permit, the city may issue a Notice of Violation to the permittee, plan holder or property owner and/or any other person or entity having responsibility for the property or properties where the violation occurred under the provisions of subsection .100 B. of this chapter.

In the spirit of the purposes defined above for this chapter and in the administration of these requirements, the Director may consider the cost-effectiveness of storm water management controls provided that such controls meet the water quality, channel erosion protection and flood protection requirements of this chapter or are waived or exempted in accordance with the criteria defined in this chapter.

D. *Regulatory or legal conflicts.* This chapter is not intended to repeal, abrogate, or impair any existing easements, covenants, deed restrictions, or existing ordinances and regulations, except as specifically noted in this chapter. However, where the provisions of this ordinance and another regulation conflict or overlap, that provision which is more restrictive or imposes higher standards or requirements shall prevail.

E. *Abbreviations.* The following abbreviations when used in this chapter shall have the designated meanings:

TABLE INSET:

BMP	Best Management Practices
CFR	Code of Federal Regulations
CLOMR	Conditional Letter of Map Revision
EPA	U.S. Environmental Protection Agency
FEMA	Federal Emergency Management Agency
HHW	Hazardous Household Waste
KAR	Kansas Administrative Regulations
KSA	Kansas Statutes Annotated
LOMR	Letter of Map Revision
mg/l	Milligrams per liter
MS4	Municipal Separate Storm Sewer System
NOI	Notice of Intent
NOT	Notice of Termination
NPDES	National Pollutant Discharge Elimination System
OCI	Office of Central Inspection
PST	Petroleum Storage Tank
SWP3	Storm Water Pollution Prevention Plan
TMDL	Total Maximum Daily Load
USC	United States Code

F. *Definitions.* Unless a provision explicitly states otherwise, the following terms and phrases, as used in this chapter, shall have the meanings hereinafter designated.

1. *"As-built plan"* means a drawing showing the actual state of permanent storm water facilities as installed.

2. *"Best management practices (BMP)"* means schedule of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of waters of the United States or the city's MS4 and includes both temporary measures used during construction and permanent measures that are constructed in accordance with the provisions of this ordinance. Best management practices also include treatment requirements, operating procedures, and practices to control plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage areas. The BMPs required in this chapter will be sufficient to prevent or reduce the likelihood of pollutants entering storm sewers, ditches, or ponds.

3. *"City"* means the City of Wichita.

4. *"Commencement of construction"* means the disturbance of soils associated with clearing, grading, or excavating activities or other construction activities.

5. *"Commercial"* means pertaining to any business, trade, industry or other activity engaged in for profit.

6. *"Construction general permit"* refers to the Kansas General Permit for Storm water Discharges from Construction Sites.

7. *"Contractor"* means any person or firm performing construction work at a construction site, including any general contractor and subcontractors. Also includes, but is not limited to, earthwork, paving, building, plumbing, mechanical, electrical, landscaping contractors, and material suppliers delivering materials to the site.

8. *"Development"* or *"new development"* means undisturbed property where improvements are planned or intended that will result in land disturbance activities or impervious areas either during or after construction.

9. *"Director"* means the person appointed to the position of Public Works and Utilities Director by the City Manager of the City, or his/her duly authorized representative. Authorized representatives can include, but are not limited to, the City Engineer, the Storm Water Engineer, and others, as so authorized.

10. *"Discharge"* means any addition or introduction of any pollutant, storm water, or any other substance whatsoever into the municipal separate storm sewer system (MS4) or into waters of the United States.

11. *"Discharger"* means any person who causes, allows, permits, or is otherwise responsible for a discharge, including without limitation any owner of a construction site or industrial facility.

12. *"Domestic sewage"* means human excrement, gray water (From home clothes washing, bathing, showers, dishwashing, and food preparation), other wastewater from household drains, and waterborne waste normally discharged from the sanitary conveyances of dwellings (including apartment houses and hotels), office buildings, factories, and institutions, that is free from industrial waste.

13. *"Drainage plan"* refers to the detailed water quantity and quality calculations and plan that are required for final plat approval or for issuance of a building permit.

14. *"Earthwork"* means the disturbance of soils on a site associated with clearing, grading, or excavation activities.

15. *"Environmental Protection Agency (EPA)"* means the United States Environmental Protection Agency, the regional office thereof, any federal department, agency or commission that may succeed to the authority of the EPA, and any duly authorized official of EPA or such successor agency.

16. *"Extremely hazardous substance"* means any substance listed in the appendices

to 40 CFR Part 355, Emergency Planning and Notification.

17. *"Facility"* means any building, structure, installation, process, or activity from which there is or may be discharge of a pollutant.

18. *"Fertilizer"* means a substance or compound that contains an essential plant nutrient element in a form available to plants and is used primarily for its essential plant nutrient element content in promoting or stimulating growth of a plant or improving the quality of a crop, or a mixture of two or more fertilizers.

19. *"Final stabilization"* means the status when all soil disturbing activities at a site have been completed. This would establish a uniform perennial vegetative cover with a density of seventy percent coverage for unpaved areas and those not covered by permanent structures or equivalent permanent stabilization measures (by employing riprap, gabions, or geotextiles).

20. *"Fire protection water"* means any water, and any substances or materials contained therein, used by any person to control or extinguish a fire, or to inspect or test fire equipment.

21. *"Garbage"* means putrescible animal and vegetable waste materials from the handling, preparation, cooking, or consumption of food, including waste materials from markets, storage facilities, and the handling and sale of produce and other food products.

22. *"Harmful quantity"* means the amount of any substance that will cause a violation of a State Water Quality Standard or any adverse impact to the city's drainage system.

23. *"Hazardous household waste (HHW)"* means any material generated in a household (including single and multiple residences) by a consumer which, except for the exclusion provided in 40 CFR Section 261.4(b)(1), would be classified as a hazardous waste under 40 CFR Part 261.

24. *"Hazardous substance"* means any substance listed in Table 302.4 of 40 CFR Part 302.

25. *"Hazardous waste"* means any substance identified or listed as a hazardous waste by the EPA pursuant to 40 CFR Part 261.

26. *"Hazardous waste treatment, disposal, and recovery facility"* means all contiguous land, and structures, other appurtenances and improvements on the land used for the treatment, disposal, or recovery of hazardous waste.

27. *"Impervious area"* or *"impervious cover"* means the number of square feet of hard surface areas which either prevent or retard the entry of water into soil mantle, as it entered under natural conditions as undisturbed property, and/or causes water to run off the surface in greater quantities or at an increased rate of flow from that present under natural conditions as undisturbed property, including, but not limited to, roofs, roof extensions, patios, porches, driveways, sidewalks, pavement, athletic courts, and compacted dirt or graveled areas.

28. *"Individual building sites"* means and includes sites of building construction or earthwork activities that are not a part of a new subdivision development and any individual lot within a newly developing subdivision.

29. *Industrial general permit.* See "Kansas General Permit for Storm water Discharges Associated with Industrial Activity."

30. *"Industrial waste"* means any waterborne liquid or solid substance that results from any process of industry, manufacturing, mining, production, trade or business.

31. *"Industry"* means and includes: (a) municipal landfills; (b) hazardous waste

treatment, disposal, and recovery facilities; (c) industrial facilities that are subject to Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA) 42, U.S.C. Section 11023; industrial facilities required to obtain NPDES storm water discharge permits due to their Standard Industrial Classification or narrative description; and (d) industrial facilities that the director determines are contributing a substantial pollutant loading to the MS4, which are sources of storm water discharges associated with industrial activity.

32. *"Kansas General Permit for Storm Water Discharges Associated with Industrial Activity (or industrial general permit)"* means the industrial general permit issued by KDHE and any subsequent modifications or amendments thereto, including group permits.

33. *"Kansas General Permit for Storm Water Discharges from Construction Sites (or construction general permit)"* means the construction general permit issued by KDHE and any subsequent modifications on amendments thereto, including group permits.

34. *"Land disturbance"* means the disturbance of soils on a site associated with clearing, grading, excavation, new development or redevelopment activities.

35. *"Landfill"* means an area of land or an excavation in which municipal solid waste is placed for permanent disposal, and which is not a land treatment facility, a surface impoundment, or an injection well.

36. *"Municipal separate storm sewer system (MS4)"* means the system of conveyances, (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains) owned and operated by the city and designed or used for collecting or conveying storm water, and which is not used for collecting or conveying sewage.

37. *"Municipal solid waste"* means solid waste resulting from or incidental to municipal, community, commercial, institutional, or recreational activities, and includes garbage, rubbish, ashes, street cleanings, dead animals, abandoned automobiles, and other solid waste other than industrial waste.

38. *"NPDES permit"* means for the purpose of this chapter, this is a permit issued by EPA or the state of Kansas that authorizes the discharge of storm water pollutants to waters of the United States, whether the permit is applicable on an individual, group, or general area-wide basis

39. *"Nonpoint source"* means the source of any discharge of a pollutant that is not a point source.

40. *"Notice of intent (NOI)"* means the notice of intent that is required by either the industrial general permit or the construction general permit.

41. *"Notice of termination (NOT)"* means the notice of termination that is required by either the industrial general permit or the construction general permit.

42. *"Notice of violation"* means a written notice provided to the owner or contractor detailing any violations of this chapter and any clean-up action expected of the violators.

43. *"OCI"* means office of central inspection and includes its superintendent and his or her authorized representatives.

44. *"Oil"* means any kind of oil in any form, including, but not limited to: petroleum, fuel oil, crude oil or any fraction thereof which is liquid at standard conditions of temperature and pressure, sludge, oil refuse, and oil mixed with waste.

45. *"Outfall"* or *"storm water outfall"* means the terminus of the storm water system for a development or redevelopment where the storm water runoff is released into a larger

public or private storm water management system, or into a stream, waters of the United States or other water body.

46. *"Owner"* means the person who owns a facility, part of a facility, or land.

47. *"Person"* means any individual, partnership, copartnership, firm, company, corporation, association, joint stock company, trust, estate, government entity, or any other legal entity; or their legal representatives, agents, or assigns, including all federal, state, and local government entities.

48. *"Pesticide"* means a substance or mixture of substances intended to prevent, destroy, repel, or migrate any pest, or substances intended for use as a plant regulator, defoliant, or desiccant.

49. *"Petroleum product"* means a petroleum product that is obtained from distilling and processing crude oil and that is capable of being used as a fuel for the propulsion of a motor vehicle, or aircraft, including motor gasoline, gasohol, other alcohol blended fuels, aviation gasoline, kerosene, distillate fuel oil, and #1 and #2 diesel.

50. *"Petroleum storage tank (PST)"* means any one or combination of aboveground or underground storage tanks that contain petroleum product and any connecting underground pipes.

51. *"Point source"* means any discernable, confined, and discrete conveyance including, but not limited to: any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, landfill leachate collection system, vessel or other floating craft from which pollutants are or may be discharged. This term does not include return flows from irrigated agriculture or agricultural storm water runoff.

52. *"Pollutant"* means dredged spoil, spoil waste, incinerator residue, sewage, garbage, sewage sludge, munitions, chemical waste, biological materials, radioactive materials, heat, wrecked or discarded equipment, rock, sand, soil, yard waste, hazardous household wastes, used motor oil, anti-freeze, litter, and industrial, municipal, and agricultural waste discharged into water and/or any substance, debris, matter that may be carried downstream by storm water runoff, and/or any substance or matter that may be dissolved in storm water runoff.

53. *"Pollution"* means the alteration of the physical, thermal, chemical, or biological quality of, or the contamination of, any water in the state that renders the water harmful, detrimental, or injurious to humans, animal life, vegetation, or property, or public health, safety, or welfare, or impairs the usefulness or the public enjoyment of the water for any lawful or reasonable purpose.

54. *"Qualified personnel"* means persons who possess the required certification, license, or appropriate competence, skills, and ability as demonstrated by sufficient education, training, and/or experience to perform a specific activity in a timely and complete manner consistent with the regulatory requirements and generally accepted industry standards for such activity.

55. *"Redevelopment"* or *"redevelopment site"* means a change to previously existing improved property, including but not limited to the demolition or building structures, filling, grading, paving, or excavating.

56. *"Release"* means any spilling, leaking, pumping, pouring, emitting, emptying, discharging, injecting, escaping, leaching, dumping, or disposing into the municipal separate storm sewer system (MS4) or the waters of the United States.

57. *"Reportable quantity (RQ)"* means, for any hazardous substance, the quantity established and listed in Table 302.4 of 40 CFR Part 302; for any extremely hazardous substance, the quantity established in 40 CFR Part 355.

58. *"Rubbish"* means nonputrescible solid waste, excluding ashes, that consist of: (a) combustible waste materials, including paper, rags, cartons, wood, excelsior, furniture, rubber, plastics, yard trimmings, leaves, and similar materials; and (b) noncombustible waste materials, including grass, crockery, tin cans, aluminum cans, metal furniture, and similar materials that do not burn at ordinary incinerator temperatures (one thousand six hundred to one thousand eight hundred degrees Fahrenheit).

59. *"Sanitary sewer"* means the system of pipes, conduits, and other conveyances which carry industrial waste and domestic sewage from residential dwellings, commercial buildings, industrial and manufacturing facilities, and institutions, whether treated or untreated, to the city sewage treatment plant (and to which storm water, surface water, and groundwater are not intentionally admitted).

60. *"Septic tank waste"* means any domestic sewage from holding tanks such as vessels, chemical toilets, campers, trailers, and septic tanks.

61. *"Service station"* means any retail establishment engaged in the business of selling fuel for motor vehicles that is dispensed from pumps.

62. *"Sewage"* means the domestic sewage mid and/or industrial waste that is discharged into the city sanitary sewer system and passes through the sanitary sewer system to the city sewage treatment plant for treatment.

63. *"Site"* means the land or water area where development or redevelopment is physically located or being conducted, including lands adjacent to the development that is not subject to land disturbing activities but that is used as a staging area or for other uses in connection with the new development or redevelopment.

64. *"Solid waste"* means any garbage, rubbish, refuse, sludge from a waste treatment plait, water supply treatment plant, or air pollution control facility, and other discarded material including: solid, liquid, semi-solid, or contained gaseous material resulting from industrial, municipal, commercial, mining, agricultural operations, and community and institutional activities.

65. *"State"* means the state of Kansas.

66. *"Storm water"* means storm water runoff, snow melt runoff, and surface runoff and drainage.

67. *"Storm water discharge associated with industrial activity"* means the discharge from any conveyance which is used for collecting and conveying storm water and which is directly related to manufacturing, processing, or raw materials storage areas at an industrial plant which is listed as one of the categories of facilities in 40 CFR Section 122.26(b)(14), and which is not excluded from EPA's definition of the same term.

68. *"Storm water management facility"* or *"storm water control"* means any structure or installation used to manage storm water quality, flow rate, or volume.

69. *"Storm Water Manual"* refers to the latest version, as amended, of the document on file with the Director of Public Works entitled City of Wichita/Sedgwick County Storm Water Manual.

70. *"Storm water pollution prevention plan (SWP3)."* Means a plan required by an NPDES storm water permit and which describes and ensures the implementation of practices that are to be used to reduce the pollutants in storm water discharges associated with construction or other industrial activity.

71. *"Subdivision development"* means and includes activities associated with the platting of any parcel of land into two or more lots and includes all construction taking place thereon.

72. *"Undisturbed property"* means real property which has not been altered from its natural condition so that the entrance of water into the soil mantle is prevented or retarded through changes to the topography or soils.

73. *"Used oil (or used motor oil)"* means any oil that has been refined from crude oil a synthetic oil that, as a result of use, storage, or handling; has become unsuitable for its original purpose because of impurities or the loss of original properties.

74. *"Water of the state (or water)"* means any groundwater, percolating or otherwise, lakes, bays, ponds, impounding reservoirs, springs, rivers, streams, creeks, estuaries, marshes, inlets, canals, inside the territorial limits of the state, and all other bodies of surface water, natural or artificial, navigable or non-navigable, and including the beds and banks of all water courses and bodies of surface water, that are wholly or partially inside or bordering the state or inside the jurisdiction of the state.

75. *"Water quality standard"* means the designation of a body or segment of surface water in the state for desirable uses and the narrative an numerical criteria deemed by the state to be necessary to protect those uses.

76. *"Waters of the United States"* means all waters which are currently used, were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and the flow of the tide; all interstate waters, including interstate wetlands; all other waters the use, degradation, or destruction of which would affect or could affect interstate or foreign commerce; all impoundments of waters otherwise defined as waters of the United States under this definition; all tributaries of waters identified in this definition; all wetlands adjacent to waters identified in this definition; and any water within the federal definition of "waters of the United States" at 40 CFR Section 122.2; but not including any waste treatment systems, treatment ponds, or lagoons designed to meet the requirements of the Federal Clean Water Act.

77. *"Watershed"* means the cumulative area that drains to a common point.

78. *"Watershed plan"* means an engineering and planning study for the drainage system and/or land areas of a watershed that may include a plan for storm water management in the watershed. Watershed plans can include, but are not limited to, the analysis of flooding problems, water quality problems, potential storm water capital improvements, land use patterns, and regulatory issues for existing and potential future land use conditions and address solutions to these problems.

79. *"Wetland"* means any area that is inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances does support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas.

80. *"Yard waste"* means leaves, grass clippings, yard and garden debris, and brush that results from landscaping maintenance and land-clearing operations.

(Ord. No. 44-123 § 1; Ord. No. 48-904, § 1, 11-16-2010)

Sec. 16.32.020. General prohibition.

A. No person shall introduce or cause to be introduced into the municipal separate storm sewer system (MS4) any discharge that is not composed entirely of stormwater, except as allowed in subsection B.

B. The following nonstormwater discharges are deemed acceptable and not a violation of this

section:

1. A discharge authorized by, and in full compliance with, an NPDES permit (other than the NPDES permit for discharges from the MS4);

2. A discharge or flow resulting from emergency fire fighting;

3. A discharge or flow of fire protection water that does not contain oil or hazardous substances or materials;

4. A discharge from water line flushing;

5. A discharge or flow from lawn watering, landscape irrigation, or other irrigation water;

6. A discharge or flow from a diverted stream flow or natural spring;

7. A discharge or flow from uncontaminated pumped groundwater or rising groundwater;

8. Uncontaminated groundwater infiltration;

9. Uncontaminated discharge or flow from a foundation drain, crawl space pump, footing drain, or sump pump;

10. A discharge or flow from a potable water source not containing any harmful substance or material from the cleaning or draining of a storage tank or other container;

11. A discharge or flow from air conditioning condensation that is unmixed with water from a cooling tower, emissions scrubber, emissions filter, or any other source of pollutant;

12. A discharge or flow from individual residential car washing;

13. A discharge or flow from a riparian habitat or wetland or natural spring;

14. A discharge or flow from water used in street washing that is not contaminated with any soap, detergent, degreaser, solvent, emulsifier, dispersant, or any other harmful cleaning substance;

15. Stormwater runoff from a roof that is not contaminated by any runoff or discharge from an emissions scrubber or filter or any other source of pollutant;

16. Swimming pool water, excluding filter backwash; that has been dechlorinated so that it contains no harmful quantity of chlorine, muriatic acid or other chemical used in the treatment or disinfection of the swimming pool water or in pool cleaning;

17. Heat pump discharge waters (residential only).

C. Notwithstanding the provisions of subsection B of this section, any discharge shall be prohibited by this section if the discharge in question has been determined by the director to be a source of a pollutants to the waters of the United States or to the MS4, written notice of such determination has been provided to the discharger, and the discharge has occurred more than ten days beyond such notice.

(Ord. No. 44-123 § 2)

Sec. 16.32.030. Specific prohibitions and requirements.

A. The specific prohibitions and requirements in this section are not necessarily inclusive of all the discharges prohibited by the general prohibition in Section 16.32.020.

B. No person shall introduce or cause to be introduced into the MS4 any discharge that causes or contributes to causing the city to violate a KDHE water quality standard, the city's NPDES

stormwater permit, or any state-issued discharge permit for discharges from its MS4.

C. No person shall dump, spill, leak, pump, pour, emit, empty, discharge, leach, dispose, or otherwise introduce or cause, allow, or permit to be introduced the following substances into the MS4:

1. Any used motor oil, antifreeze or any other petroleum product or waste;

2. A harmful quantity of industrial waste;

3. Any hazardous waste, including household hazardous waste;

4. Any domestic sewage or septic tank waste, grease trap waste, or grit trap waste;

5. Any garbage, rubbish, or yard waste;

6. Wastewater that contains a harmful quantity of soap, detergent, degreaser, solvent, or surfactant based cleaner from a commercial carwash facility; from any vehicle washing, cleaning, or maintenance at any new or used automobile or other vehicle dealership, rental agency, body shop, repair shop, or maintenance facility; or from any washing, cleaning, or maintenance of any business or commercial or public service vehicle, including a truck, bus or heavy equipment, by a business or public entity that operates more than five such vehicles;

7. Wastewater from the washing, cleaning, de-icing, or other maintenance of aircraft;

8. Wastewater from a commercial mobile power washer or from the washing or other cleaning of a building exterior that contains any harmful quantity of soap, detergent, degreaser, solvent, or any surfactant based cleaner;

9. Any wastewater from commercial floor, rug, or carpet cleaning;

10. Any wastewater from the washdown or other cleaning of pavement that contains any harmful quantity of soap, detergent solvent, degreaser, emulsifier, dispersant, or any other harmful cleaning substance; or any wastewater from the wash-down or other cleaning of any pavement where any spill, leak, or other release of oil, motor fuel, or other petroleum or hazardous substance has occurred, unless all harmful quantities of such released material have been previously removed;

11. Any effluent from a cooling tower, condenser, compressor, emissions scrubber, emission filter, or the blowdown from a boiler;

12. Any ready-mixed concrete, mortar, ceramic, asphalt base material or hydromulch material, or discharge resulting from the cleaning of vehicles or equipment containing or used in transporting or applying such material;

13. Any runoff, washdown water or waste from any animal pen, kennel, fowl or livestock containment area;

14. Any filter backwash from a swimming pool or fountain;

15. Any swimming pool water containing a harmful level of chlorine, muriatic acid or other chemical used in the treatment or disinfection of the swimming pool water or in pool cleaning;

16. Any discharge from water line disinfection by super chlorination if it contains a harmful level of chlorine at the point of entry into the MS4 or waters of the United States;

17. Any water from a water curtain in a spray room used for painting vehicles or equipment;

18. Any contaminated runoff from a vehicle wrecking yard;

19. Any substance or material that will damage, block, or clog the MS4;

20. Any release from a petroleum storage tank (PST), or any leachate or runoff from soil contaminated by leaking PST; or any discharge of pumped, confined, or treated wastewater from the remediation of any such PST release, unless the discharge has received an NPDES permit from the state.

D. No person shall introduce or cause to be introduced into the MS4 any harmful quantity of sediment, silt, earth, soil, or other material associated with clearing, grading, excavation or other construction activities in excess of what could be retained on site or captured by employing sediment and erosion control measures to the maximum extent practicable under prevailing circumstances.

E. No person shall connect a line conveying sanitary sewage, domestic or industrial, to the MS4, or allow such a connection to continue.

F. Regulation of Pesticides and Fertilizers.

1. No person shall use or cause to be used any pesticide or fertilizer in any manner that the person knows, or reasonably should know, is likely to cause, or does cause, a harmful quantity of the pesticide or fertilizer to enter the MS4 or waters of the United States.

2. No person shall dispose of, discard, store, or transport a pesticide or fertilizer, or its container, in a manner that the person knows, or reasonably should know, is likely to cause, or does cause, a harmful quantity of the pesticide or fertilizer to enter the MS4 or waters of the United States.

G. Used Oil Regulation.

1. No person shall discharge used oil into the MS4 or a sewer, drainage system, septic tank, surface water, groundwater, or water course.

H. Cleanup. Should it be determined by the director that any person or business has allowed any pollutant into the MS4 or waters of the United States, immediate measures will be taken by the responsible party to remove the pollutants. If the pollutants are not removed within the time period specified by the director, the city may remove the pollutants and assess the cost thereof to the responsible party. The city may use any legal means to collect said cost, should the responsible party fail to pay said cost within forty-five days.

(Ord. No. 44-123 § 3)

Sec. 16.32.040. Release reporting and cleanup.

A. Any person responsible for any release of any hazardous material that may flow, leach, enter, or otherwise be introduced into the MS4 or waters of the United States shall comply with all state, federal, and any other local law requiring reporting, clean-up, containment, and any other appropriate remedial action in response to the release.

B. Within thirty days following such release, the Wichita fire department shall submit a written report to the public works department detailing spill information and the methods used to remedy the problem.

(Ord. No. 44-123 § 4)

Sec. 16.32.050. Stormwater discharges from construction activities.

A. *General requirements (all sites).*

1. The owners of construction sites shall ensure that best management practices are

used to control and reduce the discharge of pollutants into the MS4 and waters of the United States to the maximum extent possible under the circumstances.

2. Qualified personnel (provided by the owner of the construction site) shall inspect disturbed areas that have not been finally stabilized, areas used for storage of materials that are exposed to precipitation, structural control measures, and locations where vehicles enter or exit the site, at least once every seven calendar days and within twenty-four hours of the end of a storm that is one-half inch or greater. All erosion and sediment control measures and other identified best management practices shall be observed in order to ensure that they are operating correctly and are effective in preventing significant impacts to receiving waters and the MS4. Based on the results of the inspection, the best management practices shall be revised as appropriate as soon as practicable. These inspections, along with a description of revisions, will be documented in writing and available for inspection by the director and OCI upon request.

3. Should it be found that soil or pollutants have already or may be carried into the MS4 or waters of the United States, immediate measures will be taken by the owner to remedy the violation and/or remove the pollutants. If the owner fails to remove pollutants within the time period prescribed in the notice of violation from the city, the city may remove the pollutants and assess the cost thereof to the responsible owner. Failure of the owner to pay said costs will be grounds for the denial of further approvals or the withholding of occupancy certificates.

4. When determined to be necessary for the effective implementation of this section, the director may require any plans and specifications that are prepared for the construction of site improvements to illustrate and describe the best management practices required by subsection A.1 of this section above that will be implemented at the construction site. Should the proper BMP's not be installed or if the BMP's are ineffective, upon reasonable notice to the owner, the city may deny approval of any building permit, grading permit, subdivision plat, site development plan, or any other city approval necessary to commence or continue construction, or to assume occupancy.

5. The owner of a site of construction activity is responsible for compliance with the requirements in this subsection. In the case of new subdivisions, builders on individual lots can operate under the developers NPDES permit if the developer's SWP3 deals with individual lots and the contractors certification has been signed.

6. Any contractor on a construction site will also be required to use best management practices so as to minimize pollutants that enter into the MS4.

7. All persons shall avoid damaging BMP devices once in place. Any person damaging a BMP device shall be responsible for the repair of the damaged BMP device. Malicious destruction of a BMP device or failure of such responsible person to repair BMP device will be deemed a violation of this chapter.

B. *Sites Requiring Federal and/or State NPDES Stormwater Discharge Permits.* All owners of and contractors on sites of construction activity, that require a federal or state NPDES stormwater discharge permit, or that are part of a common plan of development or sale requiring said permit(s), shall comply with the following requirements (in addition to those in subsection A):

1. Any owner who intends to obtain coverage for stormwater discharges from a construction site under the Kansas General Permit for Stormwater Discharges From Construction Sites ("the construction general permit") shall submit a signed copy of its notice of intent (NOI) to OCI when a building permit application is made. If the construction activity is already underway upon the effective date of this chapter, [January 1, 1999] the NOI shall be submitted within thirty days. When ownership of the construction site changes, a revised NOI shall be submitted within fifteen days of the change in ownership.

2. A stormwater pollution prevention plan (SWP3) shall be prepared and implemented in accordance with the requirements of the construction general permit or any individual or group NPDES permit issued for stormwater discharges from the construction site, and with any additional requirement imposed by or under this chapter and any other city ordinance.

3. The SWP3 shall be prepared by a qualified person and shall comply with State NPDES requirements. The signature of the preparer shall constitute his/her attestation that the SWP3 fully complies with the requirements of the permit issued.

4. The SWP3 shall be completed prior to the submittal of the NOI to OCI and for new construction, prior to the commencement of construction activities. The SWP3 shall be updated and modified as appropriate and as required by the NPDES permit.

5. The director and/or OCI may require any owner who is required by subsection B.2 of this section to prepare a SWP3, to submit the SWP3, and any modifications thereto, to the Director and/or OCI for review at any time.

6. Upon the director's review of the SWP3 and any site inspection that he/she may conduct, if the SWP3 is not being fully implemented, the director may upon reasonable notice to the owner, deny approval of any building permit, grading permit, site development plan, final occupancy certificate, or any other city approval necessary to commence or continue construction. A stop work order may also be issued.

7. All contractors working on a site subject to an NPDES permit shall sign a copy of the following certification statement before beginning work on the site:

I certify under penalty of law that I understand the terms and conditions of the National Pollutant Discharge Elimination System (NPDES) permit that authorizes the stormwater discharges associated with construction activity from the construction site identified as part of this certification and with the Stormwater Pollution Prevention Plan Chapter of the city, and I agree to implement and follow the provisions of the Stormwater Pollution Prevention Plan (SWP3) for the construction site;

The certification must include the name and title of the person providing the signature; the name, address, and telephone number of the contracting firm; the address (or other identifying description) of the site; and the date the certification is made.

All contractors will be responsible for their own activities to ensure that they comply with the owners' SWP3. Failure to comply with the SWP3 or malicious destruction of BMP devices is hereby deemed to be a violation of this chapter.

8. The SWP3 and the certifications of contractors required by subsection B.7 of this section, and with any modifications attached, shall be retained at the construction site or at a local office in Wichita from the date of construction commencement through the date of final stabilization.

9. The director may notify the owner at any time that the SWP3 does not meet the requirements of the NPDES permit issued or any additional requirement imposed by or under this chapter. Such notification shall identify those provisions of the permit or chapter which are not being met by the SWP3, and identify which provisions of the SWP3 require modification in order to meet such requirements. Within thirty days of such notification from the director, the owner shall make the required changes to the SWP3 and shall submit to the director a written certification from the owner that the requested changes have been made.

10. The owner shall amend the SWP3 whenever there is a change in design, construction, operation, or maintenance, which has a significant effect on the potential for the discharge of pollutants to the MS4 or to the waters of the United States, and which has not otherwise been addressed in the SWP3, or if the SWP3 proves to be

ineffective in eliminating or significantly minimizing pollutants, or in otherwise achieving the general objective of controlling pollutants in stormwater discharges.

11. Qualified personnel (provided by the owner of the construction site) shall inspect disturbed areas that have not been finally stabilized, areas used for storage of materials that are exposed to precipitation, structural control measures, and locations where vehicles enter or exit the site, at least once every seven calendar days and within twenty-four hours of the end of the storm that is one-half inch or greater. Disturbed areas and areas used for storage of materials that are exposed to precipitation shall be inspected for evidence of, or the potential for, pollutants entering the drainage system. Erosion and sediment control measures identified in the SWP3 shall be observed to ensure that they are operating correctly. Where discharge locations or points are accessible, they shall be inspected to ascertain whether erosion control measures are effective in preventing significant impacts to receiving waters or the MS4. Locations where vehicles enter or exit the site shall be inspected for evidence of off-site sediment tracking.

12. Based on the results of the inspections required by subsection B.11 of this section, the pollution prevention measures identified in the SWP3 shall be revised as appropriate. Such modifications shall provide for timely implementation of any changes to the SWP3 within ten calendar days following the inspection.

13. A report summarizing the scope of any inspection required by subsection B.11 of this section, and the names(s) and qualifications of personnel making the inspection, the date(s) of the inspection, major observations relating to the implementation of the SWP3, and actions taken in accordance with subsection B.12 of this section above shall be made and refined on site or at a local office in Wichita as part of the SWP3. Such report shall identify any incidence of noncompliance. Where a report does not identify any incidence of noncompliance, the report shall contain a certification that the facility is in compliance with the SWP3, the facility's NPDES permit, and this chapter. The report shall be certified and signed by the person responsible for making it.

14. The owner shall retain copies of any SWP3 and all reports required by this chapter or by the NPDES permit for the site, and records of all data used to complete the NOI for a period of at least three years from the date that the site is finally stabilized.

15. Upon final stabilization of the construction site, the owner shall submit written certification to the director and OCI that the site has been finally stabilized. The city may withhold the final occupancy or use permit for any premises constructed on the site until such certification of final stabilization has been filed and the director has determined, following any appropriate inspection, that final stabilization has occurred and that any required permanent structural controls have been completed.

(Ord. No. 44-123 § 5)

Sec. 16.32.060. Stormwater discharges associated with industrial activity.

A. All operators of: (1) municipal landfills; (2) hazardous waste treatment, disposal, and recovery facilities; (3) industrial facilities that are subject to Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA) 42, U.S.C. Section 11023; industrial facilities required to obtain NPDES stormwater discharge permits due to their Standard Industrial Classification or narrative description; and (4) industrial facilities that the director determines are contributing a substantial pollutant loading to the MS4, which are sources of stormwater discharges associated with industrial activity, shall comply with the following requirements:

1. Any owner who intends, after the effective date of this chapter,* to obtain coverage

for a stormwater discharge associated with industrial activity under the Kansas General Permit for Stormwater Discharges Associated With Industrial Activity ("the industrial general permit") shall submit a signed copy of its notice of intent (NOI) to the director.

***Editor's note:** Ordinance 44-123, which enacted Chapter 16.32, is effective on January 1, 1999.

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2. When required by their NPDES permit, all industries listed in this section shall prepare a stormwater pollution prevention plan (SWP3) and implement said plan in accordance with the requirements of their state or federal NPDES permit.

3. The SWP3, when required, shall be prepared and signed by a qualified individual and will comply with all state NPDES requirements. The signature of the preparer shall constitute his/her attestation that the SWP3 fully complies with the requirements of the NPDES permit.

4. The SWP3, when required, shall be updated and modified as appropriate and as required by the NPDES permit and this chapter.

5. A copy of any NOI that is required by subsection A.1 of this section shall be submitted to the city in conjunction with any application for a permit or any other city approval necessary to commence or continue operation of the industrial facility.

6. The Director may require any operator who is required by subsection A.2 of this section to prepare a SWP3, to submit the SWP3, and any modifications thereto, to the director for review.

7. Upon the director's review of the SWP3 and any site inspection that he/she may conduct, the director may upon reasonable notice to the owner deny approval necessary to commence or continue operation of the facility, on the grounds that the SWP3 does not comply with the requirements of the NPDES permit, or any additional requirement imposed by or under this chapter. Also, if at any time the director determines that the SWP3 is not being fully implemented, upon reasonable notice to the owner, he/she may deny approval of any application for a permit or other city approval necessary to commence or continue operation of the facility.

8. The SWP3, if required, with any modifications attached, shall be retained at the industrial facility from the date of commencement of operations until all stormwater discharges associated with industrial activity at the facility are eliminated and the required notice of termination (NOT) has been submitted.

9. The director may notify the owner at any time that the SWP3 does not meet the requirements of the NPDES permit, or any additional requirement imposed by or under this chapter. Such notification shall identify those provisions of the permit or chapter which are not being met by the SWP3, and identify which provisions require modification in order to meet such requirements. Upon thirty days of such notification from the director, the owner shall submit to the director a written certification that the requested changes have been made.

10. The owner shall amend the SWP3, if required, whenever there is a change in design, construction, operation, or maintenance, which has a significant effect on the potential for the discharge of pollutants to the MS4 or to the waters of the United States, or if the SWP3 proves to be ineffective in eliminating or significantly minimizing pollutants, or in otherwise achieving the general objective of controlling pollutants in stormwater discharges.

11. As may be required by the facilities NPDES permit, qualified personnel (provided by

the owner) shall inspect equipment and areas of the facility specified in the SWP3 at appropriate intervals or as may be specified in their NPDES permit. A set of tracking or follow up procedures shall be used to ensure that appropriate actions are taken in response to the inspections. Records of inspection shall be maintained.

12. Industrial facilities will implement a sampling and testing program as required by their individual NPDES permits. The director may require written reports of any such monitoring and testing to be submitted to him/her.

13. The owner shall retain the SWP3 and all sampling and testing reports *until at least* one year after stormwater discharges associated with industrial activity at the facility are eliminated, or the operator is no longer operating the facility, and a notice of termination (NOT) has been submitted.

14. For discharges subject to the semi-annual or annual monitoring requirements of the industrial general permit, in addition to the records-retention requirements of the paragraph above, owners are required to retain for a six year period from the date of sample collection, records of all sampling and testing information collected. Owners must submit such monitoring results, and/or a summary thereof, to the director upon his/her request.

15. After the *effective* date of this chapter,* no stormwater discharge shall contain any hazardous metals in a concentration that would result in the violation of any Kansas Surface Water Quality Standard.

(Ord. No. 44-123 § 6)

***Editor's note:** Ordinance 44-123, which enacted Chapter 16.32, is effective on January 1, 1999.

Sec. 16.32.070. Ditches and ponds.

A. Duty to Maintain. The owner of any private drainage ditch or pond that empties into the city's MS4 or the waters of the United States has a duty to use BMP's on the ditches or pond to minimize the pollutant levels downstream. Such BMP's include, but are not limited to, removing excessive build-up of silt, repairing bank erosion, maintaining vegetative cover, the cleaning of inlet and outlet works, and the like.

B. Inspection and Notice by City. The city will periodically inspect these privately owned ditches and ponds. Should conditions be found that cause the pollution of downstream receiving waters, the director shall so notify the owners, and state what actions are expected by the owners to remedy the problem.

C. Failure to Repair. Should the owners fail to make the necessary repair within one hundred twenty days after notice, the city is authorized to do the repairs at the expense of the owner. Should the owner fail to reimburse the city for the cost of the repairs upon demand, the city may assess the cost thereof to the owner and initiate any collection proceedings authorized by law.

(Ord. No. 44-123 § 7)

Sec. 16.32.080. Compliance monitoring.

A. *Right of entry.* The Director, the Superintendant of OCI and the City Health Officer, or their authorized representatives, shall have the right to enter the premises of any person discharging

storm water to the municipal separate storm sewer system (MS4) or to waters of the United States at any reasonable time to determine if the discharger is complying with all requirements of this chapter, and with any state or federal discharge permit, limitation, or requirement. Dischargers shall allow the inspectors ready access to all parts of the premises for the purposes of inspection, sampling, records examination and copying, and for the performance of any additional duties.

B. *Records.* Subject to the requirements of subsection A, dischargers shall make available, upon request, any SWP3's, modifications thereto, self-inspection reports, monitoring records, compliance evaluations, notice of intent, and any other records, reports, and other documents related to compliance with this chapter and with any state or federal discharge permit.

C. *Sampling.* The Director shall have the right to set up on the discharger's property such devices that are necessary to conduct sampling of storm water discharges.

(Ord. No. 44-123 § 8; Ord. No. 48-904, § 2, 11-16-2010)

Sec. 16.32.090. Subdivision development.

A. The developer of any subdivision requiring a federal or state NPDES stormwater discharge permit will be responsible for obtaining the required permit and developing and implementing an overall SWP3 for the subdivision. Said SWP3 shall include BMP's to be used on individual lot building sites.

B. City contractors installing public streets; water, sanitary sewer, storm sewer lines; and/or sidewalks will be required to comply with the developers SWP3's and sign the appropriate contractor certification statement. For work in public right-of-way or easements requiring a federal or state NPDES stormwater discharge permit, the city shall be responsible for obtaining the required permit and preparing and implementing the required SWP3's.

C. Any utility company installing utilities within a new subdivision will also be required to comply with the developers SWP3's and sign the appropriate contractor certification statement. For work in public rights-of-way or easements requiring a federal or state NPDES stormwater discharge permit, the utility company shall be responsible for obtaining the required permit and preparing and implementing the required SWP3's.

D. The purchasers or individual lots within the subdivision for construction purposes shall comply with the developers SWP3 and shall sign a certification statement agreeing to do so.

(Ord. No. 44-123 § 9)

Sec. 16.32.091. Storm water quality management standards

A. *Applicability.*

1. Water quality treatment and downstream channel protection shall be required of owners of new developments and redevelopments that cause a land disturbance greater than or equal to one acre, including projects that cause a land disturbance less than one acre that are part of a larger common plan of development or sale.

2. The requirements of 16.32.091 shall not apply to:

i. new developments or redevelopments that have a construction plan approved by January 1, 2011 and will have completed construction of all storm water management facilities within 90 days of January 1, 2011. This does not exempt such new developments from water quality management regulations that may be required in the future by EPA or KDHE; or,

ii. redevelopment projects that consist solely of ordinary maintenance activities, remodeling of buildings on the existing foundation, resurfacing (milling and overlay) of existing paved areas, and exterior changes or improvements.

B. *Water quality treatment standard for new developments.* Storm water runoff from applicable new developments must be treated for water quality prior to discharge from the development site in accordance with the storm water treatment standards and criteria provided in the Storm Water Manual.

C. *Water quality treatment standard for redevelopments.* Owners of applicable redevelopments must adhere to one of the following requirements.

1. The total impervious cover of the property after redevelopment shall be reduced by at least 20% from the total impervious cover of the property prior to the proposed redevelopment.

2. Storm water runoff from at least 30% of the site's existing impervious cover and for 100% of any new land disturbance that will result from the proposed redevelopment shall be treated for water quality prior to discharge from the redevelopment site in accordance with the storm water treatment standards and criteria provided in the Storm Water Manual.

3. The owner shall provide storm water controls at an alternative location in the same watershed as the proposed redevelopment. The level of storm water control provided shall be equivalent to what would have been provided at the proposed redevelopment for either requirement 1 or 2 above, at a minimum.

4. In agreement and partnership with the City of Wichita, the owner shall provide engineering design and/or construction activities to address one or more known downstream water quality or channel erosion issues located within the same watershed as the proposed redevelopment, through stream restoration and/or other off-site remedies approved by the Director.

5. The owner shall pay a fee in-lieu-of water quality control and channel protection control, in an amount to be determined by the city in accordance with the in-lieu-of fee schedule as adopted by the City Council of the City of Wichita per the watershed plan which covers the redevelopment.

6. Any combination of (1) through (5) above may be acceptable to the City of Wichita or other solution(s) approved by the Director that meets the intent of this chapter.

D. *Downstream stabilization standard.* Downstream long-term channel protection shall be provided for applicable new developments and redevelopments prior to discharge from the new/redevelopment site in accordance with the downstream stabilization standards and criteria provided in the Storm Water Manual.

(Ord. No. 48-904, § 3, 11-16-2010)

Sec. 16.32.092. Storm water quantity management standards

A. *Applicability.* Storm water runoff peak discharge analysis and control shall be required for new developments and redevelopments that will create or add one acre or greater of impervious cover, including projects that have less than one acre in impervious cover that are part of a larger common plan of development or sale that will result in one acre or greater of impervious cover.

B. *Water quantity management standard.* Storm water runoff peak discharge analysis and control shall be required for applicable new developments or redevelopments in accordance

with the storm water quantity standards and criteria provided in the Storm Water Manual.

(Ord. No. 48-904, § 4, 11-16-2010)

Sec. 16.32.093. Other storm water management requirements

A. *Applicability.* Section 16.32.093 is applicable to new developments and redevelopments that are required to comply with section 16.32.091 and/or section 16.32.092.

B. *Alternative standards for individual watersheds.* Alternative storm water management standards, either lesser or greater than those specified in this chapter, may be required by the Director in those areas or watersheds where water quality, flooding or erosion problems are known to exist, or in individual watersheds where a watershed plan or storm water master plan, approved by the City Council of the City of Wichita, specifies such alternative standards.

C. *Other requirements for storm water discharges.*

1. Storm water discharges shall be managed in consideration of the erosion control measures detailed in the Storm Water Manual.

2. Any discharge of storm water runoff to groundwater must meet all applicable local, State and Federal requirements, permits, plans and programs. The owner is responsible for complying with all local State and Federal permits that are applicable to the site.

D. *Requirement to stabilize banks.* Banks of all streams, channels, ditches and other earthen storm water conveyances shall be left in a stabilized condition upon completion of the new development or redevelopment. No actively eroding, bare or unstable vertical banks shall remain after completion of construction.

E. *Requirement to use the Storm Water Manual.* All storm water facilities and systems, including those designed and constructed for water quality treatment, downstream channel stabilization, and peak discharge control shall be designed, constructed and maintained in accordance with the criteria, standards, and specifications presented in this chapter and in the Storm Water Manual. The standards for water quality treatment, downstream channel stabilization and peak discharge analysis and control shall be achieved through the use of one or more storm water quality management facilities that are designed and constructed in accordance with the design criteria, guidance, and specifications provided in the Storm Water Manual. Methods, designs or technologies for storm water quality management facilities that are not provided in the Storm Water Manual may be submitted for approval by the city if it is proven that such methods, designs or technologies will meet or exceed the storm water treatment standards set forth in the Storm Water Manual and this ordinance. Proof of such methods, designs, or technologies must meet the minimum testing criteria set forth in the Storm Water Manual.

F. *Storm water facilities on public property.* Storm water management facilities shall not be installed within public rights-of-way or on public property unless a permit has been issued by the city engineer.

(Ord. No. 48-904, § 5, 11-16-2010)

Sec. 16.32.094. Waivers and exemptions from storm water management standards for new developments

A. *Exemptions.* Owners of properties where the following activities are undertaken are exempt from the requirements of sections 16.32.091, 16.32.092, 16.32.093 and 16.32.094 of this chapter.

1. Minor land disturbing activities at individual locations, such as gardening, building or grounds maintenance and landscaping, provided that the activity does not result in equal to or greater than one (1) acre of land disturbance;

2. Individual utility service connections, unless such activity is carried-out in conjunction with the clearing, grading, excavating, transporting, or filling of a lot or lots for which a grading permit would otherwise be required by regulation;

3. Installation, maintenance or repair of individual septic tank lines or drainage fields, unless such activity is carried out in conjunction with the clearing, grading, excavating, transporting, or filling of a lot or lots for which a grading permit would otherwise be required by the regulation;

4. Installation of posts or poles;

5. Farming activities;

6. Unplanned emergency work and emergency repairs necessary to protect life or property.

B. *Waivers.* All or some of the storm water management standards required in section 16.32.091 and/or 16.32.092 of this chapter may be waived by the Director under the following circumstances.

1. *Existing Downstream Facilities.* A waiver may be provided for one or more storm water management standards if the waived standard(s) are met by discharging the storm water runoff to an existing storm water management facility, whether public or private, that is:

i. provided in accordance with an existing watershed plan that is approved by the city; and,

ii. already in existence, or will be in existence at the time of construction of the new development or redevelopment; and,

iii. designed, constructed and maintained to provide a level of storm water control that is equal or greater than that which would be afforded by on-site storm water management facilities.

iv. If a waiver is provided for this reason, the owner of the new development or redevelopment will be required to pay a fee in-lieu-of water quality control, downstream channel stabilization and peak discharge control, in an amount to be determined by the city in accordance with an adopted in-lieu-of fee schedule as adopted by the City Council of the City of Wichita per the watershed plan which covers the new development or redevelopment.

2. *Adverse Impact.* A waiver may be provided if engineering studies determine that installing a storm water management facility in order to meet the storm water management standard being considered for waiver will cause adverse impact to water quality, or cause increased channel erosion, or downstream flooding.

3. *Technical Criterion.* A waiver may be provided if the technical criterion required to waive the storm water management standard, as presented in the Storm Water Manual, is met. In any case, a waiver is subject to satisfaction of the following requirements, which shall be shown in drainage plans submitted for the new development or redevelopment:

i. the waiver applicant shall provide an engineering study, as defined in 16.32.094.C that proves the adequacy of downstream or shared off-site storm water management facilities to offer equivalent or greater protection than the standard(s) for which a waiver is requested; and,

ii. the waiver applicant obtains any necessary CLOMR prior to construction, and a LOMR upon completion of construction; and,

iii. the waiver applicant obtains all State and Federal permits that may be applicable to the site.

C. *Engineering study required.* In the event that a waiver from storm water management control requirements is requested, the adequacy of downstream or shared off-site storm water management facilities to control storm water runoff shall be determined, reviewed and approved by an engineering study that is performed in accordance with the calculation methods presented in the Storm Water Manual. The engineering studies shall be performed at the expense of the owner(s) of the proposed new development or redevelopment, unless a study has already been or is being performed by the city as part of a watershed plan or other land use plan.

(Ord. No. 48-904, § 6, 11-16-2010)

Sec. 16.32.095. General requirements for storm water design plans

A. *[Design information.]* Storm water design information shall be submitted as part of the preliminary plat, final plat and construction plans, in accordance with the site development process established by the city.

B. *[Building permit.]* A building permit shall not be issued for the land development activity until the required storm water design information and corresponding plans are approved by the city.

C. *[Submission.]* At a minimum, the storm water design information submitted at each stage of the city development process shall include the specific required elements that are listed and/or described in the Storm Water Manual, and shall be prepared in accordance with the policies, guidance and calculation methods (unless equivalent methods are pre-approved by the city) presented in the Storm Water Manual. Additional storm water design information may be required as necessary to allow an adequate review of the existing or proposed site conditions.

D. The submittal of storm water design information shall be subject to the requirements set forth in the minimum subdivision regulations, zoning ordinance, or other city regulations.

E. *[Supervision.]* Storm water design information shall be prepared under the supervision of and stamped by a professional engineer licensed to practice in the State of Kansas.

F. *[Viability.]* The portions of the new development or redevelopment on which storm water management facilities and systems are located shall be shown on the preliminary and final plats for all residential subdivisions and recorded with the plat as permanent reserves or easements consistent with the policies stated in the Storm Water Manual. Non-residential plats and/or subdivisions having a total area less than or equal to 15 acres shall be required to demonstrate the viability of proposed storm water management facilities and systems. In such cases, the Director is authorized to allow contingent dedications for storm water facilities providing that the owner/developer enters into an agreement with the City guaranteeing the construction of the said facilities in accordance with a schedule approved in the said agreement.

G. *Conformity to the approved plans.*

1. Grading designs shown on approved master grading plans and the design of storm water facilities and controls shown on approved design plans shall be adhered to during grading and construction activities. Under no circumstance is the owner or operator of land development activities allowed to deviate from the approved plans without prior approval of a plan amendment by the city.

2. Grading and storm water design plans shall be amended to meet all local ordinances and standards if the proposed site conditions change after plan approval is obtained, or

if it is determined by the city during the course of grading or construction that the approved plan is inadequate.

H. *Duty to provide an operations and maintenance plan.*

1. An Operations and Maintenance Plan shall be included with the storm water design information submitted with the construction plan. The Operations and Maintenance Plan shall include the required operation and maintenance provisions for each storm water management facility and water quality volume reduction area that is serving, or will serve, the development or redevelopment. The Operations and Maintenance Plan shall include all of the required elements that are listed and/or described in the Storm Water Manual, and shall be prepared in accordance with the policies and guidance provided in the Storm Water Manual.

2. The Operations and Maintenance Plan shall include an executed legal document entitled "Restrictive Covenants for Storm Water Facilities" (Covenants). The property owner shall record the Covenants with the deed for the property. The location of the storm water management facility(s) and water quality volume reduction areas, the recorded location of the Covenants document, and inspection and maintenance guidance outlining the property owner's responsibility shall be shown on a plat that is recorded for the property

I. *Duty to provide storm water construction information on as-built drawings.*

1. Prior to the release of the performance bond, complete As-Built Drawings shall be provided to the Director, and shall include sufficient design information to show that the storm water facilities will operate as designed under the approved drainage plan.

2. The As-Built Drawings shall include the required elements that are listed and/or described in the Storm Water Manual, and shall be prepared in accordance with the policies and guidance provided in the Storm Water Manual.

3. The As-Built Drawings shall be prepared and stamped by a professional engineer licensed to practice in the State of Kansas.

(Ord. No. 48-904, § 7, 11-16-2010)

Sec. 16.32.096. Maintenance and inspection of storm water drainage paths and controls.

A. *Duty to inspect and maintain storm water systems and controls.* Property owners shall at all times properly maintain and shall at intervals in accordance with the Operations and Maintenance Plan inspect all storm water facilities, systems, conveyances, pipes, channels, ditches, swales, inlets, catchbasins, water quality volume credit areas, and other facilities and systems of storm water treatment and control (and related appurtenances) so that they operate at their full function. Maintenance and inspection of privately-owned storm water management facilities, systems, conveyances, pipes, channels, ditches, swales, inlets, catchbasins, water quality volume credit areas, and other facilities and systems of storm water treatment and control (and related appurtenances) shall be performed at the expense of the owner(s) of such facilities.

B. *Duty to provide inspection reports.* After construction of each storm water management facility on the property is complete, property owners shall provide to the Director on a bi-annual basis a completed and signed copy of the inspection report for each storm water management facility that is included with the Operations and Maintenance Plan for the property. The inspection report is due every two years no later than the date (month and day) of approval of the as-built plan for the property.

C. *Duty to preserve approved grading designs.* Re-grading an individual lot or lots, or portions of a lot or lots, in a manner that is in not accordance the approved master grading plan, such that the direction(s) of storm water runoff is altered from the direction that would occur under the approved master grading plan, shall be considered a violation of this chapter.

D. *Duty to preserve existing drainage paths.* Blockage of a channel, ditch, stream or any other drainage path or storm water system appurtenance that is located in a storm water easement or drainage easement shall be considered a violation of this chapter.

E. *Pollutant removal for maintenance.* The removal of pollutants, sediment and/or other debris for the purpose of maintenance of storm water management facilities shall be performed in accordance with all city, State, and Federal laws.

F. *Inspection during grading or construction.*

1. During grading or construction, the property owner or his/her appointed designee shall conduct site inspections in accordance with the requirements stated in the Kansas General Permit for Storm Water Discharges from Construction Sites. The property owner will also ensure construction conformance with the approved drainage and construction plans. More stringent inspection requirements may be imposed as necessary for purposes of water quality protection and public safety and to pursue total conformance of the site with the approved plans.

2. The following areas and items must be inspected throughout grading and construction to ensure that land disturbance activities do not cause adverse impacts to the performance of storm water management facilities and/or water quality volume reduction areas:

i. all unstabilized areas that drain to a permanent storm water facility or water quality volume reduction area;

ii. temporary and permanent storm water management facilities; and,

iii. all erosion prevention and sediment control measures.

G. *Inspection after construction.* Once the site has been stabilized and construction has ceased, the property owner or his/her appointed designee shall conduct routine inspections for the storm water management facilities and water quality reduction areas, based on the guidance provided in the Operations and Maintenance Plan and the requirements of the "Restrictive Covenants for Storm Water Facilities" for the property, as set forth in section 16.32.095.H.2. of this ordinance.

H. *Inspection records.* Property owners shall make available upon request any self-inspection reports, monitoring/maintenance records, compliance evaluations, notices of intent, and any other records, reports, receipts, and other documents related to compliance with this chapter and with any related local, State or Federal permit.

I. *Right-of-entry.* The Director or his/her designee shall have the right to enter the premises of any person discharging storm water to the MS4 or to waters of the United States at any reasonable time to determine if the discharger is complying with all requirements of this chapter, and with any State or Federal discharge permit, limitation, or requirement. Dischargers shall allow the Director or his/her designee ready access to all parts of the premises for the purposes of inspection, sampling, records examination and copying, and for the performance of any additional duties. Failure of a property owner to allow entry onto a property for the purposes set forth in this section shall be cause for the issuance of a stop work order, withholding of a certificate of occupancy, and/or civil penalties and/or damage assessments in accordance with the enforcement provisions of this chapter.

J. *Inspection and notice by City.* The city may periodically inspect these privately owned storm water controls. If the facility is not operating as shown in the approved As-Built Drawing, or

should conditions be found that cause or may cause the pollution of downstream receiving waters or the erosion of downstream channels or the flooding of adjacent or downstream properties, the Director may issue a notice of violation in accordance with the enforcement provisions stated in this chapter and shall notify the property owner(s) of the potential violation (s). The Director may order the property owner(s) to perform corrective actions as are necessary to facilitate the proper operation of these facilities for the purposes of flood prevention, downstream channel stabilization, water quality treatment and/or public safety, and/or to ensure compliance with jurisdictional regulatory conditions.

K. *Failure to perform corrective actions.* If property owner(s) fail to make the necessary corrective actions in the timeframe specified in the enforcement provisions of this chapter, the city is authorized to perform the corrective actions at the expense of the owner(s). If the owner (s) fail to reimburse the city for the corrective actions upon demand, the city may assess the cost of the corrective actions to the owner and initiate any collection proceedings authorized by law.

L. *Access to adjacent properties.* This ordinance does not authorize access by a property owner or site operator to private property adjacent to or downstream of the owner's property. Arrangements concerning removal of sediment or pollutants on adjoining property must be settled by the owner or operator with the adjoining landowner.

(Ord. No. 48-904, § 8, 11-16-2010)

Sec. 16.32.097. Special provisions for open channels.

A. No structure or land shall hereafter be developed, redeveloped, located, extended, converted, or structurally altered without full compliance with the terms of this section, the City of Wichita Floodplain Management Ordinance (Chapter 27.06) and other applicable local, state or federal regulations.

B. Requirements for vegetative buffer zones or maintenance access areas that have been established in approved and adopted watershed plans have priority over the provisions of this section.

C. Closure of open channels. Existing or proposed open channels may be enclosed if a maintenance plan approved by the City is provided; if the closed conduit conforms to the design criteria set in the Storm Water Manual.

D. Access easement required. All open channels must have a minimum twenty (20) foot wide maintenance access on each side of the stream as measured from the top-of-bank on each side of the stream, except as required by KSA 24-126 as amended, and KAR 5-45-12 as amended for "streams" defined in KAR 5-45-1 as amended.

(Ord. No. 48-904, § 9, 11-16-2010)

Sec. 16.32.100. Enforcement actions.

A. The discharge of, or potential discharge of, any pollutant to the MS4 or waters of the United States and/or the failure to comply with the provisions of this chapter and/or the failure to comply with and directive, citation, or order issued under this chapter; are violations of this chapter for which enforcement action may be taken.

B. Prior to taking any enforcement action as specified in this section, a violator will be issued a notice of violation except when, in the opinion of the Director, an owner or contractor has repeatedly ignored the requirements of this chapter and has not made any reasonable intent to comply with these provisions. When issued, the notice of violation will detail the nature of the

violation, actions to be taken to remedy the violation, actions to be taken to clean-up any pollutants, and any specific time periods within which to accomplish said actions. Failure to successfully comply with the notice of violation may result in enforcement action.

C. The enforcement actions to be taken under this chapter, as provided in Section 16.32.110 are as follows:

1. *Criminal penalty.* Any person violating any provision of this chapter is guilty of a misdemeanor and upon conviction thereof shall be punished by a fine of not more than one thousand dollars. Each and every day during which any violation of any provision of this chapter is committed, continue, or permitted is a separate violation.

2. *Stop work order.* Notwithstanding other penalties provided by this chapter, whenever the Director or OCI, or their designees, finds that any owner or contractor on a construction site has violated, or continues to violate, any provision of this chapter or any order issued thereunder, the Director or OCI may after reasonable notice to the owner or contractor issue a stop work order to the owner and contractors by posting such order at the construction site. Said order shall also be distributed to all city departments and divisions whose decisions may affect any activity at the site. Unless express written exception is made, the stop work order shall prohibit any further construction activity at building permit, grading permit, site development plan approval, or any other approval necessary to commence or to continue construction or to assume occupancy at the site. Issuance of a stop work order shall not be a bar against, or a prerequisite for, taking any other action against the violator. Failure to comply with the requirements of any stop work order is a violation of this chapter.

3. *Administrative penalty process.*

a. When the Director finds that any person has violated or continues to violate the provisions set forth in this chapter, or the person's NPDES permit or any order issued thereunder, the Director may issue an order for compliance to the person. Such orders may contain any requirements as might be reasonably necessary and appropriate to address noncompliance including, but not limited to, the installation of best management practices, additional self-monitoring, and/or disconnection from the MS4.

b. The Director is empowered to enter into consent orders, assurances of voluntary compliance, or other similar documents establishing an agreement with any person responsible for noncompliance. Such orders shall include specific action to be taken by the person to correct the noncompliance within a time period specified by the order.

c. Notwithstanding any other remedies or procedures available to the city, any person who is found to have violated any provision of this chapter, or any NPDES permit or any order issued under this chapter, may be assessed an administrative penalty as follows:

1. The minimum administrative penalty for any violation shall be no less than $500.00 per day the violation is maintained and not more than $2,500.00 per day for each day the violation is maintained;

2. Failure to obtain required NPDES permit: up to $2,500.00 per violation;

3. Failure to prepare stormwater pollution prevention plan: up to $2,500.00 per violation;

4. Failure to install best management practices: up to $2,500.00 per violation;

5. Failure to maintain best management practices: up to $2,500.00 per

violation;

6. Failure to perform required sampling and testing or provide testing reports: up to $1,000.00 per violation.

7. Commencement of construction without an approved drainage plan: up to $2,500.00 per day of noncompliance;

8. Failure to comply with approved drainage plan: up to $2,500.00 per day of noncompliance;

9. Failure to maintain storm water management facilities: up to $2,500.00 per day of noncompliance.

d. Each day on which noncompliance shall occur or continue shall be deemed a separate and distinct violation.

e. Separate but multiple violations (except for violations under subsection C.3.d) by the same person(s) on one or more sites within any period of twelve consecutive months shall be cause to double the amount of penalty assessed under section C.3.c above for each violation after the first.

f. Upon assessment of any administrative penalty, the city will bill the violator for said charge and the Director shall have such collection remedies as are available at law.

(Ord. No. 44-123 § 10; Ord. No. 48-904, § 10, 11-16-2010)

Sec. 16.32.110. Applicability of enforcement actions.

A. Illegal dumping will be subject to criminal penalties process.

B. Illegal connections will be subject to either the criminal or administrative penalty processes.

C. Industrial violations will be subject to the administrative penalty process.

D. Individual building sites not requiring a federal or state NPDES permit will be subject to the criminal penalty and the stop work order processes; however, any owner or contractor of such site found with multiple violations of this chapter will also be subject to the administrative penalty process.

E. Individual building sites requiring a federal or state NPDES permit will be subject to the administrative penalty process.

F. Subdivision developers in subdivisions not requiring a federal or state NPDES permit will be subject to the criminal penalty and stop work order processes; however, any such developer found with multiple violations of this chapter will also be subject to the administrative penalty process.

G. Subdivision developers of subdivisions requiring a federal or state NPDES permit will be subject to the administrative penalty process.

H. City contractors and utility companies working on projects not requiring a federal or State NPDES permit will be subject to the criminal penalty process.

I. City contractors and utility companies working on projects requiring federal or state NPDES permit will be subject to the administrative penalty process.

J. Property owners, subdivision developers, commercial and industrial developers, and city contractors working on new developments and redevelopments requiring compliance with the City of Wichita storm water quality or quantity management standards will be subject to the criminal penalty, stop work order and administrative penalty processes.

K. Owners of storm water management facilities and systems that are required to be maintained in accordance with an approved Operations and Maintenance Plan will be subject to the criminal penalty and administrative penalty processes.

(Ord. No. 44-123 § 11; Ord. No. 48-904, § 11, 11-16-2010)

Sec. 16.32.120. Hearing and appeal.

A. Persons who desire to appeal an administrative requirement, violation or penalty invoked under this chapter may request a hearing and appeal as follows:

1. Any party affected by a penalty, order, directive or determination issued or made, pursuant to this chapter may, within fourteen days of the issuance of such penalty, order, directive, or determination request a hearing before the Director to show cause why such should be modified or made to not apply to such person. Such request shall be in writing and addressed to the Director of Public Works and Utilities at 455 North Main Street, Wichita, Kansas, 67202. The Director or his designee shall hold the requested hearing as soon as practical after receiving the request, at which time the person affected shall have an opportunity to be heard. At the conclusion of the hearing, the Director shall issue a written response to the person requesting the hearing affirming, modifying, or rescinding the penalty, order, directive, or determination issued or made.

2. Any party aggrieved by the decision of the Director may appeal such decision to the City Council within fourteen days of receipt of the decision by filing notice of appeal with the city clerk. Upon hearing, the City Council may affirm, modify, or reverse the decision of the Director.

(Ord. No. 44-123 § 12; Ord. No. 48-904, § 12, 11-16-2010)

Sec. 16.32.130. Enforcement personnel authorized.

A. The following personnel employed by the city shall have the power to issue notices of violations, criminal citations and implement other enforcement actions under this chapter:

1. All deputies under the supervision of the Superintendent of the Office of Central Inspections;

2. All authorized personnel under the supervision of the Director of Public Works and Utilities;

3. All authorized personnel under the supervision of the City Health Officer.

(Ord. No. 44-123 § 13; Ord. No. 48-904, § 13, 11-16-2010)

Sec. 16.32.140. Other legal actions.

Notwithstanding any other remedies or procedures available to the city, if any person discharges into the MS4 in a manner that is contrary to the provisions of this chapter, or any NPDES permit or order issued hereunder, the city attorney may commence an action for appropriate legal and equitable relief including damages and costs in the district court of Sedgwick County. The city attorney may seek a preliminary or permanent injunction or both which restrains or compels the activities on the part of the discharger.

(Ord. No. 44-123 § 14)

Sec. 16.32.150. Falsifying information.

Falsifying information is a separate offense and deemed a misdemeanor. Any person who knowingly makes false statements, representation or certification in any application, record, report, plan or other document filed or required to be maintained pursuant to this chapter or any NPDES permit, or who falsifies, or tampers with any monitoring device or method required under this chapter shall, upon conviction, be punished by a fine of not more than one thousand dollars or by imprisonment for not more than six months, or by both.

(Ord. No. 44-123 § 15)

Sec. 16.32.160. Supplemental enforcement actions.

A. Performance Bonds. Where necessary for the reasonable implementation of this chapter, the director may, by written notice, order any owner of a source of stormwater discharge associated with construction or industrial activity effected by this chapter to file a satisfactory bond, payable to the city, in a sum not to exceed a value determined by the director to be necessary to achieve consistent compliance with this chapter. The city may deny approval of any building permit, grading permit, subdivision plat, site development plan, or any other city permit or approval necessary to commence or continue construction or industrial activity at the site, or to assume occupancy, until such a performance bond has been filed.

B. Liability Insurance. Where necessary for the reasonable implementation of this chapter, the director may, by written notice, order any owner of a source of stormwater discharge associated with construction or industrial activity effected by this chapter to submit proof that it has obtained liability insurance, or other financial assurance, in an amount not to exceed a value reasonably determined by the director, that is sufficient to remediate, restore, and abate any damage to the MS4, the waters of the United States, or any other aspect of the environment that is caused by the discharge.

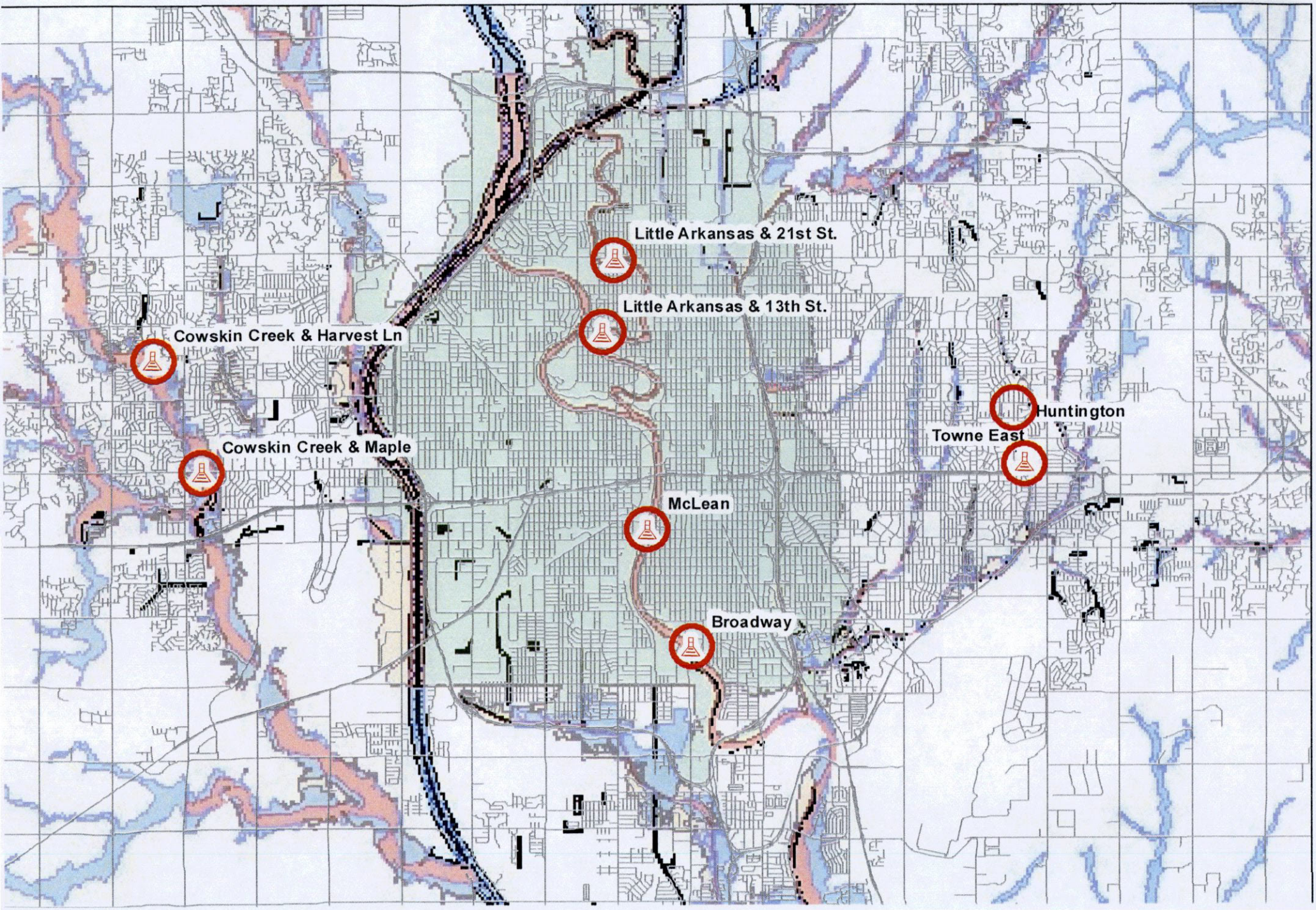
(Ord. No. 44-123 § 16)

Sec. 16.32.170. Severability.

If any provision of this chapter is invalidated by any court of competent jurisdiction, the remaining provisions shall not be affected and shall remain in full force and effect.

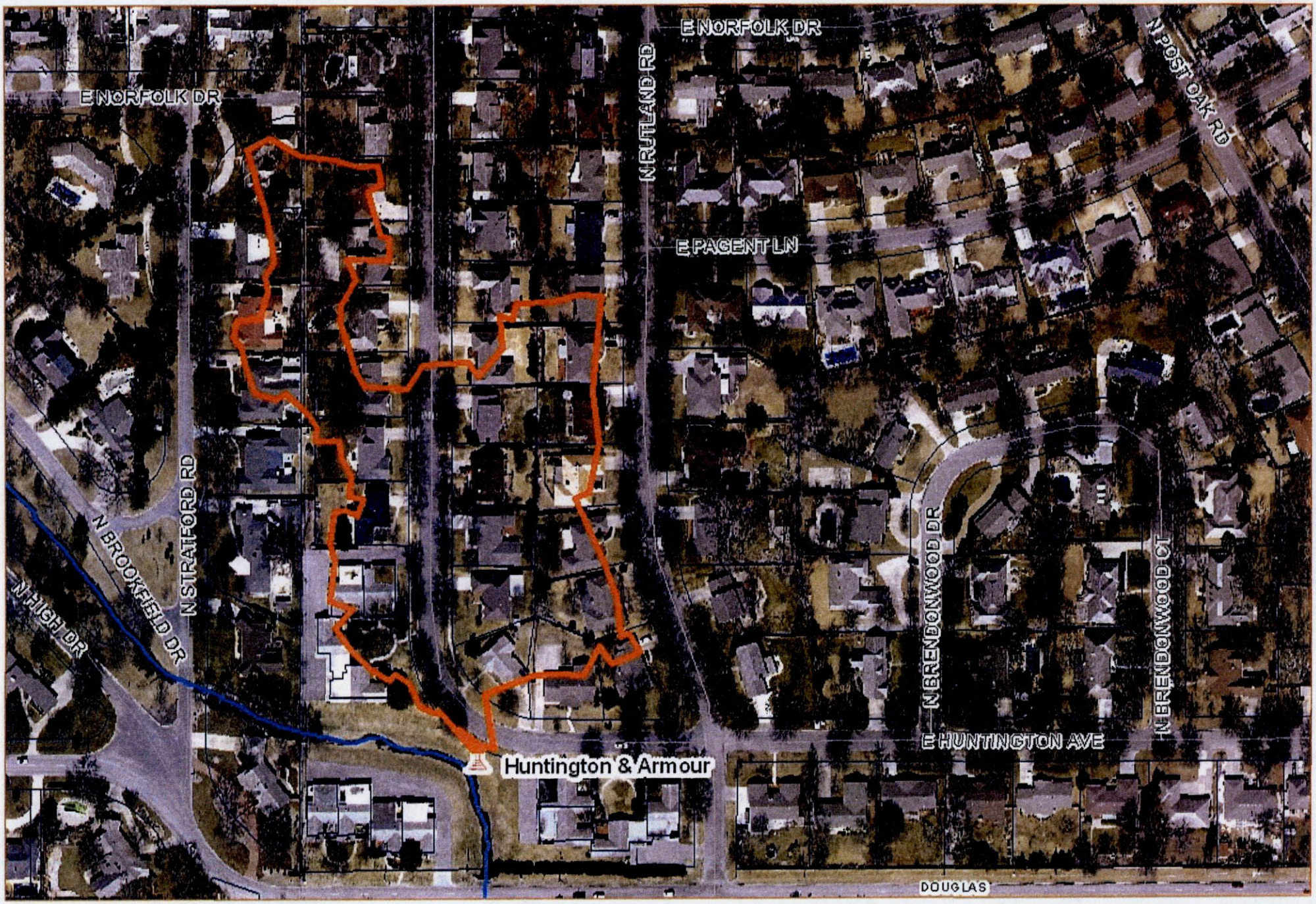
(Ord. No. 44-123 § 17)

Wichita Stormwater Wet Weather Sample Location Map



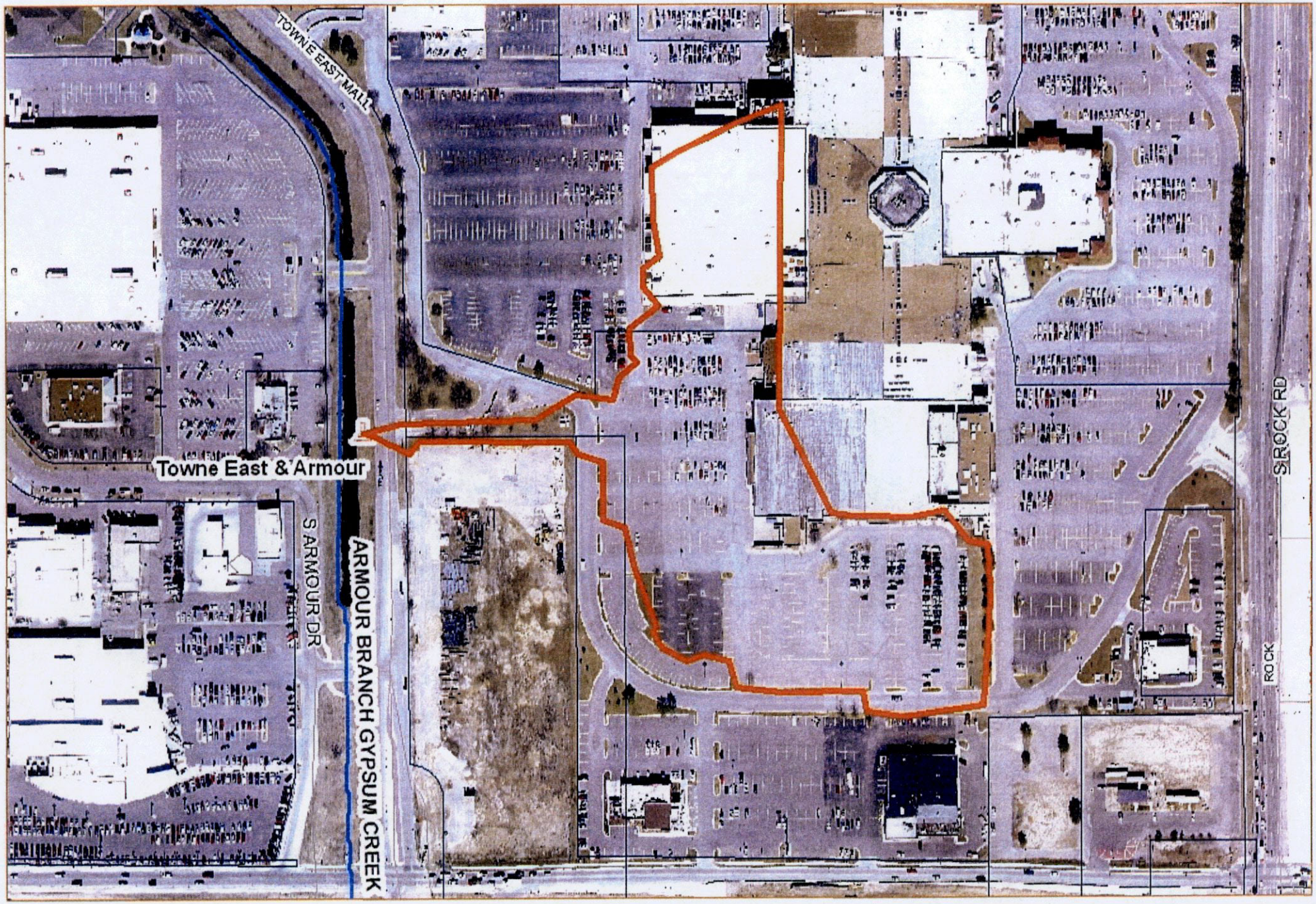
5.2 acres

Huntington & Armour



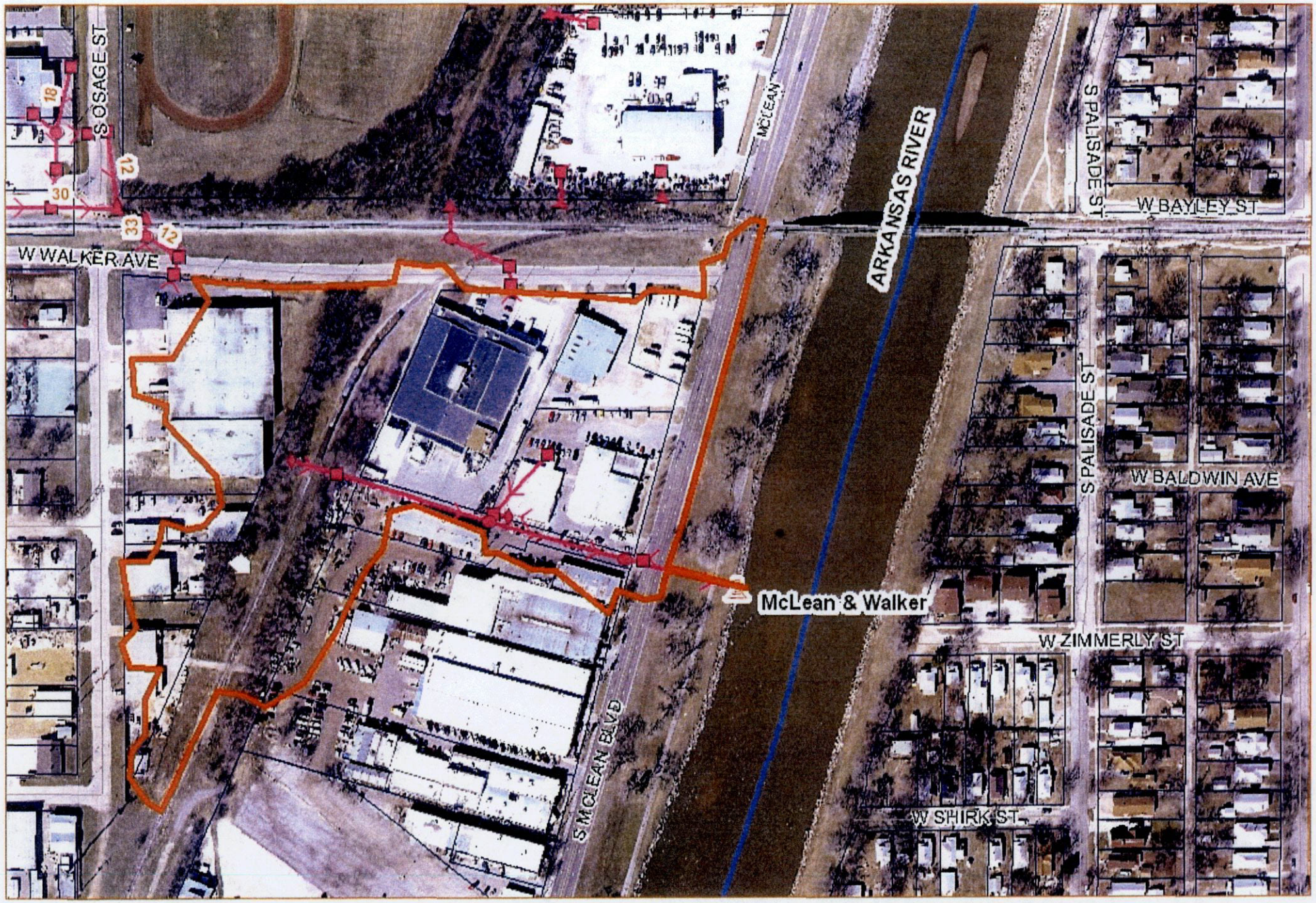
62.7 acres

Towne East & Armour



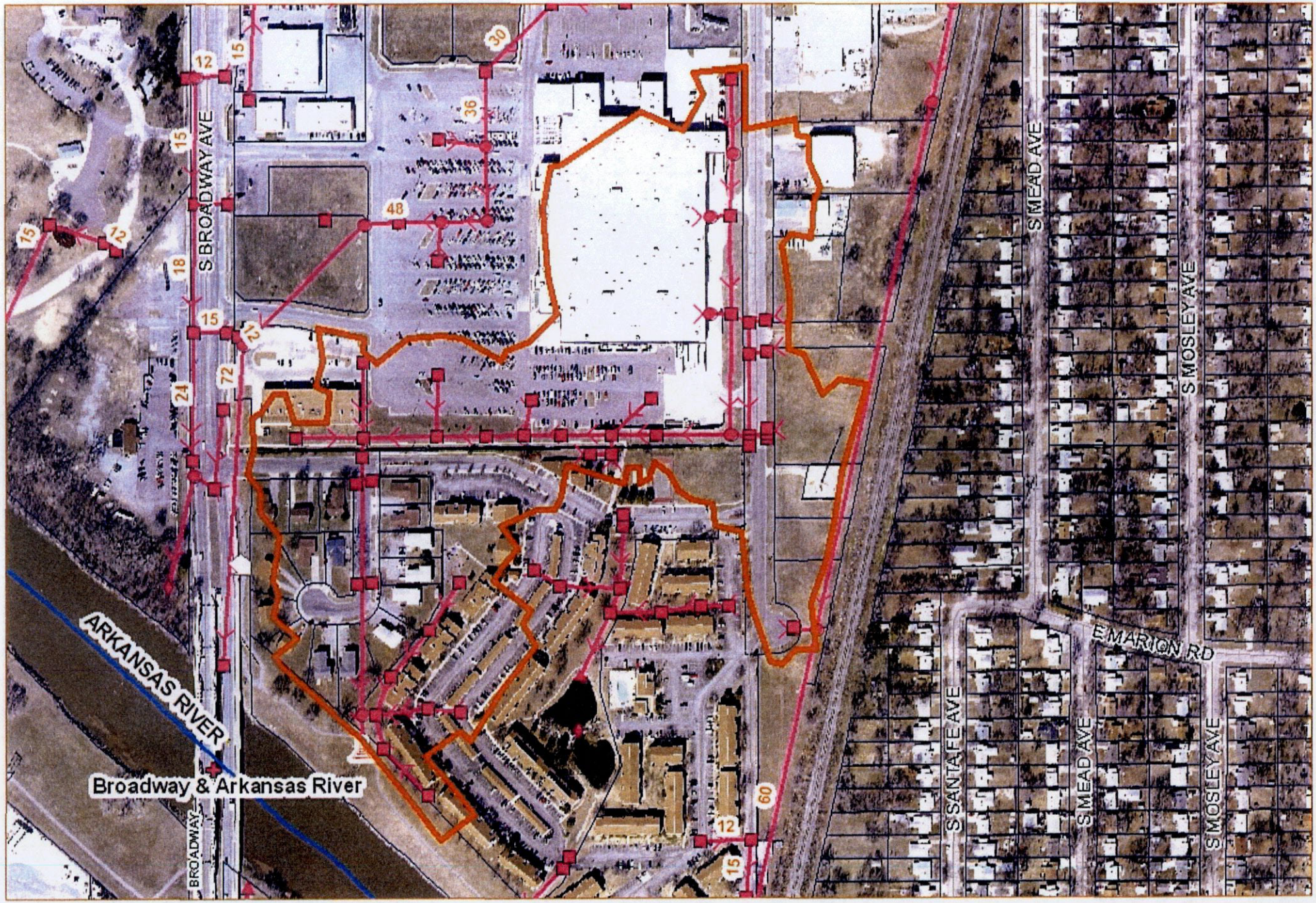
11.8 acres

McLean



26.5 acres

Broadway & Arkansas River

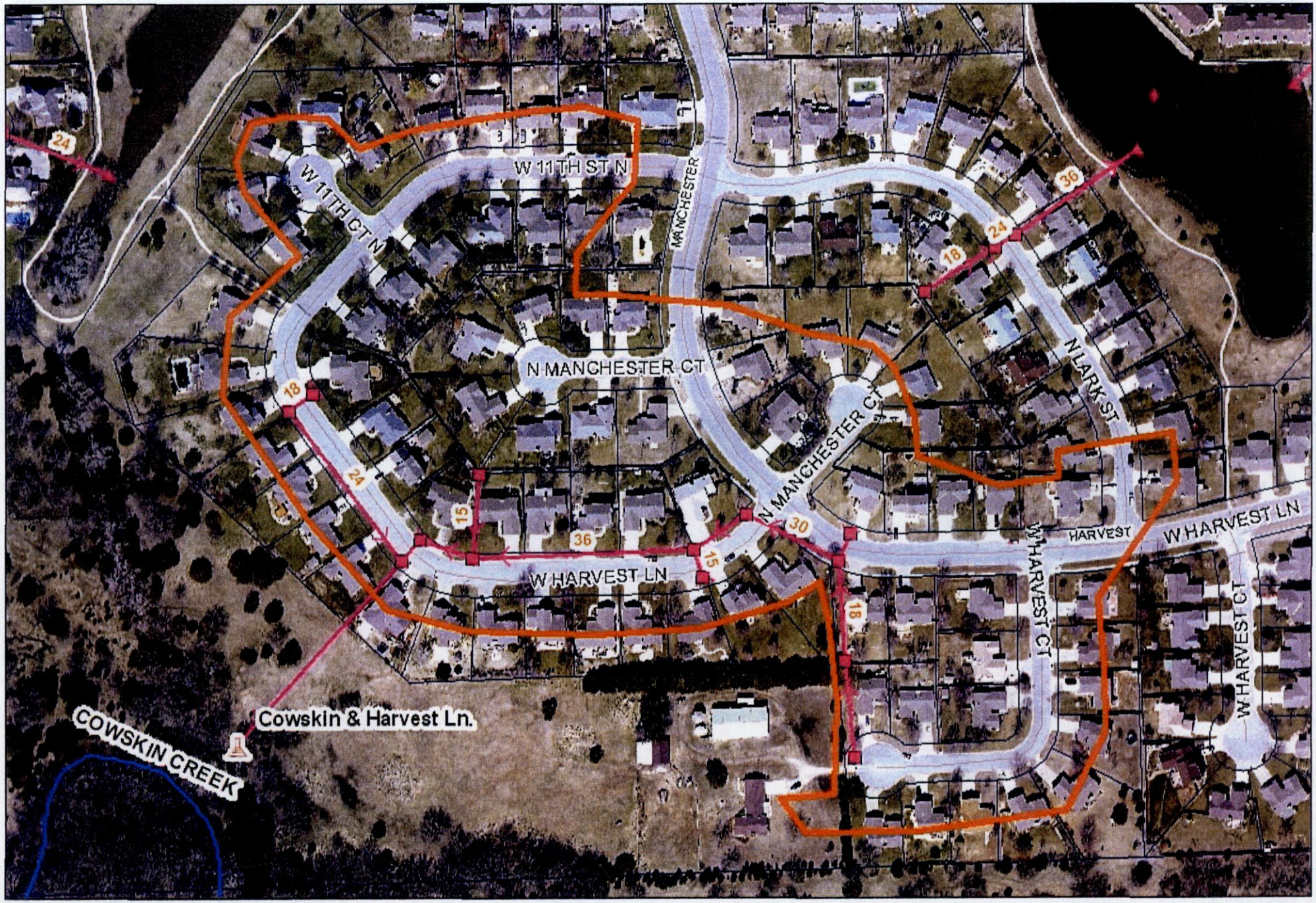


89.2 acres

Cowskin Creek & W. Maple

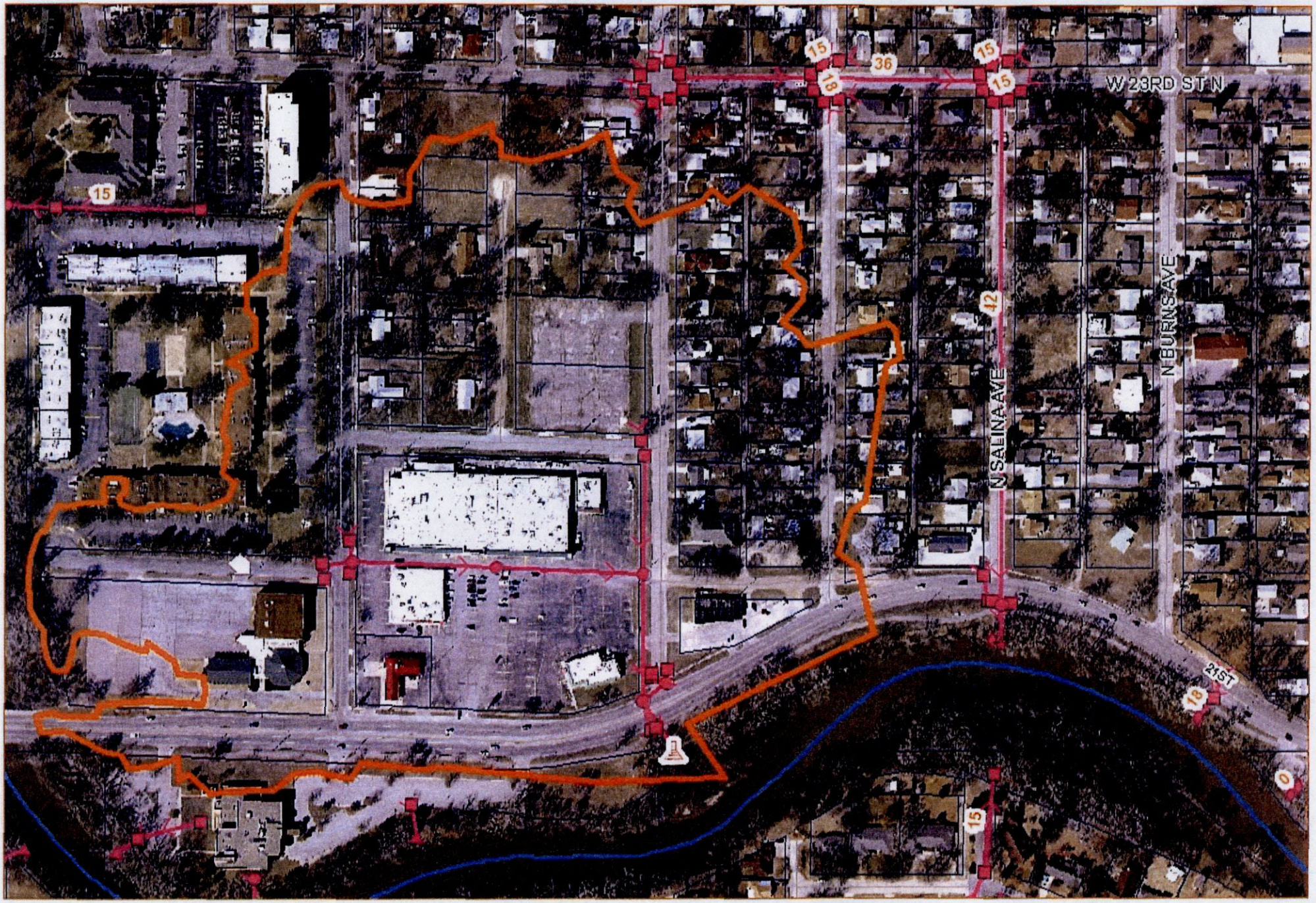
16.9 acres

Cowskin Creek & Harvest Lane

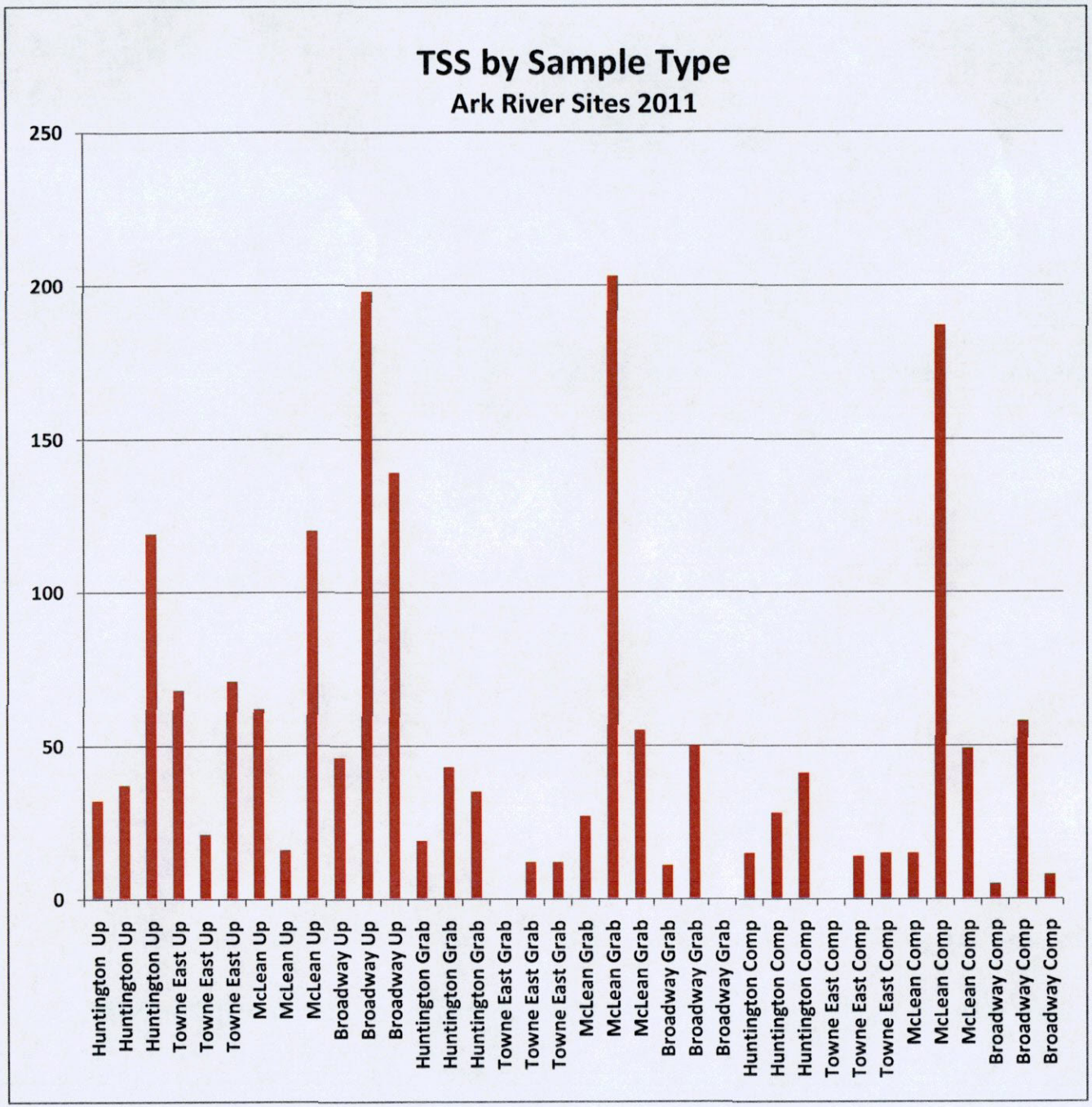


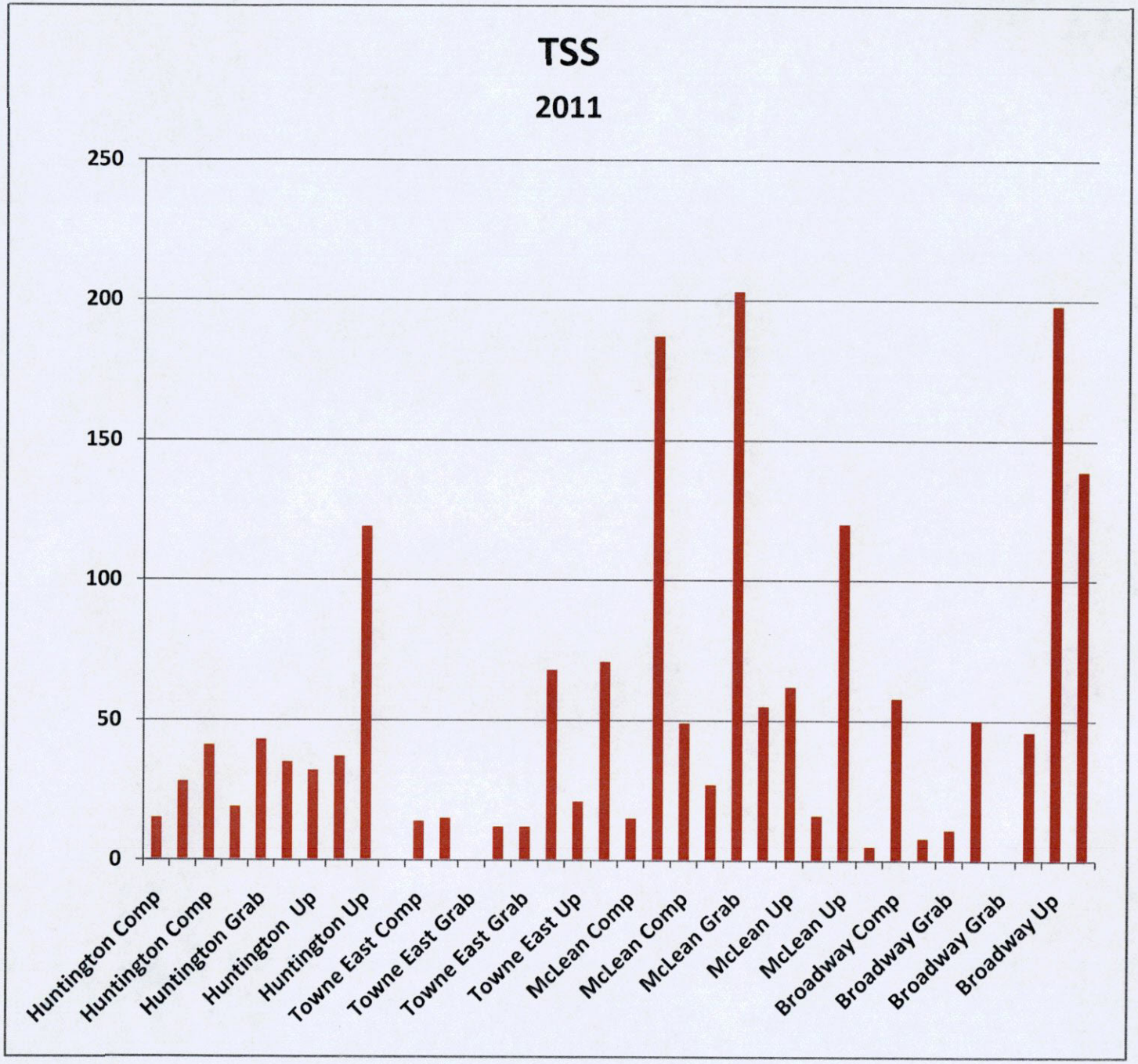
34.1 acres

Little Arkansas River & Hood St.



20.4 acres 13th Street North & N. River Blvd.


TSS by Sample Type
Ark River Sites 2011
250
200
150
100
50
0
Huntington Up
Huntington Up
Huntington Up
Towne East Up
Towne East Up
Towne East Up
McLean Up
McLean Up
McLean Up
Broadway Up
Broadway Up
Broadway Up
Huntington Grab
Huntington Grab
Huntington Grab
Towne East Grab
Towne East Grab
Towne East Grab
McLean Grab
McLean Grab
McLean Grab
Broadway Grab
Broadway Grab
Broadway Grab
Huntington Comp
Huntington Comp
Huntington Comp
Towne East Comp
Towne East Comp
Towne East Comp
McLean Comp
McLean Comp
McLean Comp
Broadway Comp
Broadway Comp
Broadway Comp


TSS
2011
250
200
150
100
50
0
Huntington Comp
Huntington Comp
Huntington Grab
Huntington Up
Huntington Up
Towne East Comp
Towne East Grab
Towne East Grab
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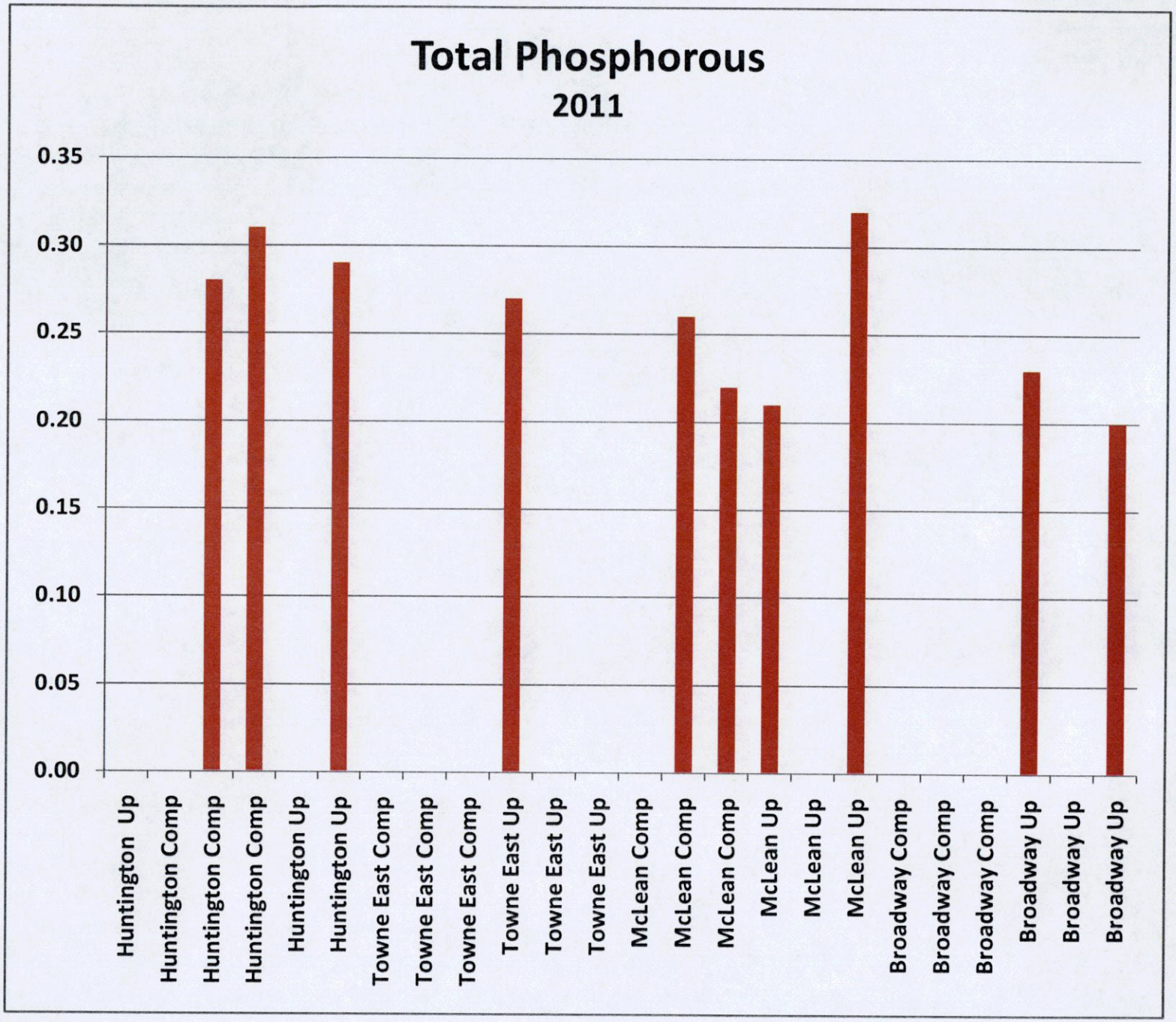
Broadway Comp
Broadway Grab
Broadway Grab
Broadway Up


Total Phosphorous
2011
0.35
0.30
0.25
0.20
0.15
0.10
0.05
0.00
Huntington Up
Huntington Comp
Huntington Comp
Huntington Comp
Huntington Up
Huntington Up
Towne East Comp
Towne East Comp
Towne East Comp
Towne East Up
Towne East Up
Towne East Up
McLean Comp
McLean Comp
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McLean Up
Broadway Comp
Broadway Comp
Broadway Comp
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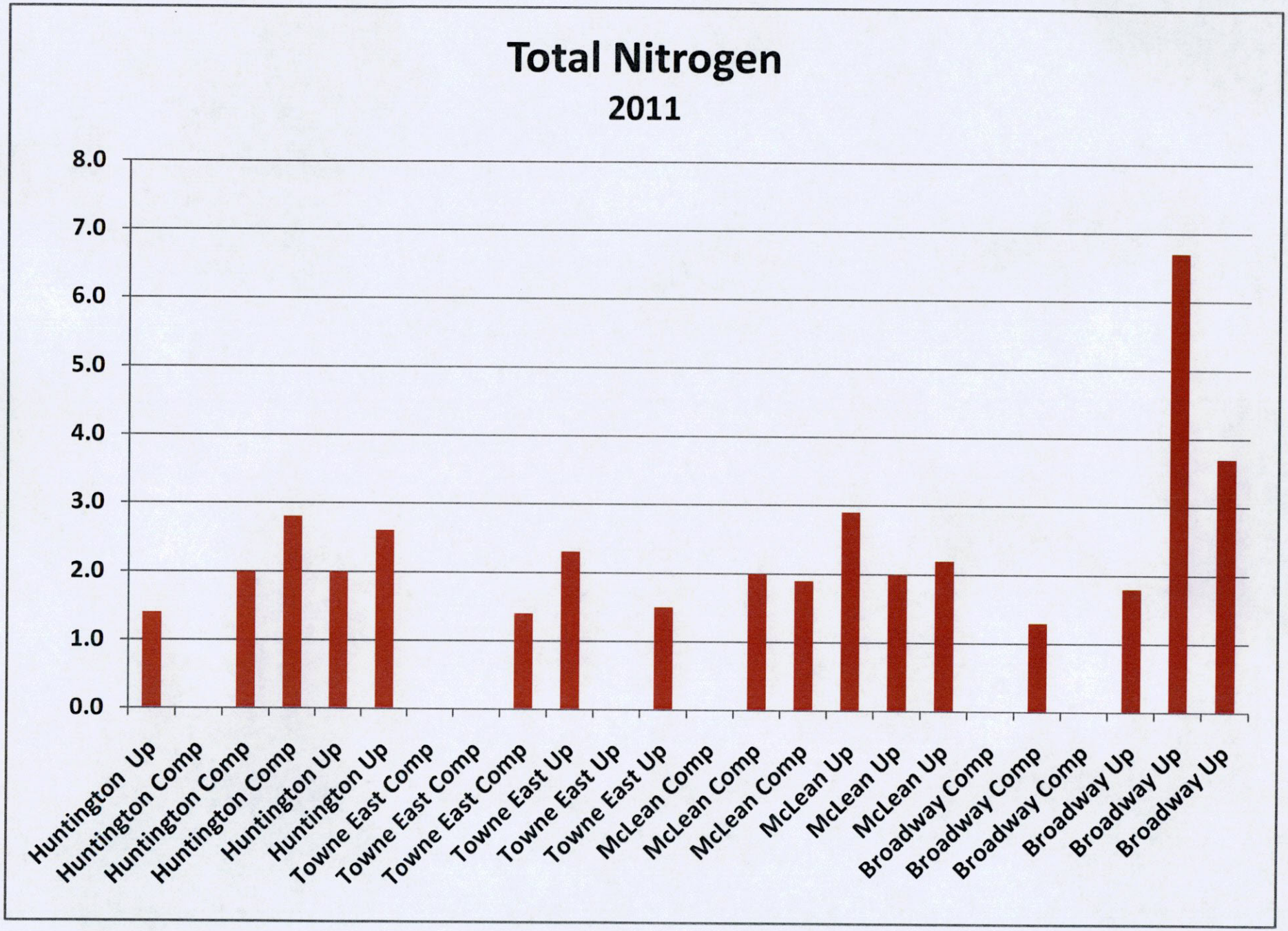
Broadway Up
Broadway Up


Total Nitrogen
2011
8.0
7.0
6.0
5.0
4.0
3.0
2.0
1.0
0.0
Huntington Up
Huntington Comp
Huntington Comp
Huntington Comp
Huntington Up
Huntington Up
Towne East Comp
Towne East Comp
Towne East Comp
Towne East Up
Towne East Up
Towne East Up
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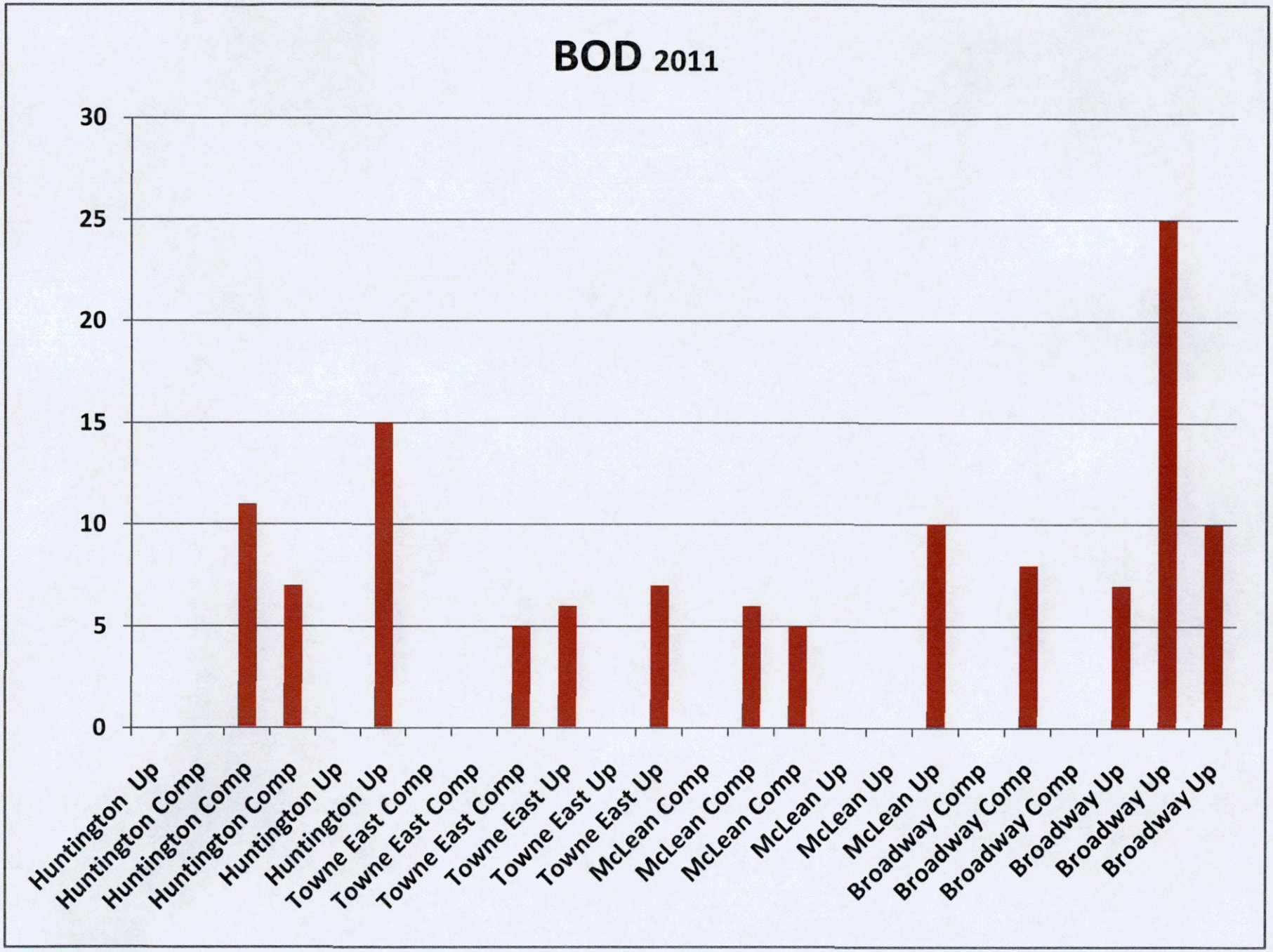
Broadway Up


BOD 2011
30
25
20
15
10
5
0
Huntington Up
Huntington Comp
Huntington Comp
Huntington Comp
Huntington Up
Huntington Up
Towne East Comp
Towne East Comp
Towne East Comp
Towne East Up
Towne East Up
Towne East Up
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McLean Up
McLean Up
Broadway Comp
Broadway Comp
Broadway Comp
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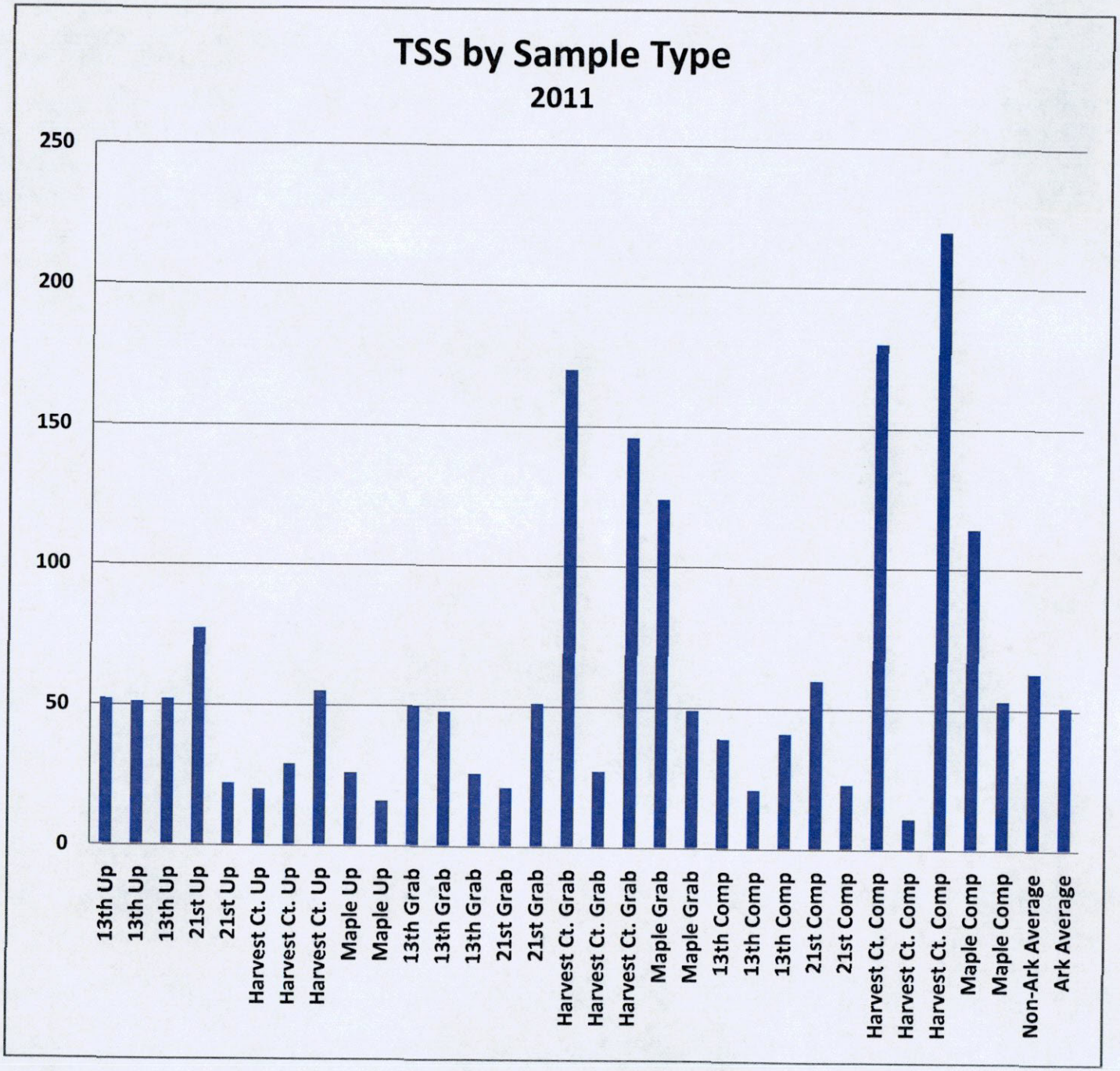
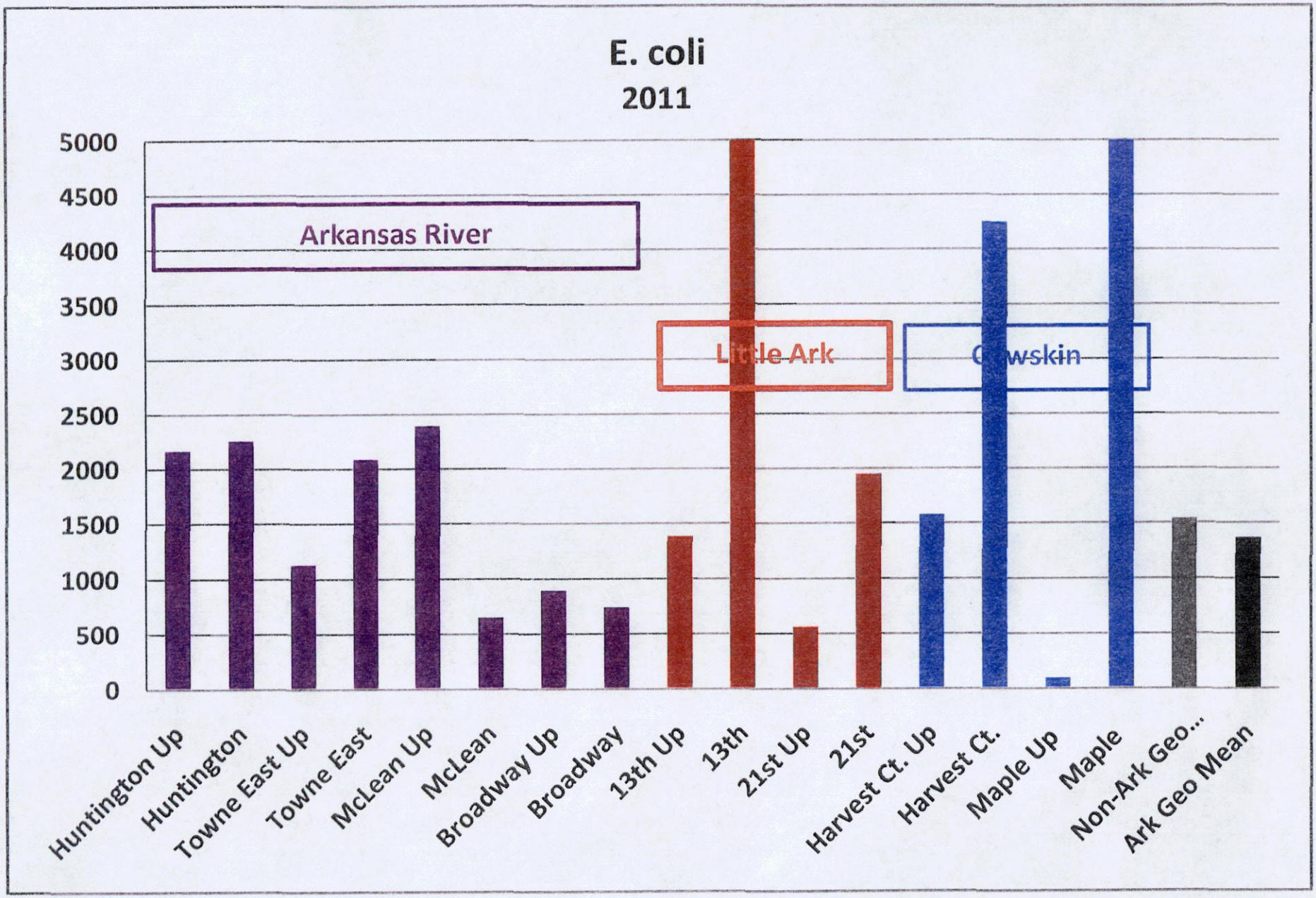
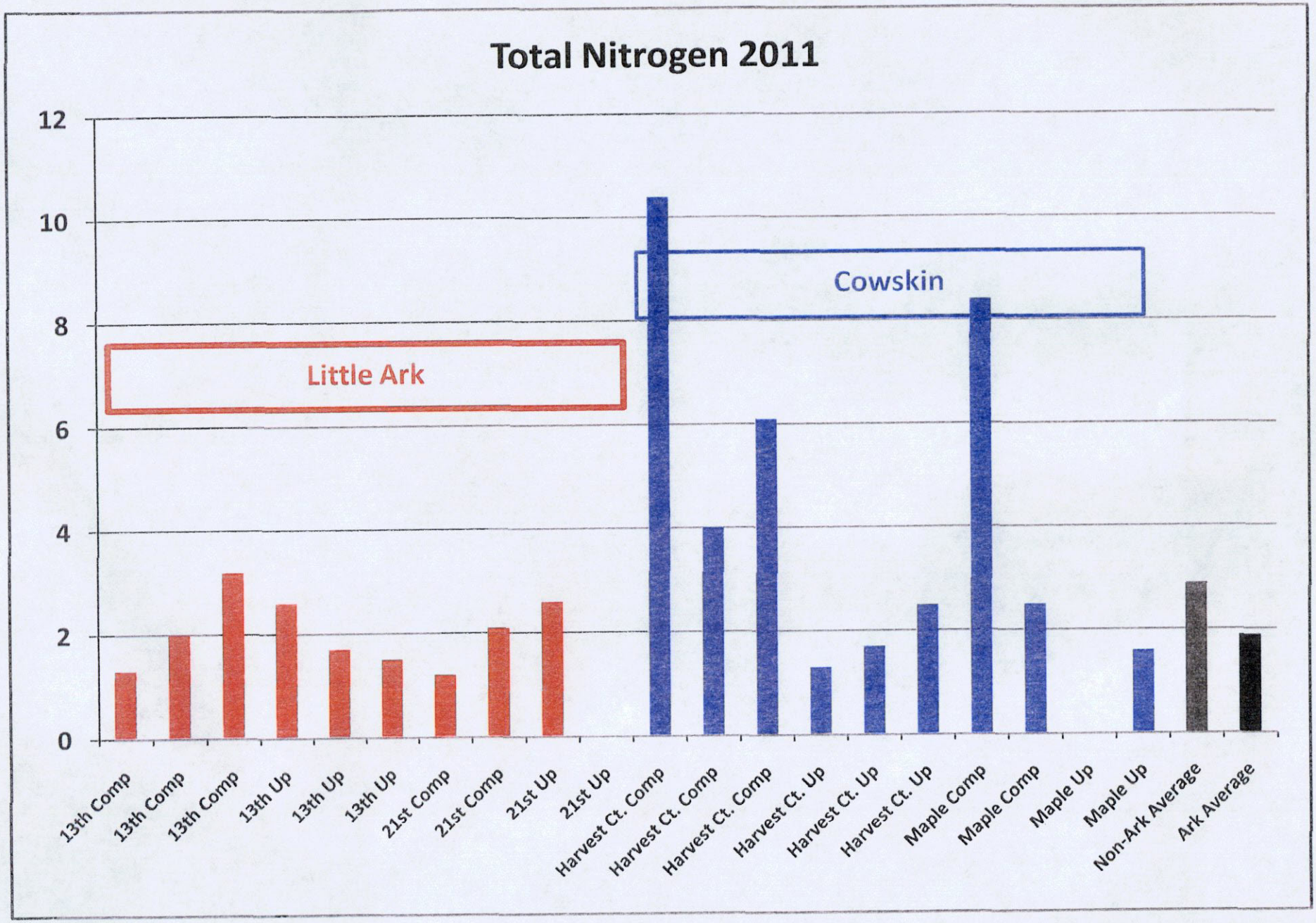
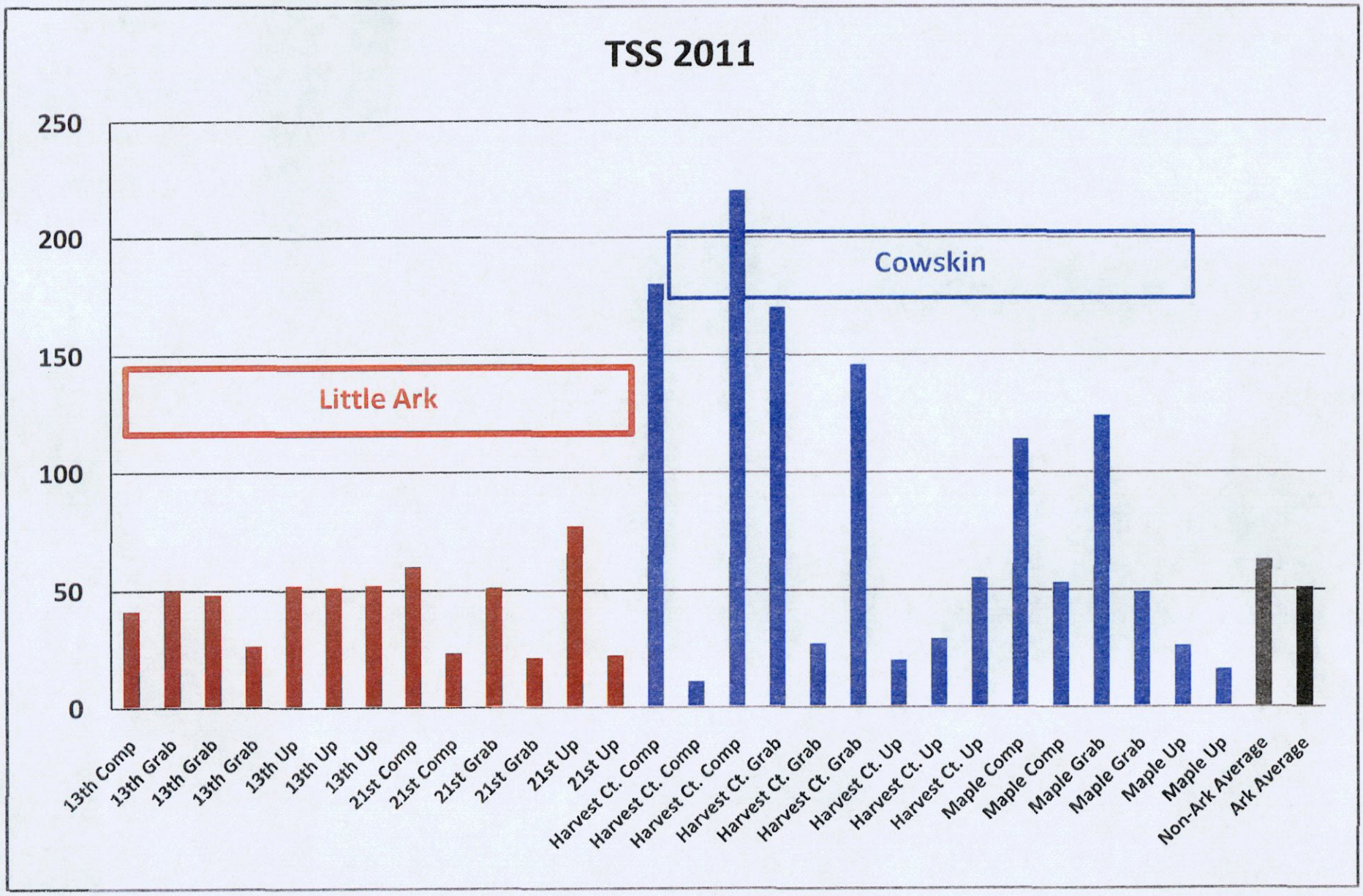
Broadway Up


TSS by Sample Type
2011
250
200
150
100
50
0
13th Up
13th Up
13th Up
21st Up
21st Up
Harvest Ct. Up
Harvest Ct. Up
Harvest Ct. Up
Maple Up
Maple Up
13th Grab
13th Grab
13th Grab
21st Grab
21st Grab
Harvest Ct. Grab
Harvest Ct. Grab
Harvest Ct. Grab
Maple Grab
Maple Grab
13th Comp
13th Comp
13th Comp
21st Comp
21st Comp
Harvest Ct. Comp
Harvest Ct. Comp
Harvest Ct. Comp
Maple Comp
Maple Comp
Non-Ark Average
Ark Average


E. coli
2011
5000
4500
4000
3500
3000
2500
2000
1500
1000
500
0
Arkansas River
Little Ark
Cowskin
Huntington Up
Huntington
Towne East Up
Towne East
McLean Up
McLean
Broadway Up
Broadway
13th Up
13th
21st Up
21st
Harvest Ct. Up
Harvest Ct.
Maple Up
Maple
Non-Ark Geo...
Ark Geo Mean


Total Nitrogen 2011
12
10
8
6
4
2
0
Little Ark
Cowskin
13th Comp
13th Comp
13th Comp
13th Up
13th Up
13th Up
21st Comp
21st Comp
21st Up
21st Up
Harvest Ct. Comp
Harvest Ct. Comp
Harvest Ct. Comp
Harvest Ct. Up
Harvest Ct. Up
Harvest Ct. Up
Maple Comp
Maple Comp
Maple Up
Maple Up
Non-Ark Average
Ark Average


TSS 2011
250
200
150
100
50
0
Little Ark
Cowskin
13th Comp
13th Grab
13th Grab
13th Grab
13th Up
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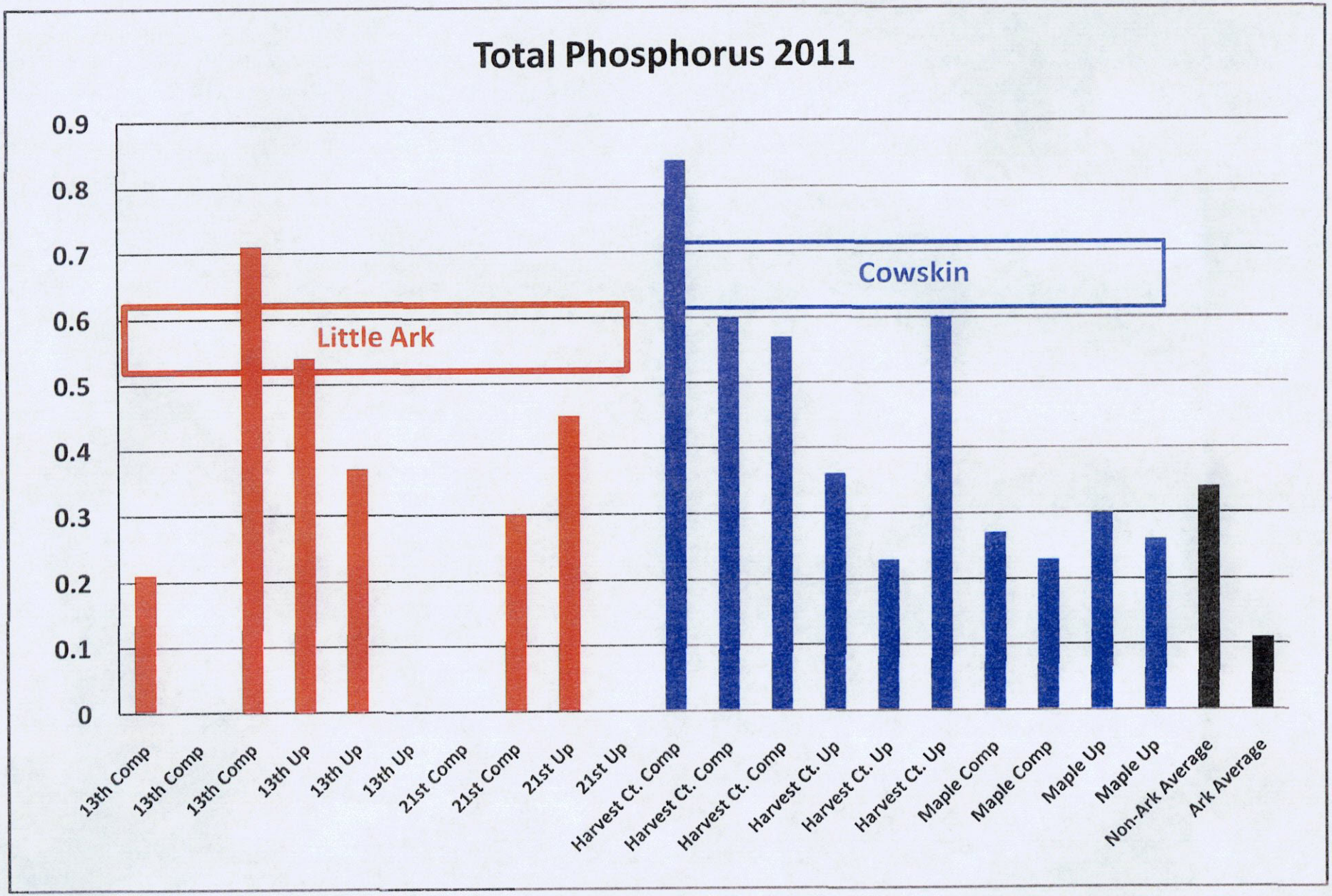
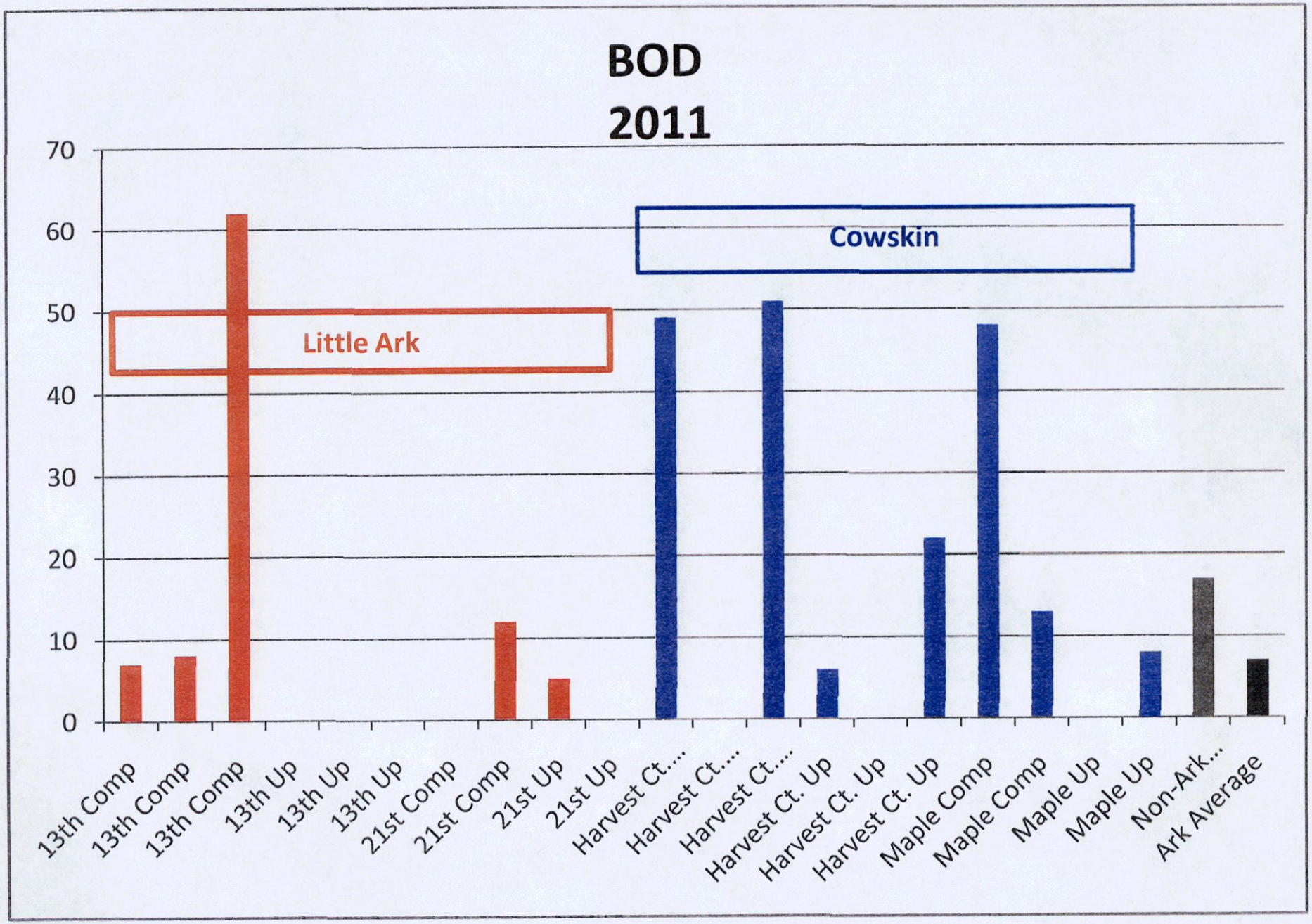
13th Up
21st Comp
21st Comp
21st Grab
21st Grab
21st Up
21st Up
Harvest Ct. Comp
Harvest Ct. Comp
Harvest Ct. Comp
Harvest Ct. Grab
Harvest Ct. Grab
Harvest Ct. Grab
Harvest Ct. Up
Harvest Ct. Up
Harvest Ct. Up
Maple Comp
Maple Comp
Maple Grab
Maple Grab
Maple Up
Maple Up
Non-Ark Average
Ark Average


Total Phosphorus 2011
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
Little Ark
Cowskin
13th Comp
13th Comp
13th Comp
13th Up
13th Up
13th Up
21st Comp
21st Comp
21st Up
21st Up
Harvest Ct. Comp
Harvest Ct. Comp
Harvest Ct. Comp
Harvest Ct. Up
Harvest Ct. Up
Harvest Ct. Up
Maple Comp
Maple Comp
Maple Up
Maple Up
Non-Ark Average
Ark Average


BOD
2011
70
60
50
40
30
20
10
0
Little Ark
Cowskin
13th Comp
13th Comp
13th Comp
13th Up
13th Up
13th Up
21st Comp
21st Comp
21st Up
21st Up
Harvest Ct....
Harvest Ct....
Harvest Ct....
Harvest Ct. Up
Harvest Ct. Up
Harvest Ct. Up
Maple Comp
Maple Comp
Maple Up
Maple Up
Non-Ark...
Ark Average

Summary of Results

2011 Storm Events

City of Wichita

The current reporting period covers the third year that the expanded complement of sample sites and sample requirements have been necessary under the current Permit. Therefore, the following analysis continues to be based on a limited data set, and, until more data are compiled, reliable observations are limited.

- With the exception of sampling done on November 7, precipitation for all storm events was moderate, and ranged from 0.16" to 0.93". Precipitation for the November 7th event was 1.70".
- The City continued upstream sampling at all sites in 2011, and plan to continue doing so throughout 2012. Oddly, in half of the 2010 events, upstream samples were higher in E. coli than were the 1st flush grab samples. In 2011, only 2 of the 8 upstream samples were higher.
- In 2010, E.coli results varied widely both upstream and 1st flush. Land use in the surrounding drainage area showed no correlation to sample results.
- BOD results were generally highest at the Cowskin sites, specifically at Harvest Ct.. The only 'spike' in the Little Ark sample sites was at 13th Street.
- All Cd analyses were non-detect (1 ug/L).
- Approximately, 1/3 of Cu and Zn samples were non-detect. The McLean Street site is the only site that produced consistent 'hits' for both.
- All TSS results ranged from a non-detect to a 220 mg/L result. Harvest Ct., McLean, and Broadway averaged the highest. With Harvest Ct. clearly being consistently high.
- Total Phosphorous was non-detect (0.20 mg/L), in over half of all samples. The remaining values ranged from 0.20 to 0.84 (Harvest Ct.).
- Total Nitrogen was non-detects (1.0 mg/L) for one quarter of all samples. Values ranged from 1.2 mg/L to an 8.4 mg/L at Maple.

NAME	ORDERNO	LABNO	SAMPLE	DATESAM	TESTNAME	RESULT	UNITS	BATCH	DATECOM	TESTCODE
City of Wichita	55822	11050845	Harvest Ct. - Grab	5/11/2011	Solids, Total Dissolved	244	mg/L	110518-1	5/18/2011	GL242
City of Wichita	55822	11050845	Harvest Ct. - Grab	5/11/2011	Solids, Total Suspended	170.	mg/L	110518-1	5/18/2011	GL243
City of Wichita	55822	11050845	Harvest Ct. - Grab	5/11/2011	Chloride	37	mg/L	1IC2137	5/17/2011	GL502
City of Wichita	55822	11050845	Harvest Ct. - Grab	5/11/2011	Cadmium, Tot. Rec., ICP-MS	ND(1)	ug/L	110513-1	5/17/2011	SL006
City of Wichita	55822	11050845	Harvest Ct. - Grab	5/11/2011	Copper, Tot. Rec., ICP-MS	30.	ug/L	110513-1	5/17/2011	SL012
City of Wichita	55822	11050845	Harvest Ct. - Grab	5/11/2011	Zinc, Tot. Rec., ICP-MS	149	ug/L	110513-1	5/17/2011	SL033
City of Wichita	55822	11050845	Harvest Ct. - Grab	5/11/2011	Cadmium, Dissolved, ICP-MS	ND(1) DM	ug/L	110513-5	5/17/2011	SL156
City of Wichita	55822	11050845	Harvest Ct. - Grab	5/11/2011	Copper, Dissolved, ICP-MS	16 DM	ug/L	110513-5	5/17/2011	SL162
City of Wichita	55822	11050845	Harvest Ct. - Grab	5/11/2011	Zinc, Dissolved, ICP-MS	36 DM	ug/L	110513-5	5/17/2011	SL183
City of Wichita	55822	11050845	Harvest Ct. - Grab	5/11/2011	Hardness (Calculated)	85.5	mg/L as CaCO3	110516-4	5/20/2011	SL323
City of Wichita	55822	11050846	Harvest Ct. - Composite	5/11/2011	BOD	49	mg/L	110512-1	5/12/2011	GL123
City of Wichita	55822	11050846	Harvest Ct. - Composite	5/11/2011	Kjeldahl Nitrogen, as N	9	mg/L	110516-1	5/16/2011	GL195
City of Wichita	55822	11050846	Harvest Ct. - Composite	5/11/2011	Phosphorus, Total, as P	0.84	mg/L	110520-2	5/20/2011	GL218
City of Wichita	55822	11050846	Harvest Ct. - Composite	5/11/2011	Solids, Total Dissolved	258	mg/L	110518-1	5/18/2011	GL242
City of Wichita	55822	11050846	Harvest Ct. - Composite	5/11/2011	Solids, Total Suspended	180.	mg/L	110518-1	5/18/2011	GL243
City of Wichita	55822	11050846	Harvest Ct. - Composite	5/11/2011	Nitrogen (TKN + NO3/NO2), as N	10.4	mg/L		5/20/2011	GL343
City of Wichita	55822	11050846	Harvest Ct. - Composite	5/11/2011	Chloride	43.9	mg/L	1IC1132	5/12/2011	GL502
City of Wichita	55822	11050846	Harvest Ct. - Composite	5/11/2011	Nitrite, as N	ND(0.1)	mg/L	1IC1133	5/13/2011	GL503
City of Wichita	55822	11050846	Harvest Ct. - Composite	5/11/2011	Nitrate, as N	1.4	mg/L	1IC1132	5/12/2011	GL505
City of Wichita	55822	11050846	Harvest Ct. - Composite	5/11/2011	Cadmium, Tot. Rec., ICP-MS	ND(1)	ug/L	110513-1	5/17/2011	SL006
City of Wichita	55822	11050846	Harvest Ct. - Composite	5/11/2011	Copper, Tot. Rec., ICP-MS	29	ug/L	110513-1	5/17/2011	SL012
City of Wichita	55822	11050846	Harvest Ct. - Composite	5/11/2011	Zinc, Tot. Rec., ICP-MS	164	ug/L	110513-1	5/17/2011	SL033
City of Wichita	55822	11050846	Harvest Ct. - Composite	5/11/2011	Cadmium, Dissolved, ICP-MS	ND(1) DM	ug/L	110513-5	5/17/2011	SL156
City of Wichita	55822	11050846	Harvest Ct. - Composite	5/11/2011	Copper, Dissolved, ICP-MS	15 DM	ug/L	110513-5	5/17/2011	SL162
City of Wichita	55822	11050846	Harvest Ct. - Composite	5/11/2011	Zinc, Dissolved, ICP-MS	35 DM	ug/L	110513-5	5/17/2011	SL183
City of Wichita	55822	11050846	Harvest Ct. - Composite	5/11/2011	Hardness (Calculated)	95.3	mg/L as CaCO3	110516-4	5/20/2011	SL323
City of Wichita	55823	11050847	Harvest Ct. Upstream	5/11/2011	BOD	6	mg/L	110512-1	5/12/2011	GL123
City of Wichita	55823	11050847	Harvest Ct. Upstream	5/11/2011	Kjeldahl Nitrogen, as N	1	mg/L	110516-1	5/16/2011	GL195
City of Wichita	55823	11050847	Harvest Ct. Upstream	5/11/2011	Phosphorus, Total, as P	0.36	mg/L	110520-2	5/20/2011	GL218
City of Wichita	55823	11050847	Harvest Ct. Upstream	5/11/2011	Solids, Total Dissolved	486	mg/L	110518-1	5/18/2011	GL242
City of Wichita	55823	11050847	Harvest Ct. Upstream	5/11/2011	Solids, Total Suspended	20.	mg/L	110518-1	5/18/2011	GL243
City of Wichita	55823	11050847	Harvest Ct. Upstream	5/11/2011	Nitrogen (TKN + NO3/NO2), as N	1.3	mg/L		5/20/2011	GL343
City of Wichita	55823	11050847	Harvest Ct. Upstream	5/11/2011	Chloride	52	mg/L	1IC1132	5/12/2011	GL502
City of Wichita	55823	11050847	Harvest Ct. Upstream	5/11/2011	Nitrite, as N	0.2	mg/L	1IC1133	5/13/2011	GL503
City of Wichita	55823	11050847	Harvest Ct. Upstream	5/11/2011	Nitrate, as N	0.1	mg/L	1IC1132	5/12/2011	GL505
City of Wichita	55823	11050847	Harvest Ct. Upstream	5/11/2011	Cadmium, Tot. Rec., ICP-MS	ND(1)	ug/L	110513-1	5/17/2011	SL006
City of Wichita	55823	11050847	Harvest Ct. Upstream	5/11/2011	Copper, Tot. Rec., ICP-MS	ND(5)	ug/L	110513-1	5/17/2011	SL012
City of Wichita	55823	11050847	Harvest Ct. Upstream	5/11/2011	Zinc, Tot. Rec., ICP-MS	ND(20)	ug/L	110513-1	5/17/2011	SL033
City of Wichita	55823	11050847	Harvest Ct. Upstream	5/11/2011	Cadmium, Dissolved, ICP-MS	ND(1) DM	ug/L	110513-5	5/17/2011	SL156
City of Wichita	55823	11050847	Harvest Ct. Upstream	5/11/2011	Copper, Dissolved, ICP-MS	ND(5) DM	ug/L	110513-5	5/17/2011	SL162
City of Wichita	55823	11050847	Harvest Ct. Upstream	5/11/2011	Zinc, Dissolved, ICP-MS	ND(20) DM	ug/L	110513-5	5/17/2011	SL183
City of Wichita	55823	11050847	Harvest Ct. Upstream	5/11/2011	Hardness (Calculated)	265	mg/L as CaCO3	110516-6	5/26/2011	SL323
City of Wichita	55824	11050848	Maple and Cowskin - Grab	5/11/2011	Solids, Total Dissolved	470.	mg/L	110518-1	5/18/2011	GL242
City of Wichita	55824	11050848	Maple and Cowskin - Grab	5/11/2011	Solids, Total Suspended	124	mg/L	110518-1	5/18/2011	GL243
City of Wichita	55824	11050848	Maple and Cowskin - Grab	5/11/2011	Chloride	79	mg/L	1IC2137	5/17/2011	GL502
City of Wichita	55824	11050848	Maple and Cowskin - Grab	5/11/2011	Cadmium, Tot. Rec., ICP-MS	ND(1)	ug/L	110513-1	5/17/2011	SL006
City of Wichita	55824	11050848	Maple and Cowskin - Grab	5/11/2011	Copper, Tot. Rec., ICP-MS	33	ug/L	110513-1	5/17/2011	SL012

NAME	ORDERNO	LABNO	SAMPLE	DATESAM	TESTNAME	RESULT	UNITS	BATCH	DATECOM	TESTCODE
City of Wichita	55824	11050848	Maple and Cowskin - Grab	5/11/2011	Zinc, Tot. Rec., ICP-MS	233	ug/L	110513-1	5/17/2011	SL033
City of Wichita	55824	11050848	Maple and Cowskin - Grab	5/11/2011	Cadmium, Dissolved, ICP-MS	ND(1) DM	ug/L	110513-5	5/17/2011	SL156
City of Wichita	55824	11050848	Maple and Cowskin - Grab	5/11/2011	Copper, Dissolved, ICP-MS	17 DM	ug/L	110513-5	5/17/2011	SL162
City of Wichita	55824	11050848	Maple and Cowskin - Grab	5/11/2011	Zinc, Dissolved, ICP-MS	82 DM	ug/L	110513-5	5/17/2011	SL183
City of Wichita	55824	11050848	Maple and Cowskin - Grab	5/11/2011	Hardness (Calculated)	181	mg/L as CaCO3	110516-4	5/20/2011	SL323
City of Wichita	55824	11050849	Maple and Cowskin - Composite	5/11/2011	BOD	48	mg/L	110512-1	5/12/2011	GL123
City of Wichita	55824	11050849	Maple and Cowskin - Composite	5/11/2011	Kjeldahl Nitrogen, as N	6	mg/L	110516-1	5/16/2011	GL195
City of Wichita	55824	11050849	Maple and Cowskin - Composite	5/11/2011	Phosphorus, Total, as P	0.27	mg/L	110520-2	5/20/2011	GL218
City of Wichita	55824	11050849	Maple and Cowskin - Composite	5/11/2011	Solids, Total Dissolved	488	mg/L	110518-1	5/18/2011	GL242
City of Wichita	55824	11050849	Maple and Cowskin - Composite	5/11/2011	Solids, Total Suspended	114	mg/L	110518-1	5/18/2011	GL243
City of Wichita	55824	11050849	Maple and Cowskin - Composite	5/11/2011	Nitrogen (TKN + NO3/NO2), as N	8.4	mg/L		5/20/2011	GL343
City of Wichita	55824	11050849	Maple and Cowskin - Composite	5/11/2011	Chloride	81	mg/L	1IC1132	5/12/2011	GL502
City of Wichita	55824	11050849	Maple and Cowskin - Composite	5/11/2011	Nitrite, as N	0.4	mg/L	1IC1133	5/13/2011	GL503
City of Wichita	55824	11050849	Maple and Cowskin - Composite	5/11/2011	Nitrate, as N	2.0	mg/L	1IC1132	5/12/2011	GL505
City of Wichita	55824	11050849	Maple and Cowskin - Composite	5/11/2011	Cadmium, Tot. Rec., ICP-MS	ND(1)	ug/L	110513-1	5/17/2011	SL006
City of Wichita	55824	11050849	Maple and Cowskin - Composite	5/11/2011	Copper, Tot. Rec., ICP-MS	34	ug/L	110513-1	5/17/2011	SL012
City of Wichita	55824	11050849	Maple and Cowskin - Composite	5/11/2011	Zinc, Tot. Rec., ICP-MS	251	ug/L	110513-1	5/17/2011	SL033
City of Wichita	55824	11050849	Maple and Cowskin - Composite	5/11/2011	Cadmium, Dissolved, ICP-MS	ND(1) DM	ug/L	110513-5	5/17/2011	SL156
City of Wichita	55824	11050849	Maple and Cowskin - Composite	5/11/2011	Copper, Dissolved, ICP-MS	17 DM	ug/L	110513-5	5/17/2011	SL162
City of Wichita	55824	11050849	Maple and Cowskin - Composite	5/11/2011	Zinc, Dissolved, ICP-MS	89 DM	ug/L	110513-5	5/17/2011	SL183
City of Wichita	55824	11050849	Maple and Cowskin - Composite	5/11/2011	Hardness (Calculated)	195	mg/L as CaCO3	110516-4	5/20/2011	SL323
City of Wichita	55825	11050850	Cowskin/Maple Upstream	5/11/2011	BOD	ND(5)	mg/L	110512-1	5/12/2011	GL123
City of Wichita	55825	11050850	Cowskin/Maple Upstream	5/11/2011	Kjeldahl Nitrogen, as N	ND(1)	mg/L	110516-1	5/16/2011	GL195
City of Wichita	55825	11050850	Cowskin/Maple Upstream	5/11/2011	Phosphorus, Total, as P	0.30	mg/L	110520-2	5/20/2011	GL218
City of Wichita	55825	11050850	Cowskin/Maple Upstream	5/11/2011	Solids, Total Dissolved	710.	mg/L	110518-1	5/18/2011	GL242
City of Wichita	55825	11050850	Cowskin/Maple Upstream	5/11/2011	Solids, Total Suspended	26	mg/L	110518-1	5/18/2011	GL243
City of Wichita	55825	11050850	Cowskin/Maple Upstream	5/11/2011	Nitrogen (TKN + NO3/NO2), as N	ND(1.0)	mg/L		5/20/2011	GL343
City of Wichita	55825	11050850	Cowskin/Maple Upstream	5/11/2011	Chloride	154	mg/L	1IC1132	5/12/2011	GL502
City of Wichita	55825	11050850	Cowskin/Maple Upstream	5/11/2011	Nitrite, as N	ND(1) M	mg/L	1IC1133	5/13/2011	GL503
City of Wichita	55825	11050850	Cowskin/Maple Upstream	5/11/2011	Nitrate, as N	ND(0.1)	mg/L	1IC1132	5/12/2011	GL505
City of Wichita	55825	11050850	Cowskin/Maple Upstream	5/11/2011	Cadmium, Tot. Rec., ICP-MS	ND(1)	ug/L	110513-1	5/17/2011	SL006
City of Wichita	55825	11050850	Cowskin/Maple Upstream	5/11/2011	Copper, Tot. Rec., ICP-MS	ND(5)	ug/L	110513-1	5/17/2011	SL012
City of Wichita	55825	11050850	Cowskin/Maple Upstream	5/11/2011	Zinc, Tot. Rec., ICP-MS	ND(20)	ug/L	110513-1	5/17/2011	SL033
City of Wichita	55825	11050850	Cowskin/Maple Upstream	5/11/2011	Cadmium, Dissolved, ICP-MS	ND(1) DM	ug/L	110513-5	5/17/2011	SL156
City of Wichita	55825	11050850	Cowskin/Maple Upstream	5/11/2011	Copper, Dissolved, ICP-MS	ND(5) DM	ug/L	110513-5	5/17/2011	SL162
City of Wichita	55825	11050850	Cowskin/Maple Upstream	5/11/2011	Zinc, Dissolved, ICP-MS	ND(20) DM	ug/L	110513-5	5/17/2011	SL183
City of Wichita	55825	11050850	Cowskin/Maple Upstream	5/11/2011	Hardness (Calculated)	269	mg/L as CaCO3	110516-7	5/26/2011	SL323
City of Wichita	56068	11051980	Grotto Gate	5/20/2011	Solids, Total Suspended	87	mg/L	110527-1	5/27/2011	GL243
City of Wichita	56068	11051981	Grotto Pool	5/20/2011	Solids, Total Suspended	106	mg/L	110527-1	5/27/2011	GL243
City of Wichita	56072	11051998	Town East & Armour Upstream	5/20/2011	BOD	6	mg/L	110520-2	5/20/2011	GL123
City of Wichita	56072	11051998	Town East & Armour Upstream	5/20/2011	Kjeldahl Nitrogen, as N	2	mg/L	110527-1	5/27/2011	GL195
City of Wichita	56072	11051998	Town East & Armour Upstream	5/20/2011	Phosphorus, Total, as P	0.27	mg/L	110527-1	5/27/2011	GL218
City of Wichita	56072	11051998	Town East & Armour Upstream	5/20/2011	Solids, Total Dissolved	296	mg/L	110525-1	5/25/2011	GL242
City of Wichita	56072	11051998	Town East & Armour Upstream	5/20/2011	Solids, Total Suspended	68	mg/L	110527-2	5/27/2011	GL243
City of Wichita	56072	11051998	Town East & Armour Upstream	5/20/2011	Nitrogen (TKN + NO3/NO2), as N	2.3	mg/L		6/6/2011	GL343
City of Wichita	56072	11051998	Town East & Armour Upstream	5/20/2011	Chloride	27.3	mg/L	3IC1140	5/21/2011	GL502
City of Wichita	56072	11051998	Town East & Armour Upstream	5/20/2011	Nitrite, as N	ND(0.1)	mg/L	3IC1140	5/21/2011	GL503

NAME	ORDERNO	LABNO	SAMPLE	DATESAM	TESTNAME	RESULT	UNITS	BATCH	DATECOM	TESTCODE
City of Wichita	56072	11051998	Town East & Armour Upstream	5/20/2011	Nitrate, as N	0.3	mg/L	3IC1140	5/21/2011	GL505
City of Wichita	56072	11051998	Town East & Armour Upstream	5/20/2011	Cadmium, Tot. Rec., ICP-MS	ND(1)	ug/L	110524-1	5/26/2011	SL006
City of Wichita	56072	11051998	Town East & Armour Upstream	5/20/2011	Copper, Tot. Rec., ICP-MS	8	ug/L	110524-1	5/26/2011	SL012
City of Wichita	56072	11051998	Town East & Armour Upstream	5/20/2011	Zinc, Tot. Rec., ICP-MS	39	ug/L	110524-1	6/3/2011	SL033
City of Wichita	56072	11051998	Town East & Armour Upstream	5/20/2011	Cadmium, Dissolved, ICP-MS	ND(1) DM	ug/L	110523-3	5/26/2011	SL156
City of Wichita	56072	11051998	Town East & Armour Upstream	5/20/2011	Copper, Dissolved, ICP-MS	ND(5) DM	ug/L	110523-3	5/26/2011	SL162
City of Wichita	56072	11051998	Town East & Armour Upstream	5/20/2011	Zinc, Dissolved, ICP-MS	ND(20) DM	ug/L	110523-3	5/26/2011	SL183
City of Wichita	56072	11051998	Town East & Armour Upstream	5/20/2011	Hardness (Calculated)	48	mg/L as CaCO3	110524-6	6/1/2011	SL323
City of Wichita	56073	11051999	Towne Eaast & Armour - Grab	5/20/2011	Hexane Extractable Material	ND(5.0)	mg/L	110527-1	5/27/2011	GL188
City of Wichita	56073	11051999	Towne Eaast & Armour - Grab	5/20/2011	Solids, Total Dissolved	68	mg/L	110525-1	5/25/2011	GL242
City of Wichita	56073	11051999	Towne Eaast & Armour - Grab	5/20/2011	Solids, Total Suspended	12	mg/L	110527-2	5/27/2011	GL243
City of Wichita	56073	11051999	Towne Eaast & Armour - Grab	5/20/2011	Chloride	4.4	mg/L	1IC1151	5/31/2011	GL502
City of Wichita	56073	11051999	Towne Eaast & Armour - Grab	5/20/2011	Cadmium, Tot. Rec., ICP-MS	ND(1)	ug/L	110524-1	5/26/2011	SL006
City of Wichita	56073	11051999	Towne Eaast & Armour - Grab	5/20/2011	Copper, Tot. Rec., ICP-MS	ND(5)	ug/L	110524-1	5/26/2011	SL012
City of Wichita	56073	11051999	Towne Eaast & Armour - Grab	5/20/2011	Zinc, Tot. Rec., ICP-MS	35	ug/L	110524-1	6/3/2011	SL033
City of Wichita	56073	11051999	Towne Eaast & Armour - Grab	5/20/2011	Cadmium, Dissolved, ICP-MS	ND(1) DM	ug/L	110523-3	5/26/2011	SL156
City of Wichita	56073	11051999	Towne Eaast & Armour - Grab	5/20/2011	Copper, Dissolved, ICP-MS	ND(5) DM	ug/L	110523-3	5/26/2011	SL162
City of Wichita	56073	11051999	Towne Eaast & Armour - Grab	5/20/2011	Zinc, Dissolved, ICP-MS	ND(20) DM	ug/L	110523-3	5/26/2011	SL183
City of Wichita	56073	11051999	Towne Eaast & Armour - Grab	5/20/2011	Hardness (Calculated)	26	mg/L as CaCO3	110524-6	6/1/2011	SL323
City of Wichita	56073	11052000	Towne Eaast & Armour-Composite	5/20/2011	BOD	ND(5)	mg/L	110520-2	5/20/2011	GL123
City of Wichita	56073	11052000	Towne Eaast & Armour-Composite	5/20/2011	Kjeldahl Nitrogen, as N	ND(1)	mg/L	110527-1	5/27/2011	GL195
City of Wichita	56073	11052000	Towne Eaast & Armour-Composite	5/20/2011	Phosphorus, Total, as P	ND(0.20)	mg/L	110527-1	5/27/2011	GL218
City of Wichita	56073	11052000	Towne Eaast & Armour-Composite	5/20/2011	Solids, Total Dissolved	62	mg/L	110525-1	5/25/2011	GL242
City of Wichita	56073	11052000	Towne Eaast & Armour-Composite	5/20/2011	Solids, Total Suspended	14	mg/L	110527-2	5/27/2011	GL243
City of Wichita	56073	11052000	Towne Eaast & Armour-Composite	5/20/2011	Nitrogen (TKN + NO3/NO2), as N	ND(1.0)	mg/L		6/6/2011	GL343
City of Wichita	56073	11052000	Towne Eaast & Armour-Composite	5/20/2011	Chloride	4.4	mg/L	3IC1140	5/21/2011	GL502
City of Wichita	56073	11052000	Towne Eaast & Armour-Composite	5/20/2011	Nitrite, as N	ND(0.1)	mg/L	3IC1140	5/21/2011	GL503
City of Wichita	56073	11052000	Towne Eaast & Armour-Composite	5/20/2011	Nitrate, as N	0.2	mg/L	3IC1140	5/21/2011	GL505
City of Wichita	56073	11052000	Towne Eaast & Armour-Composite	5/20/2011	Cadmium, Tot. Rec., ICP-MS	ND(1)	ug/L	110524-1	5/26/2011	SL006
City of Wichita	56073	11052000	Towne Eaast & Armour-Composite	5/20/2011	Copper, Tot. Rec., ICP-MS	ND(5)	ug/L	110524-1	5/26/2011	SL012
City of Wichita	56073	11052000	Towne Eaast & Armour-Composite	5/20/2011	Zinc, Tot. Rec., ICP-MS	39	ug/L	110524-1	6/3/2011	SL033
City of Wichita	56073	11052000	Towne Eaast & Armour-Composite	5/20/2011	Cadmium, Dissolved, ICP-MS	ND(1) DM	ug/L	110523-3	5/26/2011	SL156
City of Wichita	56073	11052000	Towne Eaast & Armour-Composite	5/20/2011	Copper, Dissolved, ICP-MS	ND(5) DM	ug/L	110523-3	5/26/2011	SL162
City of Wichita	56073	11052000	Towne Eaast & Armour-Composite	5/20/2011	Zinc, Dissolved, ICP-MS	ND(20) DM	ug/L	110523-3	5/26/2011	SL183
City of Wichita	56073	11052000	Towne Eaast & Armour-Composite	5/20/2011	Hardness (Calculated)	29	mg/L as CaCO3	110524-6	6/1/2011	SL323
City of Wichita	56074	11052001	McLean & Walker Upstream	5/20/2011	BOD	ND(5)	mg/L	110520-2	5/20/2011	GL123
City of Wichita	56074	11052001	McLean & Walker Upstream	5/20/2011	Kjeldahl Nitrogen, as N	2	mg/L	110527-1	5/27/2011	GL195
City of Wichita	56074	11052001	McLean & Walker Upstream	5/20/2011	Phosphorus, Total, as P	0.21	mg/L	110527-1	5/27/2011	GL218
City of Wichita	56074	11052001	McLean & Walker Upstream	5/20/2011	Solids, Total Dissolved	990.	mg/L	110525-1	5/25/2011	GL242
City of Wichita	56074	11052001	McLean & Walker Upstream	5/20/2011	Solids, Total Suspended	62	mg/L	110527-2	5/27/2011	GL243
City of Wichita	56074	11052001	McLean & Walker Upstream	5/20/2011	Nitrogen (TKN + NO3/NO2), as N	2.9	mg/L		6/6/2011	GL343
City of Wichita	56074	11052001	McLean & Walker Upstream	5/20/2011	Chloride	378	mg/L	3IC1140	5/21/2011	GL502
City of Wichita	56074	11052001	McLean & Walker Upstream	5/20/2011	Nitrite, as N	ND(1) M	mg/L	3IC1140	5/21/2011	GL503
City of Wichita	56074	11052001	McLean & Walker Upstream	5/20/2011	Nitrate, as N	0.9	mg/L	3IC1140	5/21/2011	GL505
City of Wichita	56074	11052001	McLean & Walker Upstream	5/20/2011	Cadmium, Tot. Rec., ICP-MS	ND(1)	ug/L	110524-1	5/26/2011	SL006
City of Wichita	56074	11052001	McLean & Walker Upstream	5/20/2011	Copper, Tot. Rec., ICP-MS	7	ug/L	110524-1	5/26/2011	SL012
City of Wichita	56074	11052001	McLean & Walker Upstream	5/20/2011	Zinc, Tot. Rec., ICP-MS	ND(20)	ug/L	110524-1	6/3/2011	SL033

NAME	ORDERNO	LABNO	SAMPLE	DATESAM	TESTNAME	RESULT	UNITS	BATCH	DATECOM	TESTCODE
City of Wichita	56074	11052001	McLean & Walker Upstream	5/20/2011	Cadmium, Dissolved, ICP-MS	ND(1) DM	ug/L	110523-3	5/26/2011	SL156
City of Wichita	56074	11052001	McLean & Walker Upstream	5/20/2011	Copper, Dissolved, ICP-MS	ND(5) DM	ug/L	110523-3	5/26/2011	SL162
City of Wichita	56074	11052001	McLean & Walker Upstream	5/20/2011	Zinc, Dissolved, ICP-MS	ND(20) DM	ug/L	110523-3	5/26/2011	SL183
City of Wichita	56074	11052001	McLean & Walker Upstream	5/20/2011	Hardness (Calculated)	267	mg/L as CaCO3	110524-6	6/1/2011	SL323
City of Wichita	56075	11052002	McLean & Walker - Grab	5/20/2011	Hexane Extractable Material	ND(5.0)	mg/L	110527-1	5/27/2011	GL188
City of Wichita	56075	11052002	McLean & Walker - Grab	5/20/2011	Solids, Total Dissolved	68	mg/L	110525-1	5/25/2011	GL242
City of Wichita	56075	11052002	McLean & Walker - Grab	5/20/2011	Solids, Total Suspended	55	mg/L	110527-2	5/27/2011	GL243
City of Wichita	56075	11052002	McLean & Walker - Grab	5/20/2011	Chloride	4.0	mg/L	1IC1151	5/31/2011	GL502
City of Wichita	56075	11052002	McLean & Walker - Grab	5/20/2011	Cadmium, Tot. Rec., ICP-MS	2	ug/L	110524-1	5/26/2011	SL006
City of Wichita	56075	11052002	McLean & Walker - Grab	5/20/2011	Copper, Tot. Rec., ICP-MS	21	ug/L	110524-1	5/26/2011	SL012
City of Wichita	56075	11052002	McLean & Walker - Grab	5/20/2011	Zinc, Tot. Rec., ICP-MS	148	ug/L	110524-1	6/3/2011	SL033
City of Wichita	56075	11052002	McLean & Walker - Grab	5/20/2011	Cadmium, Dissolved, ICP-MS	ND(1) DM	ug/L	110523-3	5/26/2011	SL156
City of Wichita	56075	11052002	McLean & Walker - Grab	5/20/2011	Copper, Dissolved, ICP-MS	10 DM	ug/L	110523-3	5/26/2011	SL162
City of Wichita	56075	11052002	McLean & Walker - Grab	5/20/2011	Zinc, Dissolved, ICP-MS	41 DM	ug/L	110523-3	6/3/2011	SL183
City of Wichita	56075	11052002	McLean & Walker - Grab	5/20/2011	Hardness (Calculated)	51.4	mg/L as CaCO3	110524-6	6/1/2011	SL323
City of Wichita	56075	11052003	McLean & Walker - Composite	5/20/2011	BOD	5	mg/L	110520-2	5/20/2011	GL123
City of Wichita	56075	11052003	McLean & Walker - Composite	5/20/2011	Kjeldahl Nitrogen, as N	1	mg/L	110527-1	5/27/2011	GL195
City of Wichita	56075	11052003	McLean & Walker - Composite	5/20/2011	Phosphorus, Total, as P	0.22	mg/L	110527-1	5/27/2011	GL218
City of Wichita	56075	11052003	McLean & Walker - Composite	5/20/2011	Solids, Total Dissolved	80.	mg/L	110525-1	5/25/2011	GL242
City of Wichita	56075	11052003	McLean & Walker - Composite	5/20/2011	Solids, Total Suspended	49	mg/L	110527-2	5/27/2011	GL243
City of Wichita	56075	11052003	McLean & Walker - Composite	5/20/2011	Nitrogen (TKN + NO3/NO2), as N	1.9	mg/L		6/6/2011	GL343
City of Wichita	56075	11052003	McLean & Walker - Composite	5/20/2011	Chloride	4.3	mg/L	3IC1140	5/21/2011	GL502
City of Wichita	56075	11052003	McLean & Walker - Composite	5/20/2011	Nitrite, as N	ND(0.1)	mg/L	3IC1140	5/21/2011	GL503
City of Wichita	56075	11052003	McLean & Walker - Composite	5/20/2011	Nitrate, as N	0.9	mg/L	3IC1140	5/21/2011	GL505
City of Wichita	56075	11052003	McLean & Walker - Composite	5/20/2011	Cadmium, Tot. Rec., ICP-MS	2	ug/L	110524-1	5/26/2011	SL006
City of Wichita	56075	11052003	McLean & Walker - Composite	5/20/2011	Copper, Tot. Rec., ICP-MS	22	ug/L	110524-1	5/26/2011	SL012
City of Wichita	56075	11052003	McLean & Walker - Composite	5/20/2011	Zinc, Tot. Rec., ICP-MS	157	ug/L	110524-1	6/3/2011	SL033
City of Wichita	56075	11052003	McLean & Walker - Composite	5/20/2011	Cadmium, Dissolved, ICP-MS	ND(1) DM	ug/L	110523-3	5/26/2011	SL156
City of Wichita	56075	11052003	McLean & Walker - Composite	5/20/2011	Copper, Dissolved, ICP-MS	18 DM	ug/L	110523-3	5/26/2011	SL162
City of Wichita	56075	11052003	McLean & Walker - Composite	5/20/2011	Zinc, Dissolved, ICP-MS	39 DM	ug/L	110523-3	6/3/2011	SL183
City of Wichita	56075	11052003	McLean & Walker - Composite	5/20/2011	Hardness (Calculated)	51.0	mg/L as CaCO3	110524-6	6/1/2011	SL323
City of Wichita	56076	11052004	Huntington & Armour Upstream	5/20/2011	BOD	ND(5)	mg/L	110520-2	5/20/2011	GL123
City of Wichita	56076	11052004	Huntington & Armour Upstream	5/20/2011	Kjeldahl Nitrogen, as N	1	mg/L	110527-1	5/27/2011	GL195
City of Wichita	56076	11052004	Huntington & Armour Upstream	5/20/2011	Phosphorus, Total, as P	ND(0.20)	mg/L	110527-1	5/27/2011	GL218
City of Wichita	56076	11052004	Huntington & Armour Upstream	5/20/2011	Solids, Total Dissolved	88	mg/L	110525-1	5/25/2011	GL242
City of Wichita	56076	11052004	Huntington & Armour Upstream	5/20/2011	Solids, Total Suspended	32	mg/L	110527-2	5/27/2011	GL243
City of Wichita	56076	11052004	Huntington & Armour Upstream	5/20/2011	Nitrogen (TKN + NO3/NO2), as N	1.4	mg/L		6/6/2011	GL343
City of Wichita	56076	11052004	Huntington & Armour Upstream	5/20/2011	Chloride	6.8	mg/L	3IC1140	5/21/2011	GL502
City of Wichita	56076	11052004	Huntington & Armour Upstream	5/20/2011	Nitrite, as N	ND(0.1)	mg/L	3IC1140	5/21/2011	GL503
City of Wichita	56076	11052004	Huntington & Armour Upstream	5/20/2011	Nitrate, as N	0.4	mg/L	3IC1140	5/21/2011	GL505
City of Wichita	56076	11052004	Huntington & Armour Upstream	5/20/2011	Cadmium, Tot. Rec., ICP-MS	ND(1)	ug/L	110524-1	5/26/2011	SL006
City of Wichita	56076	11052004	Huntington & Armour Upstream	5/20/2011	Copper, Tot. Rec., ICP-MS	12	ug/L	110524-1	5/26/2011	SL012
City of Wichita	56076	11052004	Huntington & Armour Upstream	5/20/2011	Zinc, Tot. Rec., ICP-MS	50.	ug/L	110524-1	6/3/2011	SL033
City of Wichita	56076	11052004	Huntington & Armour Upstream	5/20/2011	Cadmium, Dissolved, ICP-MS	ND(1) DM	ug/L	110523-3	5/26/2011	SL156
City of Wichita	56076	11052004	Huntington & Armour Upstream	5/20/2011	Copper, Dissolved, ICP-MS	7 DM	ug/L	110523-3	5/26/2011	SL162
City of Wichita	56076	11052004	Huntington & Armour Upstream	5/20/2011	Zinc, Dissolved, ICP-MS	ND(20) DM	ug/L	110523-3	5/26/2011	SL183
City of Wichita	56076	11052004	Huntington & Armour Upstream	5/20/2011	Hardness (Calculated)	31	mg/L as CaCO3	110524-6	6/1/2011	SL323

NAME	ORDERNO	LABNO	SAMPLE	DATESAM	TESTNAME	RESULT	UNITS	BATCH	DATECOM	TESTCODE
City of Wichita	56077	11052005	Huntington & Armour - Grab	5/20/2011	Hexane Extractable Material	ND(5.0)	mg/L	110527-1	5/27/2011	GL188
City of Wichita	56077	11052005	Huntington & Armour - Grab	5/20/2011	Solids, Total Dissolved	82	mg/L	110525-1	5/25/2011	GL242
City of Wichita	56077	11052005	Huntington & Armour - Grab	5/20/2011	Solids, Total Suspended	35	mg/L	110527-2	5/27/2011	GL243
City of Wichita	56077	11052005	Huntington & Armour - Grab	5/20/2011	Chloride	9.4	mg/L	1IC1151	5/31/2011	GL502
City of Wichita	56077	11052005	Huntington & Armour - Grab	5/20/2011	Cadmium, Tot. Rec., ICP-MS	ND(1)	ug/L	110524-1	5/26/2011	SL006
City of Wichita	56077	11052005	Huntington & Armour - Grab	5/20/2011	Copper, Tot. Rec., ICP-MS	8	ug/L	110524-1	5/26/2011	SL012
City of Wichita	56077	11052005	Huntington & Armour - Grab	5/20/2011	Zinc, Tot. Rec., ICP-MS	32	ug/L	110524-1	6/3/2011	SL033
City of Wichita	56077	11052005	Huntington & Armour - Grab	5/20/2011	Cadmium, Dissolved, ICP-MS	ND(1) DM	ug/L	110523-3	5/26/2011	SL156
City of Wichita	56077	11052005	Huntington & Armour - Grab	5/20/2011	Copper, Dissolved, ICP-MS	6 DM	ug/L	110523-3	5/26/2011	SL162
City of Wichita	56077	11052005	Huntington & Armour - Grab	5/20/2011	Zinc, Dissolved, ICP-MS	ND(20) DM	ug/L	110523-3	5/26/2011	SL183
City of Wichita	56077	11052005	Huntington & Armour - Grab	5/20/2011	Hardness (Calculated)	31	mg/L as CaCO3	110524-6	6/1/2011	SL323
City of Wichita	56077	11052006	Huntington & Armour-Composite	5/20/2011	BOD	7	mg/L	110520-2	5/20/2011	GL123
City of Wichita	56077	11052006	Huntington & Armour-Composite	5/20/2011	Kjeldahl Nitrogen, as N	2	mg/L	110527-1	5/27/2011	GL195
City of Wichita	56077	11052006	Huntington & Armour-Composite	5/20/2011	Phosphorus, Total, as P	0.31	mg/L	110527-1	5/27/2011	GL218
City of Wichita	56077	11052006	Huntington & Armour-Composite	5/20/2011	Solids, Total Dissolved	98	mg/L	110525-1	5/25/2011	GL242
City of Wichita	56077	11052006	Huntington & Armour-Composite	5/20/2011	Solids, Total Suspended	41	mg/L	110527-2	5/27/2011	GL243
City of Wichita	56077	11052006	Huntington & Armour-Composite	5/20/2011	Nitrogen (TKN + NO3/NO2), as N	2.8	mg/L		6/6/2011	GL343
City of Wichita	56077	11052006	Huntington & Armour-Composite	5/20/2011	Chloride	9.5	mg/L	3IC1140	5/21/2011	GL502
City of Wichita	56077	11052006	Huntington & Armour-Composite	5/20/2011	Nitrite, as N	ND(0.1)	mg/L	3IC1140	5/21/2011	GL503
City of Wichita	56077	11052006	Huntington & Armour-Composite	5/20/2011	Nitrate, as N	0.8	mg/L	3IC1140	5/21/2011	GL505
City of Wichita	56077	11052006	Huntington & Armour-Composite	5/20/2011	Cadmium, Tot. Rec., ICP-MS	ND(1)	ug/L	110524-1	5/26/2011	SL006
City of Wichita	56077	11052006	Huntington & Armour-Composite	5/20/2011	Copper, Tot. Rec., ICP-MS	9	ug/L	110524-1	5/26/2011	SL012
City of Wichita	56077	11052006	Huntington & Armour-Composite	5/20/2011	Zinc, Tot. Rec., ICP-MS	37	ug/L	110524-1	6/3/2011	SL033
City of Wichita	56077	11052006	Huntington & Armour-Composite	5/20/2011	Cadmium, Dissolved, ICP-MS	ND(1) DM	ug/L	110523-3	5/26/2011	SL156
City of Wichita	56077	11052006	Huntington & Armour-Composite	5/20/2011	Copper, Dissolved, ICP-MS	5 DM	ug/L	110523-3	5/26/2011	SL162
City of Wichita	56077	11052006	Huntington & Armour-Composite	5/20/2011	Zinc, Dissolved, ICP-MS	ND(20) DM	ug/L	110523-3	5/26/2011	SL183
City of Wichita	56077	11052006	Huntington & Armour-Composite	5/20/2011	Hardness (Calculated)	33	mg/L as CaCO3	110524-6	6/1/2011	SL323
City of Wichita	56078	11052007	13th & River Blvd. Upstream	5/20/2011	BOD	ND(5)	mg/L	110520-2	5/20/2011	GL123
City of Wichita	56078	11052007	13th & River Blvd. Upstream	5/20/2011	Kjeldahl Nitrogen, as N	2	mg/L	110527-1	5/27/2011	GL195
City of Wichita	56078	11052007	13th & River Blvd. Upstream	5/20/2011	Phosphorus, Total, as P	0.54	mg/L	110527-1	5/27/2011	GL218
City of Wichita	56078	11052007	13th & River Blvd. Upstream	5/20/2011	Solids, Total Dissolved	520.	mg/L	110527-1	5/27/2011	GL242
City of Wichita	56078	11052007	13th & River Blvd. Upstream	5/20/2011	Solids, Total Suspended	52	mg/L	110527-1	5/27/2011	GL243
City of Wichita	56078	11052007	13th & River Blvd. Upstream	5/20/2011	Nitrogen (TKN + NO3/NO2), as N	2.6	mg/L		6/6/2011	GL343
City of Wichita	56078	11052007	13th & River Blvd. Upstream	5/20/2011	Chloride	111	mg/L	3IC1140	5/21/2011	GL502
City of Wichita	56078	11052007	13th & River Blvd. Upstream	5/20/2011	Nitrite, as N	0.2	mg/L	3IC1140	5/21/2011	GL503
City of Wichita	56078	11052007	13th & River Blvd. Upstream	5/20/2011	Nitrate, as N	0.4	mg/L	3IC1140	5/21/2011	GL505
City of Wichita	56078	11052007	13th & River Blvd. Upstream	5/20/2011	Cadmium, Tot. Rec., ICP-MS	ND(1)	ug/L	110524-1	5/26/2011	SL006
City of Wichita	56078	11052007	13th & River Blvd. Upstream	5/20/2011	Copper, Tot. Rec., ICP-MS	9	ug/L	110524-1	5/26/2011	SL012
City of Wichita	56078	11052007	13th & River Blvd. Upstream	5/20/2011	Zinc, Tot. Rec., ICP-MS	22	ug/L	110524-1	6/3/2011	SL033
City of Wichita	56078	11052007	13th & River Blvd. Upstream	5/20/2011	Cadmium, Dissolved, ICP-MS	ND(1) DM	ug/L	110523-3	5/26/2011	SL156
City of Wichita	56078	11052007	13th & River Blvd. Upstream	5/20/2011	Copper, Dissolved, ICP-MS	ND(5) DM	ug/L	110523-3	5/26/2011	SL162
City of Wichita	56078	11052007	13th & River Blvd. Upstream	5/20/2011	Zinc, Dissolved, ICP-MS	ND(20) DM	ug/L	110523-3	5/26/2011	SL183
City of Wichita	56078	11052007	13th & River Blvd. Upstream	5/20/2011	Hardness (Calculated)	264	mg/L as CaCO3	110524-6	6/1/2011	SL323
City of Wichita	56079	11052008	13th & River Blvd - Grab	5/20/2011	Solids, Total Dissolved	46	mg/L	110527-1	5/27/2011	GL242
City of Wichita	56079	11052008	13th & River Blvd - Grab	5/20/2011	Solids, Total Suspended	50.	mg/L	110527-1	5/27/2011	GL243
City of Wichita	56079	11052008	13th & River Blvd - Grab	5/20/2011	Chloride	1.8	mg/L	1IC1151	5/31/2011	GL502
City of Wichita	56079	11052008	13th & River Blvd - Grab	5/20/2011	Cadmium, Tot. Rec., ICP-MS	ND(1)	ug/L	110524-1	5/26/2011	SL006

NAME	ORDERNO	LABNO	SAMPLE	DATESAM	TESTNAME	RESULT	UNITS	BATCH	DATECOM	TESTCODE
City of Wichita	56079	11052008	13th & River Blvd - Grab	5/20/2011	Copper, Tot. Rec., ICP-MS	11	ug/L	110524-1	5/26/2011	SL012
City of Wichita	56079	11052008	13th & River Blvd - Grab	5/20/2011	Zinc, Tot. Rec., ICP-MS	104	ug/L	110524-1	6/3/2011	SL033
City of Wichita	56079	11052008	13th & River Blvd - Grab	5/20/2011	Cadmium, Dissolved, ICP-MS	ND(1) DM	ug/L	110523-3	5/26/2011	SL156
City of Wichita	56079	11052008	13th & River Blvd - Grab	5/20/2011	Copper, Dissolved, ICP-MS	ND(5) DM	ug/L	110523-3	5/26/2011	SL162
City of Wichita	56079	11052008	13th & River Blvd - Grab	5/20/2011	Zinc, Dissolved, ICP-MS	ND(20) DM	ug/L	110523-3	5/26/2011	SL183
City of Wichita	56079	11052008	13th & River Blvd - Grab	5/20/2011	Hardness (Calculated)	22.6	mg/L as CaCO3	110524-6	6/2/2011	SL323
City of Wichita	56079	11052009	13th & River Blvd - Composite	5/20/2011	BOD	7	mg/L	110520-2	5/20/2011	GL123
City of Wichita	56079	11052009	13th & River Blvd - Composite	5/20/2011	Kjeldahl Nitrogen, as N	1	mg/L	110527-1	5/27/2011	GL195
City of Wichita	56079	11052009	13th & River Blvd - Composite	5/20/2011	Phosphorus, Total, as P	0.21	mg/L	110527-1	5/27/2011	GL218
City of Wichita	56079	11052009	13th & River Blvd - Composite	5/20/2011	Solids, Total Dissolved	42	mg/L	110527-1	5/27/2011	GL242
City of Wichita	56079	11052009	13th & River Blvd - Composite	5/20/2011	Solids, Total Suspended	39	mg/L	110527-1	5/27/2011	GL243
City of Wichita	56079	11052009	13th & River Blvd - Composite	5/20/2011	Nitrogen (TKN + NO3/NO2), as N	1.3	mg/L		6/6/2011	GL343
City of Wichita	56079	11052009	13th & River Blvd - Composite	5/20/2011	Chloride	2.1	mg/L	3IC1140	5/21/2011	GL502
City of Wichita	56079	11052009	13th & River Blvd - Composite	5/20/2011	Nitrite, as N	ND(0.1)	mg/L	3IC1140	5/21/2011	GL503
City of Wichita	56079	11052009	13th & River Blvd - Composite	5/20/2011	Nitrate, as N	0.3	mg/L	3IC1140	5/21/2011	GL505
City of Wichita	56079	11052009	13th & River Blvd - Composite	5/20/2011	Cadmium, Tot. Rec., ICP-MS	ND(1)	ug/L	110524-1	5/26/2011	SL006
City of Wichita	56079	11052009	13th & River Blvd - Composite	5/20/2011	Copper, Tot. Rec., ICP-MS	8	ug/L	110524-1	5/26/2011	SL012
City of Wichita	56079	11052009	13th & River Blvd - Composite	5/20/2011	Zinc, Tot. Rec., ICP-MS	56	ug/L	110524-1	6/3/2011	SL033
City of Wichita	56079	11052009	13th & River Blvd - Composite	5/20/2011	Cadmium, Dissolved, ICP-MS	ND(1) DM	ug/L	110523-3	5/26/2011	SL156
City of Wichita	56079	11052009	13th & River Blvd - Composite	5/20/2011	Copper, Dissolved, ICP-MS	ND(5) DM	ug/L	110523-3	5/26/2011	SL162
City of Wichita	56079	11052009	13th & River Blvd - Composite	5/20/2011	Zinc, Dissolved, ICP-MS	ND(20) DM	ug/L	110523-3	5/26/2011	SL183
City of Wichita	56079	11052009	13th & River Blvd - Composite	5/20/2011	Hardness (Calculated)	21.8	mg/L as CaCO3	110524-6	6/2/2011	SL323
City of Wichita	56080	11052010	Broadway&Arkansas Rvr Upstream	5/20/2011	BOD	10.	mg/L	110520-2	5/20/2011	GL123
City of Wichita	56080	11052010	Broadway&Arkansas Rvr Upstream	5/20/2011	Kjeldahl Nitrogen, as N	3	mg/L	110527-1	5/27/2011	GL195
City of Wichita	56080	11052010	Broadway&Arkansas Rvr Upstream	5/20/2011	Phosphorus, Total, as P	0.20	mg/L	110527-1	5/27/2011	GL218
City of Wichita	56080	11052010	Broadway&Arkansas Rvr Upstream	5/20/2011	Solids, Total Dissolved	670.	mg/L	110527-1	5/27/2011	GL242
City of Wichita	56080	11052010	Broadway&Arkansas Rvr Upstream	5/20/2011	Solids, Total Suspended	139	mg/L	110527-1	5/27/2011	GL243
City of Wichita	56080	11052010	Broadway&Arkansas Rvr Upstream	5/20/2011	Nitrogen (TKN + NO3/NO2), as N	3.7	mg/L		6/6/2011	GL343
City of Wichita	56080	11052010	Broadway&Arkansas Rvr Upstream	5/20/2011	Chloride	260.	mg/L	3IC1140	5/21/2011	GL502
City of Wichita	56080	11052010	Broadway&Arkansas Rvr Upstream	5/20/2011	Nitrite, as N	ND(1) M	mg/L	3IC1140	5/21/2011	GL503
City of Wichita	56080	11052010	Broadway&Arkansas Rvr Upstream	5/20/2011	Nitrate, as N	0.7	mg/L	3IC1140	5/21/2011	GL505
City of Wichita	56080	11052010	Broadway&Arkansas Rvr Upstream	5/20/2011	Cadmium, Tot. Rec., ICP-MS	ND(1)	ug/L	110524-1	5/26/2011	SL006
City of Wichita	56080	11052010	Broadway&Arkansas Rvr Upstream	5/20/2011	Copper, Tot. Rec., ICP-MS	8	ug/L	110524-1	5/26/2011	SL012
City of Wichita	56080	11052010	Broadway&Arkansas Rvr Upstream	5/20/2011	Zinc, Tot. Rec., ICP-MS	74	ug/L	110524-1	6/3/2011	SL033
City of Wichita	56080	11052010	Broadway&Arkansas Rvr Upstream	5/20/2011	Cadmium, Dissolved, ICP-MS	ND(1) DM	ug/L	110523-3	5/26/2011	SL156
City of Wichita	56080	11052010	Broadway&Arkansas Rvr Upstream	5/20/2011	Copper, Dissolved, ICP-MS	ND(5) DM	ug/L	110523-3	5/26/2011	SL162
City of Wichita	56080	11052010	Broadway&Arkansas Rvr Upstream	5/20/2011	Zinc, Dissolved, ICP-MS	ND(20) DM	ug/L	110523-3	5/26/2011	SL183
City of Wichita	56080	11052010	Broadway&Arkansas Rvr Upstream	5/20/2011	Hardness (Calculated)	204	mg/L as CaCO3	110524-6	6/1/2011	SL323
City of Wichita	56081	11052011	Broadway&Arkansas River - Grab	5/20/2011	Hexane Extractable Material	ND(5.0)	mg/L	110527-1	5/27/2011	GL188
City of Wichita	56081	11052011	Broadway&Arkansas River - Grab	5/20/2011	Solids, Total Dissolved	44	mg/L	110527-1	5/27/2011	GL242
City of Wichita	56081	11052011	Broadway&Arkansas River - Grab	5/20/2011	Solids, Total Suspended	ND(5)	mg/L	110527-1	5/27/2011	GL243
City of Wichita	56081	11052011	Broadway&Arkansas River - Grab	5/20/2011	Chloride	3.3	mg/L	1IC1151	5/31/2011	GL502
City of Wichita	56081	11052011	Broadway&Arkansas River - Grab	5/20/2011	Cadmium, Tot. Rec., ICP-MS	ND(1)	ug/L	110524-1	5/26/2011	SL006
City of Wichita	56081	11052011	Broadway&Arkansas River - Grab	5/20/2011	Copper, Tot. Rec., ICP-MS	ND(5)	ug/L	110524-1	5/26/2011	SL012
City of Wichita	56081	11052011	Broadway&Arkansas River - Grab	5/20/2011	Zinc, Tot. Rec., ICP-MS	32	ug/L	110524-1	6/3/2011	SL033
City of Wichita	56081	11052011	Broadway&Arkansas River - Grab	5/20/2011	Cadmium, Dissolved, ICP-MS	ND(1) DM	ug/L	110523-3	5/26/2011	SL156
City of Wichita	56081	11052011	Broadway&Arkansas River - Grab	5/20/2011	Copper, Dissolved, ICP-MS	ND(5) DM	ug/L	110523-3	5/26/2011	SL162

NAME	ORDERNO	LABNO	SAMPLE	DATESAM	TESTNAME	RESULT	UNITS	BATCH	DATECOM	TESTCODE
City of Wichita	56081	11052011	Broadway&Arkansas River - Grab	5/20/2011	Zinc, Dissolved, ICP-MS	22 DM	ug/L	110523-3	6/3/2011	SL183
City of Wichita	56081	11052011	Broadway&Arkansas River - Grab	5/20/2011	Hardness (Calculated)	21.8	mg/L as CaCO3	110524-6	6/2/2011	SL323
City of Wichita	56081	11052012	Broadway&Arkansas River-Cmpste	5/20/2011	BOD	ND(5)	mg/L	110520-2	5/20/2011	GL123
City of Wichita	56081	11052012	Broadway&Arkansas River-Cmpste	5/20/2011	Kjeldahl Nitrogen, as N	ND(1)	mg/L	110527-1	5/27/2011	GL195
City of Wichita	56081	11052012	Broadway&Arkansas River-Cmpste	5/20/2011	Phosphorus, Total, as P	ND(0.20)	mg/L	110527-1	5/27/2011	GL218
City of Wichita	56081	11052012	Broadway&Arkansas River-Cmpste	5/20/2011	Solids, Total Dissolved	38	mg/L	110527-1	5/27/2011	GL242
City of Wichita	56081	11052012	Broadway&Arkansas River-Cmpste	5/20/2011	Solids, Total Suspended	8	mg/L	110527-1	5/27/2011	GL243
City of Wichita	56081	11052012	Broadway&Arkansas River-Cmpste	5/20/2011	Nitrogen (TKN + NO3/NO2), as N	ND(1.0)	mg/L		6/6/2011	GL343
City of Wichita	56081	11052012	Broadway&Arkansas River-Cmpste	5/20/2011	Chloride	3.6	mg/L	3IC1140	5/21/2011	GL502
City of Wichita	56081	11052012	Broadway&Arkansas River-Cmpste	5/20/2011	Nitrite, as N	ND(0.1)	mg/L	3IC1140	5/21/2011	GL503
City of Wichita	56081	11052012	Broadway&Arkansas River-Cmpste	5/20/2011	Nitrate, as N	0.3	mg/L	3IC1140	5/21/2011	GL505
City of Wichita	56081	11052012	Broadway&Arkansas River-Cmpste	5/20/2011	Cadmium, Tot. Rec., ICP-MS	ND(1)	ug/L	110524-1	5/26/2011	SL006
City of Wichita	56081	11052012	Broadway&Arkansas River-Cmpste	5/20/2011	Copper, Tot. Rec., ICP-MS	5	ug/L	110524-1	5/26/2011	SL012
City of Wichita	56081	11052012	Broadway&Arkansas River-Cmpste	5/20/2011	Zinc, Tot. Rec., ICP-MS	60.	ug/L	110524-1	6/3/2011	SL033
City of Wichita	56081	11052012	Broadway&Arkansas River-Cmpste	5/20/2011	Cadmium, Dissolved, ICP-MS	ND(1) DM	ug/L	110523-3	5/26/2011	SL156
City of Wichita	56081	11052012	Broadway&Arkansas River-Cmpste	5/20/2011	Copper, Dissolved, ICP-MS	ND(5) DM	ug/L	110523-3	5/26/2011	SL162
City of Wichita	56081	11052012	Broadway&Arkansas River-Cmpste	5/20/2011	Zinc, Dissolved, ICP-MS	24 DM	ug/L	110523-3	6/3/2011	SL183
City of Wichita	56081	11052012	Broadway&Arkansas River-Cmpste	5/20/2011	Hardness (Calculated)	29	mg/L as CaCO3	110524-6	6/1/2011	SL323
City of Wichita	56081	11052012	Broadway&Arkansas River-Cmpste	5/20/2011	BOD	5	mg/L	110520-2	5/20/2011	GL123
City of Wichita	56082	11052013	Little Ark & Hood Upstream	5/20/2011	Kjeldahl Nitrogen, as N	2	mg/L	110527-1	5/27/2011	GL195
City of Wichita	56082	11052013	Little Ark & Hood Upstream	5/20/2011	Phosphorus, Total, as P	0.45	mg/L	110527-1	5/27/2011	GL218
City of Wichita	56082	11052013	Little Ark & Hood Upstream	5/20/2011	Solids, Total Dissolved	482	mg/L	110527-1	5/27/2011	GL242
City of Wichita	56082	11052013	Little Ark & Hood Upstream	5/20/2011	Solids, Total Suspended	77	mg/L	110527-1	5/27/2011	GL243
City of Wichita	56082	11052013	Little Ark & Hood Upstream	5/20/2011	Nitrogen (TKN + NO3/NO2), as N	2.6	mg/L		6/6/2011	GL343
City of Wichita	56082	11052013	Little Ark & Hood Upstream	5/20/2011	Chloride	107	mg/L	3IC1140	5/21/2011	GL502
City of Wichita	56082	11052013	Little Ark & Hood Upstream	5/20/2011	Nitrite, as N	0.2	mg/L	3IC1140	5/21/2011	GL503
City of Wichita	56082	11052013	Little Ark & Hood Upstream	5/20/2011	Nitrate, as N	0.4	mg/L	3IC1140	5/21/2011	GL505
City of Wichita	56082	11052013	Little Ark & Hood Upstream	5/20/2011	Cadmium, Tot. Rec., ICP-MS	ND(1)	ug/L	110524-1	5/26/2011	SL006
City of Wichita	56082	11052013	Little Ark & Hood Upstream	5/20/2011	Copper, Tot. Rec., ICP-MS	ND(5)	ug/L	110524-1	5/26/2011	SL012
City of Wichita	56082	11052013	Little Ark & Hood Upstream	5/20/2011	Zinc, Tot. Rec., ICP-MS	ND(20)	ug/L	110524-1	6/3/2011	SL033
City of Wichita	56082	11052013	Little Ark & Hood Upstream	5/20/2011	Cadmium, Dissolved, ICP-MS	ND(1) DM	ug/L	110523-3	5/26/2011	SL156
City of Wichita	56082	11052013	Little Ark & Hood Upstream	5/20/2011	Copper, Dissolved, ICP-MS	ND(5) DM	ug/L	110523-3	5/26/2011	SL162
City of Wichita	56082	11052013	Little Ark & Hood Upstream	5/20/2011	Zinc, Dissolved, ICP-MS	ND(20) DM	ug/L	110523-3	5/26/2011	SL183
City of Wichita	56082	11052013	Little Ark & Hood Upstream	5/20/2011	Hardness (Calculated)	236	mg/L as CaCO3	110524-6	6/1/2011	SL323
City of Wichita	56083	11052014	Little Ark & Hood - Grab	5/20/2011	Solids, Total Dissolved	34	mg/L	110527-1	5/27/2011	GL242
City of Wichita	56083	11052014	Little Ark & Hood - Grab	5/20/2011	Solids, Total Suspended	51	mg/L	110527-1	5/27/2011	GL243
City of Wichita	56083	11052014	Little Ark & Hood - Grab	5/20/2011	Chloride	1.5	mg/L	1IC1151	5/31/2011	GL502
City of Wichita	56083	11052014	Little Ark & Hood - Grab	5/20/2011	Cadmium, Tot. Rec., ICP-MS	ND(1)	ug/L	110524-1	5/26/2011	SL006
City of Wichita	56083	11052014	Little Ark & Hood - Grab	5/20/2011	Copper, Tot. Rec., ICP-MS	9	ug/L	110524-1	5/26/2011	SL012
City of Wichita	56083	11052014	Little Ark & Hood - Grab	5/20/2011	Zinc, Tot. Rec., ICP-MS	79	ug/L	110524-1	6/3/2011	SL033
City of Wichita	56083	11052014	Little Ark & Hood - Grab	5/20/2011	Cadmium, Dissolved, ICP-MS	ND(1) DM	ug/L	110523-3	5/26/2011	SL156
City of Wichita	56083	11052014	Little Ark & Hood - Grab	5/20/2011	Copper, Dissolved, ICP-MS	ND(5) DM	ug/L	110523-3	5/26/2011	SL162
City of Wichita	56083	11052014	Little Ark & Hood - Grab	5/20/2011	Zinc, Dissolved, ICP-MS	ND(20) DM	ug/L	110523-3	5/26/2011	SL183
City of Wichita	56083	11052014	Little Ark & Hood - Grab	5/20/2011	Hardness (Calculated)	25	mg/L as CaCO3	110524-6	6/1/2011	SL323
City of Wichita	56083	11052015	Little Ark & Hood - Composite	5/20/2011	BOD	ND(5)	mg/L	110520-2	5/20/2011	GL123
City of Wichita	56083	11052015	Little Ark & Hood - Composite	5/20/2011	Kjeldahl Nitrogen, as N	1	mg/L	110527-1	5/27/2011	GL195
City of Wichita	56083	11052015	Little Ark & Hood - Composite	5/20/2011	Phosphorus, Total, as P	ND(0.20)	mg/L	110527-1	5/27/2011	GL218

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NAME	ORDERNO	LABNO	SAMPLE	DATESAM	TESTNAME	RESULT	UNITS	BATCH	DATECOM	TESTCODE
City of Wichita	56083	11052015	Little Ark & Hood - Composite	5/20/2011	Solids, Total Dissolved	42	mg/L	110527-1	5/27/2011	GL242
City of Wichita	56083	11052015	Little Ark & Hood - Composite	5/20/2011	Solids, Total Suspended	60.	mg/L	110527-1	5/27/2011	GL243
City of Wichita	56083	11052015	Little Ark & Hood - Composite	5/20/2011	Nitrogen (TKN + NO3/NO2), as N	1.2	mg/L		6/6/2011	GL343
City of Wichita	56083	11052015	Little Ark & Hood - Composite	5/20/2011	Chloride	1.7	mg/L	3IC1140	5/21/2011	GL502
City of Wichita	56083	11052015	Little Ark & Hood - Composite	5/20/2011	Nitrite, as N	ND(0.1)	mg/L	3IC1140	5/21/2011	GL503
City of Wichita	56083	11052015	Little Ark & Hood - Composite	5/20/2011	Nitrate, as N	0.2	mg/L	3IC1140	5/21/2011	GL505
City of Wichita	56083	11052015	Little Ark & Hood - Composite	5/20/2011	Cadmium, Tot. Rec., ICP-MS	ND(1)	ug/L	110524-1	5/26/2011	SL006
City of Wichita	56083	11052015	Little Ark & Hood - Composite	5/20/2011	Copper, Tot. Rec., ICP-MS	7	ug/L	110524-1	5/26/2011	SL012
City of Wichita	56083	11052015	Little Ark & Hood - Composite	5/20/2011	Zinc, Tot. Rec., ICP-MS	72	ug/L	110524-1	6/3/2011	SL033
City of Wichita	56083	11052015	Little Ark & Hood - Composite	5/20/2011	Cadmium, Dissolved, ICP-MS	ND(1) DM	ug/L	110523-3	5/26/2011	SL156
City of Wichita	56083	11052015	Little Ark & Hood - Composite	5/20/2011	Copper, Dissolved, ICP-MS	ND(5) DM	ug/L	110523-3	5/26/2011	SL162
City of Wichita	56083	11052015	Little Ark & Hood - Composite	5/20/2011	Zinc, Dissolved, ICP-MS	ND(20) DM	ug/L	110523-3	5/26/2011	SL183
City of Wichita	56083	11052015	Little Ark & Hood - Composite	5/20/2011	Hardness (Calculated)	26	mg/L as CaCO3	110524-6	6/1/2011	SL323
City of Wichita	56083	11052015	Little Ark & Hood - Composite	8/10/2011	BOD	ND(5)	mg/L	110811-1	8/11/2011	GL123
City of Wichita	57849	11080679	Huntington Upstream	8/10/2011	Phosphorus, Total, as P	ND(0.20)	mg/L	110816-1	8/16/2011	GL218
City of Wichita	57849	11080679	Huntington Upstream	8/10/2011	Solids, Total Dissolved	74	mg/L	110811-1	8/11/2011	GL242
City of Wichita	57849	11080679	Huntington Upstream	8/10/2011	Solids, Total Suspended	37	mg/L	110812-1	8/12/2011	GL243
City of Wichita	57849	11080679	Huntington Upstream	8/10/2011	Nitrogen (TKN + NO3/NO2), as N	2.0	mg/L		8/15/2011	GL343
City of Wichita	57849	11080679	Huntington Upstream	8/10/2011	E. Coli	>2420 HT	MPN/100 mL	110810-1	8/10/2011	GL347
City of Wichita	57849	11080679	Huntington Upstream	8/10/2011	Chloride	4.4	mg/L	1IC1223	8/11/2011	GL502
City of Wichita	57849	11080679	Huntington Upstream	8/10/2011	Nitrite, as N	ND(0.1)	mg/L	1IC1223	8/11/2011	GL503
City of Wichita	57849	11080679	Huntington Upstream	8/10/2011	Nitrate, as N	0.5 B	mg/L	1IC1223	8/11/2011	GL505
City of Wichita	57849	11080679	Huntington Upstream	8/10/2011	Kjeldahl Nitrogen, as N (TKN)	1.5	mg/L	110812-1	8/15/2011	GL595
City of Wichita	57849	11080679	Huntington Upstream	8/10/2011	Cadmium, Tot. Rec., ICP-MS	ND(1)	ug/L	110815-6	8/18/2011	SL006
City of Wichita	57849	11080679	Huntington Upstream	8/10/2011	Copper, Tot. Rec., ICP-MS	10	ug/L	110815-6	8/18/2011	SL012
City of Wichita	57849	11080679	Huntington Upstream	8/10/2011	Zinc, Tot. Rec., ICP-MS	41	ug/L	110815-6	8/18/2011	SL033
City of Wichita	57849	11080679	Huntington Upstream	8/10/2011	Cadmium, Dissolved, ICP-MS	ND(1)	ug/L	110817-5	8/20/2011	SL156
City of Wichita	57849	11080679	Huntington Upstream	8/10/2011	Copper, Dissolved, ICP-MS	5	ug/L	110817-5	8/20/2011	SL162
City of Wichita	57849	11080679	Huntington Upstream	8/10/2011	Zinc, Dissolved, ICP-MS	ND(20)	ug/L	110817-5	8/20/2011	SL183
City of Wichita	57849	11080679	Huntington Upstream	8/10/2011	Hardness (Calculated)	27.7	mg/L as CaCO3	110812-4	8/16/2011	SL323
City of Wichita	57849	11080679	Huntington Upstream	8/10/2011	Hexane Extractable Material	ND(5.6) L	mg/L	110825-1	8/25/2011	GL188
City of Wichita	57850	11080680	Huntington - Grab	8/10/2011	Solids, Total Dissolved	38	mg/L	110811-1	8/11/2011	GL242
City of Wichita	57850	11080680	Huntington - Grab	8/10/2011	Solids, Total Suspended	19	mg/L	110812-1	8/12/2011	GL243
City of Wichita	57850	11080680	Huntington - Grab	8/10/2011	E. Coli	2420 HT	MPN/100 mL	110810-1	8/10/2011	GL347
City of Wichita	57850	11080680	Huntington - Grab	8/10/2011	Chloride	4.7	mg/L	1IC2228	8/16/2011	GL502
City of Wichita	57850	11080680	Huntington - Grab	8/10/2011	Cadmium, Tot. Rec., ICP-MS	ND(1)	ug/L	110815-6	8/18/2011	SL006
City of Wichita	57850	11080680	Huntington - Grab	8/10/2011	Copper, Tot. Rec., ICP-MS	7	ug/L	110815-6	8/18/2011	SL012
City of Wichita	57850	11080680	Huntington - Grab	8/10/2011	Zinc, Tot. Rec., ICP-MS	29	ug/L	110815-6	8/18/2011	SL033
City of Wichita	57850	11080680	Huntington - Grab	8/10/2011	Cadmium, Dissolved, ICP-MS	ND(1)	ug/L	110817-5	8/20/2011	SL156
City of Wichita	57850	11080680	Huntington - Grab	8/10/2011	Copper, Dissolved, ICP-MS	ND(5)	ug/L	110817-5	8/20/2011	SL162
City of Wichita	57850	11080680	Huntington - Grab	8/10/2011	Zinc, Dissolved, ICP-MS	ND(20)	ug/L	110817-5	8/20/2011	SL183
City of Wichita	57850	11080680	Huntington - Grab	8/10/2011	Hardness (Calculated)	26.6	mg/L as CaCO3	110812-4	8/16/2011	SL323
City of Wichita	57850	11080680	Huntington - Grab	8/10/2011	BOD	ND(5)	mg/L	110811-1	8/11/2011	GL123
City of Wichita	57850	11080681	Huntington - Composite	8/10/2011	Phosphorus, Total, as P	ND(0.20)	mg/L	110816-1	8/16/2011	GL218
City of Wichita	57850	11080681	Huntington - Composite	8/10/2011	Solids, Total Dissolved	30.	mg/L	110811-1	8/11/2011	GL242
City of Wichita	57850	11080681	Huntington - Composite	8/10/2011	Solids, Total Suspended	15	mg/L	110812-1	8/12/2011	GL243
City of Wichita	57850	11080681	Huntington - Composite	8/10/2011	Nitrogen (TKN + NO3/NO2), as N	ND(1.0)	mg/L		8/15/2011	GL343
City of Wichita	57850	11080681	Huntington - Composite							

NAME	ORDERNO	LABNO	SAMPLE	DATESAM	TESTNAME	RESULT	UNITS	BATCH	DATECOM	TESTCODE
City of Wichita	57850	11080681	Huntington - Composite	8/10/2011	Chloride	4.8	mg/L	1IC1223	8/11/2011	GL502
City of Wichita	57850	11080681	Huntington - Composite	8/10/2011	Nitrite, as N	ND(0.1)	mg/L	1IC1223	8/11/2011	GL503
City of Wichita	57850	11080681	Huntington - Composite	8/10/2011	Nitrate, as N	0.5 B	mg/L	1IC1223	8/11/2011	GL505
City of Wichita	57850	11080681	Huntington - Composite	8/10/2011	Kjeldahl Nitrogen, as N (TKN)	ND(1.0)	mg/L	110812-1	8/15/2011	GL595
City of Wichita	57850	11080681	Huntington - Composite	8/10/2011	Cadmium, Tot. Rec., ICP-MS	ND(1)	ug/L	110815-6	8/18/2011	SL006
City of Wichita	57850	11080681	Huntington - Composite	8/10/2011	Copper, Tot. Rec., ICP-MS	8	ug/L	110815-6	8/18/2011	SL012
City of Wichita	57850	11080681	Huntington - Composite	8/10/2011	Zinc, Tot. Rec., ICP-MS	35	ug/L	110815-6	8/18/2011	SL033
City of Wichita	57850	11080681	Huntington - Composite	8/10/2011	Cadmium, Dissolved, ICP-MS	ND(1)	ug/L	110817-5	8/20/2011	SL156
City of Wichita	57850	11080681	Huntington - Composite	8/10/2011	Copper, Dissolved, ICP-MS	ND(5)	ug/L	110817-5	8/20/2011	SL162
City of Wichita	57850	11080681	Huntington - Composite	8/10/2011	Zinc, Dissolved, ICP-MS	ND(20)	ug/L	110817-5	8/20/2011	SL183
City of Wichita	57850	11080681	Huntington - Composite	8/10/2011	Hardness (Calculated)	27.5	mg/L as CaCO3	110812-4	8/16/2011	SL323
City of Wichita	57851	11080682	Town East Upstream	8/10/2011	BOD	ND(5)	mg/L	110811-1	8/11/2011	GL123
City of Wichita	57851	11080682	Town East Upstream	8/10/2011	Phosphorus, Total, as P	ND(0.20)	mg/L	110816-1	8/16/2011	GL218
City of Wichita	57851	11080682	Town East Upstream	8/10/2011	Solids, Total Dissolved	ND(30)	mg/L	110811-1	8/11/2011	GL242
City of Wichita	57851	11080682	Town East Upstream	8/10/2011	Solids, Total Suspended	21	mg/L	110812-1	8/12/2011	GL243
City of Wichita	57851	11080682	Town East Upstream	8/10/2011	Nitrogen (TKN + NO3/NO2), as N	ND(1.0)	mg/L		8/15/2011	GL343
City of Wichita	57851	11080682	Town East Upstream	8/10/2011	E. Coli	>2420 HT	MPN/100 mL	110810-1	8/10/2011	GL347
City of Wichita	57851	11080682	Town East Upstream	8/10/2011	Chloride	8.2	mg/L	1IC1223	8/11/2011	GL502
City of Wichita	57851	11080682	Town East Upstream	8/10/2011	Nitrite, as N	ND(0.1)	mg/L	1IC1223	8/11/2011	GL503
City of Wichita	57851	11080682	Town East Upstream	8/10/2011	Nitrate, as N	0.5 B	mg/L	1IC1223	8/11/2011	GL505
City of Wichita	57851	11080682	Town East Upstream	8/10/2011	Kjeldahl Nitrogen, as N (TKN)	ND(1.0)	mg/L	110812-1	8/15/2011	GL595
City of Wichita	57851	11080682	Town East Upstream	8/10/2011	Cadmium, Tot. Rec., ICP-MS	ND(1)	ug/L	110815-6	8/18/2011	SL006
City of Wichita	57851	11080682	Town East Upstream	8/10/2011	Copper, Tot. Rec., ICP-MS	7	ug/L	110815-6	8/18/2011	SL012
City of Wichita	57851	11080682	Town East Upstream	8/10/2011	Zinc, Tot. Rec., ICP-MS	42	ug/L	110815-6	8/18/2011	SL033
City of Wichita	57851	11080682	Town East Upstream	8/10/2011	Cadmium, Dissolved, ICP-MS	ND(1)	ug/L	110817-5	8/20/2011	SL156
City of Wichita	57851	11080682	Town East Upstream	8/10/2011	Copper, Dissolved, ICP-MS	ND(5)	ug/L	110817-5	8/20/2011	SL162
City of Wichita	57851	11080682	Town East Upstream	8/10/2011	Zinc, Dissolved, ICP-MS	ND(20)	ug/L	110817-5	8/20/2011	SL183
City of Wichita	57851	11080682	Town East Upstream	8/10/2011	Hardness (Calculated)	33.0	mg/L as CaCO3	110812-4	8/16/2011	SL323
City of Wichita	57852	11080683	Town East - Grab	8/10/2011	Hexane Extractable Material	ND(5.0)	mg/L	110825-1	8/25/2011	GL188
City of Wichita	57852	11080683	Town East - Grab	8/10/2011	Solids, Total Dissolved	52	mg/L	110811-1	8/11/2011	GL242
City of Wichita	57852	11080683	Town East - Grab	8/10/2011	Solids, Total Suspended	ND(5)	mg/L	110812-1	8/12/2011	GL243
City of Wichita	57852	11080683	Town East - Grab	8/10/2011	E. Coli	>2420 HT	MPN/100 mL	110810-1	8/10/2011	GL347
City of Wichita	57852	11080683	Town East - Grab	8/10/2011	Chloride	3.4	mg/L	1IC2228	8/16/2011	GL502
City of Wichita	57852	11080683	Town East - Grab	8/10/2011	Cadmium, Tot. Rec., ICP-MS	ND(1)	ug/L	110815-6	8/18/2011	SL006
City of Wichita	57852	11080683	Town East - Grab	8/10/2011	Copper, Tot. Rec., ICP-MS	ND(5)	ug/L	110815-6	8/18/2011	SL012
City of Wichita	57852	11080683	Town East - Grab	8/10/2011	Zinc, Tot. Rec., ICP-MS	31	ug/L	110815-6	8/18/2011	SL033
City of Wichita	57852	11080683	Town East - Grab	8/10/2011	Cadmium, Dissolved, ICP-MS	ND(1)	ug/L	110817-5	8/20/2011	SL156
City of Wichita	57852	11080683	Town East - Grab	8/10/2011	Copper, Dissolved, ICP-MS	ND(5)	ug/L	110817-5	8/20/2011	SL162
City of Wichita	57852	11080683	Town East - Grab	8/10/2011	Zinc, Dissolved, ICP-MS	ND(20)	ug/L	110817-5	8/20/2011	SL183
City of Wichita	57852	11080683	Town East - Grab	8/10/2011	Hardness (Calculated)	21.4	mg/L as CaCO3	110812-4	8/16/2011	SL323
City of Wichita	57852	11080684	Town East - Composite	8/10/2011	BOD	ND(5)	mg/L	110811-1	8/11/2011	GL123
City of Wichita	57852	11080684	Town East - Composite	8/10/2011	Phosphorus, Total, as P	ND(0.20)	mg/L	110816-1	8/16/2011	GL218
City of Wichita	57852	11080684	Town East - Composite	8/10/2011	Solids, Total Dissolved	ND(30)	mg/L	110811-1	8/11/2011	GL242
City of Wichita	57852	11080684	Town East - Composite	8/10/2011	Solids, Total Suspended	ND(5)	mg/L	110812-1	8/12/2011	GL243
City of Wichita	57852	11080684	Town East - Composite	8/10/2011	Nitrogen (TKN + NO3/NO2), as N	ND(1.0)	mg/L		8/15/2011	GL343
City of Wichita	57852	11080684	Town East - Composite	8/10/2011	Chloride	3.1	mg/L	1IC1223	8/11/2011	GL502
City of Wichita	57852	11080684	Town East - Composite	8/10/2011	Nitrite, as N	ND(0.1)	mg/L	1IC1223	8/11/2011	GL503

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NAME	ORDERNO	LABNO	SAMPLE	DATESAM	TESTNAME	RESULT	UNITS	BATCH	DATECOM	TESTCODE
City of Wichita	57852	11080684	Town East - Composite	8/10/2011	Nitrate, as N	0.3 B	mg/L	1IC1223	8/11/2011	GL505
City of Wichita	57852	11080684	Town East - Composite	8/10/2011	Kjeldahl Nitrogen, as N (TKN)	ND(1.0)	mg/L	110812-1	8/15/2011	GL595
City of Wichita	57852	11080684	Town East - Composite	8/10/2011	Cadmium, Tot. Rec., ICP-MS	ND(1)	ug/L	110815-6	8/18/2011	SL006
City of Wichita	57852	11080684	Town East - Composite	8/10/2011	Copper, Tot. Rec., ICP-MS	ND(5)	ug/L	110815-6	8/18/2011	SL012
City of Wichita	57852	11080684	Town East - Composite	8/10/2011	Zinc, Tot. Rec., ICP-MS	26	ug/L	110815-6	8/18/2011	SL033
City of Wichita	57852	11080684	Town East - Composite	8/10/2011	Cadmium, Dissolved, ICP-MS	ND(1)	ug/L	110817-5	8/20/2011	SL156
City of Wichita	57852	11080684	Town East - Composite	8/10/2011	Copper, Dissolved, ICP-MS	ND(5)	ug/L	110817-5	8/20/2011	SL162
City of Wichita	57852	11080684	Town East - Composite	8/10/2011	Zinc, Dissolved, ICP-MS	ND(20)	ug/L	110817-5	8/20/2011	SL183
City of Wichita	57852	11080684	Town East - Composite	8/10/2011	Hardness (Calculated)	20.7	mg/L as CaCO3	110812-4	8/16/2011	SL323
City of Wichita	57852	11080684	Town East - Composite	8/10/2011	BOD	ND(5)	mg/L	110811-1	8/11/2011	GL123
City of Wichita	57853	11080685	McLean Upstream	8/10/2011	Phosphorus, Total, as P	ND(0.20)	mg/L	110816-1	8/16/2011	GL218
City of Wichita	57853	11080685	McLean Upstream	8/10/2011	Solids, Total Dissolved	338	mg/L	110811-1	8/11/2011	GL242
City of Wichita	57853	11080685	McLean Upstream	8/10/2011	Solids, Total Suspended	16	mg/L	110812-1	8/12/2011	GL243
City of Wichita	57853	11080685	McLean Upstream	8/10/2011	Nitrogen (TKN + NO3/NO2), as N	2.0 E	mg/L		8/15/2011	GL343
City of Wichita	57853	11080685	McLean Upstream	8/10/2011	E. Coli	>2420 HT	MPN/100 mL	110810-1	8/10/2011	GL347
City of Wichita	57853	11080685	McLean Upstream	8/10/2011	Chloride	70.	mg/L	1IC1223	8/11/2011	GL502
City of Wichita	57853	11080685	McLean Upstream	8/10/2011	Nitrite, as N	ND(1) M	mg/L	1IC1223	8/11/2011	GL503
City of Wichita	57853	11080685	McLean Upstream	8/10/2011	Nitrate, as N	1.0	mg/L	1IC1223	8/11/2011	GL505
City of Wichita	57853	11080685	McLean Upstream	8/10/2011	Kjeldahl Nitrogen, as N (TKN)	1.0	mg/L	110812-1	8/15/2011	GL595
City of Wichita	57853	11080685	McLean Upstream	8/10/2011	Cadmium, Tot. Rec., ICP-MS	ND(1)	ug/L	110815-6	8/18/2011	SL006
City of Wichita	57853	11080685	McLean Upstream	8/10/2011	Copper, Tot. Rec., ICP-MS	ND(5)	ug/L	110815-6	8/18/2011	SL012
City of Wichita	57853	11080685	McLean Upstream	8/10/2011	Zinc, Tot. Rec., ICP-MS	26	ug/L	110815-6	8/18/2011	SL033
City of Wichita	57853	11080685	McLean Upstream	8/10/2011	Cadmium, Dissolved, ICP-MS	ND(1)	ug/L	110817-5	8/20/2011	SL156
City of Wichita	57853	11080685	McLean Upstream	8/10/2011	Copper, Dissolved, ICP-MS	ND(5)	ug/L	110817-5	8/20/2011	SL162
City of Wichita	57853	11080685	McLean Upstream	8/10/2011	Zinc, Dissolved, ICP-MS	ND(20)	ug/L	110817-5	8/20/2011	SL183
City of Wichita	57853	11080685	McLean Upstream	8/10/2011	Hardness (Calculated)	175	mg/L as CaCO3	110812-4	8/16/2011	SL323
City of Wichita	57853	11080685	McLean Upstream	8/10/2011	Hexane Extractable Material	ND(5.0)	mg/L	110825-1	8/25/2011	GL188
City of Wichita	57854	11080686	McLean - Grab	8/10/2011	Solids, Total Dissolved	54	mg/L	110811-1	8/11/2011	GL242
City of Wichita	57854	11080686	McLean - Grab	8/10/2011	Solids, Total Suspended	27 QC	mg/L	110816-1	8/16/2011	GL243
City of Wichita	57854	11080686	McLean - Grab	8/10/2011	E. Coli	>2420 HT	MPN/100 mL	110810-1	8/10/2011	GL347
City of Wichita	57854	11080686	McLean - Grab	8/10/2011	Chloride	2.3	mg/L	1IC2228	8/16/2011	GL502
City of Wichita	57854	11080686	McLean - Grab	8/10/2011	Cadmium, Tot. Rec., ICP-MS	2	ug/L	110815-6	8/18/2011	SL006
City of Wichita	57854	11080686	McLean - Grab	8/10/2011	Copper, Tot. Rec., ICP-MS	15	ug/L	110815-6	8/18/2011	SL012
City of Wichita	57854	11080686	McLean - Grab	8/10/2011	Zinc, Tot. Rec., ICP-MS	123	ug/L	110815-6	8/18/2011	SL033
City of Wichita	57854	11080686	McLean - Grab	8/10/2011	Cadmium, Dissolved, ICP-MS	ND(1)	ug/L	110817-5	8/20/2011	SL156
City of Wichita	57854	11080686	McLean - Grab	8/10/2011	Copper, Dissolved, ICP-MS	9	ug/L	110817-5	8/20/2011	SL162
City of Wichita	57854	11080686	McLean - Grab	8/10/2011	Zinc, Dissolved, ICP-MS	29	ug/L	110817-5	8/20/2011	SL183
City of Wichita	57854	11080686	McLean - Grab	8/10/2011	Hardness (Calculated)	40.4	mg/L as CaCO3	110812-4	8/16/2011	SL323
City of Wichita	57854	11080686	McLean - Grab	8/10/2011	BOD	ND(5)	mg/L	110811-1	8/11/2011	GL123
City of Wichita	57854	11080687	McLean - Composite	8/10/2011	Phosphorus, Total, as P	ND(0.20)	mg/L	110816-1	8/16/2011	GL218
City of Wichita	57854	11080687	McLean - Composite	8/10/2011	Solids, Total Dissolved	56 QC	mg/L	110812-1	8/12/2011	GL242
City of Wichita	57854	11080687	McLean - Composite	8/10/2011	Solids, Total Suspended	15	mg/L	110816-1	8/16/2011	GL243
City of Wichita	57854	11080687	McLean - Composite	8/10/2011	Nitrogen (TKN + NO3/NO2), as N	ND(1.0)	mg/L		8/15/2011	GL343
City of Wichita	57854	11080687	McLean - Composite	8/10/2011	Chloride	2.3	mg/L	1IC1223	8/11/2011	GL502
City of Wichita	57854	11080687	McLean - Composite	8/10/2011	Nitrite, as N	ND(0.1)	mg/L	1IC1223	8/11/2011	GL503
City of Wichita	57854	11080687	McLean - Composite	8/10/2011	Nitrate, as N	0.6 B	mg/L	1IC1223	8/11/2011	GL505
City of Wichita	57854	11080687	McLean - Composite	8/10/2011	Kjeldahl Nitrogen, as N (TKN)	ND(1.0)	mg/L	110812-1	8/15/2011	GL595

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NAME	ORDERNO	LABNO	SAMPLE	DATESAM	TESTNAME	RESULT	UNITS	BATCH	DATECOM	TESTCODE
City of Wichita	57854	11080687	McLean - Composite	8/10/2011	Cadmium, Tot. Rec., ICP-MS	2	ug/L	110815-6	8/18/2011	SL006
City of Wichita	57854	11080687	McLean - Composite	8/10/2011	Copper, Tot. Rec., ICP-MS	17	ug/L	110815-6	8/18/2011	SL012
City of Wichita	57854	11080687	McLean - Composite	8/10/2011	Zinc, Tot. Rec., ICP-MS	124	ug/L	110815-6	8/18/2011	SL033
City of Wichita	57854	11080687	McLean - Composite	8/10/2011	Cadmium, Dissolved, ICP-MS	ND(1)	ug/L	110817-5	8/20/2011	SL156
City of Wichita	57854	11080687	McLean - Composite	8/10/2011	Copper, Dissolved, ICP-MS	7	ug/L	110817-5	8/20/2011	SL162
City of Wichita	57854	11080687	McLean - Composite	8/10/2011	Zinc, Dissolved, ICP-MS	27	ug/L	110817-5	8/20/2011	SL183
City of Wichita	57854	11080687	McLean - Composite	8/10/2011	Hardness (Calculated)	40.5	mg/L as CaCO3	110812-4	8/16/2011	SL323
City of Wichita	57855	11080688	Harvest Ct. Upstream	8/10/2011	BOD	ND(5)	mg/L	110811-1	8/11/2011	GL123
City of Wichita	57855	11080688	Harvest Ct. Upstream	8/10/2011	Phosphorus, Total, as P	0.23	mg/L	110816-1	8/16/2011	GL218
City of Wichita	57855	11080688	Harvest Ct. Upstream	8/10/2011	Solids, Total Dissolved	212	mg/L	110812-1	8/12/2011	GL242
City of Wichita	57855	11080688	Harvest Ct. Upstream	8/10/2011	Solids, Total Suspended	29	mg/L	110816-1	8/16/2011	GL243
City of Wichita	57855	11080688	Harvest Ct. Upstream	8/10/2011	Nitrogen (TKN + NO3/NO2), as N	1.7	mg/L		8/15/2011	GL343
City of Wichita	57855	11080688	Harvest Ct. Upstream	8/10/2011	E. Coli	>2420 HT	MPN/100 mL	110810-1	8/10/2011	GL347
City of Wichita	57855	11080688	Harvest Ct. Upstream	8/10/2011	Chloride	33.0	mg/L	1IC1223	8/11/2011	GL502
City of Wichita	57855	11080688	Harvest Ct. Upstream	8/10/2011	Nitrite, as N	ND(0.1)	mg/L	1IC1223	8/11/2011	GL503
City of Wichita	57855	11080688	Harvest Ct. Upstream	8/10/2011	Nitrate, as N	ND(0.1) B	mg/L	1IC1223	8/11/2011	GL505
City of Wichita	57855	11080688	Harvest Ct. Upstream	8/10/2011	Kjeldahl Nitrogen, as N (TKN)	1.7	mg/L	110812-1	8/15/2011	GL595
City of Wichita	57855	11080688	Harvest Ct. Upstream	8/10/2011	Cadmium, Tot. Rec., ICP-MS	ND(1)	ug/L	110815-6	8/18/2011	SL006
City of Wichita	57855	11080688	Harvest Ct. Upstream	8/10/2011	Copper, Tot. Rec., ICP-MS	ND(5)	ug/L	110815-6	8/18/2011	SL012
City of Wichita	57855	11080688	Harvest Ct. Upstream	8/10/2011	Zinc, Tot. Rec., ICP-MS	ND(20)	ug/L	110815-6	8/18/2011	SL033
City of Wichita	57855	11080688	Harvest Ct. Upstream	8/10/2011	Cadmium, Dissolved, ICP-MS	ND(1)	ug/L	110817-5	8/20/2011	SL156
City of Wichita	57855	11080688	Harvest Ct. Upstream	8/10/2011	Copper, Dissolved, ICP-MS	ND(5)	ug/L	110817-5	8/20/2011	SL162
City of Wichita	57855	11080688	Harvest Ct. Upstream	8/10/2011	Zinc, Dissolved, ICP-MS	ND(20)	ug/L	110817-5	8/20/2011	SL183
City of Wichita	57855	11080688	Harvest Ct. Upstream	8/10/2011	Hardness (Calculated)	111	mg/L as CaCO3	110812-4	8/16/2011	SL323
City of Wichita	57855	11080688	Harvest Ct. Upstream	8/10/2011	Solids, Total Dissolved	178	mg/L	110812-1	8/12/2011	GL242
City of Wichita	57856	11080689	Harvest Ct. - Grab	8/10/2011	Solids, Total Suspended	27	mg/L	110816-1	8/16/2011	GL243
City of Wichita	57856	11080689	Harvest Ct. - Grab	8/10/2011	E. Coli	>2420 HT	MPN/100 mL	110810-1	8/10/2011	GL347
City of Wichita	57856	11080689	Harvest Ct. - Grab	8/10/2011	Chloride	21.6	mg/L	1IC2228	8/16/2011	GL502
City of Wichita	57856	11080689	Harvest Ct. - Grab	8/10/2011	Cadmium, Tot. Rec., ICP-MS	ND(1)	ug/L	110815-6	8/18/2011	SL006
City of Wichita	57856	11080689	Harvest Ct. - Grab	8/10/2011	Copper, Tot. Rec., ICP-MS	6	ug/L	110815-6	8/18/2011	SL012
City of Wichita	57856	11080689	Harvest Ct. - Grab	8/10/2011	Zinc, Tot. Rec., ICP-MS	21	ug/L	110815-6	8/18/2011	SL033
City of Wichita	57856	11080689	Harvest Ct. - Grab	8/10/2011	Cadmium, Dissolved, ICP-MS	ND(1)	ug/L	110817-5	8/20/2011	SL156
City of Wichita	57856	11080689	Harvest Ct. - Grab	8/10/2011	Copper, Dissolved, ICP-MS	5	ug/L	110817-5	8/20/2011	SL162
City of Wichita	57856	11080689	Harvest Ct. - Grab	8/10/2011	Zinc, Dissolved, ICP-MS	ND(20)	ug/L	110817-5	8/20/2011	SL183
City of Wichita	57856	11080689	Harvest Ct. - Grab	8/10/2011	Hardness (Calculated)	86.5	mg/L as CaCO3	110812-4	8/16/2011	SL323
City of Wichita	57856	11080689	Harvest Ct. - Grab	8/10/2011	BOD	ND(5)	mg/L	110811-1	8/11/2011	GL123
City of Wichita	57856	11080690	Harvest Ct. - Composite	8/10/2011	Phosphorus, Total, as P	0.60	mg/L	110816-2	8/16/2011	GL218
City of Wichita	57856	11080690	Harvest Ct. - Composite	8/10/2011	Solids, Total Dissolved	572	mg/L	110812-1	8/12/2011	GL242
City of Wichita	57856	11080690	Harvest Ct. - Composite	8/10/2011	Solids, Total Suspended	11	mg/L	110816-1	8/16/2011	GL243
City of Wichita	57856	11080690	Harvest Ct. - Composite	8/10/2011	Nitrogen (TKN + NO3/NO2), as N	4.0 E	mg/L		8/15/2011	GL343
City of Wichita	57856	11080690	Harvest Ct. - Composite	8/10/2011	Chloride	21.5	mg/L	1IC1223	8/11/2011	GL502
City of Wichita	57856	11080690	Harvest Ct. - Composite	8/10/2011	Nitrite, as N	ND(1) M	mg/L	1IC1223	8/11/2011	GL503
City of Wichita	57856	11080690	Harvest Ct. - Composite	8/10/2011	Nitrate, as N	2.2	mg/L	1IC1223	8/11/2011	GL505
City of Wichita	57856	11080690	Harvest Ct. - Composite	8/10/2011	Kjeldahl Nitrogen, as N (TKN)	1.8	mg/L	110812-1	8/15/2011	GL595
City of Wichita	57856	11080690	Harvest Ct. - Composite	8/10/2011	Cadmium, Tot. Rec., ICP-MS	ND(1)	ug/L	110815-6	8/18/2011	SL006
City of Wichita	57856	11080690	Harvest Ct. - Composite	8/10/2011	Copper, Tot. Rec., ICP-MS	6	ug/L	110815-6	8/18/2011	SL012
City of Wichita	57856	11080690	Harvest Ct. - Composite	8/10/2011	Zinc, Tot. Rec., ICP-MS	21	ug/L	110815-6	8/18/2011	SL033

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NAME	ORDERNO	LABNO	SAMPLE	DATESAM	TESTNAME	RESULT	UNITS	BATCH	DATECOM	TESTCODE
City of Wichita	57856	11080690	Harvest Ct. - Composite	8/10/2011	Cadmium, Dissolved, ICP-MS	ND(1)	ug/L	110817-5	8/20/2011	SL156
City of Wichita	57856	11080690	Harvest Ct. - Composite	8/10/2011	Copper, Dissolved, ICP-MS	ND(5)	ug/L	110817-5	8/20/2011	SL162
City of Wichita	57856	11080690	Harvest Ct. - Composite	8/10/2011	Zinc, Dissolved, ICP-MS	ND(20)	ug/L	110817-5	8/20/2011	SL183
City of Wichita	57856	11080690	Harvest Ct. - Composite	8/10/2011	Hardness (Calculated)	81.8	mg/L as CaCO3	110812-4	8/16/2011	SL323
City of Wichita	57857	11080691	13th and River	8/10/2011	BOD	ND(5)	mg/L	110811-1	8/11/2011	GL123
City of Wichita	57857	11080691	13th and River	8/10/2011	Phosphorus, Total, as P	0.37	mg/L	110816-2	8/16/2011	GL218
City of Wichita	57857	11080691	13th and River	8/10/2011	Solids, Total Dissolved	174	mg/L	110812-1	8/12/2011	GL242
City of Wichita	57857	11080691	13th and River	8/10/2011	Solids, Total Suspended	51	mg/L	110816-1	8/16/2011	GL243
City of Wichita	57857	11080691	13th and River	8/10/2011	Nitrogen (TKN + NO3/NO2), as N	1.7 E	mg/L		8/15/2011	GL343
City of Wichita	57857	11080691	13th and River	8/10/2011	E. Coli	1730	MPN/100 mL	110810-1	8/10/2011	GL347
City of Wichita	57857	11080691	13th and River	8/10/2011	Chloride	129	mg/L	1IC1223	8/11/2011	GL502
City of Wichita	57857	11080691	13th and River	8/10/2011	Nitrite, as N	ND(1) M	mg/L	1IC1223	8/11/2011	GL503
City of Wichita	57857	11080691	13th and River	8/10/2011	Nitrate, as N	0.2 B	mg/L	1IC1223	8/11/2011	GL505
City of Wichita	57857	11080691	13th and River	8/10/2011	Kjeldahl Nitrogen, as N (TKN)	1.5	mg/L	110812-1	8/15/2011	GL595
City of Wichita	57857	11080691	13th and River	8/10/2011	Cadmium, Tot. Rec., ICP-MS	ND(1)	ug/L	110815-6	8/18/2011	SL006
City of Wichita	57857	11080691	13th and River	8/10/2011	Copper, Tot. Rec., ICP-MS	ND(5)	ug/L	110815-6	8/18/2011	SL012
City of Wichita	57857	11080691	13th and River	8/10/2011	Zinc, Tot. Rec., ICP-MS	26	ug/L	110815-6	8/18/2011	SL033
City of Wichita	57857	11080691	13th and River	8/10/2011	Cadmium, Dissolved, ICP-MS	ND(1)	ug/L	110817-5	8/20/2011	SL156
City of Wichita	57857	11080691	13th and River	8/10/2011	Copper, Dissolved, ICP-MS	ND(5)	ug/L	110817-5	8/20/2011	SL162
City of Wichita	57857	11080691	13th and River	8/10/2011	Zinc, Dissolved, ICP-MS	ND(20)	ug/L	110817-5	8/20/2011	SL183
City of Wichita	57857	11080691	13th and River	8/10/2011	Hardness (Calculated)	276	mg/L as CaCO3	110812-4	8/16/2011	SL323
City of Wichita	57857	11080691	13th and River	8/10/2011	Solids, Total Dissolved	64	mg/L	110812-1	8/12/2011	GL242
City of Wichita	57858	11080692	13th and River - Grab	8/10/2011	Solids, Total Suspended	48	mg/L	110816-1	8/16/2011	GL243
City of Wichita	57858	11080692	13th and River - Grab	8/10/2011	E. Coli	>2420	MPN/100 mL	110810-1	8/10/2011	GL347
City of Wichita	57858	11080692	13th and River - Grab	8/10/2011	Chloride	3.8	mg/L	1IC2228	8/16/2011	GL502
City of Wichita	57858	11080692	13th and River - Grab	8/10/2011	Cadmium, Tot. Rec., ICP-MS	ND(1)	ug/L	110815-6	8/18/2011	SL006
City of Wichita	57858	11080692	13th and River - Grab	8/10/2011	Copper, Tot. Rec., ICP-MS	13	ug/L	110815-6	8/18/2011	SL012
City of Wichita	57858	11080692	13th and River - Grab	8/10/2011	Zinc, Tot. Rec., ICP-MS	127	ug/L	110815-6	8/18/2011	SL033
City of Wichita	57858	11080692	13th and River - Grab	8/10/2011	Cadmium, Dissolved, ICP-MS	ND(1)	ug/L	110817-5	8/20/2011	SL156
City of Wichita	57858	11080692	13th and River - Grab	8/10/2011	Copper, Dissolved, ICP-MS	6	ug/L	110817-5	8/20/2011	SL162
City of Wichita	57858	11080692	13th and River - Grab	8/10/2011	Zinc, Dissolved, ICP-MS	21	ug/L	110817-5	8/20/2011	SL183
City of Wichita	57858	11080692	13th and River - Grab	8/10/2011	Hardness (Calculated)	42.7	mg/L as CaCO3	110812-4	8/16/2011	SL323
City of Wichita	57858	11080692	13th and River - Grab	8/10/2011	BOD	8	mg/L	110811-1	8/11/2011	GL123
City of Wichita	57858	11080693	13th and River - Composite	8/10/2011	Phosphorus, Total, as P	ND(0.20)	mg/L	110816-2	8/16/2011	GL218
City of Wichita	57858	11080693	13th and River - Composite	8/10/2011	Solids, Total Dissolved	58	mg/L	110812-1	8/12/2011	GL242
City of Wichita	57858	11080693	13th and River - Composite	8/10/2011	Solids, Total Suspended	21	mg/L	110816-1	8/16/2011	GL243
City of Wichita	57858	11080693	13th and River - Composite	8/10/2011	Nitrogen (TKN + NO3/NO2), as N	2.0	mg/L		8/25/2011	GL343
City of Wichita	57858	11080693	13th and River - Composite	8/10/2011	Chloride	3.9	mg/L	1IC1223	8/11/2011	GL502
City of Wichita	57858	11080693	13th and River - Composite	8/10/2011	Nitrite, as N	ND(0.1)	mg/L	1IC1223	8/11/2011	GL503
City of Wichita	57858	11080693	13th and River - Composite	8/10/2011	Nitrate, as N	0.7 B	mg/L	1IC1223	8/11/2011	GL505
City of Wichita	57858	11080693	13th and River - Composite	8/10/2011	Kjeldahl Nitrogen, as N (TKN)	1.3	mg/L	110819-1	8/22/2011	GL595
City of Wichita	57858	11080693	13th and River - Composite	8/10/2011	Cadmium, Tot. Rec., ICP-MS	ND(1)	ug/L	110815-6	8/18/2011	SL006
City of Wichita	57858	11080693	13th and River - Composite	8/10/2011	Copper, Tot. Rec., ICP-MS	12	ug/L	110815-6	8/18/2011	SL012
City of Wichita	57858	11080693	13th and River - Composite	8/10/2011	Zinc, Tot. Rec., ICP-MS	114	ug/L	110815-6	8/18/2011	SL033
City of Wichita	57858	11080693	13th and River - Composite	8/10/2011	Cadmium, Dissolved, ICP-MS	ND(1)	ug/L	110817-5	8/20/2011	SL156
City of Wichita	57858	11080693	13th and River - Composite	8/10/2011	Copper, Dissolved, ICP-MS	6	ug/L	110817-5	8/20/2011	SL162
City of Wichita	57858	11080693	13th and River - Composite	8/10/2011	Zinc, Dissolved, ICP-MS	25	ug/L	110817-5	8/20/2011	SL183

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NAME	ORDERNO	LABNO	SAMPLE	DATESAM	TESTNAME	RESULT	UNITS	BATCH	DATECOM	TESTCODE
City of Wichita	57858	11080693	13th and River - Composite	8/10/2011	Hardness (Calculated)	41.0	mg/L as CaCO3	110812-4	8/16/2011	SL323
City of Wichita	57859	11080694	Broadway Upstream	8/10/2011	BOD	7	mg/L	110811-1	8/11/2011	GL123
City of Wichita	57859	11080694	Broadway Upstream	8/10/2011	Phosphorus, Total, as P	0.23	mg/L	110816-2	8/16/2011	GL218
City of Wichita	57859	11080694	Broadway Upstream	8/10/2011	Solids, Total Dissolved	94	mg/L	110812-1	8/12/2011	GL242
City of Wichita	57859	11080694	Broadway Upstream	8/10/2011	Solids, Total Suspended	46	mg/L	110816-1	8/16/2011	GL243
City of Wichita	57859	11080694	Broadway Upstream	8/10/2011	Nitrogen (TKN + NO3/NO2), as N	1.8	mg/L		8/15/2011	GL343
City of Wichita	57859	11080694	Broadway Upstream	8/10/2011	E. Coli	>2420 HT	MPN/100 mL	110810-1	8/10/2011	GL347
City of Wichita	57859	11080694	Broadway Upstream	8/10/2011	Chloride	16.0	mg/L	1IC1223	8/11/2011	GL502
City of Wichita	57859	11080694	Broadway Upstream	8/10/2011	Nitrite, as N	ND(0.1)	mg/L	1IC1223	8/11/2011	GL503
City of Wichita	57859	11080694	Broadway Upstream	8/10/2011	Nitrate, as N	0.4 B	mg/L	1IC1223	8/11/2011	GL505
City of Wichita	57859	11080694	Broadway Upstream	8/10/2011	Kjeldahl Nitrogen, as N (TKN)	1.4	mg/L	110812-1	8/15/2011	GL595
City of Wichita	57859	11080694	Broadway Upstream	8/10/2011	Cadmium, Tot. Rec., ICP-MS	ND(1)	ug/L	110815-6	8/18/2011	SL006
City of Wichita	57859	11080694	Broadway Upstream	8/10/2011	Copper, Tot. Rec., ICP-MS	6	ug/L	110815-6	8/18/2011	SL012
City of Wichita	57859	11080694	Broadway Upstream	8/10/2011	Zinc, Tot. Rec., ICP-MS	52	ug/L	110815-6	8/18/2011	SL033
City of Wichita	57859	11080694	Broadway Upstream	8/10/2011	Cadmium, Dissolved, ICP-MS	ND(1)	ug/L	110817-5	8/20/2011	SL156
City of Wichita	57859	11080694	Broadway Upstream	8/10/2011	Copper, Dissolved, ICP-MS	ND(5)	ug/L	110817-5	8/20/2011	SL162
City of Wichita	57859	11080694	Broadway Upstream	8/10/2011	Zinc, Dissolved, ICP-MS	ND(20)	ug/L	110817-5	8/20/2011	SL183
City of Wichita	57859	11080694	Broadway Upstream	8/10/2011	Hardness (Calculated)	52.8	mg/L as CaCO3	110812-4	8/16/2011	SL323
City of Wichita	57860	11080695	Broadway - Grab	8/10/2011	Hexane Extractable Material	ND(5.0)	mg/L	110825-1	8/25/2011	GL188
City of Wichita	57860	11080695	Broadway - Grab	8/10/2011	Solids, Total Dissolved	30.	mg/L	110812-1	8/12/2011	GL242
City of Wichita	57860	11080695	Broadway - Grab	8/10/2011	Solids, Total Suspended	11	mg/L	110816-1	8/16/2011	GL243
City of Wichita	57860	11080695	Broadway - Grab	8/10/2011	E. Coli	>2420 HT	MPN/100 mL	110810-1	8/10/2011	GL347
City of Wichita	57860	11080695	Broadway - Grab	8/10/2011	Chloride	1.1	mg/L	1IC2228	8/16/2011	GL502
City of Wichita	57860	11080695	Broadway - Grab	8/10/2011	Cadmium, Tot. Rec., ICP-MS	ND(1)	ug/L	110815-6	8/18/2011	SL006
City of Wichita	57860	11080695	Broadway - Grab	8/10/2011	Copper, Tot. Rec., ICP-MS	ND(5)	ug/L	110815-6	8/18/2011	SL012
City of Wichita	57860	11080695	Broadway - Grab	8/10/2011	Zinc, Tot. Rec., ICP-MS	39	ug/L	110815-6	8/18/2011	SL033
City of Wichita	57860	11080695	Broadway - Grab	8/10/2011	Cadmium, Dissolved, ICP-MS	ND(1)	ug/L	110817-5	8/20/2011	SL156
City of Wichita	57860	11080695	Broadway - Grab	8/10/2011	Copper, Dissolved, ICP-MS	ND(5)	ug/L	110817-5	8/20/2011	SL162
City of Wichita	57860	11080695	Broadway - Grab	8/10/2011	Zinc, Dissolved, ICP-MS	ND(20)	ug/L	110817-5	8/20/2011	SL183
City of Wichita	57860	11080695	Broadway - Grab	8/10/2011	Hardness (Calculated)	16.9	mg/L as CaCO3	110812-4	8/16/2011	SL323
City of Wichita	57860	11080696	Broadway - Composite	8/10/2011	BOD	ND(5)	mg/L	110811-1	8/11/2011	GL123
City of Wichita	57860	11080696	Broadway - Composite	8/10/2011	Phosphorus, Total, as P	ND(0.20)	mg/L	110816-2	8/16/2011	GL218
City of Wichita	57860	11080696	Broadway - Composite	8/10/2011	Solids, Total Dissolved	30.	mg/L	110812-1	8/12/2011	GL242
City of Wichita	57860	11080696	Broadway - Composite	8/10/2011	Solids, Total Suspended	5	mg/L	110816-1	8/16/2011	GL243
City of Wichita	57860	11080696	Broadway - Composite	8/10/2011	Nitrogen (TKN + NO3/NO2), as N	ND(1.0)	mg/L		8/15/2011	GL343
City of Wichita	57860	11080696	Broadway - Composite	8/10/2011	Chloride	1.3	mg/L	1IC1223	8/11/2011	GL502
City of Wichita	57860	11080696	Broadway - Composite	8/10/2011	Nitrite, as N	ND(0.1)	mg/L	1IC1223	8/11/2011	GL503
City of Wichita	57860	11080696	Broadway - Composite	8/10/2011	Nitrate, as N	0.3 B	mg/L	1IC1223	8/11/2011	GL505
City of Wichita	57860	11080696	Broadway - Composite	8/10/2011	Kjeldahl Nitrogen, as N (TKN)	ND(1.0)	mg/L	110812-1	8/15/2011	GL595
City of Wichita	57860	11080696	Broadway - Composite	8/10/2011	Cadmium, Tot. Rec., ICP-MS	ND(1)	ug/L	110815-6	8/18/2011	SL006
City of Wichita	57860	11080696	Broadway - Composite	8/10/2011	Copper, Tot. Rec., ICP-MS	ND(5)	ug/L	110815-6	8/18/2011	SL012
City of Wichita	57860	11080696	Broadway - Composite	8/10/2011	Zinc, Tot. Rec., ICP-MS	35	ug/L	110815-6	8/18/2011	SL033
City of Wichita	57860	11080696	Broadway - Composite	8/10/2011	Cadmium, Dissolved, ICP-MS	ND(1)	ug/L	110817-5	8/20/2011	SL156
City of Wichita	57860	11080696	Broadway - Composite	8/10/2011	Copper, Dissolved, ICP-MS	ND(5)	ug/L	110817-5	8/20/2011	SL162
City of Wichita	57860	11080696	Broadway - Composite	8/10/2011	Zinc, Dissolved, ICP-MS	ND(20)	ug/L	110817-5	8/20/2011	SL183
City of Wichita	57860	11080696	Broadway - Composite	8/10/2011	Hardness (Calculated)	17.0	mg/L as CaCO3	110812-4	8/16/2011	SL323
City of Wichita	57869	11080730	Grotto Gate	8/10/2011	Solids, Total Suspended	5 QC	mg/L	110816-2	8/16/2011	GL243

NAME	ORDERNO	LABNO	SAMPLE	DATESAM	TESTNAME	RESULT	UNITS	BATCH	DATECOM	TESTCODE
City of Wichita	57869	11080731	Grotto Pool	8/10/2011	Solids, Total Suspended	14	mg/L	110816-2	8/16/2011	GL243
City of Wichita	59783	11110485	Huntington Upstream	11/7/2011	BOD	15	mg/L	111109-1	11/9/2011	GL123
City of Wichita	59783	11110485	Huntington Upstream	11/7/2011	Phosphorus, Total, as P	0.29	mg/L	111130-1	11/30/2011	GL218
City of Wichita	59783	11110485	Huntington Upstream	11/7/2011	Solids, Total Dissolved	116	mg/L	111109-1	11/9/2011	GL242
City of Wichita	59783	11110485	Huntington Upstream	11/7/2011	Solids, Total Suspended	119	mg/L	111114-1	11/14/2011	GL243
City of Wichita	59783	11110485	Huntington Upstream	11/7/2011	Nitrogen (TKN + NO3/NO2), as N	2.6	mg/L		11/17/2011	GL343
City of Wichita	59783	11110485	Huntington Upstream	11/7/2011	Chloride	10.8	mg/L	1IC1312	11/8/2011	GL502
City of Wichita	59783	11110485	Huntington Upstream	11/7/2011	Nitrite, as N	ND(0.1)	mg/L	1IC1312	11/8/2011	GL503
City of Wichita	59783	11110485	Huntington Upstream	11/7/2011	Nitrate, as N	0.6	mg/L	1IC1312	11/8/2011	GL505
City of Wichita	59783	11110485	Huntington Upstream	11/7/2011	Kjeldahl Nitrogen, as N (TKN)	2.0	mg/L	111111-1	11/15/2011	GL595
City of Wichita	59783	11110485	Huntington Upstream	11/7/2011	Cadmium, Tot. Rec., ICP-MS	ND(1)	ug/L	111110-2	11/14/2011	SL006
City of Wichita	59783	11110485	Huntington Upstream	11/7/2011	Copper, Tot. Rec., ICP-MS	23	ug/L	111110-2	11/14/2011	SL012
City of Wichita	59783	11110485	Huntington Upstream	11/7/2011	Zinc, Tot. Rec., ICP-MS	85	ug/L	111110-2	11/14/2011	SL033
City of Wichita	59783	11110485	Huntington Upstream	11/7/2011	Cadmium, Dissolved, ICP-MS	ND(1) DM	ug/L	111111-3	11/15/2011	SL156
City of Wichita	59783	11110485	Huntington Upstream	11/7/2011	Copper, Dissolved, ICP-MS	10 DM	ug/L	111111-3	11/15/2011	SL162
City of Wichita	59783	11110485	Huntington Upstream	11/7/2011	Zinc, Dissolved, ICP-MS	ND(20) DM	ug/L	111111-3	11/15/2011	SL183
City of Wichita	59783	11110485	Huntington Upstream	11/7/2011	Hardness (Calculated)	50.9	mg/L as CaCO3	111109-3	11/11/2011	SL323
City of Wichita	59783	11110485	Huntington Upstream	11/7/2011	BOD	10	mg/L	111109-1	11/9/2011	GL123
City of Wichita	59784	11110486	McLean Upstream	11/7/2011	Phosphorus, Total, as P	0.32	mg/L	111130-1	11/30/2011	GL218
City of Wichita	59784	11110486	McLean Upstream	11/7/2011	Solids, Total Dissolved	566	mg/L	111109-1	11/9/2011	GL242
City of Wichita	59784	11110486	McLean Upstream	11/7/2011	Solids, Total Suspended	120.	mg/L	111114-1	11/14/2011	GL243
City of Wichita	59784	11110486	McLean Upstream	11/7/2011	Nitrogen (TKN + NO3/NO2), as N	2.2	mg/L		11/17/2011	GL343
City of Wichita	59784	11110486	McLean Upstream	11/7/2011	Chloride	119	mg/L	1IC1312	11/8/2011	GL502
City of Wichita	59784	11110486	McLean Upstream	11/7/2011	Nitrite, as N	ND(1) M	mg/L	1IC1312	11/8/2011	GL503
City of Wichita	59784	11110486	McLean Upstream	11/7/2011	Nitrate, as N	0.3	mg/L	1IC1312	11/8/2011	GL505
City of Wichita	59784	11110486	McLean Upstream	11/7/2011	Kjeldahl Nitrogen, as N (TKN)	1.9	mg/L	111111-1	11/15/2011	GL595
City of Wichita	59784	11110486	McLean Upstream	11/7/2011	Cadmium, Tot. Rec., ICP-MS	ND(1)	ug/L	111111-1	11/14/2011	SL006
City of Wichita	59784	11110486	McLean Upstream	11/7/2011	Copper, Tot. Rec., ICP-MS	7	ug/L	111111-1	11/14/2011	SL012
City of Wichita	59784	11110486	McLean Upstream	11/7/2011	Zinc, Tot. Rec., ICP-MS	35	ug/L	111111-1	11/14/2011	SL033
City of Wichita	59784	11110486	McLean Upstream	11/7/2011	Cadmium, Dissolved, ICP-MS	ND(1) DM	ug/L	111111-3	11/15/2011	SL156
City of Wichita	59784	11110486	McLean Upstream	11/7/2011	Copper, Dissolved, ICP-MS	ND(5) DM	ug/L	111111-3	11/15/2011	SL162
City of Wichita	59784	11110486	McLean Upstream	11/7/2011	Zinc, Dissolved, ICP-MS	ND(20) DM	ug/L	111111-3	11/15/2011	SL183
City of Wichita	59784	11110486	McLean Upstream	11/7/2011	Hardness (Calculated)	267	mg/L as CaCO3	111118-3	11/29/2011	SL323
City of Wichita	59784	11110486	McLean Upstream	11/7/2011	BOD	7	mg/L	111109-2	11/9/2011	GL123
City of Wichita	59785	11110487	Towne East Upstream	11/7/2011	Phosphorus, Total, as P	ND(0.20)	mg/L	111130-1	11/30/2011	GL218
City of Wichita	59785	11110487	Towne East Upstream	11/7/2011	Solids, Total Dissolved	278	mg/L	111109-1	11/9/2011	GL242
City of Wichita	59785	11110487	Towne East Upstream	11/7/2011	Solids, Total Suspended	71	mg/L	111114-1	11/14/2011	GL243
City of Wichita	59785	11110487	Towne East Upstream	11/7/2011	Nitrogen (TKN + NO3/NO2), as N	1.5	mg/L		11/17/2011	GL343
City of Wichita	59785	11110487	Towne East Upstream	11/7/2011	Chloride	71	mg/L	1IC1312	11/8/2011	GL502
City of Wichita	59785	11110487	Towne East Upstream	11/7/2011	Nitrite, as N	ND(1) M	mg/L	1IC1312	11/8/2011	GL503
City of Wichita	59785	11110487	Towne East Upstream	11/7/2011	Nitrate, as N	0.3	mg/L	1IC1312	11/8/2011	GL505
City of Wichita	59785	11110487	Towne East Upstream	11/7/2011	Kjeldahl Nitrogen, as N (TKN)	1.2	mg/L	111111-1	11/15/2011	GL595
City of Wichita	59785	11110487	Towne East Upstream	11/7/2011	Cadmium, Tot. Rec., ICP-MS	ND(1)	ug/L	111110-2	11/14/2011	SL006
City of Wichita	59785	11110487	Towne East Upstream	11/7/2011	Copper, Tot. Rec., ICP-MS	6	ug/L	111110-2	11/14/2011	SL012
City of Wichita	59785	11110487	Towne East Upstream	11/7/2011	Zinc, Tot. Rec., ICP-MS	44	ug/L	111110-2	11/14/2011	SL033
City of Wichita	59785	11110487	Towne East Upstream	11/7/2011	Cadmium, Dissolved, ICP-MS	ND(1) DM	ug/L	111111-3	11/15/2011	SL156
City of Wichita	59785	11110487	Towne East Upstream	11/7/2011	Copper, Dissolved, ICP-MS	ND(5) DM	ug/L	111111-3	11/15/2011	SL162

NAME	ORDERNO	LABNO	SAMPLE	DATESAM	TESTNAME	RESULT	UNITS	BATCH	DATECOM	TESTCODE
City of Wichita	59785	11110487	Towne East Upstream	11/7/2011	Zinc, Dissolved, ICP-MS	ND(20) DM	ug/L	111111-3	11/15/2011	SL183
City of Wichita	59785	11110487	Towne East Upstream	11/7/2011	Hardness (Calculated)	139	mg/L as CaCO3	111118-3	11/29/2011	SL323
City of Wichita	59786	11110488	Broadway Upstream	11/7/2011	BOD	25	mg/L	111109-1	11/9/2011	GL123
City of Wichita	59786	11110488	Broadway Upstream	11/7/2011	Phosphorus, Total, as P	ND(0.20)	mg/L	111130-1	11/30/2011	GL218
City of Wichita	59786	11110488	Broadway Upstream	11/7/2011	Solids, Total Dissolved	300.	mg/L	111109-1	11/9/2011	GL242
City of Wichita	59786	11110488	Broadway Upstream	11/7/2011	Solids, Total Suspended	198	mg/L	111114-1	11/14/2011	GL243
City of Wichita	59786	11110488	Broadway Upstream	11/7/2011	Nitrogen (TKN + NO3/NO2), as N	6.7	mg/L		11/17/2011	GL343
City of Wichita	59786	11110488	Broadway Upstream	11/7/2011	Chloride	60.	mg/L	1IC1312	11/8/2011	GL502
City of Wichita	59786	11110488	Broadway Upstream	11/7/2011	Nitrite, as N	ND(1) M	mg/L	1IC1313	11/9/2011	GL503
City of Wichita	59786	11110488	Broadway Upstream	11/7/2011	Nitrate, as N	0.3	mg/L	1IC1312	11/8/2011	GL505
City of Wichita	59786	11110488	Broadway Upstream	11/7/2011	Kjeldahl Nitrogen, as N (TKN)	6.4	mg/L	111111-1	11/15/2011	GL595
City of Wichita	59786	11110488	Broadway Upstream	11/7/2011	Cadmium, Tot. Rec., ICP-MS	ND(1)	ug/L	111110-2	11/14/2011	SL006
City of Wichita	59786	11110488	Broadway Upstream	11/7/2011	Copper, Tot. Rec., ICP-MS	29	ug/L	111110-2	11/14/2011	SL012
City of Wichita	59786	11110488	Broadway Upstream	11/7/2011	Zinc, Tot. Rec., ICP-MS	204	ug/L	111110-2	11/14/2011	SL033
City of Wichita	59786	11110488	Broadway Upstream	11/7/2011	Cadmium, Dissolved, ICP-MS	ND(1) DM	ug/L	111111-3	11/15/2011	SL156
City of Wichita	59786	11110488	Broadway Upstream	11/7/2011	Copper, Dissolved, ICP-MS	ND(5) DM	ug/L	111111-3	11/15/2011	SL162
City of Wichita	59786	11110488	Broadway Upstream	11/7/2011	Zinc, Dissolved, ICP-MS	ND(20) DM	ug/L	111111-3	11/15/2011	SL183
City of Wichita	59786	11110488	Broadway Upstream	11/7/2011	Hardness (Calculated)	163	mg/L as CaCO3	111118-3	11/29/2011	SL323
City of Wichita	59786	11110488	Broadway Upstream	11/7/2011	Hexane Extractable Material	ND(5.0)	mg/L	111117-1	11/17/2011	GL188
City of Wichita	59787	11110489	Huntington - Grab	11/7/2011	Solids, Total Dissolved	78	mg/L	111109-1	11/9/2011	GL242
City of Wichita	59787	11110489	Huntington - Grab	11/7/2011	Solids, Total Suspended	43	mg/L	111114-1	11/14/2011	GL243
City of Wichita	59787	11110489	Huntington - Grab	11/7/2011	Chloride	5.9	mg/L	1IC1322	11/18/2011	GL502
City of Wichita	59787	11110489	Huntington - Grab	11/7/2011	Cadmium, Tot. Rec., ICP-MS	ND(1)	ug/L	111110-2	11/14/2011	SL006
City of Wichita	59787	11110489	Huntington - Grab	11/7/2011	Copper, Tot. Rec., ICP-MS	9	ug/L	111110-2	11/14/2011	SL012
City of Wichita	59787	11110489	Huntington - Grab	11/7/2011	Zinc, Tot. Rec., ICP-MS	35	ug/L	111110-2	11/14/2011	SL033
City of Wichita	59787	11110489	Huntington - Grab	11/7/2011	Cadmium, Dissolved, ICP-MS	ND(1) DM	ug/L	111117-5	11/28/2011	SL156
City of Wichita	59787	11110489	Huntington - Grab	11/7/2011	Copper, Dissolved, ICP-MS	6 DM	ug/L	111117-5	11/28/2011	SL162
City of Wichita	59787	11110489	Huntington - Grab	11/7/2011	Zinc, Dissolved, ICP-MS	ND(20) DM	ug/L	111117-5	11/28/2011	SL183
City of Wichita	59787	11110489	Huntington - Grab	11/7/2011	Hardness (Calculated)	34.7	mg/L as CaCO3	111109-3	11/11/2011	SL323
City of Wichita	59787	11110489	Huntington - Grab	11/7/2011	BOD	11	mg/L	111109-1	11/9/2011	GL123
City of Wichita	59787	11110490	Huntington - Composite	11/7/2011	Phosphorus, Total, as P	0.28	mg/L	111130-1	11/30/2011	GL218
City of Wichita	59787	11110490	Huntington - Composite	11/7/2011	Solids, Total Dissolved	74	mg/L	111109-1	11/9/2011	GL242
City of Wichita	59787	11110490	Huntington - Composite	11/7/2011	Solids, Total Suspended	28	mg/L	111114-1	11/14/2011	GL243
City of Wichita	59787	11110490	Huntington - Composite	11/7/2011	Nitrogen (TKN + NO3/NO2), as N	2.0	mg/L		11/17/2011	GL343
City of Wichita	59787	11110490	Huntington - Composite	11/7/2011	Chloride	5.4	mg/L	1IC1312	11/8/2011	GL502
City of Wichita	59787	11110490	Huntington - Composite	11/7/2011	Nitrite, as N	ND(1) M QC	mg/L	1IC1312	11/8/2011	GL503
City of Wichita	59787	11110490	Huntington - Composite	11/7/2011	Nitrate, as N	0.6	mg/L	1IC1312	11/8/2011	GL505
City of Wichita	59787	11110490	Huntington - Composite	11/7/2011	Kjeldahl Nitrogen, as N (TKN)	1.4	mg/L	111111-1	11/15/2011	GL595
City of Wichita	59787	11110490	Huntington - Composite	11/7/2011	Cadmium, Tot. Rec., ICP-MS	ND(1)	ug/L	111110-2	11/14/2011	SL006
City of Wichita	59787	11110490	Huntington - Composite	11/7/2011	Copper, Tot. Rec., ICP-MS	8	ug/L	111110-2	11/14/2011	SL012
City of Wichita	59787	11110490	Huntington - Composite	11/7/2011	Zinc, Tot. Rec., ICP-MS	27	ug/L	111110-2	11/14/2011	SL033
City of Wichita	59787	11110490	Huntington - Composite	11/7/2011	Cadmium, Dissolved, ICP-MS	ND(1) DM	ug/L	111111-3	11/15/2011	SL156
City of Wichita	59787	11110490	Huntington - Composite	11/7/2011	Copper, Dissolved, ICP-MS	ND(5) DM	ug/L	111111-3	11/15/2011	SL162
City of Wichita	59787	11110490	Huntington - Composite	11/7/2011	Zinc, Dissolved, ICP-MS	ND(20) DM	ug/L	111111-3	11/15/2011	SL183
City of Wichita	59787	11110490	Huntington - Composite	11/7/2011	Hardness (Calculated)	31.5	mg/L as CaCO3	111109-3	11/11/2011	SL323
City of Wichita	59787	11110490	Huntington - Composite	11/7/2011	Hexane Extractable Material	ND(5.0)	mg/L	111122-1	11/22/2011	GL188
City of Wichita	59788	11110491	McLean - Grab	11/7/2011	Solids, Total Dissolved	106	mg/L	111109-1	11/9/2011	GL242
City of Wichita	59788	11110491	McLean - Grab							

NAME	ORDERNO	LABNO	SAMPLE	DATESAM	TESTNAME	RESULT	UNITS	BATCH	DATECOM	TESTCODE
City of Wichita	59788	11110491	McLean - Grab	11/7/2011	Solids, Total Suspended	203	mg/L	111114-1	11/14/2011	GL243
City of Wichita	59788	11110491	McLean - Grab	11/7/2011	Chloride	2.8	mg/L	1IC1322	11/18/2011	GL502
City of Wichita	59788	11110491	McLean - Grab	11/7/2011	Cadmium, Tot. Rec., ICP-MS	6	ug/L	111110-2	11/14/2011	SL006
City of Wichita	59788	11110491	McLean - Grab	11/7/2011	Copper, Tot. Rec., ICP-MS	28	ug/L	111110-2	11/14/2011	SL012
City of Wichita	59788	11110491	McLean - Grab	11/7/2011	Zinc, Tot. Rec., ICP-MS	382	ug/L	111110-2	11/14/2011	SL033
City of Wichita	59788	11110491	McLean - Grab	11/7/2011	Cadmium, Dissolved, ICP-MS	ND(1) DM	ug/L	111117-5	11/28/2011	SL156
City of Wichita	59788	11110491	McLean - Grab	11/7/2011	Copper, Dissolved, ICP-MS	6 DM	ug/L	111117-5	11/28/2011	SL162
City of Wichita	59788	11110491	McLean - Grab	11/7/2011	Zinc, Dissolved, ICP-MS	24 DM	ug/L	111117-5	11/28/2011	SL183
City of Wichita	59788	11110491	McLean - Grab	11/7/2011	Hardness (Calculated)	169	mg/L as CaCO3	111109-3	11/11/2011	SL323
City of Wichita	59788	11110492	McLean - Composite	11/7/2011	BOD	6	mg/L	111109-1	11/9/2011	GL123
City of Wichita	59788	11110492	McLean - Composite	11/7/2011	Phosphorus, Total, as P	0.26	mg/L	111130-1	11/30/2011	GL218
City of Wichita	59788	11110492	McLean - Composite	11/7/2011	Solids, Total Dissolved	106	mg/L	111109-1	11/9/2011	GL242
City of Wichita	59788	11110492	McLean - Composite	11/7/2011	Solids, Total Suspended	187	mg/L	111114-1	11/14/2011	GL243
City of Wichita	59788	11110492	McLean - Composite	11/7/2011	Nitrogen (TKN + NO3/NO2), as N	2.0	mg/L		11/17/2011	GL343
City of Wichita	59788	11110492	McLean - Composite	11/7/2011	Chloride	2.8	mg/L	1IC1312	11/8/2011	GL502
City of Wichita	59788	11110492	McLean - Composite	11/7/2011	Nitrite, as N	ND(0.1)	mg/L	1IC1313	11/9/2011	GL503
City of Wichita	59788	11110492	McLean - Composite	11/7/2011	Nitrate, as N	0.6	mg/L	1IC1312	11/8/2011	GL505
City of Wichita	59788	11110492	McLean - Composite	11/7/2011	Kjeldahl Nitrogen, as N (TKN)	1.4	mg/L	111111-1	11/15/2011	GL595
City of Wichita	59788	11110492	McLean - Composite	11/7/2011	Cadmium, Tot. Rec., ICP-MS	6	ug/L	111110-2	11/14/2011	SL006
City of Wichita	59788	11110492	McLean - Composite	11/7/2011	Copper, Tot. Rec., ICP-MS	26	ug/L	111110-2	11/14/2011	SL012
City of Wichita	59788	11110492	McLean - Composite	11/7/2011	Zinc, Tot. Rec., ICP-MS	361	ug/L	111110-2	11/14/2011	SL033
City of Wichita	59788	11110492	McLean - Composite	11/7/2011	Cadmium, Dissolved, ICP-MS	ND(1) DM	ug/L	111111-3	11/15/2011	SL156
City of Wichita	59788	11110492	McLean - Composite	11/7/2011	Copper, Dissolved, ICP-MS	5 DM	ug/L	111111-3	11/15/2011	SL162
City of Wichita	59788	11110492	McLean - Composite	11/7/2011	Zinc, Dissolved, ICP-MS	ND(20) DM	ug/L	111111-3	11/15/2011	SL183
City of Wichita	59788	11110492	McLean - Composite	11/7/2011	Hardness (Calculated)	153	mg/L as CaCO3	111109-3	11/11/2011	SL323
City of Wichita	59789	11110493	Towne East - Grab	11/7/2011	Hexane Extractable Material	ND(5.0)	mg/L	111122-1	11/22/2011	GL188
City of Wichita	59789	11110493	Towne East - Grab	11/7/2011	Solids, Total Dissolved	68	mg/L	111109-1	11/9/2011	GL242
City of Wichita	59789	11110493	Towne East - Grab	11/7/2011	Solids, Total Suspended	12	mg/L	111114-1	11/14/2011	GL243
City of Wichita	59789	11110493	Towne East - Grab	11/7/2011	Chloride	7.6	mg/L	1IC1322	11/18/2011	GL502
City of Wichita	59789	11110493	Towne East - Grab	11/7/2011	Cadmium, Tot. Rec., ICP-MS	ND(1)	ug/L	111111-1	11/14/2011	SL006
City of Wichita	59789	11110493	Towne East - Grab	11/7/2011	Copper, Tot. Rec., ICP-MS	6	ug/L	111111-1	11/14/2011	SL012
City of Wichita	59789	11110493	Towne East - Grab	11/7/2011	Zinc, Tot. Rec., ICP-MS	46	ug/L	111111-1	11/14/2011	SL033
City of Wichita	59789	11110493	Towne East - Grab	11/7/2011	Cadmium, Dissolved, ICP-MS	ND(1) DM	ug/L	111117-5	11/28/2011	SL156
City of Wichita	59789	11110493	Towne East - Grab	11/7/2011	Copper, Dissolved, ICP-MS	ND(5) DM	ug/L	111117-5	11/28/2011	SL162
City of Wichita	59789	11110493	Towne East - Grab	11/7/2011	Zinc, Dissolved, ICP-MS	21	ug/L	111117-5	11/28/2011	SL183
City of Wichita	59789	11110493	Towne East - Grab	11/7/2011	Hardness (Calculated)	35.8	mg/L as CaCO3	111109-3	11/11/2011	SL323
City of Wichita	59789	11110494	Towne East - Composite	11/7/2011	BOD	5	mg/L	111109-2	11/9/2011	GL123
City of Wichita	59789	11110494	Towne East - Composite	11/7/2011	Phosphorus, Total, as P	ND(0.20)	mg/L	111130-1	11/30/2011	GL218
City of Wichita	59789	11110494	Towne East - Composite	11/7/2011	Solids, Total Dissolved	56	mg/L	111114-1	11/14/2011	GL242
City of Wichita	59789	11110494	Towne East - Composite	11/7/2011	Solids, Total Suspended	15	mg/L	111114-1	11/14/2011	GL243
City of Wichita	59789	11110494	Towne East - Composite	11/7/2011	Nitrogen (TKN + NO3/NO2), as N	1.4	mg/L		11/17/2011	GL343
City of Wichita	59789	11110494	Towne East - Composite	11/7/2011	Chloride	6.7	mg/L	1IC1312	11/8/2011	GL502
City of Wichita	59789	11110494	Towne East - Composite	11/7/2011	Nitrite, as N	ND(0.1) QC	mg/L	1IC1312	11/8/2011	GL503
City of Wichita	59789	11110494	Towne East - Composite	11/7/2011	Nitrate, as N	0.3	mg/L	1IC1312	11/8/2011	GL505
City of Wichita	59789	11110494	Towne East - Composite	11/7/2011	Kjeldahl Nitrogen, as N (TKN)	1.1	mg/L	111111-1	11/15/2011	GL595
City of Wichita	59789	11110494	Towne East - Composite	11/7/2011	Cadmium, Tot. Rec., ICP-MS	ND(1)	ug/L	111110-2	11/14/2011	SL006
City of Wichita	59789	11110494	Towne East - Composite	11/7/2011	Copper, Tot. Rec., ICP-MS	7	ug/L	111110-2	11/14/2011	SL012

NAME	ORDERNO	LABNO	SAMPLE	DATESAM	TESTNAME	RESULT	UNITS	BATCH	DATECOM	TESTCODE
City of Wichita	59789	11110494	Towne East - Composite	11/7/2011	Zinc, Tot. Rec., ICP-MS	52	ug/L	111110-2	11/14/2011	SL033
City of Wichita	59789	11110494	Towne East - Composite	11/7/2011	Cadmium, Dissolved, ICP-MS	ND(1) DM	ug/L	111111-3	11/15/2011	SL156
City of Wichita	59789	11110494	Towne East - Composite	11/7/2011	Copper, Dissolved, ICP-MS	ND(5) DM	ug/L	111111-3	11/15/2011	SL162
City of Wichita	59789	11110494	Towne East - Composite	11/7/2011	Zinc, Dissolved, ICP-MS	ND(20) DM	ug/L	111111-3	11/15/2011	SL183
City of Wichita	59789	11110494	Towne East - Composite	11/7/2011	Hardness (Calculated)	37.5	mg/L as CaCO3	111109-3	11/11/2011	SL323
City of Wichita	59790	11110495	Broadway - Grab	11/7/2011	Hexane Extractable Material	ND(5.0)	mg/L	111122-1	11/22/2011	GL188
City of Wichita	59790	11110495	Broadway - Grab	11/7/2011	Solids, Total Dissolved	ND(30)	mg/L	111114-1	11/14/2011	GL242
City of Wichita	59790	11110495	Broadway - Grab	11/7/2011	Solids, Total Suspended	50.	mg/L	111114-1	11/14/2011	GL243
City of Wichita	59790	11110495	Broadway - Grab	11/7/2011	Chloride	ND(1.0)	mg/L	1IC1322	11/18/2011	GL502
City of Wichita	59790	11110495	Broadway - Grab	11/7/2011	Cadmium, Tot. Rec., ICP-MS	ND(1)	ug/L	111110-2	11/14/2011	SL006
City of Wichita	59790	11110495	Broadway - Grab	11/7/2011	Copper, Tot. Rec., ICP-MS	5	ug/L	111110-2	11/14/2011	SL012
City of Wichita	59790	11110495	Broadway - Grab	11/7/2011	Zinc, Tot. Rec., ICP-MS	88	ug/L	111110-2	11/14/2011	SL033
City of Wichita	59790	11110495	Broadway - Grab	11/7/2011	Cadmium, Dissolved, ICP-MS	ND(1) DM	ug/L	111111-3	11/15/2011	SL156
City of Wichita	59790	11110495	Broadway - Grab	11/7/2011	Copper, Dissolved, ICP-MS	ND(5) DM	ug/L	111111-3	11/15/2011	SL162
City of Wichita	59790	11110495	Broadway - Grab	11/7/2011	Zinc, Dissolved, ICP-MS	ND(20) DM	ug/L	111111-3	11/15/2011	SL183
City of Wichita	59790	11110495	Broadway - Grab	11/7/2011	Hardness (Calculated)	17.0	mg/L as CaCO3	111109-3	11/11/2011	SL323
City of Wichita	59790	11110496	Broadway - Composite	11/7/2011	BOD	8	mg/L	111109-2	11/9/2011	GL123
City of Wichita	59790	11110496	Broadway - Composite	11/7/2011	Phosphorus, Total, as P	ND(0.20)	mg/L	111130-1	11/30/2011	GL218
City of Wichita	59790	11110496	Broadway - Composite	11/7/2011	Solids, Total Dissolved	ND(30)	mg/L	111114-1	11/14/2011	GL242
City of Wichita	59790	11110496	Broadway - Composite	11/7/2011	Solids, Total Suspended	58	mg/L	111114-1	11/14/2011	GL243
City of Wichita	59790	11110496	Broadway - Composite	11/7/2011	Nitrogen (TKN + NO3/NO2), as N	1.3	mg/L		11/17/2011	GL343
City of Wichita	59790	11110496	Broadway - Composite	11/7/2011	Chloride	ND(1.0)	mg/L	1IC1312	11/8/2011	GL502
City of Wichita	59790	11110496	Broadway - Composite	11/7/2011	Nitrite, as N	ND(0.1)	mg/L	1IC1313	11/9/2011	GL503
City of Wichita	59790	11110496	Broadway - Composite	11/7/2011	Nitrate, as N	0.2	mg/L	1IC1312	11/8/2011	GL505
City of Wichita	59790	11110496	Broadway - Composite	11/7/2011	Kjeldahl Nitrogen, as N (TKN)	1.1	mg/L	111111-1	11/15/2011	GL595
City of Wichita	59790	11110496	Broadway - Composite	11/7/2011	Cadmium, Tot. Rec., ICP-MS	ND(1)	ug/L	111110-2	11/14/2011	SL006
City of Wichita	59790	11110496	Broadway - Composite	11/7/2011	Copper, Tot. Rec., ICP-MS	6	ug/L	111110-2	11/14/2011	SL012
City of Wichita	59790	11110496	Broadway - Composite	11/7/2011	Zinc, Tot. Rec., ICP-MS	92	ug/L	111110-2	11/14/2011	SL033
City of Wichita	59790	11110496	Broadway - Composite	11/7/2011	Cadmium, Dissolved, ICP-MS	ND(1) DM	ug/L	111111-3	11/15/2011	SL156
City of Wichita	59790	11110496	Broadway - Composite	11/7/2011	Copper, Dissolved, ICP-MS	ND(5) DM	ug/L	111111-3	11/15/2011	SL162
City of Wichita	59790	11110496	Broadway - Composite	11/7/2011	Zinc, Dissolved, ICP-MS	ND(20) DM	ug/L	111111-3	11/15/2011	SL183
City of Wichita	59790	11110496	Broadway - Composite	11/7/2011	Hardness (Calculated)	15.3	mg/L as CaCO3	111109-3	11/11/2011	SL323
City of Wichita	59790	11110496	Broadway - Composite	11/7/2011	BOD	22	mg/L	111109-1	11/9/2011	GL123
City of Wichita	59791	11110497	Harvest Court Upstream	11/7/2011	Phosphorus, Total, as P	0.60	mg/L	111130-1	11/30/2011	GL218
City of Wichita	59791	11110497	Harvest Court Upstream	11/7/2011	Solids, Total Dissolved	252	mg/L	111114-1	11/14/2011	GL242
City of Wichita	59791	11110497	Harvest Court Upstream	11/7/2011	Solids, Total Suspended	55	mg/L	111114-1	11/14/2011	GL243
City of Wichita	59791	11110497	Harvest Court Upstream	11/7/2011	Nitrogen (TKN + NO3/NO2), as N	2.5	mg/L		11/17/2011	GL343
City of Wichita	59791	11110497	Harvest Court Upstream	11/7/2011	Chloride	31.9	mg/L	1IC1312	11/8/2011	GL502
City of Wichita	59791	11110497	Harvest Court Upstream	11/7/2011	Nitrite, as N	ND(1) M	mg/L	1IC1313	11/9/2011	GL503
City of Wichita	59791	11110497	Harvest Court Upstream	11/7/2011	Nitrate, as N	ND(0.1)	mg/L	1IC1312	11/8/2011	GL505
City of Wichita	59791	11110497	Harvest Court Upstream	11/7/2011	Kjeldahl Nitrogen, as N (TKN)	2.5	mg/L	111111-1	11/15/2011	GL595
City of Wichita	59791	11110497	Harvest Court Upstream	11/7/2011	Cadmium, Tot. Rec., ICP-MS	ND(1)	ug/L	111111-1	11/14/2011	SL006
City of Wichita	59791	11110497	Harvest Court Upstream	11/7/2011	Copper, Tot. Rec., ICP-MS	6	ug/L	111111-1	11/14/2011	SL012
City of Wichita	59791	11110497	Harvest Court Upstream	11/7/2011	Zinc, Tot. Rec., ICP-MS	34	ug/L	111111-1	11/14/2011	SL033
City of Wichita	59791	11110497	Harvest Court Upstream	11/7/2011	Cadmium, Dissolved, ICP-MS	ND(1) DM	ug/L	111111-3	11/15/2011	SL156
City of Wichita	59791	11110497	Harvest Court Upstream	11/7/2011	Copper, Dissolved, ICP-MS	ND(5) DM	ug/L	111111-3	11/15/2011	SL162
City of Wichita	59791	11110497	Harvest Court Upstream	11/7/2011	Zinc, Dissolved, ICP-MS	ND(20) DM	ug/L	111111-3	11/15/2011	SL183

NAME	ORDERNO	LABNO	SAMPLE	DATESAM	TESTNAME	RESULT	UNITS	BATCH	DATECOM	TESTCODE
City of Wichita	59791	11110497	Harvest Court Upstream	11/7/2011	Hardness (Calculated)	139	mg/L as CaCO3	111118-3	11/29/2011	SL323
City of Wichita	59792	11110498	13th and River Upstream	11/7/2011	BOD	ND(5)	mg/L	111109-2	11/9/2011	GL123
City of Wichita	59792	11110498	13th and River Upstream	11/7/2011	Phosphorus, Total, as P	ND(0.20)	mg/L	111130-1	11/30/2011	GL218
City of Wichita	59792	11110498	13th and River Upstream	11/7/2011	Solids, Total Dissolved	576	mg/L	111114-1	11/14/2011	GL242
City of Wichita	59792	11110498	13th and River Upstream	11/7/2011	Solids, Total Suspended	52	mg/L	111114-1	11/14/2011	GL243
City of Wichita	59792	11110498	13th and River Upstream	11/7/2011	Nitrogen (TKN + NO3/NO2), as N	1.5	mg/L		11/17/2011	GL343
City of Wichita	59792	11110498	13th and River Upstream	11/7/2011	Chloride	118	mg/L	1IC1312	11/8/2011	GL502
City of Wichita	59792	11110498	13th and River Upstream	11/7/2011	Nitrite, as N	ND(1) M	mg/L	1IC1313	11/9/2011	GL503
City of Wichita	59792	11110498	13th and River Upstream	11/7/2011	Nitrate, as N	0.5	mg/L	1IC1312	11/8/2011	GL505
City of Wichita	59792	11110498	13th and River Upstream	11/7/2011	Kjeldahl Nitrogen, as N (TKN)	1.0	mg/L	111111-1	11/15/2011	GL595
City of Wichita	59792	11110498	13th and River Upstream	11/7/2011	Cadmium, Tot. Rec., ICP-MS	ND(1)	ug/L	111111-1	11/14/2011	SL006
City of Wichita	59792	11110498	13th and River Upstream	11/7/2011	Copper, Tot. Rec., ICP-MS	ND(5)	ug/L	111111-1	11/14/2011	SL012
City of Wichita	59792	11110498	13th and River Upstream	11/7/2011	Zinc, Tot. Rec., ICP-MS	ND(20)	ug/L	111111-1	11/14/2011	SL033
City of Wichita	59792	11110498	13th and River Upstream	11/7/2011	Cadmium, Dissolved, ICP-MS	ND(1) DM	ug/L	111111-3	11/15/2011	SL156
City of Wichita	59792	11110498	13th and River Upstream	11/7/2011	Copper, Dissolved, ICP-MS	ND(5) DM	ug/L	111111-3	11/15/2011	SL162
City of Wichita	59792	11110498	13th and River Upstream	11/7/2011	Zinc, Dissolved, ICP-MS	ND(20) DM	ug/L	111111-3	11/15/2011	SL183
City of Wichita	59792	11110498	13th and River Upstream	11/7/2011	Hardness (Calculated)	308	mg/L as CaCO3	111118-3	11/29/2011	SL323
City of Wichita	59793	11110499	Maple and Cowskin Upstream	11/7/2011	BOD	8	mg/L	111109-1	11/9/2011	GL123
City of Wichita	59793	11110499	Maple and Cowskin Upstream	11/7/2011	Phosphorus, Total, as P	0.26	mg/L	111130-1	11/30/2011	GL218
City of Wichita	59793	11110499	Maple and Cowskin Upstream	11/7/2011	Solids, Total Dissolved	658	mg/L	111114-1	11/14/2011	GL242
City of Wichita	59793	11110499	Maple and Cowskin Upstream	11/7/2011	Solids, Total Suspended	16	mg/L	111114-2	11/14/2011	GL243
City of Wichita	59793	11110499	Maple and Cowskin Upstream	11/7/2011	Nitrogen (TKN + NO3/NO2), as N	1.6	mg/L		11/17/2011	GL343
City of Wichita	59793	11110499	Maple and Cowskin Upstream	11/7/2011	Chloride	136	mg/L	1IC1312	11/8/2011	GL502
City of Wichita	59793	11110499	Maple and Cowskin Upstream	11/7/2011	Nitrite, as N	ND(1) M	mg/L	1IC1313	11/9/2011	GL503
City of Wichita	59793	11110499	Maple and Cowskin Upstream	11/7/2011	Nitrate, as N	ND(0.1)	mg/L	1IC1312	11/8/2011	GL505
City of Wichita	59793	11110499	Maple and Cowskin Upstream	11/7/2011	Kjeldahl Nitrogen, as N (TKN)	1.6	mg/L	111111-1	11/15/2011	GL595
City of Wichita	59793	11110499	Maple and Cowskin Upstream	11/7/2011	Cadmium, Tot. Rec., ICP-MS	ND(1)	ug/L	111110-2	11/14/2011	SL006
City of Wichita	59793	11110499	Maple and Cowskin Upstream	11/7/2011	Copper, Tot. Rec., ICP-MS	ND(5)	ug/L	111110-2	11/14/2011	SL012
City of Wichita	59793	11110499	Maple and Cowskin Upstream	11/7/2011	Zinc, Tot. Rec., ICP-MS	ND(20)	ug/L	111110-2	11/14/2011	SL033
City of Wichita	59793	11110499	Maple and Cowskin Upstream	11/7/2011	Cadmium, Dissolved, ICP-MS	ND(1) DM	ug/L	111111-3	11/15/2011	SL156
City of Wichita	59793	11110499	Maple and Cowskin Upstream	11/7/2011	Copper, Dissolved, ICP-MS	ND(5) DM	ug/L	111111-3	11/15/2011	SL162
City of Wichita	59793	11110499	Maple and Cowskin Upstream	11/7/2011	Zinc, Dissolved, ICP-MS	22 DM	ug/L	111111-3	11/15/2011	SL183
City of Wichita	59793	11110499	Maple and Cowskin Upstream	11/7/2011	Hardness (Calculated)	248	mg/L as CaCO3	111118-3	11/29/2011	SL323
City of Wichita	59793	11110499	Maple and Cowskin Upstream	11/7/2011	BOD	ND(5)	mg/L	111109-2	11/9/2011	GL123
City of Wichita	59794	11110500	21st and Hood Upstream	11/7/2011	Phosphorus, Total, as P	ND(0.20)	mg/L	111130-1	11/30/2011	GL218
City of Wichita	59794	11110500	21st and Hood Upstream	11/7/2011	Solids, Total Dissolved	598	mg/L	111114-1	11/14/2011	GL242
City of Wichita	59794	11110500	21st and Hood Upstream	11/7/2011	Solids, Total Suspended	22	mg/L	111114-2	11/14/2011	GL243
City of Wichita	59794	11110500	21st and Hood Upstream	11/7/2011	Nitrogen (TKN + NO3/NO2), as N	ND(1.0)	mg/L		11/17/2011	GL343
City of Wichita	59794	11110500	21st and Hood Upstream	11/7/2011	Chloride	121	mg/L	1IC1312	11/8/2011	GL502
City of Wichita	59794	11110500	21st and Hood Upstream	11/7/2011	Nitrite, as N	ND(1) M	mg/L	1IC1313	11/9/2011	GL503
City of Wichita	59794	11110500	21st and Hood Upstream	11/7/2011	Nitrate, as N	0.5	mg/L	1IC1312	11/8/2011	GL505
City of Wichita	59794	11110500	21st and Hood Upstream	11/7/2011	Kjeldahl Nitrogen, as N (TKN)	ND(1.0)	mg/L	111111-1	11/15/2011	GL595
City of Wichita	59794	11110500	21st and Hood Upstream	11/7/2011	Cadmium, Tot. Rec., ICP-MS	ND(1)	ug/L	111110-2	11/14/2011	SL006
City of Wichita	59794	11110500	21st and Hood Upstream	11/7/2011	Copper, Tot. Rec., ICP-MS	ND(5)	ug/L	111110-2	11/14/2011	SL012
City of Wichita	59794	11110500	21st and Hood Upstream	11/7/2011	Zinc, Tot. Rec., ICP-MS	ND(20)	ug/L	111110-2	11/14/2011	SL033
City of Wichita	59794	11110500	21st and Hood Upstream	11/7/2011	Cadmium, Dissolved, ICP-MS	ND(1) DM	ug/L	111111-3	11/15/2011	SL156
City of Wichita	59794	11110500	21st and Hood Upstream	11/7/2011	Copper, Dissolved, ICP-MS	ND(5) DM	ug/L	111111-3	11/15/2011	SL162

NAME	ORDERNO	LABNO	SAMPLE	DATESAM	TESTNAME	RESULT	UNITS	BATCH	DATECOM	TESTCODE
City of Wichita	59794	11110500	21st and Hood Upstream	11/7/2011	Zinc, Dissolved, ICP-MS	ND(20) DM	ug/L	111111-3	11/15/2011	SL183
City of Wichita	59794	11110500	21st and Hood Upstream	11/7/2011	Hardness (Calculated)	290.	mg/L as CaCO3	111118-3	11/29/2011	SL323
City of Wichita	59797	11110505	Harvest Court - Grab	11/7/2011	Solids, Total Dissolved	108	mg/L	111114-1	11/14/2011	GL242
City of Wichita	59797	11110505	Harvest Court - Grab	11/7/2011	Solids, Total Suspended	146	mg/L	111114-2	11/14/2011	GL243
City of Wichita	59797	11110505	Harvest Court - Grab	11/7/2011	Chloride	8.3	mg/L	1IC1322	11/18/2011	GL502
City of Wichita	59797	11110505	Harvest Court - Grab	11/7/2011	Cadmium, Tot. Rec., ICP-MS	ND(1)	ug/L	111110-2	11/14/2011	SL006
City of Wichita	59797	11110505	Harvest Court - Grab	11/7/2011	Copper, Tot. Rec., ICP-MS	26	ug/L	111110-2	11/14/2011	SL012
City of Wichita	59797	11110505	Harvest Court - Grab	11/7/2011	Zinc, Tot. Rec., ICP-MS	102	ug/L	111110-2	11/14/2011	SL033
City of Wichita	59797	11110505	Harvest Court - Grab	11/7/2011	Cadmium, Dissolved, ICP-MS	ND(1) DM	ug/L	111111-3	11/15/2011	SL156
City of Wichita	59797	11110505	Harvest Court - Grab	11/7/2011	Copper, Dissolved, ICP-MS	8 DM	ug/L	111111-3	11/15/2011	SL162
City of Wichita	59797	11110505	Harvest Court - Grab	11/7/2011	Zinc, Dissolved, ICP-MS	ND(20) DM	ug/L	111111-3	11/15/2011	SL183
City of Wichita	59797	11110505	Harvest Court - Grab	11/7/2011	Hardness (Calculated)	51.4	mg/L as CaCO3	111109-3	11/11/2011	SL323
City of Wichita	59797	11110505	Harvest Court - Grab	11/7/2011	BOD	51	mg/L	111109-1	11/9/2011	GL123
City of Wichita	59797	11110506	Harvest Court - Composite	11/7/2011	Phosphorus, Total, as P	0.57	mg/L	111130-1	11/30/2011	GL218
City of Wichita	59797	11110506	Harvest Court - Composite	11/7/2011	Solids, Total Dissolved	150.	mg/L	111114-1	11/14/2011	GL242
City of Wichita	59797	11110506	Harvest Court - Composite	11/7/2011	Solids, Total Suspended	220.	mg/L	111114-2	11/14/2011	GL243
City of Wichita	59797	11110506	Harvest Court - Composite	11/7/2011	Nitrogen (TKN + NO3/NO2), as N	6.1	mg/L		11/17/2011	GL343
City of Wichita	59797	11110506	Harvest Court - Composite	11/7/2011	Chloride	14.9	mg/L	1IC1312	11/8/2011	GL502
City of Wichita	59797	11110506	Harvest Court - Composite	11/7/2011	Nitrite, as N	0.1	mg/L	1IC1313	11/9/2011	GL503
City of Wichita	59797	11110506	Harvest Court - Composite	11/7/2011	Nitrate, as N	1.3	mg/L	1IC1312	11/8/2011	GL505
City of Wichita	59797	11110506	Harvest Court - Composite	11/7/2011	Kjeldahl Nitrogen, as N (TKN)	4.7	mg/L	111111-1	11/15/2011	GL595
City of Wichita	59797	11110506	Harvest Court - Composite	11/7/2011	Cadmium, Tot. Rec., ICP-MS	ND(1)	ug/L	111110-2	11/14/2011	SL006
City of Wichita	59797	11110506	Harvest Court - Composite	11/7/2011	Copper, Tot. Rec., ICP-MS	21	ug/L	111110-2	11/14/2011	SL012
City of Wichita	59797	11110506	Harvest Court - Composite	11/7/2011	Zinc, Tot. Rec., ICP-MS	95	ug/L	111110-2	11/14/2011	SL033
City of Wichita	59797	11110506	Harvest Court - Composite	11/7/2011	Cadmium, Dissolved, ICP-MS	ND(1) DM	ug/L	111111-3	11/15/2011	SL156
City of Wichita	59797	11110506	Harvest Court - Composite	11/7/2011	Copper, Dissolved, ICP-MS	8 DM	ug/L	111111-3	11/15/2011	SL162
City of Wichita	59797	11110506	Harvest Court - Composite	11/7/2011	Zinc, Dissolved, ICP-MS	ND(20) DM	ug/L	111111-3	11/15/2011	SL183
City of Wichita	59797	11110506	Harvest Court - Composite	11/7/2011	Hardness (Calculated)	66.1	mg/L as CaCO3	111109-3	11/11/2011	SL323
City of Wichita	59797	11110506	Harvest Court - Composite	11/7/2011	Solids, Total Dissolved	124	mg/L	111114-1	11/14/2011	GL242
City of Wichita	59798	11110507	13th and River - Grab	11/7/2011	Solids, Total Suspended	26	mg/L	111114-2	11/14/2011	GL243
City of Wichita	59798	11110507	13th and River - Grab	11/7/2011	Chloride	11.4	mg/L	1IC1322	11/18/2011	GL502
City of Wichita	59798	11110507	13th and River - Grab	11/7/2011	Cadmium, Tot. Rec., ICP-MS	ND(1)	ug/L	111110-2	11/14/2011	SL006
City of Wichita	59798	11110507	13th and River - Grab	11/7/2011	Copper, Tot. Rec., ICP-MS	9	ug/L	111110-2	11/14/2011	SL012
City of Wichita	59798	11110507	13th and River - Grab	11/7/2011	Zinc, Tot. Rec., ICP-MS	57	ug/L	111110-2	11/14/2011	SL033
City of Wichita	59798	11110507	13th and River - Grab	11/7/2011	Cadmium, Dissolved, ICP-MS	ND(1) DM	ug/L	111111-3	11/15/2011	SL156
City of Wichita	59798	11110507	13th and River - Grab	11/7/2011	Copper, Dissolved, ICP-MS	8 DM	ug/L	111111-3	11/15/2011	SL162
City of Wichita	59798	11110507	13th and River - Grab	11/7/2011	Zinc, Dissolved, ICP-MS	34 DM	ug/L	111111-3	11/15/2011	SL183
City of Wichita	59798	11110507	13th and River - Grab	11/7/2011	Hardness (Calculated)	44.0	mg/L as CaCO3	111109-3	11/11/2011	SL323
City of Wichita	59798	11110507	13th and River - Grab	11/7/2011	BOD	62	mg/L	111109-2	11/9/2011	GL123
City of Wichita	59798	11110508	13th and River - Composite	11/7/2011	Phosphorus, Total, as P	0.71	mg/L	111130-1	11/30/2011	GL218
City of Wichita	59798	11110508	13th and River - Composite	11/7/2011	Solids, Total Dissolved	110.	mg/L	111114-1	11/14/2011	GL242
City of Wichita	59798	11110508	13th and River - Composite	11/7/2011	Solids, Total Suspended	41	mg/L	111114-2	11/14/2011	GL243
City of Wichita	59798	11110508	13th and River - Composite	11/7/2011	Nitrogen (TKN + NO3/NO2), as N	3.2	mg/L		11/17/2011	GL343
City of Wichita	59798	11110508	13th and River - Composite	11/7/2011	Chloride	11.3	mg/L	1IC1312	11/9/2011	GL502
City of Wichita	59798	11110508	13th and River - Composite	11/7/2011	Nitrite, as N	ND(0.1)	mg/L	1IC1312	11/9/2011	GL503
City of Wichita	59798	11110508	13th and River - Composite	11/7/2011	Nitrate, as N	0.5	mg/L	1IC1312	11/9/2011	GL505
City of Wichita	59798	11110508	13th and River - Composite	11/7/2011	Kjeldahl Nitrogen, as N (TKN)	2.7	mg/L	111111-1	11/15/2011	GL595

NAME	ORDERNO	LABNO	SAMPLE	DATESAM	TESTNAME	RESULT	UNITS	BATCH	DATECOM	TESTCODE
City of Wichita	59798	11110508	13th and River - Composite	11/7/2011	Cadmium, Tot. Rec., ICP-MS	ND(1)	ug/L	111110-2	11/14/2011	SL006
City of Wichita	59798	11110508	13th and River - Composite	11/7/2011	Copper, Tot. Rec., ICP-MS	9	ug/L	111110-2	11/14/2011	SL012
City of Wichita	59798	11110508	13th and River - Composite	11/7/2011	Zinc, Tot. Rec., ICP-MS	66	ug/L	111110-2	11/14/2011	SL033
City of Wichita	59798	11110508	13th and River - Composite	11/7/2011	Cadmium, Dissolved, ICP-MS	ND(1) DM	ug/L	111111-3	11/15/2011	SL156
City of Wichita	59798	11110508	13th and River - Composite	11/7/2011	Copper, Dissolved, ICP-MS	7 DM	ug/L	111111-3	11/15/2011	SL162
City of Wichita	59798	11110508	13th and River - Composite	11/7/2011	Zinc, Dissolved, ICP-MS	35 DM	ug/L	111111-3	11/15/2011	SL183
City of Wichita	59798	11110508	13th and River - Composite	11/7/2011	Hardness (Calculated)	46.7	mg/L as CaCO3	111109-3	11/11/2011	SL323
City of Wichita	59798	11110508	13th and River - Composite	11/7/2011	Solids, Total Dissolved	112	mg/L	111114-1	11/14/2011	GL242
City of Wichita	59799	11110509	Maple and Cowskin - Grab	11/7/2011	Solids, Total Suspended	49	mg/L	111114-2	11/14/2011	GL243
City of Wichita	59799	11110509	Maple and Cowskin - Grab	11/7/2011	Chloride	4.8	mg/L	1IC1322	11/18/2011	GL502
City of Wichita	59799	11110509	Maple and Cowskin - Grab	11/7/2011	Cadmium, Tot. Rec., ICP-MS	ND(1)	ug/L	111110-2	11/14/2011	SL006
City of Wichita	59799	11110509	Maple and Cowskin - Grab	11/7/2011	Copper, Tot. Rec., ICP-MS	14	ug/L	111110-2	11/14/2011	SL012
City of Wichita	59799	11110509	Maple and Cowskin - Grab	11/7/2011	Zinc, Tot. Rec., ICP-MS	162	ug/L	111110-2	11/14/2011	SL033
City of Wichita	59799	11110509	Maple and Cowskin - Grab	11/7/2011	Cadmium, Dissolved, ICP-MS	ND(1) DM	ug/L	111111-3	11/15/2011	SL156
City of Wichita	59799	11110509	Maple and Cowskin - Grab	11/7/2011	Copper, Dissolved, ICP-MS	5 DM	ug/L	111111-3	11/15/2011	SL162
City of Wichita	59799	11110509	Maple and Cowskin - Grab	11/7/2011	Zinc, Dissolved, ICP-MS	25 DM	ug/L	111111-3	11/15/2011	SL183
City of Wichita	59799	11110509	Maple and Cowskin - Grab	11/7/2011	Hardness (Calculated)	37.7	mg/L as CaCO3	111109-3	11/11/2011	SL323
City of Wichita	59799	11110509	Maple and Cowskin - Grab	11/7/2011	BOD	13	mg/L	111109-1	11/9/2011	GL123
City of Wichita	59799	11110510	Maple and Cowskin - Composite	11/7/2011	Phosphorus, Total, as P	0.23	mg/L	111130-1	11/30/2011	GL218
City of Wichita	59799	11110510	Maple and Cowskin - Composite	11/7/2011	Solids, Total Dissolved	106	mg/L	111114-1	11/14/2011	GL242
City of Wichita	59799	11110510	Maple and Cowskin - Composite	11/7/2011	Solids, Total Suspended	53	mg/L	111114-2	11/14/2011	GL243
City of Wichita	59799	11110510	Maple and Cowskin - Composite	11/7/2011	Nitrogen (TKN + NO3/NO2), as N	2.5	mg/L		11/17/2011	GL343
City of Wichita	59799	11110510	Maple and Cowskin - Composite	11/7/2011	Chloride	5.2	mg/L	1IC1312	11/9/2011	GL502
City of Wichita	59799	11110510	Maple and Cowskin - Composite	11/7/2011	Nitrite, as N	ND(0.1)	mg/L	1IC1312	11/9/2011	GL503
City of Wichita	59799	11110510	Maple and Cowskin - Composite	11/7/2011	Nitrate, as N	0.5	mg/L	1IC1312	11/9/2011	GL505
City of Wichita	59799	11110510	Maple and Cowskin - Composite	11/7/2011	Kjeldahl Nitrogen, as N (TKN)	2.0	mg/L	111111-1	11/15/2011	GL595
City of Wichita	59799	11110510	Maple and Cowskin - Composite	11/7/2011	Cadmium, Tot. Rec., ICP-MS	ND(1)	ug/L	111110-2	11/14/2011	SL006
City of Wichita	59799	11110510	Maple and Cowskin - Composite	11/7/2011	Copper, Tot. Rec., ICP-MS	13	ug/L	111110-2	11/14/2011	SL012
City of Wichita	59799	11110510	Maple and Cowskin - Composite	11/7/2011	Zinc, Tot. Rec., ICP-MS	167	ug/L	111110-2	11/14/2011	SL033
City of Wichita	59799	11110510	Maple and Cowskin - Composite	11/7/2011	Cadmium, Dissolved, ICP-MS	ND(1) DM	ug/L	111111-3	11/15/2011	SL156
City of Wichita	59799	11110510	Maple and Cowskin - Composite	11/7/2011	Copper, Dissolved, ICP-MS	5 DM	ug/L	111111-3	11/15/2011	SL162
City of Wichita	59799	11110510	Maple and Cowskin - Composite	11/7/2011	Zinc, Dissolved, ICP-MS	25 DM	ug/L	111111-3	11/15/2011	SL183
City of Wichita	59799	11110510	Maple and Cowskin - Composite	11/7/2011	Hardness (Calculated)	40.1	mg/L as CaCO3	111109-3	11/11/2011	SL323
City of Wichita	59799	11110510	Maple and Cowskin - Composite	11/7/2011	Solids, Total Dissolved	102	mg/L	111114-1	11/14/2011	GL242
City of Wichita	59800	11110511	21st and Hood - Grab	11/7/2011	Solids, Total Suspended	21	mg/L	111114-2	11/14/2011	GL243
City of Wichita	59800	11110511	21st and Hood - Grab	11/7/2011	Chloride	4.6	mg/L	1IC1322	11/18/2011	GL502
City of Wichita	59800	11110511	21st and Hood - Grab	11/7/2011	Cadmium, Tot. Rec., ICP-MS	ND(1)	ug/L	111110-2	11/14/2011	SL006
City of Wichita	59800	11110511	21st and Hood - Grab	11/7/2011	Copper, Tot. Rec., ICP-MS	11	ug/L	111110-2	11/14/2011	SL012
City of Wichita	59800	11110511	21st and Hood - Grab	11/7/2011	Zinc, Tot. Rec., ICP-MS	99	ug/L	111110-2	11/14/2011	SL033
City of Wichita	59800	11110511	21st and Hood - Grab	11/7/2011	Cadmium, Dissolved, ICP-MS	ND(1) DM	ug/L	111111-3	11/15/2011	SL156
City of Wichita	59800	11110511	21st and Hood - Grab	11/7/2011	Copper, Dissolved, ICP-MS	ND(5) DM	ug/L	111111-3	11/15/2011	SL162
City of Wichita	59800	11110511	21st and Hood - Grab	11/7/2011	Zinc, Dissolved, ICP-MS	22 DM	ug/L	111111-3	11/15/2011	SL183
City of Wichita	59800	11110511	21st and Hood - Grab	11/7/2011	Hardness (Calculated)	34.8	mg/L as CaCO3	111109-3	11/11/2011	SL323
City of Wichita	59800	11110511	21st and Hood - Grab	11/7/2011	BOD	12	mg/L	111109-2	11/9/2011	GL123
City of Wichita	59800	11110512	21st and Hood - Composite	11/7/2011	Phosphorus, Total, as P	0.30	mg/L	111130-1	11/30/2011	GL218
City of Wichita	59800	11110512	21st and Hood - Composite	11/7/2011	Solids, Total Dissolved	98	mg/L	111114-1	11/14/2011	GL242
City of Wichita	59800	11110512	21st and Hood - Composite	11/7/2011	Solids, Total Suspended	23	mg/L	111114-2	11/14/2011	GL243
City of Wichita	59800	11110512	21st and Hood - Composite							

NAME	ORDERNO	LABNO	SAMPLE	DATESAM	TESTNAME	RESULT	UNITS	BATCH	DATECOM	TESTCODE
City of Wichita	59800	11110512	21st and Hood - Composite	11/7/2011	Nitrogen (TKN + NO3/NO2), as N	2.1	mg/L		11/17/2011	GL343
City of Wichita	59800	11110512	21st and Hood - Composite	11/7/2011	Chloride	4.5	mg/L	1IC1312	11/9/2011	GL502
City of Wichita	59800	11110512	21st and Hood - Composite	11/7/2011	Nitrite, as N	ND(0.1)	mg/L	1IC1312	11/9/2011	GL503
City of Wichita	59800	11110512	21st and Hood - Composite	11/7/2011	Nitrate, as N	0.4	mg/L	1IC1312	11/9/2011	GL505
City of Wichita	59800	11110512	21st and Hood - Composite	11/7/2011	Kjeldahl Nitrogen, as N (TKN)	1.7	mg/L	111111-1	11/15/2011	GL595
City of Wichita	59800	11110512	21st and Hood - Composite	11/7/2011	Cadmium, Tot. Rec., ICP-MS	ND(1)	ug/L	111110-2	11/14/2011	SL006
City of Wichita	59800	11110512	21st and Hood - Composite	11/7/2011	Copper, Tot. Rec., ICP-MS	9	ug/L	111110-2	11/14/2011	SL012
City of Wichita	59800	11110512	21st and Hood - Composite	11/7/2011	Zinc, Tot. Rec., ICP-MS	76	ug/L	111110-2	11/14/2011	SL033
City of Wichita	59800	11110512	21st and Hood - Composite	11/7/2011	Cadmium, Dissolved, ICP-MS	ND(1) DM	ug/L	111117-5	11/28/2011	SL156
City of Wichita	59800	11110512	21st and Hood - Composite	11/7/2011	Copper, Dissolved, ICP-MS	5 DM	ug/L	111117-5	11/28/2011	SL162
City of Wichita	59800	11110512	21st and Hood - Composite	11/7/2011	Zinc, Dissolved, ICP-MS	27	ug/L	111117-5	11/28/2011	SL183
City of Wichita	59800	11110512	21st and Hood - Composite	11/7/2011	Hardness (Calculated)	36.1	mg/L as CaCO3	111109-3	11/11/2011	SL323

Continental Analytical Services, Inc.

05/23/2011

City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date and Time Received: 05/11/2011 16:15
Continental File No.: 8339
Continental Order No.: 55824
Project ID: Stormwater

Dear Mr. Hardesty:

This laboratory report containing the samples indicated below, includes 9 pages for the analytical report, 1 page(s) for the chain of custody and/or analysis request, and 1 page(s) for the sample receipt form.

CAS LAB ID #	SAMPLE DESCRIPTION	SAMPLE TYPE	DATE SAMPLED
11050848	Maple and Cowskin - Grab	Liquid	5/11/2011
11050849	Maple and Cowskin - Composite	Liquid	5/11/2011

The Appendix and Quality Control sections are integral parts of this laboratory report and may contain important data qualifiers.

All results are reported on a wet weight basis unless otherwise stated.

Samples will be retained for thirty days unless Continental is otherwise notified.

Continental is accredited by the State of Kansas through the National Environmental Laboratory Accreditation Program (NELAP). The results contained in this report were obtained using Continental's Standard Operating Procedures. These procedures are in substantial compliance with the approved methods referenced and the standards published by NELAP unless otherwise noted in the Appendix and Quality Control sections of this report.

This report may not be reproduced, except in full, without written approval from Continental Analytical Services, Inc.

Thank you for choosing Continental for this project. If you have any questions please contact me at (800)535-3076.

CONTINENTAL ANALYTICAL SERVICES, INC.

Clifford J. Baker
Technical Manager

Gregory J. Groene
Project Manager

525 N. Eighth St. - P.O. Box 3737 - Salina, KS 67402-3737
785-827-1273 800-535-3076 Fax 785-823-7830

KDHE Environmental Laboratory Accreditation No. E-10146

Continental Analytical Services, Inc.

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Sample Rptd: 05/23/2011
Date Sample Recd: 05/11/2011
Continental File No: 8339
Continental Order No: 55824

Lab Number: 11050848
Sample Description: Maple and Cowskin - Grab

Date Sampled: 05/11/2011
Time Sampled: 1225

Analysis	Concentration	Units	Book/Page
Cadmium, Dissolved, ICP-MS	ND(1) DM	µg/L	7127/10
Cadmium, Tot. Rec., ICP-MS	ND(1)	µg/L	7127/10
Copper, Dissolved, ICP-MS	17 DM	µg/L	7127/10
Copper, Tot. Rec., ICP-MS	33	µg/L	7127/10
Hardness (Calculated)	181	mg/L as CaCO3	7128/28
Zinc, Dissolved, ICP-MS	82 DM	µg/L	7127/10
Zinc, Tot. Rec., ICP-MS	233	µg/L	7127/10
Chloride	79	mg/L	7107/44
Solids, Total Dissolved	470.	mg/L	7059/223
Solids, Total Suspended	124	mg/L	7059/221

Analysis	Date Prepared	Date Analyzed	QC Batch	Inst. Batch	Analyst	Method(s)
Cadmium, Dissolved, ICP-MS	05/13/11 213	05/17/11 1848	110513-5	3IP3137	JDL	200.8 Rev. 5.4
Cadmium, Tot. Rec., ICP-MS	05/13/11 0818	05/17/11 1735	110513-1	2IP3137	JDL	200.8 Rev. 5.4
Copper, Dissolved, ICP-MS	05/13/11 213	05/17/11 1848	110513-5	3IP3137	JDL	200.8 Rev. 5.4
Copper, Tot. Rec., ICP-MS	05/13/11 0818	05/17/11 1735	110513-1	2IP3137	JDL	200.8 Rev. 5.4
Hardness (Calculated)	05/16/11 1457	05/20/11 0026	110516-4	14IP4139	KMW	200.7 & SM 2340B
Zinc, Dissolved, ICP-MS	05/13/11 213	05/17/11 1848	110513-5	3IP3137	JDL	200.8 Rev. 5.4
Zinc, Tot. Rec., ICP-MS	05/13/11 0818	05/17/11 1735	110513-1	2IP3137	JDL	200.8 Rev. 5.4
Chloride	N/A	05/17/11 1831	1IC2137	3IC2137	MLL	300.0
Solids, Total Dissolved	N/A	05/18/11 1816	110518-0	110518-1	KJH	SM20th 2540C
Solids, Total Suspended	N/A	05/18/11 1633	110518-1	110518-1	KJH	SM20th 2540D
Dissolved Metals Preparation Method						200.7/200.8
Total Recoverable Metals Preparation Method						200.7/200.8
Calculated as Hardness Preparation Method						200.7/6010B

Conclusion of Lab Number: 11050848

Continental Analytical Services, Inc.

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Sample Rptd: 05/23/2011
Date Sample Recd: 05/11/2011
Continental File No: 8339
Continental Order No: 55824

Lab Number: 11050849
Sample Description: Maple and Cowskin - Composite

Date Sampled: 05/11/2011
Time Sampled: 1225

Analysis	Concentration	Units	Book/Page
Cadmium, Dissolved, ICP-MS	ND(1) DM	µg/L	7127/10
Cadmium, Tot. Rec., ICP-MS	ND(1)	µg/L	7127/10
Copper, Dissolved, ICP-MS	17 DM	µg/L	7127/10
Copper, Tot. Rec., ICP-MS	34	µg/L	7127/10
Hardness (Calculated)	195	mg/L as CaCO3	7128/28
Zinc, Dissolved, ICP-MS	89 DM	µg/L	7127/10
Zinc, Tot. Rec., ICP-MS	251	µg/L	7127/10
BOD	48	mg/L	7060/106
Chloride	81	mg/L	7129/7
Kjeldahl Nitrogen, as N	6	mg/L	7043/41
Nitrate, as N	2.0	mg/L	7129/7
Nitrite, as N	0.4	mg/L	7129/10
Nitrogen (TKN + NO3/NO2), as N	8.4	mg/L	0/290
Phosphorus, Total, as P	0.27	mg/L	7061/87
Solids, Total Dissolved	488	mg/L	7059/223
Solids, Total Suspended	114	mg/L	7059/221

Analysis	Date Prepared	Date Analyzed	QC Batch	Inst. Batch	Analyst	Method(s)
Cadmium, Dissolved, ICP-MS	05/13/11 213	05/17/11 1854	110513-5	3IP3137	JDL	200.8 Rev. 5.4
Cadmium, Tot. Rec., ICP-MS	05/13/11 0818	05/17/11 1740	110513-1	2IP3137	JDL	200.8 Rev. 5.4
Copper, Dissolved, ICP-MS	05/13/11 213	05/17/11 1854	110513-5	3IP3137	JDL	200.8 Rev. 5.4
Copper, Tot. Rec., ICP-MS	05/13/11 0818	05/17/11 1740	110513-1	2IP3137	JDL	200.8 Rev. 5.4
Hardness (Calculated)	05/16/11 1457	05/20/11 0030	110516-4	14IP4139	KMW	200.7 & SM 2340B
Zinc, Dissolved, ICP-MS	05/13/11 213	05/17/11 1854	110513-5	3IP3137	JDL	200.8 Rev. 5.4
Zinc, Tot. Rec., ICP-MS	05/13/11 0818	05/17/11 1740	110513-1	2IP3137	JDL	200.8 Rev. 5.4
BOD	N/A	05/12/11 1550	110512-1	110512-1	MLL	SM 5210B
Chloride	N/A	05/12/11 1403	1IC1132	1IC1132	MLL	300.0
Kjeldahl Nitrogen, as N	N/A	05/16/11 1047	110516-1	110516-3	JND	4500N(C) & (E)
Nitrate, as N	N/A	05/12/11 1350	1IC1132	1IC1132	MLL	300.0
Nitrite, as N	N/A	05/13/11 1042	1IC1133	1IC1133	MLL	300.0
Nitrogen (TKN + NO3/NO2),	N/A	05/20/11				Calculation
Phosphorus, Total, as P	N/A	05/20/11 1437	110520-2	110520-4	KJH	SM 4500-P(B&F)(M
Solids, Total Dissolved	N/A	05/18/11 1816	110518-1	110518-0	KJH	SM20th 2540C
Solids, Total Suspended	N/A	05/18/11 1633	110518-1	110518-1	KJH	SM20th 2540D
Dissolved Metals Preparation Method						200.7/200.8
Total Recoverable Metals Preparation Method						200.7/200.8
Calculated as Hardness Preparation Method						200.7/6010B

Conclusion of Lab Number: 11050849

Continental Analytical Services, Inc.

APPENDIX

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Sample Rptd: 05/23/2011
Date Sample Recd: 05/11/2011
Continental File No: 8339
Continental Order No: 55824

ND(), where reported, indicates the analyte was not detected above the limit of quantitation (LOQ). The concentration of the limit of quantitation is inside the parentheses.

All samples which require cooling were received at a temperature of less than 6 degrees Celsius.

The following table presents the date and time sampled, the date and time analyzed, and the total time elapsed for each analysis with an EPA recommended holding time of seventy-two hours or less.

CAS LAB ID #	ANALYSIS	DATE/TIME SAMPLED	DATE/TIME ANALYZED	ELAPSED HRS:MIN
11050849	BOD	05/11/2011 1225	05/12/2011 1550	27:25
11050849	Nitrate, as N	05/11/2011 1225	05/12/2011 1350	25:25
11050849	Nitrite, as N	05/11/2011 1225	05/13/2011 1042	46:17

DM - NPDES requirements specify that dissolved metals and orthophosphate must be filtered within 15 minutes of the time of collection. This analysis did not meet these criteria.

Continental Analytical Services, Inc.

Continental Analytical Services, Inc.
Accreditation Summary Report

Client: City of Wichita
CAS Order Number: 55824

NELAP accreditation is issued under each EPA regulatory program for a given matrix/analyte/method combination. Continental is NELAP accredited for each matrix/analyte/method and EPA program cited in this Laboratory Report, except for those listed in the table below and analysis performed in the field. For most of the analyses listed in the table, NELAP accreditation is not offered under the listed EPA program and Continental is NELAP accredited for the analysis, using the same analytical technology, but under a different EPA program. Continental's full NELAP accreditation status may be viewed at www.kdheks.gov/envlab. Note that unless qualified otherwise in the Laboratory Report, Continental performs all analyses, including each analysis listed in the table below, utilizing NELAP protocol.

Test	Analysis	Matrix-Regulatory Program	Method	CAS NELAP Accredited in Other Reg. Program
GL343	Nitrogen (TKN + NO3/NO2), as N	L-NPDES	Calculation	N

Continental Analytical Services, Inc.

Quality Control Report
Batch Summary

Date Reported: 05/23/2011
Date Sample Received: 05/11/2011
Continental File No: 8339
Continental Order No: 55824

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Test	Testname	QC Batch	Method Blank	LCS	MS Lab No.
SL006	Cadmium, Tot. Rec., ICP-MS	110513-1	110513BLK1	110513LCS1	11050847MS
SL012	Copper, Tot. Rec., ICP-MS	110513-1	110513BLK1	110513LCS1	11050847MS
SL033	Zinc, Tot. Rec., ICP-MS	110513-1	110513BLK1	110513LCS1	11050847MS
Lab numbers associated with this batch: 11050848 11050849					
SL156	Cadmium, Dissolved, ICP-MS	110513-5	110513BLK5	110513LCS5	11050846MS
SL162	Copper, Dissolved, ICP-MS	110513-5	110513BLK5	110513LCS5	11050846MS
SL183	Zinc, Dissolved, ICP-MS	110513-5	110513BLK5	110513LCS5	11050846MS
Lab numbers associated with this batch: 11050848 11050849					
SL323	Hardness (Calculated)	110516-4	110516BLK4	110516LCS4	11050744MS
Lab numbers associated with this batch: 11050848 11050849					
GL123	BOD	110512-1	110512BLK1	110512LCS1	11050892MS
Lab numbers associated with this batch: 11050849					
GL502	Chloride	1IC1132	BLK1IC1132	LCS1IC1132	
Lab numbers associated with this batch: 11050849					
GL502	Chloride	1IC2137	BLK1IC2137	LCS1IC2137	11050848MS
Lab numbers associated with this batch: 11050848					
GL195	Kjeldahl Nitrogen, as N	110516-1	110516BLK1	110516LCS1	11050869MS
Lab numbers associated with this batch: 11050849					
GL505	Nitrate, as N	1IC1132	BLK1IC1132	LCS1IC1132	
Lab numbers associated with this batch: 11050849					
GL503	Nitrite, as N	1IC1133	BLK1IC1133	LCS1IC1133	
Lab numbers associated with this batch: 11050849					
GL343	Nitrogen (TKN + NO3/NO2), as N				
Lab numbers associated with this batch: 11050849					

Continental Analytical Services, Inc.

Quality Control Report
Batch Summary

Date Reported: 05/23/2011
Date Sample Received: 05/11/2011
Continental File No: 8339
Continental Order No: 55824

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Test	Testname	QC Batch	Method Blank	LCS	MS Lab No.
GL218	Phosphorus, Total, as P	110520-2	110520BLK2	110520LCS2	11050904MS
Lab numbers associated with this batch: 11050849					
GL242	Solids, Total Dissolved	110518-1	110518BLK1	110518LCS1	11050850MS
GL243	Solids, Total Suspended	110518-1	110518BLK1	110518LCS1	11050850MS
Lab numbers associated with this batch: 11050848 11050849					

Continental Analytical Services, Inc.

Quality Control Report
Method Blank, LCS, MS/MSD Data

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Reported: 05/23/2011
Date Sample Received: 05/11/2011
Continental File No: 8339
Continental Order No: 55824

Analysis	Blank Data	% Rec LCS	Limits	Spike Level	Units	Spiked Sample (% Recovery) MS	MSD	Limits	Spike Level	Units	Spiked Sample Precision Data RPD	Limit
QC Batch: 110512-1	For sample analyzed on: 05/12/2011					Spiked sample: 11050892						
BOD	ND(5)	85.6	70.5-110	198	mg/L	MN	MN	#		mg/L	**	13.3
QC Batch: 110513-1	For samples prepared on: 05/13/2011					Spiked sample: 11050947						
Cadmium, Tot. Rec., ICP-MS	ND(1)	100.	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
Copper, Tot. Rec., ICP-MS	ND(3) J	94.4	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
Zinc, Tot. Rec., ICP-MS	ND(20)	99.0	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
QC Batch: 110513-5	For samples prepared on: 05/13/2011					Spiked sample: 11050946						
Cadmium, Dissolved, ICP-MS	ND(1)	97.9	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
Copper, Dissolved, ICP-MS	ND(3) J	92.1	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
Zinc, Dissolved, ICP-MS	ND(20)	96.6	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
QC Batch: 110516-1	For sample analyzed on: 05/16/2011					Spiked sample: 11050869						
Kjeldahl Nitrogen, as N	ND(1)	98.3	90.0-110	20.0	mg/L	MN	MN	75.0-112	20.0	mg/L	**	17.4
QC Batch: 110516-4	For samples prepared on: 05/16/2011					Spiked sample: 11050744						
Hardness (Calculated)	ND(5.0)	82.9	80.0-120	337	mg/L a	MN	MN	80.0-120	337	mg/L as	**	20.0
QC Batch: 110518-1	For sample analyzed on: 05/18/2011					Spiked sample: 11050850						
Solids, Total Dissolved	ND(30)	N/A			mg/L	MN	MN	#		mg/L	**	5.2
Solids, Total Suspended	ND(5)	N/A			mg/L	MN	MN	#		mg/L	**	18.2
QC Batch: 110520-2	For sample analyzed on: 05/20/2011					Spiked sample: 11050904						
Phosphorus, Total, as P	ND(0.20)	104	90.0-110	1.0	mg/L	MN	MN	71.2-135	1.0	mg/L	**	21.2
QC Batch: 1IC1132	For sample analyzed on: 05/12/2011					Spiked sample:						
Chloride	ND(1.0)	98.1	90.0-110	4.0	mg/L	MN	MN	82.1-126			**	12.5
Nitrate, as N	ND(0.1)	100.	90.0-110	2.0	mg/L	MN	MN	79.3-118			**	12.1
QC Batch: 1IC1133	For sample analyzed on: 05/13/2011					Spiked sample:						
Nitrite, as N	ND(0.1)	104	90.0-110	2.0	mg/L	MN	MN	78.5-127			**	10.1
QC Batch: 1IC2137	For sample analyzed on: 05/17/2011					Spiked sample: 11050848						
Chloride	ND(1.0)	105	90.0-110	4.0	mg/L	97.0	100.	82.1-126	40.0	mg/L	3.0	12.5

Data Qualifiers:

MN - The MS/MSD sample analyses were not performed on a sample from this Continental order number.

J - The concentration or not detected (ND) value is below the Limit of Quantitation (LOQ) and is considered an estimated value.

N/A - Not Applicable

\# - Limits not available.

** - RPD cannot be calculated.

Continental Analytical Services, Inc.

Quality Control Report

Continuing Calibration Verification Data Summary

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Reported: 05/23/2011
Date Sample Received: 05/11/2011
Continental File No: 8339
Continental Order No: 55824

Analysis	Date of Analysis	Instrument Batch ID	Amount in Standard	Amount Detected	Units	Percent Recovery
Cadmium, Tot. Rec., ICP-MS	05/17/2011	2IP3137	CCV recovery acceptable for this Instrument Batch.			
Cadmium, Tot. Rec., ICP-MS	05/17/2011	3IP3137	CCV recovery acceptable for this Instrument Batch.			
Cadmium, Dissolved, ICP-MS	05/17/2011	3IP3137	CCV recovery acceptable for this Instrument Batch.			
Cadmium, Dissolved, ICP-MS	05/17/2011	4IP3137	CCV recovery acceptable for this Instrument Batch.			
Copper, Tot. Rec., ICP-MS	05/17/2011	2IP3137	CCV recovery acceptable for this Instrument Batch.			
Copper, Tot. Rec., ICP-MS	05/17/2011	3IP3137	CCV recovery acceptable for this Instrument Batch.			
Copper, Dissolved, ICP-MS	05/17/2011	3IP3137	CCV recovery acceptable for this Instrument Batch.			
Copper, Dissolved, ICP-MS	05/17/2011	4IP3137	CCV recovery acceptable for this Instrument Batch.			
BOD	05/12/2011	110512-1	CCV recovery acceptable for this Instrument Batch.			
BOD	05/12/2011	110512-2	CCV recovery acceptable for this Instrument Batch.			
Kjeldahl Nitrogen, as N	05/16/2011	110516-3	CCV recovery acceptable for this Instrument Batch.			
Kjeldahl Nitrogen, as N	05/16/2011	110516-4	CCV recovery acceptable for this Instrument Batch.			
Phosphorus, Total, as P	05/20/2011	110520-4	CCV recovery acceptable for this Instrument Batch.			
Phosphorus, Total, as P	05/20/2011	110520-5	CCV recovery acceptable for this Instrument Batch.			
Chloride	05/12/2011	1IC1132	CCV recovery acceptable for this Instrument Batch.			
Chloride	05/12/2011	2IC1132	CCV recovery acceptable for this Instrument Batch.			
Chloride	05/17/2011	3IC2137	CCV recovery acceptable for this Instrument Batch.			
Chloride	05/17/2011	4IC2137	CCV recovery acceptable for this Instrument Batch.			
Nitrite, as N	05/13/2011	1IC1133	CCV recovery acceptable for this Instrument Batch.			
Nitrite, as N	05/13/2011	2IC1133	CCV recovery acceptable for this Instrument Batch.			
Nitrate, as N	05/12/2011	1IC1132	CCV recovery acceptable for this Instrument Batch.			
Nitrate, as N	05/12/2011	2IC1132	CCV recovery acceptable for this Instrument Batch.			
Hardness (Calculated)	05/20/2011	14IP4139	CCV recovery acceptable for this Instrument Batch.			
Hardness (Calculated)	05/20/2011	15IP4139	CCV recovery acceptable for this Instrument Batch.			
Zinc, Tot. Rec., ICP-MS	05/17/2011	2IP3137	CCV recovery acceptable for this Instrument Batch.			
Zinc, Tot. Rec., ICP-MS	05/17/2011	3IP3137	CCV recovery acceptable for this Instrument Batch.			
Zinc, Dissolved, ICP-MS	05/17/2011	3IP3137	CCV recovery acceptable for this Instrument Batch.			
Zinc, Dissolved, ICP-MS	05/17/2011	4IP3137	CCV recovery acceptable for this Instrument Batch.			

- Laboratory Report Conclusion -

Continental Analytical Services, Inc.

525 N. 8th Street, Salina, KS 67401
(785)827-1273 (800)535-3076 Fax (785)823-7830
www.cas-lab.com

CAS ORDER NO: 55824

CHAIN OF CUSTODY RECORD

Continental Shipping Order Number: _____

Client/Reporting Information	Invoice Information
Company Name: City of Wichita Sewage Treatment	Company Name: City of Wichita Sewage Treatment
Address: 2305 E. 57th Street South	Address: 2305 E. 57th Street South
City: Wichita State: KS Zip: 67216	City: Wichita State: KS Zip: 67216
Contact: Jim Hardesty E-mail:	Contact: Jim Hardesty E-mail:
Phone Number: (316)303-8700 Fax Number: (316)303-8712	Phone Number: (316)303-8700 Fax Number: (316)303-8712

Sampler's Name:(Printed) | Sampler's Name:(Signature) | Purchase Order Number:

File Number: 535 | Project Name: Stormwater

SAMPLE IDENTIFICATION (30 Characters or less)	Matrix (Sample Type)	Regulatory Program	Date Sampled	Time Sampled	C Composite G-Grab	Total Containers	Number of Preserved Bottles: HCL	NaOH	HNO3	H2SO4	NONE	OTHER:	Cadmium, Copper, Zinc - Total Recoverable 250ml Plastic - HNO3	Hardness, TSS TDS, Cl, Diss. - Cd, Cu, Zn 1000ml Plastic - None	Total Metals, Dissolved Metals, Hardness, TSS, TDS, Cl, BOD, TKN, Total P, NO3, NO2, Tot. Nitrogen Large Carboy						COMMENTS
0551-Grab - Maple and Cowskin	WW	N	5/11/11	1295	G	2			1		1		X	X							
0581-Composite Maple and Cowskin	WW	N	5/11/11	1225	C	1					1				X						5 Gal. Container to be poured off at lab as needed for required tests. Remaining volume will be saved for for organics if needed.

Edits made prior to sample receipt

Regulatory Program N=NPDES, R=RCRA, D=Drinking Water, SL=503 Sludge, O=Other

(Please note if non-standard turnaround. Rush & Emergency subject to additional charge)
Standard TAT: (15 working days) Rush TAT: (5 working days) Emergency TAT: (3 working days)

Matrix (Sample Type): DW=Drinking Water, GW=Ground Water, WW=Waste Water, W=Wipe, S=Solid/Soil, SL=Sludge, A=Air, OL = Oil/Organic Liquid, O=Other

RELINQUISHED BY:	DATE:	TIME:	RECEIVED BY:	DATE:	TIME:
[signature]	5/11/11	1500			
RELINQUISHED BY:	DATE:	TIME:	RECEIVED BY:	DATE:	TIME:
RECEIVED AT LAB BY: [signature]	DATE: 5/11/11	TIME: 1615	SHIPPED VIA: / AIRBILL:	SEAL #: / SEAL DATE:	

Continental's Standard Terms and Conditions of Sale will apply to all samples received unless a separate contractual agreement has been made.

H:\... Wichita COCs XLS\3/2/2011

Continental Analytical Services Cooler/Sample Receipt Form

CAS Order No. 55824

Client Name: Wichita

CAS File No.: 8339 5535 NO

Sample ID's in cooler: See COC

Cooler _____ of _____ for this CAS Order No.

Cooler Identification: CAS Cooler #: _____ /Client's Cooler/Box/Letter/Hand Delivered
Other: _____

Date/Time Cooler Received: 5/11/11 16:15

Delivered By: UPS/FedX/AB Express/ASAP/Land Air Exp/Field Svcs/Mail/Walk-In/Other: _____

Custody Seal: Present: Intact / Broken Absent: X Seal No: _____
Seal Name: _____ Seal Date: _____
Seal matches Chain of Custody: Yes / No / N/A

Type of Packing Material: Blue Ice/Ice/Melted Ice/Bubble/Foam/Paper/Peanuts/Vermiculite/ None/Other: _____

Cooler Temperature (°C): Original Reading (°C) 1.2 Corrected Reading (°C) 1.5
Temp. By: Temp. Blank Surface: Glass/Plastic/Metal/Other: _____ Cooler
Thermo. ID No.: 585 Thermo. Correction Factor (°C): 0.3
☐ Evidence of Cooling: date received=date sampled

Sample Receipt Discrepancies: ☒ No ☐ *Yes (see below for discrepancies)*

Note: CAS will proceed with sample analyses, addressing each discrepancy as shown, until/unless directed otherwise by the client.

- ☐ Chain of Custody not present information taken from:
  - Cover Letter ☐ Container ☐
  - PO ☐ CAS Proj. Mgr. ☐
- ☐ Container label absent
- ☐ Chain of Custody incomplete [see detail below]
- ☐ Chain of Custody missing date/time sampled (excl. TB or Dup)
- ☐ Date or Time sampled obtained from container label
- ☐ Chain of Custody missing sampler's name
- ☐ Chain of Custody missing matrix (sample type)
- ☐ Missing relinquished information: signature date time
- ☐ Sample excluded from Chain of Custody
- ☐ Sample listed on Chain of Custody, not received
- ☐ Sample description on container and Chain of Custody do not agree
- ☐ Air bubbles in Aqueous VOA vials larger than pea-size [approx. 6 mm]
- ☐ Cooler temperature exceeded 0.1 - 6.0 °C requirement [Do not mark if samples do not require cooling to 0.1 - 6.0 °C.]
- ☐ Broken or leaking containers (detail actions below)
- ☐ Sample container type or labeled chemical preservation inappropriate
- ☐ Other discrepancies: _____

Detail to discrepancies/comments:

Completed by: RB Date Completed: 5-11-11

Continental
Analytical Services, Inc.

05/23/2011

City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date and Time Received: 05/11/2011 16:15
Continental File No.: 8339
Continental Order No.: 55822
Project ID: Stormwater

Dear Mr. Hardesty:

This laboratory report containing the samples indicated below, includes 9 pages for the analytical report, 1 page(s) for the chain of custody and/or analysis request, and 1 page(s) for the sample receipt form.

CAS LAB ID #	SAMPLE DESCRIPTION	SAMPLE TYPE	DATE SAMPLED
11050845	Harvest Ct. - Grab	Liquid	5/11/2011
11050846	Harvest Ct. - Composite	Liquid	5/11/2011

The Appendix and Quality Control sections are integral parts of this laboratory report and may contain important data qualifiers.

All results are reported on a wet weight basis unless otherwise stated.

Samples will be retained for thirty days unless Continental is otherwise notified.

Continental is accredited by the State of Kansas through the National Environmental Laboratory Accreditation Program (NELAP). The results contained in this report were obtained using Continental's Standard Operating Procedures. These procedures are in substantial compliance with the approved methods referenced and the standards published by NELAP unless otherwise noted in the Appendix and Quality Control sections of this report.

This report may not be reproduced, except in full, without written approval from Continental Analytical Services, Inc.

Thank you for choosing Continental for this project. If you have any questions please contact me at (800)535-3076.

CONTINENTAL ANALYTICAL SERVICES, INC.

Clifford J. Baker
Technical Manager

Gregory J. Groene
Project Manager

525 N. Eighth St. - P.O. Box 3737 - Salina, KS 67402-3737
785-827-1273 800-535-3076 Fax 785-823-7830

KDHE Environmental Laboratory Accreditation No. E-10146

Continental Analytical Services, Inc.

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Sample Rptd: 05/23/2011
Date Sample Recd: 05/11/2011
Continental File No: 8339
Continental Order No: 55822

Lab Number: 11050845
Sample Description: Harvest Ct. - Grab

Date Sampled: 05/11/2011
Time Sampled: 1205

Analysis	Concentration	Units	Book/Page
Cadmium, Dissolved, ICP-MS	ND(1) DM	µg/L	7127/10
Cadmium, Tot. Rec., ICP-MS	ND(1)	µg/L	7127/10
Copper, Dissolved, ICP-MS	16 DM	µg/L	7127/10
Copper, Tot. Rec., ICP-MS	30.	µg/L	7127/10
Hardness (Calculated)	85.5	mg/L as CaCO3	7128/28
Zinc, Dissolved, ICP-MS	36 DM	µg/L	7127/10
Zinc, Tot. Rec., ICP-MS	149	µg/L	7127/10
Chloride	37	mg/L	7107/44
Solids, Total Dissolved	244	mg/L	7059/223
Solids, Total Suspended	170.	mg/L	7059/221

Analysis	Date Prepared	Date Analyzed	QC Batch	Inst. Batch	Analyst	Method(s)
Cadmium, Dissolved, ICP-MS	05/13/11 213	05/17/11 1806	110513-5	2IP3137	JDL	200.8 Rev. 5.4
Cadmium, Tot. Rec., ICP-MS	05/13/11 0818	05/17/11 1648	110513-1	1IP3137	JDL	200.8 Rev. 5.4
Copper, Dissolved, ICP-MS	05/13/11 213	05/17/11 1806	110513-5	2IP3137	JDL	200.8 Rev. 5.4
Copper, Tot. Rec., ICP-MS	05/13/11 0818	05/17/11 1648	110513-1	1IP3137	JDL	200.8 Rev. 5.4
Hardness (Calculated)	05/16/11 1457	05/20/11 0010	110516-4	13IP4139	KMW	200.7 & SM 2340B
Zinc, Dissolved, ICP-MS	05/13/11 213	05/17/11 1806	110513-5	2IP3137	JDL	200.8 Rev. 5.4
Zinc, Tot. Rec., ICP-MS	05/13/11 0818	05/17/11 1648	110513-1	1IP3137	JDL	200.8 Rev. 5.4
Chloride	N/A	05/17/11 1814	1IC2137	3IC2137	MLL	300.0
Solids, Total Dissolved	N/A	05/18/11 1815	110518-1	110518-0	KJH	SM20th 2540C
Solids, Total Suspended	N/A	05/18/11 1631	110518-1	110518-1	KJH	SM20th 2540D
Dissolved Metals Preparation Method						200.7/200.8
Total Recoverable Metals Preparation Method						200.7/200.8
Calculated as Hardness Preparation Method						200.7/6010B

Conclusion of Lab Number: 11050845

Continental Analytical Services, Inc.

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Sample Rptd: 05/23/2011
Date Sample Recd: 05/11/2011
Continental File No: 8339
Continental Order No: 55822

Lab Number: 11050846
Sample Description: Harvest Ct. - Composite

Date Sampled: 05/11/2011
Time Sampled: 1205

Analysis	Concentration	Units	Book/Page
Cadmium, Dissolved, ICP-MS	ND(1) DM	µg/L	7127/10
Cadmium, Tot. Rec., ICP-MS	ND(1)	µg/L	7127/10
Copper, Dissolved, ICP-MS	15 DM	µg/L	7127/10
Copper, Tot. Rec., ICP-MS	29	µg/L	7127/10
Hardness (Calculated)	95.3	mg/L as CaCO3	7128/28
Zinc, Dissolved, ICP-MS	35 DM	µg/L	7127/10
Zinc, Tot. Rec., ICP-MS	164	µg/L	7127/10
BOD	49	mg/L	7060/106
Chloride	43.9	mg/L	7129/7
Kjeldahl Nitrogen, as N	9	mg/L	7043/41
Nitrate, as N	1.4	mg/L	7129/7
Nitrite, as N	ND(0.1)	mg/L	7129/10
Nitrogen (TKN + NO3/NO2), as N	10.4	mg/L	0/290
Phosphorus, Total, as P	0.84	mg/L	7061/87
Solids, Total Dissolved	258	mg/L	7059/223
Solids, Total Suspended	180.	mg/L	7059/221

Analysis	Date Prepared	Date Analyzed	QC Batch	Inst. Batch	Analyst	Method(s)
Cadmium, Dissolved, ICP-MS	05/13/11 213	05/17/11 1812	110513-5	2IP3137	JDL	200.8 Rev. 5.4
Cadmium, Tot. Rec., ICP-MS	05/13/11 0818	05/17/11 1653	110513-1	1IP3137	JDL	200.8 Rev. 5.4
Copper, Dissolved, ICP-MS	05/13/11 213	05/17/11 1812	110513-5	2IP3137	JDL	200.8 Rev. 5.4
Copper, Tot. Rec., ICP-MS	05/13/11 0818	05/17/11 1653	110513-1	1IP3137	JDL	200.8 Rev. 5.4
Hardness (Calculated)	05/16/11 1457	05/20/11 0014	110516-4	13IP4139	KMW	200.7 & SM 2340B
Zinc, Dissolved, ICP-MS	05/13/11 213	05/17/11 1812	110513-5	2IP3137	JDL	200.8 Rev. 5.4
Zinc, Tot. Rec., ICP-MS	05/13/11 0818	05/17/11 1653	110513-1	1IP3137	JDL	200.8 Rev. 5.4
BOD	N/A	05/12/11 1550	110512-1	110512-1	MLL	SM 5210B
Chloride	N/A	05/12/11 1257	1IC1132	1IC1132	MLL	300.0
Kjeldahl Nitrogen, as N	N/A	05/16/11 1046	110516-1	110516-3	JND	4500N(C) & (E)
Nitrate, as N	N/A	05/12/11 1257	1IC1132	1IC1132	MLL	300.0
Nitrite, as N	N/A	05/13/11 1015	1IC1133	1IC1133	MLL	300.0
Nitrogen (TKN + NO3/NO2),	N/A	05/20/11				Calculation
Phosphorus, Total, as P	N/A	05/20/11 1434	110520-2	110520-3	KJH	SM 4500-P(B&F)(M
Solids, Total Dissolved	N/A	05/18/11 1815	110518-1	110518-0	KJH	SM20th 2540C
Solids, Total Suspended	N/A	05/18/11 1632	110518-1	110518-1	KJH	SM20th 2540D
Dissolved Metals Preparation Method						200.7/200.8
Total Recoverable Metals Preparation Method						200.7/200.8
Calculated as Hardness Preparation Method						200.7/6010B

Conclusion of Lab Number: 11050846

APPENDIX

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Sample Rptd: 05/23/2011
Date Sample Recd: 05/11/2011
Continental File No: 8339
Continental Order No: 55822

ND(), where reported, indicates the analyte was not detected above the limit of quantitation (LOQ). The concentration of the limit of quantitation is inside the parentheses.

Not all samples were received at the recommended temperature of less than 6 degrees Celsius. Because the samples were hand-delivered to the Laboratory immediately after collection and showed evidence of cooling by the presence of ice and/or cool blue ice, they are considered acceptable by NELAC. Refer to the enclosed Cooler/Sample Receipt Form(s) for the affected coolers and samples.

The following table presents the date and time sampled, the date and time analyzed, and the total time elapsed for each analysis with an EPA recommended holding time of seventy-two hours or less.

CAS LAB ID #	ANALYSIS	DATE/TIME SAMPLED	DATE/TIME ANALYZED	ELAPSED HRS:MIN
11050846	BOD	05/11/2011 1205	05/12/2011 1550	27:45
11050846	Nitrate, as N	05/11/2011 1205	05/12/2011 1257	24:52
11050846	Nitrite, as N	05/11/2011 1205	05/13/2011 1015	46:10

DM - NPDES requirements specify that dissolved metals and orthophosphate must be filtered within 15 minutes of the time of collection. This analysis did not meet these criteria.

Continental Analytical Services, Inc.

Continental Analytical Services, Inc.
Accreditation Summary Report

Client: City of Wichita
CAS Order Number: 55822

NELAP accreditation is issued under each EPA regulatory program for a given matrix/analyte/method combination. Continental is NELAP accredited for each matrix/analyte/method and EPA program cited in this Laboratory Report, except for those listed in the table below and analysis performed in the field. For most of the analyses listed in the table, NELAP accreditation is not offered under the listed EPA program and Continental is NELAP accredited for the analysis, using the same analytical technology, but under a different EPA program. Continental's full NELAP accreditation status may be viewed at www.kdheks.gov/envlab. Note that unless qualified otherwise in the Laboratory Report, Continental performs all analyses, including each analysis listed in the table below, utilizing NELAP protocol.

Test	Analysis	Matrix-Regulatory Program	Method	CAS NELAP Accredited in Other Reg. Program
GL343	Nitrogen (TKN + NO3/NO2), as N	L-NPDES	Calculation	N

Continental Analytical Services, Inc.

Quality Control Report
Batch Summary

Date Reported: 05/23/2011
Date Sample Received: 05/11/2011
Continental File No: 8339
Continental Order No: 55822

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Test	Testname	QC Batch	Method Blank	LCS	MS Lab No.
SL006	Cadmium, Tot. Rec., ICP-MS	110513-1	110513BLK1	110513LCS1	11050847MS
SL012	Copper, Tot. Rec., ICP-MS	110513-1	110513BLK1	110513LCS1	11050847MS
SL033	Zinc, Tot. Rec., ICP-MS	110513-1	110513BLK1	110513LCS1	11050847MS
Lab numbers associated with this batch: 11050845 11050846					
SL156	Cadmium, Dissolved, ICP-MS	110513-5	110513BLK5	110513LCS5	11050846MS
SL162	Copper, Dissolved, ICP-MS	110513-5	110513BLK5	110513LCS5	11050846MS
SL183	Zinc, Dissolved, ICP-MS	110513-5	110513BLK5	110513LCS5	11050846MS
Lab numbers associated with this batch: 11050845 11050846					
SL323	Hardness (Calculated)	110516-4	110516BLK4	110516LCS4	11050744MS
Lab numbers associated with this batch: 11050845 11050846					
GL123	BOD	110512-1	110512BLK1	110512LCS1	11050892MS
Lab numbers associated with this batch: 11050846					
GL502	Chloride	1IC1132	BLK1IC1132	LCS1IC1132	
Lab numbers associated with this batch: 11050846					
GL502	Chloride	1IC2137	BLK1IC2137	LCS1IC2137	11050848MS
Lab numbers associated with this batch: 11050845					
GL195	Kjeldahl Nitrogen, as N	110516-1	110516BLK1	110516LCS1	11050869MS
Lab numbers associated with this batch: 11050846					
GL505	Nitrate, as N	1IC1132	BLK1IC1132	LCS1IC1132	
Lab numbers associated with this batch: 11050846					
GL503	Nitrite, as N	1IC1133	BLK1IC1133	LCS1IC1133	
Lab numbers associated with this batch: 11050846					
GL343	Nitrogen (TKN + NO3/NO2), as N				
Lab numbers associated with this batch: 11050846					

Continental Analytical Services, Inc.

Quality Control Report
Batch Summary

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Reported: 05/23/2011
Date Sample Received: 05/11/2011
Continental File No: 8339
Continental Order No: 55822

Test	Testname	QC Batch	Method Blank	LCS	MS Lab No.
GL218	Phosphorus, Total, as P	110520-2	110520BLK2	110520LCS2	11050904MS
Lab numbers associated with this batch: 11050846					
GL242	Solids, Total Dissolved	110518-1	110518BLK1	110518LCS1	11050850MS
GL243	Solids, Total Suspended	110518-1	110518BLK1	110518LCS1	11050850MS
Lab numbers associated with this batch: 11050845 11050846					

Continental Analytical Services, Inc.

Quality Control Report
Method Blank, LCS, MS/MSD Data

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Reported: 05/23/2011
Date Sample Received: 05/11/2011
Continental File No: 8339
Continental Order No: 55822

Analysis	Blank Data	% Rec LCS	Limits	Spike Level	Units	Spiked Sample (% Recovery) MS	MSD	Limits	Spike Level	Units	Spiked Sample Precision Data RPD	Limit
QC Batch: 110512-1	For sample analyzed on: 05/12/2011					Spiked sample: 11050892						
BOD	ND(5)	85.6	70.5-110	198	mg/L	MN	MN	#		mg/L	**	13.2
QC Batch: 110513-1	For samples prepared on: 05/13/2011					Spiked sample: 11050847						
Cadmium, Tot. Rec., ICP-MS	ND(1)	100.	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
Copper, Tot. Rec., ICP-MS	ND(3) J	94.4	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
Zinc, Tot. Rec., ICP-MS	ND(20)	99.0	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
QC Batch: 110513-5	For samples prepared on: 05/13/2011					Spiked sample: 11050846						
Cadmium, Dissolved, ICP-MS	ND(1)	97.9	85.0-115	500	µg/L	98.4 DM	98.0 DM	80.0-120	500	µg/L	0.4	20.0
Copper, Dissolved, ICP-MS	ND(3) J	92.1	85.0-115	500	µg/L	91.8	92.0	80.0-120	500	µg/L	0.2	20.0
Zinc, Dissolved, ICP-MS	ND(20)	96.6	85.0-115	500	µg/L	96.0	98.1	80.0-120	500	µg/L	2.2	20.0
QC Batch: 110516-1	For sample analyzed on: 05/16/2011					Spiked sample: 11050869						
Kjeldahl Nitrogen, as N	ND(1)	98.3	90.0-110	20.0	mg/L	MN	MN	75.0-112	20.0	mg/L	**	17.4
QC Batch: 110516-4	For samples prepared on: 05/16/2011					Spiked sample: 11050744						
Hardness (Calculated)	ND(5.0)	82.9	80.0-120	337	mg/L a	MN	MN	80.0-120	337	mg/L as	**	20.0
QC Batch: 110518-1	For sample analyzed on: 05/18/2011					Spiked sample: 11050850						
Solids, Total Dissolved	ND(30)	N/A			mg/L	MN	MN	#		mg/L	**	5.2
Solids, Total Suspended	ND(5)	N/A			mg/L	MN	MN	#		mg/L	**	18.2
QC Batch: 110520-2	For sample analyzed on: 05/20/2011					Spiked sample: 11050904						
Phosphorus, Total, as P	ND(0.20)	104	90.0-110	1.0	mg/L	MN	MN	71.2-135	1.0	mg/L	**	21.2
QC Batch: IIC1132	For sample analyzed on: 05/12/2011					Spiked sample:						
Chloride	ND(1.0)	98.1	90.0-110	4.0	mg/L	MN	MN	82.1-126			**	12.5
Nitrate, as N	ND(0.1)	100.	90.0-110	2.0	mg/L	MN	MN	79.3-118			**	12.1
QC Batch: IIC1133	For sample analyzed on: 05/13/2011					Spiked sample:						
Nitrite, as N	ND(0.1)	104	90.0-110	2.0	mg/L	MN	MN	78.5-127			**	10.1
QC Batch: IIC2137	For sample analyzed on: 05/17/2011					Spiked sample: 11050848						
Chloride	ND(1.0)	105	90.0-110	4.0	mg/L	MN	MN	82.1-126	40.0	mg/L	**	12.5

Data Qualifiers:

MN - The MS/MSD sample analyses were not performed on a sample from this Continental order number.

J - The concentration or not detected (ND) value is below the Limit of Quantitation (LOQ) and is considered an estimated value.

DM - NPDES requirements specify that dissolved metals and orthophosphate must be filtered within 15 minutes of the time of collection. This analysis did not meet these criteria.

N/A - Not Applicable

- Limits not available.

** - RPD cannot be calculated.

Continental Analytical Services, Inc.

Quality Control Report

Continuing Calibration Verification Data Summary

Date Reported: 05/23/2011
Date Sample Received: 05/11/2011
Continental File No: 8339
Continental Order No: 55822

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Analysis	Date of Analysis	Instrument Batch ID	Amount in Standard	Amount Detected	Units	Percent Recovery
Cadmium, Tot. Rec., ICP-MS	05/17/2011	1IP3137	CCV recovery acceptable for this Instrument Batch.			
Cadmium, Tot. Rec., ICP-MS	05/17/2011	2IP3137	CCV recovery acceptable for this Instrument Batch.			
Cadmium, Dissolved, ICP-MS	05/17/2011	2IP3137	CCV recovery acceptable for this Instrument Batch.			
Cadmium, Dissolved, ICP-MS	05/17/2011	3IP3137	CCV recovery acceptable for this Instrument Batch.			
Copper, Tot. Rec., ICP-MS	05/17/2011	1IP3137	CCV recovery acceptable for this Instrument Batch.			
Copper, Tot. Rec., ICP-MS	05/17/2011	2IP3137	CCV recovery acceptable for this Instrument Batch.			
Copper, Dissolved, ICP-MS	05/17/2011	2IP3137	CCV recovery acceptable for this Instrument Batch.			
Copper, Dissolved, ICP-MS	05/17/2011	3IP3137	CCV recovery acceptable for this Instrument Batch.			
BOD	05/12/2011	110512-1	CCV recovery acceptable for this Instrument Batch.			
BOD	05/12/2011	110512-2	CCV recovery acceptable for this Instrument Batch.			
Kjeldahl Nitrogen, as N	05/16/2011	110516-3	CCV recovery acceptable for this Instrument Batch.			
Kjeldahl Nitrogen, as N	05/16/2011	110516-4	CCV recovery acceptable for this Instrument Batch.			
Phosphorus, Total, as P	05/20/2011	110520-3	CCV recovery acceptable for this Instrument Batch.			
Phosphorus, Total, as P	05/20/2011	110520-4	CCV recovery acceptable for this Instrument Batch.			
Chloride	05/12/2011	1IC1132	CCV recovery acceptable for this Instrument Batch.			
Chloride	05/12/2011	2IC1132	CCV recovery acceptable for this Instrument Batch.			
Chloride	05/17/2011	3IC2137	CCV recovery acceptable for this Instrument Batch.			
Chloride	05/17/2011	4IC2137	CCV recovery acceptable for this Instrument Batch.			
Nitrite, as N	05/13/2011	1IC1133	CCV recovery acceptable for this Instrument Batch.			
Nitrite, as N	05/13/2011	2IC1133	CCV recovery acceptable for this Instrument Batch.			
Nitrate, as N	05/12/2011	1IC1132	CCV recovery acceptable for this Instrument Batch.			
Nitrate, as N	05/12/2011	2IC1132	CCV recovery acceptable for this Instrument Batch.			
Hardness (Calculated)	05/19/2011	13IP4139	CCV recovery acceptable for this Instrument Batch.			
Hardness (Calculated)	05/20/2011	14IP4139	CCV recovery acceptable for this Instrument Batch.			
Zinc, Tot. Rec., ICP-MS	05/17/2011	1IP3137	CCV recovery acceptable for this Instrument Batch.			
Zinc, Tot. Rec., ICP-MS	05/17/2011	2IP3137	CCV recovery acceptable for this Instrument Batch.			
Zinc, Dissolved, ICP-MS	05/17/2011	2IP3137	CCV recovery acceptable for this Instrument Batch.			
Zinc, Dissolved, ICP-MS	05/17/2011	3IP3137	CCV recovery acceptable for this Instrument Batch.			

- Laboratory Report Conclusion -

CAS ORDER NO 55800

Continental Analytical Services, Inc.

525 N. 8th Street, Salina, KS 67401
(785)827-1273 (800)535-3076 Fax (785)823-7830
www.cas-lab.com

CHAIN OF CUSTODY RECORD

Continental Shipping Order Number: _____

Client/Reporting Information	Invoice Information
Company Name: ity of Wichita Sewage Treatment	Company Name: City of Wichita Sewage Treatment
Address: 305 E. 57th Street South	Address: 2305 E. 57th Street South
City: ichita State: KS Zip: 67216	City: Wichita State: KS Zip: 67216
Contact: n Hardesty E-mail:	Contact: Jim Hardesty E-mail:
Phone Number: 16)303-8700 Fax Number: (316)303-8712	Phone Number: (316)303-8700 Fax Number: (316)303-8712
Sampler's Name:(Printed)	Sampler's Name:(Signature)
Purchase Order Number:	
le Number: 35	Project Name: Stormwater

SAMPLE IDENTIFICATION (30 Characters or less)	Matrix (Sample Type)	Regulatory Program	Date Sampled	Time Sampled	C Composite G-Grab	Total Containers	Number of Preserved Bottles: HCL	NaOH	HNO3	H2SO4	NONE	OTHER:	Cadmium, Copper, Zinc - Total Recoverable 250ml Plastic - HNO3	Hardness, TSS TDS, Cl, Diss. - Cd, Cu, Zn 1000ml Plastic - None	Total Metals, Dissolved Metals, Hardness, TSS, TDS, Cl, BOD, TKN, Total P, NH3, NO2, Tot. Nitrogen Large Carboy						COMMENTS
-Grab-Harvest Ct	WW	N	5/11/11	1205	G	2			1		1		X	X							
-Composite - Harvest Ct.	WW	N	5/11/11	1205	C	1					1				X						5 Gal. Container to be poured off at lab as needed for required tests. Remaining volume will be saved for for organics if needed.

Regulatory Program N=NPDES, R=RCRA, D=Drinking Water, SL=503 Sludge, O=Other

(Please note if non-standard turnaround. Rush & Emergency subject to additional charge)
Standard TAT: (15 working days) Rush TAT: (5 working days) Emergency TAT: (3 working days)

Matrix (Sample Type): DW=Drinking Water, GW=Ground Water, WW=Waste Water, W=Wipe, S=Solid/Soil, SL=Sludge, A=Air, OL = Oil/Organic Liquid, O=Other

	DATE:	TIME:	RECEIVED BY:	DATE:	TIME:
RELINQUISHED BY:	5/11/11	1500			
RELINQUISHED BY:			RECEIVED BY:		
RECEIVED AT LAB BY:	5-11-11	1615	SHIPPED VIA: / AIRBILL:	SEAL #: / SEAL DATE:	

Continental's Standard Terms and Conditions of Sale will apply to all samples received unless a separate contractual agreement has been made.

Continental Analytical Services Cooler/Sample Receipt Form CAS Order No. 55822

Client Name: Nichita CAS File No.: 535-8539

Sample ID's in cooler: See COC

Cooler 1 of 1 for this CAS Order No.

Cooler Identification: CAS Cooler #: _____ /Client's Cooler/Box/Letter/Hand Delivered
Other: _____

Date/Time Cooler Received: 5/11/11 16:15

Delivered By: UPS/FedX/AB Express/ASAP/Land Air Exp/Field Svcs/Mail/Walk-In/Other: _____

Custody Seal: Present: Intact / Broken Absent: ✓ Seal No: _____
Seal Name: _____ Seal Date: _____
Seal matches Chain of Custody: Yes / No / N/A

Type of Packing Material: Blue Ice/Ice/Melted Ice/Bubble/Foam/Paper/Peanuts/Vermiculite/ None/Other: _____

Cooler Temperature (°C): Original Reading (°C) 8.9 Corrected Reading (°C) 7.9-9.9
Temp. By: Temp. Blank Surface: Glass/Plastic/Metal/Other: _____ Cooler
Thermo. ID No.: SS4 Thermo. Correction Factor (°C): ±1.0
☒ Evidence of Cooling: date received=date sampled

Sample Receipt Discrepancies: ☒ No ☐ *Yes (see below for discrepancies)*

Note: CAS will proceed with sample analyses, addressing each discrepancy as shown, until/unless directed otherwise by the client.

- ☐ Chain of Custody not present information taken from:
  - Cover Letter ☐ Container ☐
  - PO ☐ CAS Proj. Mgr. ☐
- ☐ Container label absent
- ☐ Chain of Custody incomplete [see detail below]
- ☐ Chain of Custody missing date/time sampled (excl. TB or Dup)
- ☐ Date or Time sampled obtained from container label
- ☐ Chain of Custody missing sampler's name
- ☐ Chain of Custody missing matrix (sample type)
- ☐ Missing relinquished information: signature date time
- ☐ Sample excluded from Chain of Custody
- ☐ Sample listed on Chain of Custody, not received
- ☐ Sample description on container and Chain of Custody do not agree
- ☐ Air bubbles in Aqueous VOA vials larger than pea-size [approx. 6 mm]
- ☐ Cooler temperature exceeded 0.1 - 6.0 °C requirement [Do not mark if samples do not require cooling to 0.1 - 6.0 °C.]
- ☐ Broken or leaking containers (detail actions below)
- ☐ Sample container type or labeled chemical preservation inappropriate
- ☐ Other discrepancies: _____

Detail to discrepancies/comments:

Completed by: [signature] Date Completed: 5/11/11

Continental
Analytical Services, Inc.

05/27/2011

City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date and Time Received: 05/11/2011 16:15
Continental File No.: 8339
Continental Order No.: 55825
Project ID: SW Upstream

Dear Mr. Hardesty:

This laboratory report containing the samples indicated below, includes 8 pages for the analytical report, 1 page(s) for the chain of custody and/or analysis request, and 1 page(s) for the sample receipt form.

CAS LAB ID #	SAMPLE DESCRIPTION	SAMPLE TYPE	DATE SAMPLED
11050850	Cowskin/Maple Upstream	Liquid	5/11/2011

The Appendix and Quality Control sections are integral parts of this laboratory report and may contain important data qualifiers.

All results are reported on a wet weight basis unless otherwise stated.

Samples will be retained for thirty days unless Continental is otherwise notified.

Continental is accredited by the State of Kansas through the National Environmental Laboratory Accreditation Program (NELAP). The results contained in this report were obtained using Continental's Standard Operating Procedures. These procedures are in substantial compliance with the approved methods referenced and the standards published by NELAP unless otherwise noted in the Appendix and Quality Control sections of this report.

This report may not be reproduced, except in full, without written approval from Continental Analytical Services, Inc.

Thank you for choosing Continental for this project. If you have any questions please contact me at (800)535-3076.

CONTINENTAL ANALYTICAL SERVICES, INC.

Clifford J. Baker
Technical Manager

Gregory J. Groene
Project Manager

525 N. Eighth St. - P.O. Box 3737 - Salina, KS 67402-3737
785-827-1273 800-535-3076 Fax 785-823-7830

KDHE Environmental Laboratory Accreditation No. E-10146

Continental Analytical Services, Inc.

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Sample Rptd: 05/27/2011
Date Sample Recd: 05/11/2011
Continental File No: 8339
Continental Order No: 55825

Lab Number: 11050850
Sample Description: Cowskin/Maple Upstream

Date Sampled: 05/11/2011
Time Sampled: 1230

Analysis	Concentration	Units	Book/Page
Cadmium, Dissolved, ICP-MS	ND(1) DM	µg/L	7127/10
Cadmium, Tot. Rec., ICP-MS	ND(1)	µg/L	7127/10
Copper, Dissolved, ICP-MS	ND(5) DM	µg/L	7127/10
Copper, Tot. Rec., ICP-MS	ND(5)	µg/L	7127/10
Hardness (Calculated)	269	mg/L as CaCO3	7128/34
Zinc, Dissolved, ICP-MS	ND(20) DM	µg/L	7127/10
Zinc, Tot. Rec., ICP-MS	ND(20)	µg/L	7127/10
BOD	ND(5)	mg/L	7060/106
Chloride	154	mg/L	7129/7
Kjeldahl Nitrogen, as N	ND(1)	mg/L	7043/41
Nitrate, as N	ND(0.1)	mg/L	7129/7
Nitrite, as N	ND(1) M	mg/L	7129/10
Nitrogen (TKN + NO3/NO2), as N	ND(1.0)	mg/L	0/290
Phosphorus, Total, as P	0.30	mg/L	7061/87
Solids, Total Dissolved	710.	mg/L	7059/223
Solids, Total Suspended	26	mg/L	7059/221

Analysis	Date Prepared	Date Analyzed	QC Batch	Inst. Batch	Analyst	Method(s)
Cadmium, Dissolved, ICP-MS	05/13/11 213	05/17/11 1859	110513-5	3IP3137	JDL	200.8 Rev. 5.4
Cadmium, Tot. Rec., ICP-MS	05/13/11 0818	05/17/11 1745	110513-1	2IP3137	JDL	200.8 Rev. 5.4
Copper, Dissolved, ICP-MS	05/13/11 213	05/17/11 1859	110513-5	3IP3137	JDL	200.8 Rev. 5.4
Copper, Tot. Rec., ICP-MS	05/13/11 0818	05/17/11 1745	110513-1	2IP3137	JDL	200.8 Rev. 5.4
Hardness (Calculated)	05/16/11 1634	05/26/11 1827	110516-7	9IP4146	KMW	200.7 & SM 2340B
Zinc, Dissolved, ICP-MS	05/13/11 213	05/17/11 1859	110513-5	3IP3137	JDL	200.8 Rev. 5.4
Zinc, Tot. Rec., ICP-MS	05/13/11 0818	05/17/11 1745	110513-1	2IP3137	JDL	200.8 Rev. 5.4
BOD	N/A	05/12/11 1550	110512-1	110512-1	MLL	SM 5210B
Chloride	N/A	05/12/11 1429	1IC1132	1IC1132	MLL	300.0
Kjeldahl Nitrogen, as N	N/A	05/16/11 1047	110516-1	110516-3	JND	4500N(C) & (E)
Nitrate, as N	N/A	05/12/11 1416	1IC1132	1IC1132	MLL	300.0
Nitrite, as N	N/A	05/13/11 1108	1IC1133	1IC1133	MLL	300.0
Nitrogen (TKN + NO3/NO2),	N/A	05/20/11				Calculation
Phosphorus, Total, as P	N/A	05/20/11 1448	110520-2	110520-5	KJH	SM 4500-P(B&F)(M
Solids, Total Dissolved	N/A	05/18/11 1816	110518-1	110518-0	KJH	SM20th 2540C
Solids, Total Suspended	N/A	05/18/11 1634	110518-1	110518-1	KJH	SM20th 2540D
Dissolved Metals Preparation Method						200.7/200.8
Total Recoverable Metals Preparation Method						200.7/200.8
Calculated as Hardness Preparation Method						200.7/6010B

Conclusion of Lab Number: 11050850

Continental
Analytical Services, Inc.

APPENDIX

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Sample Rptd: 05/27/2011
Date Sample Recd: 05/11/2011
Continental File No: 8339
Continental Order No: 55825

ND(), where reported, indicates the analyte was not detected above the limit of quantitation (LOQ). The concentration of the limit of quantitation is inside the parentheses.

All samples which require cooling were received at a temperature of less than 6 degrees Celsius.

The following table presents the date and time sampled, the date and time analyzed, and the total time elapsed for each analysis with an EPA recommended holding time of seventy-two hours or less.

CAS LAB ID #	ANALYSIS	DATE/TIME SAMPLED	DATE/TIME ANALYZED	ELAPSED HRS:MIN
11050850	BOD	05/11/2011 1230	05/12/2011 1550	27:20
11050850	Nitrate, as N	05/11/2011 1230	05/12/2011 1416	25:46
11050850	Nitrite, as N	05/11/2011 1230	05/13/2011 1108	46:38

DM - NPDES requirements specify that dissolved metals and orthophosphate must be filtered within 15 minutes of the time of collection. This analysis did not meet these criteria.

M - Reporting limit higher than normal due to matrix interferences.

Continental Analytical Services, Inc.

Date: 05/27/2011

Continental Analytical Services, Inc.
Accreditation Summary Report

Client: City of Wichita
CAS Order Number: 55825

NELAP accreditation is issued under each EPA regulatory program for a given matrix/analyte/method combination. Continental is NELAP accredited for each matrix/analyte/method and EPA program cited in this Laboratory Report, except for those listed in the table below and analysis performed in the field. For most of the analyses listed in the table, NELAP accreditation is not offered under the listed EPA program and Continental is NELAP accredited for the analysis, using the same analytical technology, but under a different EPA program. Continental's full NELAP accreditation status may be viewed at www.kdheks.gov/envlab. Note that unless qualified otherwise in the Laboratory Report, Continental performs all analyses, including each analysis listed in the table below, utilizing NELAP protocol.

Test	Analysis	Matrix-Regulatory Program	Method	CAS NELAP Accredited in Other Reg. Program
GL343	Nitrogen (TKN + NO3/NO2), as N	L-NPDES	Calculation	N

Continental Analytical Services, Inc.

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Quality Control Report
Batch Summary

Date Reported: 05/27/2011
Date Sample Received: 05/11/2011
Continental File No: 8339
Continental Order No: 55825

Test	Testname	QC Batch	Method Blank	LCS	MS Lab No.
SL006	Cadmium, Tot. Rec., ICP-MS	110513-1	110513BLK1	110513LCS1	11050847MS
SL012	Copper, Tot. Rec., ICP-MS	110513-1	110513BLK1	110513LCS1	11050847MS
SL033	Zinc, Tot. Rec., ICP-MS	110513-1	110513BLK1	110513LCS1	11050847MS
Lab numbers associated with this batch: 11050850					
SL156	Cadmium, Dissolved, ICP-MS	110513-5	110513BLK5	110513LCS5	11050846MS
SL162	Copper, Dissolved, ICP-MS	110513-5	110513BLK5	110513LCS5	11050846MS
SL183	Zinc, Dissolved, ICP-MS	110513-5	110513BLK5	110513LCS5	11050846MS
Lab numbers associated with this batch: 11050850					
SL323	Hardness (Calculated)	110516-7	110516BLK7	110516LCS7	11051008MS
Lab numbers associated with this batch: 11050850					
GL123	BOD	110512-1	110512BLK1	110512LCS1	11050892MS
Lab numbers associated with this batch: 11050850					
GL502	Chloride	1IC1132	BLK1IC1132	LCS1IC1132	
Lab numbers associated with this batch: 11050850					
GL195	Kjeldahl Nitrogen, as N	110516-1	110516BLK1	110516LCS1	11050869MS
Lab numbers associated with this batch: 11050850					
GL505	Nitrate, as N	1IC1132	BLK1IC1132	LCS1IC1132	
Lab numbers associated with this batch: 11050850					
GL503	Nitrite, as N	1IC1133	BLK1IC1133	LCS1IC1133	
Lab numbers associated with this batch: 11050850					
GL343	Nitrogen (TKN + NO3/NO2), as N				
Lab numbers associated with this batch: 11050850					
GL218	Phosphorus, Total, as P	110520-2	110520BLK2	110520LCS2	11050904MS
Lab numbers associated with this batch: 11050850					

Continental Analytical Services, Inc.

Quality Control Report
Batch Summary

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Reported: 05/27/2011
Date Sample Received: 05/11/2011
Continental File No: 8339
Continental Order No: 55825

Test	Testname	QC Batch	Method Blank	LCS	MS Lab No.
GL242	Solids, Total Dissolved	110518-1	110518BLK1	110518LCS1	11050850MS
GL243	Solids, Total Suspended	110518-1	110518BLK1	110518LCS1	11050850MS

Lab numbers associated with this batch:
11050850

Continental Analytical Services, Inc.

Quality Control Report
Method Blank, LCS, MS/MSD Data

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Reported: 05/27/2011
Date Sample Received: 05/11/2011
Continental File No: 8339
Continental Order No: 55825

Analysis	Blank Data	% Rec LCS	Limits	Spike Level	Units	Spiked Sample (% Recovery) MS	MSD	Limits	Spike Level	Units	Spiked Sample Precision Data RPD	Limit
QC Batch: 110512-1	For sample analyzed on: 05/12/2011					Spiked sample: 11050892						
BOD	ND(5)	85.6	70.5-110	198	mg/L	MN	MN	#		mg/L	**	13.2
QC Batch: 110513-1	For samples prepared on: 05/13/2011					Spiked sample: 11050847						
Cadmium, Tot. Rec., ICP-MS	ND(1)	100.	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
Copper, Tot. Rec., ICP-MS	ND(3) J	94.4	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
Zinc, Tot. Rec., ICP-MS	ND(20)	99.0	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
QC Batch: 110513-5	For samples prepared on: 05/13/2011					Spiked sample: 11050846						
Cadmium, Dissolved, ICP-MS	ND(1)	97.9	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
Copper, Dissolved, ICP-MS	ND(3) J	92.1	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
Zinc, Dissolved, ICP-MS	ND(20)	96.6	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
QC Batch: 110516-1	For sample analyzed on: 05/16/2011					Spiked sample: 11050869						
Kjeldahl Nitrogen, as N	ND(1)	98.3	90.0-110	20.0	mg/L	MN	MN	75.0-112	20.0	mg/L	**	17.4
QC Batch: 110516-7	For samples prepared on: 05/16/2011					Spiked sample: 11051008						
Hardness (Calculated)	ND(5.0)	99.4	80.0-120	337	mg/L a	MN	MN	80.0-120	337	mg/L as	**	20.0
QC Batch: 110518-1	For sample analyzed on: 05/18/2011					Spiked sample: 11050850						
Solids, Total Dissolved	ND(30)	N/A			mg/L	710 T	724 T	#		mg/L	2.0	5.2
Solids, Total Suspended	ND(5)	N/A			mg/L	26 T	26 T	#		mg/L	0.0	18.2
QC Batch: 110520-2	For sample analyzed on: 05/20/2011					Spiked sample: 11050904						
Phosphorus, Total, as P	ND(0.20)	104	90.0-110	1.0	mg/L	MN	MN	71.2-135	1.0	mg/L	**	21.2
QC Batch: 11IC1132	For sample analyzed on: 05/12/2011					Spiked sample:						
Chloride	ND(1.0)	98.1	90.0-110	4.0	mg/L	MN	MN	82.1-126			**	12.5
Nitrate, as N	ND(0.1)	100.	90.0-110	2.0	mg/L	MN	MN	79.3-118			**	12.1
QC Batch: 11IC1133	For sample analyzed on: 05/13/2011					Spiked sample:						
Nitrite, as N	ND(0.1)	104	90.0-110	2.0	mg/L	MN	MN	78.5-127			**	10.1

Data Qualifiers:

MN - The MS/MSD sample analyses were not performed on a sample from this Continental order number.

J - The concentration or not detected (ND) value is below the Limit of Quantitation (LOQ) and is considered an estimated value.

N/A - Not Applicable

T - MS/MSD cannot be performed for this analysis. The MS result is the same as the sample result. The MSD result is a duplicate of the sample.

\# - Limits not available.

** - RPD cannot be calculated.

Continental Analytical Services, Inc.

Quality Control Report

Continuing Calibration Verification Data Summary

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Reported: 05/27/2011
Date Sample Received: 05/11/2011
Continental File No: 8339
Continental Order No: 55825

Analysis	Date of Analysis	Instrument Batch ID	Amount in Standard	Amount Detected	Units	Percent Recovery
Cadmium, Tot. Rec., ICP-MS	05/17/2011	2IP3137	CCV recovery acceptable for this Instrument Batch.			
Cadmium, Tot. Rec., ICP-MS	05/17/2011	3IP3137	CCV recovery acceptable for this Instrument Batch.			
Cadmium, Dissolved, ICP-MS	05/17/2011	3IP3137	CCV recovery acceptable for this Instrument Batch.			
Cadmium, Dissolved, ICP-MS	05/17/2011	4IP3137	CCV recovery acceptable for this Instrument Batch.			
Copper, Tot. Rec., ICP-MS	05/17/2011	2IP3137	CCV recovery acceptable for this Instrument Batch.			
Copper, Tot. Rec., ICP-MS	05/17/2011	3IP3137	CCV recovery acceptable for this Instrument Batch.			
Copper, Dissolved, ICP-MS	05/17/2011	3IP3137	CCV recovery acceptable for this Instrument Batch.			
Copper, Dissolved, ICP-MS	05/17/2011	4IP3137	CCV recovery acceptable for this Instrument Batch.			
BOD	05/12/2011	110512-1	CCV recovery acceptable for this Instrument Batch.			
BOD	05/12/2011	110512-2	CCV recovery acceptable for this Instrument Batch.			
Kjeldahl Nitrogen, as N	05/16/2011	110516-3	CCV recovery acceptable for this Instrument Batch.			
Kjeldahl Nitrogen, as N	05/16/2011	110516-4	CCV recovery acceptable for this Instrument Batch.			
Phosphorus, Total, as P	05/20/2011	110520-5	CCV recovery acceptable for this Instrument Batch.			
Phosphorus, Total, as P	05/20/2011	110520-6	CCV recovery acceptable for this Instrument Batch.			
Chloride	05/12/2011	1IC1132	CCV recovery acceptable for this Instrument Batch.			
Chloride	05/12/2011	2IC1132	CCV recovery acceptable for this Instrument Batch.			
Nitrite, as N	05/13/2011	1IC1133	CCV recovery acceptable for this Instrument Batch.			
Nitrite, as N	05/13/2011	2IC1133	CCV recovery acceptable for this Instrument Batch.			
Nitrate, as N	05/12/2011	1IC1132	CCV recovery acceptable for this Instrument Batch.			
Nitrate, as N	05/12/2011	2IC1132	CCV recovery acceptable for this Instrument Batch.			
Hardness (Calculated)	05/26/2011	10IP4146	CCV recovery acceptable for this Instrument Batch.			
Hardness (Calculated)	05/26/2011	9IP4146	CCV recovery acceptable for this Instrument Batch.			
Zinc, Tot. Rec., ICP-MS	05/17/2011	2IP3137	CCV recovery acceptable for this Instrument Batch.			
Zinc, Tot. Rec., ICP-MS	05/17/2011	3IP3137	CCV recovery acceptable for this Instrument Batch.			
Zinc, Dissolved, ICP-MS	05/17/2011	3IP3137	CCV recovery acceptable for this Instrument Batch.			
Zinc, Dissolved, ICP-MS	05/17/2011	4IP3137	CCV recovery acceptable for this Instrument Batch.			

- Laboratory Report Conclusion -

Continental Analytical Services, Inc.
525 N. 8th Street, Salina, KS 67401
(785)827-1273 (800)535-3076 Fax (785)823-7830
www.cas-lab.com

CAS ORDER NO. 55085

CHAIN OF CUSTODY RECORD

Continental Shipping Order Number: _____

Client/Reporting Information			Invoice Information		
Company Name: City of Wichita Sewage Treatment			Company Name: City of Wichita Sewage Treatment		
Address: 305 E. 57th Street South			Address: 2305 E. 57th Street South		
City: Wichita	State: KS	Zip: 67216	City: Wichita	State: KS	Zip: 67216
Contact: Jim Hardesty	E-mail:		Contact: Jim Hardesty	E-mail:	
Phone Number: (316)303-8700	Fax Number: (316)303-8712		Phone Number: (316)303-8700	Fax Number: (316)303-8712	
Sampler's Name:(Printed)	Sampler's Name:(Signature)		Purchase Order Number:		
File Number: 535	Project Name: Stormwater - UPSTREAM				

SAMPLE IDENTIFICATION (30 Characters or less)	Matrix (Sample Type)	Regulatory Program	Date Sampled	Time Sampled	C-Composite G Grab	Total # Containers	Number of Preserved Bottles: HCL	NaOH	HNO3	H2SO4	NONE	OTHER:	Total Cadmium, Copper, Zinc 250mL Plastic - HNO3	Hardness, TSS, TDS, Cl, BOD, NO3, NO2, Tot. Nitrogen 1000mL Plastic - None	TKN, Total P 250mL Plastic - H2SO4						COMMENTS
0556 Causkin/Maple Upstream	WW	N	5/11/11	1230	G	3			1	1	1		X	X	X						

Edits made prior to sample receipt

Regulatory Program: N=NPDES, R=RCRA, D=Drinking Water, SL=503 Sludge, O=Other

(Please note if non-standard turnaround. Rush & Emergency subject to additional charge)
Standard TAT: (15 working days) Rush TAT: (5 working days) Emergency TAT: (3 working days)

Matrix (Sample Type): DW=Drinking Water, GW=Ground Water, WW=Waste Water, W=Wipe, S=Solid/Soil, SL=Sludge, A=Air, OL = Oil/Organic Liquid, O=Other

RELINQUISHED BY:	DATE: 5/11/11	TIME: 1500	RECEIVED BY:	DATE:	TIME:
RELINQUISHED BY:	DATE:	TIME:	RECEIVED BY:	DATE:	TIME:
RECEIVED AT LAB BY:	DATE: 5-11-11	TIME: 1615	SHIPPED VIA: / AIRBILL:	SEAL #: / SEAL DATE:	

Continental's Standard Terms and Conditions of Sale will apply to all samples received unless a separate contractual agreement has been made.

Continental Analytical Services Cooler/Sample Receipt Form

CAS Order No. 55825

CAS File No.: 8339 5535

Client Name: Wichita

Sample ID's in cooler: See COC

Cooler 1 of 1 for this CAS Order No.

Cooler Identification: CAS Cooler #: _____ Client's Cooler/Box/Letter/Hand Delivered

Other: _____

Date/Time Cooler Received: 5/11/11 16:15

Delivered By: UPS/FedX/AB Express/ASAP/Land Air Exp/Field Svcs/Mail/Walk-In/Other: _____

Custody Seal: Present: Intact / Broken Absent: ✓ Seal No: _____

Seal Name: _____ Seal Date: _____

Seal matches Chain of Custody: Yes / No / N/A

Type of Packing Material: Blue Ice/Ice/Melted Ice/Bubble/Foam/Paper/Peanuts/Vermiculite/ None/Other: _____

Cooler Temperature (°C): Original Reading (°C) 1.2 Corrected Reading (°C) 1.5

Temp. By: Temp. Blank Surface: Glass/Plastic/Metal/Other: _____ Cooler

Thermo. ID No.: 585 Thermo. Correction Factor (°C): 0.3

☐ Evidence of Cooling: date received=date sampled

Sample Receipt Discrepancies: ☒ No ☐ *Yes (see below for discrepancies)*

Note: CAS will proceed with sample analyses, addressing each discrepancy as shown, until/unless directed otherwise by the client.

☐ Chain of Custody not present information taken from:
- Cover Letter ☐ Container ☐
- PO ☐ CAS Proj. Mgr. ☐

☐ Container label absent

☐ Chain of Custody incomplete [see detail below]

☐ Chain of Custody missing date/time sampled (excl. TB or Dup)

☐ Date or Time sampled obtained from container label

☐ Chain of Custody missing sampler's name

☐ Chain of Custody missing matrix (sample type)

☐ Missing relinquished information: signature date time

☐ Sample excluded from Chain of Custody

☐ Sample listed on Chain of Custody, not received

☐ Sample description on container and Chain of Custody do not agree

☐ Air bubbles in Aqueous VOA vials larger than pea-size [approx. 6 mm]

☐ Cooler temperature exceeded 0.1 - 6.0 °C requirement
[Do not mark if samples do not require cooling to 0.1 - 6.0 °C.]

☐ Broken or leaking containers (detail actions below)

☐ Sample container type or labeled chemical preservation inappropriate

☐ Other discrepancies: _____

Detail to discrepancies/comments:

Completed by: RG Date Completed: 5-11-11

Continental
Analytical Services, Inc.

05/27/2011

City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date and Time Received: 05/11/2011 16:15
Continental File No.: 8339
Continental Order No.: 55823
Project ID: SW-Upstream

Dear Mr. Hardesty:

This laboratory report containing the samples indicated below, includes 8 pages for the analytical report, 1 page(s) for the chain of custody and/or analysis request, and 1 page(s) for the sample receipt form.

CAS LAB ID #	SAMPLE DESCRIPTION	SAMPLE TYPE	DATE SAMPLED
11050847	Harvest Ct. Upstream	Liquid	5/11/2011

The Appendix and Quality Control sections are integral parts of this laboratory report and may contain important data qualifiers.

All results are reported on a wet weight basis unless otherwise stated.

Samples will be retained for thirty days unless Continental is otherwise notified.

Continental is accredited by the State of Kansas through the National Environmental Laboratory Accreditation Program (NELAP). The results contained in this report were obtained using Continental's Standard Operating Procedures. These procedures are in substantial compliance with the approved methods referenced and the standards published by NELAP unless otherwise noted in the Appendix and Quality Control sections of this report.

This report may not be reproduced, except in full, without written approval from Continental Analytical Services, Inc.

Thank you for choosing Continental for this project. If you have any questions please contact me at (800)535-3076.

CONTINENTAL ANALYTICAL SERVICES, INC.

Clifford J. Baker
Technical Manager

Gregory J. Groene
Project Manager

525 N. Eighth St. - P.O. Box 3737 - Salina, KS 67402-3737
785-827-1273 800-535-3076 Fax 785-823-7830

KDHE Environmental Laboratory Accreditation No. E-10146

Continental Analytical Services, Inc.

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Sample Rptd: 05/27/2011
Date Sample Recd: 05/11/2011
Continental File No: 8339
Continental Order No: 55823

Lab Number: 11050847
Sample Description: Harvest Ct. Upstream

Date Sampled: 05/11/2011
Time Sampled: 1210

Analysis	Concentration	Units	Book/Page
Cadmium, Dissolved, ICP-MS	ND(1) DM	µg/L	7127/10
Cadmium, Tot. Rec., ICP-MS	ND(1)	µg/L	7127/10
Copper, Dissolved, ICP-MS	ND(5) DM	µg/L	7127/10
Copper, Tot. Rec., ICP-MS	ND(5)	µg/L	7127/10
Hardness (Calculated)	265	mg/L as CaCO3	7128/34
Zinc, Dissolved, ICP-MS	ND(20) DM	µg/L	7127/10
Zinc, Tot. Rec., ICP-MS	ND(20)	µg/L	7127/10
BOD	6	mg/L	7060/106
Chloride	52	mg/L	7129/7
Kjeldahl Nitrogen, as N	1	mg/L	7043/41
Nitrate, as N	0.1	mg/L	7129/7
Nitrite, as N	0.2	mg/L	7129/10
Nitrogen (TKN + NO3/NO2), as N	1.3	mg/L	0/290
Phosphorus, Total, as P	0.36	mg/L	7061/87
Solids, Total Dissolved	486	mg/L	7059/223
Solids, Total Suspended	20.	mg/L	7059/221

Analysis	Date Prepared	Date Analyzed	QC Batch	Inst. Batch	Analyst	Method(s)
Cadmium, Dissolved, ICP-MS	05/13/11 213	05/17/11 1843	110513-5	3IP3137	JDL	200.8 Rev. 5.4
Cadmium, Tot. Rec., ICP-MS	05/13/11 0818	05/17/11 1658	110513-1	1IP3137	JDL	200.8 Rev. 5.4
Copper, Dissolved, ICP-MS	05/13/11 213	05/17/11 1843	110513-5	3IP3137	JDL	200.8 Rev. 5.4
Copper, Tot. Rec., ICP-MS	05/13/11 0818	05/17/11 1658	110513-1	1IP3137	JDL	200.8 Rev. 5.4
Hardness (Calculated)	05/16/11 1602	05/26/11 1446	110516-6	5IP4146	KMW	200.7 & SM 2340B
Zinc, Dissolved, ICP-MS	05/13/11 213	05/17/11 1843	110513-5	3IP3137	JDL	200.8 Rev. 5.4
Zinc, Tot. Rec., ICP-MS	05/13/11 0818	05/17/11 1658	110513-1	1IP3137	JDL	200.8 Rev. 5.4
BOD	N/A	05/12/11 1550	110512-1	110512-1	MLL	SM 5210B
Chloride	N/A	05/12/11 1336	1IC1132	1IC1132	MLL	300.0
Kjeldahl Nitrogen, as N	N/A	05/16/11 1046	110516-1	110516-3	JND	4500N(C) & (E)
Nitrate, as N	N/A	05/12/11 1323	1IC1132	1IC1132	MLL	300.0
Nitrite, as N	N/A	05/13/11 1028	1IC1133	1IC1133	MLL	300.0
Nitrogen (TKN + NO3/NO2),	N/A	05/20/11				Calculation
Phosphorus, Total, as P	N/A	05/20/11 1436	110520-2	110520-4	KJH	SM 4500-P(B&F)(M
Solids, Total Dissolved	N/A	05/18/11 1815	110518-1	110518-0	KJH	SM20th 2540C
Solids, Total Suspended	N/A	05/18/11 1632	110518-1	110518-1	KJH	SM20th 2540D
Dissolved Metals Preparation Method						200.7/200.8
Total Recoverable Metals Preparation Method						200.7/200.8
Calculated as Hardness Preparation Method						200.7/6010B

Conclusion of Lab Number: 11050847

Continental Analytical Services, Inc.

APPENDIX

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Sample Rptd: 05/27/2011
Date Sample Recd: 05/11/2011
Continental File No: 8339
Continental Order No: 55823

ND(), where reported, indicates the analyte was not detected above the limit of quantitation (LOQ). The concentration of the limit of quantitation is inside the parentheses.

Not all samples were received at the recommended temperature of less than 6 degrees Celsius. Because the samples were hand-delivered to the Laboratory immediately after collection and showed evidence of cooling by the presence of ice and/or cool blue ice, they are considered acceptable by NELAC. Refer to the enclosed Cooler/Sample Receipt Form(s) for the affected coolers and samples.

The following table presents the date and time sampled, the date and time analyzed, and the total time elapsed for each analysis with an EPA recommended holding time of seventy-two hours or less.

CAS LAB ID #	ANALYSIS	DATE/TIME SAMPLED	DATE/TIME ANALYZED	ELAPSED HRS:MIN
11050847	BOD	05/11/2011 1210	05/12/2011 1550	27:40
11050847	Nitrate, as N	05/11/2011 1210	05/12/2011 1323	25:13
11050847	Nitrite, as N	05/11/2011 1210	05/13/2011 1028	46:18

DM - NPDES requirements specify that dissolved metals and orthophosphate must be filtered within 15 minutes of the time of collection. This analysis did not meet these criteria.

Continental Analytical Services, Inc.

Continental Analytical Services, Inc.
Accreditation Summary Report

Client: City of Wichita
CAS Order Number: 55823

NELAP accreditation is issued under each EPA regulatory program for a given matrix/analyte/method combination. Continental is NELAP accredited for each matrix/analyte/method and EPA program cited in this Laboratory Report, except for those listed in the table below and analysis performed in the field. For most of the analyses listed in the table, NELAP accreditation is not offered under the listed EPA program and Continental is NELAP accredited for the analysis, using the same analytical technology, but under a different EPA program. Continental's full NELAP accreditation status may be viewed at www.kdheks.gov/envlab. Note that unless qualified otherwise in the Laboratory Report, Continental performs all analyses, including each analysis listed in the table below, utilizing NELAP protocol.

Test	Analysis	Matrix-Regulatory Program	Method	CAS NELAP Accredited in Other Reg. Program
GL343	Nitrogen (TKN + NO3/NO2), as N	L-NPDES	Calculation	N

Continental Analytical Services, Inc.

Quality Control Report
Batch Summary

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Reported: 05/27/2011
Date Sample Received: 05/11/2011
Continental File No: 8339
Continental Order No: 55823

Test	Testname	QC Batch	Method Blank	LCS	MS Lab No.
SL006	Cadmium, Tot. Rec., ICP-MS	110513-1	110513BLK1	110513LCS1	11050847MS
SL012	Copper, Tot. Rec., ICP-MS	110513-1	110513BLK1	110513LCS1	11050847MS
SL033	Zinc, Tot. Rec., ICP-MS	110513-1	110513BLK1	110513LCS1	11050847MS
Lab numbers associated with this batch: 11050847					
SL156	Cadmium, Dissolved, ICP-MS	110513-5	110513BLK5	110513LCS5	11050846MS
SL162	Copper, Dissolved, ICP-MS	110513-5	110513BLK5	110513LCS5	11050846MS
SL183	Zinc, Dissolved, ICP-MS	110513-5	110513BLK5	110513LCS5	11050846MS
Lab numbers associated with this batch: 11050847					
SL323	Hardness (Calculated)	110516-6	110516BLK6	110516LCS6	11051203MS
Lab numbers associated with this batch: 11050847					
GL123	BOD	110512-1	110512BLK1	110512LCS1	11050892MS
Lab numbers associated with this batch: 11050847					
GL502	Chloride	1IC1132	BLK1IC1132	LCS1IC1132	
Lab numbers associated with this batch: 11050847					
GL195	Kjeldahl Nitrogen, as N	110516-1	110516BLK1	110516LCS1	11050869MS
Lab numbers associated with this batch: 11050847					
GL505	Nitrate, as N	1IC1132	BLK1IC1132	LCS1IC1132	
Lab numbers associated with this batch: 11050847					
GL503	Nitrite, as N	1IC1133	BLK1IC1133	LCS1IC1133	
Lab numbers associated with this batch: 11050847					
GL343	Nitrogen (TKN + NO3/NO2), as N				
Lab numbers associated with this batch: 11050847					
GL218	Phosphorus, Total, as P	110520-2	110520BLK2	110520LCS2	11050904MS
Lab numbers associated with this batch: 11050847					

Continental Analytical Services, Inc.

Quality Control Report
Batch Summary

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Page: 6
Date Reported: 05/27/2011
Date Sample Received: 05/11/2011
Continental File No: 8339
Continental Order No: 55823

Test	Testname	QC Batch	Method Blank	LCS	MS Lab No.
GL242	Solids, Total Dissolved	110518-1	110518BLK1	110518LCS1	11050850MS
GL243	Solids, Total Suspended	110518-1	110518BLK1	110518LCS1	11050850MS

Lab numbers associated with this batch:
11050847

Continental Analytical Services, Inc.

Quality Control Report
Method Blank, LCS, MS/MSD Data

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Reported: 05/27/2011
Date Sample Received: 05/11/2011
Continental File No: 8339
Continental Order No: 55823

Analysis	Blank Data	% Rec LCS	Limits	Spike Level	Units	Spiked Sample (% Recovery) MS	MSD	Limits	Spike Level	Units	Spiked Sample Precision Data RPD	Limit
QC Batch: 110512-1	For sample analyzed on: 05/12/2011					Spiked sample: 11050892						
BOD	ND(5)	85.6	70.5-110	198	mg/L	MN	MN	#		mg/L	**	13.2
QC Batch: 110513-1	For samples prepared on: 05/13/2011					Spiked sample: 11050847						
Cadmium, Tot. Rec., ICP-MS	ND(1)	100.	85.0-115	500	µg/L	98.9	97.8	80.0-120	500	µg/L	1.1	20.0
Copper, Tot. Rec., ICP-MS	ND(3) J	94.4	85.0-115	500	µg/L	92.2	92.3	80.0-120	500	µg/L	0.1	20.0
Zinc, Tot. Rec., ICP-MS	ND(20)	99.0	85.0-115	500	µg/L	93.6	93.0	80.0-120	500	µg/L	0.6	20.0
QC Batch: 110513-5	For samples prepared on: 05/13/2011					Spiked sample: 11050846						
Cadmium, Dissolved, ICP-MS	ND(1)	97.9	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
Copper, Dissolved, ICP-MS	ND(3) J	92.1	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
Zinc, Dissolved, ICP-MS	ND(20)	96.6	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
QC Batch: 110516-1	For sample analyzed on: 05/16/2011					Spiked sample: 11050869						
Kjeldahl Nitrogen, as N	ND(1)	98.3	90.0-110	20.0	mg/L	MN	MN	75.0-112	20.0	mg/L	**	17.4
QC Batch: 110516-6	For samples prepared on: 05/16/2011					Spiked sample: 11051203						
Hardness (Calculated)	ND(5.0)	99.1	80.0-120	337	mg/L a	MN	MN	80.0-120	337	mg/L as	**	20.0
QC Batch: 110518-1	For sample analyzed on: 05/18/2011					Spiked sample: 11050850						
Solids, Total Dissolved	ND(30)	N/A			mg/L	MN	MN	#		mg/L	**	5.2
Solids, Total Suspended	ND(5)	N/A			mg/L	MN	MN	#		mg/L	**	18.2
QC Batch: 110520-2	For sample analyzed on: 05/20/2011					Spiked sample: 11050904						
Phosphorus, Total, as P	ND(0.20)	104	90.0-110	1.0	mg/L	MN	MN	71.2-135	1.0	mg/L	**	21.2
QC Batch: 11IC1132	For sample analyzed on: 05/12/2011					Spiked sample:						
Chloride	ND(1.0)	98.1	90.0-110	4.0	mg/L	MN	MN	82.1-126			**	12.5
Nitrate, as N	ND(0.1)	100.	90.0-110	2.0	mg/L	MN	MN	79.3-118			**	12.1
QC Batch: 11IC1133	For sample analyzed on: 05/13/2011					Spiked sample:						
Nitrite, as N	ND(0.1)	104	90.0-110	2.0	mg/L	MN	MN	78.5-127			**	10.1

Data Qualifiers:

MN - The MS/MSD sample analyses were not performed on a sample from this Continental order number.

J - The concentration or not detected (ND) value is below the Limit of Quantitation (LOQ) and is considered an estimated value.

N/A - Not Applicable

\# - Limits not available.

** - RPD cannot be calculated.

Continental Analytical Services, Inc.

Quality Control Report

Continuing Calibration Verification Data Summary

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Reported: 05/27/2011
Date Sample Received: 05/11/2011
Continental File No: 8339
Continental Order No: 55823

Analysis	Date of Analysis	Instrument Batch ID	Amount in Standard	Amount Detected	Units	Percent Recovery
Cadmium, Tot. Rec., ICP-MS	05/17/2011	1IP3137	CCV recovery acceptable for this Instrument Batch.			
Cadmium, Tot. Rec., ICP-MS	05/17/2011	2IP3137	CCV recovery acceptable for this Instrument Batch.			
Cadmium, Dissolved, ICP-MS	05/17/2011	3IP3137	CCV recovery acceptable for this Instrument Batch.			
Cadmium, Dissolved, ICP-MS	05/17/2011	4IP3137	CCV recovery acceptable for this Instrument Batch.			
Copper, Tot. Rec., ICP-MS	05/17/2011	1IP3137	CCV recovery acceptable for this Instrument Batch.			
Copper, Tot. Rec., ICP-MS	05/17/2011	2IP3137	CCV recovery acceptable for this Instrument Batch.			
Copper, Dissolved, ICP-MS	05/17/2011	3IP3137	CCV recovery acceptable for this Instrument Batch.			
Copper, Dissolved, ICP-MS	05/17/2011	4IP3137	CCV recovery acceptable for this Instrument Batch.			
BOD	05/12/2011	110512-1	CCV recovery acceptable for this Instrument Batch.			
BOD	05/12/2011	110512-2	CCV recovery acceptable for this Instrument Batch.			
Kjeldahl Nitrogen, as N	05/16/2011	110516-3	CCV recovery acceptable for this Instrument Batch.			
Kjeldahl Nitrogen, as N	05/16/2011	110516-4	CCV recovery acceptable for this Instrument Batch.			
Phosphorus, Total, as P	05/20/2011	110520-4	CCV recovery acceptable for this Instrument Batch.			
Phosphorus, Total, as P	05/20/2011	110520-5	CCV recovery acceptable for this Instrument Batch.			
Chloride	05/12/2011	1IC1132	CCV recovery acceptable for this Instrument Batch.			
Chloride	05/12/2011	2IC1132	CCV recovery acceptable for this Instrument Batch.			
Nitrite, as N	05/13/2011	1IC1133	CCV recovery acceptable for this Instrument Batch.			
Nitrite, as N	05/13/2011	2IC1133	CCV recovery acceptable for this Instrument Batch.			
Nitrate, as N	05/12/2011	1IC1132	CCV recovery acceptable for this Instrument Batch.			
Nitrate, as N	05/12/2011	2IC1132	CCV recovery acceptable for this Instrument Batch.			
Hardness (Calculated)	05/26/2011	5IP4146	CCV recovery acceptable for this Instrument Batch.			
Hardness (Calculated)	05/26/2011	6IP4146	CCV recovery acceptable for this Instrument Batch.			
Zinc, Tot. Rec., ICP-MS	05/17/2011	1IP3137	CCV recovery acceptable for this Instrument Batch.			
Zinc, Tot. Rec., ICP-MS	05/17/2011	2IP3137	CCV recovery acceptable for this Instrument Batch.			
Zinc, Dissolved, ICP-MS	05/17/2011	3IP3137	CCV recovery acceptable for this Instrument Batch.			
Zinc, Dissolved, ICP-MS	05/17/2011	4IP3137	CCV recovery acceptable for this Instrument Batch.			

- Laboratory Report Conclusion -

Continental Analytical Services, Inc.

525 N. 8th Street, Salina, KS 67401
(785)827-1273 (800)535-3076 Fax (785)823-7830
www.cas-lab.com

CHAIN OF CUSTODY RECORD

Continental Shipping Order Number: _____

Client/Reporting Information			Invoice Information		
Company Name: ity of Wichita Sewage Treatment			Company Name: City of Wichita Sewage Treatment		
ddress: 305 E. 57th Street South			Address: 2305 E. 57th Street South		
ity: /ichita	State: KS	Zip: 67216	City: Wichita	State: KS	Zip: 67216
ontact: m Hardesty	E-mail:		Contact: Jim Hardesty	E-mail:	
hone Number: 316)303-8700	Fax Number: (316)303-8712		Phone Number: (316)303-8700	Fax Number: (316)303-8712	
ampler's Name:(Printed)	Sampler's Name:(Signature)		Purchase Order Number:		
ile Number: 535	Project Name: Stormwater - UPSTREAM				

SAMPLE IDENTIFICATION (30 Characters or less)	Matrix (Sample Type)	Regulatory Program	Date Sampled	Time Sampled	C Composite G Grab	Total Containers	Number of Preserved Bottles: HCL	NaOH	HNO3	H2SO4	NONE	OTHER:	Total Cadmium, Copper, Zinc 250mL Plastic - HNO3	Hardness, TSS, TDS, Cl, BOD, NO3, NO2, Tot. Nitrogen 1000mL Plastic - None	TKN, Total P 250mL Plastic - H2SO4						COMMENTS
~~0688~~ Harvest Ct. Upstream	WW	N	5/11/11	1210	G	3			1	1	1		X	X	X						

(Please note of non-standard turnaround. Rush & Emergency subject to additional charge)
Standard TAT: (15 working days) Rush TAT: (5 working days) Emergency TAT: (3 working days)

Regulatory Program: N=NPDES, R=RCRA, D=Drinking Water, SL=503 Sludge, O=Other

Matrix (Sample Type): DW=Drinking Water, GW=Ground Water, WW=Waste Water, W=Wipe, S=Solid/Soil, SL=Sludge, A=Air, OL = Oil/Organic Liquid, O=Other

RELINQUISHED BY:	DATE: 5/11/11	TIME: 1500	RECEIVED BY:	DATE:	TIME:
RELINQUISHED BY:	DATE:	TIME:	RECEIVED BY:	DATE:	TIME:
RECEIVED AT LAB BY:	DATE: 5-11-11	TIME: 1615	SHIPPED VIA: / AIRBILL:	SEAL #: / SEAL DATE:	

Continental's Standard Terms and Conditions of Sale will apply to all samples received unless a separate contractual agreement has been made.

Continental Analytical Services Cooler/Sample Receipt Form CAS Order No. 55823

Client Name: Wichita CAS File No.: ~~5535~~ 8359

Sample ID's in cooler: Harvest Ct

Cooler 1 of 1 for this CAS Order No.

Cooler Identification: CAS Cooler #: _____ /Client's Cooler/Box/Letter/Hand Delivered
Other: _____

Date/Time Cooler Received: 5 / 11 / 11 16:15

Delivered By: UPS/FedX/AB Express/ASAP/Land Air Exp/Field Svcs/Mail/Walk-In/Other: _____

Custody Seal: Present: Intact / Broken Absent ✓ Seal No: _____
Seal Name: _____ Seal Date: _____
Seal matches Chain of Custody: Yes / No / N/A

Type of Packing Material: Blue Ice/Ice/Melted Ice/Bubble/Foam/Paper/Peanuts/Vermiculite/ None/Other: _____

Cooler Temperature (°C): Original Reading (°C) 8.9 Corrected Reading (°C) 79.9.9
Temp. By: Temp. Blank Surface: Glass/Plastic/Metal/Other: _____ Cooler
Thermo. ID No.: 554 Thermo. Correction Factor (°C): ±1.0
☐ Evidence of Cooling: date received = date sampled

Sample Receipt Discrepancies: ☐ No ☐ *Yes (see below for discrepancies)*

Note: CAS will proceed with sample analyses, addressing each discrepancy as shown, until/unless directed otherwise by the client.

- ☐ Chain of Custody not present information taken from:
  - Cover Letter ☐ Container ☐
  - PO ☐ CAS Proj. Mgr. ☐
- ☐ Container label absent
- ☐ Chain of Custody incomplete [see detail below]
- ☐ Chain of Custody missing date/time sampled (excl. TB or Dup)
- ☐ Date or Time sampled obtained from container label
- ☐ Chain of Custody missing sampler's name
- ☐ Chain of Custody missing matrix (sample type)
- ☐ Missing relinquished information: signature date time
- ☐ Sample excluded from Chain of Custody
- ☐ Sample listed on Chain of Custody, not received
- ☐ Sample description on container and Chain of Custody do not agree
- ☐ Air bubbles in Aqueous VOA vials larger than pea-size [approx. 6 mm]
- ☐ Cooler temperature exceeded 0.1 - 6.0 °C requirement [Do not mark if samples do not require cooling to 0.1 - 6.0 °C.]
- ☐ Broken or leaking containers (detail actions below)
- ☐ Sample container type or labeled chemical preservation inappropriate
- ☐ Other discrepancies: _____

Detail to discrepancies/comments:

Completed by: [illegible] Date Completed: 5-11-11

Continental Analytical Services, Inc.

06/06/2011

City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date and Time Received: 05/20/2011 14:15
Continental File No.: 8339
Continental Order No.: 56072
Project ID: SW-UPSTREAM

Dear Mr. Hardesty:

This laboratory report containing the samples indicated below, includes 8 pages for the analytical report, 1 page(s) for the chain of custody and/or analysis request, and 1 page(s) for the sample receipt form.

CAS LAB ID #	SAMPLE DESCRIPTION	SAMPLE TYPE	DATE SAMPLED
11051998	Town East & Armour Upstream	Liquid	5/20/2011

The Appendix and Quality Control sections are integral parts of this laboratory report and may contain important data qualifiers.

All results are reported on a wet weight basis unless otherwise stated.

Samples will be retained for thirty days unless Continental is otherwise notified.

Continental is accredited by the State of Kansas through the National Environmental Laboratory Accreditation Program (NELAP). The results contained in this report were obtained using Continental's Standard Operating Procedures. These procedures are in substantial compliance with the approved methods referenced and the standards published by NELAP unless otherwise noted in the Appendix and Quality Control sections of this report.

This report may not be reproduced, except in full, without written approval from Continental Analytical Services, Inc.

Thank you for choosing Continental for this project. If you have any questions please contact me at (800)535-3076.

CONTINENTAL ANALYTICAL SERVICES, INC.

Clifford J. Baker
Technical Manager

Gregory J. Groene
Project Manager

525 N. Eighth St. - P.O. Box 3737 - Salina, KS 67402-3737
785-827-1273 800-535-3076 Fax 785-823-7830

KDHE Environmental Laboratory Accreditation No. E-10146

Continental Analytical Services, Inc.

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Sample Rptd: 06/06/2011
Date Sample Recd: 05/20/2011
Continental File No: 8339
Continental Order No: 56072

Lab Number: 11051998
Sample Description: Town East & Armour Upstream

Date Sampled: 05/20/2011
Time Sampled: 0850

Analysis	Concentration	Units	Book/Page
Cadmium, Dissolved, ICP-MS	ND(1) DM	µg/L	7127/15
Cadmium, Tot. Rec., ICP-MS	ND(1)	µg/L	7127/15
Copper, Dissolved, ICP-MS	ND(5) DM	µg/L	7127/15
Copper, Tot. Rec., ICP-MS	8	µg/L	7127/15
Hardness (Calculated)	48	mg/L as CaCO3	7143/1
Zinc, Dissolved, ICP-MS	ND(20) DM	µg/L	7127/15
Zinc, Tot. Rec., ICP-MS	39	µg/L	7127/17
BOD	6	mg/L	7060/118
Chloride	27.3	mg/L	7129/14
Kjeldahl Nitrogen, as N	2	mg/L	7043/46
Nitrate, as N	0.3	mg/L	7129/14
Nitrite, as N	ND(0.1)	mg/L	7129/14
Nitrogen (TKN + NO3/NO2), as N	2.3	mg/L	9999/7
Phosphorus, Total, as P	0.27	mg/L	7061/92
Solids, Total Dissolved	296	mg/L	7059/233
Solids, Total Suspended	68	mg/L	7059/240

Analysis	Date Prepared	Date Analyzed	QC Batch	Inst. Batch	Analyst	Method(s)
Cadmium, Dissolved, ICP-MS	05/23/11 1128	05/26/11 1645	110523-3	2IP3146	KMW	200.8 Rev. 5.4
Cadmium, Tot. Rec., ICP-MS	05/24/11 0759	05/26/11 1912	110524-1	4IP3146	KMW	200.8 Rev. 5.4
Copper, Dissolved, ICP-MS	05/23/11 1128	05/26/11 1645	110523-3	2IP3146	KMW	200.8 Rev. 5.4
Copper, Tot. Rec., ICP-MS	05/24/11 0759	05/26/11 1912	110524-1	4IP3146	KMW	200.8 Rev. 5.4
Hardness (Calculated)	05/24/11 1236	06/01/11 1412	110524-6	4IP4152	KMW	200.7 & SM 2340B
Zinc, Dissolved, ICP-MS	05/23/11 1128	05/26/11 1645	110523-3	2IP3146	KMW	200.8 Rev. 5.4
Zinc, Tot. Rec., ICP-MS	05/24/11 0759	06/03/11 1618	110524-1	2IP3154	JDL	200.8 Rev. 5.4
BOD	N/A	05/20/11 2030	110520-2	110520-3	ASK	SM 5210B
Chloride	N/A	05/21/11 0120	3IC1140	6IC1140	MLL	300.0
Kjeldahl Nitrogen, as N	N/A	05/27/11 1353	110527-1	110527-2	JND	4500N(C) & (E)
Nitrate, as N	N/A	05/21/11 0120	3IC1140	6IC1140	MLL	300.0
Nitrite, as N	N/A	05/21/11 0120	3IC1140	6IC1140	MLL	300.0
Nitrogen (TKN + NO3/NO2),	N/A	06/06/11				Calculation
Phosphorus, Total, as P	N/A	05/27/11 1643	110527-1	110527-1	KJH	SM 4500-P(B&F)(M
Solids, Total Dissolved	N/A	05/25/11 1554	110525-1	110525-1	KJH	SM20th 2540C
Solids, Total Suspended	N/A	05/27/11 1812	110527-2	110527-2	KJH	SM20th 2540D
Dissolved Metals Preparation Method						200.7/200.8
Total Recoverable Metals Preparation Method						200.7/200.8
Calculated as Hardness Preparation Method						200.7/6010B

Conclusion of Lab Number: 11051998

Continental Analytical Services, Inc.

APPENDIX

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Sample Rptd: 06/06/2011
Date Sample Recd: 05/20/2011
Continental File No: 8339
Continental Order No: 56072

ND(), where reported, indicates the analyte was not detected above the limit of quantitation (LOQ). The concentration of the limit of quantitation is inside the parentheses.

All samples which require cooling were received at a temperature of less than 6 degrees Celsius.

The following table presents the date and time sampled, the date and time analyzed, and the total time elapsed for each analysis with an EPA recommended holding time of seventy-two hours or less.

CAS LAB ID #	ANALYSIS	DATE/TIME SAMPLED	DATE/TIME ANALYZED	ELAPSED HRS:MIN
11051998	BOD	05/20/2011 0850	05/20/2011 2030	11:40
11051998	Nitrate, as N	05/20/2011 0850	05/21/2011 0120	16:30
11051998	Nitrite, as N	05/20/2011 0850	05/21/2011 0120	16:30

DM - NPDES requirements specify that dissolved metals and orthophosphate must be filtered within 15 minutes of the time of collection. This analysis did not meet these criteria.

Continental Analytical Services, Inc.

Continental Analytical Services, Inc.
Accreditation Summary Report

Client: City of Wichita
CAS Order Number: 56072

NELAP accreditation is issued under each EPA regulatory program for a given matrix/analyte/method combination. Continental is NELAP accredited for each matrix/analyte/method and EPA program cited in this Laboratory Report, except for those listed in the table below and analysis performed in the field. For most of the analyses listed in the table, NELAP accreditation is not offered under the listed EPA program and Continental is NELAP accredited for the analysis, using the same analytical technology, but under a different EPA program. Continental's full NELAP accreditation status may be viewed at www.kdheks.gov/envlab. Note that unless qualified otherwise in the Laboratory Report, Continental performs all analyses, including each analysis listed in the table below, utilizing NELAP protocol.

Test	Analysis	Matrix-Regulatory Program	Method	CAS NELAP Accredited in Other Reg. Program
GL343	Nitrogen (TKN + NO3/NO2), as N	L-NPDES	Calculation	N

Continental Analytical Services, Inc.

Quality Control Report
Batch Summary

Date Reported: 06/06/2011
Date Sample Received: 05/20/2011
Continental File No: 8339
Continental Order No: 56072

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Test	Testname	QC Batch	Method Blank	LCS	MS Lab No.
SL156	Cadmium, Dissolved, ICP-MS	110523-3	110523BLK3	110523LCS3	11052011MS
SL162	Copper, Dissolved, ICP-MS	110523-3	110523BLK3	110523LCS3	11052011MS
SL183	Zinc, Dissolved, ICP-MS	110523-3	110523BLK3	110523LCS3	11052011MS
Lab numbers associated with this batch: 11051998					
SL006	Cadmium, Tot. Rec., ICP-MS	110524-1	110524BLK1	110524LCS1	11052012MS
SL012	Copper, Tot. Rec., ICP-MS	110524-1	110524BLK1	110524LCS1	11052012MS
SL033	Zinc, Tot. Rec., ICP-MS	110524-1	110524BLK1	110524LCS1	11052012MS
Lab numbers associated with this batch: 11051998					
SL323	Hardness (Calculated)	110524-6	110524BLK6	110524LCS6	11052012MS
Lab numbers associated with this batch: 11051998					
GL123	BOD	110520-2	110520BLK2	110520LCS2	11051795MS
Lab numbers associated with this batch: 11051998					
GL502	Chloride	3IC1140	BLK3IC1140	LCS3IC1140	11051141MS
Lab numbers associated with this batch: 11051998					
GL195	Kjeldahl Nitrogen, as N	110527-1	110527BLK1	110527LCS1	11052247MS
Lab numbers associated with this batch: 11051998					
GL505	Nitrate, as N	3IC1140	BLK3IC1140	LCS3IC1140	
GL503	Nitrite, as N	3IC1140	BLK3IC1140	LCS3IC1140	
Lab numbers associated with this batch: 11051998					
GL343	Nitrogen (TKN + NO3/NO2), as N				
Lab numbers associated with this batch: 11051998					
GL218	Phosphorus, Total, as P	110527-1	110527BLK1	110527LCS1	11051671MS
Lab numbers associated with this batch: 11051998					

Continental Analytical Services, Inc.

Quality Control Report
Batch Summary

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Page: 6
Date Reported: 06/06/2011
Date Sample Received: 05/20/2011
Continental File No: 8339
Continental Order No: 56072

Test	Testname	QC Batch	Method Blank	LCS	MS Lab No.
GL242	Solids, Total Dissolved	110525-1	110525BLK1	110525LCS1	11051509MS
Lab numbers associated with this batch: 11051998					
GL243	Solids, Total Suspended	110527-2	110527BLK2	110527LCS2	11052002MS
Lab numbers associated with this batch: 11051998					

Continental Analytical Services, Inc.

Quality Control Report
Method Blank, LCS, MS/MSD Data

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Reported: 06/06/2011
Date Sample Received: 05/20/2011
Continental File No: 8339
Continental Order No: 56072

Analysis	Blank Data	% Rec LCS	Limits	Spike Level	Units	Spiked Sample (% Recovery) MS	MSD	Limits	Spike Level	Units	Spiked Sample Precision Data RPD	Limit
QC Batch: 110520-2	For sample analyzed on: 05/20/2011					Spiked sample: 11051795						
BOD	ND(5)	91.0	70.5-110	198	mg/L	MN	MN	#		mg/L	**	13.2
QC Batch: 110523-3	For samples prepared on: 05/23/2011					Spiked sample: 11052011						
Cadmium, Dissolved, ICP-MS	ND(1)	98.4	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
Copper, Dissolved, ICP-MS	ND(5)	93.5	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
Zinc, Dissolved, ICP-MS	ND(20)	96.6	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
Zinc, Dissolved, ICP-MS	ND(20)	96.9	85.0-115	500	µg/L	MN	MN	80.0-120			**	20.0
QC Batch: 110524-1	For samples prepared on: 05/24/2011					Spiked sample: 11052012						
Cadmium, Tot. Rec., ICP-MS	ND(1)	100.	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
Copper, Tot. Rec., ICP-MS	ND(5)	95.0	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
Zinc, Tot. Rec., ICP-MS	ND(20)	98.6	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
QC Batch: 110524-6	For samples prepared on: 05/24/2011					Spiked sample: 11052012						
Hardness (Calculated)	ND(5.0)	91.2	80.0-120	337	mg/L a	MN	MN	80.0-120	337	mg/L as	**	20.0
QC Batch: 110525-1	For sample analyzed on: 05/25/2011					Spiked sample: 11051509						
Solids, Total Dissolved	ND(30)	N/A			mg/L	MN	MN	#		mg/L	**	5.2
QC Batch: 110527-1	For sample analyzed on: 05/27/2011					Spiked sample: 11051671						
Phosphorus, Total, as P	ND(0.20)	102	90.0-110	1.0	mg/L	MN	MN	71.2-135	1.0	mg/L	**	21.2
QC Batch: 110527-1	For sample analyzed on: 05/27/2011					Spiked sample: 11052247						
Kjeldahl Nitrogen, as N	ND(1)	98.0	90.0-110	20.0	mg/L	MN	MN	75.0-113	20.0	mg/L	**	17.4
QC Batch: 110527-2	For sample analyzed on: 05/27/2011					Spiked sample: 11052002						
Solids, Total Suspended	ND(5)	N/A			mg/L	MN	MN	#		mg/L	**	18.2
QC Batch: 3IC1140	For sample analyzed on: 05/21/2011					Spiked sample:						
Nitrite, as N	ND(0.1)	98.5	90.0-110	2.0	mg/L	MN	MN	78.5-127			**	10.1
Nitrate, as N	ND(0.1)	99.0	90.0-110	2.0	mg/L	MN	MN	79.3-118			**	12.1
QC Batch: 3IC1140	For sample analyzed on: 05/21/2011					Spiked sample: 11051141						
Chloride	ND(1.0)	99.8	90.0-110	4.0	mg/L	MN	MN	82.1-126	400	mg/L	**	12.5

Data Qualifiers:
MN - The MS/MSD sample analyses were not performed on a sample from this Continental order number.

N/A - Not Applicable

- Limits not available.

** - RPD cannot be calculated.

Continental Analytical Services, Inc.

Quality Control Report

Continuing Calibration Verification Data Summary

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Reported: 06/06/2011
Date Sample Received: 05/20/2011
Continental File No: 8339
Continental Order No: 56072

Analysis	Date of Analysis	Instrument Batch ID	Amount in Standard	Amount Detected	Units	Percent Recovery
Cadmium, Dissolved, ICP-MS	05/26/2011	2IP3146	CCV recovery acceptable for this Instrument Batch.			
Cadmium, Dissolved, ICP-MS	05/26/2011	3IP3146	CCV recovery acceptable for this Instrument Batch.			
Cadmium, Tot. Rec., ICP-MS	05/26/2011	4IP3146	CCV recovery acceptable for this Instrument Batch.			
Cadmium, Tot. Rec., ICP-MS	05/26/2011	5IP3146	CCV recovery acceptable for this Instrument Batch.			
Copper, Dissolved, ICP-MS	05/26/2011	2IP3146	CCV recovery acceptable for this Instrument Batch.			
Copper, Dissolved, ICP-MS	05/26/2011	3IP3146	CCV recovery acceptable for this Instrument Batch.			
Copper, Tot. Rec., ICP-MS	05/26/2011	4IP3146	CCV recovery acceptable for this Instrument Batch.			
Copper, Tot. Rec., ICP-MS	05/26/2011	5IP3146	CCV recovery acceptable for this Instrument Batch.			
BOD	05/20/2011	110520-3	CCV recovery acceptable for this Instrument Batch.			
BOD	05/20/2011	110520-4	CCV recovery acceptable for this Instrument Batch.			
Kjeldahl Nitrogen, as N	05/27/2011	110527-2	CCV recovery acceptable for this Instrument Batch.			
Kjeldahl Nitrogen, as N	05/27/2011	110527-3	CCV recovery acceptable for this Instrument Batch.			
Phosphorus, Total, as P	05/27/2011	110527-1	CCV recovery acceptable for this Instrument Batch.			
Phosphorus, Total, as P	05/27/2011	110527-2	CCV recovery acceptable for this Instrument Batch.			
Chloride	05/20/2011	6IC1140	CCV recovery acceptable for this Instrument Batch.			
Chloride	05/21/2011	7IC1140	CCV recovery acceptable for this Instrument Batch.			
Nitrite, as N	05/20/2011	6IC1140	CCV recovery acceptable for this Instrument Batch.			
Nitrite, as N	05/21/2011	7IC1140	CCV recovery acceptable for this Instrument Batch.			
Nitrate, as N	05/20/2011	6IC1140	CCV recovery acceptable for this Instrument Batch.			
Nitrate, as N	05/21/2011	7IC1140	CCV recovery acceptable for this Instrument Batch.			
Hardness (Calculated)	06/01/2011	4IP4152	CCV recovery acceptable for this Instrument Batch.			
Hardness (Calculated)	06/01/2011	5IP4152	CCV recovery acceptable for this Instrument Batch.			
Zinc, Dissolved, ICP-MS	05/26/2011	2IP3146	CCV recovery acceptable for this Instrument Batch.			
Zinc, Tot. Rec., ICP-MS	06/03/2011	2IP3154	CCV recovery acceptable for this Instrument Batch.			
Zinc, Dissolved, ICP-MS	05/26/2011	3IP3146	CCV recovery acceptable for this Instrument Batch.			
Zinc, Tot. Rec., ICP-MS	06/03/2011	3IP3154	CCV recovery acceptable for this Instrument Batch.			

- Laboratory Report Conclusion -

Continental Analytical Services, Inc.
525 N. 8th Street, Salina, KS 67401
(785)827-1273 (800)535-3076 Fax (785)823-7830
www.cas-lab.com

CHAIN OF CUSTODY RECORD

Continental Shipping Order Number: _____

Client/Reporting Information

Company Name: City of Wichita Sewage Treatment
Address: 2305 E. 57th Street South
City: Wichita State: KS Zip: 67216
Contact: Jim Hardesty E-mail:
Phone Number: (316)303-8700 Fax Number: (316)303-8712

Invoice Information

Company Name: City of Wichita Sewage Treatment
Address: 2305 E. 57th Street South
City: Wichita State: KS Zip: 67216
Contact: Jim Hardesty E-mail:
Phone Number: (316)303-8700 Fax Number: (316)303-8712

Sampler's Name:(Printed) Justin Murphy
Sampler's Name:(Signature)
File Number: 535
Project Name: Stormwater - UPSTREAM
Purchase Order Number:

Edits made prior to sample receipt
RW 5-20-11

SAMPLE IDENTIFICATION (30 Characters or less)	Matrix (Sample Type)	Regulatory Program	Date Sampled	Time Sampled	C-Composite G-Grab	Total Containers	HCL	NaOH	HNO3	H2SO4	NONE	OTHER	Total Cadmium, Copper, Zinc 250mL Plastic - HNO3	Hardness, TSS, TDS, Cl, BOD, NO3, NO2, Tot. Nitrogen 1000mL Plastic - None	TKN, Total P 250mL Plastic - H2SO4						COMMENTS
Towne East's Armor Stream	WW	N	5/20/11	0850	G	3			1	1	1		X	X	X						

Regulatory Program N=NPDES, R=RCRA, D=Drinking Water, SL=503 Sludge, O=Other

(Please note if non-standard turnaround. Rush & Emergency subject to additional charge)
Standard TAT: (15 working days) Rush TAT: (5 working days) Emergency TAT: (3 working days)

Matrix (Sample Type): DW=Drinking Water, GW=Ground Water, WW=Waste Water, W=Wipe, S=Solid/Soil, SL=Sludge, A=Air, OL = Oil/Organic Liquid, O=Other

RELINQUISHED BY:	DATE: 5/20/11	TIME: 1200	RECEIVED BY:	DATE:	TIME:
RELINQUISHED BY:	DATE:	TIME:	RECEIVED BY:	DATE:	TIME:
RECEIVED AT LAB BY: Ronald Stokes	DATE: 5-20-11	TIME: 14:15	SHIPPED VIA: AIRBILL:	SEAL #: SEAL DATE:	

Continental's Standard Terms and Conditions of Sale will apply to all samples received unless a separate contractual agreement has been made.

Continental Analytical Services Cooler/Sample Receipt Form

CAS Order No. 56072

CAS File No.: 8339

Client Name: Wichita Sewage

Sample ID's in cooler: Sor COC

Town East & Armour

Cooler 1 of 1 for this CAS Order No.

Cooler Identification: CAS Cooler #: _____ /Client's Cooler/Box/Letter/Hand Delivered

Other: _____

Date/Time Cooler Received: 5 / 20 / 11 14 : 15

Delivered By: UPS/FedX/AB Express/ASAP/Land Air Exp/Field Svcs/Mail/Walk-In/Other: _____

Custody Seal: Present: Intact / Broken Absent: X Seal No: _____

Seal Name: _____ Seal Date: _____

Seal matches Chain of Custody: Yes / No / N/A

Type of Packing Material: Blue Ice/Ice/Melted Ice/Bubble/Foam/Paper/Peanuts/Vermiculite/ None/Other: _____

Cooler Temperature (°C): Original Reading (°C) 3.1 Corrected Reading (°C) 3.4

Temp. By: Temp. Blank Surface: Glass/Plastic/Metal/Other: _____ Cooler

Thermo. ID No.: 585 Thermo. Correction Factor (°C): 0.3

☐ Evidence of Cooling: date received=date sampled

Sample Receipt Discrepancies: ☒ No ☐ *Yes (see below for discrepancies)*

Note: CAS will proceed with sample analyses, addressing each discrepancy as shown, until/unless directed otherwise by the client.

☐ Chain of Custody not present information taken from:
- Cover Letter ☐ Container ☐
- PO ☐ CAS Proj. Mgr. ☐

☐ Container label absent

☐ Chain of Custody incomplete [see detail below]

☐ Chain of Custody missing date/time sampled (excl. TB or Dup)

☐ Date or Time sampled obtained from container label

☐ Chain of Custody missing sampler's name

☐ Chain of Custody missing matrix (sample type)

☐ Missing relinquished information: signature date time

☐ Sample excluded from Chain of Custody

☐ Sample listed on Chain of Custody, not received

☐ Sample description on container and Chain of Custody do not agree

☐ Air bubbles in Aqueous VOA vials larger than pea-size [approx. 6 mm]

☐ Cooler temperature exceeded 0.1 - 6.0 °C requirement [Do not mark if samples do not require cooling to 0.1 - 6.0 °C.]

☐ Broken or leaking containers (detail actions below)

☐ Sample container type or labeled chemical preservation inappropriate

☐ Other discrepancies: _____

Detail to discrepancies/comments:

5-20-11

Continental
Analytical Services, Inc.

06/06/2011

City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date and Time Received: 05/20/2011 14:15
Continental File No.: 8339
Continental Order No.: 56073
Project ID: Stormwater

Dear Mr. Hardesty:

This laboratory report containing the samples indicated below, includes 9 pages for the analytical report, 1 page(s) for the chain of custody and/or analysis request, and 1 page(s) for the sample receipt form.

CAS LAB ID #	SAMPLE DESCRIPTION	SAMPLE TYPE	DATE SAMPLED
11051999	Towne Eaast & Armour - Grab	Liquid	5/20/2011
11052000	Towne Eaast & Armour-Composite	Liquid	5/20/2011

The Appendix and Quality Control sections are integral parts of this laboratory report and may contain important data qualifiers.

All results are reported on a wet weight basis unless otherwise stated.

Samples will be retained for thirty days unless Continental is otherwise notified.

Continental is accredited by the State of Kansas through the National Environmental Laboratory Accreditation Program (NELAP). The results contained in this report were obtained using Continental's Standard Operating Procedures. These procedures are in substantial compliance with the approved methods referenced and the standards published by NELAP unless otherwise noted in the Appendix and Quality Control sections of this report.

This report may not be reproduced, except in full, without written approval from Continental Analytical Services, Inc.

Thank you for choosing Continental for this project. If you have any questions please contact me at (800)535-3076.

CONTINENTAL ANALYTICAL SERVICES, INC.

Clifford J. Baker
Technical Manager

Gregory J. Groene
Project Manager

525 N. Eighth St. - P.O. Box 3737 - Salina, KS 67402-3737
785-827-1273 800-535-3076 Fax 785-823-7830

Environmental Laboratory Accreditation No. E-10146

Continental Analytical Services, Inc.

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Sample Rptd: 06/06/2011
Date Sample Recd: 05/20/2011
Continental File No: 8339
Continental Order No: 56073

Lab Number: 11051999
Sample Description: Towne Eaast & Armour - Grab

Date Sampled: 05/20/2011
Time Sampled: 0845

Analysis	Concentration	Units	Book/Page
Cadmium, Dissolved, ICP-MS	ND(1) DM	µg/L	7127/15
Cadmium, Tot. Rec., ICP-MS	ND(1)	µg/L	7127/15
Copper, Dissolved, ICP-MS	ND(5) DM	µg/L	7127/15
Copper, Tot. Rec., ICP-MS	ND(5)	µg/L	7127/15
Hardness (Calculated)	26	mg/L as CaCO3	7143/1
Zinc, Dissolved, ICP-MS	ND(20) DM	µg/L	7127/15
Zinc, Tot. Rec., ICP-MS	35	µg/L	7127/17
Chloride	4.4	mg/L	7129/20
Hexane Extractable Material	ND(5.0)	mg/L	7094/11
Solids, Total Dissolved	68	mg/L	7059/233
Solids, Total Suspended	12	mg/L	7059/240

Analysis	Date Prepared	Date Analyzed	QC Batch	Inst. Batch	Analyst	Method(s)
Cadmium, Dissolved, ICP-MS	05/23/11 1128	05/26/11 1650	110523-3	2IP3146	KMW	200.8 Rev. 5.4
Cadmium, Tot. Rec., ICP-MS	05/24/11 0759	05/26/11 1917	110524-1	4IP3146	KMW	200.8 Rev. 5.4
Copper, Dissolved, ICP-MS	05/23/11 1128	05/26/11 1650	110523-3	2IP3146	KMW	200.8 Rev. 5.4
Copper, Tot. Rec., ICP-MS	05/24/11 0759	05/26/11 1917	110524-1	4IP3146	KMW	200.8 Rev. 5.4
Hardness (Calculated)	05/24/11 1236	06/01/11 1416	110524-6	4IP4152	KMW	200.7 & SM 2340B
Zinc, Dissolved, ICP-MS	05/23/11 1128	05/26/11 1650	110523-3	2IP3146	KMW	200.8 Rev. 5.4
Zinc, Tot. Rec., ICP-MS	05/24/11 0759	06/03/11 1624	110524-1	2IP3154	JDL	200.8 Rev. 5.4
Chloride	N/A	05/31/11 1845	1IC1151	2IC1151	MLL	300.0
Hexane Extractable Materia	05/27/11	05/27/11 0830	110527-1	110527-1	JND	1664
Solids, Total Dissolved	N/A	05/25/11 1554	110525-1	110525-1	KJH	SM20th 2540C
Solids, Total Suspended	N/A	05/27/11 1812	110527-2	110527-2	KJH	SM20th 2540D
Dissolved Metals Preparation Method						200.7/200.8
Total Recoverable Metals Preparation Method						200.7/200.8
Calculated as Hardness Preparation Method						200.7/6010B
HEM Preparation Method						1664

Conclusion of Lab Number: 11051999

Continental Analytical Services, Inc.

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Sample Rptd: 06/06/2011
Date Sample Recd: 05/20/2011
Continental File No: 8339
Continental Order No: 56073

Lab Number: 11052000
Sample Description: Towne Eaast & Armour-Composite

Date Sampled: 05/20/2011
Time Sampled: 0845

Analysis	Concentration	Units	Book/Page
Cadmium, Dissolved, ICP-MS	ND(1) DM	µg/L	7127/15
Cadmium, Tot. Rec., ICP-MS	ND(1)	µg/L	7127/15
Copper, Dissolved, ICP-MS	ND(5) DM	µg/L	7127/15
Copper, Tot. Rec., ICP-MS	ND(5)	µg/L	7127/15
Hardness (Calculated)	29	mg/L as CaCO3	7143/1
Zinc, Dissolved, ICP-MS	ND(20) DM	µg/L	7127/15
Zinc, Tot. Rec., ICP-MS	39	µg/L	7127/17
BOD	ND(5)	mg/L	7060/118
Chloride	4.4	mg/L	7129/14
Kjeldahl Nitrogen, as N	ND(1)	mg/L	7043/46
Nitrate, as N	0.2	mg/L	7129/14
Nitrite, as N	ND(0.1)	mg/L	7129/14
Nitrogen (TKN + NO3/NO2), as N	ND(1.0)	mg/L	9999/7
Phosphorus, Total, as P	ND(0.20)	mg/L	7061/92
Solids, Total Dissolved	62	mg/L	7059/233
Solids, Total Suspended	14	mg/L	7059/240

Analysis	Date Prepared	Date Analyzed	QC Batch	Inst. Batch	Analyst	Method(s)
Cadmium, Dissolved, ICP-MS	05/23/11 1128	05/26/11 1656	110523-3	2IP3146	KMW	200.8 Rev. 5.4
Cadmium, Tot. Rec., ICP-MS	05/24/11 0759	05/26/11 1933	110524-1	5IP3146	KMW	200.8 Rev. 5.4
Copper, Dissolved, ICP-MS	05/23/11 1128	05/26/11 1656	110523-3	2IP3146	KMW	200.8 Rev. 5.4
Copper, Tot. Rec., ICP-MS	05/24/11 0759	05/26/11 1933	110524-1	5IP3146	KMW	200.8 Rev. 5.4
Hardness (Calculated)	05/24/11 1236	06/01/11 1420	110524-6	4IP4152	KMW	200.7 & SM 2340B
Zinc, Dissolved, ICP-MS	05/23/11 1128	05/26/11 1656	110523-3	2IP3146	KMW	200.8 Rev. 5.4
Zinc, Tot. Rec., ICP-MS	05/24/11 0759	06/03/11 1629	110524-1	2IP3154	JDL	200.8 Rev. 5.4
BOD	N/A	05/20/11 2030	110520-2	110520-3	ASK	SM 5210B
Chloride	N/A	05/21/11 0146	3IC1140	6IC1140	MLL	300.0
Kjeldahl Nitrogen, as N	N/A	05/27/11 1353	110527-1	110527-2	JND	4500N(C) & (E)
Nitrate, as N	N/A	05/21/11 0146	3IC1140	6IC1140	MLL	300.0
Nitrite, as N	N/A	05/21/11 0146	3IC1140	6IC1140	MLL	300.0
Nitrogen (TKN + NO3/NO2),	N/A	06/06/11				Calculation
Phosphorus, Total, as P	N/A	05/27/11 1647	110527-1	110527-2	KJH	SM 4500-P(B&F)(M
Solids, Total Dissolved	N/A	05/25/11 1555	110525-1	110525-1	KJH	SM20th 2540C
Solids, Total Suspended	N/A	05/27/11 1812	110527-2	110527-2	KJH	SM20th 2540D
Dissolved Metals Preparation Method						200.7/200.8
Total Recoverable Metals Preparation Method						200.7/200.8
Calculated as Hardness Preparation Method						200.7/6010B

Conclusion of Lab Number: 11052000

Continental Analytical Services, Inc.

APPENDIX

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Sample Rptd: 06/06/2011
Date Sample Recd: 05/20/2011
Continental File No: 8339
Continental Order No: 56073

ND(), where reported, indicates the analyte was not detected above the limit of quantitation (LOQ). The concentration of the limit of quantitation is inside the parentheses.

All samples which require cooling were received at a temperature of less than 6 degrees Celsius.

The following table presents the date and time sampled, the date and time analyzed, and the total time elapsed for each analysis with an EPA recommended holding time of seventy-two hours or less.

CAS LAB ID #	ANALYSIS	DATE/TIME SAMPLED	DATE/TIME ANALYZED	ELAPSED HRS:MIN
11052000	BOD	05/20/2011 0845	05/20/2011 2030	11:45
11052000	Nitrate, as N	05/20/2011 0845	05/21/2011 0146	17:01
11052000	Nitrite, as N	05/20/2011 0845	05/21/2011 0146	17:01

DM - NPDES requirements specify that dissolved metals and orthophosphate must be filtered within 15 minutes of the time of collection. This analysis did not meet these criteria.

Continental Analytical Services, Inc.

Date: 06/06/2011

Continental Analytical Services, Inc.
Accreditation Summary Report

Client: City of Wichita
CAS Order Number: 56073

NELAP accreditation is issued under each EPA regulatory program for a given matrix/analyte/method combination. Continental is NELAP accredited for each matrix/analyte/method and EPA program cited in this Laboratory Report, except for those listed in the table below and analysis performed in the field. For most of the analyses listed in the table, NELAP accreditation is not offered under the listed EPA program and Continental is NELAP accredited for the analysis, using the same analytical technology, but under a different EPA program. Continental's full NELAP accreditation status may be viewed at www.kdheks.gov/envlab. Note that unless qualified otherwise in the Laboratory Report, Continental performs all analyses, including each analysis listed in the table below, utilizing NELAP protocol.

Test	Analysis	Matrix-Regulatory Program	Method	CAS NELAP Accredited in Other Reg. Program
GL343	Nitrogen (TKN + NO3/NO2), as N	L-NPDES	Calculation	N

Continental Analytical Services, Inc.

Quality Control Report
Batch Summary

Date Reported: 06/06/2011
Date Sample Received: 05/20/2011
Continental File No: 8339
Continental Order No: 56073

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Test	Testname	QC Batch	Method Blank	LCS	MS Lab No.
SL156	Cadmium, Dissolved, ICP-MS	110523-3	110523BLK3	110523LCS3	11052011MS
SL162	Copper, Dissolved, ICP-MS	110523-3	110523BLK3	110523LCS3	11052011MS
SL183	Zinc, Dissolved, ICP-MS	110523-3	110523BLK3	110523LCS3	11052011MS
Lab numbers associated with this batch: 11051999 11052000					
SL006	Cadmium, Tot. Rec., ICP-MS	110524-1	110524BLK1	110524LCS1	11052012MS
SL012	Copper, Tot. Rec., ICP-MS	110524-1	110524BLK1	110524LCS1	11052012MS
SL033	Zinc, Tot. Rec., ICP-MS	110524-1	110524BLK1	110524LCS1	11052012MS
Lab numbers associated with this batch: 11051999 11052000					
SL323	Hardness (Calculated)	110524-6	110524BLK6	110524LCS6	11052012MS
Lab numbers associated with this batch: 11051999 11052000					
GL123	BOD	110520-2	110520BLK2	110520LCS2	11051795MS
Lab numbers associated with this batch: 11052000					
GL502	Chloride	1IC1151	BLK1IC1151	LCS1IC1151	11052289MS
Lab numbers associated with this batch: 11051999					
GL502	Chloride	3IC1140	BLK3IC1140	LCS3IC1140	11051141MS
Lab numbers associated with this batch: 11052000					
GL188	Hexane Extractable Material	110527-1	110527BLK1	110527LCS1	11051279MS
Lab numbers associated with this batch: 11051999					
GL195	Kjeldahl Nitrogen, as N	110527-1	110527BLK1	110527LCS1	11052247MS
Lab numbers associated with this batch: 11052000					
GL505	Nitrate, as N	3IC1140	BLK3IC1140	LCS3IC1140	
GL503	Nitrite, as N	3IC1140	BLK3IC1140	LCS3IC1140	
Lab numbers associated with this batch: 11052000					

Continental Analytical Services, Inc.

Quality Control Report
Batch Summary

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Reported: 06/06/2011
Date Sample Received: 05/20/2011
Continental File No: 8339
Continental Order No: 56073

Test	Testname	QC Batch	Method Blank	LCS	MS Lab No.
GL343	Nitrogen (TKN + NO3/NO2), as N				
Lab numbers associated with this batch: 11052000					
GL218	Phosphorus, Total, as P	110527-1	110527BLK1	110527LCS1	11051671MS
Lab numbers associated with this batch: 11052000					
GL242	Solids, Total Dissolved	110525-1	110525BLK1	110525LCS1	11051509MS
Lab numbers associated with this batch: 11051999 11052000					
GL243	Solids, Total Suspended	110527-2	110527BLK2	110527LCS2	11052002MS
Lab numbers associated with this batch: 11051999 11052000					

Continental Analytical Services, Inc.

Quality Control Report
Method Blank, LCS, MS/MSD Data

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Reported: 06/06/2011
Date Sample Received: 05/20/2011
Continental File No: 8339
Continental Order No: 56073

Analysis	Blank Data	% Rec LCS	Limits	Spike Level	Units	Spiked Sample (% Recovery) MS	MSD	Limits	Spike Level	Units	Spiked Sample Precision Data RPD	Limit
QC Batch: 110520-2	For sample analyzed on: 05/20/2011					Spiked sample: 11051795						
BOD	ND(5)	91.0	70.5-110	198	mg/L	MN	MN	#		mg/L	**	13.2
QC Batch: 110523-3	For samples prepared on: 05/23/2011					Spiked sample: 11052011						
Cadmium, Dissolved, ICP-MS	ND(1)	98.4	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
Copper, Dissolved, ICP-MS	ND(5)	93.5	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
Zinc, Dissolved, ICP-MS	ND(20)	96.6	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
Zinc, Dissolved, ICP-MS	ND(20)	96.9	85.0-115	500	µg/L	MN	MN	80.0-120			**	20.0
QC Batch: 110524-1	For samples prepared on: 05/24/2011					Spiked sample: 11052012						
Cadmium, Tot. Rec., ICP-MS	ND(1)	100.	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
Copper, Tot. Rec., ICP-MS	ND(5)	95.0	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
Zinc, Tot. Rec., ICP-MS	ND(20)	98.6	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
QC Batch: 110524-6	For samples prepared on: 05/24/2011					Spiked sample: 11052012						
Hardness (Calculated)	ND(5.0)	91.2	80.0-120	337	mg/L a	MN	MN	80.0-120	337	mg/L as	**	20.0
QC Batch: 110525-1	For sample analyzed on: 05/25/2011					Spiked sample: 11051509						
Solids, Total Dissolved	ND(30)	N/A			mg/L	MN	MN	#		mg/L	**	5.2
QC Batch: 110527-1	For samples prepared on: 05/27/2011					Spiked sample: 11051279						
Hexane Extractable Material	ND(1.4)	86.0	78.0-114	40.0	mg/L	MN	MN	78.0-114	40.0	mg/L	**	18.0
QC Batch: 110527-1	For sample analyzed on: 05/27/2011					Spiked sample: 11051671						
Phosphorus, Total, as P	ND(0.20)	102	90.0-110	1.0	mg/L	MN	MN	71.2-135	1.0	mg/L	**	21.2
QC Batch: 110527-1	For sample analyzed on: 05/27/2011					Spiked sample: 11052247						
Kjeldahl Nitrogen, as N	ND(1)	98.0	90.0-110	20.0	mg/L	MN	MN	75.0-112	20.0	mg/L	**	17.4
QC Batch: 110527-2	For sample analyzed on: 05/27/2011					Spiked sample: 11052002						
Solids, Total Suspended	ND(5)	N/A			mg/L	MN	MN	#		mg/L	**	18.2
QC Batch: 1IC1151	For sample analyzed on: 05/31/2011					Spiked sample: 11052289						
Chloride	ND(1.0)	104	90.0-110	4.0	mg/L	MN	MN	82.1-126	80.0	mg/L	**	12.5
QC Batch: 3IC1140	For sample analyzed on: 05/21/2011					Spiked sample:						
Nitrite, as N	ND(0.1)	98.5	90.0-110	2.0	mg/L	MN	MN	78.5-127			**	10.1
Nitrate, as N	ND(0.1)	99.0	90.0-110	2.0	mg/L	MN	MN	79.3-118			**	12.1
QC Batch: 3IC1140	For sample analyzed on: 05/21/2011					Spiked sample: 11051141						
Chloride	ND(1.0)	99.8	90.0-110	4.0	mg/L	MN	MN	82.1-126	400	mg/L	**	12.5

Data Qualifiers:
MN - The MS/MSD sample analyses were not performed on a sample from this Continental order number.

N/A - Not Applicable

- Limits not available.

** - RPD cannot be calculated.

Continental Analytical Services, Inc.

Quality Control Report

Continuing Calibration Verification Data Summary

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Reported: 06/06/2011
Date Sample Received: 05/20/2011
Continental File No: 8339
Continental Order No: 56073

Analysis	Date of Analysis	Instrument Batch ID	Amount in Standard	Amount Detected	Units	Percent Recovery
Cadmium, Dissolved, ICP-MS	05/26/2011	2IP3146	CCV recovery acceptable for this Instrument Batch.			
Cadmium, Dissolved, ICP-MS	05/26/2011	3IP3146	CCV recovery acceptable for this Instrument Batch.			
Cadmium, Tot. Rec., ICP-MS	05/26/2011	4IP3146	CCV recovery acceptable for this Instrument Batch.			
Cadmium, Tot. Rec., ICP-MS	05/26/2011	5IP3146	CCV recovery acceptable for this Instrument Batch.			
Cadmium, Tot. Rec., ICP-MS	05/26/2011	6IP3146	CCV recovery acceptable for this Instrument Batch.			
Copper, Dissolved, ICP-MS	05/26/2011	2IP3146	CCV recovery acceptable for this Instrument Batch.			
Copper, Dissolved, ICP-MS	05/26/2011	3IP3146	CCV recovery acceptable for this Instrument Batch.			
Copper, Tot. Rec., ICP-MS	05/26/2011	4IP3146	CCV recovery acceptable for this Instrument Batch.			
Copper, Tot. Rec., ICP-MS	05/26/2011	5IP3146	CCV recovery acceptable for this Instrument Batch.			
Copper, Tot. Rec., ICP-MS	05/26/2011	6IP3146	CCV recovery acceptable for this Instrument Batch.			
BOD	05/20/2011	110520-3	CCV recovery acceptable for this Instrument Batch.			
BOD	05/20/2011	110520-4	CCV recovery acceptable for this Instrument Batch.			
Hexane Extractable Material	05/27/2011	110527-1	CCV recovery acceptable for this Instrument Batch.			
Hexane Extractable Material	05/27/2011	110527-2	CCV recovery acceptable for this Instrument Batch.			
Kjeldahl Nitrogen, as N	05/27/2011	110527-2	CCV recovery acceptable for this Instrument Batch.			
Kjeldahl Nitrogen, as N	05/27/2011	110527-3	CCV recovery acceptable for this Instrument Batch.			
Phosphorus, Total, as P	05/27/2011	110527-2	CCV recovery acceptable for this Instrument Batch.			
Phosphorus, Total, as P	05/27/2011	110527-3	CCV recovery acceptable for this Instrument Batch.			
Chloride	05/20/2011	6IC1140	CCV recovery acceptable for this Instrument Batch.			
Chloride	05/21/2011	7IC1140	CCV recovery acceptable for this Instrument Batch.			
Chloride	05/31/2011	2IC1151	CCV recovery acceptable for this Instrument Batch.			
Chloride	05/31/2011	3IC1151	CCV recovery acceptable for this Instrument Batch.			
Nitrite, as N	05/20/2011	6IC1140	CCV recovery acceptable for this Instrument Batch.			
Nitrite, as N	05/21/2011	7IC1140	CCV recovery acceptable for this Instrument Batch.			
Nitrate, as N	05/20/2011	6IC1140	CCV recovery acceptable for this Instrument Batch.			
Nitrate, as N	05/21/2011	7IC1140	CCV recovery acceptable for this Instrument Batch.			
Hardness (Calculated)	06/01/2011	4IP4152	CCV recovery acceptable for this Instrument Batch.			
Hardness (Calculated)	06/01/2011	5IP4152	CCV recovery acceptable for this Instrument Batch.			
Zinc, Dissolved, ICP-MS	05/26/2011	2IP3146	CCV recovery acceptable for this Instrument Batch.			
Zinc, Tot. Rec., ICP-MS	06/03/2011	2IP3154	CCV recovery acceptable for this Instrument Batch.			
Zinc, Dissolved, ICP-MS	05/26/2011	3IP3146	CCV recovery acceptable for this Instrument Batch.			
Zinc, Tot. Rec., ICP-MS	06/03/2011	3IP3154	CCV recovery acceptable for this Instrument Batch.			

- Laboratory Report Conclusion -

CAS ORDER NO. 56073

Continental Analytical Services, Inc.

525 N. 8th Street, Salina, KS 67401
(785)827-1273 (800)535-3076 Fax (785)823-7830
www.cas-lab.com

CHAIN OF CUSTODY RECORD

Continental Shipping Order Number: _____

Client/Reporting Information			Invoice Information		
Company Name: City of Wichita Sewage Treatment			Company Name: City of Wichita Sewage Treatment		
Address: 305 E. 57th Street South			Address: 2305 E. 57th Street South		
City: Wichita	State: KS	Zip: 67216	City: Wichita	State: KS	Zip: 67216
Contact: Jim Hardesty	E-mail:		Contact: Jim Hardesty	E-mail:	
Phone Number: (316)303-8700	Fax Number: (316)303-8712		Phone Number: (316)303-8700	Fax Number: (316)303-8712	

Sampler's Name:(Printed): Justin Murphy
Sampler's Name:(Signature): [signature]
Purchase Order Number:
File Number: 535
Project Name: Stormwater

PARAMETERS/CONTAINER TYPE

Edits made prior to sample receipt MW 5-20-11

SAMPLE IDENTIFICATION (30 Characters or less)	Matrix (Sample Type)	Regulatory Program	Date Sampled	Time Sampled	C-Composite G-Grab	Total Containers	Number of Preserved Bottles: HCL	NaOH	HNO3	H2SO4	NONE	OTHER:	Cadmium, Copper, Zinc - Total Recoverable 250ml Plastic - HNO3	Cadmium, Copper, Zinc - Dissolved, Hardness, TSS TDS, Cl 1000ml Plastic - None	Hexane Extractable Material 2 - 1000ml Amber Glass - H2SO4	Total Metals, Dissolved Metals, Hardness, TSS, TDS, Cl, BOD, TKN, Total P, NO3, NO2, Tot. Nitrogen Large Carboy					COMMENTS
2251-Grab Towne East & Armour	WW	N	5/20/11	0845	G	4			1	2	1		X	X	X						
2251-Composite Towne East & Armour	WW	N	5/20/11	0845	C	1					1					X					5 Gal. Container to be poured off at lab as needed for required tests. Remaining volume will be saved for for organics if needed.

Regulatory Program: N=NPDES, R=RCRA, D=Drinking Water, SL=503 Sludge, O=Other

(Please note if non-standard turnaround. Rush & Emergency subject to additional charges)
Standard TAT: (15 working days) Rush TAT: (5 working days) Emergency TAT: (3 working days)

Matrix (Sample Type): DW=Drinking Water, GW=Ground Water, WW=Waste Water, W=Wipe, S=Solid/Soil, SL=Sludge, A=Air, OL = Oil/Organic Liquid, O=Other

RELINQUISHED BY: [signature]	DATE: 5/20/11	TIME: 1200	RECEIVED BY:	DATE:	TIME:
RELINQUISHED BY:	DATE:	TIME:	RECEIVED BY:	DATE:	TIME:
RECEIVED AT LAB BY: Mark Wetzler	DATE: 5-20-11	TIME: 14:25	SHIPPED VIA: AIRBILL:	SEAL #: SEAL DATE:	

Continental's Standard Terms and Conditions of Sale will apply to all samples received unless a separate contractual agreement has been made.

Continental Analytical Services Cooler/Sample Receipt Form

CAS Order No. 5L073

Client Name: Wichita Sewage

CAS File No.: 8339

Sample ID's in cooler: See COC

Town East & Armour

Cooler 1 of 1 for this CAS Order No.

Cooler Identification: CAS Cooler #: _____ /Client's Cooler/Box/Letter/Hand Delivered

Other: _____

Date/Time Cooler Received: 5 / 20 / 11 14 : 15

Delivered By: UPS/FedX/AB Express/ASAP/Land Air Exp/Field Svcs/Mail/Walk-In/Other: _____

Custody Seal: Present: Intact / Broken Absent: X Seal No: _____

Seal Name: _____ Seal Date: _____

Seal matches Chain of Custody: Yes / No / N/A

Type of Packing Material: Blue Ice/Ice/Melted Ice/Bubble/Foam/Paper/Peanuts/Vermiculite/ None/Other: _____

Cooler Temperature (°C): Original Reading (°C) 3.1 Corrected Reading (°C) 3.4

Temp. By: Temp. Blank Surface: Glass/Plastic/Metal/Other: _____ Cooler

Thermo. ID No.: 585 Thermo. Correction Factor (°C): 0.3

☐ Evidence of Cooling: date received=date sampled

Sample Receipt Discrepancies: ☒ No ☐ *Yes (see below for discrepancies)*

Note: CAS will proceed with sample analyses, addressing each discrepancy as shown, until/unless directed otherwise by the client.

- ☐ Chain of Custody not present information taken from:
  - Cover Letter ☐ Container ☐
  - PO ☐ CAS Proj. Mgr. ☐
- ☐ Container label absent
- ☐ Chain of Custody incomplete [see detail below]
- ☐ Chain of Custody missing date/time sampled (excl. TB or Dup)
- ☐ Date or Time sampled obtained from container label
- ☐ Chain of Custody missing sampler's name
- ☐ Chain of Custody missing matrix (sample type)
- ☐ Missing relinquished information: signature date time
- ☐ Sample excluded from Chain of Custody
- ☐ Sample listed on Chain of Custody, not received
- ☐ Sample description on container and Chain of Custody do not agree
- ☐ Air bubbles in Aqueous VOA vials larger than pea-size [approx. 6 mm]
- ☐ Cooler temperature exceeded 0.1 - 6.0 °C requirement [Do not mark if samples do not require cooling to 0.1 - 6.0 °C.]
- ☐ Broken or leaking containers (detail actions below)
- ☐ Sample container type or labeled chemical preservation inappropriate
- ☐ Other discrepancies: _____

Detail to discrepancies/comments:

Completed by: MJS Date Completed: 5-20-11

Continental
Analytical Services, Inc.

06/06/2011

City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date and Time Received: 05/20/2011 14:15
Continental File No.: 8339
Continental Order No.: 56074
Project ID: SW-UPSTREAM

Dear Mr. Hardesty:

This laboratory report containing the samples indicated below, includes 8 pages for the analytical report, 1 page(s) for the chain of custody and/or analysis request, and 1 page(s) for the sample receipt form.

CAS LAB ID #	SAMPLE DESCRIPTION	SAMPLE TYPE	DATE SAMPLED
11052001	McLean & Walker Upstream	Liquid	5/20/2011

The Appendix and Quality Control sections are integral parts of this laboratory report and may contain important data qualifiers.

All results are reported on a wet weight basis unless otherwise stated.

Samples will be retained for thirty days unless Continental is otherwise notified.

Continental is accredited by the State of Kansas through the National Environmental Laboratory Accreditation Program (NELAP). The results contained in this report were obtained using Continental's Standard Operating Procedures. These procedures are in substantial compliance with the approved methods referenced and the standards published by NELAP unless otherwise noted in the Appendix and Quality Control sections of this report.

This report may not be reproduced, except in full, without written approval from Continental Analytical Services, Inc.

Thank you for choosing Continental for this project. If you have any questions please contact me at (800)535-3076.

CONTINENTAL ANALYTICAL SERVICES, INC.

Clifford J. Baker
Technical Manager

Gregory J. Groene
Project Manager

525 N. Eighth St. - P.O. Box 3737 - Salina, KS 67402-3737
785-827-1273 800-535-3076 Fax 785-823-7830

Continental Analytical Services, Inc.

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Sample Rptd: 06/06/2011
Date Sample Recd: 05/20/2011
Continental File No: 8339
Continental Order No: 56074

Lab Number: 11052001
Sample Description: McLean & Walker Upstream

Date Sampled: 05/20/2011
Time Sampled: 0925

Analysis	Concentration	Units	Book/Page
Cadmium, Dissolved, ICP-MS	ND(1) DM	µg/L	7127/15
Cadmium, Tot. Rec., ICP-MS	ND(1)	µg/L	7127/15
Copper, Dissolved, ICP-MS	ND(5) DM	µg/L	7127/15
Copper, Tot. Rec., ICP-MS	7	µg/L	7127/15
Hardness (Calculated)	267	mg/L as CaCO3	7143/1
Zinc, Dissolved, ICP-MS	ND(20) DM	µg/L	7127/15
Zinc, Tot. Rec., ICP-MS	ND(20)	µg/L	7127/17
BOD	ND(5)	mg/L	7060/118
Chloride	378	mg/L	7129/14
Kjeldahl Nitrogen, as N	2	mg/L	7043/46
Nitrate, as N	0.9	mg/L	7129/14
Nitrite, as N	ND(1) M	mg/L	7129/14
Nitrogen (TKN + NO3/NO2), as N	2.9	mg/L	9999/7
Phosphorus, Total, as P	0.21	mg/L	7061/92
Solids, Total Dissolved	990.	mg/L	7059/233
Solids, Total Suspended	62	mg/L	7059/240

Analysis	Date Prepared	Date Analyzed	QC Batch	Inst. Batch	Analyst	Method(s)
Cadmium, Dissolved, ICP-MS	05/23/11 1128	05/26/11 1701	110523-3	2IP3146	KMW	200.8 Rev. 5.4
Cadmium, Tot. Rec., ICP-MS	05/24/11 0759	05/26/11 1939	110524-1	5IP3146	KMW	200.8 Rev. 5.4
Copper, Dissolved, ICP-MS	05/23/11 1128	05/26/11 1701	110523-3	2IP3146	KMW	200.8 Rev. 5.4
Copper, Tot. Rec., ICP-MS	05/24/11 0759	05/26/11 1939	110524-1	5IP3146	KMW	200.8 Rev. 5.4
Hardness (Calculated)	05/24/11 1236	06/01/11 1433	110524-6	5IP4152	KMW	200.7 & SM 2340B
Zinc, Dissolved, ICP-MS	05/23/11 1128	05/26/11 1701	110523-3	2IP3146	KMW	200.8 Rev. 5.4
Zinc, Tot. Rec., ICP-MS	05/24/11 0759	06/03/11 1634	110524-1	2IP3154	JDL	200.8 Rev. 5.4
BOD	N/A	05/20/11 2030	110520-2	110520-3	ASK	SM 5210B
Chloride	N/A	05/21/11 0252	3IC1140	7IC1140	MLL	300.0
Kjeldahl Nitrogen, as N	N/A	05/27/11 1353	110527-1	110527-2	JND	4500N(C) & (E)
Nitrate, as N	N/A	05/21/11 0212	3IC1140	6IC1140	MLL	300.0
Nitrite, as N	N/A	05/21/11 0252	3IC1140	7IC1140	MLL	300.0
Nitrogen (TKN + NO3/NO2),	N/A	06/06/11				Calculation
Phosphorus, Total, as P	N/A	05/27/11 1648	110527-1	110527-2	KJH	SM 4500-P(B&F) (
Solids, Total Dissolved	N/A	05/25/11 1555	110525-1	110525-1	KJH	SM20th 2540C
Solids, Total Suspended	N/A	05/27/11 1813	110527-2	110527-2	KJH	SM20th 2540D
Dissolved Metals Preparation Method						200.7/200.8
Total Recoverable Metals Preparation Method						200.7/200.8
Calculated as Hardness Preparation Method						200.7/6010B

Conclusion of Lab Number: 11052001

Continental Analytical Services, Inc.

APPENDIX

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Sample Rptd: 06/06/2011
Date Sample Recd: 05/20/2011
Continental File No: 8339
Continental Order No: 56074

ND(), where reported, indicates the analyte was not detected above the limit of quantitation (LOQ). The concentration of the limit of quantitation is inside the parentheses.

All samples which require cooling were received at a temperature of less than 6 degrees Celsius.

The following table presents the date and time sampled, the date and time analyzed, and the total time elapsed for each analysis with an EPA recommended holding time of seventy-two hours or less.

CAS LAB ID #	ANALYSIS	DATE/TIME SAMPLED	DATE/TIME ANALYZED	ELAPSED HRS:MIN
11052001	BOD	05/20/2011 0925	05/20/2011 2030	11:05
11052001	Nitrate, as N	05/20/2011 0925	05/21/2011 0212	16:47
11052001	Nitrite, as N	05/20/2011 0925	05/21/2011 0252	17:27

DM - NPDES requirements specify that dissolved metals and orthophosphate must be filtered within 15 minutes of the time of collection. This analysis did not meet these criteria.

M - Reporting limit higher than normal due to matrix interferences.

Continental Analytical Services, Inc.

Continental Analytical Services, Inc.
Accreditation Summary Report

Client: City of Wichita
CAS Order Number: 56074

NELAP accreditation is issued under each EPA regulatory program for a given matrix/analyte/method combination. Continental is NELAP accredited for each matrix/analyte/method and EPA program cited in this Laboratory Report, except for those listed in the table below and analysis performed in the field. For most of the analyses listed in the table, NELAP accreditation is not offered under the listed EPA program and Continental is NELAP accredited for the analysis, using the same analytical technology, but under a different EPA program. Continental's full NELAP accreditation status may be viewed at www.kdheks.gov/envlab. Note that unless qualified otherwise in the Laboratory Report, Continental performs all analyses, including each analysis listed in the table below, utilizing NELAP protocol.

Test	Analysis	Matrix-Regulatory Program	Method	CAS NELAP Accredited in Other Reg. Program
GL343	Nitrogen (TKN + NO3/NO2), as N	L-NPDES	Calculation	N

Continental Analytical Services, Inc.

Quality Control Report
Batch Summary

Date Reported: 06/06/2011
Date Sample Received: 05/20/2011
Continental File No: 8339
Continental Order No: 56074

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Test	Testname	QC Batch	Method Blank	LCS	MS Lab No.
SL156	Cadmium, Dissolved, ICP-MS	110523-3	110523BLK3	110523LCS3	11052011MS
SL162	Copper, Dissolved, ICP-MS	110523-3	110523BLK3	110523LCS3	11052011MS
SL183	Zinc, Dissolved, ICP-MS	110523-3	110523BLK3	110523LCS3	11052011MS
Lab numbers associated with this batch: 11052001					
SL006	Cadmium, Tot. Rec., ICP-MS	110524-1	110524BLK1	110524LCS1	11052012MS
SL012	Copper, Tot. Rec., ICP-MS	110524-1	110524BLK1	110524LCS1	11052012MS
SL033	Zinc, Tot. Rec., ICP-MS	110524-1	110524BLK1	110524LCS1	11052012MS
Lab numbers associated with this batch: 11052001					
SL323	Hardness (Calculated)	110524-6	110524BLK6	110524LCS6	11052012MS
Lab numbers associated with this batch: 11052001					
GL123	BOD	110520-2	110520BLK2	110520LCS2	11051795MS
Lab numbers associated with this batch: 11052001					
GL502	Chloride	3IC1140	BLK3IC1140	LCS3IC1140	11051141MS
Lab numbers associated with this batch: 11052001					
GL195	Kjeldahl Nitrogen, as N	110527-1	110527BLK1	110527LCS1	11052247MS
Lab numbers associated with this batch: 11052001					
GL505	Nitrate, as N	3IC1140	BLK3IC1140	LCS3IC1140	
GL503	Nitrite, as N	3IC1140	BLK3IC1140	LCS3IC1140	
Lab numbers associated with this batch: 11052001					
GL343	Nitrogen (TKN + NO3/NO2), as N				
Lab numbers associated with this batch: 11052001					
GL218	Phosphorus, Total, as P	110527-1	110527BLK1	110527LCS1	11051671MS
Lab numbers associated with this batch: 11052001					

Continental Analytical Services, Inc.

Quality Control Report
Batch Summary

Date Reported: 06/06/2011
Date Sample Received: 05/20/2011
Continental File No: 8339
Continental Order No: 56074

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Test	Testname	QC Batch	Method Blank	LCS	MS Lab No.
GL242	Solids, Total Dissolved	110525-1	110525BLK1	110525LCS1	11051509MS
Lab numbers associated with this batch: 11052001					
GL243	Solids, Total Suspended	110527-2	110527BLK2	110527LCS2	11052002MS
Lab numbers associated with this batch: 11052001					

Continental Analytical Services, Inc.

Quality Control Report
Method Blank, LCS, MS/MSD Data

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Reported: 06/06/2011
Date Sample Received: 05/20/2011
Continental File No: 8339
Continental Order No: 56074

Analysis	Blank Data	% Rec LCS	Limits	Spike Level	Units	Spiked Sample (% Recovery) MS	MSD	Limits	Spike Level	Units	Spiked Sample Precision Data RPD	Limit
QC Batch: 110520-2	For sample analyzed on: 05/20/2011					Spiked sample: 11051795						
BOD	ND(5)	91.0	70.5-110	198	mg/L	MN	MN	#		mg/L	**	13.2
QC Batch: 110523-3	For samples prepared on: 05/23/2011					Spiked sample: 11052011						
Cadmium, Dissolved, ICP-MS	ND(1)	98.4	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
Copper, Dissolved, ICP-MS	ND(5)	93.5	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
Zinc, Dissolved, ICP-MS	ND(20)	96.6	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
Zinc, Dissolved, ICP-MS	ND(20)	96.9	85.0-115	500	µg/L	MN	MN	80.0-120			**	20.0
QC Batch: 110524-1	For samples prepared on: 05/24/2011					Spiked sample: 11052012						
Cadmium, Tot. Rec., ICP-MS	ND(1)	100.	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
Copper, Tot. Rec., ICP-MS	ND(5)	95.0	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
Zinc, Tot. Rec., ICP-MS	ND(20)	98.6	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
QC Batch: 110524-6	For samples prepared on: 05/24/2011					Spiked sample: 11052012						
Hardness (Calculated)	ND(5.0)	91.2	80.0-120	337	mg/L a	MN	MN	80.0-120	337	mg/L as	**	20.0
QC Batch: 110525-1	For sample analyzed on: 05/25/2011					Spiked sample: 11051509						
Solids, Total Dissolved	ND(30)	N/A			mg/L	MN	MN	#		mg/L	**	5.2
QC Batch: 110527-1	For sample analyzed on: 05/27/2011					Spiked sample: 11051671						
Phosphorus, Total, as P	ND(0.20)	102	90.0-110	1.0	mg/L	MN	MN	71.2-135	1.0	mg/L	**	21.2
QC Batch: 110527-1	For sample analyzed on: 05/27/2011					Spiked sample: 11052247						
Kjeldahl Nitrogen, as N	ND(1)	98.0	90.0-110	20.0	mg/L	MN	MN	75.0-112	20.0	mg/L	**	17.4
QC Batch: 110527-2	For sample analyzed on: 05/27/2011					Spiked sample: 11052002						
Solids, Total Suspended	ND(5)	N/A			mg/L	MN	MN	#		mg/L	**	18.2
QC Batch: 3IC1140	For sample analyzed on: 05/21/2011					Spiked sample:						
Nitrite, as N	ND(0.1)	98.5	90.0-110	2.0	mg/L	MN	MN	78.5-127			**	10.1
Nitrate, as N	ND(0.1)	99.0	90.0-110	2.0	mg/L	MN	MN	79.3-118			**	12.1
QC Batch: 3IC1140	For sample analyzed on: 05/21/2011					Spiked sample: 11051141						
Chloride	ND(1.0)	99.8	90.0-110	4.0	mg/L	MN	MN	82.1-126	400	mg/L	**	12.5

Data Qualifiers:

MN - The MS/MSD sample analyses were not performed on a sample from this Continental order number.

N/A - Not Applicable

- Limits not available.

** - RPD cannot be calculated.

Continental Analytical Services, Inc.

Quality Control Report

Continuing Calibration Verification Data Summary

Date Reported: 06/06/2011
Date Sample Received: 05/20/2011
Continental File No: 8339
Continental Order No: 56074

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Analysis	Date of Analysis	Instrument Batch ID	Amount in Standard	Amount Detected	Units	Percent Recovery
Cadmium, Dissolved, ICP-MS	05/26/2011	2IP3146	CCV recovery acceptable for this Instrument Batch.			
Cadmium, Dissolved, ICP-MS	05/26/2011	3IP3146	CCV recovery acceptable for this Instrument Batch.			
Cadmium, Tot. Rec., ICP-MS	05/26/2011	5IP3146	CCV recovery acceptable for this Instrument Batch.			
Cadmium, Tot. Rec., ICP-MS	05/26/2011	6IP3146	CCV recovery acceptable for this Instrument Batch.			
Copper, Dissolved, ICP-MS	05/26/2011	2IP3146	CCV recovery acceptable for this Instrument Batch.			
Copper, Dissolved, ICP-MS	05/26/2011	3IP3146	CCV recovery acceptable for this Instrument Batch.			
Copper, Tot. Rec., ICP-MS	05/26/2011	5IP3146	CCV recovery acceptable for this Instrument Batch.			
Copper, Tot. Rec., ICP-MS	05/26/2011	6IP3146	CCV recovery acceptable for this Instrument Batch.			
BOD	05/20/2011	110520-3	CCV recovery acceptable for this Instrument Batch.			
BOD	05/20/2011	110520-4	CCV recovery acceptable for this Instrument Batch.			
Kjeldahl Nitrogen, as N	05/27/2011	110527-2	CCV recovery acceptable for this Instrument Batch.			
Kjeldahl Nitrogen, as N	05/27/2011	110527-3	CCV recovery acceptable for this Instrument Batch.			
Phosphorus, Total, as P	05/27/2011	110527-2	CCV recovery acceptable for this Instrument Batch.			
Phosphorus, Total, as P	05/27/2011	110527-3	CCV recovery acceptable for this Instrument Batch.			
Chloride	05/21/2011	7IC1140	CCV recovery acceptable for this Instrument Batch.			
Chloride	05/21/2011	8IC1140	CCV recovery acceptable for this Instrument Batch.			
Nitrite, as N	05/21/2011	7IC1140	CCV recovery acceptable for this Instrument Batch.			
Nitrite, as N	05/21/2011	8IC1140	CCV recovery acceptable for this Instrument Batch.			
Nitrate, as N	05/20/2011	6IC1140	CCV recovery acceptable for this Instrument Batch.			
Nitrate, as N	05/21/2011	7IC1140	CCV recovery acceptable for this Instrument Batch.			
Hardness (Calculated)	06/01/2011	5IP4152	CCV recovery acceptable for this Instrument Batch.			
Hardness (Calculated)	06/01/2011	6IP4152	CCV recovery acceptable for this Instrument Batch.			
Zinc, Dissolved, ICP-MS	05/26/2011	2IP3146	CCV recovery acceptable for this Instrument Batch.			
Zinc, Tot. Rec., ICP-MS	06/03/2011	2IP3154	CCV recovery acceptable for this Instrument Batch.			
Zinc, Dissolved, ICP-MS	05/26/2011	3IP3146	CCV recovery acceptable for this Instrument Batch.			
Zinc, Tot. Rec., ICP-MS	06/03/2011	3IP3154	CCV recovery acceptable for this Instrument Batch.			

- Laboratory Report Conclusion -

CAS ORDER NO.

Continental Analytical Services, Inc.

525 N. 8th Street, Salina, KS 67401
(785)827-1273 (800)535-3076 Fax (785)823-7830
www.cas-lab.com

CHAIN OF CUSTODY RECORD

Continental Shipping Order Number: _____

Client/Reporting Information	Invoice Information
Company Name: City of Wichita Sewage Treatment	Company Name: City of Wichita Sewage Treatment
Address: 2305 E. 57th Street South	Address: 2305 E. 57th Street South
City: Wichita State: KS Zip: 67216	City: Wichita State: KS Zip: 67216
Contact: Jim Hardesty E-mail:	Contact: Jim Hardesty E-mail:
Phone Number: (316)303-8700 Fax Number: (316)303-8712	Phone Number: (316)303-8700 Fax Number: (316)303-8712

Sampler's Name:(Printed): Justin Murphy
Sampler's Name:(Signature):
Purchase Order Number:
File Number: 5535
Project Name: Stormwater - UPSTREAM

SAMPLE IDENTIFICATION (30 Characters or less)	Matrix (Sample Type)	Regulatory Program	Date Sampled	Time Sampled	C-Composite G-Grab	Total Containers	Number of Preserved Bottles: HCL	NaOH	HNO3	H2SO4	NONE	OTHER:	Total Cadmium, Copper, Zinc 250mL Plastic - HNO3	Hardness, TSS, TDS, Cl, BOD, NO3, NO2, Tot. Nitrogen 1000mL Plastic - None	TKN, Total P 250mL Plastic - H2SO4						COMMENTS
McLean & Douglas upstream	WW	N	5/20/11	0925	G	3			1	1	1		X	X	X						

Edits made prior to sample receipt MLS 5-20-11

Regulatory Program N=NPDES, R=RCRA, D=Drinking Water, SL=503 Sludge, O=Other

(Please note if non-standard turnaround. Rush & Emergency subject to additional charge)
Standard TAT: (15 working days) Rush TAT: (5 working days) Emergency TAT: (3 working days)

Matrix (Sample Type): DW=Drinking Water, GW=Ground Water, WW=Waste Water, W=Wipe, S=Solid/Soil, SL=Sludge, A=Air, OL = Oil/Organic Liquid, O=Other

RELINQUISHED BY:	DATE: 5/20/11	TIME: 1200	RECEIVED BY:	DATE:	TIME:
RELINQUISHED BY:	DATE:	TIME:	RECEIVED BY:	DATE:	TIME:
RECEIVED AT LAB BY: Marlin Stokes	DATE: 5-20-11	TIME: 1425	SHIPPED VIA: AIRBILL:	SEAL #: SEAL DATE:	

Continental's Standard Terms and Conditions of Sale will apply to all samples received unless a separate contractual agreement has been made.

Continental Analytical Services Cooler/Sample Receipt Form CAS Order No: 56074

Client Name: Wichita Sewage CAS File No.: 8339

Sample ID's in cooler: See COC

McLean & Waller

Cooler 1 of 1 for this CAS Order No.

Cooler Identification: CAS Cooler #: _____ Client's Cooler/Box/Letter/Hand Delivered
Other: _____

Date/Time Cooler Received: 5 / 20 / 11 14 : 15

Delivered By: UPS/FedX/AB Express/ASAP/Land Air Exp/Field Svcs/Mail/Walk-In/Other: _____

Custody Seal: Present: Intact / Broken Absent: X Seal No: _____

Seal Name: _____ Seal Date: _____

Seal matches Chain of Custody: Yes / No / N/A

Type of Packing Material: Blue Ice/Ice/Melted Ice/Bubble/Foam/Paper/Peanuts/Vermiculite/ None/Other: _____

Cooler Temperature (°C): Original Reading (°C) 1.1 Corrected Reading (°C) 1.4

Temp. By: Temp. Blank Surface: Glass/Plastic/Metal/Other: _____ Cooler

Thermo. ID No.: 585 Thermo. Correction Factor (°C): 0.3

☐ Evidence of Cooling: date received=date sampled

Sample Receipt Discrepancies: ☒ No ☐ *Yes (see below for discrepancies)*

Note: CAS will proceed with sample analyses, addressing each discrepancy as shown, until/unless directed otherwise by the client.

- ☐ Chain of Custody not present information taken from:
  - Cover Letter ☐ Container ☐
  - PO ☐ CAS Proj. Mgr. ☐
- ☐ Container label absent
- ☐ Chain of Custody incomplete [see detail below]
- ☐ Chain of Custody missing date/time sampled (excl. TB or Dup)
- ☐ Date or Time sampled obtained from container label
- ☐ Chain of Custody missing sampler's name
- ☐ Chain of Custody missing matrix (sample type)
- ☐ Missing relinquished information: signature date time
- ☐ Sample excluded from Chain of Custody
- ☐ Sample listed on Chain of Custody, not received
- ☐ Sample description on container and Chain of Custody do not agree
- ☐ Air bubbles in Aqueous VOA vials larger than pea-size [approx. 6 mm]
- ☐ Cooler temperature exceeded 0.1 - 6.0 °C requirement [Do not mark if samples do not require cooling to 0.1 - 6.0 °C.]
- ☐ Broken or leaking containers (detail actions below)
- ☐ Sample container type or labeled chemical preservation inappropriate
- ☐ Other discrepancies: _____

Detail to discrepancies/comments:

Completed by: MKJ Date Completed: 5-20-11

Continental Analytical Services, Inc.

06/06/2011

City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date and Time Received: 05/20/2011 14:15
Continental File No.: 8339
Continental Order No.: 56075
Project ID: Stormwater

Dear Mr. Hardesty:

This laboratory report containing the samples indicated below, includes 9 pages for the analytical report, 1 page(s) for the chain of custody and/or analysis request, and 1 page(s) for the sample receipt form.

CAS LAB ID #	SAMPLE DESCRIPTION	SAMPLE TYPE	DATE SAMPLED
11052002	McLean & Walker - Grab	Liquid	5/20/2011
11052003	McLean & Walker - Composite	Liquid	5/20/2011

The Appendix and Quality Control sections are integral parts of this laboratory report and may contain important data qualifiers.

All results are reported on a wet weight basis unless otherwise stated.

Samples will be retained for thirty days unless Continental is otherwise notified.

Continental is accredited by the State of Kansas through the National Environmental Laboratory Accreditation Program (NELAP). The results contained in this report were obtained using Continental's Standard Operating Procedures. These procedures are in substantial compliance with the approved methods referenced and the standards published by NELAP unless otherwise noted in the Appendix and Quality Control sections of this report.

This report may not be reproduced, except in full, without written approval from Continental Analytical Services, Inc.

Thank you for choosing Continental for this project. If you have any questions please contact me at (800)535-3076.

CONTINENTAL ANALYTICAL SERVICES, INC.

Clifford J. Baker
Technical Manager

Gregory J. Groene
Project Manager

525 N. Eighth St. - P.O. Box 3737 - Salina, KS 67402-3737
785-827-1273 800-535-3076 Fax 785-823-7830

...al Laboratory Accreditation No. E-10146

Continental Analytical Services, Inc.

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Sample Rptd: 06/06/2011
Date Sample Recd: 05/20/2011
Continental File No: 8339
Continental Order No: 56075

Lab Number: 11052002
Sample Description: McLean & Walker - Grab

Date Sampled: 05/20/2011
Time Sampled: 0920

Analysis	Concentration	Units	Book/Page
Cadmium, Dissolved, ICP-MS	ND(1) DM	µg/L	7127/15
Cadmium, Tot. Rec., ICP-MS	2	µg/L	7127/15
Copper, Dissolved, ICP-MS	10 DM	µg/L	7127/15
Copper, Tot. Rec., ICP-MS	21	µg/L	7127/15
Hardness (Calculated)	51.4	mg/L as CaCO3	7143/1
Zinc, Dissolved, ICP-MS	41 DM	µg/L	7127/17
Zinc, Tot. Rec., ICP-MS	148	µg/L	7127/17
Chloride	4.0	mg/L	7129/20
Hexane Extractable Material	ND(5.0)	mg/L	7094/11
Solids, Total Dissolved	68	mg/L	7059/233
Solids, Total Suspended	55	mg/L	7059/240

Analysis	Date Prepared	Date Analyzed	QC Batch	Inst. Batch	Analyst	Method(s)
Cadmium, Dissolved, ICP-MS	05/23/11 1128	05/26/11 1706	110523-3	2IP3146	KMW	200.8 Rev. 5.4
Cadmium, Tot. Rec., ICP-MS	05/24/11 0759	05/26/11 1944	110524-1	5IP3146	KMW	200.8 Rev. 5.4
Copper, Dissolved, ICP-MS	05/23/11 1128	05/26/11 1706	110523-3	2IP3146	KMW	200.8 Rev. 5.4
Copper, Tot. Rec., ICP-MS	05/24/11 0759	05/26/11 1944	110524-1	5IP3146	KMW	200.8 Rev. 5.4
Hardness (Calculated)	05/24/11 1236	06/01/11 1437	110524-6	5IP4152	KMW	200.7 & SM 2340
Zinc, Dissolved, ICP-MS	05/23/11 1128	06/03/11 1516	110523-3	1IP3154	JDL	200.8 Rev. 5.4
Zinc, Tot. Rec., ICP-MS	05/24/11 0759	06/03/11 1639	110524-1	2IP3154	JDL	200.8 Rev. 5.4
Chloride	N/A	05/31/11 1858	1IC1151	2IC1151	MLL	300.0
Hexane Extractable Materia	05/27/11	05/27/11 0830	110527-1	110527-1	JND	1664
Solids, Total Dissolved	N/A	05/25/11 1556	110525-1	110525-1	KJH	SM20th 2540C
Solids, Total Suspended	N/A	05/27/11 1813	110527-2	110527-2	KJH	SM20th 2540D
Dissolved Metals Preparation Method						200.7/200.8
Total Recoverable Metals Preparation Method						200.7/200.8
Calculated as Hardness Preparation Method						200.7/6010B
HEM Preparation Method						1664

Conclusion of Lab Number: 11052002

Continental Analytical Services, Inc.

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Sample Rptd: 06/06/2011
Date Sample Recd: 05/20/2011
Continental File No: 8339
Continental Order No: 56075

Lab Number: 11052003
Sample Description: McLean & Walker - Composite

Date Sampled: 05/20/2011
Time Sampled: 0920

Analysis	Concentration	Units	Book/Page
Cadmium, Dissolved, ICP-MS	ND(1) DM	µg/L	7127/15
Cadmium, Tot. Rec., ICP-MS	2	µg/L	7127/15
Copper, Dissolved, ICP-MS	18 DM	µg/L	7127/15
Copper, Tot. Rec., ICP-MS	22	µg/L	7127/15
Hardness (Calculated)	51.0	mg/L as CaCO3	7143/1
Zinc, Dissolved, ICP-MS	39 DM	µg/L	7127/17
Zinc, Tot. Rec., ICP-MS	157	µg/L	7127/17
BOD	5	mg/L	7060/118
Chloride	4.3	mg/L	7129/14
Kjeldahl Nitrogen, as N	1	mg/L	7043/46
Nitrate, as N	0.9	mg/L	7129/14
Nitrite, as N	ND(0.1)	mg/L	7129/14
Nitrogen (TKN + NO3/NO2), as N	1.9	mg/L	9999/7
Phosphorus, Total, as P	0.22	mg/L	7061/92
Solids, Total Dissolved	80.	mg/L	7059/233
Solids, Total Suspended	49	mg/L	7059/240

Analysis	Date Prepared	Date Analyzed	QC Batch	Inst. Batch	Analyst	Method(s)
Cadmium, Dissolved, ICP-MS	05/23/11 1128	05/26/11 1711	110523-3	2IP3146	KMW	200.8 Rev. 5.4
Cadmium, Tot. Rec., ICP-MS	05/24/11 0759	05/26/11 1949	110524-1	5IP3146	KMW	200.8 Rev. 5.4
Copper, Dissolved, ICP-MS	05/23/11 1128	05/26/11 1711	110523-3	2IP3146	KMW	200.8 Rev. 5.4
Copper, Tot. Rec., ICP-MS	05/24/11 0759	05/26/11 1949	110524-1	5IP3146	KMW	200.8 Rev. 5.4
Hardness (Calculated)	05/24/11 1236	06/01/11 1441	110524-6	5IP4152	KMW	200.7 & SM 2340
Zinc, Dissolved, ICP-MS	05/23/11 1128	06/03/11 1521	110523-3	1IP3154	JDL	200.8 Rev. 5.4
Zinc, Tot. Rec., ICP-MS	05/24/11 0759	06/03/11 1645	110524-1	2IP3154	JDL	200.8 Rev. 5.4
BOD	N/A	05/20/11 2030	110520-2	110520-3	ASK	SM 5210B
Chloride	N/A	05/21/11 0305	3IC1140	7IC1140	MLL	300.0
Kjeldahl Nitrogen, as N	N/A	05/27/11 1353	110527-1	110527-2	JND	4500N(C) & (E)
Nitrate, as N	N/A	05/21/11 0305	3IC1140	7IC1140	MLL	300.0
Nitrite, as N	N/A	05/21/11 0305	3IC1140	7IC1140	MLL	300.0
Nitrogen (TKN + NO3/NO2),	N/A	06/06/11				Calculation
Phosphorus, Total, as P	N/A	05/27/11 1649	110527-1	110527-2	KJH	SM 4500-P(B&F)
Solids, Total Dissolved	N/A	05/25/11 1556	110525-1	110525-1	KJH	SM20th 2540C
Solids, Total Suspended	N/A	05/27/11 1813	110527-2	110527-2	KJH	SM20th 2540D
Dissolved Metals Preparation Method						200.7/200.8
Total Recoverable Metals Preparation Method						200.7/200.8
Calculated as Hardness Preparation Method						200.7/6010B

Conclusion of Lab Number: 11052003

Continental Analytical Services, Inc.

APPENDIX

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Sample Rptd: 06/06/2011
Date Sample Recd: 05/20/2011
Continental File No: 8339
Continental Order No: 56075

ND(), where reported, indicates the analyte was not detected above the limit of quantitation (LOQ). The concentration of the limit of quantitation is inside the parentheses.

All samples which require cooling were received at a temperature of less than 6 degrees Celsius.

The following table presents the date and time sampled, the date and time analyzed, and the total time elapsed for each analysis with an EPA recommended holding time of seventy-two hours or less.

CAS LAB ID #	ANALYSIS	DATE/TIME SAMPLED	DATE/TIME ANALYZED	ELAPSED HRS:MIN
11052003	BOD	05/20/2011 0920	05/20/2011 2030	11:10
11052003	Nitrate, as N	05/20/2011 0920	05/21/2011 0305	17:45
11052003	Nitrite, as N	05/20/2011 0920	05/21/2011 0305	17:45

DM - NPDES requirements specify that dissolved metals and orthophosphate must be filtered within 15 minutes of the time of collection. This analysis did not meet these criteria.

Continental Analytical Services, Inc.

Date: 06/06/2011

Continental Analytical Services, Inc.
Accreditation Summary Report

Client: City of Wichita
CAS Order Number: 56075

NELAP accreditation is issued under each EPA regulatory program for a given matrix/analyte/method combination. Continental is NELAP accredited for each matrix/analyte/method and EPA program cited in this Laboratory Report, except for those listed in the table below and analysis performed in the field. For most of the analyses listed in the table, NELAP accreditation is not offered under the listed EPA program and Continental is NELAP accredited for the analysis, using the same analytical technology, but under a different EPA program. Continental's full NELAP accreditation status may be viewed at www.kdheks.gov/envlab. Note that unless qualified otherwise in the Laboratory Report, Continental performs all analyses, including each analysis listed in the table below, utilizing NELAP protocol.

Test	Analysis	Matrix-Regulatory Program	Method	CAS NELAP Accredited in Other Reg. Program
GL343	Nitrogen (TKN + NO3/NO2), as N	L-NPDES	Calculation	N

Continental Analytical Services, Inc.

Quality Control Report
Batch Summary

Date Reported: 06/06/2011
Date Sample Received: 05/20/2011
Continental File No: 8339
Continental Order No: 56075

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Test	Testname	QC Batch	Method Blank	LCS	MS Lab No.
SL156	Cadmium, Dissolved, ICP-MS	110523-3	110523BLK3	110523LCS3	11052011MS
SL162	Copper, Dissolved, ICP-MS	110523-3	110523BLK3	110523LCS3	11052011MS
SL183	Zinc, Dissolved, ICP-MS	110523-3	110523BLK3	110523LCS3	11052011MS
Lab numbers associated with this batch: 11052002 11052003					
SL006	Cadmium, Tot. Rec., ICP-MS	110524-1	110524BLK1	110524LCS1	11052012MS
SL012	Copper, Tot. Rec., ICP-MS	110524-1	110524BLK1	110524LCS1	11052012MS
SL033	Zinc, Tot. Rec., ICP-MS	110524-1	110524BLK1	110524LCS1	11052012MS
Lab numbers associated with this batch: 11052002 11052003					
SL323	Hardness (Calculated)	110524-6	110524BLK6	110524LCS6	11052012MS
Lab numbers associated with this batch: 11052002 11052003					
GL123	BOD	110520-2	110520BLK2	110520LCS2	11051795MS
Lab numbers associated with this batch: 11052003					
GL502	Chloride	1IC1151	BLK1IC1151	LCS1IC1151	11052289MS
Lab numbers associated with this batch: 11052002					
GL502	Chloride	3IC1140	BLK3IC1140	LCS3IC1140	11051141MS
Lab numbers associated with this batch: 11052003					
GL188	Hexane Extractable Material	110527-1	110527BLK1	110527LCS1	11051279MS
Lab numbers associated with this batch: 11052002					
GL195	Kjeldahl Nitrogen, as N	110527-1	110527BLK1	110527LCS1	11052247MS
Lab numbers associated with this batch: 11052003					
GL505	Nitrate, as N	3IC1140	BLK3IC1140	LCS3IC1140	
GL503	Nitrite, as N	3IC1140	BLK3IC1140	LCS3IC1140	
Lab numbers associated with this batch: 11052003					

Continental Analytical Services, Inc.

Quality Control Report
Batch Summary

Date Reported: 06/06/2011
Date Sample Received: 05/20/2011
Continental File No: 8339
Continental Order No: 56075

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Test	Testname	QC Batch	Method Blank	LCS	MS Lab No.
GL343	Nitrogen (TKN + NO3/NO2), as N				
Lab numbers associated with this batch: 11052003					
GL218	Phosphorus, Total, as P	110527-1	110527BLK1	110527LCS1	11051671MS
Lab numbers associated with this batch: 11052003					
GL242	Solids, Total Dissolved	110525-1	110525BLK1	110525LCS1	11051509MS
Lab numbers associated with this batch: 11052002 11052003					
GL243	Solids, Total Suspended	110527-2	110527BLK2	110527LCS2	11052002MS
Lab numbers associated with this batch: 11052002 11052003					

Continental Analytical Services, Inc.

Quality Control Report
Method Blank, LCS, MS/MSD Data

Date Reported: 06/06/2011
Date Sample Received: 05/20/2011
Continental File No: 8339
Continental Order No: 56075

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Analysis	Blank Data	% Rec LCS	Limits	Spike Level	Units	Spiked Sample (% Recovery) MS	MSD	Limits	Spike Level	Units	Spiked Sample Precision Data RPD	Limit
QC Batch: 110520-2	For sample analyzed on: 05/20/2011					Spiked sample: 11051795						
BOD	ND(5)	91.0	70.5-110	198	mg/L	MN	MN	#		mg/L	**	13.2
QC Batch: 110523-3	For samples prepared on: 05/23/2011					Spiked sample: 11052011						
Cadmium, Dissolved, ICP-MS	ND(1)	98.4	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
Copper, Dissolved, ICP-MS	ND(5)	93.5	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
Zinc, Dissolved, ICP-MS	ND(20)	96.6	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
Zinc, Dissolved, ICP-MS	ND(20)	96.9	85.0-115	500	µg/L	MN	MN	80.0-120			**	20.0
QC Batch: 110524-1	For samples prepared on: 05/24/2011					Spiked sample: 11052012						
Cadmium, Tot. Rec., ICP-MS	ND(1)	100.	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
Copper, Tot. Rec., ICP-MS	ND(5)	95.0	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
Zinc, Tot. Rec., ICP-MS	ND(20)	98.6	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
QC Batch: 110524-6	For samples prepared on: 05/24/2011					Spiked sample: 11052012						
Hardness (Calculated)	ND(5.0)	91.2	80.0-120	337	mg/L a	MN	MN	80.0-120	337	mg/L as	**	20.0
QC Batch: 110525-1	For sample analyzed on: 05/25/2011					Spiked sample: 11051509						
Solids, Total Dissolved	ND(30)	N/A			mg/L	MN	MN	#		mg/L	**	5.2
QC Batch: 110527-1	For samples prepared on: 05/27/2011					Spiked sample: 11051279						
Hexane Extractable Material	ND(1.4)	86.0	78.0-114	40.0	mg/L	MN	MN	78.0-114	40.0	mg/L	**	18.0
QC Batch: 110527-1	For sample analyzed on: 05/27/2011					Spiked sample: 11051672						
Phosphorus, Total, as P	ND(0.20)	102	90.0-110	1.0	mg/L	MN	MN	71.2-135	1.0	mg/L	**	21.2
QC Batch: 110527-1	For sample analyzed on: 05/27/2011					Spiked sample: 11052247						
Kjeldahl Nitrogen, as N	ND(1)	98.0	90.0-110	20.0	mg/L	MN	MN	75.0-112	20.0	mg/L	**	17.4
QC Batch: 110527-2	For sample analyzed on: 05/27/2011					Spiked sample: 11052002						
Solids, Total Suspended	ND(5)	N/A			mg/L	55 T	55 T	#		mg/L	0.0	18.2
QC Batch: 11C1151	For sample analyzed on: 05/31/2011					Spiked sample: 11052289						
Chloride	ND(1.0)	104	90.0-110	4.0	mg/L	MN	MN	82.1-126	80.0	mg/L	**	12.5
QC Batch: 3IC1140	For sample analyzed on: 05/21/2011					Spiked sample:						
Nitrite, as N	ND(0.1)	98.5	90.0-110	2.0	mg/L	MN	MN	78.5-127			**	10.1
Nitrate, as N	ND(0.1)	98.0	90.0-110	2.0	mg/L	MN	MN	79.3-118			**	12.1
QC Batch: 3IC1140	For sample analyzed on: 05/21/2011					Spiked sample: 11051141						
Chloride	ND(1.0)	99.8	90.0-110	4.0	mg/L	MN	MN	82.1-126	400	mg/L	**	12.5

Data Qualifiers:

MN - The MS/MSD sample analyses were not performed on a sample from this Continental order number.

N/A - Not Applicable

T - MS/MSD cannot be performed for this analysis. The MS result is the same as the sample result. The MSD result is a duplicate of the sample.

- Limits not available.

** - RPD cannot be calculated.

Continental Analytical Services, Inc.

Quality Control Report

Continuing Calibration Verification Data Summary

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Reported: 06/06/2011
Date Sample Received: 05/20/2011
Continental File No: 8339
Continental Order No: 56075

Analysis	Date of Analysis	Instrument Batch ID	Amount in Standard	Amount Detected	Units	Percent Recovery
Cadmium, Dissolved, ICP-MS	05/26/2011	2IP3146	CCV recovery acceptable for this Instrument Batch.			
Cadmium, Dissolved, ICP-MS	05/26/2011	3IP3146	CCV recovery acceptable for this Instrument Batch.			
Cadmium, Tot. Rec., ICP-MS	05/26/2011	5IP3146	CCV recovery acceptable for this Instrument Batch.			
Cadmium, Tot. Rec., ICP-MS	05/26/2011	6IP3146	CCV recovery acceptable for this Instrument Batch.			
Copper, Dissolved, ICP-MS	05/26/2011	2IP3146	CCV recovery acceptable for this Instrument Batch.			
Copper, Dissolved, ICP-MS	05/26/2011	3IP3146	CCV recovery acceptable for this Instrument Batch.			
Copper, Tot. Rec., ICP-MS	05/26/2011	5IP3146	CCV recovery acceptable for this Instrument Batch.			
Copper, Tot. Rec., ICP-MS	05/26/2011	6IP3146	CCV recovery acceptable for this Instrument Batch.			
BOD	05/20/2011	110520-3	CCV recovery acceptable for this Instrument Batch.			
BOD	05/20/2011	110520-4	CCV recovery acceptable for this Instrument Batch.			
Hexane Extractable Material	05/27/2011	110527-1	CCV recovery acceptable for this Instrument Batch.			
Hexane Extractable Material	05/27/2011	110527-2	CCV recovery acceptable for this Instrument Batch.			
Kjeldahl Nitrogen, as N	05/27/2011	110527-2	CCV recovery acceptable for this Instrument Batch.			
Kjeldahl Nitrogen, as N	05/27/2011	110527-3	CCV recovery acceptable for this Instrument Batch.			
Phosphorus, Total, as P	05/27/2011	110527-2	CCV recovery acceptable for this Instrument Batch.			
Phosphorus, Total, as P	05/27/2011	110527-3	CCV recovery acceptable for this Instrument Batch.			
Chloride	05/21/2011	7IC1140	CCV recovery acceptable for this Instrument Batch.			
Chloride	05/21/2011	8IC1140	CCV recovery acceptable for this Instrument Batch.			
Chloride	05/31/2011	2IC1151	CCV recovery acceptable for this Instrument Batch.			
Chloride	05/31/2011	3IC1151	CCV recovery acceptable for this Instrument Batch.			
Nitrite, as N	05/21/2011	7IC1140	CCV recovery acceptable for this Instrument Batch.			
Nitrite, as N	05/21/2011	8IC1140	CCV recovery acceptable for this Instrument Batch.			
Nitrate, as N	05/21/2011	7IC1140	CCV recovery acceptable for this Instrument Batch.			
Nitrate, as N	05/21/2011	8IC1140	CCV recovery acceptable for this Instrument Batch.			
Hardness (Calculated)	06/01/2011	5IP4152	CCV recovery acceptable for this Instrument Batch.			
Hardness (Calculated)	06/01/2011	6IP4152	CCV recovery acceptable for this Instrument Batch.			
Zinc, Dissolved, ICP-MS	06/03/2011	1IP3154	CCV recovery acceptable for this Instrument Batch.			
Zinc, Dissolved, ICP-MS	06/03/2011	2IP3154	CCV recovery acceptable for this Instrument Batch.			
Zinc, Tot. Rec., ICP-MS	06/03/2011	2IP3154	CCV recovery acceptable for this Instrument Batch.			
Zinc, Tot. Rec., ICP-MS	06/03/2011	3IP3154	CCV recovery acceptable for this Instrument Batch.			

- Laboratory Report Conclusion -

Continental Analytical Services, Inc.

525 N. 8th Street, Salina, KS 67401
(785)827-1273 (800)535-3076 Fax (785)823-7830
www.cas-lab.com

CHAIN OF CUSTODY RECORD

Continental Shipping Order Number: _____

Client/Reporting Information			Invoice Information		
Company Name: ity of Wichita Sewage Treatment			Company Name: City of Wichita Sewage Treatment		
ddress: 305 E. 57th Street South			Address: 2305 E. 57th Street South		
ity: Vichita	State: KS	Zip: 67216	City: Wichita	State: KS	Zip: 67216
ontact: m Hardesty	E-mail:		Contact: Jim Hardesty	E-mail:	
one Number: 16)303-8700	Fax Number: (316)303-8712		Phone Number: (316)303-8700	Fax Number: (316)303-8712	
ampler's Name:(Printed) Justin Murphy	Sampler's Name:(Signature)		Purchase Order Number:		
ile Number: 535	Project Name: Stormwater				

Edits made prior to sample receipt MW 5-20-11

SAMPLE IDENTIFICATION (30 Characters or less)	Matrix (Sample Type)	Regulatory Program	Date Sampled	Time Sampled	C Composite G Grab	Total Containers	Number of Preserved Bottles: HCL	NaOH	HNO3	H2SO4	NONE	OTHER:	Cadmium, Copper, Zinc - Total Recoverable 250ml Plastic - HNO3	Cadmium, Copper, Zinc - Dissolved, Hardness, TSS TDS, Cl 1000ml Plastic - None	Hexane Extractable Material 2 - 1000ml Amber Glass - H2SO4	Total Metals, Dissolved Metals, Hardness, TSS, TDS, Cl, BOD, TKN, Total P, NO3, NO2, Tot. Nitrogen Large Carboy					COMMENTS
0331-Grab mclean & walker	WW	N	5/20/11	0920	G	4			1	2	1		X	X	X						5 Gal. Container to be poured off at lab
0331 Composite mclean & walker	WW	N	5/20/11	0920	C	1					1					X					as needed for required tests.
																					Remaining volume will be saved for
																					for organics if needed.

(Please note if non-standard turnaround. Rush & Emergency subject to additional charge)
Standard TAT: (15 working days) Rush TAT: (5 working days) Emergency TAT: (3 working days)

egulatory Program N=NPDES, R=RCRA, D=Drinking Water, SL=503 Sludge, O=Other

latrix (Sample Type): DW=Drinking Water, GW=Ground Water, WW=Waste Water, W=Wipe, S=Solid/Soil, SL=Sludge, A=Air, OL = Oil/Organic Liquid, O=Other

LINQUISHED BY:	DATE: 5/20/11	TIME: 1200	RECEIVED BY:	DATE:	TIME:
LINQUISHED BY:	DATE:	TIME:	RECEIVED BY:	DATE:	TIME:
CEIVED AT LAB BY: Mark Stafford	DATE: 5-20-11	TIME: 1425	SHIPPED VIA: / AIRBILL:	SEAL #: / SEAL DATE:	

Continental's Standard Terms and Conditions of Sale will apply to all samples received unless a separate contractual agreement has been made.

Continental Analytical Services Cooler/Sample Receipt Form

CAS Order No. S6075

Client Name: Wichita Sewage

CAS File No.: 8339

Sample ID's in cooler: See COC

Mclean & Walker

Cooler 1 of 1 for this CAS Order No.

Cooler Identification: CAS Cooler #: _____ Client's Cooler/Box/Letter/Hand Delivered

Other: _____

Date/Time Cooler Received: 5 / 20 / 11 14:15

Delivered By: UPS/FedX/AB Express/ASAP/Land Air Exp/Field Svcs/Mail/Walk-In/Other: _____

Custody Seal: Present: Intact / Broken Absent: X Seal No: _____

Seal Name: _____ Seal Date: _____

Seal matches Chain of Custody: Yes / No / NA

Type of Packing Material: Blue Ice/Ice/Melted Ice/Bubble/Foam/Paper/Peanuts/Vermiculite/ None/Other: _____

Cooler Temperature (°C): Original Reading (°C) 1.1 Corrected Reading (°C) 1.4

Temp. By: Temp. Blank Surface: Glass/Plastic/Metal/Other: _____ Cooler

Thermo. ID No.: 585 Thermo. Correction Factor (°C): 0.3

☐ Evidence of Cooling: date received=date sampled

Sample Receipt Discrepancies: ☒ No ☐ *Yes (see below for discrepancies)*

Note: CAS will proceed with sample analyses, addressing each discrepancy as shown, until/unless directed otherwise by the client.

- ☐ Chain of Custody not present information taken from:
  - Cover Letter ☐ Container ☐
  - PO ☐ CAS Proj. Mgr. ☐
- ☐ Container label absent
- ☐ Chain of Custody incomplete [see detail below]
- ☐ Chain of Custody missing date/time sampled (excl. TB or Dup)
- ☐ Date or Time sampled obtained from container label
- ☐ Chain of Custody missing sampler's name
- ☐ Chain of Custody missing matrix (sample type)
- ☐ Missing relinquished information: signature date time
- ☐ Sample excluded from Chain of Custody
- ☐ Sample listed on Chain of Custody, not received
- ☐ Sample description on container and Chain of Custody do not agree
- ☐ Air bubbles in Aqueous VOA vials larger than pea-size [approx. 6 mm]
- ☐ Cooler temperature exceeded 0.1 - 6.0 °C requirement [Do not mark if samples do not require cooling to 0.1 - 6.0 °C.]
- ☐ Broken or leaking containers (detail actions below)
- ☐ Sample container type or labeled chemical preservation inappropriate
- ☐ Other discrepancies: _____

Detail to discrepancies/comments:

Date Completed: 5-20-11

Continental
Analytical Services, Inc.

06/06/2011

City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date and Time Received: 05/20/2011 14:15
Continental File No.: 8339
Continental Order No.: 56076
Project ID: SW-UPSTREAM

Dear Mr. Hardesty:

This laboratory report containing the samples indicated below, includes 8 pages for the analytical report, 1 page(s) for the chain of custody and/or analysis request, and 1 page(s) for the sample receipt form.

CAS LAB ID #	SAMPLE DESCRIPTION	SAMPLE TYPE	DATE SAMPLED
11052004	Huntington & Armour Upstream	Liquid	5/20/2011

The Appendix and Quality Control sections are integral parts of this laboratory report and may contain important data qualifiers.

All results are reported on a wet weight basis unless otherwise stated.

Samples will be retained for thirty days unless Continental is otherwise notified.

Continental is accredited by the State of Kansas through the National Environmental Laboratory Accreditation Program (NELAP). The results contained in this report were obtained using Continental's Standard Operating Procedures. These procedures are in substantial compliance with the approved methods referenced and the standards published by NELAP unless otherwise noted in the Appendix and Quality Control sections of this report.

This report may not be reproduced, except in full, without written approval from Continental Analytical Services, Inc.

Thank you for choosing Continental for this project. If you have any questions please contact me at (800)535-3076.

CONTINENTAL ANALYTICAL SERVICES, INC.

Clifford J. Baker
Technical Manager

Gregory J. Groene
Project Manager

525 N. Eighth St. - P.O. Box 3737 - Salina, KS 67402-3737
785-827-1273 800-535-3076 Fax 785-823-7830

KDHE Environmental Laboratory Accreditation No. E-10146

Continental Analytical Services, Inc.

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Sample Rptd: 06/06/2011
Date Sample Recd: 05/20/2011
Continental File No: 8339
Continental Order No: 56076

Lab Number: 11052004
Sample Description: Huntington & Armour Upstream

Date Sampled: 05/20/2011
Time Sampled: 0835

Analysis	Concentration	Units	Book/Page
Cadmium, Dissolved, ICP-MS	ND(1) DM	µg/L	7127/15
Cadmium, Tot. Rec., ICP-MS	ND(1)	µg/L	7127/15
Copper, Dissolved, ICP-MS	7 DM	µg/L	7127/15
Copper, Tot. Rec., ICP-MS	12	µg/L	7127/15
Hardness (Calculated)	31	mg/L as CaCO3	7143/1
Zinc, Dissolved, ICP-MS	ND(20) DM	µg/L	7127/15
Zinc, Tot. Rec., ICP-MS	50.	µg/L	7127/17
BOD	ND(5)	mg/L	7060/118
Chloride	6.8	mg/L	7129/14
Kjeldahl Nitrogen, as N	1	mg/L	7043/46
Nitrate, as N	0.4	mg/L	7129/14
Nitrite, as N	ND(0.1)	mg/L	7129/14
Nitrogen (TKN + NO3/NO2), as N	1.4	mg/L	9999/7
Phosphorus, Total, as P	ND(0.20)	mg/L	7061/92
Solids, Total Dissolved	88	mg/L	7059/233
Solids, Total Suspended	32	mg/L	7059/240

Analysis	Date Prepared	Date Analyzed	QC Batch	Inst. Batch	Analyst	Method(s)
Cadmium, Dissolved, ICP-MS	05/23/11 1128	05/26/11 1727	110523-3	3IP3146	KMW	200.8 Rev. 5.4
Cadmium, Tot. Rec., ICP-MS	05/24/11 0759	05/26/11 1954	110524-1	5IP3146	KMW	200.8 Rev. 5.4
Copper, Dissolved, ICP-MS	05/23/11 1128	05/26/11 1727	110523-3	3IP3146	KMW	200.8 Rev. 5.4
Copper, Tot. Rec., ICP-MS	05/24/11 0759	05/26/11 1954	110524-1	5IP3146	KMW	200.8 Rev. 5.4
Hardness (Calculated)	05/24/11 1236	06/01/11 1445	110524-6	5IP4152	KMW	200.7 & SM 2340B
Zinc, Dissolved, ICP-MS	05/23/11 1128	05/26/11 1727	110523-3	3IP3146	KMW	200.8 Rev. 5.4
Zinc, Tot. Rec., ICP-MS	05/24/11 0759	06/03/11 1650	110524-1	2IP3154	JDL	200.8 Rev. 5.4
BOD	N/A	05/20/11 2030	110520-2	110520-3	ASK	SM 5210B
Chloride	N/A	05/21/11 0331	3IC1140	7IC1140	MLL	300.0
Kjeldahl Nitrogen, as N	N/A	05/27/11 1353	110527-1	110527-2	JND	4500N(C) & (E)
Nitrate, as N	N/A	05/21/11 0331	3IC1140	7IC1140	MLL	300.0
Nitrite, as N	N/A	05/21/11 0331	3IC1140	7IC1140	MLL	300.0
Nitrogen (TKN + NO3/NO2),	N/A	06/06/11				Calculation
Phosphorus, Total, as P	N/A	05/27/11 1649	110527-1	110527-2	KJH	SM 4500-P(B&F)(M
Solids, Total Dissolved	N/A	05/25/11 1556	110525-1	110525-1	KJH	SM20th 2540C
Solids, Total Suspended	N/A	05/27/11 1814	110527-2	110527-2	KJH	SM20th 2540D
Dissolved Metals Preparation Method						200.7/200.8
Total Recoverable Metals Preparation Method						200.7/200.8
Calculated as Hardness Preparation Method						200.7/6010B

Conclusion of Lab Number: 11052004

Continental Analytical Services, Inc.

APPENDIX

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Sample Rptd: 06/06/2011
Date Sample Recd: 05/20/2011
Continental File No: 8339
Continental Order No: 56076

ND(), where reported, indicates the analyte was not detected above the limit of quantitation (LOQ). The concentration of the limit of quantitation is inside the parentheses.

All samples which require cooling were received at a temperature of less than 6 degrees Celsius.

The following table presents the date and time sampled, the date and time analyzed, and the total time elapsed for each analysis with an EPA recommended holding time of seventy-two hours or less.

CAS LAB ID #	ANALYSIS	DATE/TIME SAMPLED	DATE/TIME ANALYZED	ELAPSED HRS:MIN
11052004	BOD	05/20/2011 0835	05/20/2011 2030	11:55
11052004	Nitrate, as N	05/20/2011 0835	05/21/2011 0331	18:56
11052004	Nitrite, as N	05/20/2011 0835	05/21/2011 0331	18:56

DM - NPDES requirements specify that dissolved metals and orthophosphate must be filtered within 15 minutes of the time of collection. This analysis did not meet these criteria.

Continental Analytical Services, Inc.

Continental Analytical Services, Inc.
Accreditation Summary Report

Client: City of Wichita
CAS Order Number: 56076

NELAP accreditation is issued under each EPA regulatory program for a given matrix/analyte/method combination. Continental is NELAP accredited for each matrix/analyte/method and EPA program cited in this Laboratory Report, except for those listed in the table below and analysis performed in the field. For most of the analyses listed in the table, NELAP accreditation is not offered under the listed EPA program and Continental is NELAP accredited for the analysis, using the same analytical technology, but under a different EPA program. Continental's full NELAP accreditation status may be viewed at www.kdheks.gov/envlab. Note that unless qualified otherwise in the Laboratory Report, Continental performs all analyses, including each analysis listed in the table below, utilizing NELAP protocol.

Test	Analysis	Matrix-Regulatory Program	Method	CAS NELAP Accredited in Other Reg. Program
GL343	Nitrogen (TKN + NO3/NO2), as N	L-NPDES	Calculation	N

Continental Analytical Services, Inc.

Quality Control Report
Batch Summary

Date Reported: 06/06/2011
Date Sample Received: 05/20/2011
Continental File No: 8339
Continental Order No: 56076

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Test	Testname	QC Batch	Method Blank	LCS	MS Lab No.
SL156	Cadmium, Dissolved, ICP-MS	110523-3	110523BLK3	110523LCS3	11052011MS
SL162	Copper, Dissolved, ICP-MS	110523-3	110523BLK3	110523LCS3	11052011MS
SL183	Zinc, Dissolved, ICP-MS	110523-3	110523BLK3	110523LCS3	11052011MS
Lab numbers associated with this batch: 11052004					
SL006	Cadmium, Tot. Rec., ICP-MS	110524-1	110524BLK1	110524LCS1	11052012MS
SL012	Copper, Tot. Rec., ICP-MS	110524-1	110524BLK1	110524LCS1	11052012MS
SL033	Zinc, Tot. Rec., ICP-MS	110524-1	110524BLK1	110524LCS1	11052012MS
Lab numbers associated with this batch: 11052004					
SL323	Hardness (Calculated)	110524-6	110524BLK6	110524LCS6	11052012MS
Lab numbers associated with this batch: 11052004					
GL123	BOD	110520-2	110520BLK2	110520LCS2	11051795MS
Lab numbers associated with this batch: 11052004					
GL502	Chloride	3IC1140	BLK3IC1140	LCS3IC1140	11051141MS
Lab numbers associated with this batch: 11052004					
GL195	Kjeldahl Nitrogen, as N	110527-1	110527BLK1	110527LCS1	11052247MS
Lab numbers associated with this batch: 11052004					
GL505	Nitrate, as N	3IC1140	BLK3IC1140	LCS3IC1140	
GL503	Nitrite, as N	3IC1140	BLK3IC1140	LCS3IC1140	
Lab numbers associated with this batch: 11052004					
GL343	Nitrogen (TKN + NO3/NO2), as N				
Lab numbers associated with this batch: 11052004					
GL218	Phosphorus, Total, as P	110527-1	110527BLK1	110527LCS1	11051671MS
Lab numbers associated with this batch: 11052004					

Continental Analytical Services, Inc.

Quality Control Report
Batch Summary

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Page: 6
Date Reported: 06/06/2011
Date Sample Received: 05/20/2011
Continental File No: 8339
Continental Order No: 56076

Test	Testname	QC Batch	Method Blank	LCS	MS Lab No.
GL242	Solids, Total Dissolved	110525-1	110525BLK1	110525LCS1	11051509MS
Lab numbers associated with this batch: 11052004					
GL243	Solids, Total Suspended	110527-2	110527BLK2	110527LCS2	11052002MS
Lab numbers associated with this batch: 11052004					

Continental Analytical Services, Inc.

Quality Control Report
Method Blank, LCS, MS/MSD Data

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Reported: 06/06/2011
Date Sample Received: 05/20/2011
Continental File No: 8339
Continental Order No: 56076

Analysis	Blank Data	% Rec LCS	Limits	Spike Level	Units	Spiked Sample (% Recovery) MS	MSD	Limits	Spike Level	Units	Spiked Sample Precision Data RPD	Limit
QC Batch: 110520-2	For sample analyzed on: 05/20/2011					Spiked sample: 11051795						
BOD	ND(5)	91.0	70.5-110	198	mg/L	MN	MN	#		mg/L	**	13.2
QC Batch: 110523-3	For samples prepared on: 05/23/2011					Spiked sample: 11052011						
Cadmium, Dissolved, ICP-MS	ND(1)	98.4	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
Copper, Dissolved, ICP-MS	ND(5)	93.5	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
Zinc, Dissolved, ICP-MS	ND(20)	96.6	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
Zinc, Dissolved, ICP-MS	ND(20)	96.9	85.0-115	500	µg/L	MN	MN	80.0-120			**	20.0
QC Batch: 110524-1	For samples prepared on: 05/24/2011					Spiked sample: 11052012						
Cadmium, Tot. Rec., ICP-MS	ND(1)	100.	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
Copper, Tot. Rec., ICP-MS	ND(5)	95.0	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
Zinc, Tot. Rec., ICP-MS	ND(20)	98.6	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
QC Batch: 110524-6	For samples prepared on: 05/24/2011					Spiked sample: 11052012						
Hardness (Calculated)	ND(5.0)	91.2	80.0-120	337	mg/L a	MN	MN	80.0-120	337	mg/L as	**	20.0
QC Batch: 110525-1	For sample analyzed on: 05/25/2011					Spiked sample: 11051509						
Solids, Total Dissolved	ND(30)	N/A			mg/L	MN	MN	#		mg/L	**	5.2
QC Batch: 110527-1	For sample analyzed on: 05/27/2011					Spiked sample: 11051671						
Phosphorus, Total, as P	ND(0.20)	102	90.0-110	1.0	mg/L	MN	MN	71.2-135	1.0	mg/L	**	21.2
QC Batch: 110527-1	For sample analyzed on: 05/27/2011					Spiked sample: 11052247						
Kjeldahl Nitrogen, as N	ND(1)	98.0	90.0-110	20.0	mg/L	MN	MN	75.0-112	20.0	mg/L	**	17.4
QC Batch: 110527-2	For sample analyzed on: 05/27/2011					Spiked sample: 11052002						
Solids, Total Suspended	ND(5)	N/A			mg/L	MN	MN	#		mg/L	**	18.2
QC Batch: 3IC1140	For sample analyzed on: 05/21/2011					Spiked sample:						
Nitrite, as N	ND(0.1)	98.5	90.0-110	2.0	mg/L	MN	MN	79.5-127			**	10.1
Nitrate, as N	ND(0.1)	99.0	90.0-110	2.0	mg/L	MN	MN	79.3-118			**	12.1
QC Batch: 3IC1140	For sample analyzed on: 05/21/2011					Spiked sample: 11051141						
Chloride	ND(1.0)	99.8	90.0-110	4.0	mg/L	MN	MN	82.1-126	400	mg/L	**	12.5

Data Qualifiers:
MN - The MS/MSD sample analyses were not performed on a sample from this Continental order number.

N/A - Not Applicable

\# - Limits not available.

** - RPD cannot be calculated.

Continental Analytical Services, Inc.

Quality Control Report

Continuing Calibration Verification Data Summary

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Reported: 06/06/2011
Date Sample Received: 05/20/2011
Continental File No: 8339
Continental Order No: 56076

Analysis	Date of Analysis	Instrument Batch ID	Amount in Standard	Amount Detected	Units	Percent Recovery
Cadmium, Dissolved, ICP-MS	05/26/2011	3IP3146	CCV recovery acceptable for this Instrument Batch.			
Cadmium, Dissolved, ICP-MS	05/26/2011	4IP3146	CCV recovery acceptable for this Instrument Batch.			
Cadmium, Tot. Rec., ICP-MS	05/26/2011	5IP3146	CCV recovery acceptable for this Instrument Batch.			
Cadmium, Tot. Rec., ICP-MS	05/26/2011	6IP3146	CCV recovery acceptable for this Instrument Batch.			
Copper, Dissolved, ICP-MS	05/26/2011	3IP3146	CCV recovery acceptable for this Instrument Batch.			
Copper, Dissolved, ICP-MS	05/26/2011	4IP3146	CCV recovery acceptable for this Instrument Batch.			
Copper, Tot. Rec., ICP-MS	05/26/2011	5IP3146	CCV recovery acceptable for this Instrument Batch.			
Copper, Tot. Rec., ICP-MS	05/26/2011	6IP3146	CCV recovery acceptable for this Instrument Batch.			
BOD	05/20/2011	110520-3	CCV recovery acceptable for this Instrument Batch.			
BOD	05/20/2011	110520-4	CCV recovery acceptable for this Instrument Batch.			
Kjeldahl Nitrogen, as N	05/27/2011	110527-2	CCV recovery acceptable for this Instrument Batch.			
Kjeldahl Nitrogen, as N	05/27/2011	110527-3	CCV recovery acceptable for this Instrument Batch.			
Phosphorus, Total, as P	05/27/2011	110527-2	CCV recovery acceptable for this Instrument Batch.			
Phosphorus, Total, as P	05/27/2011	110527-3	CCV recovery acceptable for this Instrument Batch.			
Chloride	05/21/2011	7IC1140	CCV recovery acceptable for this Instrument Batch.			
Chloride	05/21/2011	8IC1140	CCV recovery acceptable for this Instrument Batch.			
Nitrite, as N	05/21/2011	7IC1140	CCV recovery acceptable for this Instrument Batch.			
Nitrite, as N	05/21/2011	8IC1140	CCV recovery acceptable for this Instrument Batch.			
Nitrate, as N	05/21/2011	7IC1140	CCV recovery acceptable for this Instrument Batch.			
Nitrate, as N	05/21/2011	8IC1140	CCV recovery acceptable for this Instrument Batch.			
Hardness (Calculated)	06/01/2011	5IP4152	CCV recovery acceptable for this Instrument Batch.			
Hardness (Calculated)	06/01/2011	6IP4152	CCV recovery acceptable for this Instrument Batch.			
Zinc, Tot. Rec., ICP-MS	06/03/2011	2IP3154	CCV recovery acceptable for this Instrument Batch.			
Zinc, Dissolved, ICP-MS	05/26/2011	3IP3146	CCV recovery acceptable for this Instrument Batch.			
Zinc, Tot. Rec., ICP-MS	06/03/2011	3IP3154	CCV recovery acceptable for this Instrument Batch.			
Zinc, Dissolved, ICP-MS	05/26/2011	4IP3146	CCV recovery acceptable for this Instrument Batch.			

- Laboratory Report Conclusion -

CAS ORDER NO: 36079

Continental Analytical Services, Inc.

525 N. 8th Street, Salina, KS 67401
(785)827-1273 (800)535-3076 Fax (785)823-7830
www.cas-lab.com

CHAIN OF CUSTODY RECORD

Continental Shipping Order Number: _____

Client/Reporting Information			Invoice Information		
Company Name: City of Wichita Sewage Treatment			Company Name: City of Wichita Sewage Treatment		
Address: 2305 E. 57th Street South			Address: 2305 E. 57th Street South		
City: Wichita	State: KS	Zip: 67216	City: Wichita	State: KS	Zip: 67216
Contact: Jim Hardesty	E-mail:		Contact: Jim Hardesty	E-mail:	
Phone Number: (316)303-8700	Fax Number: (316)303-8712		Phone Number: (316)303-8700	Fax Number: (316)303-8712	

Sampler's Name:(Printed): Justin Murphy

Sampler's Name:(Signature): [signature]

Purchase Order Number:

File Number: 5535

Project Name: Stormwater - UPSTREAM

PARAMETERS/CONTAINER TYPE

SAMPLE IDENTIFICATION (30 Characters or less)	Matrix (Sample Type)	Regulatory Program	Date Sampled	Time Sampled	C-Composite G-Grab	Total Containers	HCL	NaOH	HNO3	H2SO4	NONE	OTHER:	Total Cadmium, Copper, Zinc 250mL Plastic - HNO3	Hardness, TSS, TDS, Cl, BOD, NO3, NO2, Tot. Nitrogen 1000mL Plastic - None	TKN, Total P 250mL Plastic - H2SO4						COMMENTS
misc Huntington & Armour Upstream	WW	N	5/20/11	0835	G	3			1	1	1		X	X	X						

Number of Preserved Bottles

Edits made prior to sample receipt
MW 5-20-11

Regulatory Program: N=NPDES, R=RCRA, D=Drinking Water, SL=503 Sludge, O=Other

(Please note if non-standard turnaround. Rush & Emergency subject to additional charge)
Standard TAT: (15 working days) Rush TAT (5 working days) Emergency TAT: (3 working days)

Matrix (Sample Type): DW=Drinking Water, GW=Ground Water, WW=Waste Water, W=Wipe, S=Solid/Soil, SL=Sludge, A=Air, OL = Oil/Organic Liquid, O=Other

	DATE:	TIME:		DATE:	TIME:
RELINQUISHED BY: [signature]	5/20/11	1200	RECEIVED BY:		
RELINQUISHED BY:			RECEIVED BY:		
RECEIVED AT LAB BY: Marlow Stokes	5-20-11	14:15	SHIPPED VIA: / AIRBILL:	SEAL #: / SEAL DATE:	

Continental's Standard Terms and Conditions of Sale will apply to all samples received unless a separate contractual agreement has been made.

Continental Analytical Services Cooler/Sample Receipt Form

CAS Order No. 56076

Client Name: Wichita Sewage

CAS File No.: 8339

Sample ID's in cooler: See COC

Huntington & Armour

Cooler 1 of 1 for this CAS Order No.

Cooler Identification: CAS Cooler #: _____ Client's Cooler/Box/Letter/Hand Delivered

Other: _____

Date/Time Cooler Received: 5 / 20 / 11 14 : 15

Delivered By: UPS/FedX/AB Express/ASAP/Land Air Exp/Field Svcs/Mail/Walk-In/Other: _____

Custody Seal: Present: Intact / Broken Absent: X Seal No: _____

Seal Name: _____ Seal Date: _____

Seal matches Chain of Custody: Yes / No / N/A

Type of Packing Material: Blue Ice/Ice/Melted Ice/Bubble/Foam/Paper/Peanuts/Vermiculite/ None/Other: _____

Cooler Temperature (°C): Original Reading (°C) 0.9 Corrected Reading (°C) 1.2

Temp. By: Temp. Blank Surface: Glass/Plastic/Metal/Other: _____ Cooler

Thermo. ID No.: 585 Thermo. Correction Factor (°C): 0.3

☐ Evidence of Cooling: date received=date sampled

Sample Receipt Discrepancies: ☒ No ☐ *Yes (see below for discrepancies)*

Note: CAS will proceed with sample analyses, addressing each discrepancy as shown, until/unless directed otherwise by the client.

- ☐ Chain of Custody not present information taken from:
  - Cover Letter ☐ Container ☐
  - PO ☐ CAS Proj. Mgr. ☐
- ☐ Container label absent
- ☐ Chain of Custody incomplete [see detail below]
- ☐ Chain of Custody missing date/time sampled (excl. TB or Dup)
- ☐ Date or Time sampled obtained from container label
- ☐ Chain of Custody missing sampler's name
- ☐ Chain of Custody missing matrix (sample type)
- ☐ Missing relinquished information: signature date time
- ☐ Sample excluded from Chain of Custody
- ☐ Sample listed on Chain of Custody, not received
- ☐ Sample description on container and Chain of Custody do not agree
- ☐ Air bubbles in Aqueous VOA vials larger than pea-size [approx. 6 mm]
- ☐ Cooler temperature exceeded 0.1 - 6.0 °C requirement [Do not mark if samples do not require cooling to 0.1 - 6.0 °C.]
- ☐ Broken or leaking containers (detail actions below)
- ☐ Sample container type or labeled chemical preservation inappropriate
- ☐ Other discrepancies: _____

Detail to discrepancies/comments:

Completed by: MWS Date Completed: 5-20-11

Continental
Analytical Services, Inc.

06/06/2011

City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date and Time Received: 05/20/2011 14:15
Continental File No.: 8339
Continental Order No.: 56077
Project ID: Stormwater

Dear Mr. Hardesty:

This laboratory report containing the samples indicated below, includes 9 pages for the analytical report, 1 page(s) for the chain of custody and/or analysis request, and 1 page(s) for the sample receipt form.

CAS LAB ID #	SAMPLE DESCRIPTION	SAMPLE TYPE	DATE SAMPLED
11052005	Huntington & Armour - Grab	Liquid	5/20/2011
11052006	Huntington & Armour-Composite	Liquid	5/20/2011

The Appendix and Quality Control sections are integral parts of this laboratory report and may contain important data qualifiers.

All results are reported on a wet weight basis unless otherwise stated.

Samples will be retained for thirty days unless Continental is otherwise notified.

Continental is accredited by the State of Kansas through the National Environmental Laboratory Accreditation Program (NELAP). The results contained in this report were obtained using Continental's Standard Operating Procedures. These procedures are in substantial compliance with the approved methods referenced and the standards published by NELAP unless otherwise noted in the Appendix and Quality Control sections of this report.

This report may not be reproduced, except in full, without written approval from Continental Analytical Services, Inc.

Thank you for choosing Continental for this project. If you have any questions please contact me at (800)535-3076.

CONTINENTAL ANALYTICAL SERVICES, INC.

Clifford J. Baker
Technical Manager

Gregory J. Groene
Project Manager

525 N. Eighth St. - P.O. Box 3737 - Salina, KS 67402-3737
785-827-1273 800-535-3076 Fax 785-823-7830
KDHE Environmental Laboratory Accreditation No. E-10146

Continental Analytical Services, Inc.

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Sample Rptd: 06/06/2011
Date Sample Recd: 05/20/2011
Continental File No: 8339
Continental Order No: 56077

Lab Number: 11052005
Sample Description: Huntington & Armour - Grab

Date Sampled: 05/20/2011
Time Sampled: 0830

Analysis	Concentration	Units	Book/Page
Cadmium, Dissolved, ICP-MS	ND(1) DM	µg/L	7127/15
Cadmium, Tot. Rec., ICP-MS	ND(1)	µg/L	7127/15
Copper, Dissolved, ICP-MS	6 DM	µg/L	7127/15
Copper, Tot. Rec., ICP-MS	8	µg/L	7127/15
Hardness (Calculated)	31	mg/L as CaCO3	7143/1
Zinc, Dissolved, ICP-MS	ND(20) DM	µg/L	7127/15
Zinc, Tot. Rec., ICP-MS	32	µg/L	7127/17
Chloride	9.4	mg/L	7129/20
Hexane Extractable Material	ND(5.0)	mg/L	7094/11
Solids, Total Dissolved	82	mg/L	7059/233
Solids, Total Suspended	35	mg/L	7059/240

Analysis	Date Prepared	Date Analyzed	QC Batch	Inst. Batch	Analyst	Method(s)
Cadmium, Dissolved, ICP-MS	05/23/11 1128	05/26/11 1732	110523-3	3IP3146	KMW	200.8 Rev. 5.4
Cadmium, Tot. Rec., ICP-MS	05/24/11 0759	05/26/11 1959	110524-1	5IP3146	KMW	200.8 Rev. 5.4
Copper, Dissolved, ICP-MS	05/23/11 1128	05/26/11 1732	110523-3	3IP3146	KMW	200.8 Rev. 5.4
Copper, Tot. Rec., ICP-MS	05/24/11 0759	05/26/11 1959	110524-1	5IP3146	KMW	200.8 Rev. 5.4
Hardness (Calculated)	05/24/11 1236	06/01/11 1449	110524-6	5IP4152	KMW	200.7 & SM 2340B
Zinc, Dissolved, ICP-MS	05/23/11 1128	05/26/11 1732	110523-3	3IP3146	KMW	200.8 Rev. 5.4
Zinc, Tot. Rec., ICP-MS	05/24/11 0759	06/03/11 1655	110524-1	2IP3154	JDL	200.8 Rev. 5.4
Chloride	N/A	05/31/11 1911	1IC1151	2IC1151	MLL	300.0
Hexane Extractable Materia	05/27/11	05/27/11 0831	110527-1	110527-1	JND	1664
Solids, Total Dissolved	N/A	05/25/11 1557	110525-1	110525-1	KJH	SM20th 2540C
Solids, Total Suspended	N/A	05/27/11 1814	110527-2	110527-2	KJH	SM20th 2540D
Dissolved Metals Preparation Method						200.7/200.8
Total Recoverable Metals Preparation Method						200.7/200.8
Calculated as Hardness Preparation Method						200.7/6010B
HEM Preparation Method						1664

Conclusion of Lab Number: 11052005

Continental Analytical Services, Inc.

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Sample Rptd: 06/06/2011
Date Sample Recd: 05/20/2011
Continental File No: 8339
Continental Order No: 56077

Lab Number: 11052006
Sample Description: Huntington & Armour-Composite

Date Sampled: 05/20/2011
Time Sampled: 0830

Analysis	Concentration	Units	Book/Page
Cadmium, Dissolved, ICP-MS	ND(1) DM	µg/L	7127/15
Cadmium, Tot. Rec., ICP-MS	ND(1)	µg/L	7127/15
Copper, Dissolved, ICP-MS	5 DM	µg/L	7127/15
Copper, Tot. Rec., ICP-MS	9	µg/L	7127/15
Hardness (Calculated)	33	mg/L as CaCO3	7143/1
Zinc, Dissolved, ICP-MS	ND(20) DM	µg/L	7127/15
Zinc, Tot. Rec., ICP-MS	37	µg/L	7127/17
BOD	7	mg/L	7060/118
Chloride	9.5	mg/L	7129/14
Kjeldahl Nitrogen, as N	2	mg/L	7043/46
Nitrate, as N	0.8	mg/L	7129/14
Nitrite, as N	ND(0.1)	mg/L	7129/14
Nitrogen (TKN + NO3/NO2), as N	2.8	mg/L	9999/7
Phosphorus, Total, as P	0.31	mg/L	7061/92
Solids, Total Dissolved	98	mg/L	7059/233
Solids, Total Suspended	41	mg/L	7059/240

Analysis	Date Prepared	Date Analyzed	QC Batch	Inst. Batch	Analyst	Method(s)
Cadmium, Dissolved, ICP-MS	05/23/11 1128	05/26/11 1738	110523-3	3IP3146	KMW	200.8 Rev. 5.4
Cadmium, Tot. Rec., ICP-MS	05/24/11 0759	05/26/11 2005	110524-1	5IP3146	KMW	200.8 Rev. 5.4
Copper, Dissolved, ICP-MS	05/23/11 1128	05/26/11 1738	110523-3	3IP3146	KMW	200.8 Rev. 5.4
Copper, Tot. Rec., ICP-MS	05/24/11 0759	05/26/11 2005	110524-1	5IP3146	KMW	200.8 Rev. 5.4
Hardness (Calculated)	05/24/11 1236	06/01/11 1453	110524-6	5IP4152	KMW	200.7 & SM 2340B
Zinc, Dissolved, ICP-MS	05/23/11 1128	05/26/11 1738	110523-3	3IP3146	KMW	200.8 Rev. 5.4
Zinc, Tot. Rec., ICP-MS	05/24/11 0759	06/03/11 1711	110524-1	3IP3154	JDL	200.8 Rev. 5.4
BOD	N/A	05/20/11 2030	110520-2	110520-3	ASK	SM 5210B
Chloride	N/A	05/21/11 0358	3IC1140	7IC1140	MLL	300.0
Kjeldahl Nitrogen, as N	N/A	05/27/11 1353	110527-1	110527-2	JND	4500N(C) & (E)
Nitrate, as N	N/A	05/21/11 0358	3IC1140	7IC1140	MLL	300.0
Nitrite, as N	N/A	05/21/11 0358	3IC1140	7IC1140	MLL	300.0
Nitrogen (TKN + NO3/NO2),	N/A	06/06/11				Calculation
Phosphorus, Total, as P	N/A	05/27/11 1650	110527-1	110527-2	KJH	SM 4500-P(B&F)(M
Solids, Total Dissolved	N/A	05/25/11 1557	110525-1	110525-1	KJH	SM20th 2540C
Solids, Total Suspended	N/A	05/27/11 1814	110527-2	110527-2	KJH	SM20th 2540D
Dissolved Metals Preparation Method						200.7/200.8
Total Recoverable Metals Preparation Method						200.7/200.8
Calculated as Hardness Preparation Method						200.7/6010B

Conclusion of Lab Number: 11052006

APPENDIX

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Sample Rptd: 06/06/2011
Date Sample Recd: 05/20/2011
Continental File No: 8339
Continental Order No: 56077

ND(), where reported, indicates the analyte was not detected above the limit of quantitation (LOQ). The concentration of the limit of quantitation is inside the parentheses.

All samples which require cooling were received at a temperature of less than 6 degrees Celsius.

The following table presents the date and time sampled, the date and time analyzed, and the total time elapsed for each analysis with an EPA recommended holding time of seventy-two hours or less.

CAS LAB ID #	ANALYSIS	DATE/TIME SAMPLED	DATE/TIME ANALYZED	ELAPSED HRS:MIN
11052006	BOD	05/20/2011 0830	05/20/2011 2030	12:00
11052006	Nitrate, as N	05/20/2011 0830	05/21/2011 0358	19:28
11052006	Nitrite, as N	05/20/2011 0830	05/21/2011 0358	19:28

DM - NPDES requirements specify that dissolved metals and orthophosphate must be filtered within 15 minutes of the time of collection. This analysis did not meet these criteria.

Continental Analytical Services, Inc.

Continental Analytical Services, Inc.
Accreditation Summary Report

Client: City of Wichita
CAS Order Number: 56077

NELAP accreditation is issued under each EPA regulatory program for a given matrix/analyte/method combination. Continental is NELAP accredited for each matrix/analyte/method and EPA program cited in this Laboratory Report, except for those listed in the table below and analysis performed in the field. For most of the analyses listed in the table, NELAP accreditation is not offered under the listed EPA program and Continental is NELAP accredited for the analysis, using the same analytical technology, but under a different EPA program. Continental's full NELAP accreditation status may be viewed at www.kdheks.gov/envlab. Note that unless qualified otherwise in the Laboratory Report, Continental performs all analyses, including each analysis listed in the table below, utilizing NELAP protocol.

Test	Analysis	Matrix-Regulatory Program	Method	CAS NELAP Accredited in Other Reg. Program
GL343	Nitrogen (TKN + NO3/NO2), as N	L-NPDES	Calculation	N

Continental Analytical Services, Inc.

Quality Control Report
Batch Summary

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Page: 6
Date Reported: 06/06/2011
Date Sample Received: 05/20/2011
Continental File No: 8339
Continental Order No: 56077

Test	Testname	QC Batch	Method Blank	LCS	MS Lab No.
SL156	Cadmium, Dissolved, ICP-MS	110523-3	110523BLK3	110523LCS3	11052011MS
SL162	Copper, Dissolved, ICP-MS	110523-3	110523BLK3	110523LCS3	11052011MS
SL183	Zinc, Dissolved, ICP-MS	110523-3	110523BLK3	110523LCS3	11052011MS
Lab numbers associated with this batch: 11052005 11052006					
SL006	Cadmium, Tot. Rec., ICP-MS	110524-1	110524BLK1	110524LCS1	11052012MS
SL012	Copper, Tot. Rec., ICP-MS	110524-1	110524BLK1	110524LCS1	11052012MS
SL033	Zinc, Tot. Rec., ICP-MS	110524-1	110524BLK1	110524LCS1	11052012MS
Lab numbers associated with this batch: 11052005 11052006					
SL323	Hardness (Calculated)	110524-6	110524BLK6	110524LCS6	11052012MS
Lab numbers associated with this batch: 11052005 11052006					
GL123	BOD	110520-2	110520BLK2	110520LCS2	11051795MS
Lab numbers associated with this batch: 11052006					
GL502	Chloride	1IC1151	BLK1IC1151	LCS1IC1151	11052289MS
Lab numbers associated with this batch: 11052005					
GL502	Chloride	3IC1140	BLK3IC1140	LCS3IC1140	11051141MS
Lab numbers associated with this batch: 11052006					
GL188	Hexane Extractable Material	110527-1	110527BLK1	110527LCS1	11051279MS
Lab numbers associated with this batch: 11052005					
GL195	Kjeldahl Nitrogen, as N	110527-1	110527BLK1	110527LCS1	11052247MS
Lab numbers associated with this batch: 11052006					
GL505	Nitrate, as N	3IC1140	BLK3IC1140	LCS3IC1140	
GL503	Nitrite, as N	3IC1140	BLK3IC1140	LCS3IC1140	
Lab numbers associated with this batch: 11052006					

Continental Analytical Services, Inc.

Quality Control Report
Batch Summary

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Reported: 06/06/2011
Date Sample Received: 05/20/2011
Continental File No: 8339
Continental Order No: 56077

Test	Testname	QC Batch	Method Blank	LCS	MS Lab No.
GL343	Nitrogen (TKN + NO3/NO2), as N Lab numbers associated with this batch: 11052006				
GL218	Phosphorus, Total, as P Lab numbers associated with this batch: 11052006	110527-1	110527BLK1	110527LCS1	11051671MS
GL242	Solids, Total Dissolved Lab numbers associated with this batch: 11052005 11052006	110525-1	110525BLK1	110525LCS1	11051509MS
GL243	Solids, Total Suspended Lab numbers associated with this batch: 11052005 11052006	110527-2	110527BLK2	110527LCS2	11052002MS

Continental Analytical Services, Inc.

Quality Control Report
Method Blank, LCS, MS/MSD Data

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Reported: 06/06/2011
Date Sample Received: 05/20/2011
Continental File No: 8339
Continental Order No: 56077

Analysis	Blank Data	% Rec LCS	Limits	Spike Level	Units	Spiked Sample (% Recovery) MS	MSD	Limits	Spike Level	Units	Spiked Sample Precision Data RPD	Limit
QC Batch: 110520-2	For sample analyzed on: 05/20/2011					Spiked sample: 11051795						
BOD	ND(5)	91.0	70.5-110	198	mg/L	MN	MN	#		mg/L	**	13.2
QC Batch: 110523-3	For samples prepared on: 05/23/2011					Spiked sample: 11052011						
Cadmium, Dissolved, ICP-MS	ND(1)	98.4	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
Copper, Dissolved, ICP-MS	ND(5)	93.5	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
Zinc, Dissolved, ICP-MS	ND(20)	96.6	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
Zinc, Dissolved, ICP-MS	ND(20)	96.9	85.0-115	500	µg/L	MN	MN	80.0-120			**	20.0
QC Batch: 110524-1	For samples prepared on: 05/24/2011					Spiked sample: 11052012						
Cadmium, Tot. Rec., ICP-MS	ND(1)	100.	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
Copper, Tot. Rec., ICP-MS	ND(5)	95.0	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
Zinc, Tot. Rec., ICP-MS	ND(20)	98.6	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
QC Batch: 110524-6	For samples prepared on: 05/24/2011					Spiked sample: 11052012						
Hardness (Calculated)	ND(5.0)	91.2	80.0-120	337	mg/L a	MN	MN	80.0-120	337	mg/L as	**	20.0
QC Batch: 110525-1	For sample analyzed on: 05/25/2011					Spiked sample: 11051509						
Solids, Total Dissolved	ND(30)	N/A			mg/L	MN	MN	#		mg/L	**	5.2
QC Batch: 110527-1	For samples prepared on: 05/27/2011					Spiked sample: 11051279						
Hexane Extractable Material	ND(1.4)	86.0	78.0-114	40.0	mg/L	MN	MN	78.0-114	40.0	mg/L	**	18.0
QC Batch: 110527-1	For sample analyzed on: 05/27/2011					Spiked sample: 11051671						
Phosphorus, Total, as P	ND(0.20)	102	90.0-110	1.0	mg/L	MN	MN	71.2-135	1.0	mg/L	**	21.2
QC Batch: 110527-1	For sample analyzed on: 05/27/2011					Spiked sample: 11052247						
Kjeldahl Nitrogen, as N	ND(1)	98.0	90.0-110	20.0	mg/L	MN	MN	75.0-112	20.0	mg/L	**	17.4
QC Batch: 110527-2	For sample analyzed on: 05/27/2011					Spiked sample: 11052002						
Solids, Total Suspended	ND(5)	N/A			mg/L	MN	MN	#		mg/L	**	18.2
QC Batch: 1IC1151	For sample analyzed on: 05/21/2011					Spiked sample: 11052289						
Chloride	ND(1.0)	104	90.0-110	4.0	mg/L	MN	MN	82.1-126	80.0	mg/L	**	12.5
QC Batch: 3IC1140	For sample analyzed on: 05/21/2011					Spiked sample:						
Nitrite, as N	ND(0.1)	98.5	90.0-110	2.0	mg/L	MN	MN	78.5-127			**	10.1
Nitrate, as N	ND(0.1)	99.0	90.0-110	2.0	mg/L	MN	MN	79.3-118			**	12.1
QC Batch: 3IC1140	For sample analyzed on: 05/21/2011					Spiked sample: 11051141						
Chloride	ND(1.0)	99.8	90.0-110	4.0	mg/L	MN	MN	82.1-126	400	mg/L	**	12.5

Data Qualifiers:

MN - The MS/MSD sample analyses were not performed on a sample from this Continental order number.

N/A - Not Applicable

- Limits not available.

** - RPD cannot be calculated.

Continental Analytical Services, Inc.

Quality Control Report
Continuing Calibration Verification Data Summary

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Reported: 06/06/2011
Date Sample Received: 05/20/2011
Continental File No: 8339
Continental Order No: 56077

Analysis	Date of Analysis	Instrument Batch ID	Amount in Standard	Amount Detected	Units	Percent Recovery
Cadmium, Dissolved, ICP-MS	05/26/2011	3IP3146	CCV recovery acceptable for this Instrument Batch.			
Cadmium, Dissolved, ICP-MS	05/26/2011	4IP3146	CCV recovery acceptable for this Instrument Batch.			
Cadmium, Tot. Rec., ICP-MS	05/26/2011	5IP3146	CCV recovery acceptable for this Instrument Batch.			
Cadmium, Tot. Rec., ICP-MS	05/26/2011	6IP3146	CCV recovery acceptable for this Instrument Batch.			
Copper, Dissolved, ICP-MS	05/26/2011	3IP3146	CCV recovery acceptable for this Instrument Batch.			
Copper, Dissolved, ICP-MS	05/26/2011	4IP3146	CCV recovery acceptable for this Instrument Batch.			
Copper, Tot. Rec., ICP-MS	05/26/2011	5IP3146	CCV recovery acceptable for this Instrument Batch.			
Copper, Tot. Rec., ICP-MS	05/26/2011	6IP3146	CCV recovery acceptable for this Instrument Batch.			
BOD	05/20/2011	110520-3	CCV recovery acceptable for this Instrument Batch.			
BOD	05/20/2011	110520-4	CCV recovery acceptable for this Instrument Batch.			
Hexane Extractable Material	05/27/2011	110527-1	CCV recovery acceptable for this Instrument Batch.			
Hexane Extractable Material	05/27/2011	110527-2	CCV recovery acceptable for this Instrument Batch.			
Kjeldahl Nitrogen, as N	05/27/2011	110527-2	CCV recovery acceptable for this Instrument Batch.			
Kjeldahl Nitrogen, as N	05/27/2011	110527-3	CCV recovery acceptable for this Instrument Batch.			
Phosphorus, Total, as P	05/27/2011	110527-2	CCV recovery acceptable for this Instrument Batch.			
Phosphorus, Total, as P	05/27/2011	110527-3	CCV recovery acceptable for this Instrument Batch.			
Chloride	05/21/2011	7IC1140	CCV recovery acceptable for this Instrument Batch.			
Chloride	05/21/2011	8IC1140	CCV recovery acceptable for this Instrument Batch.			
Chloride	05/31/2011	2IC1151	CCV recovery acceptable for this Instrument Batch.			
Chloride	05/31/2011	3IC1151	CCV recovery acceptable for this Instrument Batch.			
Nitrite, as N	05/21/2011	7IC1140	CCV recovery acceptable for this Instrument Batch.			
Nitrite, as N	05/21/2011	8IC1140	CCV recovery acceptable for this Instrument Batch.			
Nitrate, as N	05/21/2011	7IC1140	CCV recovery acceptable for this Instrument Batch.			
Nitrate, as N	05/21/2011	8IC1140	CCV recovery acceptable for this Instrument Batch.			
Hardness (Calculated)	06/01/2011	5IP4152	CCV recovery acceptable for this Instrument Batch.			
Hardness (Calculated)	06/01/2011	6IP4152	CCV recovery acceptable for this Instrument Batch.			
Zinc, Tot. Rec., ICP-MS	06/03/2011	2IP3154	CCV recovery acceptable for this Instrument Batch.			
Zinc, Dissolved, ICP-MS	05/26/2011	3IP3146	CCV recovery acceptable for this Instrument Batch.			
Zinc, Tot. Rec., ICP-MS	06/03/2011	3IP3154	CCV recovery acceptable for this Instrument Batch.			
Zinc, Dissolved, ICP-MS	05/26/2011	4IP3146	CCV recovery acceptable for this Instrument Batch.			
Zinc, Tot. Rec., ICP-MS	06/03/2011	4IP3154	CCV recovery acceptable for this Instrument Batch.			

- Laboratory Report Conclusion -

CAS ORDER # 56077

Continental Analytical Services, Inc.

525 N. 8th Street, Salina, KS 67401
(785)827-1273 (800)535-3076 Fax (785)823-7830
www.cas-lab.com

CHAIN OF CUSTODY RECORD

Continental Shipping Order Number: _____

Client/Reporting Information			Invoice Information		
Company Name: ity of Wichita Sewage Treatment			Company Name: City of Wichita Sewage Treatment		
ddress: 305 E. 57th Street South			Address: 2305 E. 57th Street South		
ity: /ichita	State: KS	Zip: 67216	City: Wichita	State: KS	Zip: 67216
ontact: m Hardesty	E-mail:		Contact: Jim Hardesty	E-mail:	
one Number: 16)303-8700	Fax Number: (316)303-8712		Phone Number: (316)303-8700	Fax Number: (316)303-8712	
ampler's Name:(Printed) Justin Murphy	Sampler's Name:(Signature)		Purchase Order Number:		
ile Number: 535	Project Name: Stormwater				

SAMPLE IDENTIFICATION (30 Characters or less)	Matrix (Sample Type)	Regulatory Program	Date Sampled	Time Sampled	C Composite G-Grab	Total Containers	Number of Preserved Bottles: HCL	NaOH	HNO3	H2SO4	NONE	OTHER:	Cadmium, Copper, Zinc - Total Recoverable 250ml Plastic - HNO3	Cadmium, Copper, Zinc - Dissolved, Hardness, TSS TDS, Cl 1000ml Plastic - None	Hexane Extractable Material 2 - 1000ml Amber Glass - H2SO4	Total Metals, Dissolved Metals, Hardness, TSS, TDS, Cl, BOD, TKN, Total P, NO3, NO2, Tot. Nitrogen Large Carboy					COMMENTS
~~0181~~-Grab Huntington to Arnour	WW	N	5/20/11	0830	G	4			1	2	1		X	X	X						
~~0181~~-Composite Huntington to Arnour	WW	N	5/20/11	0830	C	1					1					X					5 Gal. Container to be poured off at lab as needed for required tests. Remaining volume will be saved for for organics if needed.

Edits made prior to sample receipt
MWS 5-20-11

Regulatory Program: N=NPDES, R=RCRA, D=Drinking Water, SL=503 Sludge, O=Other

(Please note if non-standard turnaround. Rush & Emergency subject to additional charge)
Standard TAT: (15 working days) Rush TAT: (5 working days) Emergency TAT: (3 working days)

Matrix (Sample Type): DW=Drinking Water, GW=Ground Water, WW=Waste Water, W=Wipe, S=Solid/Soil, SL=Sludge, A=Air, OL = Oil/Organic Liquid, O=Other

RELINQUISHED BY:	DATE: 5/20/11	TIME: 1200	RECEIVED BY:	DATE:	TIME:
RELINQUISHED BY:	DATE:	TIME:	RECEIVED BY:	DATE:	TIME:
RECEIVED AT LAB BY: Mark W. Stifred	DATE: 5-20-11	TIME: 14:15	SHIPPED VIA: AIRBILL:	SEAL #: SEAL DATE:	

Continental's Standard Terms and Conditions of Sale will apply to all samples received unless a separate contractual agreement has been made.

Continental Analytical Services Cooler/Sample Receipt Form CAS Order No. 56077

Client Name: Wichita Sewage CAS File No.: 8339

Sample ID's in cooler: See COC

Huntington & Armour

Cooler 1 of 1 for this CAS Order No.

Cooler Identification: CAS Cooler #: _____ Client's Cooler/Box/Letter/Hand Delivered
Other: _____

Date/Time Cooler Received: 5 / 20 / 11 14 : 15

Delivered By: UPS/FedX/AB Express/ASAP/Land Air Exp/Field Svcs/Mail/Walk-In/Other: _____

Custody Seal: Present: Intact / Broken Absent: X Seal No: _____
Seal Name: _____ Seal Date: _____
Seal matches Chain of Custody: Yes / No / N/A

Type of Packing Material: Blue Ice/Ice/Melted Ice/Bubble/Foam/Paper/Peanuts/Vermiculite/ None/Other: _____

Cooler Temperature (°C): Original Reading (°C) 0.9 Corrected Reading (°C) 1.2
Temp. By: Temp. Blank Surface: Glass/Plastic/Metal/Other: _____ Cooler
Thermo. ID No.: 585 Thermo. Correction Factor (°C): 0.3
☐ Evidence of Cooling: date received=date sampled

Sample Receipt Discrepancies: ☒ No ☐ *Yes (see below for discrepancies)*

Note: CAS will proceed with sample analyses, addressing each discrepancy as shown, until/unless directed otherwise by the client.

- ☐ Chain of Custody not present information taken from:
  - Cover Letter ☐ Container ☐
  - PO ☐ CAS Proj. Mgr. ☐
- ☐ Container label absent
- ☐ Chain of Custody incomplete [see detail below]
- ☐ Chain of Custody missing date/time sampled (excl. TB or Dup)
- ☐ Date or Time sampled obtained from container label
- ☐ Chain of Custody missing sampler's name
- ☐ Chain of Custody missing matrix (sample type)
- ☐ Missing relinquished information: signature date time
- ☐ Sample excluded from Chain of Custody
- ☐ Sample listed on Chain of Custody, not received
- ☐ Sample description on container and Chain of Custody do not agree
- ☐ Air bubbles in Aqueous VOA vials larger than pea-size [approx. 6 mm]
- ☐ Cooler temperature exceeded 0.1 - 6.0 °C requirement [Do not mark if samples do not require cooling to 0.1 - 6.0 °C.]
- ☐ Broken or leaking containers (detail actions below)
- ☐ Sample container type or labeled chemical preservation inappropriate
- ☐ Other discrepancies: _____

Detail to discrepancies/comments:

Completed by: MWJ Date Completed: 5-20-11

Continental
Analytical Services, Inc.

06/06/2011

City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date and Time Received: 05/20/2011 14:15
Continental File No.: 8339
Continental Order No.: 56078
Project ID: SW-Upstream

Dear Mr. Hardesty:

This laboratory report containing the samples indicated below, includes 7 pages for the analytical report, 1 page(s) for the chain of custody and/or analysis request, and 1 page(s) for the sample receipt form.

CAS LAB ID #	SAMPLE DESCRIPTION	SAMPLE TYPE	DATE SAMPLED
11052007	13th & River Blvd. Upstream	Liquid	5/20/2011

The Appendix and Quality Control sections are integral parts of this laboratory report and may contain important data qualifiers.

All results are reported on a wet weight basis unless otherwise stated.

Samples will be retained for thirty days unless Continental is otherwise notified.

Continental is accredited by the State of Kansas through the National Environmental Laboratory Accreditation Program (NELAP). The results contained in this report were obtained using Continental's Standard Operating Procedures. These procedures are in substantial compliance with the approved methods referenced and the standards published by NELAP unless otherwise noted in the Appendix and Quality Control sections of this report.

This report may not be reproduced, except in full, without written approval from Continental Analytical Services, Inc.

Thank you for choosing Continental for this project. If you have any questions please contact me at (800)535-3076.

CONTINENTAL ANALYTICAL SERVICES, INC.

Clifford J. Baker
Technical Manager

Gregory J. Groene
Project Manager

525 N. Eighth St. - P.O. Box 3737 - Salina, KS 67402-3737
785-827-1273 800-535-3076 Fax 785-823-7830

KDHE Environmental Laboratory Accreditation No. E-10146

Continental Analytical Services, Inc.

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Sample Rptd: 06/06/2011
Date Sample Recd: 05/20/2011
Continental File No: 8339
Continental Order No: 56078

Lab Number: 11052007
Sample Description: 13th & River Blvd. Upstream

Date Sampled: 05/20/2011
Time Sampled: 0740

Analysis	Concentration	Units	Book/Page
Cadmium, Dissolved, ICP-MS	ND(1) DM	µg/L	7127/15
Cadmium, Tot. Rec., ICP-MS	ND(1)	µg/L	7127/15
Copper, Dissolved, ICP-MS	ND(5) DM	µg/L	7127/15
Copper, Tot. Rec., ICP-MS	9	µg/L	7127/15
Hardness (Calculated)	264	mg/L as CaCO3	7143/1
Zinc, Dissolved, ICP-MS	ND(20) DM	µg/L	7127/15
Zinc, Tot. Rec., ICP-MS	22	µg/L	7127/17
BOD	ND(5)	mg/L	7060/118
Chloride	111	mg/L	7129/14
Kjeldahl Nitrogen, as N	2	mg/L	7043/46
Nitrate, as N	0.4	mg/L	7129/14
Nitrite, as N	0.2	mg/L	7129/14
Nitrogen (TKN + NO3/NO2), as N	2.6	mg/L	9999/7
Phosphorus, Total, as P	0.54	mg/L	7061/92
Solids, Total Dissolved	520.	mg/L	7059/238
Solids, Total Suspended	52	mg/L	7059/236

Analysis	Date Prepared	Date Analyzed	QC Batch	Inst. Batch	Analyst	Method(s)
Cadmium, Dissolved, ICP-MS	05/23/11 1128	05/26/11 1743	110523-3	3IP3146	KMW	200.8 Rev. 5.4
Cadmium, Tot. Rec., ICP-MS	05/24/11 0759	05/26/11 2010	110524-1	5IP3146	KMW	200.8 Rev. 5.4
Copper, Dissolved, ICP-MS	05/23/11 1128	05/26/11 1743	110523-3	3IP3146	KMW	200.8 Rev. 5.4
Copper, Tot. Rec., ICP-MS	05/24/11 0759	05/26/11 2010	110524-1	5IP3146	KMW	200.8 Rev. 5.4
Hardness (Calculated)	05/24/11 1236	06/01/11 1457	110524-6	5IP4152	KMW	200.7 & SM 2340B
Zinc, Dissolved, ICP-MS	05/23/11 1128	05/26/11 1743	110523-3	3IP3146	KMW	200.8 Rev. 5.4
Zinc, Tot. Rec., ICP-MS	05/24/11 0759	06/03/11 1716	110524-1	3IP3154	JDL	200.8 Rev. 5.4
BOD	N/A	05/20/11 2030	110520-2	110520-3	ASK	SM 5210B
Chloride	N/A	05/21/11 0437	3IC1140	7IC1140	MLL	300.0
Kjeldahl Nitrogen, as N	N/A	05/27/11 1353	110527-1	110527-3	JND	4500N(C) & (E)
Nitrate, as N	N/A	05/21/11 0424	3IC1140	7IC1140	MLL	300.0
Nitrite, as N	N/A	05/21/11 0424	3IC1140	7IC1140	MLL	300.0
Nitrogen (TKN + NO3/NO2),	N/A	06/06/11				Calculation
Phosphorus, Total, as P	N/A	05/27/11 1651	110527-1	110527-2	KJH	SM 4500-P(B&F)(M
Solids, Total Dissolved	N/A	05/27/11 1545	110527-1	110527-1	ASK	SM20th 2540C
Solids, Total Suspended	N/A	05/27/11 1532	110527-1	110527-1	ASK	SM20th 2540D
Dissolved Metals Preparation Method						200.7/200.8
Total Recoverable Metals Preparation Method						200.7/200.8
Calculated as Hardness Preparation Method						200.7/6010B

Conclusion of Lab Number: 11052007

APPENDIX

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Sample Rptd: 06/06/2011
Date Sample Recd: 05/20/2011
Continental File No: 8339
Continental Order No: 56078

ND(), where reported, indicates the analyte was not detected above the limit of quantitation (LOQ). The concentration of the limit of quantitation is inside the parentheses.

All samples which require cooling were received at a temperature of less than 6 degrees Celsius.

The following table presents the date and time sampled, the date and time analyzed, and the total time elapsed for each analysis with an EPA recommended holding time of seventy-two hours or less.

CAS LAB ID #	ANALYSIS	DATE/TIME SAMPLED	DATE/TIME ANALYZED	ELAPSED HRS:MIN
11052007	BOD	05/20/2011 0740	05/20/2011 2030	12:50
11052007	Nitrate, as N	05/20/2011 0740	05/21/2011 0424	20:44
11052007	Nitrite, as N	05/20/2011 0740	05/21/2011 0424	20:44

DM - NPDES requirements specify that dissolved metals and orthophosphate must be filtered within 15 minutes of the time of collection. This analysis did not meet these criteria.

Continental Analytical Services, Inc.

Continental Analytical Services, Inc.
Accreditation Summary Report

Client: City of Wichita
CAS Order Number: 56078

NELAP accreditation is issued under each EPA regulatory program for a given matrix/analyte/method combination. Continental is NELAP accredited for each matrix/analyte/method and EPA program cited in this Laboratory Report, except for those listed in the table below and analysis performed in the field. For most of the analyses listed in the table, NELAP accreditation is not offered under the listed EPA program and Continental is NELAP accredited for the analysis, using the same analytical technology, but under a different EPA program. Continental's full NELAP accreditation status may be viewed at www.kdheks.gov/envlab. Note that unless qualified otherwise in the Laboratory Report, Continental performs all analyses, including each analysis listed in the table below, utilizing NELAP protocol.

Test	Analysis	Matrix-Regulatory Program	Method	CAS NELAP Accredited in Other Reg. Program
GL343	Nitrogen (TKN + NO3/NO2), as N	L-NPDES	Calculation	N

Continental Analytical Services, Inc.

Quality Control Report
Batch Summary

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Page: 5
Date Reported: 06/06/2011
Date Sample Received: 05/20/2011
Continental File No: 8339
Continental Order No: 56078

Test	Testname	QC Batch	Method Blank	LCS	MS Lab No.
SL156	Cadmium, Dissolved, ICP-MS	110523-3	110523BLK3	110523LCS3	11052011MS
SL162	Copper, Dissolved, ICP-MS	110523-3	110523BLK3	110523LCS3	11052011MS
SL183	Zinc, Dissolved, ICP-MS	110523-3	110523BLK3	110523LCS3	11052011MS
Lab numbers associated with this batch: 11052007					
SL006	Cadmium, Tot. Rec., ICP-MS	110524-1	110524BLK1	110524LCS1	11052012MS
SL012	Copper, Tot. Rec., ICP-MS	110524-1	110524BLK1	110524LCS1	11052012MS
SL033	Zinc, Tot. Rec., ICP-MS	110524-1	110524BLK1	110524LCS1	11052012MS
Lab numbers associated with this batch: 11052007					
SL323	Hardness (Calculated)	110524-6	110524BLK6	110524LCS6	11052012MS
Lab numbers associated with this batch: 11052007					
GL123	BOD	110520-2	110520BLK2	110520LCS2	11051795MS
Lab numbers associated with this batch: 11052007					
GL502	Chloride	3IC1140	BLK3IC1140	LCS3IC1140	11051141MS
Lab numbers associated with this batch: 11052007					
GL195	Kjeldahl Nitrogen, as N	110527-1	110527BLK1	110527LCS1	11052247MS
Lab numbers associated with this batch: 11052007					
GL505	Nitrate, as N	3IC1140	BLK3IC1140	LCS3IC1140	
GL503	Nitrite, as N	3IC1140	BLK3IC1140	LCS3IC1140	
Lab numbers associated with this batch: 11052007					
GL343	Nitrogen (TKN + NO3/NO2), as N				
Lab numbers associated with this batch: 11052007					
GL218	Phosphorus, Total, as P	110527-1	110527BLK1	110527LCS1	11051671MS
GL242	Solids, Total Dissolved	110527-1	110527BLK1	110527LCS1	11052007MS
GL243	Solids, Total Suspended	110527-1	110527BLK1	110527LCS1	11052007MS
Lab numbers associated with this batch: 11052007					

Continental Analytical Services, Inc.

Quality Control Report
Method Blank, LCS, MS/MSD Data

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Reported: 06/06/2011
Date Sample Received: 05/20/2011
Continental File No: 8339
Continental Order No: 56078

Analysis	Blank Data	% Rec LCS	Limits	Spike Level	Units	Spiked Sample (% Recovery) MS	MSD	Limits	Spike Level	Units	Spiked Sample Precision Data RPD	Limit
QC Batch: 110520-2	For sample analysed on: 05/20/2011					Spiked sample: 11051795						
BOD	ND(5)	91.0	70.5-110	198	mg/L	MN	MN	#		mg/L	**	13.2
QC Batch: 110523-3	For samples prepared on: 05/23/2011					Spiked sample: 11052011						
Cadmium, Dissolved, ICP-MS	ND(1)	98.4	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
Copper, Dissolved, ICP-MS	ND(5)	93.5	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
Zinc, Dissolved, ICP-MS	ND(20)	96.6	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
Zinc, Dissolved, ICP-MS	ND(20)	96.9	85.0-115	500	µg/L	MN	MN	80.0-120			**	20.0
QC Batch: 110524-1	For samples prepared on: 05/24/2011					Spiked sample: 11052012						
Cadmium, Tot. Rec., ICP-MS	ND(1)	100.	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
Copper, Tot. Rec., ICP-MS	ND(5)	95.0	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
Zinc, Tot. Rec., ICP-MS	ND(20)	98.6	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
QC Batch: 110524-6	For samples prepared on: 05/24/2011					Spiked sample: 11052012						
Hardness (Calculated)	ND(5.0)	91.2	80.0-120	337	mg/L a	MN	MN	80.0-120	337	mg/L as	**	20.0
QC Batch: 110527-1	For sample analysed on: 05/27/2011					Spiked sample: 11051671						
Phosphorus, Total, as P	ND(0.20)	102	90.0-110	1.0	mg/L	MN	MN	71.2-135	1.0	mg/L	**	21.2
QC Batch: 110527-1	For sample analysed on: 05/27/2011					Spiked sample: 11052007						
Solids, Total Dissolved	ND(30)	N/A			mg/L	520 T	500 T	#		mg/L	3.9	5.2
Solids, Total Suspended	ND(5)	N/A			mg/L	52 T	54 T	#		mg/L	3.8	18.2
QC Batch: 110527-1	For sample analysed on: 05/27/2011					Spiked sample: 11052247						
Kjeldahl Nitrogen, as N	ND(1)	98.0	90.0-110	20.0	mg/L	MN	MN	75.0-112	20.0	mg/L	**	17.4
QC Batch: 3IC1140	For sample analysed on: 05/21/2011					Spiked sample:						
Nitrite, as N	ND(0.1)	98.5	90.0-110	2.0	mg/L	MN	MN	78.5-127			**	10.1
Nitrate, as N	ND(0.1)	99.0	90.0-110	2.0	mg/L	MN	MN	79.3-118			**	12.1
QC Batch: 3IC1140	For sample analysed on: 05/21/2011					Spiked sample: 11051141						
Chloride	ND(1.0)	99.8	90.0-110	4.0	mg/L	MN	MN	82.1-126	400	mg/L	**	12.5

Data Qualifiers:

MN - The MS/MSD sample analyses were not performed on a sample from this Continental order number.

N/A - Not Applicable

T - MS/MSD cannot be performed for this analysis. The MS result is the same as the sample result. The MSD result is a duplicate of the sample.

\# - Limits not available.

** - RPD cannot be calculated.

Continental Analytical Services, Inc.

Quality Control Report

Continuing Calibration Verification Data Summary

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Reported: 06/06/2011
Date Sample Received: 05/20/2011
Continental File No: 8339
Continental Order No: 56078

Analysis	Date of Analysis	Instrument Batch ID	Amount in Standard	Amount Detected	Units	Percent Recovery
Cadmium, Dissolved, ICP-MS	05/26/2011	3IP3146	CCV recovery acceptable for this Instrument Batch.			
Cadmium, Dissolved, ICP-MS	05/26/2011	4IP3146	CCV recovery acceptable for this Instrument Batch.			
Cadmium, Tot. Rec., ICP-MS	05/26/2011	5IP3146	CCV recovery acceptable for this Instrument Batch.			
Cadmium, Tot. Rec., ICP-MS	05/26/2011	6IP3146	CCV recovery acceptable for this Instrument Batch.			
Copper, Dissolved, ICP-MS	05/26/2011	3IP3146	CCV recovery acceptable for this Instrument Batch.			
Copper, Dissolved, ICP-MS	05/26/2011	4IP3146	CCV recovery acceptable for this Instrument Batch.			
Copper, Tot. Rec., ICP-MS	05/26/2011	5IP3146	CCV recovery acceptable for this Instrument Batch.			
Copper, Tot. Rec., ICP-MS	05/26/2011	6IP3146	CCV recovery acceptable for this Instrument Batch.			
BOD	05/20/2011	110520-3	CCV recovery acceptable for this Instrument Batch.			
BOD	05/20/2011	110520-4	CCV recovery acceptable for this Instrument Batch.			
Kjeldahl Nitrogen, as N	05/27/2011	110527-3	CCV recovery acceptable for this Instrument Batch.			
Kjeldahl Nitrogen, as N	05/27/2011	110527-4	CCV recovery acceptable for this Instrument Batch.			
Phosphorus, Total, as P	05/27/2011	110527-2	CCV recovery acceptable for this Instrument Batch.			
Phosphorus, Total, as P	05/27/2011	110527-3	CCV recovery acceptable for this Instrument Batch.			
Chloride	05/21/2011	7IC1140	CCV recovery acceptable for this Instrument Batch.			
Chloride	05/21/2011	8IC1140	CCV recovery acceptable for this Instrument Batch.			
Nitrite, as N	05/21/2011	7IC1140	CCV recovery acceptable for this Instrument Batch.			
Nitrite, as N	05/21/2011	8IC1140	CCV recovery acceptable for this Instrument Batch.			
Nitrate, as N	05/21/2011	7IC1140	CCV recovery acceptable for this Instrument Batch.			
Nitrate, as N	05/21/2011	8IC1140	CCV recovery acceptable for this Instrument Batch.			
Hardness (Calculated)	06/01/2011	5IP4152	CCV recovery acceptable for this Instrument Batch.			
Hardness (Calculated)	06/01/2011	6IP4152	CCV recovery acceptable for this Instrument Batch.			
Zinc, Dissolved, ICP-MS	05/26/2011	3IP3146	CCV recovery acceptable for this Instrument Batch.			
Zinc, Tot. Rec., ICP-MS	06/03/2011	3IP3154	CCV recovery acceptable for this Instrument Batch.			
Zinc, Dissolved, ICP-MS	05/26/2011	4IP3146	CCV recovery acceptable for this Instrument Batch.			
Zinc, Tot. Rec., ICP-MS	06/03/2011	4IP3154	CCV recovery acceptable for this Instrument Batch.			

- Laboratory Report Conclusion -

Continental Analytical Services, Inc.

525 N. 8th Street, Salina, KS 67401
(785)827-1273 (800)535-3076 Fax (785)823-7830
www.cas-lab.com

CAS ORDER NO: 5600 18

CHAIN OF CUSTODY RECORD

Continental Shipping Order Number: _____

Client/Reporting Information	Invoice Information
Company Name: City of Wichita Sewage Treatment	Company Name: City of Wichita Sewage Treatment
Address: 305 E. 57th Street South	Address: 2305 E. 57th Street South
City: Wichita State: KS Zip: 67216	City: Wichita State: KS Zip: 67216
Contact: Jim Hardesty E-mail:	Contact: Jim Hardesty E-mail:
Phone Number: (316)303-8700 Fax Number: (316)303-8712	Phone Number: (316)303-8700 Fax Number: (316)303-8712

Sampler's Name:(Printed): Justin Murph
Sampler's Name:(Signature):
Purchase Order Number:
File Number: 535
Project Name: Stormwater - UPSTREAM

Edits made prior to sample receipt MW 5-20-11

SAMPLE IDENTIFICATION (30 Characters or less)	Matrix (Sample Type)	Regulatory Program	Date Sampled	Time Sampled	C Composite G-Grab	Total Containers	HCL	NaOH	HNO3	H2SO4	NONE	OTHER:	Total Cadmium, Copper, Zinc 250mL Plastic - HNO3	Hardness, TSS, TDS, Cl, BOD, NO3, NO2, Tot. Nitrogen 1000mL Plastic - None	TKN, Total P 250mL Plastic - H2SO4						COMMENTS
2930 13th & River Blvd. Upstream	WW	N	5/20/11	0745	G	3			1	1	1		X	X	X						

Regulatory Program: N=NPDES, R=RCRA, D=Drinking Water, SL=503 Sludge, O=Other

(Please note if non-standard turnaround. Rush & Emergency subject to additional charge)
Standard TAT: (15 working days) Rush TAT: (5 working days) Emergency TAT: (3 working days)

Matrix (Sample Type): DW=Drinking Water, GW=Ground Water, WW=Waste Water, W=Wipe, S=Solid/Soil, SL=Sludge, A=Air, OL = Oil/Organic Liquid, O=Other

	DATE:	TIME:		DATE:	TIME:
RELINQUISHED BY:	5/20/11	1800	RECEIVED BY:		
RELINQUISHED BY:			RECEIVED BY:		
RECEIVED AT LAB BY: Mark Westfall	5-20-11	1415	SHIPPED VIA: / AIRBILL:	SEAL #: / SEAL DATE:	

Continental's Standard Terms and Conditions of Sale will apply to all samples received unless a separate contractual agreement has been made.

Continental Analytical Services Cooler/Sample Receipt Form

CAS Order No. S6078

Client Name: Wichita Sewage

CAS File No.: 83355-206 83355-201

Sample ID's in cooler: See COC

13th & River Blvd

Cooler 1 of 1 for this CAS Order No.

Cooler Identification: CAS Cooler #: 1585 /Client's Cooler/Box/Letter/Hand Delivered
Other: _____

Date/Time Cooler Received: 5 / 20 / 11 14 : 15

Delivered By: UPS/FedX/AB Express/ASAP/Land Air Exp/Field Svcs/Mail/Walk-In/Other: _____

Custody Seal: Present: Intact / Broken Absent: X Seal No: _____
Seal Name: _____ Seal Date: _____
Seal matches Chain of Custody: Yes / No / N/A

Type of Packing Material: Blue Ice/Ice/Melted Ice/Bubble/Foam/Paper/Peanuts/Vermiculite/ None/Other: _____

Cooler Temperature (°C): Original Reading (°C) 1.2 Corrected Reading (°C) 1.5
Temp. By: Temp. Blank Surface: Glass/Plastic/Metal/Other: _____ Cooler
Thermo. ID No.: 585 Thermo. Correction Factor (°C): 0.3
☐ Evidence of Cooling: date received=date sampled

Sample Receipt Discrepancies: ☒ No ☐ ***Yes (see below for discrepancies)***

Note: CAS will proceed with sample analyses, addressing each discrepancy as shown, until/unless directed otherwise by the client.

- ☐ Chain of Custody not present information taken from:
  - Cover Letter ☐ Container ☐
  - PO ☐ CAS Proj. Mgr. ☐
- ☐ Container label absent
- ☐ Chain of Custody incomplete [see detail below]
- ☐ Chain of Custody missing date/time sampled (excl. TB or Dup)
- ☐ Date or Time sampled obtained from container label
- ☐ Chain of Custody missing sampler's name
- ☐ Chain of Custody missing matrix (sample type)
- ☐ Missing relinquished information: signature date time
- ☐ Sample excluded from Chain of Custody
- ☐ Sample listed on Chain of Custody, not received
- ☐ Sample description on container and Chain of Custody do not agree
- ☐ Air bubbles in Aqueous VOA vials larger than pea-size [approx. 6 mm]
- ☐ Cooler temperature exceeded 0.1 - 6.0 °C requirement [Do not mark if samples do not require cooling to 0.1 - 6.0 °C.]
- ☐ Broken or leaking containers (detail actions below)
- ☐ Sample container type or labeled chemical preservation inappropriate
- ☐ Other discrepancies: _____

Detail to discrepancies/comments:

Completed by: MWJ Date Completed: 5-20-11

Continental Analytical Services, Inc.

06/06/2011

City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date and Time Received: 05/20/2011 14:15
Continental File No.: 8339
Continental Order No.: 56079
Project ID: Stormwater

Dear Mr. Hardesty:

This laboratory report containing the samples indicated below, includes 9 pages for the analytical report, 1 page(s) for the chain of custody and/or analysis request, and 1 page(s) for the sample receipt form.

CAS LAB ID #	SAMPLE DESCRIPTION	SAMPLE TYPE	DATE SAMPLED
11052008	13th & River Blvd - Grab	Liquid	5/20/2011
11052009	13th & River Blvd - Composite	Liquid	5/20/2011

The Appendix and Quality Control sections are integral parts of this laboratory report and may contain important data qualifiers.

All results are reported on a wet weight basis unless otherwise stated.

Samples will be retained for thirty days unless Continental is otherwise notified.

Continental is accredited by the State of Kansas through the National Environmental Laboratory Accreditation Program (NELAP). The results contained in this report were obtained using Continental's Standard Operating Procedures. These procedures are in substantial compliance with the approved methods referenced and the standards published by NELAP unless otherwise noted in the Appendix and Quality Control sections of this report.

This report may not be reproduced, except in full, without written approval from Continental Analytical Services, Inc.

Thank you for choosing Continental for this project. If you have any questions please contact me at (800)535-3076.

CONTINENTAL ANALYTICAL SERVICES, INC.

Clifford J. Baker
Technical Manager

Gregory J. Groene
Project Manager

525 N. Eighth St. - P.O. Box 3737 - Salina, KS 67402-3737
785-827-1273 800-535-3076 Fax 785-823-7830

KDHE Environmental Laboratory Accreditation No. E-10146

Continental Analytical Services, Inc.

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Sample Rptd: 06/06/2011
Date Sample Recd: 05/20/2011
Continental File No: 8339
Continental Order No: 56079

Lab Number: 11052008
Sample Description: 13th & River Blvd - Grab

Date Sampled: 05/20/2011
Time Sampled: 0735

Analysis	Concentration	Units	Book/Page
Cadmium, Dissolved, ICP-MS	ND(1) DM	µg/L	7127/15
Cadmium, Tot. Rec., ICP-MS	ND(1)	µg/L	7127/15
Copper, Dissolved, ICP-MS	ND(5) DM	µg/L	7127/15
Copper, Tot. Rec., ICP-MS	11	µg/L	7127/15
Hardness (Calculated)	22.6	mg/L as CaCO3	7143/2
Zinc, Dissolved, ICP-MS	ND(20) DM	µg/L	7127/15
Zinc, Tot. Rec., ICP-MS	104	µg/L	7127/17
Chloride	1.8	mg/L	7129/20
Solids, Total Dissolved	46	mg/L	7059/238
Solids, Total Suspended	50.	mg/L	7059/236

Analysis	Date Prepared	Date Analyzed	QC Batch	Inst. Batch	Analyst	Method(s)
Cadmium, Dissolved, ICP-MS	05/23/11 1128	05/26/11 1748	110523-3	3IP3146	KMW	200.8 Rev. 5.4
Cadmium, Tot. Rec., ICP-MS	05/24/11 0759	05/26/11 2015	110524-1	5IP3146	KMW	200.8 Rev. 5.4
Copper, Dissolved, ICP-MS	05/23/11 1128	05/26/11 1748	110523-3	3IP3146	KMW	200.8 Rev. 5.4
Copper, Tot. Rec., ICP-MS	05/24/11 0759	05/26/11 2015	110524-1	5IP3146	KMW	200.8 Rev. 5.4
Hardness (Calculated)	05/24/11 1236	06/02/11 1402	110524-6	2IP4153	KMW	200.7 & SM 2340
Zinc, Dissolved, ICP-MS	05/23/11 1128	05/26/11 1748	110523-3	3IP3146	KMW	200.8 Rev. 5.4
Zinc, Tot. Rec., ICP-MS	05/24/11 0759	06/03/11 1721	110524-1	3IP3154	JDL	200.8 Rev. 5.4
Chloride	N/A	05/31/11 1925	1IC1151	2IC1151	MLL	300.0
Solids, Total Dissolved	N/A	05/27/11 1545	110527-1	110527-1	ASK	SM20th 2540C
Solids, Total Suspended	N/A	05/27/11 1532	110527-1	110527-1	ASK	SM20th 2540D
Dissolved Metals Preparation Method						200.7/200.8
Total Recoverable Metals Preparation Method						200.7/200.8
Calculated as Hardness Preparation Method						200.7/6010B

Conclusion of Lab Number: 11052008

Continental Analytical Services, Inc.

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Sample Rptd: 06/06/2011
Date Sample Recd: 05/20/2011
Continental File No: 8339
Continental Order No: 56079

Lab Number: 11052009
Sample Description: 13th & River Blvd - Composite

Date Sampled: 05/20/2011
Time Sampled: 0735

Analysis	Concentration	Units	Book/Page
Cadmium, Dissolved, ICP-MS	ND(1) DM	µg/L	7127/15
Cadmium, Tot. Rec., ICP-MS	ND(1)	µg/L	7127/15
Copper, Dissolved, ICP-MS	ND(5) DM	µg/L	7127/15
Copper, Tot. Rec., ICP-MS	8	µg/L	7127/15
Hardness (Calculated)	21.8	mg/L as CaCO3	7143/2
Zinc, Dissolved, ICP-MS	ND(20) DM	µg/L	7127/15
Zinc, Tot. Rec., ICP-MS	56	µg/L	7127/17
BOD	7	mg/L	7060/118
Chloride	2.1	mg/L	7129/14
Kjeldahl Nitrogen, as N	1	mg/L	7043/46
Nitrate, as N	0.3	mg/L	7129/14
Nitrite, as N	ND(0.1)	mg/L	7129/14
Nitrogen (TKN + NO3/NO2), as N	1.3	mg/L	9999/7
Phosphorus, Total, as P	0.21	mg/L	7061/92
Solids, Total Dissolved	42	mg/L	7059/238
Solids, Total Suspended	39	mg/L	7059/236

Analysis	Date Prepared	Date Analyzed	QC Batch	Inst. Batch	Analyst	Method(s)
Cadmium, Dissolved, ICP-MS	05/23/11 1128	05/26/11 1753	110523-3	3IP3146	KMW	200.8 Rev. 5.4
Cadmium, Tot. Rec., ICP-MS	05/24/11 0759	05/26/11 2020	110524-1	5IP3146	KMW	200.8 Rev. 5.4
Copper, Dissolved, ICP-MS	05/23/11 1128	05/26/11 1753	110523-3	3IP3146	KMW	200.8 Rev. 5.4
Copper, Tot. Rec., ICP-MS	05/24/11 0759	05/26/11 2020	110524-1	5IP3146	KMW	200.8 Rev. 5.4
Hardness (Calculated)	05/24/11 1236	06/02/11 1406	110524-6	2IP4153	KMW	200.7 & SM 2340
Zinc, Dissolved, ICP-MS	05/23/11 1128	05/26/11 1753	110523-3	3IP3146	KMW	200.8 Rev. 5.4
Zinc, Tot. Rec., ICP-MS	05/24/11 0759	06/03/11 1727	110524-1	3IP3154	JDL	200.8 Rev. 5.4
BOD	N/A	05/20/11 2030	110520-2	110520-3	ASK	SM 5210B
Chloride	N/A	05/21/11 0451	3IC1140	7IC1140	MLL	300.0
Kjeldahl Nitrogen, as N	N/A	05/27/11 1353	110527-1	110527-3	JND	4500N(C) & (E)
Nitrate, as N	N/A	05/21/11 0451	3IC1140	7IC1140	MLL	300.0
Nitrite, as N	N/A	05/21/11 0451	3IC1140	7IC1140	MLL	300.0
Nitrogen (TKN + NO3/NO2),	N/A	06/06/11				Calculation
Phosphorus, Total, as P	N/A	05/27/11 1652	110527-1	110527-2	KJH	SM 4500-P(B&F) (
Solids, Total Dissolved	N/A	05/27/11 1545	110527-1	110527-1	ASK	SM20th 2540C
Solids, Total Suspended	N/A	05/27/11 1532	110527-1	110527-1	ASK	SM20th 2540D
Dissolved Metals Preparation Method						200.7/200.8
Total Recoverable Metals Preparation Method						200.7/200.8
Calculated as Hardness Preparation Method						200.7/6010B

Conclusion of Lab Number: 11052009

APPENDIX

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Sample Rptd: 06/06/2011
Date Sample Recd: 05/20/2011
Continental File No: 8339
Continental Order No: 56079

ND(), where reported, indicates the analyte was not detected above the limit of quantitation (LOQ). The concentration of the limit of quantitation is inside the parentheses.

All samples which require cooling were received at a temperature of less than 6 degrees Celsius.

The following table presents the date and time sampled, the date and time analyzed, and the total time elapsed for each analysis with an EPA recommended holding time of seventy-two hours or less.

CAS LAB ID #	ANALYSIS	DATE/TIME SAMPLED	DATE/TIME ANALYZED	ELAPSED HRS:MIN
11052009	BOD	05/20/2011 0735	05/20/2011 2030	12:55
11052009	Nitrate, as N	05/20/2011 0735	05/21/2011 0451	21:16
11052009	Nitrite, as N	05/20/2011 0735	05/21/2011 0451	21:16

DM - NPDES requirements specify that dissolved metals and orthophosphate must be filtered within 15 minutes of the time of collection. This analysis did not meet these criteria.

Continental Analytical Services, Inc.

Date: 06/06/2011

Continental Analytical Services, Inc.
Accreditation Summary Report

Client: City of Wichita
CAS Order Number: 56079

NELAP accreditation is issued under each EPA regulatory program for a given matrix/analyte/method combination. Continental is NELAP accredited for each matrix/analyte/method and EPA program cited in this Laboratory Report, except for those listed in the table below and analysis performed in the field. For most of the analyses listed in the table, NELAP accreditation is not offered under the listed EPA program and Continental is NELAP accredited for the analysis, using the same analytical technology, but under a different EPA program. Continental's full NELAP accreditation status may be viewed at www.kdheks.gov/envlab. Note that unless qualified otherwise in the Laboratory Report, Continental performs all analyses, including each analysis listed in the table below, utilizing NELAP protocol.

Test	Analysis	Matrix-Regulatory Program	Method	CAS NELAP Accredited in Other Reg. Program
GL343	Nitrogen (TKN + NO3/NO2), as N	L-NPDES	Calculation	N

Continental Analytical Services, Inc.

Quality Control Report
Batch Summary

Date Reported: 06/06/2011
Date Sample Received: 05/20/2011
Continental File No: 8339
Continental Order No: 56079

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Test	Testname	QC Batch	Method Blank	LCS	MS Lab No.
SL156	Cadmium, Dissolved, ICP-MS	110523-3	110523BLK3	110523LCS3	11052011MS
SL162	Copper, Dissolved, ICP-MS	110523-3	110523BLK3	110523LCS3	11052011MS
SL183	Zinc, Dissolved, ICP-MS	110523-3	110523BLK3	110523LCS3	11052011MS
Lab numbers associated with this batch: 11052008 11052009					
SL006	Cadmium, Tot. Rec., ICP-MS	110524-1	110524BLK1	110524LCS1	11052012MS
SL012	Copper, Tot. Rec., ICP-MS	110524-1	110524BLK1	110524LCS1	11052012MS
SL033	Zinc, Tot. Rec., ICP-MS	110524-1	110524BLK1	110524LCS1	11052012MS
Lab numbers associated with this batch: 11052008 11052009					
SL323	Hardness (Calculated)	110524-6	110524BLK6	110524LCS6	11052012MS
Lab numbers associated with this batch: 11052008 11052009					
GL123	BOD	110520-2	110520BLK2	110520LCS2	11051795MS
Lab numbers associated with this batch: 11052009					
GL502	Chloride	1IC1151	BLK1IC1151	LCS1IC1151	11052289MS
Lab numbers associated with this batch: 11052008					
GL502	Chloride	3IC1140	BLK3IC1140	LCS3IC1140	11051141MS
Lab numbers associated with this batch: 11052009					
GL195	Kjeldahl Nitrogen, as N	110527-1	110527BLK1	110527LCS1	11052247MS
Lab numbers associated with this batch: 11052009					
GL505	Nitrate, as N	3IC1140	BLK3IC1140	LCS3IC1140	
GL503	Nitrite, as N	3IC1140	BLK3IC1140	LCS3IC1140	
Lab numbers associated with this batch: 11052009					
GL343	Nitrogen (TKN + NO3/NO2), as N				
Lab numbers associated with this batch: 11052009					

Continental Analytical Services, Inc.

Quality Control Report
Batch Summary

Date Reported: 06/06/2011
Date Sample Received: 05/20/2011
Continental File No: 8339
Continental Order No: 56079

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Test	Testname	QC Batch	Method Blank	LCS	MS Lab No.
GL218	Phosphorus, Total, as P	110527-1	110527BLK1	110527LCS1	11051671MS
Lab numbers associated with this batch: 11052009					
GL242	Solids, Total Dissolved	110527-1	110527BLK1	110527LCS1	11052007MS
GL243	Solids, Total Suspended	110527-1	110527BLK1	110527LCS1	11052007MS
Lab numbers associated with this batch: 11052008 11052009					

Continental Analytical Services, Inc.

Quality Control Report
Method Blank, LCS, MS/MSD Data

Date Reported: 06/06/2011
Date Sample Received: 05/20/2011
Continental File No: 8339
Continental Order No: 56079

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Analysis	Blank Data	% Rec LCS	Limits	Spike Level	Units	Spiked Sample (% Recovery) MS	MSD	Limits	Spike Level	Units	Spiked Sample Precision Data RPD	Limit
QC Batch: 110520-2	For sample analyzed on: 05/20/2011					Spiked sample: 11051795						
BOD	ND(5)	91.0	70.5-110	198	mg/L	MN	MN	#		mg/L	**	13.2
QC Batch: 110523-3	For samples prepared on: 05/23/2011					Spiked sample: 11052011						
Cadmium, Dissolved, ICP-MS	ND(1)	98.4	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
Copper, Dissolved, ICP-MS	ND(5)	93.5	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
Zinc, Dissolved, ICP-MS	ND(20)	96.6	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
Zinc, Dissolved, ICP-MS	ND(20)	96.9	85.0-115	500	µg/L	MN	MN	80.0-120			**	20.0
QC Batch: 110524-1	For samples prepared on: 05/24/2011					Spiked sample: 11052012						
Cadmium, Tot. Rec., ICP-MS	ND(1)	100.	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
Copper, Tot. Rec., ICP-MS	ND(5)	95.0	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
Zinc, Tot. Rec., ICP-MS	ND(20)	98.6	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
QC Batch: 110524-6	For samples prepared on: 05/24/2011					Spiked sample: 11052012						
Hardness (Calculated)	ND(5.0)	91.2	80.0-120	337	mg/L a	MN	MN	80.0-120	337	mg/L as	**	20.0
QC Batch: 110527-1	For sample analyzed on: 05/27/2011					Spiked sample: 11051671						
Phosphorus, Total, as P	ND(0.20)	102	90.0-110	1.0	mg/L	MN	MN	71.2-135	1.0	mg/L	**	21.2
QC Batch: 110527-1	For sample analyzed on: 05/27/2011					Spiked sample: 11052007						
Solids, Total Dissolved	ND(30)	N/A			mg/L	MN	MN	#		mg/L	**	5.2
Solids, Total Suspended	ND(5)	N/A			mg/L	MN	MN	#		mg/L	**	18.2
QC Batch: 110527-1	For sample analyzed on: 05/27/2011					Spiked sample: 11052247						
Kjeldahl Nitrogen, as N	ND(1)	98.0	90.0-110	20.0	mg/L	MN	MN	75.0-112	20.0	mg/L	**	17.4
QC Batch: 1IC1151	For sample analyzed on: 05/31/2011					Spiked sample: 11052289						
Chloride	ND(1.0)	104	90.0-110	4.0	mg/L	MN	MN	82.1-126	80.0	mg/L	**	12.5
QC Batch: 3IC1140	For sample analyzed on: 05/21/2011					Spiked sample:						
Nitrite, as N	ND(0.1)	98.5	90.0-110	2.0	mg/L	MN	MN	78.5-127			**	10.1
Nitrate, as N	ND(0.1)	99.0	90.0-110	2.0	mg/L	MN	MN	79.3-118			**	12.1
QC Batch: 3IC1140	For sample analyzed on: 05/21/2011					Spiked sample: 11051141						
Chloride	ND(1.0)	99.8	90.0-110	4.0	mg/L	MN	MN	82.1-126	400	mg/L	**	12.5

Data Qualifiers:
MN - The MS/MSD sample analyses were not performed on a sample from this Continental order number.

N/A - Not Applicable

- Limits not available.

** - RPD cannot be calculated.

Continental Analytical Services, Inc.

Quality Control Report

Continuing Calibration Verification Data Summary

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Reported: 06/06/2011
Date Sample Received: 05/20/2011
Continental File No: 8339
Continental Order No: 56079

Analysis	Date of Analysis	Instrument Batch ID	Amount in Standard	Amount Detected	Units	Percent Recovery
Cadmium, Dissolved, ICP-MS	05/26/2011	3IP3146	CCV recovery acceptable for this Instrument Batch.			
Cadmium, Dissolved, ICP-MS	05/26/2011	4IP3146	CCV recovery acceptable for this Instrument Batch.			
Cadmium, Tot. Rec., ICP-MS	05/26/2011	5IP3146	CCV recovery acceptable for this Instrument Batch.			
Cadmium, Tot. Rec., ICP-MS	05/26/2011	6IP3146	CCV recovery acceptable for this Instrument Batch.			
Copper, Dissolved, ICP-MS	05/26/2011	3IP3146	CCV recovery acceptable for this Instrument Batch.			
Copper, Dissolved, ICP-MS	05/26/2011	4IP3146	CCV recovery acceptable for this Instrument Batch.			
Copper, Tot. Rec., ICP-MS	05/26/2011	5IP3146	CCV recovery acceptable for this Instrument Batch.			
Copper, Tot. Rec., ICP-MS	05/26/2011	6IP3146	CCV recovery acceptable for this Instrument Batch.			
BOD	05/20/2011	110520-3	CCV recovery acceptable for this Instrument Batch.			
BOD	05/20/2011	110520-4	CCV recovery acceptable for this Instrument Batch.			
Kjeldahl Nitrogen, as N	05/27/2011	110527-3	CCV recovery acceptable for this Instrument Batch.			
Kjeldahl Nitrogen, as N	05/27/2011	110527-4	CCV recovery acceptable for this Instrument Batch.			
Phosphorus, Total, as P	05/27/2011	110527-2	CCV recovery acceptable for this Instrument Batch.			
Phosphorus, Total, as P	05/27/2011	110527-3	CCV recovery acceptable for this Instrument Batch.			
Chloride	05/21/2011	7IC1140	CCV recovery acceptable for this Instrument Batch.			
Chloride	05/21/2011	8IC1140	CCV recovery acceptable for this Instrument Batch.			
Chloride	05/31/2011	2IC1151	CCV recovery acceptable for this Instrument Batch.			
Chloride	05/31/2011	3IC1151	CCV recovery acceptable for this Instrument Batch.			
Nitrite, as N	05/21/2011	7IC1140	CCV recovery acceptable for this Instrument Batch.			
Nitrite, as N	05/21/2011	8IC1140	CCV recovery acceptable for this Instrument Batch.			
Nitrate, as N	05/21/2011	7IC1140	CCV recovery acceptable for this Instrument Batch.			
Nitrate, as N	05/21/2011	8IC1140	CCV recovery acceptable for this Instrument Batch.			
Hardness (Calculated)	06/02/2011	2IP4153	CCV recovery acceptable for this Instrument Batch.			
Hardness (Calculated)	06/02/2011	3IP4153	CCV recovery acceptable for this Instrument Batch.			
Zinc, Dissolved, ICP-MS	05/26/2011	3IP3146	CCV recovery acceptable for this Instrument Batch.			
Zinc, Tot. Rec., ICP-MS	06/03/2011	3IP3154	CCV recovery acceptable for this Instrument Batch.			
Zinc, Dissolved, ICP-MS	05/26/2011	4IP3146	CCV recovery acceptable for this Instrument Batch.			
Zinc, Tot. Rec., ICP-MS	06/03/2011	4IP3154	CCV recovery acceptable for this Instrument Batch.			

- Laboratory Report Conclusion -

Continental Analytical Services, Inc.

525 N. 8th Street, Salina, KS 67401
(785)827-1273 (800)535-3076 Fax (785)823-7830
www.cas-lab.com

CHAIN OF CUSTODY RECORD

Continental Shipping Order Number: _____

Client/Reporting Information	Invoice Information
Company Name: ty of Wichita Sewage Treatment	Company Name: City of Wichita Sewage Treatment
Address: 05 E. 57th Street South	Address: 2305 E. 57th Street South
City: ichita State: KS Zip: 67216	City: Wichita State: KS Zip: 67216
Contact: n Hardesty E-mail:	Contact: Jim Hardesty E-mail:
Phone Number: (316)303-8700 Fax Number: (316)303-8712	Phone Number: (316)303-8700 Fax Number: (316)303-8712
Sampler's Name:(Printed): Justin Murphy	Sampler's Name:(Signature):
Purchase Order Number:	
Project Name: Stormwater	
Project Number: 535	

SAMPLE IDENTIFICATION (30 Characters or less)	Matrix (Sample Type)	Regulatory Program	Date Sampled	Time Sampled	C-Composite G-Grab	Total Containers	Number of Preserved Bottles: HCL	NaOH	HNO3	H2SO4	NONE	OTHER:	Cadmium, Copper, Zinc - Total Recoverable 250ml Plastic - HNO3	Hardness, TSS TDS, Cl, Diss. - Cd, Cu, Zn 1000ml Plastic - None	Total Metals, Dissolved Metals, Hardness, TSS, TDS, Cl, BOD, TKN, Total P, NO3, NO2, Tot. Nitrogen Large Carboy						COMMENTS
0991-Grab 13th & River Blvd	WW	N	5/20/11	0735	G	2			1		1		X	X							
0991-Composite 13th & River Blvd	WW	N	5/20/11	0735	C	1					1				X						5 Gal. Container to be poured off at lab
																					as needed for required tests.
																					Remaining volume will be saved for
																					for organics if needed.

Edits made prior to sample receipt
MW 5-20-11

Regulatory Program N=NPDES, R=RCRA, D=Drinking Water, SL=503 Sludge, O=Other

(Please note if non-standard turnaround. Rush & Emergency subject to additional charges)
Standard TAT: (15 working days) Rush TAT: (5 working days) Emergency TAT: (3 working days)

Matrix (Sample Type): DW=Drinking Water, GW=Ground Water, WW=Waste Water, W=Wipe, S=Solid/Soil, SL=Sludge, A=Air, OL = Oil/Organic Liquid, O=Other

RELINQUISHED BY:	DATE: 5/20/11	TIME: 1200	RECEIVED BY:	DATE:	TIME:
RELINQUISHED BY:	DATE:	TIME:	RECEIVED BY:	DATE:	TIME:
RECEIVED AT LAB BY: Mark W Stafford	DATE: 5-20-11	TIME: 14:15	SHIPPED VIA: AIRBILL:	SEAL #: SEAL DATE:	

Continental's Standard Terms and Conditions of Sale will apply to all samples received unless a separate contractual agreement has been made.

Continental Analytical Services Cooler/Sample Receipt Form

CAS Order No. S6058 9 52411

Client Name: Wichita Sewage

CAS File No.: 8339

Sample ID's in cooler: See COC

13th & River Blvd.

Cooler 1 of 1 for this CAS Order No.

Cooler Identification: CAS Cooler #: 1585 /Client's Cooler/Box/Letter/Hand Delivered
Other: _____

Date/Time Cooler Received: 5 / 20 / 11 14 : 15

Delivered By: UPS/FedX/AB Express/ASAP/Land Air Exp/Field Svcs/Mail/Walk-In/Other: _____

Custody Seal: Present: Intact / Broken Absent: X Seal No: _____

Seal Name: _____ Seal Date: _____

Seal matches Chain of Custody: Yes / No / N/A

Type of Packing Material: Blue Ice/Ice/Melted Ice/Bubble/Foam/Paper/Peanuts/Vermiculite/ None/Other: _____

Cooler Temperature (°C): Original Reading (°C) 1.2 Corrected Reading (°C) 1.5

Temp. By: Temp. Blank Surface: Glass/Plastic/Metal/Other: _____ Cooler

Thermo. ID No.: 585 Thermo. Correction Factor (°C): 0.3

☐ Evidence of Cooling: date received=date sampled

Sample Receipt Discrepancies: ☒ No ☐ ***Yes (see below for discrepancies)***

Note: CAS will proceed with sample analyses, addressing each discrepancy as shown, until/unless directed otherwise by the client.

☐ Chain of Custody not present information taken from:
Cover Letter ☐ Container ☐
PO ☐ CAS Proj. Mgr. ☐

☐ Container label absent

☐ Chain of Custody incomplete [see detail below]

☐ Chain of Custody missing date/time sampled (excl. TB or Dup)

☐ Date or Time sampled obtained from container label

☐ Chain of Custody missing sampler's name

☐ Chain of Custody missing matrix (sample type)

☐ Missing relinquished information: signature date time

☐ Sample excluded from Chain of Custody

☐ Sample listed on Chain of Custody, not received

☐ Sample description on container and Chain of Custody do not agree

☐ Air bubbles in Aqueous VOA vials larger than pea-size [approx. 6 mm]

☐ Cooler temperature exceeded 0.1 - 6.0 °C requirement
[Do not mark if samples do not require cooling to 0.1 - 6.0 °C.]

☐ Broken or leaking containers (detail actions below)

☐ Sample container type or labeled chemical preservation inappropriate

☐ Other discrepancies: _____

Detail to discrepancies/comments:

Completed by: MWJ Date Completed: 5-20-11

Continental Analytical Services, Inc.

06/06/2011

City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date and Time Received: 05/20/2011 14:15
Continental File No.: 8339
Continental Order No.: 56080
Project ID: SW-Upstream

Dear Mr. Hardesty:

This laboratory report containing the samples indicated below, includes 7 pages for the analytical report, 1 page(s) for the chain of custody and/or analysis request, and 1 page(s) for the sample receipt form.

CAS LAB ID #	SAMPLE DESCRIPTION	SAMPLE TYPE	DATE SAMPLED
11052010	Broadway&Arkansas Rvr Upstream	Liquid	5/20/2011

The Appendix and Quality Control sections are integral parts of this laboratory report and may contain important data qualifiers.

All results are reported on a wet weight basis unless otherwise stated.

Samples will be retained for thirty days unless Continental is otherwise notified.

Continental is accredited by the State of Kansas through the National Environmental Laboratory Accreditation Program (NELAP). The results contained in this report were obtained using Continental's Standard Operating Procedures. These procedures are in substantial compliance with the approved methods referenced and the standards published by NELAP unless otherwise noted in the Appendix and Quality Control sections of this report.

This report may not be reproduced, except in full, without written approval from Continental Analytical Services, Inc.

Thank you for choosing Continental for this project. If you have any questions please contact me at (800)535-3076.

CONTINENTAL ANALYTICAL SERVICES, INC.

Clifford J. Baker
Technical Manager

Gregory J. Groene
Project Manager

525 N. Eighth St. - P.O. Box 3737 - Salina, KS 67402-3737
785-827-1273 800-535-3076 Fax 785-823-7830

KDHE Environmental Laboratory Accreditation No. E-10146

Continental Analytical Services, Inc.

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Sample Rptd: 06/06/2011
Date Sample Recd: 05/20/2011
Continental File No: 8339
Continental Order No: 56080

Lab Number: 11052010
Sample Description: Broadway&Arkansas Rvr Upstream

Date Sampled: 05/20/2011
Time Sampled: 0940

Analysis	Concentration	Units	Book/Page
Cadmium, Dissolved, ICP-MS	ND(1) DM	µg/L	7127/15
Cadmium, Tot. Rec., ICP-MS	ND(1)	µg/L	7127/15
Copper, Dissolved, ICP-MS	ND(5) DM	µg/L	7127/15
Copper, Tot. Rec., ICP-MS	8	µg/L	7127/15
Hardness (Calculated)	204	mg/L as CaCO3	7143/1
Zinc, Dissolved, ICP-MS	ND(20) DM	µg/L	7127/15
Zinc, Tot. Rec., ICP-MS	74	µg/L	7127/17
BOD	10.	mg/L	7060/118
Chloride	260.	mg/L	7129/14
Kjeldahl Nitrogen, as N	3	mg/L	7043/46
Nitrate, as N	0.7	mg/L	7129/14
Nitrite, as N	ND(1) M	mg/L	7129/14
Nitrogen (TKN + NO3/NO2), as N	3.7	mg/L	9999/7
Phosphorus, Total, as P	0.20	mg/L	7061/92
Solids, Total Dissolved	670.	mg/L	7059/238
Solids, Total Suspended	139	mg/L	7059/236

Analysis	Date Prepared	Date Analyzed	QC Batch	Inst. Batch	Analyst	Method(s)
Cadmium, Dissolved, ICP-MS	05/23/11 1128	05/26/11 1759	110523-3	3IP3146	KMW	200.8 Rev. 5.4
Cadmium, Tot. Rec., ICP-MS	05/24/11 0759	05/26/11 2036	110524-1	6IP3146	KMW	200.8 Rev. 5.4
Copper, Dissolved, ICP-MS	05/23/11 1128	05/26/11 1759	110523-3	3IP3146	KMW	200.8 Rev. 5.4
Copper, Tot. Rec., ICP-MS	05/24/11 0759	05/26/11 2036	110524-1	6IP3146	KMW	200.8 Rev. 5.4
Hardness (Calculated)	05/24/11 1236	06/01/11 1509	110524-6	5IP4152	KMW	200.7 & SM 2340
Zinc, Dissolved, ICP-MS	05/23/11 1128	05/26/11 1759	110523-3	3IP3146	KMW	200.8 Rev. 5.4
Zinc, Tot. Rec., ICP-MS	05/24/11 0759	06/03/11 1732	110524-1	3IP3154	JDL	200.8 Rev. 5.4
BOD	N/A	05/20/11 2030	110520-2	110520-3	ASK	SM 5210B
Chloride	N/A	05/21/11 0556	3IC1140	8IC1140	MLL	300.0
Kjeldahl Nitrogen, as N	N/A	05/27/11 1353	110527-1	110527-3	JND	4500N(C) & (E)
Nitrate, as N	N/A	05/21/11 0543	3IC1140	8IC1140	MLL	300.0
Nitrite, as N	N/A	05/21/11 0556	3IC1140	8IC1140	MLL	300.0
Nitrogen (TKN + NO3/NO2),	N/A	06/06/11				Calculation
Phosphorus, Total, as P	N/A	05/27/11 1654	110527-1	110527-3	KJH	SM 4500-P(B&F) (
Solids, Total Dissolved	N/A	05/27/11 1546	110527-1	110527-1	ASK	SM20th 2540C
Solids, Total Suspended	N/A	05/27/11 1533	110527-1	110527-1	ASK	SM20th 2540D
Dissolved Metals Preparation Method						200.7/200.8
Total Recoverable Metals Preparation Method						200.7/200.8
Calculated as Hardness Preparation Method						200.7/6010B

Conclusion of Lab Number: 11052010

APPENDIX

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Sample Rptd: 06/06/2011
Date Sample Recd: 05/20/2011
Continental File No: 8339
Continental Order No: 56080

ND(), where reported, indicates the analyte was not detected above the limit of quantitation (LOQ). The concentration of the limit of quantitation is inside the parentheses.

All samples which require cooling were received at a temperature of less than 6 degrees Celsius.

The following table presents the date and time sampled, the date and time analyzed, and the total time elapsed for each analysis with an EPA recommended holding time of seventy-two hours or less.

CAS LAB ID #	ANALYSIS	DATE/TIME SAMPLED	DATE/TIME ANALYZED	ELAPSED HRS:MIN
11052010	BOD	05/20/2011 0940	05/20/2011 2030	10:50
11052010	Nitrate, as N	05/20/2011 0940	05/21/2011 0543	20:03
11052010	Nitrite, as N	05/20/2011 0940	05/21/2011 0556	20:16

DM - NPDES requirements specify that dissolved metals and orthophosphate must be filtered within 15 minutes of the time of collection. This analysis did not meet these criteria.

M - Reporting limit higher than normal due to matrix interferences.

Continental Analytical Services, Inc.

Date: 06/06/2011

Continental Analytical Services, Inc.
Accreditation Summary Report

Client: City of Wichita
CAS Order Number: 56080

NELAP accreditation is issued under each EPA regulatory program for a given matrix/analyte/method combination. Continental is NELAP accredited for each matrix/analyte/method and EPA program cited in this Laboratory Report, except for those listed in the table below and analysis performed in the field. For most of the analyses listed in the table, NELAP accreditation is not offered under the listed EPA program and Continental is NELAP accredited for the analysis, using the same analytical technology, but under a different EPA program. Continental's full NELAP accreditation status may be viewed at www.kdheks.gov/envlab. Note that unless qualified otherwise in the Laboratory Report, Continental performs all analyses, including each analysis listed in the table below, utilizing NELAP protocol.

Test	Analysis	Matrix-Regulatory Program	Method	CAS NELAP Accredited in Other Reg. Program
GL343	Nitrogen (TKN + NO3/NO2), as N	L-NPDES	Calculation	N

Continental Analytical Services, Inc.

Quality Control Report
Batch Summary

Date Reported: 06/06/2011
Date Sample Received: 05/20/2011
Continental File No: 8339
Continental Order No: 56080

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Test	Testname	QC Batch	Method Blank	LCS	MS Lab No.
SL156	Cadmium, Dissolved, ICP-MS	110523-3	110523BLK3	110523LCS3	11052011MS
SL162	Copper, Dissolved, ICP-MS	110523-3	110523BLK3	110523LCS3	11052011MS
SL183	Zinc, Dissolved, ICP-MS	110523-3	110523BLK3	110523LCS3	11052011MS
Lab numbers associated with this batch: 11052010					
SL006	Cadmium, Tot. Rec., ICP-MS	110524-1	110524BLK1	110524LCS1	11052012MS
SL012	Copper, Tot. Rec., ICP-MS	110524-1	110524BLK1	110524LCS1	11052012MS
SL033	Zinc, Tot. Rec., ICP-MS	110524-1	110524BLK1	110524LCS1	11052012MS
Lab numbers associated with this batch: 11052010					
SL323	Hardness (Calculated)	110524-6	110524BLK6	110524LCS6	11052012MS
Lab numbers associated with this batch: 11052010					
GL123	BOD	110520-2	110520BLK2	110520LCS2	11051795MS
Lab numbers associated with this batch: 11052010					
GL502	Chloride	3IC1140	BLK3IC1140	LCS3IC1140	11051141MS
Lab numbers associated with this batch: 11052010					
GL195	Kjeldahl Nitrogen, as N	110527-1	110527BLK1	110527LCS1	11052247MS
Lab numbers associated with this batch: 11052010					
GL505	Nitrate, as N	3IC1140	BLK3IC1140	LCS3IC1140	
GL503	Nitrite, as N	3IC1140	BLK3IC1140	LCS3IC1140	
Lab numbers associated with this batch: 11052010					
GL343	Nitrogen (TKN + NO3/NO2), as N				
Lab numbers associated with this batch: 11052010					
GL218	Phosphorus, Total, as P	110527-1	110527BLK1	110527LCS1	11051671MS
GL242	Solids, Total Dissolved	110527-1	110527BLK1	110527LCS1	11052007MS
GL243	Solids, Total Suspended	110527-1	110527BLK1	110527LCS1	11052007MS
Lab numbers associated with this batch: 11052010					

Continental Analytical Services, Inc.

Quality Control Report
Method Blank, LCS, MS/MSD Data

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Reported: 06/06/2011
Date Sample Received: 05/20/2011
Continental File No: 8339
Continental Order No: 56080

Analysis	Blank Data	% Rec LCS	Limits	Spike Level	Units	Spiked Sample (% Recovery) MS	MSD	Limits	Spike Level	Units	Spiked Sample Precision Data RPD	Limit
QC Batch: 110520-2	For sample analyzed on: 05/20/2011					Spiked sample: 11051795						
BOD	ND(5)	91.0	70.5-110	198	mg/L	MN	MN	#		mg/L	**	13.2
QC Batch: 110523-3	For samples prepared on: 05/23/2011					Spiked sample: 11052011						
Cadmium, Dissolved, ICP-MS	ND(1)	98.4	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
Copper, Dissolved, ICP-MS	ND(5)	93.5	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
Zinc, Dissolved, ICP-MS	ND(20)	96.6	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
Zinc, Dissolved, ICP-MS	ND(20)	96.9	85.0-115	500	µg/L	MN	MN	80.0-120			**	20.0
QC Batch: 110524-1	For samples prepared on: 05/24/2011					Spiked sample: 11052012						
Cadmium, Tot. Rec., ICP-MS	ND(1)	100.	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
Copper, Tot. Rec., ICP-MS	ND(5)	95.0	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
Zinc, Tot. Rec., ICP-MS	ND(20)	98.6	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
QC Batch: 110524-6	For samples prepared on: 05/24/2011					Spiked sample: 11052012						
Hardness (Calculated)	ND(5.0)	91.2	80.0-120	337	mg/L a	MN	MN	80.0-120	337	mg/L as	**	20.0
QC Batch: 110527-1	For sample analyzed on: 05/27/2011					Spiked sample: 11051671						
Phosphorus, Total, as P	ND(0.20)	102	90.0-110	1.0	mg/L	MN	MN	71.2-135	1.0	mg/L	**	21.2
QC Batch: 110527-1	For sample analyzed on: 05/27/2011					Spiked sample: 11052007						
Solids, Total Dissolved	ND(30)	N/A			mg/L	MN	MN	#		mg/L	**	5.2
Solids, Total Suspended	ND(5)	N/A			mg/L	MN	MN	#		mg/L	**	18.2
QC Batch: 110527-1	For sample analyzed on: 05/27/2011					Spiked sample: 11052247						
Kjeldahl Nitrogen, as N	ND(1)	98.0	90.0-110	20.0	mg/L	MN	MN	75.0-112	20.0	mg/L	**	17.4
QC Batch: 3IC1140	For sample analyzed on: 05/21/2011					Spiked sample:						
Nitrite, as N	ND(0.1)	98.5	90.0-110	2.0	mg/L	MN	MN	78.5-127			**	10.1
Nitrate, as N	ND(0.1)	99.0	90.0-110	2.0	mg/L	MN	MN	79.1-118			**	12.1
QC Batch: 3IC1140	For sample analyzed on: 05/21/2011					Spiked sample: 11051141						
Chloride	ND(1.0)	99.8	90.0-110	4.0	mg/L	MN	MN	82.1-126	400	mg/L	**	12.5

Data Qualifiers:

MN - The MS/MSD sample analyses were not performed on a sample from this Continental order number.

N/A - Not Applicable

- Limits not available.

** - RPD cannot be calculated.

Continental Analytical Services, Inc.

Quality Control Report

Continuing Calibration Verification Data Summary

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Reported: 06/06/2011
Date Sample Received: 05/20/2011
Continental File No: 8339
Continental Order No: 56080

Analysis	Date of Analysis	Instrument Batch ID	Amount in Standard	Amount Detected	Units	Percent Recovery
Cadmium, Dissolved, ICP-MS	05/26/2011	3IP3146	CCV recovery acceptable for this Instrument Batch.			
Cadmium, Dissolved, ICP-MS	05/26/2011	4IP3146	CCV recovery acceptable for this Instrument Batch.			
Cadmium, Tot. Rec., ICP-MS	05/26/2011	6IP3146	CCV recovery acceptable for this Instrument Batch.			
Cadmium, Tot. Rec., ICP-MS	05/26/2011	7IP3146	CCV recovery acceptable for this Instrument Batch.			
Copper, Dissolved, ICP-MS	05/26/2011	3IP3146	CCV recovery acceptable for this Instrument Batch.			
Copper, Dissolved, ICP-MS	05/26/2011	4IP3146	CCV recovery acceptable for this Instrument Batch.			
Copper, Tot. Rec., ICP-MS	05/26/2011	6IP3146	CCV recovery acceptable for this Instrument Batch.			
Copper, Tot. Rec., ICP-MS	05/26/2011	7IP3146	CCV recovery acceptable for this Instrument Batch.			
BOD	05/20/2011	110520-3	CCV recovery acceptable for this Instrument Batch.			
BOD	05/20/2011	110520-4	CCV recovery acceptable for this Instrument Batch.			
Kjeldahl Nitrogen, as N	05/27/2011	110527-3	CCV recovery acceptable for this Instrument Batch.			
Kjeldahl Nitrogen, as N	05/27/2011	110527-4	CCV recovery acceptable for this Instrument Batch.			
Phosphorus, Total, as P	05/27/2011	110527-3	CCV recovery acceptable for this Instrument Batch.			
Phosphorus, Total, as P	05/27/2011	110527-4	CCV recovery acceptable for this Instrument Batch.			
Chloride	05/21/2011	8IC1140	CCV recovery acceptable for this Instrument Batch.			
Chloride	05/21/2011	9IC1140	CCV recovery acceptable for this Instrument Batch.			
Nitrite, as N	05/21/2011	8IC1140	CCV recovery acceptable for this Instrument Batch.			
Nitrite, as N	05/21/2011	9IC1140	CCV recovery acceptable for this Instrument Batch.			
Nitrate, as N	05/21/2011	8IC1140	CCV recovery acceptable for this Instrument Batch.			
Nitrate, as N	05/21/2011	9IC1140	CCV recovery acceptable for this Instrument Batch.			
Hardness (Calculated)	06/01/2011	5IP4152	CCV recovery acceptable for this Instrument Batch.			
Hardness (Calculated)	06/01/2011	6IP4152	CCV recovery acceptable for this Instrument Batch.			
Zinc, Dissolved, ICP-MS	05/26/2011	3IP3146	CCV recovery acceptable for this Instrument Batch.			
Zinc, Tot. Rec., ICP-MS	06/03/2011	3IP3154	CCV recovery acceptable for this Instrument Batch.			
Zinc, Dissolved, ICP-MS	05/26/2011	4IP3146	CCV recovery acceptable for this Instrument Batch.			
Zinc, Tot. Rec., ICP-MS	06/03/2011	4IP3154	CCV recovery acceptable for this Instrument Batch.			

- Laboratory Report Conclusion -

Continental Analytical Services, Inc.

525 N. 8th Street, Salina, KS 67401
(785)827-1273 (800)535-3076 Fax (785)823-7830
www.cas-lab.com

CAS ORDER NO. 36000

CHAIN OF CUSTODY RECORD

Continental Shipping Order Number: _____

Client/Reporting Information			Invoice Information		
Company Name: City of Wichita Sewage Treatment			Company Name: City of Wichita Sewage Treatment		
Address: 2305 E. 57th Street South			Address: 2305 E. 57th Street South		
City: Wichita	State: KS	Zip: 67216	City: Wichita	State: KS	Zip: 67216
Contact: Jim Hardesty	E-mail:		Contact: Jim Hardesty	E-mail:	
Phone Number: (316)303-8700	Fax Number: (316)303-8712		Phone Number: (316)303-8700	Fax Number: (316)303-8712	
Sampler's Name:(Printed) Justin Murphy	Sampler's Name:(Signature)		Purchase Order Number:		
File Number: 535	Project Name: Stormwater - UPSTREAM				

SAMPLE IDENTIFICATION (30 Characters or less)	Matrix (Sample Type)	Regulatory Program	Date Sampled	Time Sampled	C-Composite G Grab	Total Containers	HCL	NaOH	HNO3	H2SO4	NONE	OTHER:	Total Cadmium, Copper, Zinc 250mL Plastic - HNO3	Hardness, TSS, TDS, Cl, BOD, NO3, NO2, Tot. Nitrogen 1000mL Plastic - None	TKN, Total P 250mL Plastic - H2SO4						COMMENTS
10455 Broadway in Arkansas River upstream	WW	N	5/20/11	0940	G	3			1	1	1		X	X	X						

This made prior to sample receipt MW 5-20-11

Regulatory Program: N=NPDES, R=RCRA, D=Drinking Water, SL=503 Sludge, O=Other

(Please note if non-standard turnaround. Rush & Emergency subject to additional charge)
Standard TAT: (15 working days) Rush TAT: (5 working days) Emergency TAT: (3 working days)

Matrix (Sample Type): DW=Drinking Water, GW=Ground Water, WW=Waste Water, W=Wipe, S=Solid/Soil, SL=Sludge, A=Air, OL = Oil/Organic Liquid, O=Other

RELINQUISHED BY:	DATE: 5/20/11	TIME: 1200	RECEIVED BY:	DATE:	TIME:
RELINQUISHED BY:	DATE:	TIME:	RECEIVED BY:	DATE:	TIME:
RECEIVED AT LAB BY:	DATE: 5-20-11	TIME: 14:15	SHIPPED VIA: / AIRBILL:	SEAL #: / SEAL DATE:	

Continental's Standard Terms and Conditions of Sale will apply to all samples received unless a separate contractual agreement has been made.

Continental Analytical Services Cooler/Sample Receipt Form

CAS Order No. 56080

CAS File No.: 83339

Client Name: Wichita Sewage

Sample ID's in cooler: Sr. 00 C

Broadway & Arkansas River

Cooler 1 of 1 for this CAS Order No.

Cooler Identification: CAS Cooler #: 0974 /Client's Cooler/Box/Letter/Hand Delivered

Other:

Date/Time Cooler Received: 5 / 20 / 11 14 : 15

Delivered By: UPS/FedX/AB Express/ASAP/Land Air Exp/Field Svcs/Mail/Walk-In/Other:

Custody Seal: Present: Intact / Broken Absent: X Seal No:

Seal Name: Seal Date:

Seal matches Chain of Custody: Yes / No / N/A

Type of Packing Material: Blue Ice/Ice/Melted Ice/Bubble/Foam/Paper/Peanuts/Vermiculite/ None/Other:

Cooler Temperature (°C): Original Reading (°C) 3.1 Corrected Reading (°C) 3.4

Temp. By: Temp. Blank Surface: Glass/Plastic/Metal/Other: Cooler

Thermo. ID No.: 585 Thermo. Correction Factor (°C): 0.3

☐ Evidence of Cooling: date received=date sampled

Sample Receipt Discrepancies: ☒ No ☐ ***Yes (see below for discrepancies)***

Note: CAS will proceed with sample analyses, addressing each discrepancy as shown, until/unless directed otherwise by the client.

☐ Chain of Custody not present information taken from:
- Cover Letter ☐ Container ☐
- PO ☐ CAS Proj. Mgr. ☐

☐ Container label absent

☐ Chain of Custody incomplete [see detail below]

☐ Chain of Custody missing date/time sampled (excl. TB or Dup)

☐ Date or Time sampled obtained from container label

☐ Chain of Custody missing sampler's name

☐ Chain of Custody missing matrix (sample type)

☐ Missing relinquished information: signature date time

☐ Sample excluded from Chain of Custody

☐ Sample listed on Chain of Custody, not received

☐ Sample description on container and Chain of Custody do not agree

☐ Air bubbles in Aqueous VOA vials larger than pea-size [approx. 6 mm]

☐ Cooler temperature exceeded *0.1 - 6.0 °C requirement*
[Do not mark if samples do not require cooling to 0.1 - 6.0 °C.]

☐ Broken or leaking containers (detail actions below)

☐ Sample container type or labeled chemical preservation inappropriate

☐ Other discrepancies:

Detail to discrepancies/comments:

Completed by: [illegible] Date Completed: 5-20-11

Continental
Analytical Services, Inc.

06/06/2011

City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date and Time Received: 05/20/2011 14:15
Continental File No.: 8339
Continental Order No.: 56081
Project ID: Stormwater

Dear Mr. Hardesty:

This laboratory report containing the samples indicated below, includes 9 pages for the analytical report, 1 page(s) for the chain of custody and/or analysis request, and 1 page(s) for the sample receipt form.

CAS LAB ID #	SAMPLE DESCRIPTION	SAMPLE TYPE	DATE SAMPLED
11052011	Broadway&Arkansas River - Grab	Liquid	5/20/2011
11052012	Broadway&Arkansas River-Cmpste	Liquid	5/20/2011

The Appendix and Quality Control sections are integral parts of this laboratory report and may contain important data qualifiers.

All results are reported on a wet weight basis unless otherwise stated.

Samples will be retained for thirty days unless Continental is otherwise notified.

Continental is accredited by the State of Kansas through the National Environmental Laboratory Accreditation Program (NELAP). The results contained in this report were obtained using Continental's Standard Operating Procedures. These procedures are in substantial compliance with the approved methods referenced and the standards published by NELAP unless otherwise noted in the Appendix and Quality Control sections of this report.

This report may not be reproduced, except in full, without written approval from Continental Analytical Services, Inc.

Thank you for choosing Continental for this project. If you have any questions please contact me at (800)535-3076.

CONTINENTAL ANALYTICAL SERVICES, INC.

Clifford J. Baker
Technical Manager

Gregory J. Groene
Project Manager

525 N. Eighth St. - P.O. Box 3737 - Salina, KS 67402-3737
785-827-1273 800-535-3076 Fax 785-823-7830

KDHE Environmental Laboratory Accreditation No. E-10146

Continental Analytical Services, Inc.

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Sample Rptd: 06/06/2011
Date Sample Recd: 05/20/2011
Continental File No: 8339
Continental Order No: 56081

Lab Number: 11052011
Sample Description: Broadway&Arkansas River - Grab

Date Sampled: 05/20/2011
Time Sampled: 0935

Analysis	Concentration	Units	Book/Page
Cadmium, Dissolved, ICP-MS	ND(1) DM	µg/L	7127/15
Cadmium, Tot. Rec., ICP-MS	ND(1)	µg/L	7127/15
Copper, Dissolved, ICP-MS	ND(5) DM	µg/L	7127/15
Copper, Tot. Rec., ICP-MS	ND(5)	µg/L	7127/15
Hardness (Calculated)	21.8	mg/L as CaCO3	7143/2
Zinc, Dissolved, ICP-MS	22 DM	µg/L	7127/17
Zinc, Tot. Rec., ICP-MS	32	µg/L	7127/17
Chloride	3.3	mg/L	7129/20
Hexane Extractable Material	ND(5.0)	mg/L	7094/11
Solids, Total Dissolved	44	mg/L	7059/238
Solids, Total Suspended	ND(5)	mg/L	7059/236

Analysis	Date Prepared	Date Analyzed	QC Batch	Inst. Batch	Analyst	Method(s)
Cadmium, Dissolved, ICP-MS	05/23/11 1128	05/26/11 1804	110523-3	3IP3146	KMW	200.8 Rev. 5.4
Cadmium, Tot. Rec., ICP-MS	05/24/11 0759	05/26/11 2042	110524-1	6IP3146	KMW	200.8 Rev. 5.4
Copper, Dissolved, ICP-MS	05/23/11 1128	05/26/11 1804	110523-3	3IP3146	KMW	200.8 Rev. 5.4
Copper, Tot. Rec., ICP-MS	05/24/11 0759	05/26/11 2042	110524-1	6IP3146	KMW	200.8 Rev. 5.4
Hardness (Calculated)	05/24/11 1236	06/02/11 1410	110524-6	2IP4153	KMW	200.7 & SM 2340B
Zinc, Dissolved, ICP-MS	05/23/11 1128	06/03/11 1526	110523-3	1IP3154	JDL	200.8 Rev. 5.4
Zinc, Tot. Rec., ICP-MS	05/24/11 0759	06/03/11 1737	110524-1	3IP3154	JDL	200.8 Rev. 5.4
Chloride	N/A	05/31/11 1938	1IC1151	2IC1151	MLL	300.0
Hexane Extractable Materia	05/27/11	05/27/11 0831	110527-1	110527-1	JND	1664
Solids, Total Dissolved	N/A	05/27/11 1546	110527-1	110527-1	ASK	SM20th 2540C
Solids, Total Suspended	N/A	05/27/11 1533	110527-1	110527-1	ASK	SM20th 2540D
Dissolved Metals Preparation Method						200.7/200.8
Total Recoverable Metals Preparation Method						200.7/200.8
Calculated as Hardness Preparation Method						200.7/6010B
HEM Preparation Method						1664

Conclusion of Lab Number: 11052011

Continental Analytical Services, Inc.

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Sample Rptd: 06/06/2011
Date Sample Recd: 05/20/2011
Continental File No: 8339
Continental Order No: 56081

Lab Number: 11052012
Sample Description: Broadway&Arkansas River-Cmpste

Date Sampled: 05/20/2011
Time Sampled: 0935

Analysis	Concentration	Units	Book/Page
Cadmium, Dissolved, ICP-MS	ND(1) DM	µg/L	7127/15
Cadmium, Tot. Rec., ICP-MS	ND(1)	µg/L	7127/15
Copper, Dissolved, ICP-MS	ND(5) DM	µg/L	7127/15
Copper, Tot. Rec., ICP-MS	5	µg/L	7127/15
Hardness (Calculated)	29	mg/L as CaCO3	7143/1
Zinc, Dissolved, ICP-MS	24 DM	µg/L	7127/17
Zinc, Tot. Rec., ICP-MS	60.	µg/L	7127/17
BOD	ND(5)	mg/L	7060/118
Chloride	3.6	mg/L	7129/14
Kjeldahl Nitrogen, as N	ND(1)	mg/L	7043/46
Nitrate, as N	0.3	mg/L	7129/14
Nitrite, as N	ND(0.1)	mg/L	7129/14
Nitrogen (TKN + NO3/NO2), as N	ND(1.0)	mg/L	9999/7
Phosphorus, Total, as P	ND(0.20)	mg/L	7061/92
Solids, Total Dissolved	38	mg/L	7059/238
Solids, Total Suspended	8	mg/L	7059/236

Analysis	Date Prepared	Date Analyzed	QC Batch	Inst. Batch	Analyst	Method(s)
Cadmium, Dissolved, ICP-MS	05/23/11 1128	05/26/11 1835	110523-3	4IP3146	KMW	200.8 Rev. 5.4
Cadmium, Tot. Rec., ICP-MS	05/24/11 0759	05/26/11 2047	110524-1	6IP3146	KMW	200.8 Rev. 5.4
Copper, Dissolved, ICP-MS	05/23/11 1128	05/26/11 1835	110523-3	4IP3146	KMW	200.8 Rev. 5.4
Copper, Tot. Rec., ICP-MS	05/24/11 0759	05/26/11 2047	110524-1	6IP3146	KMW	200.8 Rev. 5.4
Hardness (Calculated)	05/24/11 1236	06/01/11 1525	110524-6	6IP4152	KMW	200.7 & SM 2340B
Zinc, Dissolved, ICP-MS	05/23/11 1128	06/03/11 1547	110523-3	1IP3154	JDL	200.8 Rev. 5.4
Zinc, Tot. Rec., ICP-MS	05/24/11 0759	06/03/11 1742	110524-1	3IP3154	JDL	200.8 Rev. 5.4
BOD	N/A	05/20/11 2030	110520-2	110520-3	ASK	SM 5210B
Chloride	N/A	05/21/11 0610	3IC1140	8IC1140	MLL	300.0
Kjeldahl Nitrogen, as N	N/A	05/27/11 1353	110527-1	110527-3	JND	4500N(C) & (E)
Nitrate, as N	N/A	05/21/11 0610	3IC1140	8IC1140	MLL	300.0
Nitrite, as N	N/A	05/21/11 0610	3IC1140	8IC1140	MLL	300.0
Nitrogen (TKN + NO3/NO2),	N/A	06/06/11				Calculation
Phosphorus, Total, as P	N/A	05/27/11 1655	110527-1	110527-3	KJH	SM 4500-P(B&F)(M
Solids, Total Dissolved	N/A	05/27/11 1546	110527-1	110527-1	ASK	SM20th 2540C
Solids, Total Suspended	N/A	05/27/11 1533	110527-1	110527-1	ASK	SM20th 2540D
Dissolved Metals Preparation Method						200.7/200.8
Total Recoverable Metals Preparation Method						200.7/200.8
Calculated as Hardness Preparation Method						200.7/6010B

Conclusion of Lab Number: 11052012

Continental Analytical Services, Inc.

APPENDIX

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Sample Rptd: 06/06/2011
Date Sample Recd: 05/20/2011
Continental File No: 8339
Continental Order No: 56081

ND(), where reported, indicates the analyte was not detected above the limit of quantitation (LOQ). The concentration of the limit of quantitation is inside the parentheses.

All samples which require cooling were received at a temperature of less than 6 degrees Celsius.

The following table presents the date and time sampled, the date and time analyzed, and the total time elapsed for each analysis with an EPA recommended holding time of seventy-two hours or less.

CAS LAB ID #	ANALYSIS	DATE/TIME SAMPLED	DATE/TIME ANALYZED	ELAPSED HRS:MIN
11052012	BOD	05/20/2011 0935	05/20/2011 2030	10:55
11052012	Nitrate, as N	05/20/2011 0935	05/21/2011 0610	20:35
11052012	Nitrite, as N	05/20/2011 0935	05/21/2011 0610	20:35

DM - NPDES requirements specify that dissolved metals and orthophosphate must be filtered within 15 minutes of the time of collection. This analysis did not meet these criteria.

Continental Analytical Services, Inc.

Continental Analytical Services, Inc.
Accreditation Summary Report

Client: City of Wichita
CAS Order Number: 56081

NELAP accreditation is issued under each EPA regulatory program for a given matrix/analyte/method combination. Continental is NELAP accredited for each matrix/analyte/method and EPA program cited in this Laboratory Report, except for those listed in the table below and analysis performed in the field. For most of the analyses listed in the table, NELAP accreditation is not offered under the listed EPA program and Continental is NELAP accredited for the analysis, using the same analytical technology, but under a different EPA program. Continental's full NELAP accreditation status may be viewed at www.kdheks.gov/envlab. Note that unless qualified otherwise in the Laboratory Report, Continental performs all analyses, including each analysis listed in the table below, utilizing NELAP protocol.

Test	Analysis	Matrix-Regulatory Program	Method	CAS NELAP Accredited in Other Reg. Program
GL343	Nitrogen (TKN + NO3/NO2), as N	L-NPDES	Calculation	N

Continental Analytical Services, Inc.

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Quality Control Report
Batch Summary

Date Reported: 06/06/2011
Date Sample Received: 05/20/2011
Continental File No: 8339
Continental Order No: 56081

Test	Testname	QC Batch	Method Blank	LCS	MS Lab No.
SL156	Cadmium, Dissolved, ICP-MS	110523-3	110523BLK3	110523LCS3	11052011MS
SL162	Copper, Dissolved, ICP-MS	110523-3	110523BLK3	110523LCS3	11052011MS
SL183	Zinc, Dissolved, ICP-MS	110523-3	110523BLK3	110523LCS3	11052011MS
Lab numbers associated with this batch: 11052011 11052012					
SL006	Cadmium, Tot. Rec., ICP-MS	110524-1	110524BLK1	110524LCS1	11052012MS
SL012	Copper, Tot. Rec., ICP-MS	110524-1	110524BLK1	110524LCS1	11052012MS
SL033	Zinc, Tot. Rec., ICP-MS	110524-1	110524BLK1	110524LCS1	11052012MS
Lab numbers associated with this batch: 11052011 11052012					
SL323	Hardness (Calculated)	110524-6	110524BLK6	110524LCS6	11052012MS
Lab numbers associated with this batch: 11052011 11052012					
GL123	BOD	110520-2	110520BLK2	110520LCS2	11051795MS
Lab numbers associated with this batch: 11052012					
GL502	Chloride	1IC1151	BLK1IC1151	LCS1IC1151	11052289MS
Lab numbers associated with this batch: 11052011					
GL502	Chloride	3IC1140	BLK3IC1140	LCS3IC1140	11051141MS
Lab numbers associated with this batch: 11052012					
GL188	Hexane Extractable Material	110527-1	110527BLK1	110527LCS1	11051279MS
Lab numbers associated with this batch: 11052011					
GL195	Kjeldahl Nitrogen, as N	110527-1	110527BLK1	110527LCS1	11052247MS
Lab numbers associated with this batch: 11052012					
GL505	Nitrate, as N	3IC1140	BLK3IC1140	LCS3IC1140	
GL503	Nitrite, as N	3IC1140	BLK3IC1140	LCS3IC1140	
Lab numbers associated with this batch: 11052012					

Continental Analytical Services, Inc.

Quality Control Report
Batch Summary

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Page: 7
Date Reported: 06/06/2011
Date Sample Received: 05/20/2011
Continental File No: 8339
Continental Order No: 56081

Test	Testname	QC Batch	Method Blank	LCS	MS Lab No.
GL343	Nitrogen (TKN + NO3/NO2), as N				
Lab numbers associated with this batch: 11052012					
GL218	Phosphorus, Total, as P	110527-1	110527BLK1	110527LCS1	11051671MS
Lab numbers associated with this batch: 11052012					
GL242	Solids, Total Dissolved	110527-1	110527BLK1	110527LCS1	11052007MS
GL243	Solids, Total Suspended	110527-1	110527BLK1	110527LCS1	11052007MS
Lab numbers associated with this batch: 11052011 11052012					

Continental Analytical Services, Inc.

Quality Control Report
Method Blank, LCS, MS/MSD Data

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Reported: 06/06/2011
Date Sample Received: 05/20/2011
Continental File No: 8339
Continental Order No: 56081

Analysis	Blank Data	% Rec LCS	Limits	Spike Level	Units	Spiked Sample (% Recovery) MS	MSD	Limits	Spike Level	Units	Spiked Sample Precision Data RPD	Limit
QC Batch: 110520-2	For sample analyzed on: 05/20/2011					Spiked sample: 11051795						
BOD	ND(5)	91.0	70.5-110	198	mg/L	MN	MN	#		mg/L	**	13.2
QC Batch: 110523-3	For samples prepared on: 05/23/2011					Spiked sample: 11052011						
Cadmium, Dissolved, ICP-MS	ND(1)	98.4	85.0-115	500	µg/L	99.8	98.6	80.0-120	500	µg/L	1.2	20.0
Copper, Dissolved, ICP-MS	ND(5)	93.5	85.0-115	500	µg/L	95.1	94.0	80.0-120	500	µg/L	1.2	20.0
Zinc, Dissolved, ICP-MS	ND(20)	96.6	85.0-115	500	µg/L	97.6	96.6	80.0-120	500	µg/L	1.0	20.0
Zinc, Dissolved, ICP-MS	ND(20)	96.9	85.0-115	500	µg/L			80.0-120			**	20.0
QC Batch: 110524-1	For samples prepared on: 05/24/2011					Spiked sample: 11052012						
Cadmium, Tot. Rec., ICP-MS	ND(1)	100.	85.0-115	500	µg/L	101	100.	80.0-120	500	µg/L	1.0	20.0
Copper, Tot. Rec., ICP-MS	ND(5)	95.0	85.0-115	500	µg/L	95.7	95.5	80.0-120	500	µg/L	0.2	20.0
Zinc, Tot. Rec., ICP-MS	ND(20)	98.6	85.0-115	500	µg/L	94.7	93.7	80.0-120	500	µg/L	1.1	20.0
QC Batch: 110524-6	For samples prepared on: 05/24/2011					Spiked sample: 11052012						
Hardness (Calculated)	ND(5.0)	91.2	80.0-120	337	mg/L a	93.1	90.6	80.0-120	337	mg/L as	2.7	20.0
QC Batch: 110527-1	For samples prepared on: 05/27/2011					Spiked sample: 11051279						
Hexane Extractable Material	ND(1.4)	86.0	78.0-114	40.0	mg/L	MN	MN	78.0-114	40.0	mg/L	**	18.0
QC Batch: 110527-1	For sample analyzed on: 05/27/2011					Spiked sample: 11051671						
Phosphorus, Total, as P	ND(0.20)	102	90.0-110	1.0	mg/L	MN	MN	71.2-135	1.0	mg/L	**	21.2
QC Batch: 110527-1	For sample analyzed on: 05/27/2011					Spiked sample: 11052007						
Solids, Total Dissolved	ND(30)	N/A			mg/L	MN	MN	#		mg/L	**	5.2
Solids, Total Suspended	ND(5)	N/A			mg/L	MN	MN	#		mg/L	**	18.2
QC Batch: 110527-1	For sample analyzed on: 05/27/2011					Spiked sample: 11052247						
Kjeldahl Nitrogen, as N	ND(1)	98.0	90.0-110	20.0	mg/L	MN	MN	75.0-112	20.0	mg/L	**	17.4
QC Batch: 1IC1151	For sample analyzed on: 05/31/2011					Spiked sample: 11052289						
Chloride	ND(1.0)	104	90.0-110	4.0	mg/L	MN	MN	82.1-126	80.0	mg/L	**	12.5
QC Batch: 3IC1140	For sample analyzed on: 05/21/2011					Spiked sample:						
Nitrite, as N	ND(0.1)	98.5	90.0-110	2.0	mg/L	MN	MN	78.5-127			**	10.1
Nitrate, as N	ND(0.1)	99.0	90.0-110	2.0	mg/L	MN	MN	79.3-118			**	12.1
QC Batch: 3IC1140	For sample analyzed on: 05/21/2011					Spiked sample: 11051141						
Chloride	ND(1.0)	99.8	90.0-110	4.0	mg/L	MN	MN	82.1-126	400	mg/L	**	12.5

Data Qualifiers:
MN - The MS/MSD sample analyses were not performed on a sample from this Continental order number.

N/A - Not Applicable

- Limits not available.

** - RPD cannot be calculated.

Continental Analytical Services, Inc.

Quality Control Report

Continuing Calibration Verification Data Summary

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Reported: 06/06/2011
Date Sample Received: 05/20/2011
Continental File No: 8339
Continental Order No: 56081

Analysis	Date of Analysis	Instrument Batch ID	Amount in Standard	Amount Detected	Units	Percent Recovery
Cadmium, Dissolved, ICP-MS	05/26/2011	3IP3146	CCV recovery acceptable for this Instrument Batch.			
Cadmium, Dissolved, ICP-MS	05/26/2011	4IP3146	CCV recovery acceptable for this Instrument Batch.			
Cadmium, Dissolved, ICP-MS	05/26/2011	5IP3146	CCV recovery acceptable for this Instrument Batch.			
Cadmium, Tot. Rec., ICP-MS	05/26/2011	6IP3146	CCV recovery acceptable for this Instrument Batch.			
Cadmium, Tot. Rec., ICP-MS	05/26/2011	7IP3146	CCV recovery acceptable for this Instrument Batch.			
Copper, Dissolved, ICP-MS	05/26/2011	3IP3146	CCV recovery acceptable for this Instrument Batch.			
Copper, Dissolved, ICP-MS	05/26/2011	4IP3146	CCV recovery acceptable for this Instrument Batch.			
Copper, Dissolved, ICP-MS	05/26/2011	5IP3146	CCV recovery acceptable for this Instrument Batch.			
Copper, Tot. Rec., ICP-MS	05/26/2011	6IP3146	CCV recovery acceptable for this Instrument Batch.			
Copper, Tot. Rec., ICP-MS	05/26/2011	7IP3146	CCV recovery acceptable for this Instrument Batch.			
BOD	05/20/2011	110520-3	CCV recovery acceptable for this Instrument Batch.			
BOD	05/20/2011	110520-4	CCV recovery acceptable for this Instrument Batch.			
Hexane Extractable Material	05/27/2011	110527-1	CCV recovery acceptable for this Instrument Batch.			
Hexane Extractable Material	05/27/2011	110527-2	CCV recovery acceptable for this Instrument Batch.			
Kjeldahl Nitrogen, as N	05/27/2011	110527-3	CCV recovery acceptable for this Instrument Batch.			
Kjeldahl Nitrogen, as N	05/27/2011	110527-4	CCV recovery acceptable for this Instrument Batch.			
Phosphorus, Total, as P	05/27/2011	110527-3	CCV recovery acceptable for this Instrument Batch.			
Phosphorus, Total, as P	05/27/2011	110527-4	CCV recovery acceptable for this Instrument Batch.			
Chloride	05/21/2011	8IC1140	CCV recovery acceptable for this Instrument Batch.			
Chloride	05/21/2011	9IC1140	CCV recovery acceptable for this Instrument Batch.			
Chloride	05/31/2011	2IC1151	CCV recovery acceptable for this Instrument Batch.			
Chloride	05/31/2011	3IC1151	CCV recovery acceptable for this Instrument Batch.			
Nitrite, as N	05/21/2011	8IC1140	CCV recovery acceptable for this Instrument Batch.			
Nitrite, as N	05/21/2011	9IC1140	CCV recovery acceptable for this Instrument Batch.			
Nitrate, as N	05/21/2011	8IC1140	CCV recovery acceptable for this Instrument Batch.			
Nitrate, as N	05/21/2011	9IC1140	CCV recovery acceptable for this Instrument Batch.			
Hardness (Calculated)	06/02/2011	2IP4153	CCV recovery acceptable for this Instrument Batch.			
Hardness (Calculated)	06/02/2011	3IP4153	CCV recovery acceptable for this Instrument Batch.			
Hardness (Calculated)	06/01/2011	6IP4152	CCV recovery acceptable for this Instrument Batch.			
Hardness (Calculated)	06/01/2011	7IP4152	CCV recovery acceptable for this Instrument Batch.			
Zinc, Dissolved, ICP-MS	06/03/2011	1IP3154	CCV recovery acceptable for this Instrument Batch.			
Zinc, Dissolved, ICP-MS	06/03/2011	2IP3154	CCV recovery acceptable for this Instrument Batch.			
Zinc, Tot. Rec., ICP-MS	06/03/2011	3IP3154	CCV recovery acceptable for this Instrument Batch.			
Zinc, Tot. Rec., ICP-MS	06/03/2011	4IP3154	CCV recovery acceptable for this Instrument Batch.			

- Laboratory Report Conclusion -

CAS ORDER NO: 5081

Continental Analytical Services, Inc.

525 N. 8th Street, Salina, KS 67401
(785)827-1273 (800)535-3076 Fax (785)823-7830
www.cas-lab.com

CHAIN OF CUSTODY RECORD

Continental Shipping Order Number: _____

Client/Reporting Information	Invoice Information
Company Name: City of Wichita Sewage Treatment	Company Name: City of Wichita Sewage Treatment
Address: 305 E. 57th Street South	Address: 2305 E. 57th Street South
City: Wichita State: KS Zip: 67216	City: Wichita State: KS Zip: 67216
Contact: Jim Hardesty E-mail:	Contact: Jim Hardesty E-mail:
Phone Number: (316)303-8700 Fax Number: (316)303-8712	Phone Number: (316)303-8700 Fax Number: (316)303-8712

Sampler's Name (Printed): [illegible]
Sampler's Name (Signature): [illegible]
Purchase Order Number:
File Number: 535
Project Name: Stormwater

SAMPLE IDENTIFICATION (30 Characters or less)	Matrix (Sample Type)	Regulatory Program	Date Sampled	Time Sampled	C Composite G-Grab	Total Containers	HCL	NaOH	HNO3	H2SO4	NONE	OTHER:	Cadmium, Copper, Zinc - Total Recoverable 250ml Plastic - HNO3	Cadmium, Copper, Zinc - Dissolved, Hardness, TSS TDS, Cl 1000ml Plastic - None	Hexane Extractable Material 2 - 1000ml Amber Glass - H2SO4	Total Metals, Dissolved Metals, Hardness, TSS, TDS, Cl, BOD, TKN, Total P, NO3, NO2, Tot. Nitrogen Large Carboy					COMMENTS
0481-Grab Broadway & Arkansas River	WW	N	5/20/11	0935	G	4			1	2	1		X	X	X						
0481-Composite Broadway & Arkansas River	WW	N	5/20/11	0935	C	1					1					X					5 Gal. Container to be poured off at lab as needed for required tests. Remaining volume will be saved for for organics if needed.

Edits made prior to sample receipt MW 5-20-11

Regulatory Program: N=NPDES, R=RCRA, D=Drinking Water, SL=503 Sludge, O=Other

(Please note if non-standard turnaround. Rush & Emergency subject to additional charge)
Standard TAT: (15 working days) Rush TAT: (5 working days) Emergency TAT: (3 working days)

Matrix (Sample Type): DW=Drinking Water, GW=Ground Water, WW=Waste Water, W=Wipe, S=Solid/Soil, SL=Sludge, A=Air, OL = Oil/Organic Liquid, O=Other

RELINQUISHED BY:	DATE:	TIME:	RECEIVED BY:	DATE:	TIME:
[signature]	5/20/11	1200			
RELINQUISHED BY:	DATE:	TIME:	RECEIVED BY:	DATE:	TIME:
RECEIVED AT LAB BY: Mark Stoffers	DATE: 5-20-11	TIME: 14:15	SHIPPED VIA: / AIRBILL:	SEAL #: / SEAL DATE:	

Continental's Standard Terms and Conditions of Sale will apply to all samples received unless a separate contractual agreement has been made.

Continental Analytical Services Cooler/Sample Receipt Form CAS Order No. SL08H

Client Name: Wichita Sewage CAS File No.: 8339

Sample ID's in cooler: Sec 6C

Broadway & Arkansas River

Cooler 1 of 1 for this CAS Order No.

Cooler Identification: CAS Cooler #: 0974 /Client's Cooler/Box/Letter/Hand Delivered

Other: _____

Date/Time Cooler Received: 5 / 20 / 11 14 : 15

Delivered By: UPS/FedX/AB Express/ASAP/Land Air Exp/Field Svcs/Mail/Walk-In/Other: _____

Custody Seal: Present: Intact / Broken Absent: X Seal No: _____

Seal Name: _____ Seal Date: _____

Seal matches Chain of Custody: Yes / No / N/A

Type of Packing Material: Blue Ice/Ice/Melted Ice/Bubble/Foam/Paper/Peanuts/Vermiculite/ None/Other: _____

Cooler Temperature (°C): Original Reading (°C) 3.1 Corrected Reading (°C) 3.4

Temp. By: Temp. Blank Surface: Glass/Plastic/Metal/Other: _____ Cooler

Thermo. ID No.: 585 Thermo. Correction Factor (°C): 0.3

☐ Evidence of Cooling: date received=date sampled

Sample Receipt Discrepancies: ☒ No ☐ ***Yes (see below for discrepancies)***

Note: CAS will proceed with sample analyses, addressing each discrepancy as shown, until/unless directed otherwise by the client.

☐ Chain of Custody not present information taken from:
- Cover Letter ☐ Container ☐
- PO ☐ CAS Proj. Mgr. ☐

☐ Container label absent

☐ Chain of Custody incomplete [see detail below]

☐ Chain of Custody missing date/time sampled (excl. TB or Dup)

☐ Date or Time sampled obtained from container label

☐ Chain of Custody missing sampler's name

☐ Chain of Custody missing matrix (sample type)

☐ Missing relinquished information: signature date time

☐ Sample excluded from Chain of Custody

☐ Sample listed on Chain of Custody, not received

☐ Sample description on container and Chain of Custody do not agree

☐ Air bubbles in Aqueous VOA vials larger than pea-size [approx. 6 mm]

☐ Cooler temperature exceeded 0.1 - 6.0 °C requirement
[Do not mark if samples do not require cooling to 0.1 - 6.0 °C.]

☐ Broken or leaking containers (detail actions below)

☐ Sample container type or labeled chemical preservation inappropriate

☐ Other discrepancies: _____

Detail to discrepancies/comments:

Completed by: mwr Date Completed: 5-20-11

Continental Analytical Services, Inc.

06/06/2011

City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date and Time Received: 05/20/2011 14:15
Continental File No.: 8339
Continental Order No.: 56082
Project ID: SW-UPSTREAM

Dear Mr. Hardesty:

This laboratory report containing the samples indicated below, includes 7 pages for the analytical report, 1 page(s) for the chain of custody and/or analysis request, and 1 page(s) for the sample receipt form.

CAS LAB ID #	SAMPLE DESCRIPTION	SAMPLE TYPE	DATE SAMPLED
11052013	Little Ark & Hood Upstream	Liquid	5/20/2011

The Appendix and Quality Control sections are integral parts of this laboratory report and may contain important data qualifiers.

All results are reported on a wet weight basis unless otherwise stated.

Samples will be retained for thirty days unless Continental is otherwise notified.

Continental is accredited by the State of Kansas through the National Environmental Laboratory Accreditation Program (NELAP). The results contained in this report were obtained using Continental's Standard Operating Procedures. These procedures are in substantial compliance with the approved methods referenced and the standards published by NELAP unless otherwise noted in the Appendix and Quality Control sections of this report.

This report may not be reproduced, except in full, without written approval from Continental Analytical Services, Inc.

Thank you for choosing Continental for this project. If you have any questions please contact me at (800)535-3076.

CONTINENTAL ANALYTICAL SERVICES, INC.

Clifford J. Baker
Technical Manager

Gregory J. Groene
Project Manager

525 N. Eighth St. - P.O. Box 3737 - Salina, KS 67402-3737
785-827-1273 800-535-3076 Fax 785-823-7830

KDHE Environmental Laboratory Accreditation No. E-10146

Continental Analytical Services, Inc.

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Sample Rptd: 06/06/2011
Date Sample Recd: 05/20/2011
Continental File No: 8339
Continental Order No: 56082

Lab Number: 11052013
Sample Description: Little Ark & Hood Upstream

Date Sampled: 05/20/2011
Time Sampled: 0805

Analysis	Concentration	Units	Book/Page
Cadmium, Dissolved, ICP-MS	ND(1) DM	µg/L	7127/15
Cadmium, Tot. Rec., ICP-MS	ND(1)	µg/L	7127/15
Copper, Dissolved, ICP-MS	ND(5) DM	µg/L	7127/15
Copper, Tot. Rec., ICP-MS	ND(5)	µg/L	7127/15
Hardness (Calculated)	236	mg/L as CaCO3	7143/1
Zinc, Dissolved, ICP-MS	ND(20) DM	µg/L	7127/15
Zinc, Tot. Rec., ICP-MS	ND(20)	µg/L	7127/17
BOD	5	mg/L	7060/118
Chloride	107	mg/L	7129/14
Kjeldahl Nitrogen, as N	2	mg/L	7043/46
Nitrate, as N	0.4	mg/L	7129/14
Nitrite, as N	0.2	mg/L	7129/14
Nitrogen (TKN + NO3/NO2), as N	2.6	mg/L	9999/6
Phosphorus, Total, as P	0.45	mg/L	7061/92
Solids, Total Dissolved	482	mg/L	7059/238
Solids, Total Suspended	77	mg/L	7059/236

Analysis	Date Prepared	Date Analyzed	QC Batch	Inst. Batch	Analyst	Method(s)
Cadmium, Dissolved, ICP-MS	05/23/11 1128	05/26/11 1841	110523-3	4IP3146	KMW	200.8 Rev. 5.4
Cadmium, Tot. Rec., ICP-MS	05/24/11 0759	05/26/11 2113	110524-1	6IP3146	KMW	200.8 Rev. 5.4
Copper, Dissolved, ICP-MS	05/23/11 1128	05/26/11 1841	110523-3	4IP3146	KMW	200.8 Rev. 5.4
Copper, Tot. Rec., ICP-MS	05/24/11 0759	05/26/11 2113	110524-1	6IP3146	KMW	200.8 Rev. 5.4
Hardness (Calculated)	05/24/11 1236	06/01/11 1541	110524-6	6IP4152	KMW	200.7 & SM 2340B
Zinc, Dissolved, ICP-MS	05/23/11 1128	05/26/11 1841	110523-3	4IP3146	KMW	200.8 Rev. 5.4
Zinc, Tot. Rec., ICP-MS	05/24/11 0759	06/03/11 1819	110524-1	4IP3154	JDL	200.8 Rev. 5.4
BOD	N/A	05/20/11 2030	110520-2	110520-3	ASK	SM 5210B
Chloride	N/A	05/21/11 0649	3IC1140	8IC1140	MLL	300.0
Kjeldahl Nitrogen, as N	N/A	05/27/11 1353	110527-1	110527-3	JND	4500N(C) & (E)
Nitrate, as N	N/A	05/21/11 0636	3IC1140	8IC1140	MLL	300.0
Nitrite, as N	N/A	05/21/11 0636	3IC1140	8IC1140	MLL	300.0
Nitrogen (TKN + NO3/NO2),	N/A	06/06/11				Calculation
Phosphorus, Total, as P	N/A	05/27/11 1655	110527-1	110527-3	KJH	SM 4500-P(B&F) (M
Solids, Total Dissolved	N/A	05/27/11 1546	110527-1	110527-1	ASK	SM20th 2540C
Solids, Total Suspended	N/A	05/27/11 1533	110527-1	110527-1	ASK	SM20th 2540D
Dissolved Metals Preparation Method						200.7/200.8
Total Recoverable Metals Preparation Method						200.7/200.8
Calculated as Hardness Preparation Method						200.7/6010B

Conclusion of Lab Number: 11052013

APPENDIX

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Sample Rptd: 06/06/2011
Date Sample Recd: 05/20/2011
Continental File No: 8339
Continental Order No: 56082

ND(), where reported, indicates the analyte was not detected above the limit of quantitation (LOQ). The concentration of the limit of quantitation is inside the parentheses.

All samples which require cooling were received at a temperature of less than 6 degrees Celsius.

The following table presents the date and time sampled, the date and time analyzed, and the total time elapsed for each analysis with an EPA recommended holding time of seventy-two hours or less.

CAS LAB ID #	ANALYSIS	DATE/TIME SAMPLED	DATE/TIME ANALYZED	ELAPSED HRS:MIN
11052013	BOD	05/20/2011 0805	05/20/2011 2030	12:25
11052013	Nitrate, as N	05/20/2011 0805	05/21/2011 0636	22:31
11052013	Nitrite, as N	05/20/2011 0805	05/21/2011 0636	22:31

DM - NPDES requirements specify that dissolved metals and orthophosphate must be filtered within 15 minutes of the time of collection. This analysis did not meet these criteria.

Continental Analytical Services, Inc.
Accreditation Summary Report

Client: City of Wichita
CAS Order Number: 56082

NELAP accreditation is issued under each EPA regulatory program for a given matrix/analyte/method combination. Continental is NELAP accredited for each matrix/analyte/method and EPA program cited in this Laboratory Report, except for those listed in the table below and analysis performed in the field. For most of the analyses listed in the table, NELAP accreditation is not offered under the listed EPA program and Continental is NELAP accredited for the analysis, using the same analytical technology, but under a different EPA program. Continental's full NELAP accreditation status may be viewed at www.kdheks.gov/envlab. Note that unless qualified otherwise in the Laboratory Report, Continental performs all analyses, including each analysis listed in the table below, utilizing NELAP protocol.

Test	Analysis	Matrix-Regulatory Program	Method	CAS NELAP Accredited in Other Reg. Program
GL343	Nitrogen (TKN + NO3/NO2), as N	L-NPDES	Calculation	N

Continental Analytical Services, Inc.

Quality Control Report
Batch Summary

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Reported: 06/06/2011
Date Sample Received: 05/20/2011
Continental File No: 8339
Continental Order No: 56082

Test	Testname	QC Batch	Method Blank	LCS	MS Lab No.
SL156	Cadmium, Dissolved, ICP-MS	110523-3	110523BLK3	110523LCS3	11052011MS
SL162	Copper, Dissolved, ICP-MS	110523-3	110523BLK3	110523LCS3	11052011MS
SL183	Zinc, Dissolved, ICP-MS	110523-3	110523BLK3	110523LCS3	11052011MS
Lab numbers associated with this batch: 11052013					
SL006	Cadmium, Tot. Rec., ICP-MS	110524-1	110524BLK1	110524LCS1	11052012MS
SL012	Copper, Tot. Rec., ICP-MS	110524-1	110524BLK1	110524LCS1	11052012MS
SL033	Zinc, Tot. Rec., ICP-MS	110524-1	110524BLK1	110524LCS1	11052012MS
Lab numbers associated with this batch: 11052013					
SL323	Hardness (Calculated)	110524-6	110524BLK6	110524LCS6	11052012MS
Lab numbers associated with this batch: 11052013					
GL123	BOD	110520-2	110520BLK2	110520LCS2	11051795MS
Lab numbers associated with this batch: 11052013					
GL502	Chloride	3IC1140	BLK3IC1140	LCS3IC1140	11051141MS
Lab numbers associated with this batch: 11052013					
GL195	Kjeldahl Nitrogen, as N	110527-1	110527BLK1	110527LCS1	11052247MS
Lab numbers associated with this batch: 11052013					
GL505	Nitrate, as N	3IC1140	BLK3IC1140	LCS3IC1140	
GL503	Nitrite, as N	3IC1140	BLK3IC1140	LCS3IC1140	
Lab numbers associated with this batch: 11052013					
GL343	Nitrogen (TKN + NO3/NO2), as N				
Lab numbers associated with this batch: 11052013					
GL218	Phosphorus, Total, as P	110527-1	110527BLK1	110527LCS1	11051671MS
GL242	Solids, Total Dissolved	110527-1	110527BLK1	110527LCS1	11052007MS
GL243	Solids, Total Suspended	110527-1	110527BLK1	110527LCS1	11052007MS
Lab numbers associated with this batch: 11052013					

Continental Analytical Services, Inc.

Quality Control Report
Method Blank, LCS, MS/MSD Data

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Reported: 06/06/2011
Date Sample Received: 05/20/2011
Continental File No: 8339
Continental Order No: 56082

Analysis	Blank Data	% Rec LCS	Limits	Spike Level	Units	Spiked Sample (% Recovery) MS	MSD	Limits	Spike Level	Units	Spiked Sample Precision Data RPD	Limit
QC Batch: 110520-2	For sample analyzed on: 05/20/2011					Spiked sample: 11051795						
BOD	ND(5)	91.0	70.5-110	198	mg/L	MN	MN	#		mg/L	**	13.2
QC Batch: 110523-3	For samples prepared on: 05/23/2011					Spiked sample: 11052011						
Cadmium, Dissolved, ICP-MS	ND(1)	98.4	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
Copper, Dissolved, ICP-MS	ND(5)	93.5	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
Zinc, Dissolved, ICP-MS	ND(20)	96.6	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
Zinc, Dissolved, ICP-MS	ND(20)	96.9	85.0-115	500	µg/L	MN	MN	80.0-120			**	20.0
QC Batch: 110524-1	For samples prepared on: 05/24/2011					Spiked sample: 11052012						
Cadmium, Tot. Rec., ICP-MS	ND(1)	100.	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
Copper, Tot. Rec., ICP-MS	ND(5)	95.0	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
Zinc, Tot. Rec., ICP-MS	ND(20)	98.6	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
QC Batch: 110524-6	For samples prepared on: 05/24/2011					Spiked sample: 11052012						
Hardness (Calculated)	ND(5.0)	91.2	80.0-120	337	mg/L a	MN	MN	80.0-120	337	mg/L as	**	20.0
QC Batch: 110527-1	For sample analyzed on: 05/27/2011					Spiked sample: 11051671						
Phosphorus, Total, as P	ND(0.20)	102	90.0-110	1.0	mg/L	MN	MN	71.2-135	1.0	mg/L	**	21.2
QC Batch: 110527-1	For sample analyzed on: 05/27/2011					Spiked sample: 11052007						
Solids, Total Dissolved	ND(30)	N/A			mg/L	MN	MN	#		mg/L	**	5.2
Solids, Total Suspended	ND(5)	N/A			mg/L	MN	MN	#		mg/L	**	18.2
QC Batch: 110527-1	For sample analyzed on: 05/27/2011					Spiked sample: 11052247						
Kjaldahl Nitrogen, as N	ND(1)	98.0	90.0-110	20.0	mg/L	MN	MN	75.0-112	20.0	mg/L	**	17.4
QC Batch: 3IC1140	For sample analyzed on: 05/21/2011					Spiked sample:						
Nitrite, as N	ND(0.1)	98.5	90.0-110	2.0	mg/L	MN	MN	78.5-127			**	10.1
Nitrate, as N	ND(0.1)	99.0	90.0-110	2.0	mg/L	MN	MN	79.3-118			**	12.1
QC Batch: 3IC1140	For sample analyzed on: 05/21/2011					Spiked sample: 11051141						
Chloride	ND(1.0)	99.8	90.0-110	4.0	mg/L	MN	MN	82.1-126	400	mg/L	**	12.5

Data Qualifiers:

MN - The MS/MSD sample analyses were not performed on a sample from this Continental order number.

N/A - Not Applicable

- Limits not available.

** - RPD cannot be calculated.

Continental Analytical Services, Inc.

Quality Control Report

Continuing Calibration Verification Data Summary

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Reported: 06/06/2011
Date Sample Received: 05/20/2011
Continental File No: 8339
Continental Order No: 56082

Analysis	Date of Analysis	Instrument Batch ID	Amount in Standard	Amount Detected	Units	Percent Recovery
Cadmium, Dissolved, ICP-MS	05/26/2011	4IP3146	CCV recovery acceptable for this Instrument Batch.			
Cadmium, Dissolved, ICP-MS	05/26/2011	5IP3146	CCV recovery acceptable for this Instrument Batch.			
Cadmium, Tot. Rec., ICP-MS	05/26/2011	6IP3146	CCV recovery acceptable for this Instrument Batch.			
Cadmium, Tot. Rec., ICP-MS	05/26/2011	7IP3146	CCV recovery acceptable for this Instrument Batch.			
Copper, Dissolved, ICP-MS	05/26/2011	4IP3146	CCV recovery acceptable for this Instrument Batch.			
Copper, Dissolved, ICP-MS	05/26/2011	5IP3146	CCV recovery acceptable for this Instrument Batch.			
Copper, Tot. Rec., ICP-MS	05/26/2011	6IP3146	CCV recovery acceptable for this Instrument Batch.			
Copper, Tot. Rec., ICP-MS	05/26/2011	7IP3146	CCV recovery acceptable for this Instrument Batch.			
BOD	05/20/2011	110520-3	CCV recovery acceptable for this Instrument Batch.			
BOD	05/20/2011	110520-4	CCV recovery acceptable for this Instrument Batch.			
Kjeldahl Nitrogen, as N	05/27/2011	110527-3	CCV recovery acceptable for this Instrument Batch.			
Kjeldahl Nitrogen, as N	05/27/2011	110527-4	CCV recovery acceptable for this Instrument Batch.			
Phosphorus, Total, as P	05/27/2011	110527-3	CCV recovery acceptable for this Instrument Batch.			
Phosphorus, Total, as P	05/27/2011	110527-4	CCV recovery acceptable for this Instrument Batch.			
Chloride	05/21/2011	8IC1140	CCV recovery acceptable for this Instrument Batch.			
Chloride	05/21/2011	9IC1140	CCV recovery acceptable for this Instrument Batch.			
Nitrite, as N	05/21/2011	8IC1140	CCV recovery acceptable for this Instrument Batch.			
Nitrite, as N	05/21/2011	9IC1140	CCV recovery acceptable for this Instrument Batch.			
Nitrate, as N	05/21/2011	8IC1140	CCV recovery acceptable for this Instrument Batch.			
Nitrate, as N	05/21/2011	9IC1140	CCV recovery acceptable for this Instrument Batch.			
Hardness (Calculated)	06/01/2011	6IP4152	CCV recovery acceptable for this Instrument Batch.			
Hardness (Calculated)	06/01/2011	7IP4152	CCV recovery acceptable for this Instrument Batch.			
Zinc, Dissolved, ICP-MS	05/26/2011	4IP3146	CCV recovery acceptable for this Instrument Batch.			
Zinc, Tot. Rec., ICP-MS	06/03/2011	4IP3154	CCV recovery acceptable for this Instrument Batch.			
Zinc, Dissolved, ICP-MS	05/26/2011	5IP3146	CCV recovery acceptable for this Instrument Batch.			
Zinc, Tot. Rec., ICP-MS	06/03/2011	5IP3154	CCV recovery acceptable for this Instrument Batch.			

- Laboratory Report Conclusion -

Continental Analytical Services, Inc.

525 N. 8th Street, Salina, KS 67401
(785)827-1273 (800)535-3076 Fax (785)823-7830
www.cas-lab.com

CAS ORDER NO. 56085

CHAIN OF CUSTODY RECORD

Continental Shipping Order Number: _____

Client/Reporting Information	Invoice Information
Company Name: City of Wichita Sewage Treatment	Company Name: City of Wichita Sewage Treatment
Address: 2305 E. 57th Street South	Address: 2305 E. 57th Street South
City: Wichita State: KS Zip: 67216	City: Wichita State: KS Zip: 67216
Contact: Jim Hardesty E-mail:	Contact: Jim Hardesty E-mail:
Phone Number: (316)303-8700 Fax Number: (316)303-8712	Phone Number: (316)303-8700 Fax Number: (316)303-8712

Sampler's Name:(Printed): Justin May
Sampler's Name:(Signature):
Purchase Order Number:
File Number: 5535
Project Name: Stormwater - UPSTREAM

Edits made prior to sample receipt MWS 5-20-11

SAMPLE IDENTIFICATION (30 Characters or less)	Matrix (Sample Type)	Regulatory Program	Date Sampled	Time Sampled	C-Composite G-Grab	Total Containers	Number of Preserved Bottles: HCL	NaOH	HNO3	H2SO4	NONE	OTHER	Total Cadmium, Copper, Zinc 250mL Plastic - HNO3	Hardness, TSS, TDS, Cl, BOD, NO3, NO2, Tot. Nitrogen 1000mL Plastic - None	TKN, Total P 250mL Plastic - H2SO4					COMMENTS
30759 Little Arkansas Upstream	WW	N	5/19/11	0805	G	3			1	1	1		X	X	X					

Regulatory Program: N=NPDES, R=RCRA, D=Drinking Water, SL=503 Sludge, O=Other

(Please note if non-standard turnaround. Rush & Emergency subject to additional charges)
Standard TAT: (15 working days) Rush TAT: (5 working days) Emergency TAT: (3 working days)

Matrix (Sample Type): DW=Drinking Water, GW=Ground Water, WW=Waste Water, W=Wipe, S=Solid/Soil, SL=Sludge, A=Air, OL = Oil/Organic Liquid, O=Other

RELINQUISHED BY:	DATE:	TIME:	RECEIVED BY:	DATE:	TIME:
	5/20/11	1300			
RELINQUISHED BY:	DATE:	TIME:	RECEIVED BY:	DATE:	TIME:
RECEIVED AT LAB BY: Mark W. Stafford	DATE: 5-20-11	TIME: 14:15	SHIPPED VIA: / AIRBILL:	SEAL #: / SEAL DATE:	

Continental's Standard Terms and Conditions of Sale will apply to all samples received unless a separate contractual agreement has been made.

Continental Analytical Services Cooler/Sample Receipt Form

CAS Order No. 56082

Client Name: Wichita Sewage

CAS File No.: 8339

Sample ID's in cooler: Sewer

Little Arkansas

Cooler 1 of 1 for this CAS Order No.

Cooler Identification: CAS Cooler #: 1635 /Client's Cooler/Box/Letter/Hand Delivered
Other: _____

Date/Time Cooler Received: 5 / 20 / 11 14 : 15

Delivered By: UPS/FedX/AB Express/ASAP/Land Air Exp/Field Svcs/Mail/Walk-In/Other: _____

Custody Seal: Present: Intact / Broken Absent: X Seal No: _____
Seal Name: _____ Seal Date: _____
Seal matches Chain of Custody: Yes / No / N/A

Type of Packing Material: Blue Ice/Ice/Melted Ice/Bubble/Foam/Paper/Peanuts/Vermiculite/ None/Other: _____

Cooler Temperature (°C): Original Reading (°C) 1.5 Corrected Reading (°C) 1.8
Temp. By: Temp. Blank Surface: Glass/Plastic/Metal/Other: _____ Cooler
Thermo. ID No.: 585 Thermo. Correction Factor (°C): 0.3
☐ Evidence of Cooling: date received=date sampled

Sample Receipt Discrepancies: ☒ No ☐ ***Yes (see below for discrepancies)***

Note: CAS will proceed with sample analyses, addressing each discrepancy as shown, until/unless directed otherwise by the client.

- ☐ Chain of Custody not present information taken from:
  - Cover Letter ☐ Container ☐
  - PO ☐ CAS Proj. Mgr. ☐
- ☐ Container label absent
- ☐ Chain of Custody incomplete [see detail below]
- ☐ Chain of Custody missing date/time sampled (excl. TB or Dup)
- ☐ Date or Time sampled obtained from container label
- ☐ Chain of Custody missing sampler's name
- ☐ Chain of Custody missing matrix (sample type)
- ☐ Missing relinquished information: signature date time
- ☐ Sample excluded from Chain of Custody
- ☐ Sample listed on Chain of Custody, not received
- ☐ Sample description on container and Chain of Custody do not agree
- ☐ Air bubbles in Aqueous VOA vials larger than pea-size [approx. 6 mm]
- ☐ Cooler temperature exceeded 0.1 - 6.0 °C requirement [Do not mark if samples do not require cooling to 0.1 - 6.0 °C.]
- ☐ Broken or leaking containers (detail actions below)
- ☐ Sample container type or labeled chemical preservation inappropriate
- ☐ Other discrepancies: _____

Detail to discrepancies/comments:

Completed by: MWJ Date Completed: 5-20-11

Continental
Analytical Services, Inc.

06/06/2011

City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date and Time Received: 05/20/2011 14:15
Continental File No.: 8339
Continental Order No.: 56083
Project ID: Stormwater

Dear Mr. Hardesty:

This laboratory report containing the samples indicated below, includes 9 pages for the analytical report, 1 page(s) for the chain of custody and/or analysis request, and 1 page(s) for the sample receipt form.

CAS LAB ID #	SAMPLE DESCRIPTION	SAMPLE TYPE	DATE SAMPLED
11052014	Little Ark & Hood - Grab	Liquid	5/20/2011
11052015	Little Ark & Hood - Composite	Liquid	5/20/2011

The Appendix and Quality Control sections are integral parts of this laboratory report and may contain important data qualifiers.

All results are reported on a wet weight basis unless otherwise stated.

Samples will be retained for thirty days unless Continental is otherwise notified.

Continental is accredited by the State of Kansas through the National Environmental Laboratory Accreditation Program (NELAP). The results contained in this report were obtained using Continental's Standard Operating Procedures. These procedures are in substantial compliance with the approved methods referenced and the standards published by NELAP unless otherwise noted in the Appendix and Quality Control sections of this report.

This report may not be reproduced, except in full, without written approval from Continental Analytical Services, Inc.

Thank you for choosing Continental for this project. If you have any questions please contact me at (800)535-3076.

CONTINENTAL ANALYTICAL SERVICES, INC.

Clifford J. Baker
Technical Manager

Gregory J. Groene
Project Manager

525 N. Eighth St. - P.O. Box 3737 - Salina, KS 67402-3737
785-827-1273 800-535-3076 Fax 785-823-7830
KDHE Environmental Laboratory Accreditation No. E-10146

Continental Analytical Services, Inc.

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Sample Rptd: 06/06/2011
Date Sample Recd: 05/20/2011
Continental File No: 8339
Continental Order No: 56083

Lab Number: 11052014
Sample Description: Little Ark & Hood - Grab

Date Sampled: 05/20/2011
Time Sampled: 0800

Analysis	Concentration	Units	Book/Page
Cadmium, Dissolved, ICP-MS	ND(1) DM	µg/L	7127/15
Cadmium, Tot. Rec., ICP-MS	ND(1)	µg/L	7127/15
Copper, Dissolved, ICP-MS	ND(5) DM	µg/L	7127/15
Copper, Tot. Rec., ICP-MS	9	µg/L	7127/15
Hardness (Calculated)	25	mg/L as CaCO3	7143/1
Zinc, Dissolved, ICP-MS	ND(20) DM	µg/L	7127/15
Zinc, Tot. Rec., ICP-MS	79	µg/L	7127/17
Chloride	1.5	mg/L	7129/20
Solids, Total Dissolved	34	mg/L	7059/238
Solids, Total Suspended	51	mg/L	7059/236

Analysis	Date Prepared	Date Analyzed	QC Batch	Inst. Batch	Analyst	Method(s)
Cadmium, Dissolved, ICP-MS	05/23/11 1128	05/26/11 1846	110523-3	4IP3146	KMW	200.8 Rev. 5.4
Cadmium, Tot. Rec., ICP-MS	05/24/11 0759	05/26/11 2118	110524-1	6IP3146	KMW	200.8 Rev. 5.4
Copper, Dissolved, ICP-MS	05/23/11 1128	05/26/11 1846	110523-3	4IP3146	KMW	200.8 Rev. 5.4
Copper, Tot. Rec., ICP-MS	05/24/11 0759	05/26/11 2118	110524-1	6IP3146	KMW	200.8 Rev. 5.4
Hardness (Calculated)	05/24/11 1236	06/01/11 1545	110524-6	6IP4152	KMW	200.7 & SM 2340B
Zinc, Dissolved, ICP-MS	05/23/11 1128	05/26/11 1846	110523-3	4IP3146	KMW	200.8 Rev. 5.4
Zinc, Tot. Rec., ICP-MS	05/24/11 0759	06/03/11 1824	110524-1	4IP3154	JDL	200.8 Rev. 5.4
Chloride	N/A	05/31/11 1951	1IC1151	2IC1151	MLL	300.0
Solids, Total Dissolved	N/A	05/27/11 1547	110527-1	110527-1	ASK	SM20th 2540C
Solids, Total Suspended	N/A	05/27/11 1534	110527-1	110527-1	ASK	SM20th 2540D
Dissolved Metals Preparation Method						200.7/200.8
Total Recoverable Metals Preparation Method						200.7/200.8
Calculated as Hardness Preparation Method						200.7/6010B

Conclusion of Lab Number: 11052014

Continental Analytical Services, Inc.

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Sample Rptd: 06/06/2011
Date Sample Recd: 05/20/2011
Continental File No: 8339
Continental Order No: 56083

Lab Number: 11052015
Sample Description: Little Ark & Hood - Composite

Date Sampled: 05/20/2011
Time Sampled: 0800

Analysis	Concentration	Units	Book/Page
Cadmium, Dissolved, ICP-MS	ND(1) DM	µg/L	7127/15
Cadmium, Tot. Rec., ICP-MS	ND(1)	µg/L	7127/15
Copper, Dissolved, ICP-MS	ND(5) DM	µg/L	7127/15
Copper, Tot. Rec., ICP-MS	7	µg/L	7127/15
Hardness (Calculated)	26	mg/L as CaCO3	7143/1
Zinc, Dissolved, ICP-MS	ND(20) DM	µg/L	7127/15
Zinc, Tot. Rec., ICP-MS	72	µg/L	7127/17
BOD	ND(5)	mg/L	7060/118
Chloride	1.7	mg/L	7129/14
Kjeldahl Nitrogen, as N	1	mg/L	7043/46
Nitrate, as N	0.2	mg/L	7129/14
Nitrite, as N	ND(0.1)	mg/L	7129/14
Nitrogen (TKN + NO3/NO2), as N	1.2	mg/L	9999/7
Phosphorus, Total, as P	ND(0.20)	mg/L	7061/92
Solids, Total Dissolved	42	mg/L	7059/238
Solids, Total Suspended	60.	mg/L	7059/236

Analysis	Date Prepared	Date Analyzed	QC Batch	Inst. Batch	Analyst	Method(s)
Cadmium, Dissolved, ICP-MS	05/23/11 1128	05/26/11 1851	110523-3	4IP3146	KMW	200.8 Rev. 5.4
Cadmium, Tot. Rec., ICP-MS	05/24/11 0759	05/26/11 2124	110524-1	6IP3146	KMW	200.8 Rev. 5.4
Copper, Dissolved, ICP-MS	05/23/11 1128	05/26/11 1851	110523-3	4IP3146	KMW	200.8 Rev. 5.4
Copper, Tot. Rec., ICP-MS	05/24/11 0759	05/26/11 2124	110524-1	6IP3146	KMW	200.8 Rev. 5.4
Hardness (Calculated)	05/24/11 1236	06/01/11 1549	110524-6	6IP4152	KMW	200.7 & SM 2340B
Zinc, Dissolved, ICP-MS	05/23/11 1128	05/26/11 1851	110523-3	4IP3146	KMW	200.8 Rev. 5.4
Zinc, Tot. Rec., ICP-MS	05/24/11 0759	06/03/11 1830	110524-1	4IP3154	JDL	200.8 Rev. 5.4
BOD	N/A	05/20/11 2030	110520-2	110520-3	ASK	SM 5210B
Chloride	N/A	05/21/11 0702	3IC1140	8IC1140	MLL	300.0
Kjeldahl Nitrogen, as N	N/A	05/27/11 1353	110527-1	110527-3	JND	4500N(C) & (E)
Nitrate, as N	N/A	05/21/11 0702	3IC1140	8IC1140	MLL	300.0
Nitrite, as N	N/A	05/21/11 0702	3IC1140	8IC1140	MLL	300.0
Nitrogen (TKN + NO3/NO2),	N/A	06/06/11				Calculation
Phosphorus, Total, as P	N/A	05/27/11 1656	110527-1	110527-3	KJH	SM 4500-P(B&F)(M
Solids, Total Dissolved	N/A	05/27/11 1547	110527-1	110527-1	ASK	SM20th 2540C
Solids, Total Suspended	N/A	05/27/11 1534	110527-1	110527-1	ASK	SM20th 2540D
Dissolved Metals Preparation Method						200.7/200.8
Total Recoverable Metals Preparation Method						200.7/200.8
Calculated as Hardness Preparation Method						200.7/6010B

Conclusion of Lab Number: 11052015

Continental Analytical Services, Inc.

APPENDIX

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Sample Rptd: 06/06/2011
Date Sample Recd: 05/20/2011
Continental File No: 8339
Continental Order No: 56083

ND(), where reported, indicates the analyte was not detected above the limit of quantitation (LOQ). The concentration of the limit of quantitation is inside the parentheses.

All samples which require cooling were received at a temperature of less than 6 degrees Celsius.

The following table presents the date and time sampled, the date and time analyzed, and the total time elapsed for each analysis with an EPA recommended holding time of seventy-two hours or less.

CAS LAB ID #	ANALYSIS	DATE/TIME SAMPLED	DATE/TIME ANALYZED	ELAPSED HRS:MIN
11052015	BOD	05/20/2011 0800	05/20/2011 2030	12:30
11052015	Nitrate, as N	05/20/2011 0800	05/21/2011 0702	23:02
11052015	Nitrite, as N	05/20/2011 0800	05/21/2011 0702	23:02

DM - NPDES requirements specify that dissolved metals and orthophosphate must be filtered within 15 minutes of the time of collection. This analysis did not meet these criteria.

Continental Analytical Services, Inc.
Accreditation Summary Report

Client: City of Wichita
CAS Order Number: 56083

NELAP accreditation is issued under each EPA regulatory program for a given matrix/analyte/method combination. Continental is NELAP accredited for each matrix/analyte/method and EPA program cited in this Laboratory Report, except for those listed in the table below and analysis performed in the field. For most of the analyses listed in the table, NELAP accreditation is not offered under the listed EPA program and Continental is NELAP accredited for the analysis, using the same analytical technology, but under a different EPA program. Continental's full NELAP accreditation status may be viewed at www.kdheks.gov/envlab. Note that unless qualified otherwise in the Laboratory Report, Continental performs all analyses, including each analysis listed in the table below, utilizing NELAP protocol.

Test	Analysis	Matrix-Regulatory Program	Method	CAS NELAP Accredited in Other Reg. Program
GL343	Nitrogen (TKN + NO3/NO2), as N	L-NPDES	Calculation	N

Continental Analytical Services, Inc.

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Quality Control Report
Batch Summary

Date Reported: 06/06/2011
Date Sample Received: 05/20/2011
Continental File No: 8339
Continental Order No: 56083

Test	Testname	QC Batch	Method Blank	LCS	MS Lab No.
SL156	Cadmium, Dissolved, ICP-MS	110523-3	110523BLK3	110523LCS3	11052011MS
SL162	Copper, Dissolved, ICP-MS	110523-3	110523BLK3	110523LCS3	11052011MS
SL183	Zinc, Dissolved, ICP-MS	110523-3	110523BLK3	110523LCS3	11052011MS
Lab numbers associated with this batch: 11052014 11052015					
SL006	Cadmium, Tot. Rec., ICP-MS	110524-1	110524BLK1	110524LCS1	11052012MS
SL012	Copper, Tot. Rec., ICP-MS	110524-1	110524BLK1	110524LCS1	11052012MS
SL033	Zinc, Tot. Rec., ICP-MS	110524-1	110524BLK1	110524LCS1	11052012MS
Lab numbers associated with this batch: 11052014 11052015					
SL323	Hardness (Calculated)	110524-6	110524BLK6	110524LCS6	11052012MS
Lab numbers associated with this batch: 11052014 11052015					
GL123	BOD	110520-2	110520BLK2	110520LCS2	11051795MS
Lab numbers associated with this batch: 11052015					
GL502	Chloride	1IC1151	BLK1IC1151	LCS1IC1151	11052289MS
Lab numbers associated with this batch: 11052014					
GL502	Chloride	3IC1140	BLK3IC1140	LCS3IC1140	11051141MS
Lab numbers associated with this batch: 11052015					
GL195	Kjeldahl Nitrogen, as N	110527-1	110527BLK1	110527LCS1	11052247MS
Lab numbers associated with this batch: 11052015					
GL505	Nitrate, as N	3IC1140	BLK3IC1140	LCS3IC1140	
GL503	Nitrite, as N	3IC1140	BLK3IC1140	LCS3IC1140	
Lab numbers associated with this batch: 11052015					
GL343	Nitrogen (TKN + NO3/NO2), as N				
Lab numbers associated with this batch: 11052015					

Continental Analytical Services, Inc.

Quality Control Report
Batch Summary

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Reported: 06/06/2011
Date Sample Received: 05/20/2011
Continental File No: 8339
Continental Order No: 56083

Test	Testname	QC Batch	Method Blank	LCS	MS Lab No.
GL218	Phosphorus, Total, as P	110527-1	110527BLK1	110527LCS1	11051671MS
Lab numbers associated with this batch: 11052015					
GL242	Solids, Total Dissolved	110527-1	110527BLK1	110527LCS1	11052007MS
GL243	Solids, Total Suspended	110527-1	110527BLK1	110527LCS1	11052007MS
Lab numbers associated with this batch: 11052014 11052015					

Continental Analytical Services, Inc.

Quality Control Report
Method Blank, LCS, MS/MSD Data

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Reported: 06/06/2011
Date Sample Received: 05/20/2011
Continental File No: 8339
Continental Order No: 56083

Analysis	Blank Data	% Rec LCS	Limits	Spike Level	Units	Spiked Sample (% Recovery) MS	MSD	Limits	Spike Level	Units	Spiked Sample Precision Data RPD	Limit
QC Batch: 110520-2	For sample analyzed on: 05/20/2011					Spiked sample: 11051795						
BOD	ND(5)	91.0	70.5-110	198	mg/L	MN	MN	#		mg/L	**	13.2
QC Batch: 110523-3	For samples prepared on: 05/23/2011					Spiked sample: 11052011						
Cadmium, Dissolved, ICP-MS	ND(1)	98.4	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
Copper, Dissolved, ICP-MS	ND(5)	93.5	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
Zinc, Dissolved, ICP-MS	ND(20)	96.6	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
Zinc, Dissolved, ICP-MS	ND(20)	96.9	85.0-115	500	µg/L	MN	MN	80.0-120			**	20.0
QC Batch: 110524-1	For samples prepared on: 05/24/2011					Spiked sample: 11052012						
Cadmium, Tot. Rec., ICP-MS	ND(1)	100.	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
Copper, Tot. Rec., ICP-MS	ND(5)	95.0	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
Zinc, Tot. Rec., ICP-MS	ND(20)	98.6	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
QC Batch: 110524-6	For samples prepared on: 05/24/2011					Spiked sample: 11052012						
Hardness (Calculated)	ND(5.0)	91.2	80.0-120	337	mg/L a	MN	MN	80.0-120	337	mg/L as	**	20.0
QC Batch: 110527-1	For sample analyzed on: 05/27/2011					Spiked sample: 11051671						
Phosphorus, Total, as P	ND(0.20)	102	90.0-110	1.0	mg/L	MN	MN	71.2-135	1.0	mg/L	**	21.2
QC Batch: 110527-1	For sample analyzed on: 05/27/2011					Spiked sample: 11052007						
Solids, Total Dissolved	ND(30)	N/A			mg/L	MN	MN	#		mg/L	**	5.2
Solids, Total Suspended	ND(5)	N/A			mg/L	MN	MN	#		mg/L	**	18.2
QC Batch: 110527-1	For sample analyzed on: 05/27/2011					Spiked sample: 11052247						
Kjeldahl Nitrogen, as N	ND(1)	98.0	90.0-110	20.0	mg/L	MN	MN	75.0-112	20.0	mg/L	**	17.4
QC Batch: 1IC1151	For sample analyzed on: 05/31/2011					Spiked sample: 11052289						
Chloride	ND(1.0)	104	90.0-110	4.0	mg/L	MN	MN	82.1-126	80.0	mg/L	**	12.5
QC Batch: 3IC1140	For sample analyzed on: 05/21/2011					Spiked sample:						
Nitrite, as N	ND(0.1)	98.5	90.0-110	2.0	mg/L	MN	MN	78.5-127			**	10.1
Nitrate, as N	ND(0.1)	99.0	90.0-110	2.0	mg/L	MN	MN	79.3-118			**	12.1
QC Batch: 3IC1140	For sample analyzed on: 05/21/2011					Spiked sample: 11051141						
Chloride	ND(1.0)	99.8	90.0-110	4.0	mg/L	MN	MN	82.1-126	400	mg/L	**	12.5

Data Qualifiers:

MN - The MS/MSD sample analyses were not performed on a sample from this Continental order number.

N/A - Not Applicable

- Limits not available.

** - RPD cannot be calculated.

Continental Analytical Services, Inc.

Quality Control Report

Continuing Calibration Verification Data Summary

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Reported: 06/06/2011
Date Sample Received: 05/20/2011
Continental File No: 8339
Continental Order No: 56083

Analysis	Date of Analysis	Instrument Batch ID	Amount in Standard	Amount Detected	Units	Percent Recovery
Cadmium, Dissolved, ICP-MS	05/26/2011	4IP3146	CCV recovery acceptable for this Instrument Batch.			
Cadmium, Dissolved, ICP-MS	05/26/2011	5IP3146	CCV recovery acceptable for this Instrument Batch.			
Cadmium, Tot. Rec., ICP-MS	05/26/2011	6IP3146	CCV recovery acceptable for this Instrument Batch.			
Cadmium, Tot. Rec., ICP-MS	05/26/2011	7IP3146	CCV recovery acceptable for this Instrument Batch.			
Copper, Dissolved, ICP-MS	05/26/2011	4IP3146	CCV recovery acceptable for this Instrument Batch.			
Copper, Dissolved, ICP-MS	05/26/2011	5IP3146	CCV recovery acceptable for this Instrument Batch.			
Copper, Tot. Rec., ICP-MS	05/26/2011	6IP3146	CCV recovery acceptable for this Instrument Batch.			
Copper, Tot. Rec., ICP-MS	05/26/2011	7IP3146	CCV recovery acceptable for this Instrument Batch.			
BOD	05/20/2011	110520-3	CCV recovery acceptable for this Instrument Batch.			
BOD	05/20/2011	110520-4	CCV recovery acceptable for this Instrument Batch.			
Kjeldahl Nitrogen, as N	05/27/2011	110527-3	CCV recovery acceptable for this Instrument Batch.			
Kjeldahl Nitrogen, as N	05/27/2011	110527-4	CCV recovery acceptable for this Instrument Batch.			
Phosphorus, Total, as P	05/27/2011	110527-3	CCV recovery acceptable for this Instrument Batch.			
Phosphorus, Total, as P	05/27/2011	110527-4	CCV recovery acceptable for this Instrument Batch.			
Chloride	05/21/2011	8IC1140	CCV recovery acceptable for this Instrument Batch.			
Chloride	05/21/2011	9IC1140	CCV recovery acceptable for this Instrument Batch.			
Chloride	05/31/2011	2IC1151	CCV recovery acceptable for this Instrument Batch.			
Chloride	05/31/2011	3IC1151	CCV recovery acceptable for this Instrument Batch.			
Nitrite, as N	05/21/2011	8IC1140	CCV recovery acceptable for this Instrument Batch.			
Nitrite, as N	05/21/2011	9IC1140	CCV recovery acceptable for this Instrument Batch.			
Nitrate, as N	05/21/2011	8IC1140	CCV recovery acceptable for this Instrument Batch.			
Nitrate, as N	05/21/2011	9IC1140	CCV recovery acceptable for this Instrument Batch.			
Hardness (Calculated)	06/01/2011	6IP4152	CCV recovery acceptable for this Instrument Batch.			
Hardness (Calculated)	06/01/2011	7IP4152	CCV recovery acceptable for this Instrument Batch.			
Zinc, Dissolved, ICP-MS	05/26/2011	4IP3146	CCV recovery acceptable for this Instrument Batch.			
Zinc, Tot. Rec., ICP-MS	06/03/2011	4IP3154	CCV recovery acceptable for this Instrument Batch.			
Zinc, Dissolved, ICP-MS	05/26/2011	5IP3146	CCV recovery acceptable for this Instrument Batch.			
Zinc, Tot. Rec., ICP-MS	06/03/2011	5IP3154	CCV recovery acceptable for this Instrument Batch.			

- Laboratory Report Conclusion -

Continental Analytical Services, Inc.

525 N. 8th Street, Salina, KS 67401
(785)827-1273 (800)535-3076 Fax (785)823-7830
www.cas-lab.com

CHAIN OF CUSTODY RECORD

Continental Shipping Order Number: _____

Client/Reporting Information			Invoice Information		
Company Name: City of Wichita Sewage Treatment			Company Name: City of Wichita Sewage Treatment		
Address: 305 E. 57th Street South			Address: 2305 E. 57th Street South		
City: Wichita	State: KS	Zip: 67216	City: Wichita	State: KS	Zip: 67216
Contact: Jim Hardesty	E-mail:		Contact: Jim Hardesty	E-mail:	
Phone Number: (316)303-8700	Fax Number: (316)303-8712		Phone Number: (316)303-8700	Fax Number: (316)303-8712	

Sampler's Name:(Printed): Justin Mayh
Sampler's Name:(Signature): [signature]
File Number: 535
Project Name: Stormwater
Purchase Order Number:

SAMPLE IDENTIFICATION (30 Characters or less)	Matrix (Sample Type)	Regulatory Program	Date Sampled	Time Sampled	C-Composite G-Grab	Total Containers	HCL	NaOH	HNO3	H2SO4	NONE	OTHER:	Cadmium, Copper, Zinc - Total Recoverable 250ml Plastic - HNO3	Hardness, TSS TDS, Cl, Diss. - Cd, Cu, Zn 1000ml Plastic - None	Total Metals, Dissolved Metals, Hardness, TSS, TDS, Cl, BOD, TKN, Total P, NO3, NO2, Tot. Nitrogen Large Carboy						COMMENTS
0751-Grab Little Arkansas Head	WW	N	5/20/11	0800	G	2			1		1		X	X							
0751-Composite Little Arkansas Head	WW	N	5/20/11	0800	C	1					1				X						5 Gal. Container to be poured off at lab
																					as needed for required tests.
																					Remaining volume will be saved for
																					for organics if needed.

Edits made prior to sample receipt MW 5-20-11

Regulatory Program: N=NPDES, R=RCRA, D=Drinking Water, SL=503 Sludge, O=Other

(Please note if non-standard turnaround. Rush & Emergency subject to additional charge)
Standard TAT: (15 working days) Rush TAT: (5 working days) Emergency TAT: (3 working days)

Matrix (Sample Type): DW=Drinking Water, GW=Ground Water, WW=Waste Water, W=Wipe, S=Solid/Soil, SL=Sludge, A=Air, OL = Oil/Organic Liquid, O=Other

RELINQUISHED BY:	DATE:	TIME:	RECEIVED BY:	DATE:	TIME:
[signature]	5/20/11	1200			
RELINQUISHED BY:	DATE:	TIME:	RECEIVED BY:	DATE:	TIME:
RECEIVED AT LAB BY: Marsha W. Antrim	DATE: 5-20-11	TIME: 14:15	SHIPPED VIA: / AIRBILL:	SEAL #: / SEAL DATE:	

Continental's Standard Terms and Conditions of Sale will apply to all samples received unless a separate contractual agreement has been made.

Continental Analytical Services Cooler/Sample Receipt Form CAS Order No. 56083

Client Name: Wichita Sewage CAS File No.: 8339

Sample ID's in cooler: See COC

Little Arkansas Hood

Cooler 1 of 1 for this CAS Order No.

Cooler Identification: CAS Cooler #: 1625 /Client's Cooler/Box/Letter/Hand Delivered
Other: _____

Date/Time Cooler Received: 5 / 20 / 11 14 : 15

Delivered By: UPS/FedX/AB Express/ASAP/Land Air Exp/Field Svcs/Mail/Walk-In/Other: _____

Custody Seal: Present: Intact / Broken Absent: X Seal No: _____

Seal Name: _____ Seal Date: _____

Seal matches Chain of Custody: Yes / No / N/A

Type of Packing Material: Blue Ice/Ice/Melted Ice/Bubble/Foam/Paper/Peanuts/Vermiculite/ None/Other: _____

Cooler Temperature (°C): Original Reading (°C) 1.5 Corrected Reading (°C) 1.8

Temp. By: Temp. Blank Surface: Glass/Plastic/Metal/Other: _____ Cooler

Thermo. ID No.: 585 Thermo. Correction Factor (°C): 0.3

☐ Evidence of Cooling: date received=date sampled

Sample Receipt Discrepancies: ☒ No ☐ *Yes (see below for discrepancies)*

Note: CAS will proceed with sample analyses, addressing each discrepancy as shown, until/unless directed otherwise by the client.

- ☐ Chain of Custody not present information taken from:
  - Cover Letter ☐ Container ☐
  - PO ☐ CAS Proj. Mgr. ☐
- ☐ Container label absent
- ☐ Chain of Custody incomplete [see detail below]
- ☐ Chain of Custody missing date/time sampled (excl. TB or Dup)
- ☐ Date or Time sampled obtained from container label
- ☐ Chain of Custody missing sampler's name
- ☐ Chain of Custody missing matrix (sample type)
- ☐ Missing relinquished information: signature date time
- ☐ Sample excluded from Chain of Custody
- ☐ Sample listed on Chain of Custody, not received
- ☐ Sample description on container and Chain of Custody do not agree
- ☐ Air bubbles in Aqueous VOA vials larger than pea-size [approx. 6 mm]
- ☐ Cooler temperature exceeded 0.1 - 6.0 °C requirement [Do not mark if samples do not require cooling to 0.1 - 6.0 °C.]
- ☐ Broken or leaking containers (detail actions below)
- ☐ Sample container type or labeled chemical preservation inappropriate
- ☐ Other discrepancies: _____

Detail to discrepancies/comments:

Completed by: MWJ Date Completed: 5-20-11

Continental
Analytical Services, Inc.

08/24/2011

City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date and Time Received: 08/10/2011 16:40
Continental File No.: 8339
Continental Order No.: 57859
Project ID: SW Upstream

Dear Mr. Hardesty:

This laboratory report containing the samples indicated below, includes 8 pages for the analytical report, 1 page(s) for the chain of custody and/or analysis request, and 1 page(s) for the sample receipt form.

CAS LAB ID #	SAMPLE DESCRIPTION	SAMPLE TYPE	DATE SAMPLED
11080694	Broadway Upstream	Liquid	8/10/2011

The Appendix and Quality Control sections are integral parts of this laboratory report and may contain important data qualifiers.

All results are reported on a wet weight basis unless otherwise stated.

Samples will be retained for thirty days unless Continental is otherwise notified.

Continental is accredited by the State of Kansas through the National Environmental Laboratory Accreditation Program (NELAP). The results contained in this report were obtained using Continental's Standard Operating Procedures. These procedures are in substantial compliance with the approved methods referenced and the standards published by NELAP unless otherwise noted in the Appendix and Quality Control sections of this report.

This report may not be reproduced, except in full, without written approval from Continental Analytical Services, Inc.

Thank you for choosing Continental for this project. If you have any questions please contact me at (800)535-3076.

CONTINENTAL ANALYTICAL SERVICES, INC.

Clifford J. Baker
Technical Manager

Gregory J. Groene
Project Manager

525 N. Eighth St. - P.O. Box 3737 - Salina, KS 67402-3737
785-827-1273 800-535-3076 Fax 785-823-7830

KDHE Environmental Laboratory Accreditation No. E-10146

Continental Analytical Services, Inc.

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Reported: 08/24/2011
Date Received: 08/10/2011
Continental File No: 8339
Continental Order No: 57859

Lab Number: 11080694
Sample Description: Broadway Upstream

Date Sampled: 08/10/2011
Time Sampled: 0920

Analysis	Concentration	Units	Book/Page
Cadmium, Dissolved, ICP-MS	ND(1)	µg/L	7127/55
Cadmium, Tot. Rec., ICP-MS	ND(1)	µg/L	7127/54
Copper, Dissolved, ICP-MS	ND(5)	µg/L	7127/55
Copper, Tot. Rec., ICP-MS	6	µg/L	7127/54
Hardness (Calculated)	52.8	mg/L as CaCO3	7157/33
Zinc, Dissolved, ICP-MS	ND(20)	µg/L	7127/55
Zinc, Tot. Rec., ICP-MS	52	µg/L	7127/54
BOD	7	mg/L	7060/191
Chloride	16.0	mg/L	7129/48
E. Coli	>2420 HT	MPN/100 mL	7057/338
Kjeldahl Nitrogen, as N (TKN)	1.4	mg/L	6854/240
Nitrate, as N	0.4 B	mg/L	7129/48
Nitrite, as N	ND(0.1)	mg/L	7129/48
Nitrogen (TKN + NO3/NO2), as N	1.8	mg/L	9999/247
Phosphorus, Total, as P	0.23	mg/L	7061/150
Solids, Total Dissolved	94	mg/L	7059/441
Solids, Total Suspended	46	mg/L	7059/446

Analysis	Date/Time Prepared	Date/Time Analyzed	QC Batch	Inst. Batch	Analyst	Method(s)
Cadmium, Dissolved, ICP-MS	08/17/11 1253	08/20/11 1446	110817-5	3IP3232	KMW	200.8 Rev. 5.4
Cadmium, Tot. Rec., ICP-MS	08/15/11 1129	08/18/11 1513	110815-6	3IP3230	KMW	200.8 Rev. 5.4
Copper, Dissolved, ICP-MS	08/17/11 1253	08/20/11 1446	110817-5	3IP3232	KMW	200.8 Rev. 5.4
Copper, Tot. Rec., ICP-MS	08/15/11 1129	08/18/11 1513	110815-6	3IP3230	KMW	200.8 Rev. 5.4
Hardness (Calculated)	08/12/11 1040	08/16/11 0146	110812-4	16IP4227	KMW	200.7 & SM 2340B
Zinc, Dissolved, ICP-MS	08/17/11 1253	08/20/11 1446	110817-5	3IP3232	KMW	200.8 Rev. 5.4
Zinc, Tot. Rec., ICP-MS	08/15/11 1129	08/18/11 1513	110815-6	3IP3230	KMW	200.8 Rev. 5.4
BOD	N/A	08/11/11 1550	110811-1	110811-1	ASK	SM 5210B
Chloride	N/A	08/11/11 1748	1IC1223	4IC1223	MLL	300.0
E. Coli	N/A	08/10/11 1740	110810-1	110810-1	ASK	SM 9223B Colilert
Kjeldahl Nitrogen, as N (T	08/12/11 1241	08/15/11 1121	110812-1	110815-3	JND	EPA 351.2
Nitrate, as N	N/A	08/11/11 1748	1IC1223	4IC1223	MLL	300.0
Nitrite, as N	N/A	08/11/11 1748	1IC1223	4IC1223	MLL	300.0
Nitrogen (TKN + NO3/NO2),	N/A	08/15/11				Calculation
Phosphorus, Total, as P	N/A	08/16/11 1429	110816-2	110816-3	KJH	SM 4500-P(B&F)(M
Solids, Total Dissolved	N/A	08/12/11 1239	110812-1	110812-1	KJH	SM20th 2540C
Solids, Total Suspended	N/A	08/16/11 0941	110816-1	110816-1	KJH	SM20th 2540D
Dissolved Metals Preparation Method						200.7/200.8
Total Recoverable Metals Preparation Method						200.7/200.8
Calculated as Hardness Preparation Method						200.7/6010B

Conclusion of Lab Number: 11080694

Continental Analytical Services, Inc.

APPENDIX

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Reported: 08/24/2011
Date Received: 08/10/2011
Continental File No: 8339
Continental Order No: 57859

ND(), where reported, indicates the analyte was not detected above the limit of quantitation (LOQ). The concentration of the limit of quantitation is inside the parentheses.

All samples which require cooling were received at a temperature of less than 6 degrees Celsius.

The following table presents the date and time sampled, the date and time analyzed, and the total time elapsed for each analysis with an EPA recommended holding time of seventy-two hours or less.

CAS LAB ID #	ANALYSIS	DATE/TIME SAMPLED	DATE/TIME ANALYZED	ELAPSED HRS:MIN
11080694	BOD	08/10/2011 0920	08/11/2011 1550	30:30
11080694	E. Coli	08/10/2011 0920	08/10/2011 1740	8:20
11080694	Nitrate, as N	08/10/2011 0920	08/11/2011 1748	32:28
11080694	Nitrite, as N	08/10/2011 0920	08/11/2011 1748	32:28

HT - This sample exceeded the EPA maximum in transit holding time of six hours permitted for this analysis.

B - Analyte is also present in the method blank or load blank at the concentration indicated either to the right of the letter B and/or in the enclosed Quality Control Report. The reported sample concentration has not been blank corrected.

Continental Analytical Services, Inc.

Date: 08/24/2011

Continental Analytical Services, Inc.
Accreditation Summary Report

Client: City of Wichita
CAS Order Number: 57859

NELAP accreditation is issued under each EPA regulatory program for a given matrix/analyte/method combination. Continental is NELAP accredited for each matrix/analyte/method and EPA program cited in this Laboratory Report, except for those listed in the table below and analysis performed in the field. For most of the analyses listed in the table, NELAP accreditation is not offered under the listed EPA program and Continental is NELAP accredited for the analysis, using the same analytical technology, but under a different EPA program. Continental's full NELAP accreditation status may be viewed at www.kdheks.gov/envlab. Note that unless qualified otherwise in the Laboratory Report, Continental performs all analyses, including each analysis listed in the table below, utilizing NELAP protocol.

Test	Analysis	Matrix-Regulatory Program	Method	CAS NELAP Accredited in Other Reg. Program
GL343	Nitrogen (TKN + NO3/NO2), as N	L-NPDES	Calculation	N

Continental Analytical Services, Inc.

Quality Control Report
Batch Summary

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Reported: 08/24/2011
Date Received: 08/10/2011
Continental File No: 8339
Continental Order No: 57859

Test	Testname	QC Batch	Method Blank	LCS	MS Lab No.
SL323	Hardness (Calculated)	110812-4	110812BLK4	110812LCS4	11080684MS
Lab numbers associated with this batch: 11080694					
SL006	Cadmium, Tot. Rec., ICP-MS	110815-6	110815BLK6	110815LCS6	11080695MS
SL012	Copper, Tot. Rec., ICP-MS	110815-6	110815BLK6	110815LCS6	11080695MS
SL033	Zinc, Tot. Rec., ICP-MS	110815-6	110815BLK6	110815LCS6	11080695MS
Lab numbers associated with this batch: 11080694					
SL156	Cadmium, Dissolved, ICP-MS	110817-5	110817BLK5	110817LCS5	11080684MS
SL162	Copper, Dissolved, ICP-MS	110817-5	110817BLK5	110817LCS5	11080684MS
SL183	Zinc, Dissolved, ICP-MS	110817-5	110817BLK5	110817LCS5	11080684MS
Lab numbers associated with this batch: 11080694					
GL123	BOD	110811-1	110811BLK1	110811LCS1	11080702MS
Lab numbers associated with this batch: 11080694					
GL502	Chloride	1IC1223	BLK1IC1223	LCS1IC1223	11080697MS
Lab numbers associated with this batch: 11080694					
GL347	E. Coli	110810-1	110810BLK1	110810LCS1	11080608MS
Lab numbers associated with this batch: 11080694					
GL595	Kjeldahl Nitrogen, as N (TKN)	110812-1	110812BLK1	110812LCS1	11080719MS
Lab numbers associated with this batch: 11080694					
GL505	Nitrate, as N	1IC1223	BLK1IC1223	LCS1IC1223	
GL503	Nitrite, as N	1IC1223	BLK1IC1223	LCS1IC1223	
Lab numbers associated with this batch: 11080694					
GL343	Nitrogen (TKN + NO3/NO2), as N				
Lab numbers associated with this batch: 11080694					

Continental Analytical Services, Inc.

Quality Control Report
Batch Summary

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Reported: 08/24/2011
Date Received: 08/10/2011
Continental File No: 8339
Continental Order No: 57859

Test	Testname	QC Batch	Method Blank	LCS	MS Lab No.
GL218	Phosphorus, Total, as P	110816-2	110816BLK2	110816LCS2	11080696MS
Lab numbers associated with this batch: 11080694					
GL242	Solids, Total Dissolved	110812-1	110812BLK1	110812LCS1	11080687MS
Lab numbers associated with this batch: 11080694					
GL243	Solids, Total Suspended	110816-1	110816BLK1	110816LCS1	11080686MS
Lab numbers associated with this batch: 11080694					

Continental Analytical Services, Inc.

Quality Control Report
Method Blank, LCS, MS/MSD Data

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Reported: 08/24/2011
Date Received: 08/10/2011
Continental File No: 8339
Continental Order No: 57859

Analysis	Blank Data	% Rec LCS	Limits	Spike Level	Units	Spiked Sample (% Recovery) MS	MSD	Limits	Spike Level	Units	Spiked Sample Precision Data RPD	Limit
QC Batch: 110810-1	For sample analyzed on: 08/10/2011					Spiked sample: 11080608						
E. Coli	ND(1)	N/A			MPN/100MM	MN	MN	#		MPN/100	**	105
QC Batch: 110811-1	For sample analyzed on: 08/11/2011					Spiked sample: 11080702						
BOD	ND(5)	91.7	70.5-110	198	mg/L	MN	MN	#		mg/L	**	13.2
QC Batch: 110812-1	For sample analyzed on: 08/12/2011					Spiked sample: 11080687						
Solids, Total Dissolved	ND(30)	N/A			mg/L	MN	MN	#		mg/L	**	5.2
QC Batch: 110812-1	For samples prepared on: 08/12/2011					Spiked sample: 11080719						
Kjeldahl Nitrogen, as N (TKN)	ND(1.0)	110	#	4.0	mg/L	MN	MN	#	4.0	mg/L	**	#
QC Batch: 110812-4	For samples prepared on: 08/12/2011					Spiked sample: 11080684						
Hardness (Calculated)	ND(5.0)	98.1	80.0-120	337	mg/L a	MN	MN	80.0-120	337	mg/L as	**	20.0
QC Batch: 110815-6	For samples prepared on: 08/15/2011					Spiked sample: 11080695						
Cadmium, Tot. Rec., ICP-MS	ND(1)	96.8	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
Copper, Tot. Rec., ICP-MS	ND(5)	94.0	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
Zinc, Tot. Rec., ICP-MS	ND(20)	99.6	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
QC Batch: 110816-1	For sample analyzed on: 08/16/2011					Spiked sample: 11080686						
Solids, Total Suspended	ND(5)	N/A			mg/L	MN	MN	#		mg/L	**	18.2
QC Batch: 110816-2	For sample analyzed on: 08/16/2011					Spiked sample: 11080696						
Phosphorus, Total, as P	ND(0.20)	96.6	90.0-110	2.0	mg/L	MN	MN	71.2-135	2.0	mg/L	**	21.2
QC Batch: 110817-5	For samples prepared on: 08/17/2011					Spiked sample: 11080684						
Cadmium, Dissolved, ICP-MS	ND(1)	93.2	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
Copper, Dissolved, ICP-MS	ND(3) J	87.4	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
Zinc, Dissolved, ICP-MS	ND(20)	96.8	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
QC Batch: 11IC1223	For sample analyzed on: 08/11/2011					Spiked sample:						
Nitrite, as N	ND(0.1)	107	90.0-110	2.0	mg/L	MN	MN	78.5-127			**	10.1
Nitrate, as N	0.08 J	101	90.0-110	2.0	mg/L	MN	MN	79.3-118			**	12.1
QC Batch: 11IC1223	For sample analyzed on: 08/11/2011					Spiked sample: 11080697						
Chloride	ND(1.0)	101	90.0-110	4.0	mg/L	MN	MN	82.1-126	80.0	mg/L	**	12.5

Data Qualifiers:
N/A - Not Applicable

MN - The MS/MSD sample analyses were not performed on a sample from this Continental order number.

J - The concentration or not detected (ND) value is below the Limit of Quantitation (LOQ) and is considered an estimated value.

- Limits not available.

** - RPD cannot be calculated.

Continental Analytical Services, Inc.

Quality Control Report

Continuing Calibration Verification Data Summary

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Reported: 08/24/2011
Date Received: 08/10/2011
Continental File No: 8339
Continental Order No: 57859

Analysis	Date of Analysis	Instrument Batch ID	Amount in Standard	Amount Detected	Units	Percent Recovery
Cadmium, Tot. Rec., ICP-MS	08/18/2011	3IP3230	CCV recovery acceptable for this Instrument Batch.			
Cadmium, Dissolved, ICP-MS	08/20/2011	3IP3232	CCV recovery acceptable for this Instrument Batch.			
Cadmium, Tot. Rec., ICP-MS	08/18/2011	4IP3230	CCV recovery acceptable for this Instrument Batch.			
Cadmium, Dissolved, ICP-MS	08/20/2011	4IP3232	CCV recovery acceptable for this Instrument Batch.			
Copper, Tot. Rec., ICP-MS	08/18/2011	3IP3230	CCV recovery acceptable for this Instrument Batch.			
Copper, Dissolved, ICP-MS	08/20/2011	3IP3232	CCV recovery acceptable for this Instrument Batch.			
Copper, Tot. Rec., ICP-MS	08/18/2011	4IP3230	CCV recovery acceptable for this Instrument Batch.			
Copper, Dissolved, ICP-MS	08/20/2011	4IP3232	CCV recovery acceptable for this Instrument Batch.			
BOD	08/11/2011	110811-1	CCV recovery acceptable for this Instrument Batch.			
BOD	08/11/2011	110811-2	CCV recovery acceptable for this Instrument Batch.			
Phosphorus, Total, as P	08/16/2011	110816-3	CCV recovery acceptable for this Instrument Batch.			
Phosphorus, Total, as P	08/16/2011	110816-4	CCV recovery acceptable for this Instrument Batch.			
Chloride	08/11/2011	4IC1223	CCV recovery acceptable for this Instrument Batch.			
Chloride	08/11/2011	5IC1223	CCV recovery acceptable for this Instrument Batch.			
Nitrite, as N	08/11/2011	4IC1223	CCV recovery acceptable for this Instrument Batch.			
Nitrite, as N	08/11/2011	5IC1223	CCV recovery acceptable for this Instrument Batch.			
Nitrate, as N	08/11/2011	4IC1223	CCV recovery acceptable for this Instrument Batch.			
Nitrate, as N	08/11/2011	5IC1223	CCV recovery acceptable for this Instrument Batch.			
Kjeldahl Nitrogen, as N (TKN)	08/15/2011	110815-3	CCV recovery acceptable for this Instrument Batch.			
Kjeldahl Nitrogen, as N (TKN)	08/15/2011	110815-4	CCV recovery acceptable for this Instrument Batch.			
Hardness (Calculated)	08/16/2011	16IP4227	CCV recovery acceptable for this Instrument Batch.			
Hardness (Calculated)	08/16/2011	17IP4227	CCV recovery acceptable for this Instrument Batch.			
Zinc, Tot. Rec., ICP-MS	08/18/2011	3IP3230	CCV recovery acceptable for this Instrument Batch.			
Zinc, Dissolved, ICP-MS	08/20/2011	3IP3232	CCV recovery acceptable for this Instrument Batch.			
Zinc, Tot. Rec., ICP-MS	08/18/2011	4IP3230	CCV recovery acceptable for this Instrument Batch.			
Zinc, Dissolved, ICP-MS	08/20/2011	4IP3232	CCV recovery acceptable for this Instrument Batch.			

- Laboratory Report Conclusion -

Continental Analytical Services, Inc.

525 N. 8th Street, Salina, KS 67401
(785)827-1273 (800)535-3076 Fax (785)823-7830
www.cas-lab.com

CAS ORDER NO 57859

CHAIN OF CUSTODY RECORD

Continental Shipping Order Number: _____

Client/Reporting Information			Invoice Information		
pany Name: of Wichita Storm Water Management			Company Name: City of Wichita Storm Water Management		
ress: Hall, 8th Floor, 455 N. Main			Address: City Hall, 8th Floor, 455 N. Main		
: hita	State: KS	Zip: 67202	City: Wichita	State: KS	Zip: 67202
act: Hardesty	E-mail: Jhardesty@wichita.gov		Contact: Jim Hardesty	E-mail: Jhardesty@wichita.go	
e Number:)268-8317	Fax Number: (316)858-7889		Phone Number: (316)268-8317	Fax Number: (316)858-7889	
pler's Name:(Printed) Justin Myers	Sampler's Name:(Signature)		Purchase Order Number:		
Number: 39	Project Name: Stormwater - UPSTREAM				

SAMPLE IDENTIFICATION (30 Characters or less)	Matrix (Sample Type)	Regulatory Program	Date Sampled	Time Sampled	C-Composite G-Grab	Total Containers	Number of Preserved Bottles: HCL	NaOH	HNO3	H2SO4	NONE	OTHER:	Total Cadmium, Copper, Zinc 250mL Plastic - HNO3	Dissolved Cadmium, Copper, Zinc 250mL Plastic - None	Hardness, TSS, TDS, Cl, ROD, NO3, NO2, Tot Nitrogen 1000mL Plastic - None	TKN, Total P 250mL Plastic - H2SO4					COMMENTS
adway Upstream	WW	N	8/10/2011	0820	G	4			1	1	2		X	X	X	X					

ulatory Program: N=NPDES, R=RCRA, D=Drinking Water, SL=503 Sludge, O=Other

(Please note if non-standard turnaround. Rush & Emergency subject to additional charge)
Standard TAT: (15 working days) Rush TAT: (5 working days) Emergency TAT: (3 working days)

rix (Sample Type): DW=Drinking Water, GW=Ground Water, WW=Waste Water, W=Wipe, S=Solid/Soil, SL=Sludge, A=Air, OL = Oil/Organic Liquid, O=Other

NQUISHED BY:	DATE: 8/10/11	TIME: 1400	RECEIVED BY:	DATE:	TIME:
NQUISHED BY:	DATE:	TIME:	RECEIVED BY:	DATE:	TIME:
EIVED AT LAB BY:	DATE:	TIME:	SHIPPED VIA: / AIRBILL:	SEAL #: / SEAL DATE:	

Continental's Standard Terms and Conditions of Sale will apply to all samples received unless a separate contractual agreement has been made.

Continental Analytical Services, Inc.
Cooler/Sample Receipt Form (C/S RF)

CAS Order No.: 57859

Client Name: Wichita

CAS File No.: 8339

Sample ID's in cooler: See COC

Cooler 1 of 1 for this CAS Order No.

Cooler Identification: CAS Cooler #: 3289 / Client's Cooler / Box / Letter / Hand-delivered
Other:

Date/Time Cooler Received: 8 / 10 / 11 16 : 40

Delivered By: UPS / FedX / AB Express / Field Svcs / Mail / Walk-In / Other:

Custody Seal: Present: Intact / Broken Absent: X Seal No:
Seal Name: Seal Date:
Seal matches Chain of Custody: Yes / No / N/A

Type of Packing Material: Blue Ice / Ice / Melted Ice / Bubble / Foam / Paper / Peanuts / Vermiculite / None / Other:

Cooler Temperature (°C): Original Reading (°C) 1.0 Corrected Reading (°C) 1.4
Temp. By: Temp. Blank Cooler Surface: Glass / Plastic /Metal /Other:
Thermo. ID No.: 585 Thermo. Correction Factor (°C): 0.4

☐ Evidence of Cooling and date received = date sampled

Sample Receipt Discrepancies: ☒ No ☐ Yes (See below for discrepancies.)

Note: **If discrepancies are present, CAS will proceed with analyses until/unless directed otherwise by the client.**

☐ Chain of Custody not present - information taken from:
Cover Letter ☐ Container ☐
PO ☐ CAS Proj. Mgr. ☐
☐ Container label absent
☐ Chain of Custody incomplete [see detail below]
☐ Chain of Custody missing date/time sampled (excl. TB or Dup.)
☐ Date or Time sampled obtained from container label
☐ Chain of Custody missing sampler's name
☐ Chain of Custody missing matrix (sample type)
☐ Missing relinquished information: signature date time

☐ Sample excluded from Chain of Custody
☐ Sample listed on Chain of Custody, not received
☐ Sample description on container and Chain of Custody do not agree
☐ Air bubbles in Aqueous VOA vials larger than pea-size [approx. 6 mm]
☐ Cooler temperature exceeded 0.1 - 6.0 °C requirement
[Do not mark if samples do not require cooling to 0.1 - 6.0 °C.]
☐ Broken or leaking containers (detail actions below)
☐ Sample container type or labeled chemical preservation inappropriate
☐ Other discrepancies:

Detail to discrepancies/comments:

Completed by: JCG Date Completed: 8-10-11

Continental
Analytical Services, Inc.

08/24/2011

City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date and Time Received: 08/10/2011 16:40
Continental File No.: 8339
Continental Order No.: 57857
Project ID: SW Upstream

Dear Mr. Hardesty:

This laboratory report containing the samples indicated below, includes 8 pages for the analytical report, 1 page(s) for the chain of custody and/or analysis request, and 1 page(s) for the sample receipt form.

CAS LAB ID #	SAMPLE DESCRIPTION	SAMPLE TYPE	DATE SAMPLED
11080691	13th and River	Liquid	8/10/2011

The Appendix and Quality Control sections are integral parts of this laboratory report and may contain important data qualifiers.

All results are reported on a wet weight basis unless otherwise stated.

Samples will be retained for thirty days unless Continental is otherwise notified.

Continental is accredited by the State of Kansas through the National Environmental Laboratory Accreditation Program (NELAP). The results contained in this report were obtained using Continental's Standard Operating Procedures. These procedures are in substantial compliance with the approved methods referenced and the standards published by NELAP unless otherwise noted in the Appendix and Quality Control sections of this report.

This report may not be reproduced, except in full, without written approval from Continental Analytical Services, Inc.

Thank you for choosing Continental for this project. If you have any questions please contact me at (800)535-3076.

CONTINENTAL ANALYTICAL SERVICES, INC.

Clifford J. Baker
Technical Manager

Gregory J. Groene
Project Manager

525 N. Eighth St. - P.O. Box 3737 - Salina, KS 67402-3737
785-827-1273 800-535-3076 Fax 785-823-7830
KDHE Environmental Laboratory Accreditation No. E-10146

Continental Analytical Services, Inc.

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Reported: 08/24/2011
Date Received: 08/10/2011
Continental File No: 8339
Continental Order No: 57857

Lab Number: 11080691
Sample Description: 13th and River

Date Sampled: 08/10/2011
Time Sampled: 1205

Analysis	Concentration	Units	Book/Page
Cadmium, Dissolved, ICP-MS	ND(1)	µg/L	7127/55
Cadmium, Tot. Rec., ICP-MS	ND(1)	µg/L	7127/54
Copper, Dissolved, ICP-MS	ND(5)	µg/L	7127/55
Copper, Tot. Rec., ICP-MS	ND(5)	µg/L	7127/54
Hardness (Calculated)	276	mg/L as CaCO3	7157/33
Zinc, Dissolved, ICP-MS	ND(20)	µg/L	7127/55
Zinc, Tot. Rec., ICP-MS	26	µg/L	7127/54
BOD	ND(5)	mg/L	7060/191
Chloride	129	mg/L	7129/48
E. Coli	1730	MPN/100 mL	7057/338
Kjeldahl Nitrogen, as N (TKN)	1.5	mg/L	6854/240
Nitrate, as N	0.2 B	mg/L	7129/48
Nitrite, as N	ND(1) M	mg/L	7129/48
Nitrogen (TKN + NO3/NO2), as N	1.7 E	mg/L	9999/247
Phosphorus, Total, as P	0.37	mg/L	7061/150
Solids, Total Dissolved	174	mg/L	7059/441
Solids, Total Suspended	51	mg/L	7059/446

Analysis	Date/Time Prepared	Date/Time Analyzed	QC Batch	Inst. Batch	Analyst	Method(s)
Cadmium, Dissolved, ICP-MS	08/17/11 1253	08/20/11 1420	110817-5	2IP3232	KMW	200.8 Rev. 5.4
Cadmium, Tot. Rec., ICP-MS	08/15/11 1129	08/18/11 1457	110815-6	3IP3230	KMW	200.8 Rev. 5.4
Copper, Dissolved, ICP-MS	08/17/11 1253	08/20/11 1420	110817-5	2IP3232	KMW	200.8 Rev. 5.4
Copper, Tot. Rec., ICP-MS	08/15/11 1129	08/18/11 1457	110815-6	3IP3230	KMW	200.8 Rev. 5.4
Hardness (Calculated)	08/12/11 1040	08/16/11 0133	110812-4	16IP4227	KMW	200.7 & SM 2340B
Zinc, Dissolved, ICP-MS	08/17/11 1253	08/20/11 1420	110817-5	2IP3232	KMW	200.8 Rev. 5.4
Zinc, Tot. Rec., ICP-MS	08/15/11 1129	08/18/11 1457	110815-6	3IP3230	KMW	200.8 Rev. 5.4
BOD	N/A	08/11/11 1550	110811-1	110811-1	ASK	SM 5210B
Chloride	N/A	08/11/11 1642	1IC1223	3IC1223	MLL	300.0
E. Coli	N/A	08/10/11 1740	110810-1	110810-1	ASK	SM 9223B Colilert
Kjeldahl Nitrogen, as N (T	08/12/11 1241	08/15/11 1112	110812-1	110815-2	JND	EPA 351.2
Nitrate, as N	N/A	08/11/11 1629	1IC1223	3IC1223	MLL	300.0
Nitrite, as N	N/A	08/11/11 1642	1IC1223	3IC1223	MLL	300.0
Nitrogen (TKN + NO3/NO2),	N/A	08/15/11				Calculation
Phosphorus, Total, as P	N/A	08/16/11 1427	110816-2	110816-3	KJH	SM 4500-P(B&F)(M
Solids, Total Dissolved	N/A	08/12/11 1238	110812-1	110812-1	KJH	SM20th 2540C
Solids, Total Suspended	N/A	08/16/11 0940	110816-1	110816-1	KJH	SM20th 2540D
Dissolved Metals Preparation Method						200.7/200.8
Total Recoverable Metals Preparation Method						200.7/200.8
Calculated as Hardness Preparation Method						200.7/6010B

Conclusion of Lab Number: 11080691

Continental Analytical Services, Inc.

APPENDIX

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Reported: 08/24/2011
Date Received: 08/10/2011
Continental File No: 8339
Continental Order No: 57857

ND(), where reported, indicates the analyte was not detected above the limit of quantitation (LOQ). The concentration of the limit of quantitation is inside the parentheses.

All samples which require cooling were received at a temperature of less than 6 degrees Celsius.

The following table presents the date and time sampled, the date and time analyzed, and the total time elapsed for each analysis with an EPA recommended holding time of seventy-two hours or less.

CAS LAB ID #	ANALYSIS	DATE/TIME SAMPLED	DATE/TIME ANALYZED	ELAPSED HRS:MIN
11080691	BOD	08/10/2011 1205	08/11/2011 1550	27:45
11080691	E. Coli	08/10/2011 1205	08/10/2011 1740	5:35
11080691	Nitrate, as N	08/10/2011 1205	08/11/2011 1629	28:24
11080691	Nitrite, as N	08/10/2011 1205	08/11/2011 1642	28:37

B - Analyte is also present in the method blank or load blank at the concentration indicated either to the right of the letter B and/or in the enclosed Quality Control Report. The reported sample concentration has not been blank corrected.

E - Concentration or reporting limit is an estimated value. Matrix interferences and/or sample heterogeneity were noted at the time of sample analysis.

M - Reporting limit higher than normal due to matrix interferences.

Continental Analytical Services, Inc.

Continental Analytical Services, Inc.
Accreditation Summary Report

Client: City of Wichita
CAS Order Number: 57857

NELAP accreditation is issued under each EPA regulatory program for a given matrix/analyte/method combination. Continental is NELAP accredited for each matrix/analyte/method and EPA program cited in this Laboratory Report, except for those listed in the table below and analysis performed in the field. For most of the analyses listed in the table, NELAP accreditation is not offered under the listed EPA program and Continental is NELAP accredited for the analysis, using the same analytical technology, but under a different EPA program. Continental's full NELAP accreditation status may be viewed at www.kdheks.gov/envlab. Note that unless qualified otherwise in the Laboratory Report, Continental performs all analyses, including each analysis listed in the table below, utilizing NELAP protocol.

Test	Analysis	Matrix-Regulatory Program	Method	CAS NELAP Accredited in Other Reg. Program
GL343	Nitrogen (TKN + NO3/NO2), as N	L-NPDES	Calculation	N

Continental Analytical Services, Inc.

Quality Control Report
Batch Summary

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Page: 5
Date Reported: 08/24/2011
Date Received: 08/10/2011
Continental File No: 8339
Continental Order No: 57857

Test	Testname	QC Batch	Method Blank	LCS	MS Lab No.
SL323	Hardness (Calculated)	110812-4	110812BLK4	110812LCS4	11080684MS
Lab numbers associated with this batch: 11080691					
SL006	Cadmium, Tot. Rec., ICP-MS	110815-6	110815BLK6	110815LCS6	11080695MS
SL012	Copper, Tot. Rec., ICP-MS	110815-6	110815BLK6	110815LCS6	11080695MS
SL033	Zinc, Tot. Rec., ICP-MS	110815-6	110815BLK6	110815LCS6	11080695MS
Lab numbers associated with this batch: 11080691					
SL156	Cadmium, Dissolved, ICP-MS	110817-5	110817BLK5	110817LCS5	11080684MS
SL162	Copper, Dissolved, ICP-MS	110817-5	110817BLK5	110817LCS5	11080684MS
SL183	Zinc, Dissolved, ICP-MS	110817-5	110817BLK5	110817LCS5	11080684MS
Lab numbers associated with this batch: 11080691					
GL123	BOD	110811-1	110811BLK1	110811LCS1	11080702MS
Lab numbers associated with this batch: 11080691					
GL502	Chloride	1IC1223	BLK1IC1223	LCS1IC1223	11080697MS
Lab numbers associated with this batch: 11080691					
GL347	E. Coli	110810-1	110810BLK1	110810LCS1	11080608MS
Lab numbers associated with this batch: 11080691					
GL595	Kjeldahl Nitrogen, as N (TKN)	110812-1	110812BLK1	110812LCS1	11080719MS
Lab numbers associated with this batch: 11080691					
GL505	Nitrate, as N	1IC1223	BLK1IC1223	LCS1IC1223	
GL503	Nitrite, as N	1IC1223	BLK1IC1223	LCS1IC1223	
Lab numbers associated with this batch: 11080691					
GL343	Nitrogen (TKN + NO3/NO2), as N				
Lab numbers associated with this batch: 11080691					

Continental Analytical Services, Inc.

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Quality Control Report
Batch Summary

Date Reported: 08/24/2011
Date Received: 08/10/2011
Continental File No: 8339
Continental Order No: 57857

Test	Testname	QC Batch	Method Blank	LCS	MS Lab No.
GL218	Phosphorus, Total, as P	110816-2	110816BLK2	110816LCS2	11080696MS
Lab numbers associated with this batch: 11080691					
GL242	Solids, Total Dissolved	110812-1	110812BLK1	110812LCS1	11080687MS
Lab numbers associated with this batch: 11080691					
GL243	Solids, Total Suspended	110816-1	110816BLK1	110816LCS1	11080686MS
Lab numbers associated with this batch: 11080691					

Continental Analytical Services, Inc.

Quality Control Report
Method Blank, LCS, MS/MSD Data

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Reported: 08/24/2011
Date Received: 08/10/2011
Continental File No: 8339
Continental Order No: 57857

Analysis	Blank Data	% Rec LCS	Limits	Spike Level	Units	Spiked Sample (% Recovery) MS	MSD	Limits	Spike Level	Units	Spiked Sample Precision Data RPD	Limit
QC Batch: 110810-1	For sample analyzed on: 08/10/2011					Spiked sample: 11080608						
E. Coli	ND(1)	N/A			MPN/100M	MN	MN	#		MPN/100	**	105
QC Batch: 110811-1	For sample analyzed on: 08/11/2011					Spiked sample: 11080702						
BOD	ND(5)	91.7	70.5-110	198	mg/L	MN	MN	#		mg/L	**	13.2
QC Batch: 110812-1	For sample analyzed on: 08/12/2011					Spiked sample: 11080697						
Solids, Total Dissolved	ND(30)	N/A			mg/L	MN	MN	#		mg/L	**	5.2
QC Batch: 110812-1	For samples prepared on: 08/12/2011					Spiked sample: 11080719						
Kjeldahl Nitrogen, as N (TKN)	ND(1.0)	110	#	4.0	mg/L	MN	MN	#	4.0	mg/L	**	#
QC Batch: 110812-4	For samples prepared on: 08/12/2011					Spiked sample: 11080684						
Hardness (Calculated)	ND(5.0)	98.1	80.0-120	337	mg/L a	MN	MN	80.0-120	337	mg/L as	**	20.0
QC Batch: 110815-6	For samples prepared on: 08/15/2011					Spiked sample: 11080695						
Cadmium, Tot. Rec., ICP-MS	ND(1)	96.8	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
Copper, Tot. Rec., ICP-MS	ND(5)	94.0	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
Zinc, Tot. Rec., ICP-MS	ND(20)	99.6	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
QC Batch: 110816-1	For sample analyzed on: 08/16/2011					Spiked sample: 11080686						
Solids, Total Suspended	ND(5)	N/A			mg/L	MN	MN	#		mg/L	**	18.2
QC Batch: 110816-2	For sample analyzed on: 08/16/2011					Spiked sample: 11080696						
Phosphorus, Total, as P	ND(0.20)	96.6	90.0-110	2.0	mg/L	MN	MN	71.2-135	2.0	mg/L	**	21.2
QC Batch: 110817-5	For samples prepared on: 08/17/2011					Spiked sample: 11080684						
Cadmium, Dissolved, ICP-MS	ND(1)	93.2	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
Copper, Dissolved, ICP-MS	ND(3) J	87.4	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
Zinc, Dissolved, ICP-MS	ND(20)	96.8	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
QC Batch: 11C1223	For sample analyzed on: 08/11/2011					Spiked sample:						
Nitrite, as N	ND(0.1)	107	90.0-110	2.0	mg/L	MN	MN	78.5-127			**	10.1
Nitrate, as N	0.08 J	101	90.0-110	2.0	mg/L	MN	MN	79.3-118			**	12.1
QC Batch: 11C1223	For sample analyzed on: 08/11/2011					Spiked sample: 11080697						
Chloride	ND(1.0)	101	90.0-110	4.0	mg/L	MN	MN	82.1-126	80.0	mg/L	**	12.5

Data Qualifiers:
N/A - Not Applicable

MN - The MS/MSD sample analyses were not performed on a sample from this Continental order number.

J - The concentration or not detected (ND) value is below the Limit of Quantitation (LOQ) and is considered an estimated value.

\# - Limits not available.

** - RPD cannot be calculated.

Continental Analytical Services, Inc.

Quality Control Report

Continuing Calibration Verification Data Summary

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Reported: 08/24/2011
Date Received: 08/10/2011
Continental File No: 8339
Continental Order No: 57857

Analysis	Date of Analysis	Instrument Batch ID	Amount in Standard	Amount Detected	Units	Percent Recovery
Cadmium, Dissolved, ICP-MS	08/20/2011	2IP3232	CCV recovery acceptable for this Instrument Batch.			
Cadmium, Tot. Rec., ICP-MS	08/18/2011	3IP3230	CCV recovery acceptable for this Instrument Batch.			
Cadmium, Dissolved, ICP-MS	08/20/2011	3IP3232	CCV recovery acceptable for this Instrument Batch.			
Cadmium, Tot. Rec., ICP-MS	08/18/2011	4IP3230	CCV recovery acceptable for this Instrument Batch.			
Copper, Dissolved, ICP-MS	08/20/2011	2IP3232	CCV recovery acceptable for this Instrument Batch.			
Copper, Tot. Rec., ICP-MS	08/18/2011	3IP3230	CCV recovery acceptable for this Instrument Batch.			
Copper, Dissolved, ICP-MS	08/20/2011	3IP3232	CCV recovery acceptable for this Instrument Batch.			
Copper, Tot. Rec., ICP-MS	08/18/2011	4IP3230	CCV recovery acceptable for this Instrument Batch.			
BOD	08/11/2011	110811-1	CCV recovery acceptable for this Instrument Batch.			
BOD	08/11/2011	110811-2	CCV recovery acceptable for this Instrument Batch.			
Phosphorus, Total, as P	08/16/2011	110816-3	CCV recovery acceptable for this Instrument Batch.			
Phosphorus, Total, as P	08/16/2011	110816-4	CCV recovery acceptable for this Instrument Batch.			
Chloride	08/11/2011	3IC1223	CCV recovery acceptable for this Instrument Batch.			
Chloride	08/11/2011	4IC1223	CCV recovery acceptable for this Instrument Batch.			
Nitrite, as N	08/11/2011	3IC1223	CCV recovery acceptable for this Instrument Batch.			
Nitrite, as N	08/11/2011	4IC1223	CCV recovery acceptable for this Instrument Batch.			
Nitrate, as N	08/11/2011	3IC1223	CCV recovery acceptable for this Instrument Batch.			
Nitrate, as N	08/11/2011	4IC1223	CCV recovery acceptable for this Instrument Batch.			
Kjeldahl Nitrogen, as N (TKN)	08/15/2011	110815-2	CCV recovery acceptable for this Instrument Batch.			
Kjeldahl Nitrogen, as N (TKN)	08/15/2011	110815-3	CCV recovery acceptable for this Instrument Batch.			
Hardness (Calculated)	08/16/2011	16IP4227	CCV recovery acceptable for this Instrument Batch.			
Hardness (Calculated)	08/16/2011	17IP4227	CCV recovery acceptable for this Instrument Batch.			
Zinc, Dissolved, ICP-MS	08/20/2011	2IP3232	CCV recovery acceptable for this Instrument Batch.			
Zinc, Tot. Rec., ICP-MS	08/18/2011	3IP3230	CCV recovery acceptable for this Instrument Batch.			
Zinc, Dissolved, ICP-MS	08/20/2011	3IP3232	CCV recovery acceptable for this Instrument Batch.			
Zinc, Tot. Rec., ICP-MS	08/18/2011	4IP3230	CCV recovery acceptable for this Instrument Batch.			

- Laboratory Report Conclusion -

Continental Analytical Services, Inc.

525 N. 8th Street, Salina, KS 67401
(785)827-1273 (800)535-3076 Fax (785)823-7830
www.cas-lab.com

CAS ORDER NO. 57857

CHAIN OF CUSTODY RECORD

Continental Shipping Order Number: _____

Client/Reporting Information			Invoice Information		
any Name: of Wichita Storm Water Management			Company Name: City of Wichita Storm Water Management		
ess: Hall, 8th Floor, 455 N. Main			Address: City Hall, 8th Floor, 455 N. Main		
ita	State: KS	Zip: 67202	City: Wichita	State: KS	Zip: 67202
ct: Hardesty	E-mail: Jhardesty@wichita.gov		Contact: Jim Hardesty	E-mail: Jhardesty@wichita.go	
Number: 268-8317	Fax Number: (316)858-7889		Phone Number: (316)268-8317	Fax Number: (316)858-7889	
ler's Name:(Printed)	Sampler's Name:(Signature)		Purchase Order Number:		
Number: 9	Project Name: Stormwater - UPSTREAM				

SAMPLE IDENTIFICATION (30 Characters or less)	Matrix (Sample Type)	Regulatory Program	Date Sampled	Time Sampled	C-Composite G-Grab	Total Containers	Number of Preserved Bottles: HCL	NaOH	HNO3	H2SO4	NONE	OTHER	Total Cadmium, Copper, Zinc 250mL Plastic - HNO3	Dissolved Cadmium, Copper, Zinc 250mL Plastic - None	Hardness, TSS, TDS, Cl, BOD, NO3, NO2, Tot. Nitrogen 1000mL Plastic - None	TKN, Total P 250mL Plastic - H2SO4	E. Coli				COMMENTS
and River	WW	N	8/10/2011	1205	G	5			1	1	3		X	X	X	X	X				Discrepancies See C/S

ulatory Program: N=NPDES, R=RCRA, D=Drinking Water, SL=503 Sludge, O=Other

(Please note if non-standard turnaround. Rush & Emergency subject to additional charge)
Standard TAT: (15 working days) Rush TAT: (5 working days) Emergency TAT: (3 working days)

ix (Sample Type): DW=Drinking Water, GW=Ground Water, WW=Waste Water, W=Wipe, S=Solid/Soil, SL=Sludge, A=Air, OL = Oil/Organic Liquid, O=Other

QUISHED BY:	DATE: 8/10/11	TIME: 1400	RECEIVED BY:	DATE:	TIME:
QUISHED BY:	DATE:	TIME:	RECEIVED BY:	DATE:	TIME:
VED AT LAB BY: Paulette Stymes	DATE: 8-10-11	TIME: 1640	SHIPPED VIA: AIRBILL:	SEAL #: SEAL DATE:	

Continental's Standard Terms and Conditions of Sale will apply to all samples received unless a separate contractual agreement has been made.

Continental Analytical Services, Inc.
Cooler/Sample Receipt Form (C/S RF)

CAS Order No.: 57857

Client Name: Wichita

CAS File No.: 8339

Sample ID's in cooler: See COC
River upstream

Cooler 1 of 1 for this CAS Order No.

Cooler Identification: CAS Cooler #: 3105 / Client's Cooler / Box / Letter / Hand-delivered
Other:

Date/Time Cooler Received: 8 / 10 / 11 16 : 40

Delivered By: UPS / FedX / AB Express / Field Svcs / Mail / Walk-In / Other:

Custody Seal: Present: Intact / Broken Absent: X Seal No:
Seal Name: Seal Date:
Seal matches Chain of Custody: Yes / No / N/A

Type of Packing Material: Blue Ice / Ice / Melted Ice / Bubble / Foam / Paper / Peanuts / Vermiculite / None / Other:

Cooler Temperature (°C): Original Reading (°C) 0.2 Corrected Reading (°C) 0.6
MW Temp. By: Temp. Blank Cooler Surface: Glass / Plastic /Metal /Other:
8-10-11 Thermo. ID No.: 585 Thermo. Correction Factor (°C): 0.4
☐ Evidence of Cooling and date received = date sampled

Sample Receipt Discrepancies: ☒ No ☐ Yes (See below for discrepancies.)

Note: **If discrepancies are present, CAS will proceed with analyses until/unless directed otherwise by the client.**

- ☐ Chain of Custody not present - information taken from: Cover Letter ☐ Container ☐ PO ☐ CAS Proj. Mgr. ☐
- ☐ Container label absent
- ☐ Chain of Custody incomplete [see detail below]
- ☐ Chain of Custody missing date/time sampled (excl. TB or Dup.)
- ☐ Date or Time sampled obtained from container label
- ☐ Chain of Custody missing sampler's name
- ☐ Chain of Custody missing matrix (sample type)
- ☐ Missing relinquished information: signature date time
- ☐ Sample excluded from Chain of Custody
- ☐ Sample listed on Chain of Custody, not received
- ☐ Sample description on container and Chain of Custody do not agree
- ☐ Air bubbles in Aqueous VOA vials larger than pea-size [approx. 6 mm]
- ☐ Cooler temperature exceeded 0.1 - 6.0 °C requirement [Do not mark if samples do not require cooling to 0.1 - 6.0 °C.]
- ☐ Broken or leaking containers (detail actions below)
- ☐ Sample container type or labeled chemical preservation inappropriate
- ☐ Other discrepancies:

Detail to discrepancies/comments: bottles read 13th and River Upstream

Completed by: MWS Date Completed: 8-10-11

Continental
Analytical Services, Inc.

08/24/2011

City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date and Time Received: 08/10/2011 16:40
Continental File No.: 8339
Continental Order No.: 57856
Project ID: Stormwater

Dear Mr. Hardesty:

This laboratory report containing the samples indicated below, includes 9 pages for the analytical report, 1 page(s) for the chain of custody and/or analysis request, and 1 page(s) for the sample receipt form.

CAS LAB ID #	SAMPLE DESCRIPTION	SAMPLE TYPE	DATE SAMPLED
11080689	Harvest Ct. - Grab	Liquid	8/10/2011
11080690	Harvest Ct. - Composite	Liquid	8/10/2011

The Appendix and Quality Control sections are integral parts of this laboratory report and may contain important data qualifiers.

All results are reported on a wet weight basis unless otherwise stated.

Samples will be retained for thirty days unless Continental is otherwise notified.

Continental is accredited by the State of Kansas through the National Environmental Laboratory Accreditation Program (NELAP). The results contained in this report were obtained using Continental's Standard Operating Procedures. These procedures are in substantial compliance with the approved methods referenced and the standards published by NELAP unless otherwise noted in the Appendix and Quality Control sections of this report.

This report may not be reproduced, except in full, without written approval from Continental Analytical Services, Inc.

Thank you for choosing Continental for this project. If you have any questions please contact me at (800)535-3076.

CONTINENTAL ANALYTICAL SERVICES, INC.

Clifford J. Baker
Technical Manager

Gregory J. Groene
Project Manager

525 N. Eighth St. - P.O. Box 3737 - Salina, KS 67402-3737
785-827-1273 800-535-3076 Fax 785-823-7830
KDHE Environmental Laboratory Accreditation No. E-10146

Continental Analytical Services, Inc.

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Reported: 08/24/2011
Date Received: 08/10/2011
Continental File No: 8339
Continental Order No: 57856

Lab Number: 11080689
Sample Description: Harvest Ct. - Grab

Date Sampled: 08/10/2011
Time Sampled: 1030

Analysis	Concentration	Units	Book/Page
Cadmium, Dissolved, ICP-MS	ND(1)	µg/L	7127/55
Cadmium, Tot. Rec., ICP-MS	ND(1)	µg/L	7127/54
Copper, Dissolved, ICP-MS	5	µg/L	7127/55
Copper, Tot. Rec., ICP-MS	6	µg/L	7127/54
Hardness (Calculated)	86.5	mg/L as CaCO3	7157/33
Zinc, Dissolved, ICP-MS	ND(20)	µg/L	7127/55
Zinc, Tot. Rec., ICP-MS	21	µg/L	7127/54
Chloride	21.6	mg/L	7107/107
E. Coli	>2420 HT	MPN/100 mL	7057/338
Solids, Total Dissolved	178	mg/L	7059/441
Solids, Total Suspended	27	mg/L	7059/446

Analysis	Date/Time Prepared	Date/Time Analyzed	QC Batch	Inst. Batch	Analyst	Method(s)
Cadmium, Dissolved, ICP-MS	08/17/11 1253	08/20/11 1410	110817-5	2IP3232	KMW	200.8 Rev. 5.4
Cadmium, Tot. Rec., ICP-MS	08/15/11 1129	08/18/11 1447	110815-6	3IP3230	KMW	200.8 Rev. 5.4
Copper, Dissolved, ICP-MS	08/17/11 1253	08/20/11 1410	110817-5	2IP3232	KMW	200.8 Rev. 5.4
Copper, Tot. Rec., ICP-MS	08/15/11 1129	08/18/11 1447	110815-6	3IP3230	KMW	200.8 Rev. 5.4
Hardness (Calculated)	08/12/11 1227	08/16/11 0124	110812-4	16IP4227	KMW	200.7 & SM 2340B
Zinc, Dissolved, ICP-MS	08/17/11 1253	08/20/11 1410	110817-5	2IP3232	KMW	200.8 Rev. 5.4
Zinc, Tot. Rec., ICP-MS	08/15/11 1129	08/18/11 1447	110815-6	3IP3230	KMW	200.8 Rev. 5.4
Chloride	N/A	08/16/11 1451	1IC2228	1IC2228	MLL	300.0
E. Coli	N/A	08/10/11 1740	110810-1	110810-1	ASK	SM 9223B Colilert
Solids, Total Dissolved	N/A	08/12/11 1238	110812-1	110812-1	KJH	SM20th 2540C
Solids, Total Suspended	N/A	08/16/11 0940	110816-1	110816-1	KJH	SM20th 2540D
Dissolved Metals Preparation Method						200.7/200.8
Total Recoverable Metals Preparation Method						200.7/200.8
Calculated as Hardness Preparation Method						200.7/6010B

Conclusion of Lab Number: 11080689

Continental Analytical Services, Inc.

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Reported: 08/24/2011
Date Received: 08/10/2011
Continental File No: 8339
Continental Order No: 57856

Lab Number: 11080690
Sample Description: Harvest Ct. - Composite

Date Sampled: 08/10/2011
Time Sampled: 1030

Analysis	Concentration	Units	Book/Page
Cadmium, Dissolved, ICP-MS	ND(1)	µg/L	7127/55
Cadmium, Tot. Rec., ICP-MS	ND(1)	µg/L	7127/54
Copper, Dissolved, ICP-MS	ND(5)	µg/L	7127/55
Copper, Tot. Rec., ICP-MS	6	µg/L	7127/54
Hardness (Calculated)	81.8	mg/L as CaCO3	7157/33
Zinc, Dissolved, ICP-MS	ND(20)	µg/L	7127/55
Zinc, Tot. Rec., ICP-MS	21	µg/L	7127/54
BOD	ND(5)	mg/L	7060/191
Chloride	21.5	mg/L	7129/48
Kjeldahl Nitrogen, as N (TKN)	1.8	mg/L	6854/240
Nitrate, as N	2.2	mg/L	7129/48
Nitrite, as N	ND(1) M	mg/L	7129/48
Nitrogen (TKN + NO3/NO2), as N	4.0 E	mg/L	9999/247
Phosphorus, Total, as P	0.60	mg/L	7061/150
Solids, Total Dissolved	572	mg/L	7059/441
Solids, Total Suspended	11	mg/L	7059/446

Analysis	Date/Time Prepared	Date/Time Analyzed	QC Batch	Inst. Batch	Analyst	Method(s)
Cadmium, Dissolved, ICP-MS	08/17/11 1253	08/20/11 1415	110817-5	2IP3232	KMW	200.8 Rev. 5.4
Cadmium, Tot. Rec., ICP-MS	08/15/11 1129	08/18/11 1452	110815-6	3IP3230	KMW	200.8 Rev. 5.4
Copper, Dissolved, ICP-MS	08/17/11 1253	08/20/11 1415	110817-5	2IP3232	KMW	200.8 Rev. 5.4
Copper, Tot. Rec., ICP-MS	08/15/11 1129	08/18/11 1452	110815-6	3IP3230	KMW	200.8 Rev. 5.4
Hardness (Calculated)	08/12/11 1040	08/16/11 0129	110812-4	16IP4227	KMW	200.7 & SM 2340B
Zinc, Dissolved, ICP-MS	08/17/11 1253	08/20/11 1415	110817-5	2IP3232	KMW	200.8 Rev. 5.4
Zinc, Tot. Rec., ICP-MS	08/15/11 1129	08/18/11 1452	110815-6	3IP3230	KMW	200.8 Rev. 5.4
BOD	N/A	08/11/11 1550	110811-1	110811-1	ASK	SM 5210B
Chloride	N/A	08/11/11 1603	1IC1223	3IC1223	MLL	300.0
Kjeldahl Nitrogen, as N (T	08/12/11 1241	08/15/11 1110	110812-1	110815-2	JND	EPA 351.2
Nitrate, as N	N/A	08/11/11 1603	1IC1223	3IC1223	MLL	300.0
Nitrite, as N	N/A	08/11/11 1616	1IC1223	3IC1223	MLL	300.0
Nitrogen (TKN + NO3/NO2),	N/A	08/15/11				Calculation
Phosphorus, Total, as P	N/A	08/16/11 1426	110816-2	110816-3	KJH	SM 4500-P(B&F)(M
Solids, Total Dissolved	N/A	08/12/11 1239	110812-1	110812-1	KJH	SM20th 2540C
Solids, Total Suspended	N/A	08/16/11 0940	110816-1	110816-1	KJH	SM20th 2540D
Dissolved Metals Preparation Method						200.7/200.8
Total Recoverable Metals Preparation Method						200.7/200.8
Calculated as Hardness Preparation Method						200.7/6010B

Conclusion of Lab Number: 11080690

Continental Analytical Services, Inc.

APPENDIX

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Reported: 08/24/2011
Date Received: 08/10/2011
Continental File No: 8339
Continental Order No: 57856

ND(), where reported, indicates the analyte was not detected above the limit of quantitation (LOQ). The concentration of the limit of quantitation is inside the parentheses.

All samples which require cooling were received at a temperature of less than 6 degrees Celsius.

The following table presents the date and time sampled, the date and time analyzed, and the total time elapsed for each analysis with an EPA recommended holding time of seventy-two hours or less.

CAS LAB ID #	ANALYSIS	DATE/TIME SAMPLED	DATE/TIME ANALYZED	ELAPSED HRS:MIN
11080689	E. Coli	08/10/2011 1030	08/10/2011 1740	7:10
11080690	BOD	08/10/2011 1030	08/11/2011 1550	29:20
11080690	Nitrate, as N	08/10/2011 1030	08/11/2011 1603	29:33
11080690	Nitrite, as N	08/10/2011 1030	08/11/2011 1616	29:46

HT - This sample exceeded the EPA maximum in transit holding time of six hours permitted for this analysis.

E - Concentration or reporting limit is an estimated value. Matrix interferences and/or sample heterogeneity were noted at the time of sample analysis.

M - Reporting limit higher than normal due to matrix interferences.

Continental Analytical Services, Inc.

Date: 08/24/2011

Continental Analytical Services, Inc.
Accreditation Summary Report

Client: City of Wichita
CAS Order Number: 57856

NELAP accreditation is issued under each EPA regulatory program for a given matrix/analyte/method combination. Continental is NELAP accredited for each matrix/analyte/method and EPA program cited in this Laboratory Report, except for those listed in the table below and analysis performed in the field. For most of the analyses listed in the table, NELAP accreditation is not offered under the listed EPA program and Continental is NELAP accredited for the analysis, using the same analytical technology, but under a different EPA program. Continental's full NELAP accreditation status may be viewed at www.kdheks.gov/envlab. Note that unless qualified otherwise in the Laboratory Report, Continental performs all analyses, including each analysis listed in the table below, utilizing NELAP protocol.

Test	Analysis	Matrix-Regulatory Program	Method	CAS NELAP Accredited in Other Reg. Program
GL343	Nitrogen (TKN + NO3/NO2), as N	L-NPDES	Calculation	N

Continental Analytical Services, Inc.

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Quality Control Report
Batch Summary

Date Reported: 08/24/2011
Date Received: 08/10/2011
Continental File No: 8339
Continental Order No: 57856

Test	Testname	QC Batch	Method Blank	LCS	MS Lab No.
SL323	Hardness (Calculated)	110812-4	110812BLK4	110812LCS4	11080684MS
Lab numbers associated with this batch: 11080689 11080690					
SL006	Cadmium, Tot. Rec., ICP-MS	110815-6	110815BLK6	110815LCS6	11080695MS
SL012	Copper, Tot. Rec., ICP-MS	110815-6	110815BLK6	110815LCS6	11080695MS
SL033	Zinc, Tot. Rec., ICP-MS	110815-6	110815BLK6	110815LCS6	11080695MS
Lab numbers associated with this batch: 11080689 11080690					
SL156	Cadmium, Dissolved, ICP-MS	110817-5	110817BLK5	110817LCS5	11080684MS
SL162	Copper, Dissolved, ICP-MS	110817-5	110817BLK5	110817LCS5	11080684MS
SL183	Zinc, Dissolved, ICP-MS	110817-5	110817BLK5	110817LCS5	11080684MS
Lab numbers associated with this batch: 11080689 11080690					
GL123	BOD	110811-1	110811BLK1	110811LCS1	11080702MS
Lab numbers associated with this batch: 11080690					
GL502	Chloride	1IC1223	BLK1IC1223	LCS1IC1223	11080697MS
Lab numbers associated with this batch: 11080690					
GL502	Chloride	1IC2228	BLK1IC2228	LCS1IC2228	11081273MS
Lab numbers associated with this batch: 11080689					
GL347	E. Coli	110810-1	110810BLK1	110810LCS1	11080608MS
Lab numbers associated with this batch: 11080689					
GL595	Kjeldahl Nitrogen, as N (TKN)	110812-1	110812BLK1	110812LCS1	11080719MS
Lab numbers associated with this batch: 11080690					
GL505	Nitrate, as N	1IC1223	BLK1IC1223	LCS1IC1223	
GL503	Nitrite, as N	1IC1223	BLK1IC1223	LCS1IC1223	
Lab numbers associated with this batch: 11080690					

Continental Analytical Services, Inc.

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Quality Control Report
Batch Summary

Date Reported: 08/24/2011
Date Received: 08/10/2011
Continental File No: 8339
Continental Order No: 57856

Test	Testname	QC Batch	Method Blank	LCS	MS Lab No.
GL343	Nitrogen (TKN + NO3/NO2), as N				
Lab numbers associated with this batch: 11080690					
GL218	Phosphorus, Total, as P	110816-2	110816BLK2	110816LCS2	11080696MS
Lab numbers associated with this batch: 11080690					
GL242	Solids, Total Dissolved	110812-1	110812BLK1	110812LCS1	11080687MS
Lab numbers associated with this batch: 11080689 11080690					
GL243	Solids, Total Suspended	110816-1	110816BLK1	110816LCS1	11080686MS
Lab numbers associated with this batch: 11080689 11080690					

Continental Analytical Services, Inc.

Quality Control Report
Method Blank, LCS, MS/MSD Data

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Reported: 08/24/2011
Date Received: 08/10/2011
Continental File No: 8339
Continental Order No: 57856

Analysis	Blank Data	% Rec LCS	Limits	Spike Level	Units	Spiked Sample (% Recovery) MS	MSD	Limits	Spike Level	Units	Spiked Sample Precision Data RPD	Limit
QC Batch: 110810-1	For sample analyzed on: 08/10/2011					Spiked sample: 11080608						
E. Coli	ND(1)	N/A			MPN/100MN	MN	MN	#		MPN/100	**	105
QC Batch: 110811-1	For sample analyzed on: 08/11/2011					Spiked sample: 11080702						
BOD	ND(5)	91.7	70.5-110	198	mg/L	MN	MN	#		mg/L	**	13.2
QC Batch: 110812-1	For sample analyzed on: 08/12/2011					Spiked sample: 11080687						
Solids, Total Dissolved	ND(30)	N/A			mg/L	MN	MN	#		mg/L	**	5.2
QC Batch: 110812-1	For samples prepared on: 08/12/2011					Spiked sample: 11080719						
Kjeldahl Nitrogen, as N (TKN)	ND(1.0)	110	#	4.0	mg/L	MN	MN	#	4.0	mg/L	**	#
QC Batch: 110812-4	For samples prepared on: 08/12/2011					Spiked sample: 11080684						
Hardness (Calculated)	ND(5.0)	98.1	80.0-120	337	mg/L a	MN	MN	80.0-120	337	mg/L as	**	20.0
QC Batch: 110815-6	For samples prepared on: 08/15/2011					Spiked sample: 11080695						
Cadmium, Tot. Rec., ICP-MS	ND(1)	96.8	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
Copper, Tot. Rec., ICP-MS	ND(5)	94.0	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
Zinc, Tot. Rec., ICP-MS	ND(20)	99.6	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
QC Batch: 110816-1	For sample analyzed on: 08/16/2011					Spiked sample: 11080686						
Solids, Total Suspended	ND(5)	N/A			mg/L	MN	MN	#		mg/L	**	18.2
QC Batch: 110816-2	For sample analyzed on: 08/16/2011					Spiked sample: 11080696						
Phosphorus, Total, as P	ND(0.20)	96.6	90.0-110	2.0	mg/L	MN	MN	71.2-135	2.0	mg/L	**	21.2
QC Batch: 110817-5	For samples prepared on: 08/17/2011					Spiked sample: 11080684						
Cadmium, Dissolved, ICP-MS	ND(1)	93.2	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
Copper, Dissolved, ICP-MS	ND(3) J	87.4	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
Zinc, Dissolved, ICP-MS	ND(20)	96.8	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
QC Batch: 1IC1223	For sample analyzed on: 08/11/2011					Spiked sample:						
Nitrite, as N	ND(0.1)	107	90.0-110	2.0	mg/L	MN	MN	78.5-127			**	10.1
Nitrate, as N	0.08 J	101	90.0-110	2.0	mg/L	MN	MN	79.3-118			**	12.1
QC Batch: 1IC1223	For sample analyzed on: 08/11/2011					Spiked sample: 11080697						
Chloride	ND(1.0)	101	90.0-110	4.0	mg/L	MN	MN	82.1-126	80.0	mg/L	**	12.5
QC Batch: 1IC2228	For sample analyzed on: 08/16/2011					Spiked sample: 11081273						
Chloride	ND(1.0)	96.5	90.0-110	4.0	mg/L	MN	MN	82.1-126	80.0	mg/L	**	12.5

Data Qualifiers:
N/A - Not Applicable

MN - The MS/MSD sample analyses were not performed on a sample from this Continental order number.

J - The concentration or not detected (ND) value is below the Limit of Quantitation (LOQ) and is considered an estimated value.
- Limits not available.
** - RPD cannot be calculated.

Continental Analytical Services, Inc.

Quality Control Report

Continuing Calibration Verification Data Summary

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Reported: 08/24/2011
Date Received: 08/10/2011
Continental File No: 8339
Continental Order No: 57856

Analysis	Date of Analysis	Instrument Batch ID	Amount in Standard	Amount Detected	Units	Percent Recovery
Cadmium, Dissolved, ICP-MS	08/20/2011	2IP3232	CCV recovery acceptable for this Instrument Batch.			
Cadmium, Tot. Rec., ICP-MS	08/18/2011	3IP3230	CCV recovery acceptable for this Instrument Batch.			
Cadmium, Dissolved, ICP-MS	08/20/2011	3IP3232	CCV recovery acceptable for this Instrument Batch.			
Cadmium, Tot. Rec., ICP-MS	08/18/2011	4IP3230	CCV recovery acceptable for this Instrument Batch.			
Copper, Dissolved, ICP-MS	08/20/2011	2IP3232	CCV recovery acceptable for this Instrument Batch.			
Copper, Tot. Rec., ICP-MS	08/18/2011	3IP3230	CCV recovery acceptable for this Instrument Batch.			
Copper, Dissolved, ICP-MS	08/20/2011	3IP3232	CCV recovery acceptable for this Instrument Batch.			
Copper, Tot. Rec., ICP-MS	08/18/2011	4IP3230	CCV recovery acceptable for this Instrument Batch.			
BOD	08/11/2011	110811-1	CCV recovery acceptable for this Instrument Batch.			
BOD	08/11/2011	110811-2	CCV recovery acceptable for this Instrument Batch.			
Phosphorus, Total, as P	08/16/2011	110816-3	CCV recovery acceptable for this Instrument Batch.			
Phosphorus, Total, as P	08/16/2011	110816-4	CCV recovery acceptable for this Instrument Batch.			
Chloride	08/11/2011	3IC1223	CCV recovery acceptable for this Instrument Batch.			
Chloride	08/11/2011	4IC1223	CCV recovery acceptable for this Instrument Batch.			
Chloride	08/16/2011	1IC2228	CCV recovery acceptable for this Instrument Batch.			
Chloride	08/16/2011	2IC2228	CCV recovery acceptable for this Instrument Batch.			
Nitrite, as N	08/11/2011	3IC1223	CCV recovery acceptable for this Instrument Batch.			
Nitrite, as N	08/11/2011	4IC1223	CCV recovery acceptable for this Instrument Batch.			
Nitrate, as N	08/11/2011	3IC1223	CCV recovery acceptable for this Instrument Batch.			
Nitrate, as N	08/11/2011	4IC1223	CCV recovery acceptable for this Instrument Batch.			
Kjeldahl Nitrogen, as N (TKN)	08/15/2011	110815-2	CCV recovery acceptable for this Instrument Batch.			
Kjeldahl Nitrogen, as N (TKN)	08/15/2011	110815-3	CCV recovery acceptable for this Instrument Batch.			
Hardness (Calculated)	08/16/2011	16IP4227	CCV recovery acceptable for this Instrument Batch.			
Hardness (Calculated)	08/16/2011	17IP4227	CCV recovery acceptable for this Instrument Batch.			
Zinc, Dissolved, ICP-MS	08/20/2011	2IP3232	CCV recovery acceptable for this Instrument Batch.			
Zinc, Tot. Rec., ICP-MS	08/18/2011	3IP3230	CCV recovery acceptable for this Instrument Batch.			
Zinc, Dissolved, ICP-MS	08/20/2011	3IP3232	CCV recovery acceptable for this Instrument Batch.			
Zinc, Tot. Rec., ICP-MS	08/18/2011	4IP3230	CCV recovery acceptable for this Instrument Batch.			

- Laboratory Report Conclusion -

Continental Analytical Services, Inc.
Cooler/Sample Receipt Form (C/S RF)

CAS Order No.: 57836

Client Name: Wichita

CAS File No.: 8339

Sample ID's in cooler: See esc.

Harvest Ct.

Cooler 1 of 1 for this CAS Order No.

Cooler Identification: CAS Cooler #: 1625 / Client's Cooler / Box / Letter / Hand-delivered
Other:

Date/Time Cooler Received: 8 / 10 / 11 16 : 40

Delivered By: UPS / FedX / AB Express / Field Svcs / Mail / Walk-In / Other:

Custody Seal: Present: Intact / Broken Absent: X Seal No:
Seal Name: Seal Date:
Seal matches Chain of Custody: Yes / No / N/A

Type of Packing Material: Blue Ice / Ice / Melted Ice / Bubble / Foam / Paper / Peanuts / Vermiculite / None / Other:

Cooler Temperature (°C): Original Reading (°C) 1.2 Corrected Reading (°C) 1.6
Temp. By: Temp. Blank Cooler Surface: Glass / Plastic /Metal /Other:
mur 8-10-11 Thermo. ID No.: 585 Thermo. Correction Factor (°C): 0.4

☐ Evidence of Cooling and date received = date sampled

Sample Receipt Discrepancies: ☒ No ☐ Yes (See below for discrepancies.)

Note: **If discrepancies are present, CAS will proceed with analyses until/unless directed otherwise by the client.**

☐ Chain of Custody not present - information taken from:
Cover Letter ☐ Container ☐
PO ☐ CAS Proj. Mgr. ☐
☐ Container label absent
☐ Chain of Custody incomplete [see detail below]
☐ Chain of Custody missing date/time sampled (excl. TB or Dup.)
☐ Date or Time sampled obtained from container label
☐ Chain of Custody missing sampler's name
☐ Chain of Custody missing matrix (sample type)
☐ Missing relinquished information: signature date time

☐ Sample excluded from Chain of Custody
☐ Sample listed on Chain of Custody, not received
☐ Sample description on container and Chain of Custody do not agree
☐ Air bubbles in Aqueous VOA vials larger than pea-size [approx. 6 mm]
☐ Cooler temperature exceeded 0.1 - 6.0 °C requirement
[Do not mark if samples do not require cooling to 0.1 - 6.0 °C.]
☐ Broken or leaking containers (detail actions below)
☐ Sample container type or labeled chemical preservation inappropriate
☐ Other discrepancies:

Detail to discrepancies/comments:

Completed by: PKG Date Completed: 8-10-11

Continental Analytical Services, Inc.

525 N. 8th Street, Salina, KS 67401
(785)827-1273 (800)535-3076 Fax (785)823-7830
www.cas-lab.com

CAS ORDER NO: 10-4

CHAIN OF CUSTODY RECORD

Continental Shipping Order Number: _____

Client/Reporting Information			Invoice Information		
ny Name: f Wichita Storm Water Management			Company Name: City of Wichita Storm Water Management		
ss: Hall, 8th Floor, 455 N. Main			Address: City Hall, 8th Floor, 455 N. Main		
ta	State: KS	Zip: 67202	City: Wichita	State: KS	Zip: 67202
t: ardesty	E-mail: Jhardesty@wichita.gov		Contact: Jim Hardesty	E-mail: Jhardesty@wichita.go	
Number: 68-8317	Fax Number: (316)858-7889		Phone Number: (316)268-8317	Fax Number: (316)858-7889	
er's Name:(Printed) Kathin Murphy	Sampler's Name:(Signature)		Purchase Order Number:		
umber:	Project Name: Stormwater				

SAMPLE IDENTIFICATION (30 Characters or less)	Matrix (Sample Type)	Regulatory Program	Date Sampled	Time Sampled	C-Composite G-Grab	Total Containers	Number of Preserved Bottles: HCL	NaOH	HNO3	H2SO4	NONe	OTHER	Cadmium, Copper, Zinc - Total Recoverable 250ml Plastic - HNO3	Hardness, TSS TDS, Cl, Diss. - Cd, Cu, Zn 1000ml Plastic - None	Total Metals, Dissolved Metals, Hardness, TSS, TDS, Cl, BOD, TKN, Total P, NO3, NO2, Toc Nitrogen Large Carboy	E. Coli					COMMENTS
est Ct.-Grab	WW	N	8/10/2011	1030	G	3			1		2		X	X		X					
est Ct.-Composite	WW	N	8/10/2011	1030	C	1					1				X						5 Gal. Container to be poured off at lab
																					as needed for required tests.
																					Remaining volume will be saved for
																					for organics if needed.

latory Program: N=NPDES, R=RCRA, D=Drinking Water, SL=503 Sludge, O=Other

(Please note if non-standard turnaround. Rush & Emergency subject to additional charge)
Standard TAT: (15 working days) Rush TAT: (5 working days) Emergency TAT: (3 working days)

x (Sample Type): DW=Drinking Water, GW=Ground Water, WW=Waste Water, W=Wipe, S=Solid/Soil, SL=Sludge, A=Air, OL = Oil/Organic Liquid, O=Other

QUISHED BY:	DATE: 8/10/11	TIME: 1400	RECEIVED BY:	DATE:	TIME:
QUISHED BY:	DATE:	TIME:	RECEIVED BY:	DATE:	TIME:
VED AT LAB BY:	DATE:	TIME:	SHIPPED VIA: AIRBILL:	SEAL #: SEAL DATE:	

Continental's Standard Terms and Conditions of Sale will apply to all samples received unless a separate contractual agreement has been made.

C:\Documents and Settings\jmurphy\Local Settings\Temporary Internet Files\Content.Outlook\3PQHT8AQ\Wichita Stormwater.XLS00061

Continental
Analytical Services, Inc.

08/24/2011

City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date and Time Received: 08/10/2011 16:40
Continental File No.: 8339
Continental Order No.: 57855
Project ID: SW Upstream

Dear Mr. Hardesty:

This laboratory report containing the samples indicated below, includes 8 pages for the analytical report, 1 page(s) for the chain of custody and/or analysis request, and 1 page(s) for the sample receipt form.

CAS LAB ID #	SAMPLE DESCRIPTION	SAMPLE TYPE	DATE SAMPLED
11080688	Harvest Ct. Upstream	Liquid	8/10/2011

The Appendix and Quality Control sections are integral parts of this laboratory report and may contain important data qualifiers.

All results are reported on a wet weight basis unless otherwise stated.

Samples will be retained for thirty days unless Continental is otherwise notified.

Continental is accredited by the State of Kansas through the National Environmental Laboratory Accreditation Program (NELAP). The results contained in this report were obtained using Continental's Standard Operating Procedures. These procedures are in substantial compliance with the approved methods referenced and the standards published by NELAP unless otherwise noted in the Appendix and Quality Control sections of this report.

This report may not be reproduced, except in full, without written approval from Continental Analytical Services, Inc.

Thank you for choosing Continental for this project. If you have any questions please contact me at (800)535-3076.

CONTINENTAL ANALYTICAL SERVICES, INC.

Clifford J. Baker
Technical Manager

Gregory J. Groene
Project Manager

525 N. Eighth St. - P.O. Box 3737 - Salina, KS 67402-3737
785-827-1273 800-535-3076 Fax 785-823-7830
KDHE Environmental Laboratory Accreditation No. E-10146

Continental Analytical Services, Inc.

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Reported: 08/24/2011
Date Received: 08/10/2011
Continental File No: 8339
Continental Order No: 57855

Lab Number: 11080688
Sample Description: Harvest Ct. Upstream

Date Sampled: 08/10/2011
Time Sampled: 1035

Analysis	Concentration	Units	Book/Page
Cadmium, Dissolved, ICP-MS	ND(1)	µg/L	7127/55
Cadmium, Tot. Rec., ICP-MS	ND(1)	µg/L	7127/54
Copper, Dissolved, ICP-MS	ND(5)	µg/L	7127/55
Copper, Tot. Rec., ICP-MS	ND(5)	µg/L	7127/54
Hardness (Calculated)	111	mg/L as CaCO3	7157/33
Zinc, Dissolved, ICP-MS	ND(20)	µg/L	7127/55
Zinc, Tot. Rec., ICP-MS	ND(20)	µg/L	7127/54
BOD	ND(5)	mg/L	7060/191
Chloride	33.0	mg/L	7129/48
E. Coli	>2420 HT	MPN/100 mL	7057/338
Kjeldahl Nitrogen, as N (TKN)	1.7	mg/L	6854/240
Nitrate, as N	ND(0.1) B	mg/L	7129/48
Nitrite, as N	ND(0.1)	mg/L	7129/48
Nitrogen (TKN + NO3/NO2), as N	1.7	mg/L	9999/247
Phosphorus, Total, as P	0.23	mg/L	7061/150
Solids, Total Dissolved	212	mg/L	7059/441
Solids, Total Suspended	29	mg/L	7059/446

Analysis	Date/Time Prepared	Date/Time Analyzed	QC Batch	Inst. Batch	Analyst	Method(s)
Cadmium, Dissolved, ICP-MS	08/17/11 1253	08/20/11 1404	110817-5	2IP3232	KMW	200.8 Rev. 5.4
Cadmium, Tot. Rec., ICP-MS	08/15/11 1129	08/18/11 1442	110815-6	3IP3230	KMW	200.8 Rev. 5.4
Copper, Dissolved, ICP-MS	08/17/11 1253	08/20/11 1404	110817-5	2IP3232	KMW	200.8 Rev. 5.4
Copper, Tot. Rec., ICP-MS	08/15/11 1129	08/18/11 1442	110815-6	3IP3230	KMW	200.8 Rev. 5.4
Hardness (Calculated)	08/12/11 1040	08/16/11 0120	110812-4	16IP4227	KMW	200.7 & SM 2340B
Zinc, Dissolved, ICP-MS	08/17/11 1253	08/20/11 1404	110817-5	2IP3232	KMW	200.8 Rev. 5.4
Zinc, Tot. Rec., ICP-MS	08/15/11 1129	08/18/11 1442	110815-6	3IP3230	KMW	200.8 Rev. 5.4
BOD	N/A	08/11/11 1550	110811-1	110811-1	ASK	SM 5210B
Chloride	N/A	08/11/11 1536	1IC1223	3IC1223	MLL	300.0
E. Coli	N/A	08/10/11 1740	110810-1	110810-1	ASK	SM 9223B Colilert
Kjeldahl Nitrogen, as N (T	08/12/11 1241	08/15/11 1108	110812-1	110815-2	JND	EPA 351.2
Nitrate, as N	N/A	08/11/11 1536	1IC1223	3IC1223	MLL	300.0
Nitrite, as N	N/A	08/11/11 1536	1IC1223	3IC1223	MLL	300.0
Nitrogen (TKN + NO3/NO2),	N/A	08/15/11				Calculation
Phosphorus, Total, as P	N/A	08/16/11 1424	110816-1	110816-3	KJH	SM 4500-P(B&F)(M
Solids, Total Dissolved	N/A	08/12/11 1237	110812-1	110812-1	KJH	SM20th 2540C
Solids, Total Suspended	N/A	08/16/11 0940	110816-1	110816-1	KJH	SM20th 2540D
Dissolved Metals Preparation Method						200.7/200.8
Total Recoverable Metals Preparation Method						200.7/200.8
Calculated as Hardness Preparation Method						200.7/6010B

Conclusion of Lab Number: 11080688

Continental Analytical Services, Inc.

APPENDIX

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Reported: 08/24/2011
Date Received: 08/10/2011
Continental File No: 8339
Continental Order No: 57855

ND(), where reported, indicates the analyte was not detected above the limit of quantitation (LOQ). The concentration of the limit of quantitation is inside the parentheses.

All samples which require cooling were received at a temperature of less than 6 degrees Celsius.

The following table presents the date and time sampled, the date and time analyzed, and the total time elapsed for each analysis with an EPA recommended holding time of seventy-two hours or less.

CAS LAB ID #	ANALYSIS	DATE/TIME SAMPLED	DATE/TIME ANALYZED	ELAPSED HRS:MIN
11080688	BOD	08/10/2011 1035	08/11/2011 1550	29:15
11080688	E. Coli	08/10/2011 1035	08/10/2011 1740	7:05
11080688	Nitrate, as N	08/10/2011 1035	08/11/2011 1536	29:01
11080688	Nitrite, as N	08/10/2011 1035	08/11/2011 1536	29:01

HT - This sample exceeded the EPA maximum in transit holding time of six hours permitted for this analysis.

B - Analyte is also present in the method blank or load blank at the concentration indicated either to the right of the letter B and/or in the enclosed Quality Control Report. The reported sample concentration has not been blank corrected.

Continental Analytical Services, Inc.

Continental Analytical Services, Inc.
Accreditation Summary Report

Client: City of Wichita
CAS Order Number: 57855

NELAP accreditation is issued under each EPA regulatory program for a given matrix/analyte/method combination. Continental is NELAP accredited for each matrix/analyte/method and EPA program cited in this Laboratory Report, except for those listed in the table below and analysis performed in the field. For most of the analyses listed in the table, NELAP accreditation is not offered under the listed EPA program and Continental is NELAP accredited for the analysis, using the same analytical technology, but under a different EPA program. Continental's full NELAP accreditation status may be viewed at www.kdheks.gov/envlab. Note that unless qualified otherwise in the Laboratory Report, Continental performs all analyses, including each analysis listed in the table below, utilizing NELAP protocol.

Test	Analysis	Matrix-Regulatory Program	Method	CAS NELAP Accredited in Other Reg. Program
GL343	Nitrogen (TKN + NO3/NO2), as N	L-NPDES	Calculation	N

Continental Analytical Services, Inc.

Quality Control Report
Batch Summary

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Reported: 08/24/2011
Date Received: 08/10/2011
Continental File No: 8339
Continental Order No: 57855

Test	Testname	QC Batch	Method Blank	LCS	MS Lab No.
SL323	Hardness (Calculated)	110812-4	110812BLK4	110812LCS4	11080684MS
Lab numbers associated with this batch: 11080688					
SL006	Cadmium, Tot. Rec., ICP-MS	110815-6	110815BLK6	110815LCS6	11080695MS
SL012	Copper, Tot. Rec., ICP-MS	110815-6	110815BLK6	110815LCS6	11080695MS
SL033	Zinc, Tot. Rec., ICP-MS	110815-6	110815BLK6	110815LCS6	11080695MS
Lab numbers associated with this batch: 11080688					
SL156	Cadmium, Dissolved, ICP-MS	110817-5	110817BLK5	110817LCS5	11080684MS
SL162	Copper, Dissolved, ICP-MS	110817-5	110817BLK5	110817LCS5	11080684MS
SL183	Zinc, Dissolved, ICP-MS	110817-5	110817BLK5	110817LCS5	11080684MS
Lab numbers associated with this batch: 11080688					
GL123	BOD	110811-1	110811BLK1	110811LCS1	11080702MS
Lab numbers associated with this batch: 11080688					
GL502	Chloride	1IC1223	BLK1IC1223	LCS1IC1223	11080697MS
Lab numbers associated with this batch: 11080688					
GL347	E. Coli	110810-1	110810BLK1	110810LCS1	11080608MS
Lab numbers associated with this batch: 11080688					
GL595	Kjeldahl Nitrogen, as N (TKN)	110812-1	110812BLK1	110812LCS1	11080719MS
Lab numbers associated with this batch: 11080688					
GL505	Nitrate, as N	1IC1223	BLK1IC1223	LCS1IC1223	
GL503	Nitrite, as N	1IC1223	BLK1IC1223	LCS1IC1223	
Lab numbers associated with this batch: 11080688					
GL343	Nitrogen (TKN + NO3/NO2), as N				
Lab numbers associated with this batch: 11080688					

Continental Analytical Services, Inc.

Quality Control Report
Batch Summary

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Reported: 08/24/2011
Date Received: 08/10/2011
Continental File No: 8339
Continental Order No: 57855

Test	Testname	QC Batch	Method Blank	LCS	MS Lab No.
GL218	Phosphorus, Total, as P	110816-1	110816BLK1	110816LCS1	11080374MS
Lab numbers associated with this batch: 11080688					
GL242	Solids, Total Dissolved	110812-1	110812BLK1	110812LCS1	11080687MS
Lab numbers associated with this batch: 11080688					
GL243	Solids, Total Suspended	110816-1	110816BLK1	110816LCS1	11080686MS
Lab numbers associated with this batch: 11080688					

Continental Analytical Services, Inc.

Quality Control Report
Method Blank, LCS, MS/MSD Data

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Reported: 08/24/2011
Date Received: 08/10/2011
Continental File No: 8339
Continental Order No: 57855

Analysis	Blank Data	% Rec LCS	Limits	Spike Level	Units	Spiked Sample (% Recovery) MS	MSD	Limits	Spike Level	Units	Spiked Sample Precision Data RPD	Limit
QC Batch: 110810-1	For sample analyzed on: 08/10/2011					Spiked sample: 11080608						
E. Coli	ND(1)	N/A			MPN/100	MN	MN	#		MPN/100	**	105
QC Batch: 110811-1	For sample analyzed on: 08/11/2011					Spiked sample: 11080702						
BOD	ND(5)	91.7	70.5-110	198	mg/L	MN	MN	#		mg/L	**	13.2
QC Batch: 110812-1	For sample analyzed on: 08/12/2011					Spiked sample: 11080687						
Solids, Total Dissolved	ND(30)	N/A			mg/L	MN	MN	#		mg/L	**	5.2
QC Batch: 110812-1	For samples prepared on: 08/12/2011					Spiked sample: 11080719						
Kjeldahl Nitrogen, as N (TKN)	ND(1.0)	110	#	4.0	mg/L	MN	MN	#	4.0	mg/L	**	#
QC Batch: 110812-4	For samples prepared on: 08/12/2011					Spiked sample: 11080684						
Hardness (Calculated)	ND(5.0)	98.1	80.0-120	337	mg/L a	MN	MN	80.0-120	337	mg/L as	**	20.0
QC Batch: 110815-6	For samples prepared on: 08/15/2011					Spiked sample: 11080695						
Cadmium, Tot. Rec., ICP-MS	ND(1)	96.8	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
Copper, Tot. Rec., ICP-MS	ND(5)	94.0	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
Zinc, Tot. Rec., ICP-MS	ND(20)	99.6	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
QC Batch: 110816-1	For sample analyzed on: 08/16/2011					Spiked sample: 11080374						
Phosphorus, Total, as P	ND(0.20)	97.3	90.0-110	2.0	mg/L	MN	MN	71.2-135	2.0	mg/L	**	21.2
QC Batch: 110816-1	For sample analyzed on: 08/16/2011					Spiked sample: 11080696						
Solids, Total Suspended	ND(5)	N/A			mg/L	MN	MN	#		mg/L	**	18.2
QC Batch: 110817-5	For samples prepared on: 08/17/2011					Spiked sample: 11080684						
Cadmium, Dissolved, ICP-MS	ND(1)	93.2	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
Copper, Dissolved, ICP-MS	ND(3) J	87.4	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
Zinc, Dissolved, ICP-MS	ND(20)	96.8	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
QC Batch: 11C1223	For sample analyzed on: 08/11/2011					Spiked sample:						
Nitrite, as N	ND(0.1)	107	90.0-110	2.0	mg/L	MN	MN	78.5-127			**	10.1
Nitrate, as N	0.08 J	101	90.0-110	2.0	mg/L	MN	MN	79.3-118			**	12.1
QC Batch: 11C1223	For sample analyzed on: 08/11/2011					Spiked sample: 11080697						
Chloride	ND(1.0)	101	90.0-110	4.0	mg/L	MN	MN	82.1-126	80.0	mg/L	**	12.5

Data Qualifiers:
N/A - Not Applicable

MN - The MS/MSD sample analyses were not performed on a sample from this Continental order number.

J - The concentration or not detected (ND) value is below the Limit of Quantitation (LOQ) and is considered an estimated value.

- Limits not available.

** - RPD cannot be calculated.

Continental
Analytical Services, Inc.

Quality Control Report
Continuing Calibration Verification Data Summary

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Reported: 08/24/2011
Date Received: 08/10/2011
Continental File No: 8339
Continental Order No: 57855

Analysis	Date of Analysis	Instrument Batch ID	Amount in Standard	Amount Detected	Units	Percent Recovery
Cadmium, Dissolved, ICP-MS	08/20/2011	2IP3232	CCV recovery acceptable for this Instrument Batch.			
Cadmium, Tot. Rec., ICP-MS	08/18/2011	3IP3230	CCV recovery acceptable for this Instrument Batch.			
Cadmium, Dissolved, ICP-MS	08/20/2011	3IP3232	CCV recovery acceptable for this Instrument Batch.			
Cadmium, Tot. Rec., ICP-MS	08/18/2011	4IP3230	CCV recovery acceptable for this Instrument Batch.			
Copper, Dissolved, ICP-MS	08/20/2011	2IP3232	CCV recovery acceptable for this Instrument Batch.			
Copper, Tot. Rec., ICP-MS	08/18/2011	3IP3230	CCV recovery acceptable for this Instrument Batch.			
Copper, Dissolved, ICP-MS	08/20/2011	3IP3232	CCV recovery acceptable for this Instrument Batch.			
Copper, Tot. Rec., ICP-MS	08/18/2011	4IP3230	CCV recovery acceptable for this Instrument Batch.			
BOD	08/11/2011	110811-1	CCV recovery acceptable for this Instrument Batch.			
BOD	08/11/2011	110811-2	CCV recovery acceptable for this Instrument Batch.			
Phosphorus, Total, as P	08/16/2011	110816-3	CCV recovery acceptable for this Instrument Batch.			
Phosphorus, Total, as P	08/16/2011	110816-4	CCV recovery acceptable for this Instrument Batch.			
Chloride	08/11/2011	3IC1223	CCV recovery acceptable for this Instrument Batch.			
Chloride	08/11/2011	4IC1223	CCV recovery acceptable for this Instrument Batch.			
Nitrite, as N	08/11/2011	3IC1223	CCV recovery acceptable for this Instrument Batch.			
Nitrite, as N	08/11/2011	4IC1223	CCV recovery acceptable for this Instrument Batch.			
Nitrate, as N	08/11/2011	3IC1223	CCV recovery acceptable for this Instrument Batch.			
Nitrate, as N	08/11/2011	4IC1223	CCV recovery acceptable for this Instrument Batch.			
Kjeldahl Nitrogen, as N (TKN)	08/15/2011	110815-2	CCV recovery acceptable for this Instrument Batch.			
Kjeldahl Nitrogen, as N (TKN)	08/15/2011	110815-3	CCV recovery acceptable for this Instrument Batch.			
Hardness (Calculated)	08/16/2011	16IP4227	CCV recovery acceptable for this Instrument Batch.			
Hardness (Calculated)	08/16/2011	17IP4227	CCV recovery acceptable for this Instrument Batch.			
Zinc, Dissolved, ICP-MS	08/20/2011	2IP3232	CCV recovery acceptable for this Instrument Batch.			
Zinc, Tot. Rec., ICP-MS	08/18/2011	3IP3230	CCV recovery acceptable for this Instrument Batch.			
Zinc, Dissolved, ICP-MS	08/20/2011	3IP3232	CCV recovery acceptable for this Instrument Batch.			
Zinc, Tot. Rec., ICP-MS	08/18/2011	4IP3230	CCV recovery acceptable for this Instrument Batch.			

- Laboratory Report Conclusion -

Continental Analytical Services, Inc.

525 N. 8th Street, Salina, KS 67401
(785)827-1273 (800)535-3076 Fax (785)823-7830
www.cas-lab.com

CAS ORDER NO. 5 1033

CHAIN OF CUSTODY RECORD

Continental Shipping Order Number: _____

Client/Reporting Information			Invoice Information		
pany Name: of Wichita Storm Water Management			Company Name: City of Wichita Storm Water Management		
ess: Hall, 8th Floor, 455 N. Main			Address: City Hall, 8th Floor, 455 N. Main		
ita	State: KS	Zip: 67202	City: Wichita	State: KS	Zip: 67202
act: Hardesty	E-mail: Jhardesty@wichita.gov		Contact: Jim Hardesty	E-mail: Jhardesty@wichita.go	
e Number:)268-8317	Fax Number: (316)858-7889		Phone Number: (316)268-8317	Fax Number: (316)858-7889	
pler's Name:(Printed) ston Mark	Sampler's Name:(Signature)		Purchase Order Number:		
Number: 9	Project Name: Stormwater - UPSTREAM				

SAMPLE IDENTIFICATION (30 Characters or less)	Matrix (Sample Type)	Regulatory Program	Date Sampled	Time Sampled	C-Composite G-Grab	Total Containers	Number of Preserved Bottles: HCL	NaOH	HNO3	H2SO4	NONE	OTHER	Total Cadmium, Copper, Zinc 250mL Plastic - HNO3	Dissolved Cadmium, Copper, Zinc 250mL Plastic - None	Hardness, TSS, TDS, Cl, BOD, NO3, NO2, Tot. Nitrogen 1000mL Plastic - None	TKN, Total P 250mL Plastic - H2SO4	E. Coli				COMMENTS
vest Ct. Upstream	WW	N	8/10/2011	1035	G	5			1	1	3		X	X	X	X	X				

ulatory Program: N=NPDES, R=RCRA, D=Drinking Water, SL=503 Sludge, O=Other

(Please note if non-standard turnaround. Rush & Emergency subject to additional charge)
Standard TAT: (15 working days) Rush TAT: (5 working days) Emergency TAT: (3 working days)

rix (Sample Type): DW=Drinking Water, GW=Ground Water, WW=Waste Water, W=Wipe, S=Solid/Soil, SL=Sludge, A=Air, OL = Oil/Organic Liquid, O=Other

NQUISHED BY:	DATE: 8/10/11	TIME: 1400	RECEIVED BY:	DATE:	TIME:
NQUISHED BY:	DATE:	TIME:	RECEIVED BY:	DATE:	TIME:
EIVED AT LAB BY:	DATE: 8-10-11	TIME: 1640	SHIPPED VIA: / AIRBILL:	SEAL #: / SEAL DATE:	

Continental's Standard Terms and Conditions of Sale will apply to all samples received unless a separate contractual agreement has been made.

C:\Documents and Settings\jmurphy\Local Settings\Temporary Internet Files\Content.Outlook\SFQHF4AQ\Wichita Stormwater.XLS0008G

Continental Analytical Services, Inc.
Cooler/Sample Receipt Form (C/S RF)

CAS Order No.: 57855

Client Name: Wichita

CAS File No.: 8339

Sample ID's in cooler: Sat eve

Harvest Ct.

Cooler 1 of 1 for this CAS Order No.

Cooler Identification: CAS Cooler #: 1625 / Client's Cooler / Box / Letter / Hand-delivered
Other: _____

Date/Time Cooler Received: 5 / 10 / 11 16 : 40

Delivered By: UPS / FedX / AB Express / Field Svcs / Mail / Walk-In / Other: _____

Custody Seal: Present: Intact / Broken Absent: X Seal No: _____
Seal Name: _____ Seal Date: _____
Seal matches Chain of Custody: Yes / No / N/A

Type of Packing Material: Blue Ice / Ice / Melted Ice / Bubble / Foam / Paper / Peanuts / Vermiculite / None / Other: _____

Cooler Temperature (°C): Original Reading (°C) 1.2 Corrected Reading (°C) 1.6
Temp. By: Temp. Blank Cooler Surface: Glass / Plastic /Metal /Other: _____
MWR 5-10-11 Thermo. ID No.: 585 Thermo. Correction Factor (°C): 0.4

☐ Evidence of Cooling and date received = date sampled

Sample Receipt Discrepancies: ☒ No ☐ Yes (See below for discrepancies.)

Note: If discrepancies are present, CAS will proceed with analyses until/unless directed otherwise by the client.

- ☐ Chain of Custody not present - information taken from:
  - Cover Letter ☐ Container ☐
  - PO ☐ CAS Proj. Mgr. ☐
- ☐ Container label absent
- ☐ Chain of Custody incomplete [see detail below]
- ☐ Chain of Custody missing date/time sampled (excl. TB or Dup.)
- ☐ Date or Time sampled obtained from container label
- ☐ Chain of Custody missing sampler's name
- ☐ Chain of Custody missing matrix (sample type)
- ☐ Missing relinquished information: signature date time
- ☐ Sample excluded from Chain of Custody
- ☐ Sample listed on Chain of Custody, not received
- ☐ Sample description on container and Chain of Custody do not agree
- ☐ Air bubbles in Aqueous VOA vials larger than pea-size [approx. 6 mm]
- ☐ Cooler temperature exceeded 0.1 - 6.0 °C requirement [Do not mark if samples do not require cooling to 0.1 - 6.0 °C.]
- ☐ Broken or leaking containers (detail actions below)
- ☐ Sample container type or labeled chemical preservation inappropriate
- ☐ Other discrepancies: _____

Detail to discrepancies/comments:

Completed by: PCG Date Completed: 8-19-11

Continental
Analytical Services, Inc.

08/24/2011

City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date and Time Received: 08/10/2011 16:40
Continental File No.: 8339
Continental Order No.: 57853
Project ID: SW Upstream

Dear Mr. Hardesty:

This laboratory report containing the samples indicated below, includes 8 pages for the analytical report, 1 page(s) for the chain of custody and/or analysis request, and 1 page(s) for the sample receipt form.

CAS LAB ID #	SAMPLE DESCRIPTION	SAMPLE TYPE	DATE SAMPLED
11080685	McLean Upstream	Liquid	8/10/2011

The Appendix and Quality Control sections are integral parts of this laboratory report and may contain important data qualifiers.

All results are reported on a wet weight basis unless otherwise stated.

Samples will be retained for thirty days unless Continental is otherwise notified.

Continental is accredited by the State of Kansas through the National Environmental Laboratory Accreditation Program (NELAP). The results contained in this report were obtained using Continental's Standard Operating Procedures. These procedures are in substantial compliance with the approved methods referenced and the standards published by NELAP unless otherwise noted in the Appendix and Quality Control sections of this report.

This report may not be reproduced, except in full, without written approval from Continental Analytical Services, Inc.

Thank you for choosing Continental for this project. If you have any questions please contact me at (800)535-3076.

CONTINENTAL ANALYTICAL SERVICES, INC.

Clifford J. Baker
Technical Manager

Gregory J. Groene
Project Manager

525 N. Eighth St. - P.O. Box 3737 - Salina, KS 67402-3737
785-827-1273 800-535-3076 Fax 785-823-7830
KDHE Environmental Laboratory Accreditation No. E-10146

Continental Analytical Services, Inc.

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Reported: 08/24/2011
Date Received: 08/10/2011
Continental File No: 8339
Continental Order No: 57853

Lab Number: 11080685
Sample Description: McLean Upstream

Date Sampled: 08/10/2011
Time Sampled: 0900

Analysis	Concentration	Units	Book/Page
Cadmium, Dissolved, ICP-MS	ND(1)	µg/L	7127/55
Cadmium, Tot. Rec., ICP-MS	ND(1)	µg/L	7127/53
Copper, Dissolved, ICP-MS	ND(5)	µg/L	7127/55
Copper, Tot. Rec., ICP-MS	ND(5)	µg/L	7127/53
Hardness (Calculated)	175	mg/L as CaCO3	7157/33
Zinc, Dissolved, ICP-MS	ND(20)	µg/L	7127/55
Zinc, Tot. Rec., ICP-MS	26	µg/L	7127/53
BOD	ND(5)	mg/L	7060/191
Chloride	70.	mg/L	7129/48
E. Coli	>2420 HT	MPN/100 mL	7057/338
Kjeldahl Nitrogen, as N (TKN)	1.0	mg/L	6854/240
Nitrate, as N	1.0	mg/L	7129/48
Nitrite, as N	ND(1) M	mg/L	7129/48
Nitrogen (TKN + NO3/NO2), as N	2.0 E	mg/L	9999/247
Phosphorus, Total, as P	ND(0.20)	mg/L	7061/150
Solids, Total Dissolved	338	mg/L	7059/437
Solids, Total Suspended	16	mg/L	7059/443

Analysis	Date/Time Prepared	Date/Time Analyzed	QC Batch	Inst. Batch	Analyst	Method(s)
Cadmium, Dissolved, ICP-MS	08/17/11 1253	08/20/11 1349	110817-5	2IP3232	KMW	200.8 Rev. 5.4
Cadmium, Tot. Rec., ICP-MS	08/15/11 1129	08/18/11 1410	110815-6	2IP3230	KMW	200.8 Rev. 5.4
Copper, Dissolved, ICP-MS	08/17/11 1253	08/20/11 1349	110817-5	2IP3232	KMW	200.8 Rev. 5.4
Copper, Tot. Rec., ICP-MS	08/15/11 1129	08/18/11 1410	110815-6	2IP3230	KMW	200.8 Rev. 5.4
Hardness (Calculated)	08/12/11 1040	08/16/11 0107	110812-4	16IP4227	KMW	200.7 & SM 2340B
Zinc, Dissolved, ICP-MS	08/17/11 1253	08/20/11 1349	110817-5	2IP3232	KMW	200.8 Rev. 5.4
Zinc, Tot. Rec., ICP-MS	08/15/11 1129	08/18/11 1410	110815-6	2IP3230	KMW	200.8 Rev. 5.4
BOD	N/A	08/11/11 1550	110811-1	110811-1	ASK	SM 5210B
Chloride	N/A	08/11/11 1430	1IC1223	2IC1223	MLL	300.0
E. Coli	N/A	08/10/11 1740	110810-1	110810-1	ASK	SM 9223B Coliler
Kjeldahl Nitrogen, as N (T	08/12/11 1241	08/15/11 1104	110812-1	110815-2	JND	EPA 351.2
Nitrate, as N	N/A	08/11/11 1417	1IC1223	2IC1223	MLL	300.0
Nitrite, as N	N/A	08/11/11 1430	1IC1223	2IC1223	MLL	300.0
Nitrogen (TKN + NO3/NO2),	N/A	08/15/11				Calculation
Phosphorus, Total, as P	N/A	08/16/11 1423	110816-1	110816-3	KJH	SM 4500-P(B&F)(M
Solids, Total Dissolved	N/A	08/11/11 1032	110811-1	110811-1	KJH	SM20th 2540C
Solids, Total Suspended	N/A	08/12/11 1458	110812-1	110812-1	KJH	SM20th 2540D
Dissolved Metals Preparation Method						200.7/200.8
Total Recoverable Metals Preparation Method						200.7/200.8
Calculated as Hardness Preparation Method						200.7/6010B

Conclusion of Lab Number: 11080685

APPENDIX

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Reported: 08/24/2011
Date Received: 08/10/2011
Continental File No: 8339
Continental Order No: 57853

ND(), where reported, indicates the analyte was not detected above the limit of quantitation (LOQ). The concentration of the limit of quantitation is inside the parentheses.

All samples which require cooling were received at a temperature of less than 6 degrees Celsius.

The following table presents the date and time sampled, the date and time analyzed, and the total time elapsed for each analysis with an EPA recommended holding time of seventy-two hours or less.

CAS LAB ID #	ANALYSIS	DATE/TIME SAMPLED	DATE/TIME ANALYZED	ELAPSED HRS:MIN
11080685	BOD	08/10/2011 0900	08/11/2011 1550	30:50
11080685	E. Coli	08/10/2011 0900	08/10/2011 1740	8:40
11080685	Nitrate, as N	08/10/2011 0900	08/11/2011 1417	29:17
11080685	Nitrite, as N	08/10/2011 0900	08/11/2011 1430	29:30

HT - This sample exceeded the EPA maximum in transit holding time of six hours permitted for this analysis.

E - Concentration or reporting limit is an estimated value. Matrix interferences and/or sample heterogeneity were noted at the time of sample analysis.

M - Reporting limit higher than normal due to matrix interferences.

Continental Analytical Services, Inc.

Date: 08/24/2011

Continental Analytical Services, Inc.
Accreditation Summary Report

Client: City of Wichita
CAS Order Number: 57853

NELAP accreditation is issued under each EPA regulatory program for a given matrix/analyte/method combination. Continental is NELAP accredited for each matrix/analyte/method and EPA program cited in this Laboratory Report, except for those listed in the table below and analysis performed in the field. For most of the analyses listed in the table, NELAP accreditation is not offered under the listed EPA program and Continental is NELAP accredited for the analysis, using the same analytical technology, but under a different EPA program. Continental's full NELAP accreditation status may be viewed at www.kdheks.gov/envlab. Note that unless qualified otherwise in the Laboratory Report, Continental performs all analyses, including each analysis listed in the table below, utilizing NELAP protocol.

Test	Analysis	Matrix-Regulatory Program	Method	CAS NELAP Accredited in Other Reg. Program
GL343	Nitrogen (TKN + NO3/NO2), as N	L-NPDES	Calculation	N

Continental Analytical Services, Inc.

Quality Control Report
Batch Summary

Date Reported: 08/24/2011
Date Received: 08/10/2011
Continental File No: 8339
Continental Order No: 57853

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Test	Testname	QC Batch	Method Blank	LCS	MS Lab No.
SL323	Hardness (Calculated)	110812-4	110812BLK4	110812LCS4	11080684MS
Lab numbers associated with this batch: 11080685					
SL006	Cadmium, Tot. Rec., ICP-MS	110815-6	110815BLK6	110815LCS6	11080695MS
SL012	Copper, Tot. Rec., ICP-MS	110815-6	110815BLK6	110815LCS6	11080695MS
SL033	Zinc, Tot. Rec., ICP-MS	110815-6	110815BLK6	110815LCS6	11080695MS
Lab numbers associated with this batch: 11080685					
SL156	Cadmium, Dissolved, ICP-MS	110817-5	110817BLK5	110817LCS5	11080684MS
SL162	Copper, Dissolved, ICP-MS	110817-5	110817BLK5	110817LCS5	11080684MS
SL183	Zinc, Dissolved, ICP-MS	110817-5	110817BLK5	110817LCS5	11080684MS
Lab numbers associated with this batch: 11080685					
GL123	BOD	110811-1	110811BLK1	110811LCS1	11080702MS
Lab numbers associated with this batch: 11080685					
GL502	Chloride	1IC1223	BLK1IC1223	LCS1IC1223	11080697MS
Lab numbers associated with this batch: 11080685					
GL347	E. Coli	110810-1	110810BLK1	110810LCS1	11080608MS
Lab numbers associated with this batch: 11080685					
GL595	Kjeldahl Nitrogen, as N (TKN)	110812-1	110812BLK1	110812LCS1	11080719MS
Lab numbers associated with this batch: 11080685					
GL505	Nitrate, as N	1IC1223	BLK1IC1223	LCS1IC1223	
GL503	Nitrite, as N	1IC1223	BLK1IC1223	LCS1IC1223	
Lab numbers associated with this batch: 11080685					
GL343	Nitrogen (TKN + NO3/NO2), as N				
Lab numbers associated with this batch: 11080685					

Continental Analytical Services, Inc.

Quality Control Report
Batch Summary

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Page: 6
Date Reported: 08/24/2011
Date Received: 08/10/2011
Continental File No: 8339
Continental Order No: 57853

Test	Testname	QC Batch	Method Blank	LCS	MS Lab No.
GL218	Phosphorus, Total, as P	110816-1	110816BLK1	110816LCS1	11080374MS
Lab numbers associated with this batch: 11080685					
GL242	Solids, Total Dissolved	110811-1	110811BLK1	110811LCS1	11080533MS
Lab numbers associated with this batch: 11080685					
GL243	Solids, Total Suspended	110812-1	110812BLK1	110812LCS1	11080625MS
Lab numbers associated with this batch: 11080685					

Continental Analytical Services, Inc.

Quality Control Report
Method Blank, LCS, MS/MSD Data

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Reported: 08/24/2011
Date Received: 08/10/2011
Continental File No: 8339
Continental Order No: 57853

Analysis	Blank Data	% Rec LCS	Limits	Spike Level	Units	Spiked Sample (% Recovery) MS	MSD	Limits	Spike Level	Units	Spiked Sample Precision Data RPD	Limit
QC Batch: 110810-1	For sample analyzed on: 08/10/2011					Spiked sample: 11080608						
E. Coli	ND(1)	N/A			MPN/100ML	MN	MN	#		MPN/100	**	105
QC Batch: 110811-1	For sample analyzed on: 08/11/2011					Spiked sample: 11080533						
Solids, Total Dissolved	ND(30)	N/A			mg/L	MN	MN	#		mg/L	**	5.2
QC Batch: 110811-1	For sample analyzed on: 08/11/2011					Spiked sample: 11080702						
BOD	ND(5)	91.7	70.5-110	198	mg/L	MN	MN	#		mg/L	**	13.2
QC Batch: 110812-1	For sample analyzed on: 08/12/2011					Spiked sample: 11080625						
Solids, Total Suspended	ND(5)	N/A			mg/L	MN	MN	#		mg/L	**	10.2
QC Batch: 110812-1	For samples prepared on: 08/12/2011					Spiked sample: 11080719						
Kjeldahl Nitrogen, as N (TKN)	ND(1.0)	110	#	4.0	mg/L	MN	MN	#	4.0	mg/L	**	#
QC Batch: 110812-4	For samples prepared on: 08/12/2011					Spiked sample: 11080684						
Hardness (Calculated)	ND(5.0)	98.1	80.0-120	337	mg/L a	MN	MN	80.0-120	337	mg/L as	**	20.0
QC Batch: 110815-6	For samples prepared on: 08/15/2011					Spiked sample: 11080695						
Cadmium, Tot. Rec., ICP-MS	ND(1)	96.8	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
Copper, Tot. Rec., ICP-MS	ND(5)	94.0	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
Zinc, Tot. Rec., ICP-MS	ND(20)	99.6	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
QC Batch: 110816-1	For sample analyzed on: 08/16/2011					Spiked sample: 11080374						
Phosphorus, Total, as P	ND(0.20)	97.3	90.0-110	2.0	mg/L	MN	MN	71.2-135	2.0	mg/L	**	21.2
QC Batch: 110817-5	For samples prepared on: 08/17/2011					Spiked sample: 11080684						
Cadmium, Dissolved, ICP-MS	ND(1)	93.2	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
Copper, Dissolved, ICP-MS	ND(3) J	87.4	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
Zinc, Dissolved, ICP-MS	ND(20)	96.8	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
QC Batch: IIC1223	For sample analyzed on: 08/11/2011					Spiked sample:						
Nitrite, as N	ND(0.1)	107	90.0-110	2.0	mg/L	MN	MN	78.5-127			**	10.1
Nitrate, as N	0.08 J	101	90.0-110	2.0	mg/L	MN	MN	79.3-118			**	12.1
QC Batch: IIC1223	For sample analyzed on: 08/11/2011					Spiked sample: 11080697						
Chloride	ND(1.0)	101	90.0-110	4.0	mg/L	MN	MN	82.1-126	80.0	mg/L	**	12.5

Data Qualifiers:
N/A - Not Applicable

MN - The MS/MSD sample analyses were not performed on a sample from this Continental order number.

J - The concentration or not detected (ND) value is below the Limit of Quantitation (LOQ) and is considered an estimated value.

\# - Limits not available.

** - RPD cannot be calculated.

Continental Analytical Services, Inc.

Quality Control Report

Continuing Calibration Verification Data Summary

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Reported: 08/24/2011
Date Received: 08/10/2011
Continental File No: 8339
Continental Order No: 57853

Analysis	Date of Analysis	Instrument Batch ID	Amount in Standard	Amount Detected	Units	Percent Recovery
Cadmium, Tot. Rec., ICP-MS	08/18/2011	2IP3230	CCV recovery acceptable for this Instrument Batch.			
Cadmium, Dissolved, ICP-MS	08/20/2011	2IP3232	CCV recovery acceptable for this Instrument Batch.			
Cadmium, Tot. Rec., ICP-MS	08/18/2011	3IP3230	CCV recovery acceptable for this Instrument Batch.			
Cadmium, Dissolved, ICP-MS	08/20/2011	3IP3232	CCV recovery acceptable for this Instrument Batch.			
Copper, Tot. Rec., ICP-MS	08/18/2011	2IP3230	CCV recovery acceptable for this Instrument Batch.			
Copper, Dissolved, ICP-MS	08/20/2011	2IP3232	CCV recovery acceptable for this Instrument Batch.			
Copper, Tot. Rec., ICP-MS	08/18/2011	3IP3230	CCV recovery acceptable for this Instrument Batch.			
Copper, Dissolved, ICP-MS	08/20/2011	3IP3232	CCV recovery acceptable for this Instrument Batch.			
BOD	08/11/2011	110811-1	CCV recovery acceptable for this Instrument Batch.			
BOD	08/11/2011	110811-2	CCV recovery acceptable for this Instrument Batch.			
Phosphorus, Total, as P	08/16/2011	110816-3	CCV recovery acceptable for this Instrument Batch.			
Phosphorus, Total, as P	08/16/2011	110816-4	CCV recovery acceptable for this Instrument Batch.			
Chloride	08/11/2011	2IC1223	CCV recovery acceptable for this Instrument Batch.			
Chloride	08/11/2011	3IC1223	CCV recovery acceptable for this Instrument Batch.			
Nitrite, as N	08/11/2011	2IC1223	CCV recovery acceptable for this Instrument Batch.			
Nitrite, as N	08/11/2011	3IC1223	CCV recovery acceptable for this Instrument Batch.			
Nitrate, as N	08/11/2011	2IC1223	CCV recovery acceptable for this Instrument Batch.			
Nitrate, as N	08/11/2011	3IC1223	CCV recovery acceptable for this Instrument Batch.			
Kjeldahl Nitrogen, as N (TKN)	08/15/2011	110815-2	CCV recovery acceptable for this Instrument Batch.			
Kjeldahl Nitrogen, as N (TKN)	08/15/2011	110815-3	CCV recovery acceptable for this Instrument Batch.			
Hardness (Calculated)	08/16/2011	16IP4227	CCV recovery acceptable for this Instrument Batch.			
Hardness (Calculated)	08/16/2011	17IP4227	CCV recovery acceptable for this Instrument Batch.			
Zinc, Tot. Rec., ICP-MS	08/18/2011	2IP3230	CCV recovery acceptable for this Instrument Batch.			
Zinc, Dissolved, ICP-MS	08/20/2011	2IP3232	CCV recovery acceptable for this Instrument Batch.			
Zinc, Tot. Rec., ICP-MS	08/18/2011	3IP3230	CCV recovery acceptable for this Instrument Batch.			
Zinc, Dissolved, ICP-MS	08/20/2011	3IP3232	CCV recovery acceptable for this Instrument Batch.			

- Laboratory Report Conclusion -

Continental Analytical Services, Inc.

525 N. 8th Street, Salina, KS 67401
(785)827-1273 (800)535-3076 Fax (785)823-7830
www.cas-lab.com

CAS Order No. 27037 5789

CHAIN OF CUSTODY RECORD

Continental Shipping Order Number: _____

Client/Reporting Information		Invoice Information	
ny Name: f Wichita Storm Water Management		Company Name: City of Wichita Storm Water Management	
ss: Hall, 8th Floor, 455 N. Main		Address: City Hall, 8th Floor, 455 N. Main	
ta	State: KS / Zip: 67202	City: Wichita	State: KS / Zip: 67202
ct: ardesty	E-mail: Jhardesty@wichita.gov	Contact: Jim Hardesty	E-mail: Jhardesty@wichita.go
Number: 268-8317	Fax Number: (316)858-7889	Phone Number: (316)268-8317	Fax Number: (316)858-7889
er's Name:(Printed) Justin Murphy	Sampler's Name:(Signature)	Purchase Order Number:	
umber: 9	Project Name: Stormwater - UPSTREAM		

SAMPLE IDENTIFICATION (30 Characters or less)	Matrix (Sample Type)	Regulatory Program	Date Sampled	Time Sampled	C-Composite G-Grab	Total Containers	Number of Preserved Bottles: HCL	NaOH	HNO3	H2SO4	NONE	OTHER:	Total Cadmium, Copper, Zinc 250mL Plastic - HNO3	Dissolved Cadmium, Copper, Zinc 250mL Plastic - None	Hardness, TSS, TDS, Cl, BOD, NO3, NO2, Tot. Nitrogen 1000mL Plastic - None	TKN, Total P 250mL Plastic - H2SO4	E. Coli				COMMENTS
ean Upstream	WW	N	8/10/2011	0900	G	5			1	1	3		X	X	X	X	X				

ulatory Program: N=NPDES, R=RCRA, D=Drinking Water, SL=503 Sludge, O=Other

(Please note if non-standard turnaround. Rush & Emergency subject to additional charge)
Standard TAT: (15 working days) Rush TAT: (5 working days) Emergency TAT: (3 working days)

trix (Sample Type): DW=Drinking Water, GW=Ground Water, WW=Waste Water, W=Wipe, S=Solid/Soil, SL=Sludge, A=Air, OL = Oil/Organic Liquid, O=Other

NQUISHED BY:	DATE: 8/10/11	TIME: 1400	RECEIVED BY:	DATE:	TIME:
NQUISHED BY:	DATE:	TIME:	RECEIVED BY:	DATE:	TIME:
EIVED AT LAB BY:	DATE: 8-10-11	TIME: 1640	SHIPPED VIA: / AIRBILL:	SEAL #: / SEAL DATE:	

Continental's Standard Terms and Conditions of Sale will apply to all samples received unless a separate contractual agreement has been made.

57853

Continental Analytical Services, Inc.
Cooler/Sample Receipt Form (C/S RF)

CAS Order No.: ~~5788~~ 8/11/11

Client Name: Wichita

CAS File No.: 8339

Sample ID's in cooler: See COC
Melton

Cooler 1 of 1 for this CAS Order No.

Cooler Identification: CAS Cooler #: _____ / Client's Cooler / Box / Letter / Hand-delivered
Other: _____

Date/Time Cooler Received: 8 / 10 / 11 16 : 40

Delivered By: UPS / FedX / AB Express / Field Svcs / Mail / Walk-In / Other: _____

Custody Seal: Present: Intact / Broken Absent: X Seal No: _____
Seal Name: _____ Seal Date: _____
Seal matches Chain of Custody: Yes / No / N/A

Type of Packing Material: Blue Ice / Ice / Melted Ice / Bubble / Foam / Paper / Peanuts / Vermiculite / None / Other: _____

Cooler Temperature (°C): Original Reading (°C) 0.8 Corrected Reading (°C) 1.2
MY 8-10-11
Temp. By: Temp. Blank Cooler Surface: Glass / Plastic /Metal /Other: _____
Thermo. ID No.: 585 Thermo. Correction Factor (°C): 0.4

☐ Evidence of Cooling and date received = date sampled

Sample Receipt Discrepancies: ☒ No ☐ Yes (See below for discrepancies.)

Note: **If discrepancies are present, CAS will proceed with analyses until/unless directed otherwise by the client.**

☐ Chain of Custody not present - information taken from:
Cover Letter ☐ Container ☐
PO ☐ CAS Proj. Mgr. ☐
☐ Container label absent
☐ Chain of Custody incomplete [see detail below]
☐ Chain of Custody missing date/time sampled (excl. TB or Dup.)
☐ Date or Time sampled obtained from container label
☐ Chain of Custody missing sampler's name
☐ Chain of Custody missing matrix (sample type)
☐ Missing relinquished information: signature date time

☐ Sample excluded from Chain of Custody
☐ Sample listed on Chain of Custody, not received
☐ Sample description on container and Chain of Custody do not agree
☐ Air bubbles in Aqueous VOA vials larger than pea-size [approx. 6 mm]
☐ Cooler temperature exceeded 0.1 - 6.0 °C requirement
[Do not mark if samples do not require cooling to 0.1 - 6.0 °C.]
☐ Broken or leaking containers (detail actions below)
☐ Sample container type or labeled chemical preservation inappropriate
☐ Other discrepancies: _____

Detail to discrepancies/comments:

Completed by: AG Date Completed: 8/10/11

Continental
Analytical Services, Inc.

08/24/2011

City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date and Time Received: 08/10/2011 16:40
Continental File No.: 8339
Continental Order No.: 57851
Project ID: SW Upstream

Dear Mr. Hardesty:

This laboratory report containing the samples indicated below, includes 8 pages for the analytical report, 1 page(s) for the chain of custody and/or analysis request, and 1 page(s) for the sample receipt form.

CAS LAB ID #	SAMPLE DESCRIPTION	SAMPLE TYPE	DATE SAMPLED
11080682	Town East Upstream	Liquid	8/10/2011

The Appendix and Quality Control sections are integral parts of this laboratory report and may contain important data qualifiers.

All results are reported on a wet weight basis unless otherwise stated.

Samples will be retained for thirty days unless Continental is otherwise notified.

Continental is accredited by the State of Kansas through the National Environmental Laboratory Accreditation Program (NELAP). The results contained in this report were obtained using Continental's Standard Operating Procedures. These procedures are in substantial compliance with the approved methods referenced and the standards published by NELAP unless otherwise noted in the Appendix and Quality Control sections of this report.

This report may not be reproduced, except in full, without written approval from Continental Analytical Services, Inc.

Thank you for choosing Continental for this project. If you have any questions please contact me at (800)535-3076.

CONTINENTAL ANALYTICAL SERVICES, INC.

Clifford J. Baker
Technical Manager

Gregory J. Groene
Project Manager

525 N. Eighth St. - P.O. Box 3737 - Salina, KS 67402-3737
785-827-1273 800-535-3076 Fax 785-823-7830
KDHE Environmental Laboratory Accreditation No. E-10146

Continental Analytical Services, Inc.

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Reported: 08/24/2011
Date Received: 08/10/2011
Continental File No: 8339
Continental Order No: 57851

Lab Number: 11080682
Sample Description: Town East Upstream

Date Sampled: 08/10/2011
Time Sampled: 0830

Analysis	Concentration	Units	Book/Page
Cadmium, Dissolved, ICP-MS	ND(1)	µg/L	7127/55
Cadmium, Tot. Rec., ICP-MS	ND(1)	µg/L	7127/53
Copper, Dissolved, ICP-MS	ND(5)	µg/L	7127/55
Copper, Tot. Rec., ICP-MS	7	µg/L	7127/53
Hardness (Calculated)	33.0	mg/L as CaCO3	7157/33
Zinc, Dissolved, ICP-MS	ND(20)	µg/L	7127/55
Zinc, Tot. Rec., ICP-MS	42	µg/L	7127/53
BOD	ND(5)	mg/L	7060/191
Chloride	8.2	mg/L	7129/48
E. Coli	>2420 HT	MPN/100 mL	7057/338
Kjeldahl Nitrogen, as N (TKN)	ND(1.0)	mg/L	6854/240
Nitrate, as N	0.5 B	mg/L	7129/48
Nitrite, as N	ND(0.1)	mg/L	7129/48
Nitrogen (TKN + NO3/NO2), as N	ND(1.0)	mg/L	9999/247
Phosphorus, Total, as P	ND(0.20)	mg/L	7061/150
Solids, Total Dissolved	ND(30)	mg/L	7059/437
Solids, Total Suspended	21	mg/L	7059/443

Analysis	Date/Time Prepared	Date/Time Analyzed	QC Batch	Inst. Batch	Analyst	Method(s)
Cadmium, Dissolved, ICP-MS	08/17/11 1253	08/20/11 1307	110817-5	1IP3232	KMW	200.8 Rev. 5.4
Cadmium, Tot. Rec., ICP-MS	08/15/11 1129	08/18/11 1354	110815-6	2IP3230	KMW	200.8 Rev. 5.4
Copper, Dissolved, ICP-MS	08/17/11 1253	08/20/11 1307	110817-5	1IP3232	KMW	200.8 Rev. 5.4
Copper, Tot. Rec., ICP-MS	08/15/11 1129	08/18/11 1354	110815-6	2IP3230	KMW	200.8 Rev. 5.4
Hardness (Calculated)	08/12/11 1040	08/16/11 0033	110812-4	15IP4227	KMW	200.7 & SM 2340B
Zinc, Dissolved, ICP-MS	08/17/11 1253	08/20/11 1307	110817-5	1IP3232	KMW	200.8 Rev. 5.4
Zinc, Tot. Rec., ICP-MS	08/15/11 1129	08/18/11 1354	110815-6	2IP3230	KMW	200.8 Rev. 5.4
BOD	N/A	08/11/11 1550	110811-1	110811-1	ASK	SM 5210B
Chloride	N/A	08/11/11 1325	1IC1223	2IC1223	MLL	300.0
E. Coli	N/A	08/10/11 1740	110810-1	110810-1	ASK	SM 9223B Colilert
Kjeldahl Nitrogen, as N (T	08/12/11 1241	08/15/11 1059	110812-1	110815-2	JND	EPA 351.2
Nitrate, as N	N/A	08/11/11 1325	1IC1223	2IC1223	MLL	300.0
Nitrite, as N	N/A	08/11/11 1325	1IC1223	2IC1223	MLL	300.0
Nitrogen (TKN + NO3/NO2),	N/A	08/15/11				Calculation
Phosphorus, Total, as P	N/A	08/16/11 1420	110816-1	110816-2	KJH	SM 4500-P(B&F)(M
Solids, Total Dissolved	N/A	08/11/11 1032	110811-1	110811-1	KJH	SM20th 2540C
Solids, Total Suspended	N/A	08/12/11 1457	110812-1	110812-1	KJH	SM20th 2540D
Dissolved Metals Preparation Method						200.7/200.8
Total Recoverable Metals Preparation Method						200.7/200.8
Calculated as Hardness Preparation Method						200.7/6010B

Conclusion of Lab Number: 11080682

APPENDIX

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Reported: 08/24/2011
Date Received: 08/10/2011
Continental File No: 8339
Continental Order No: 57851

ND(), where reported, indicates the analyte was not detected above the limit of quantitation (LOQ). The concentration of the limit of quantitation is inside the parentheses.

All samples which require cooling were received at a temperature of less than 6 degrees Celsius.

The following table presents the date and time sampled, the date and time analyzed, and the total time elapsed for each analysis with an EPA recommended holding time of seventy-two hours or less.

CAS LAB ID #	ANALYSIS	DATE/TIME SAMPLED	DATE/TIME ANALYZED	ELAPSED HRS:MIN
11080682	BOD	08/10/2011 0830	08/11/2011 1550	31:20
11080682	E. Coli	08/10/2011 0830	08/10/2011 1740	9:10
11080682	Nitrate, as N	08/10/2011 0830	08/11/2011 1325	28:55
11080682	Nitrite, as N	08/10/2011 0830	08/11/2011 1325	28:55

HT - This sample exceeded the EPA maximum in transit holding time of six hours permitted for this analysis.

B - Analyte is also present in the method blank or load blank at the concentration indicated either to the right of the letter B and/or in the enclosed Quality Control Report. The reported sample concentration has not been blank corrected.

Continental Analytical Services, Inc.

Continental Analytical Services, Inc.
Accreditation Summary Report

Client: City of Wichita
CAS Order Number: 57851

NELAP accreditation is issued under each EPA regulatory program for a given matrix/analyte/method combination. Continental is NELAP accredited for each matrix/analyte/method and EPA program cited in this Laboratory Report, except for those listed in the table below and analysis performed in the field. For most of the analyses listed in the table, NELAP accreditation is not offered under the listed EPA program and Continental is NELAP accredited for the analysis, using the same analytical technology, but under a different EPA program. Continental's full NELAP accreditation status may be viewed at www.kdheks.gov/envlab. Note that unless qualified otherwise in the Laboratory Report, Continental performs all analyses, including each analysis listed in the table below, utilizing NELAP protocol.

Test	Analysis	Matrix-Regulatory Program	Method	CAS NELAP Accredited in Other Reg. Program
GL343	Nitrogen (TKN + NO3/NO2), as N	L-NPDES	Calculation	N

Continental Analytical Services, Inc.

Quality Control Report
Batch Summary

Date Reported: 08/24/2011
Date Received: 08/10/2011
Continental File No: 8339
Continental Order No: 57851

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Test	Testname	QC Batch	Method Blank	LCS	MS Lab No.
SL323	Hardness (Calculated)	110812-4	110812BLK4	110812LCS4	11080684MS
Lab numbers associated with this batch: 11080682					
SL006	Cadmium, Tot. Rec., ICP-MS	110815-6	110815BLK6	110815LCS6	11080695MS
SL012	Copper, Tot. Rec., ICP-MS	110815-6	110815BLK6	110815LCS6	11080695MS
SL033	Zinc, Tot. Rec., ICP-MS	110815-6	110815BLK6	110815LCS6	11080695MS
Lab numbers associated with this batch: 11080682					
SL156	Cadmium, Dissolved, ICP-MS	110817-5	110817BLK5	110817LCS5	11080684MS
SL162	Copper, Dissolved, ICP-MS	110817-5	110817BLK5	110817LCS5	11080684MS
SL183	Zinc, Dissolved, ICP-MS	110817-5	110817BLK5	110817LCS5	11080684MS
Lab numbers associated with this batch: 11080682					
GL123	BOD	110811-1	110811BLK1	110811LCS1	11080702MS
Lab numbers associated with this batch: 11080682					
GL502	Chloride	1IC1223	BLK1IC1223	LCS1IC1223	11080697MS
Lab numbers associated with this batch: 11080682					
GL347	E. Coli	110810-1	110810BLK1	110810LCS1	11080608MS
Lab numbers associated with this batch: 11080682					
GL595	Kjeldahl Nitrogen, as N (TKN)	110812-1	110812BLK1	110812LCS1	11080719MS
Lab numbers associated with this batch: 11080682					
GL505	Nitrate, as N	1IC1223	BLK1IC1223	LCS1IC1223	
GL503	Nitrite, as N	1IC1223	BLK1IC1223	LCS1IC1223	
Lab numbers associated with this batch: 11080682					
GL343	Nitrogen (TKN + NO3/NO2), as N				
Lab numbers associated with this batch: 11080682					

Continental Analytical Services, Inc.

Quality Control Report
Batch Summary

Date Reported: 08/24/2011
Date Received: 08/10/2011
Continental File No: 8339
Continental Order No: 57851

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Test	Testname	QC Batch	Method Blank	LCS	MS Lab No.
GL218	Phosphorus, Total, as P	110816-1	110816BLK1	110816LCS1	11080374MS
Lab numbers associated with this batch: 11080682					
GL242	Solids, Total Dissolved	110811-1	110811BLK1	110811LCS1	11080533MS
Lab numbers associated with this batch: 11080682					
GL243	Solids, Total Suspended	110812-1	110812BLK1	110812LCS1	11080625MS
Lab numbers associated with this batch: 11080682					

Continental Analytical Services, Inc.

Quality Control Report
Method Blank, LCS, MS/MSD Data

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Reported: 08/24/2011
Date Received: 08/10/2011
Continental File No: 8339
Continental Order No: 57851

Analysis	Blank Data	% Rec LCS	Limits	Spike Level	Units	Spiked Sample (% Recovery) MS	MSD	Limits	Spike Level	Units	Spiked Sample Precision Data RPD	Limit
QC Batch: 110810-1	For sample analyzed on: 08/10/2011					Spiked sample: 11080608						
E. Coli	ND(1)	N/A			MPN/100MN	MN	MN	#		MPN/100	**	105
QC Batch: 110811-1	For sample analyzed on: 08/11/2011					Spiked sample: 11080533						
Solids, Total Dissolved	ND(30)	N/A			mg/L	MN	MN	#		mg/L	**	5.2
QC Batch: 110811-1	For sample analyzed on: 08/11/2011					Spiked sample: 11080702						
BOD	ND(5)	91.7	70.5-110	198	mg/L	MN	MN	#		mg/L	**	13.2
QC Batch: 110812-1	For sample analyzed on: 08/12/2011					Spiked sample: 11080625						
Solids, Total Suspended	ND(5)	N/A			mg/L	MN	MN	#		mg/L	**	18.2
QC Batch: 110812-1	For samples prepared on: 08/12/2011					Spiked sample: 11080719						
Kjeldahl Nitrogen, as N (TKN)	ND(1.0)	110	#	4.0	mg/L	MN	MN	#	4.0	mg/L	**	#
QC Batch: 110812-4	For samples prepared on: 08/12/2011					Spiked sample: 11080684						
Hardness (Calculated)	ND(5.0)	98.1	80.0-120	337	mg/L a	MN	MN	80.0-120	337	mg/L as	**	20.0
QC Batch: 110815-6	For samples prepared on: 08/15/2011					Spiked sample: 11080695						
Cadmium, Tot. Rec., ICP-MS	ND(1)	96.8	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
Copper, Tot. Rec., ICP-MS	ND(5)	94.0	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
Zinc, Tot. Rec., ICP-MS	ND(20)	99.6	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
QC Batch: 110816-1	For sample analyzed on: 08/16/2011					Spiked sample: 11080374						
Phosphorus, Total, as P	ND(0.20)	97.3	90.0-110	2.0	mg/L	MN	MN	71.2-135	2.0	mg/L	**	21.2
QC Batch: 110817-5	For samples prepared on: 08/17/2011					Spiked sample: 11080684						
Cadmium, Dissolved, ICP-MS	ND(1)	93.2	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
Copper, Dissolved, ICP-MS	ND(3) J	87.4	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
Zinc, Dissolved, ICP-MS	ND(20)	96.8	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
QC Batch: 12C1223	For sample analyzed on: 08/11/2011					Spiked sample:						
Nitrite, as N	ND(0.1)	107	90.0-110	2.0	mg/L	MN	MN	78.5-127			**	10.1
Nitrate, as N	0.08 J	101	90.0-110	2.0	mg/L	MN	MN	79.3-118			**	12.1
QC Batch: 12C1223	For sample analyzed on: 08/11/2011					Spiked sample: 11080697						
Chloride	ND(1.0)	101	90.0-110	4.0	mg/L	MN	MN	82.1-126	80.0	mg/L	**	12.5

Data Qualifiers:
N/A - Not Applicable

MN - The MS/MSD sample analyses were not performed on a sample from this Continental order number.

J - The concentration or not detected (ND) value is below the Limit of Quantitation (LOQ) and is considered an estimated value.

- Limits not available.

** - RPD cannot be calculated.

Continental Analytical Services, Inc.

Quality Control Report

Continuing Calibration Verification Data Summary

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Reported: 08/24/2011
Date Received: 08/10/2011
Continental File No: 8339
Continental Order No: 57851

Analysis	Date of Analysis	Instrument Batch ID	Amount in Standard	Amount Detected	Units	Percent Recovery
Cadmium, Dissolved, ICP-MS	08/20/2011	1IP3232	CCV recovery acceptable for this Instrument Batch.			
Cadmium, Tot. Rec., ICP-MS	08/18/2011	2IP3230	CCV recovery acceptable for this Instrument Batch.			
Cadmium, Dissolved, ICP-MS	08/20/2011	2IP3232	CCV recovery acceptable for this Instrument Batch.			
Cadmium, Tot. Rec., ICP-MS	08/18/2011	3IP3230	CCV recovery acceptable for this Instrument Batch.			
Copper, Dissolved, ICP-MS	08/20/2011	1IP3232	CCV recovery acceptable for this Instrument Batch.			
Copper, Tot. Rec., ICP-MS	08/18/2011	2IP3230	CCV recovery acceptable for this Instrument Batch.			
Copper, Dissolved, ICP-MS	08/20/2011	2IP3232	CCV recovery acceptable for this Instrument Batch.			
Copper, Tot. Rec., ICP-MS	08/18/2011	3IP3230	CCV recovery acceptable for this Instrument Batch.			
BOD	08/11/2011	110811-1	CCV recovery acceptable for this Instrument Batch.			
BOD	08/11/2011	110811-2	CCV recovery acceptable for this Instrument Batch.			
Phosphorus, Total, as P	08/16/2011	110816-2	CCV recovery acceptable for this Instrument Batch.			
Phosphorus, Total, as P	08/16/2011	110816-3	CCV recovery acceptable for this Instrument Batch.			
Chloride	08/11/2011	2IC1223	CCV recovery acceptable for this Instrument Batch.			
Chloride	08/11/2011	3IC1223	CCV recovery acceptable for this Instrument Batch.			
Nitrite, as N	08/11/2011	2IC1223	CCV recovery acceptable for this Instrument Batch.			
Nitrite, as N	08/11/2011	3IC1223	CCV recovery acceptable for this Instrument Batch.			
Nitrate, as N	08/11/2011	2IC1223	CCV recovery acceptable for this Instrument Batch.			
Nitrate, as N	08/11/2011	3IC1223	CCV recovery acceptable for this Instrument Batch.			
Kjeldahl Nitrogen, as N (TKN)	08/15/2011	110815-2	CCV recovery acceptable for this Instrument Batch.			
Kjeldahl Nitrogen, as N (TKN)	08/15/2011	110815-3	CCV recovery acceptable for this Instrument Batch.			
Hardness (Calculated)	08/16/2011	15IP4227	CCV recovery acceptable for this Instrument Batch.			
Hardness (Calculated)	08/16/2011	16IP4227	CCV recovery acceptable for this Instrument Batch.			
Zinc, Dissolved, ICP-MS	08/20/2011	1IP3232	CCV recovery acceptable for this Instrument Batch.			
Zinc, Tot. Rec., ICP-MS	08/18/2011	2IP3230	CCV recovery acceptable for this Instrument Batch.			
Zinc, Dissolved, ICP-MS	08/20/2011	2IP3232	CCV recovery acceptable for this Instrument Batch.			
Zinc, Tot. Rec., ICP-MS	08/18/2011	3IP3230	CCV recovery acceptable for this Instrument Batch.			

- Laboratory Report Conclusion -

Continental Analytical Services, Inc.

525 N. 8th Street, Salina, KS 67401
(785)827-1273 (800)535-3076 Fax (785)823-7830
www.cas-lab.com

CAS ORDER NO 57851
CHAIN OF CUSTODY RECORD

Continental Shipping Order Number: _____

Client/Reporting Information		Invoice Information	
any Name: f Wichita Storm Water Management		Company Name: City of Wichita Storm Water Management	
ss: Hall, 8th Floor, 455 N. Main		Address: City Hall, 8th Floor, 455 N. Main	
ta	State: KS / Zip: 67202	City: Wichita	State: KS / Zip: 67202
ct: ardesty	E-mail: Jhardesty@wichita.gov	Contact: Jim Hardesty	E-mail: Jhardesty@wichita.go
Number: 268-8317	Fax Number: (316)858-7889	Phone Number: (316)268-8317	Fax Number: (316)858-7889
er's Name:(Printed) Justin Murph	Sampler's Name:(Signature)	Purchase Order Number:	
umber: 9	Project Name: Stormwater - UPSTREAM		

SAMPLE IDENTIFICATION (30 Characters or less)	Matrix (Sample Type)	Regulatory Program	Date Sampled	Time Sampled	C-Composite G-Grab	Total Containers	Number of Preserved Bottles: HCL	NaOH	HNO3	H2SO4	NONE	OTHER:	Total Cadmium, Copper, Zinc 250mL Plastic - HNO3	Dissolved Cadmium, Copper, Zinc 250mL Plastic - None	Hardness, TSS, TDS, Cl, BOD, NO3, NO2, Tot. Nitrogen 1000mL Plastic - None	TKN, Total P 250mL Plastic - H2SO4	E. Coli				COMMENTS
n East Upsream	WW	N	8/10/2011	0830	G	5			1	1	2		X	X	X	X	X				

latory Program: N=NPDES, R=RCRA, D=Drinking Water, SL=503 Sludge, O=Other

(Please note if non-standard turnaround. Rush & Emergency subject to additional charge)
Standard TAT: (15 working days) Rush TAT: (5 working days) Emergency TAT: (3 working days)

ix (Sample Type): DW=Drinking Water, GW=Ground Water, WW=Waste Water, W=Wipe, S=Solid/Soil, SL=Sludge, A=Air, OL = Oil/Organic Liquid, O=Other

QUISHED BY:	DATE: 8/10/11	TIME: 1400	RECEIVED BY:	DATE:	TIME:
QUISHED BY:	DATE:	TIME:	RECEIVED BY:	DATE:	TIME:
VED AT LAB BY:	DATE: 8-10-11	TIME: 1640	SHIPPED VIA: / AIRBILL:	SEAL #: / SEAL DATE:	

Continental's Standard Terms and Conditions of Sale will apply to all samples received unless a separate contractual agreement has been made.

Continental Analytical Services, Inc.
Cooler/Sample Receipt Form (C/S RF)

CAS Order No.: 5851

Client Name: Wichita

CAS File No.: 8339

Sample ID's in cooler: [illegible]
Towne East

Cooler 1 of 1 for this CAS Order No.

Cooler Identification: CAS Cooler #: _____ / Client's Cooler / Box / Letter / Hand-delivered
Other: _____

Date/Time Cooler Received: 8 / 10 / 11 16 : 40

Delivered By: UPS / FedX / AB Express / Field Svcs / Mail / Walk-In / Other: _____

Custody Seal: Present: Intact / Broken Absent: X Seal No: _____
Seal Name: _____ Seal Date: _____
Seal matches Chain of Custody: Yes / No / N/A

Type of Packing Material: Blue Ice / Ice / Melted Ice / Bubble / Foam / Paper / Peanuts / Vermiculite / None / Other: _____

Cooler Temperature (°C): Original Reading (°C) 1.6 Corrected Reading (°C) 2.0
Temp. By: Temp. Blank Cooler Surface: Glass / Plastic /Metal /Other: _____
Thermo. ID No.: 585 Thermo. Correction Factor (°C): 0.4

☐ Evidence of Cooling and date received = date sampled

Sample Receipt Discrepancies: ☒ No ☐ Yes **(See below for discrepancies.)**

Note: If discrepancies are present, CAS will proceed with analyses until/unless directed otherwise by the client.

☐ Chain of Custody not present - information taken from:
Cover Letter ☐ Container ☐
PO ☐ CAS Proj. Mgr. ☐
☐ Container label absent
☐ Chain of Custody incomplete [see detail below]
☐ Chain of Custody missing date/time sampled (excl. TB or Dup.)
☐ Date or Time sampled obtained from container label
☐ Chain of Custody missing sampler's name
☐ Chain of Custody missing matrix (sample type)
☐ Missing relinquished information: signature date time

☐ Sample excluded from Chain of Custody
☐ Sample listed on Chain of Custody, not received
☐ Sample description on container and Chain of Custody do not agree
☐ Air bubbles in Aqueous VOA vials larger than pea-size [approx. 6 mm]
☐ Cooler temperature exceeded 0.1 - 6.0 °C requirement
[Do not mark if samples do not require cooling to 0.1 - 6.0 °C.]
☐ Broken or leaking containers (detail actions below)
☐ Sample container type or labeled chemical preservation inappropriate
☐ Other discrepancies: _____

Detail to discrepancies/comments:

Completed by: [illegible] Date Completed: 8-10-11

Continental
Analytical Services, Inc.

08/24/2011

City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date and Time Received: 08/10/2011 16:40
Continental File No.: 8339
Continental Order No.: 57849
Project ID: SW Upstream

Dear Mr. Hardesty:

This laboratory report containing the samples indicated below, includes 8 pages for the analytical report, 1 page(s) for the chain of custody and/or analysis request, and 1 page(s) for the sample receipt form.

CAS LAB ID #	SAMPLE DESCRIPTION	SAMPLE TYPE	DATE SAMPLED
11080679	Huntington Upstream	Liquid	8/10/2011

The Appendix and Quality Control sections are integral parts of this laboratory report and may contain important data qualifiers.

All results are reported on a wet weight basis unless otherwise stated.

Samples will be retained for thirty days unless Continental is otherwise notified.

Continental is accredited by the State of Kansas through the National Environmental Laboratory Accreditation Program (NELAP). The results contained in this report were obtained using Continental's Standard Operating Procedures. These procedures are in substantial compliance with the approved methods referenced and the standards published by NELAP unless otherwise noted in the Appendix and Quality Control sections of this report.

This report may not be reproduced, except in full, without written approval from Continental Analytical Services, Inc.

Thank you for choosing Continental for this project. If you have any questions please contact me at (800)535-3076.

CONTINENTAL ANALYTICAL SERVICES, INC.

Clifford J. Baker
Technical Manager

Gregory J. Groene
Project Manager

525 N. Eighth St. - P.O. Box 3737 - Salina, KS 67402-3737
785-827-1273 800-535-3076 Fax 785-823-7830

KDHE Environmental Laboratory Accreditation No. E-10146

Continental Analytical Services, Inc.

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Reported: 08/24/2011
Date Received: 08/10/2011
Continental File No: 8339
Continental Order No: 57849

Lab Number: 11080679
Sample Description: Huntington Upstream

Date Sampled: 08/10/2011
Time Sampled: 0820

Analysis	Concentration	Units	Book/Page
Cadmium, Dissolved, ICP-MS	ND(1)	µg/L	7127/55
Cadmium, Tot. Rec., ICP-MS	ND(1)	µg/L	7127/53
Copper, Dissolved, ICP-MS	5	µg/L	7127/55
Copper, Tot. Rec., ICP-MS	10	µg/L	7127/53
Hardness (Calculated)	27.7	mg/L as CaCO3	7157/33
Zinc, Dissolved, ICP-MS	ND(20)	µg/L	7127/55
Zinc, Tot. Rec., ICP-MS	41	µg/L	7127/53
BOD	ND(5)	mg/L	7060/191
Chloride	4.4	mg/L	7129/48
E. Coli	>2420 HT	MPN/100 mL	7057/338
Kjeldahl Nitrogen, as N (TKN)	1.5	mg/L	6854/240
Nitrate, as N	0.5 B	mg/L	7129/48
Nitrite, as N	ND(0.1)	mg/L	7129/48
Nitrogen (TKN + NO3/NO2), as N	2.0	mg/L	9999/247
Phosphorus, Total, as P	ND(0.20)	mg/L	7061/150
Solids, Total Dissolved	74	mg/L	7059/437
Solids, Total Suspended	37	mg/L	7059/443

Analysis	Date/Time Prepared	Date/Time Analyzed	QC Batch	Inst. Batch	Analyst	Method(s)
Cadmium, Dissolved, ICP-MS	08/17/11 1253	08/20/11 1251	110817-5	1IP3232	KMW	200.8 Rev. 5.4
Cadmium, Tot. Rec., ICP-MS	08/15/11 1129	08/18/11 1344	110815-6	2IP3230	KMW	200.8 Rev. 5.4
Copper, Dissolved, ICP-MS	08/17/11 1253	08/20/11 1251	110817-5	1IP3232	KMW	200.8 Rev. 5.4
Copper, Tot. Rec., ICP-MS	08/15/11 1129	08/18/11 1344	110815-6	2IP3230	KMW	200.8 Rev. 5.4
Hardness (Calculated)	08/12/11 1040	08/16/11 0020	110812-4	15IP4227	KMW	200.7 & SM 2340B
Zinc, Dissolved, ICP-MS	08/17/11 1253	08/20/11 1251	110817-5	1IP3232	KMW	200.8 Rev. 5.4
Zinc, Tot. Rec., ICP-MS	08/15/11 1129	08/18/11 1344	110815-6	2IP3230	KMW	200.8 Rev. 5.4
BOD	N/A	08/11/11 1550	110811-1	110811-1	ASK	SM 5210B
Chloride	N/A	08/11/11 1232	1IC1223	2IC1223	MLL	300.0
E. Coli	N/A	08/10/11 1740	110810-1	110810-1	ASK	SM 9223B Colilert
Kjeldahl Nitrogen, as N (T	08/12/11 1241	08/15/11 1050	110812-1	110815-1	JND	EPA 351.2
Nitrate, as N	N/A	08/11/11 1232	1IC1223	2IC1223	MLL	300.0
Nitrite, as N	N/A	08/11/11 1232	1IC1223	2IC1223	MLL	300.0
Nitrogen (TKN + NO3/NO2),	N/A	08/15/11				Calculation
Phosphorus, Total, as P	N/A	08/16/11 1418	110816-1	110816-2	KJH	SM 4500-P(B&F)(M
Solids, Total Dissolved	N/A	08/11/11 1030	110811-1	110811-1	KJH	SM20th 2540C
Solids, Total Suspended	N/A	08/12/11 1456	110812-1	110812-1	KJH	SM20th 2540D
Dissolved Metals Preparation Method						200.7/200.8
Total Recoverable Metals Preparation Method						200.7/200.8
Calculated as Hardness Preparation Method						200.7/6010B

Conclusion of Lab Number: 11080679

APPENDIX

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Reported: 08/24/2011
Date Received: 08/10/2011
Continental File No: 8339
Continental Order No: 57849

ND(), where reported, indicates the analyte was not detected above the limit of quantitation (LOQ). The concentration of the limit of quantitation is inside the parentheses.

All samples which require cooling were received at a temperature of less than 6 degrees Celsius.

The following table presents the date and time sampled, the date and time analyzed, and the total time elapsed for each analysis with an EPA recommended holding time of seventy-two hours or less.

CAS LAB ID #	ANALYSIS	DATE/TIME SAMPLED	DATE/TIME ANALYZED	ELAPSED HRS:MIN
11080679	BOD	08/10/2011 0820	08/11/2011 1550	31:30
11080679	E. Coli	08/10/2011 0820	08/10/2011 1740	9:20
11080679	Nitrate, as N	08/10/2011 0820	08/11/2011 1232	28:12
11080679	Nitrite, as N	08/10/2011 0820	08/11/2011 1232	28:12

HT - This sample exceeded the EPA maximum in transit holding time of six hours permitted for this analysis.

B - Analyte is also present in the method blank or load blank at the concentration indicated either to the right of the letter B and/or in the enclosed Quality Control Report. The reported sample concentration has not been blank corrected.

Continental
Analytical Services, Inc.

Continental Analytical Services, Inc.
Accreditation Summary Report

Client: City of Wichita
CAS Order Number: 57849

NELAP accreditation is issued under each EPA regulatory program for a given matrix/analyte/method combination. Continental is NELAP accredited for each matrix/analyte/method and EPA program cited in this Laboratory Report, except for those listed in the table below and analysis performed in the field. For most of the analyses listed in the table, NELAP accreditation is not offered under the listed EPA program and Continental is NELAP accredited for the analysis, using the same analytical technology, but under a different EPA program. Continental's full NELAP accreditation status may be viewed at www.kdheks.gov/envlab. Note that unless qualified otherwise in the Laboratory Report, Continental performs all analyses, including each analysis listed in the table below, utilizing NELAP protocol.

Test	Analysis	Matrix-Regulatory Program	Method	CAS NELAP Accredited in Other Reg. Program
GL343	Nitrogen (TKN + NO3/NO2), as N	L-NPDES	Calculation	N

Continental Analytical Services, Inc.

Quality Control Report
Batch Summary

Date Reported: 08/24/2011
Date Received: 08/10/2011
Continental File No: 8339
Continental Order No: 57849

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Test	Testname	QC Batch	Method Blank	LCS	MS Lab No.
GL218	Phosphorus, Total, as P	110816-1	110816BLK1	110816LCS1	11080374MS
Lab numbers associated with this batch: 11080679					
GL242	Solids, Total Dissolved	110811-1	110811BLK1	110811LCS1	11080533MS
Lab numbers associated with this batch: 11080679					
GL243	Solids, Total Suspended	110812-1	110812BLK1	110812LCS1	11080625MS
Lab numbers associated with this batch: 11080679					

Continental Analytical Services, Inc.

Quality Control Report
Batch Summary

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Reported: 08/24/2011
Date Received: 08/10/2011
Continental File No: 8339
Continental Order No: 57849

Test	Testname	QC Batch	Method Blank	LCS	MS Lab No.
SL323	Hardness (Calculated)	110812-4	110812BLK4	110812LCS4	11080684MS
Lab numbers associated with this batch: 11080679					
SL006	Cadmium, Tot. Rec., ICP-MS	110815-6	110815BLK6	110815LCS6	11080695MS
SL012	Copper, Tot. Rec., ICP-MS	110815-6	110815BLK6	110815LCS6	11080695MS
SL033	Zinc, Tot. Rec., ICP-MS	110815-6	110815BLK6	110815LCS6	11080695MS
Lab numbers associated with this batch: 11080679					
SL156	Cadmium, Dissolved, ICP-MS	110817-5	110817BLK5	110817LCS5	11080684MS
SL162	Copper, Dissolved, ICP-MS	110817-5	110817BLK5	110817LCS5	11080684MS
SL183	Zinc, Dissolved, ICP-MS	110817-5	110817BLK5	110817LCS5	11080684MS
Lab numbers associated with this batch: 11080679					
GL123	BOD	110811-1	110811BLK1	110811LCS1	11080702MS
Lab numbers associated with this batch: 11080679					
GL502	Chloride	1IC1223	BLK1IC1223	LCS1IC1223	11080697MS
Lab numbers associated with this batch: 11080679					
GL347	E. Coli	110810-1	110810BLK1	110810LCS1	11080608MS
Lab numbers associated with this batch: 11080679					
GL595	Kjeldahl Nitrogen, as N (TKN)	110812-1	110812BLK1	110812LCS1	11080719MS
Lab numbers associated with this batch: 11080679					
GL505	Nitrate, as N	1IC1223	BLK1IC1223	LCS1IC1223	
GL503	Nitrite, as N	1IC1223	BLK1IC1223	LCS1IC1223	
Lab numbers associated with this batch: 11080679					
GL343	Nitrogen (TKN + NO3/NO2), as N				
Lab numbers associated with this batch: 11080679					

Continental Analytical Services, Inc.

Quality Control Report
Method Blank, LCS, MS/MSD Data

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Reported: 08/24/2011
Date Received: 08/10/2011
Continental File No: 8339
Continental Order No: 57849

Analysis	Blank Data	% Rec LCS	Limits	Spike Level	Units	Spiked Sample (% Recovery) MS	MSD	Limits	Spike Level	Units	Spiked Sample Precision Data RPD	Limit
QC Batch: 110810-1	For sample analyzed on: 08/10/2011					Spiked sample: 11080608						
E. Coli	ND(1)	N/A			MPN/100M	MN	MN	#		MPN/100	**	105
QC Batch: 110811-2	For sample analyzed on: 08/11/2011					Spiked sample: 11080533						
Solids, Total Dissolved	ND(30)	N/A			mg/L	MN	MN	#		mg/L	**	5.2
QC Batch: 110811-1	For sample analyzed on: 08/11/2011					Spiked sample: 11080702						
BOD	ND(5)	91.7	70.5-110	198	mg/L	MN	MN	#		mg/L	**	13.2
QC Batch: 110812-1	For sample analyzed on: 08/12/2011					Spiked sample: 11080625						
Solids, Total Suspended	ND(5)	N/A			mg/L	MN	MN	#		mg/L	**	18.2
QC Batch: 110812-1	For samples prepared on: 08/12/2011					Spiked sample: 11080719						
Kjeldahl Nitrogen, as N (TKN)	ND(1.0)	110	#	4.0	mg/L	MN	MN	#	4.0	mg/L	**	8
QC Batch: 110812-4	For samples prepared on: 08/12/2011					Spiked sample: 11080684						
Hardness (Calculated)	ND(5.0)	98.1	80.0-120	337	mg/L a	MN	MN	80.0-120	337	mg/L as	**	20.0
QC Batch: 110815-6	For samples prepared on: 08/15/2011					Spiked sample: 11080695						
Cadmium, Tot. Rec., ICP-MS	ND(1)	96.8	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
Copper, Tot. Rec., ICP-MS	ND(5)	94.0	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
Zinc, Tot. Rec., ICP-MS	ND(20)	99.6	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
QC Batch: 110816-1	For sample analyzed on: 08/16/2011					Spiked sample: 11080374						
Phosphorus, Total, as P	ND(0.20)	97.3	90.0-110	2.0	mg/L	MN	MN	71.2-115	2.0	mg/L	**	21.2
QC Batch: 110817-5	For samples prepared on: 08/17/2011					Spiked sample: 11080684						
Cadmium, Dissolved, ICP-MS	ND(1)	93.2	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
Copper, Dissolved, ICP-MS	ND(3) J	87.4	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
Zinc, Dissolved, ICP-MS	ND(20)	96.8	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
QC Batch: 1IC1223	For sample analyzed on: 08/11/2011					Spiked sample:						
Nitrite, as N	ND(0.1)	107	90.0-110	2.0	mg/L	MN	MN	78.5-127			**	10.1
Nitrate, as N	0.08 J	101	90.0-110	2.0	mg/L	MN	MN	79.3-118			**	12.1
QC Batch: 1IC1223	For sample analyzed on: 08/11/2011					Spiked sample: 11080697						
Chloride	ND(1.0)	102	90.0-110	4.0	mg/L	MN	MN	82.1-126	80.0	mg/L	**	12.5

Data Qualifiers:
N/A - Not Applicable

MN - The MS/MSD sample analyses were not performed on a sample from this Continental order number.

J - The concentration or not detected (ND) value is below the Limit of Quantitation (LOQ) and is considered an estimated value.

- Limits not available.

** - RPD cannot be calculated.

Continental Analytical Services, Inc.

Quality Control Report
Continuing Calibration Verification Data Summary

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Reported: 08/24/2011
Date Received: 08/10/2011
Continental File No: 8339
Continental Order No: 57849

Analysis	Date of Analysis	Instrument Batch ID	Amount in Standard	Amount Detected	Units	Percent Recovery
Cadmium, Dissolved, ICP-MS	08/20/2011	1IP3232	CCV recovery acceptable for this Instrument Batch.			
Cadmium, Tot. Rec., ICP-MS	08/18/2011	2IP3230	CCV recovery acceptable for this Instrument Batch.			
Cadmium, Dissolved, ICP-MS	08/20/2011	2IP3232	CCV recovery acceptable for this Instrument Batch.			
Cadmium, Tot. Rec., ICP-MS	08/18/2011	3IP3230	CCV recovery acceptable for this Instrument Batch.			
Copper, Dissolved, ICP-MS	08/20/2011	1IP3232	CCV recovery acceptable for this Instrument Batch.			
Copper, Tot. Rec., ICP-MS	08/18/2011	2IP3230	CCV recovery acceptable for this Instrument Batch.			
Copper, Dissolved, ICP-MS	08/20/2011	2IP3232	CCV recovery acceptable for this Instrument Batch.			
Copper, Tot. Rec., ICP-MS	08/18/2011	3IP3230	CCV recovery acceptable for this Instrument Batch.			
BOD	08/11/2011	110811-1	CCV recovery acceptable for this Instrument Batch.			
BOD	08/11/2011	110811-2	CCV recovery acceptable for this Instrument Batch.			
Phosphorus, Total, as P	08/16/2011	110816-2	CCV recovery acceptable for this Instrument Batch.			
Phosphorus, Total, as P	08/16/2011	110816-3	CCV recovery acceptable for this Instrument Batch.			
Chloride	08/11/2011	2IC1223	CCV recovery acceptable for this Instrument Batch.			
Chloride	08/11/2011	3IC1223	CCV recovery acceptable for this Instrument Batch.			
Nitrite, as N	08/11/2011	2IC1223	CCV recovery acceptable for this Instrument Batch.			
Nitrite, as N	08/11/2011	3IC1223	CCV recovery acceptable for this Instrument Batch.			
Nitrate, as N	08/11/2011	2IC1223	CCV recovery acceptable for this Instrument Batch.			
Nitrate, as N	08/11/2011	3IC1223	CCV recovery acceptable for this Instrument Batch.			
Kjeldahl Nitrogen, as N (TKN)	08/15/2011	110815-1	CCV recovery acceptable for this Instrument Batch.			
Kjeldahl Nitrogen, as N (TKN)	08/15/2011	110815-2	CCV recovery acceptable for this Instrument Batch.			
Hardness (Calculated)	08/16/2011	15IP4227	CCV recovery acceptable for this Instrument Batch.			
Hardness (Calculated)	08/16/2011	16IP4227	CCV recovery acceptable for this Instrument Batch.			
Zinc, Dissolved, ICP-MS	08/20/2011	1IP3232	CCV recovery acceptable for this Instrument Batch.			
Zinc, Tot. Rec., ICP-MS	08/18/2011	2IP3230	CCV recovery acceptable for this Instrument Batch.			
Zinc, Dissolved, ICP-MS	08/20/2011	2IP3232	CCV recovery acceptable for this Instrument Batch.			
Zinc, Tot. Rec., ICP-MS	08/18/2011	3IP3230	CCV recovery acceptable for this Instrument Batch.			

- Laboratory Report Conclusion -

CAS ORDER NO. 5 7097

Continental Analytical Services, Inc.

525 N. 8th Street, Salina, KS 67401
(785)827-1273 (800)535-3076 Fax (785)823-7830
www.cas-lab.com

CHAIN OF CUSTODY RECORD

Continental Shipping Order Number: _____

Client/Reporting Information	Invoice Information
Company Name: City of Wichita Storm Water Management	Company Name: City of Wichita Storm Water Management
Address: City Hall, 8th Floor, 455 N. Main	Address: City Hall, 8th Floor, 455 N. Main
City: Wichita State: KS Zip: 67202	City: Wichita State: KS Zip: 67202
Contact: Jim Hardesty E-mail: Jhardesty@wichita.gov	Contact: Jim Hardesty E-mail: Jhardesty@wichita.go
Phone Number: (316)268-8317 Fax Number: (316)858-7889	Phone Number: (316)268-8317 Fax Number: (316)858-7889

Sampler's Name:(Printed): Justin Murphy
Sampler's Name:(Signature): [signature]
Purchase Order Number:
File Number: 8339
Project Name: Stormwater - UPSTREAM

SAMPLE IDENTIFICATION (30 Characters or less)	Matrix (Sample Type)	Regulatory Program	Date Sampled	Time Sampled	C-Composite G-Grab	Total Containers	Number of Preserved Bottles: HCL	NaOH	HNO3	H2SO4	NONE	OTHER:	Total Cadmium, Copper, Zinc 250mL Plastic - HNO3	Dissolved Cadmium, Copper, Zinc 250mL Plastic - None	Hardness, TSS, TDS, Cl, BOD, NO3, NO2, Tot. Nitrogen 1000mL Plastic - None	TKN, Total P 250mL Plastic - H2SO4	E.Coli				COMMENTS
Huntington Upstream	WW	N	8/10/2011	0820	G	5			1	1	3		X	X	X	X	X				

Discrepancies See C/S RF 8-18-11

Regulatory Program: N=NPDES, R=RCRA, D=Drinking Water, SL=503 Sludge, O=Other

(Please note if non-standard turnaround. Rush & Emergency subject to additional charge)
Standard TAT: (15 working days) Rush TAT: (5 working days) Emergency TAT: (3 working days)

Matrix (Sample Type): DW=Drinking Water, GW=Ground Water, WW=Waste Water, W=Wipe, S=Solid/Soil, SL=Sludge, A=Air, OL = Oil/Organic Liquid, O=Other

RELINQUISHED BY: [signature]	DATE: 8/10/11	TIME: 1400	RECEIVED BY:	DATE:	TIME:
RELINQUISHED BY: [signature]	DATE:	TIME:	RECEIVED BY:	DATE:	TIME:
RECEIVED AT LAB BY: [signature]	DATE: 8-10-11	TIME: 1640	SHIPPED VIA: / AIRBILL:	SEAL #: / SEAL DATE:	

Continental's Standard Terms and Conditions of Sale will apply to all samples received unless a separate contractual agreement has been made.

Continental Analytical Services, Inc.
Cooler/Sample Receipt Form (C/S RF)

CAS Order No.: 57849

Client Name: Wichita

CAS File No.: 8339

Sample ID's in cooler: See COC

Huntington

Cooler 1 of 1 for this CAS Order No.

Cooler Identification: CAS Cooler #: _____ / Client's Cooler / Box / Letter / Hand-delivered
Other: _____

Date/Time Cooler Received: 8 / 10 / 11 16 : 40

Delivered By: UPS / FedX / AB Express / Field Svcs / Mail / Walk-In / Other: _____

Custody Seal: Present: Intact / Broken Absent: X Seal No: _____

Seal Name: _____ Seal Date: _____

Seal matches Chain of Custody: Yes / No / N/A

Type of Packing Material: Blue Ice / Ice / Melted Ice / Bubble / Foam / Paper / Peanuts / Vermiculite / None / Other: _____

Cooler Temperature (°C): Original Reading (°C) 0.2 Corrected Reading (°C) 0.6

Temp. By: Temp. Blank Cooler Surface: Glass / Plastic /Metal /Other: _____

Thermo. ID No.: 585 Thermo. Correction Factor (°C): 0.4

☐ Evidence of Cooling and date received = date sampled

Sample Receipt Discrepancies: ☐ No ☒ Yes (See below for discrepancies.)

Note: If discrepancies are present, CAS will proceed with analyses until/unless directed otherwise by the client.

☐ Chain of Custody not present - information taken from:
Cover Letter ☐ Container ☐
PO ☐ CAS Proj. Mgr. ☐

☒ Container label absent

☐ Chain of Custody incomplete [see detail below]

☐ Chain of Custody missing date/time sampled (excl. TB or Dup.)

☐ Date or Time sampled obtained from container label

☐ Chain of Custody missing sampler's name

☐ Chain of Custody missing matrix (sample type)

☐ Missing relinquished information: *signature* *date* *time*

☐ Sample excluded from Chain of Custody

☐ Sample listed on Chain of Custody, not received

☐ Sample description on container and Chain of Custody do not agree

☐ Air bubbles in Aqueous VOA vials larger than pea-size [approx. 6 mm]

☐ Cooler temperature exceeded 0.1 - 6.0 °C requirement
[Do not mark if samples do not require cooling to 0.1 - 6.0 °C.]

☐ Broken or leaking containers (detail actions below)

☐ Sample container type or labeled chemical preservation inappropriate

☐ Other discrepancies: _____

Detail to discrepancies/comments: 2 - 250ml - not labeled

Completed by: mwr Date Completed: 8-10-11

Continental Analytical Services, Inc.

08/25/2011

City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date and Time Received: 08/10/2011 16:40
Continental File No.: 8339
Continental Order No.: 57858
Project ID: Stormwater

Dear Mr. Hardesty:

This laboratory report containing the samples indicated below, includes 9 pages for the analytical report, 1 page(s) for the chain of custody and/or analysis request, and 1 page(s) for the sample receipt form.

CAS LAB ID #	SAMPLE DESCRIPTION	SAMPLE TYPE	DATE SAMPLED
11080692	13th and River - Grab	Liquid	8/10/2011
11080693	13th and River - Composite	Liquid	8/10/2011

The Appendix and Quality Control sections are integral parts of this laboratory report and may contain important data qualifiers.

All results are reported on a wet weight basis unless otherwise stated.

Samples will be retained for thirty days unless Continental is otherwise notified.

Continental is accredited by the State of Kansas through the National Environmental Laboratory Accreditation Program (NELAP). The results contained in this report were obtained using Continental's Standard Operating Procedures. These procedures are in substantial compliance with the approved methods referenced and the standards published by NELAP unless otherwise noted in the Appendix and Quality Control sections of this report.

This report may not be reproduced, except in full, without written approval from Continental Analytical Services, Inc.

Thank you for choosing Continental for this project. If you have any questions please contact me at (800)535-3076.

CONTINENTAL ANALYTICAL SERVICES, INC.

Clifford J. Baker
Technical Manager

Gregory J. Groene
Project Manager

525 N. Eighth St. - P.O. Box 3737 - Salina, KS 67402-3737
785-827-1273 800-535-3076 Fax 785-823-7830

KDHE Environmental Laboratory Accreditation No. E-10146

Continental Analytical Services, Inc.

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Reported: 08/25/2011
Date Received: 08/10/2011
Continental File No: 8339
Continental Order No: 57858

Lab Number: 11080692
Sample Description: 13th and River - Grab

Date Sampled: 08/10/2011
Time Sampled: 1200

Analysis	Concentration	Units	Book/Page
Cadmium, Dissolved, ICP-MS	ND(1)	µg/L	7127/55
Cadmium, Tot. Rec., ICP-MS	ND(1)	µg/L	7127/54
Copper, Dissolved, ICP-MS	6	µg/L	7127/55
Copper, Tot. Rec., ICP-MS	13	µg/L	7127/54
Hardness (Calculated)	42.7	mg/L as CaCO3	7157/33
Zinc, Dissolved, ICP-MS	21	µg/L	7127/55
Zinc, Tot. Rec., ICP-MS	127	µg/L	7127/54
Chloride	3.8	mg/L	7107/107
E. Coli	>2420	MPN/100 mL	7057/338
Solids, Total Dissolved	64	mg/L	7059/441
Solids, Total Suspended	48	mg/L	7059/446

Analysis	Date/Time Prepared	Date/Time Analyzed	QC Batch	Inst. Batch	Analyst	Method(s)
Cadmium, Dissolved, ICP-MS	08/17/11 1253	08/20/11 1425	110817-5	2IP3232	KMW	200.8 Rev. 5.4
Cadmium, Tot. Rec., ICP-MS	08/15/11 1129	08/18/11 1503	110815-6	3IP3230	KMW	200.8 Rev. 5.4
Copper, Dissolved, ICP-MS	08/17/11 1253	08/20/11 1425	110817-5	2IP3232	KMW	200.8 Rev. 5.4
Copper, Tot. Rec., ICP-MS	08/15/11 1129	08/18/11 1503	110815-6	3IP3230	KMW	200.8 Rev. 5.4
Hardness (Calculated)	08/12/11 1227	08/16/11 0137	110812-4	16IP4227	KMW	200.7 & SM 2340F
Zinc, Dissolved, ICP-MS	08/17/11 1253	08/20/11 1425	110817-5	2IP3232	KMW	200.8 Rev. 5.4
Zinc, Tot. Rec., ICP-MS	08/15/11 1129	08/18/11 1503	110815-6	3IP3230	KMW	200.8 Rev. 5.4
Chloride	N/A	08/16/11 1509	1IC2228	1IC2228	MLL	300.0
E. Coli	N/A	08/10/11 1740	110810-1	110810-1	ASK	SM 9223B Colilert
Solids, Total Dissolved	N/A	08/12/11 1239	110812-1	110812-1	KJH	SM20th 2540C
Solids, Total Suspended	N/A	08/16/11 0941	110816-1	110816-1	KJH	SM20th 2540D
Dissolved Metals Preparation Method						200.7/200.8
Total Recoverable Metals Preparation Method						200.7/200.8
Calculated as Hardness Preparation Method						200.7/6010B

Conclusion of Lab Number: 11080692

Continental Analytical Services, Inc.

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Reported: 08/25/2011
Date Received: 08/10/2011
Continental File No: 8339
Continental Order No: 57858

Lab Number: 11080693
Sample Description: 13th and River - Composite

Date Sampled: 08/10/2011
Time Sampled: 1200

Analysis	Concentration	Units	Book/Page
Cadmium, Dissolved, ICP-MS	ND(1)	µg/L	7127/55
Cadmium, Tot. Rec., ICP-MS	ND(1)	µg/L	7127/54
Copper, Dissolved, ICP-MS	6	µg/L	7127/55
Copper, Tot. Rec., ICP-MS	12	µg/L	7127/54
Hardness (Calculated)	41.0	mg/L as CaCO3	7157/33
Zinc, Dissolved, ICP-MS	25	µg/L	7127/55
Zinc, Tot. Rec., ICP-MS	114	µg/L	7127/54
BOD	8	mg/L	7060/191
Chloride	3.9	mg/L	7129/48
Kjeldahl Nitrogen, as N (TKN)	1.3	mg/L	6854/249
Nitrate, as N	0.7 B	mg/L	7129/48
Nitrite, as N	ND(0.1)	mg/L	7129/48
Nitrogen (TKN + NO3/NO2), as N	2.0	mg/L	9999/281
Phosphorus, Total, as P	ND(0.20)	mg/L	7061/150
Solids, Total Dissolved	58	mg/L	7059/441
Solids, Total Suspended	21	mg/L	7059/446

Analysis	Date/Time Prepared	Date/Time Analyzed	QC Batch	Inst. Batch	Analyst	Method(s)
Cadmium, Dissolved, ICP-MS	08/17/11 1253	08/20/11 1431	110817-5	2IP3232	KMW	200.8 Rev. 5.4
Cadmium, Tot. Rec., ICP-MS	08/15/11 1129	08/18/11 1508	110815-6	3IP3230	KMW	200.8 Rev. 5.4
Copper, Dissolved, ICP-MS	08/17/11 1253	08/20/11 1431	110817-5	2IP3232	KMW	200.8 Rev. 5.4
Copper, Tot. Rec., ICP-MS	08/15/11 1129	08/18/11 1508	110815-6	3IP3230	KMW	200.8 Rev. 5.4
Hardness (Calculated)	08/12/11 1040	08/16/11 0142	110812-4	16IP4227	KMW	200.7 & SM 2340
Zinc, Dissolved, ICP-MS	08/17/11 1253	08/20/11 1431	110817-5	2IP3232	KMW	200.8 Rev. 5.4
Zinc, Tot. Rec., ICP-MS	08/15/11 1129	08/18/11 1508	110815-6	3IP3230	KMW	200.8 Rev. 5.4
BOD	N/A	08/11/11 1550	110811-1	110811-1	ASK	SM 5210B
Chloride	N/A	08/11/11 1655	1IC1223	3IC1223	MLL	300.0
Kjeldahl Nitrogen, as N (T	08/19/11 1731	08/22/11 1344	110819-1	110822-3	JND	EPA 351.2
Nitrate, as N	N/A	08/11/11 1655	1IC1223	3IC1223	MLL	300.0
Nitrite, as N	N/A	08/11/11 1655	1IC1223	3IC1223	MLL	300.0
Nitrogen (TKN + NO3/NO2),	N/A	08/25/11 1612				Calculation
Phosphorus, Total, as P	N/A	08/16/11 1428	110816-2	110816-3	KJH	SM 4500-P(B&F) (M
Solids, Total Dissolved	N/A	08/12/11 1239	110812-1	110812-1	KJH	SM20th 2540C
Solids, Total Suspended	N/A	08/16/11 0941	110816-1	110816-1	KJH	SM20th 2540D
Dissolved Metals Preparation Method						200.7/200.8
Total Recoverable Metals Preparation Method						200.7/200.8
Calculated as Hardness Preparation Method						200.7/6010B

Conclusion of Lab Number: 11080693

APPENDIX

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Reported: 08/25/2011
Date Received: 08/10/2011
Continental File No: 8339
Continental Order No: 57858

ND(), where reported, indicates the analyte was not detected above the limit of quantitation (LOQ). The concentration of the limit of quantitation is inside the parentheses.

All samples which require cooling were received at a temperature of less than 6 degrees Celsius.

The following table presents the date and time sampled, the date and time analyzed, and the total time elapsed for each analysis with an EPA recommended holding time of seventy-two hours or less.

CAS LAB ID #	ANALYSIS	DATE/TIME SAMPLED	DATE/TIME ANALYZED	ELAPSED HRS:MIN
11080692	E. Coli	08/10/2011 1200	08/10/2011 1740	5:40
11080693	BOD	08/10/2011 1200	08/11/2011 1550	27:50
11080693	Nitrate, as N	08/10/2011 1200	08/11/2011 1655	28:55
11080693	Nitrite, as N	08/10/2011 1200	08/11/2011 1655	28:55

B - Analyte is also present in the method blank or load blank at the concentration indicated either to the right of the letter B and/or in the enclosed Quality Control Report. The reported sample concentration has not been blank corrected.

Continental Analytical Services, Inc.

Date: 08/25/2011

Continental Analytical Services, Inc.
Accreditation Summary Report

Client: City of Wichita
CAS Order Number: 57858

NELAP accreditation is issued under each EPA regulatory program for a given matrix/analyte/method combination. Continental is NELAP accredited for each matrix/analyte/method and EPA program cited in this Laboratory Report, except for those listed in the table below and analysis performed in the field. For most of the analyses listed in the table, NELAP accreditation is not offered under the listed EPA program and Continental is NELAP accredited for the analysis, using the same analytical technology, but under a different EPA program. Continental's full NELAP accreditation status may be viewed at www.kdheks.gov/envlab. Note that unless qualified otherwise in the Laboratory Report, Continental performs all analyses, including each analysis listed in the table below, utilizing NELAP protocol.

Test	Analysis	Matrix-Regulatory Program	Method	CAS NELAP Accredited in Other Reg. Program
GL343	Nitrogen (TKN + NO3/NO2), as N	L-NPDES	Calculation	N

Continental Analytical Services, Inc.

Quality Control Report
Batch Summary

Date Reported: 08/25/2011
Date Received: 08/10/2011
Continental File No: 8339
Continental Order No: 57858

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Test	Testname	QC Batch	Method Blank	LCS	MS Lab No.
SL323	Hardness (Calculated)	110812-4	110812BLK4	110812LCS4	11080684MS
Lab numbers associated with this batch: 11080692 11080693					
SL006	Cadmium, Tot. Rec., ICP-MS	110815-6	110815BLK6	110815LCS6	11080695MS
SL012	Copper, Tot. Rec., ICP-MS	110815-6	110815BLK6	110815LCS6	11080695MS
SL033	Zinc, Tot. Rec., ICP-MS	110815-6	110815BLK6	110815LCS6	11080695MS
Lab numbers associated with this batch: 11080692 11080693					
SL156	Cadmium, Dissolved, ICP-MS	110817-5	110817BLK5	110817LCS5	11080684MS
SL162	Copper, Dissolved, ICP-MS	110817-5	110817BLK5	110817LCS5	11080684MS
SL183	Zinc, Dissolved, ICP-MS	110817-5	110817BLK5	110817LCS5	11080684MS
Lab numbers associated with this batch: 11080692 11080693					
GL123	BOD	110811-1	110811BLK1	110811LCS1	11080702MS
Lab numbers associated with this batch: 11080693					
GL502	Chloride	1IC1223	BLK1IC1223	LCS1IC1223	11080697MS
Lab numbers associated with this batch: 11080693					
GL502	Chloride	1IC2228	BLK1IC2228	LCS1IC2228	11081273MS
Lab numbers associated with this batch: 11080692					
GL347	E. Coli	110810-1	110810BLK1	110810LCS1	11080608MS
Lab numbers associated with this batch: 11080692					
GL595	Kjeldahl Nitrogen, as N (TKN)	110819-1	110819BLK1	110819LCS1	11081607MS
Lab numbers associated with this batch: 11080693					
GL505	Nitrate, as N	1IC1223	BLK1IC1223	LCS1IC1223	
GL503	Nitrite, as N	1IC1223	BLK1IC1223	LCS1IC1223	
Lab numbers associated with this batch: 11080693					

Continental Analytical Services, Inc.

Quality Control Report
Batch Summary

Date Reported: 08/25/2011
Date Received: 08/10/2011
Continental File No: 8339
Continental Order No: 57858

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Test	Testname	QC Batch	Method Blank	LCS	MS Lab No.
GL343	Nitrogen (TKN + NO3/NO2), as N				
Lab numbers associated with this batch: 11080693					
GL218	Phosphorus, Total, as P	110816-2	110816BLK2	110816LCS2	11080696MS
Lab numbers associated with this batch: 11080693					
GL242	Solids, Total Dissolved	110812-1	110812BLK1	110812LCS1	11080687MS
Lab numbers associated with this batch: 11080692 11080693					
GL243	Solids, Total Suspended	110816-1	110816BLK1	110816LCS1	11080686MS
Lab numbers associated with this batch: 11080692 11080693					

Continental Analytical Services, Inc.

Quality Control Report
Method Blank, LCS, MS/MSD Data

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Reported: 08/25/2011
Date Received: 08/10/2011
Continental File No: 8339
Continental Order No: 57858

Analysis	Blank Data	% Rec LCS	Limits	Spike Level	Units	Spiked Sample (% Recovery) MS	MSD	Limits	Spike Level	Units	Spiked Sample Precision Data RPD	Limit
QC Batch: 110810-1	For sample analyzed on: 08/10/2011					Spiked sample: 11080608						
E. Coli	ND(1)	N/A			MPN/100ML	MN	MN	#		MPN/100	**	105
QC Batch: 110811-1	For sample analyzed on: 08/11/2011					Spiked sample: 11080702						
BOD	ND(5)	91.7	70.5-110	198	mg/L	MN	MN	#		mg/L	**	13.2
QC Batch: 110812-1	For sample analyzed on: 08/12/2011					Spiked sample: 11080697						
Solids, Total Dissolved	ND(30)	N/A			mg/L	MN	MN	#		mg/L	**	5.2
QC Batch: 110812-4	For samples prepared on: 08/12/2011					Spiked sample: 11080684						
Hardness (Calculated)	ND(5.0)	98.1	80.0-120	337	mg/L as	MN	MN	80.0-120	337	mg/L as	**	20.0
QC Batch: 110815-6	For samples prepared on: 08/15/2011					Spiked sample: 11080695						
Cadmium, Tot. Rec., ICP-MS	ND(1)	96.8	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
Copper, Tot. Rec., ICP-MS	ND(5)	94.0	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
Zinc, Tot. Rec., ICP-MS	ND(20)	99.6	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
QC Batch: 110816-1	For sample analyzed on: 08/16/2011					Spiked sample: 11080686						
Solids, Total Suspended	ND(5)	N/A			mg/L	MN	MN	#		mg/L	**	18.2
QC Batch: 110816-2	For sample analyzed on: 08/16/2011					Spiked sample: 11080696						
Phosphorus, Total, as P	ND(0.20)	96.6	90.0-110	2.0	mg/L	MN	MN	71.2-135	2.0	mg/L	**	21.2
QC Batch: 110817-5	For samples prepared on: 08/17/2011					Spiked sample: 11080684						
Cadmium, Dissolved, ICP-MS	ND(1)	93.2	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
Copper, Dissolved, ICP-MS	ND(3) J	87.4	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
Zinc, Dissolved, ICP-MS	ND(20)	96.8	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
QC Batch: 110819-1	For samples prepared on: 08/19/2011					Spiked sample: 11081607						
Kjeldahl Nitrogen, as N (TKN)	ND(1.0)	119	#	4.0	mg/L	MN	MN	#	4.0	mg/L	**	#
QC Batch: 1IC1223	For sample analyzed on: 08/11/2011					Spiked sample:						
Nitrite, as N	ND(0.1)	107	90.0-110	2.0	mg/L	MN	MN	78.5-127			**	10.1
Nitrate, as N	0.08 J	101	90.0-110	2.0	mg/L	MN	MN	79.3-118			**	12.1
QC Batch: 1IC1223	For sample analyzed on: 08/11/2011					Spiked sample: 11080697						
Chloride	ND(1.0)	101	90.0-110	4.0	mg/L	MN	MN	82.1-126	80.0	mg/L	**	12.5
QC Batch: 1IC2228	For sample analyzed on: 08/16/2011					Spiked sample: 11081273						
Chloride	ND(1.0)	96.5	90.0-110	4.0	mg/L	MN	MN	82.1-126	80.0	mg/L	**	12.5

Data Qualifiers:
N/A - Not Applicable

MN - The MS/MSD sample analyses were not performed on a sample from this Continental order number.

J - The concentration or not detected (ND) value is below the Limit of Quantitation (LOQ) and is considered an estimated value.

- Limits not available.

** - RPD cannot be calculated.

Continental Analytical Services, Inc.

Quality Control Report

Continuing Calibration Verification Data Summary

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Reported: 08/25/2011
Date Received: 08/10/2011
Continental File No: 8339
Continental Order No: 57858

Analysis	Date of Analysis	Instrument Batch ID	Amount in Standard	Amount Detected	Units	Percent Recovery
Cadmium, Dissolved, ICP-MS	08/20/2011	2IP3232	CCV recovery acceptable for this Instrument Batch.			
Cadmium, Tot. Rec., ICP-MS	08/18/2011	3IP3230	CCV recovery acceptable for this Instrument Batch.			
Cadmium, Dissolved, ICP-MS	08/20/2011	3IP3232	CCV recovery acceptable for this Instrument Batch.			
Cadmium, Tot. Rec., ICP-MS	08/18/2011	4IP3230	CCV recovery acceptable for this Instrument Batch.			
Copper, Dissolved, ICP-MS	08/20/2011	2IP3232	CCV recovery acceptable for this Instrument Batch.			
Copper, Tot. Rec., ICP-MS	08/18/2011	3IP3230	CCV recovery acceptable for this Instrument Batch.			
Copper, Dissolved, ICP-MS	08/20/2011	3IP3232	CCV recovery acceptable for this Instrument Batch.			
Copper, Tot. Rec., ICP-MS	08/18/2011	4IP3230	CCV recovery acceptable for this Instrument Batch.			
BOD	08/11/2011	110811-1	CCV recovery acceptable for this Instrument Batch.			
BOD	08/11/2011	110811-2	CCV recovery acceptable for this Instrument Batch.			
Phosphorus, Total, as P	08/16/2011	110816-3	CCV recovery acceptable for this Instrument Batch.			
Phosphorus, Total, as P	08/16/2011	110816-4	CCV recovery acceptable for this Instrument Batch.			
Chloride	08/11/2011	3IC1223	CCV recovery acceptable for this Instrument Batch.			
Chloride	08/11/2011	4IC1223	CCV recovery acceptable for this Instrument Batch.			
Chloride	08/16/2011	1IC2228	CCV recovery acceptable for this Instrument Batch.			
Chloride	08/16/2011	2IC2228	CCV recovery acceptable for this Instrument Batch.			
Nitrite, as N	08/11/2011	3IC1223	CCV recovery acceptable for this Instrument Batch.			
Nitrite, as N	08/11/2011	4IC1223	CCV recovery acceptable for this Instrument Batch.			
Nitrate, as N	08/11/2011	3IC1223	CCV recovery acceptable for this Instrument Batch.			
Nitrate, as N	08/11/2011	4IC1223	CCV recovery acceptable for this Instrument Batch.			
Kjeldahl Nitrogen, as N (TKN)	08/22/2011	110822-3	CCV recovery acceptable for this Instrument Batch.			
Kjeldahl Nitrogen, as N (TKN)	08/22/2011	110822-4	CCV recovery acceptable for this Instrument Batch.			
Hardness (Calculated)	08/16/2011	16IP4227	CCV recovery acceptable for this Instrument Batch.			
Hardness (Calculated)	08/16/2011	17IP4227	CCV recovery acceptable for this Instrument Batch.			
Zinc, Dissolved, ICP-MS	08/20/2011	2IP3232	CCV recovery acceptable for this Instrument Batch.			
Zinc, Tot. Rec., ICP-MS	08/18/2011	3IP3230	CCV recovery acceptable for this Instrument Batch.			
Zinc, Dissolved, ICP-MS	08/20/2011	3IP3232	CCV recovery acceptable for this Instrument Batch.			
Zinc, Tot. Rec., ICP-MS	08/18/2011	4IP3230	CCV recovery acceptable for this Instrument Batch.			

- Laboratory Report Conclusion -

Continental Analytical Services, Inc.

525 N. 8th Street, Salina, KS 67401
(785)827-1273 (800)535-3076 Fax (785)823-7830
www.cas-lab.com

CAS ORDER NO. 57858

CHAIN OF CUSTODY RECORD

Continental Shipping Order Number: _____

Client/Reporting Information	Invoice Information
Company Name: of Wichita Storm Water Management	Company Name: City of Wichita Storm Water Management
Address: Hall, 8th Floor, 455 N. Main	Address: City Hall, 8th Floor, 455 N. Main
City: ita; State: KS; Zip: 67202	City: Wichita; State: KS; Zip: 67202
Contact: Hardesty; E-mail: Jhardesty@wichita.gov	Contact: Jim Hardesty; E-mail: Jhardesty@wichita.go
Phone Number: 268-8317; Fax Number: (316)858-7889	Phone Number: (316)268-8317; Fax Number: (316)858-7889
Sampler's Name:(Printed): Justin Murphy	Sampler's Name:(Signature):
Project Number: 9; Project Name: Stormwater	Purchase Order Number:

SAMPLE IDENTIFICATION (30 Characters or less)	Matrix (Sample Type)	Regulatory Program	Date Sampled	Time Sampled	C-Composite G-Grab	Total Containers	Number of Preserved Bottles: HCL	NaOH	HNO3	H2SO4	NONE	OTHER:	Cadmium, Copper, Zinc - Total Recoverable 250ml Plastic - HNO3	Hardness, TSS TDS, Cl, Diss. - Cd, Cu, Zn 1000ml Plastic - None	Total Metals, Dissolved Metals, Hardness, TSS, TDS, Cl, BOD, TKN, Total P, NO3, NO2, Tot. Nitrogen Large Carboy	E. Coli					COMMENTS
and River-Grab	WW	N	8/10/2011	1200	G	3			1		2		X	X		X					
and River-Composite	WW	N	8/10/2011	1200	C	1					1				X						5 Gal. Container to be poured off at lab as needed for required tests. Remaining volume will be saved for for organics if needed.

ulatory Program: N=NPDES, R=RCRA, D=Drinking Water, SL=503 Sludge, O=Other

(Please note if non-standard turnaround. Rush & Emergency subject to additional charge)
Standard TAT: (15 working days) Rush TAT: (5 working days) Emergency TAT: (3 working days)

rix (Sample Type): DW=Drinking Water, GW=Ground Water, WW=Waste Water, W=Wipe, S=Solid/Soil, SL=Sludge, A=Air, OL = Oil/Organic Liquid, O=Other

NQUISHED BY:	DATE: 8/10/11	TIME: 1400	RECEIVED BY:	DATE:	TIME:
NQUISHED BY:	DATE:	TIME:	RECEIVED BY:	DATE:	TIME:
IVED AT LAB BY:	DATE:	TIME:	SHIPPED VIA: / AIRBILL:	SEAL #: / SEAL DATE:	

Continental's Standard Terms and Conditions of Sale will apply to all samples received unless a separate contractual agreement has been made.

Continental Analytical Services, Inc.
Cooler/Sample Receipt Form (C/S RF)

CAS Order No.: 57858

Client Name: Wichita

CAS File No.: 8339

Sample ID's in cooler: See COC
River upstream

Cooler 1 of 1 for this CAS Order No.

Cooler Identification: CAS Cooler #: 3105 / Client's Cooler / Box / Letter / Hand-delivered
Other: _____

Date/Time Cooler Received: 8 / 10 / 17 16 : 40

Delivered By: UPS / FedX / AB Express / Field Svcs / Mail / Walk-In / Other: _____

Custody Seal: Present: Intact / Broken Absent: X Seal No: _____
Seal Name: _____ Seal Date: _____
Seal matches Chain of Custody: Yes / No / N/A

Type of Packing Material: Blue Ice / Ice / Melted Ice / Bubble / Foam / Paper / Peanuts / Vermiculite / None / Other: _____

Cooler Temperature (°C): Original Reading (°C) 0.2 Corrected Reading (°C) 0.6
Temp. By: Temp. Blank Cooler Surface: Glass / Plastic /Metal /Other: _____
Thermo. ID No.: 585 Thermo. Correction Factor (°C): 0.4

☐ Evidence of Cooling and date received = date sampled

Sample Receipt Discrepancies: ☒ No ☐ Yes (See below for discrepancies.)

Note: If discrepancies are present, CAS will proceed with analyses until/unless directed otherwise by the client.

☐ Chain of Custody not present - information taken from:
Cover Letter ☐ Container ☐
PO ☐ CAS Proj. Mgr. ☐
☐ Container label absent
☐ Chain of Custody incomplete [see detail below]
☐ Chain of Custody missing date/time sampled (excl. TB or Dup.)
☐ Date or Time sampled obtained from container label
☐ Chain of Custody missing sampler's name
☐ Chain of Custody missing matrix (sample type)
☐ Missing relinquished information: signature date time

☐ Sample excluded from Chain of Custody
☐ Sample listed on Chain of Custody, not received
☐ Sample description on container and Chain of Custody do not agree
☐ Air bubbles in Aqueous VOA vials larger than pea-size [approx. 6 mm]
☐ Cooler temperature exceeded 0.1 - 6.0 °C requirement
[Do not mark if samples do not require cooling to 0.1 - 6.0 °C.]
☐ Broken or leaking containers (detail actions below)
☐ Sample container type or labeled chemical preservation inappropriate
☐ Other discrepancies: _____

Detail to discrepancies/comments:

Completed by: [illegible] Date Completed: 8-10-17

Continental Analytical Services, Inc.

08/26/2011

City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date and Time Received: 08/10/2011 16:40
Continental File No.: 8339
Continental Order No.: 57850
Project ID: Stormwater

Dear Mr. Hardesty:

This laboratory report containing the samples indicated below, includes 9 pages for the analytical report, 1 page(s) for the chain of custody and/or analysis request, and 1 page(s) for the sample receipt form.

CAS LAB ID #	SAMPLE DESCRIPTION	SAMPLE TYPE	DATE SAMPLED
11080680	Huntington - Grab	Liquid	8/10/2011
11080681	Huntington - Composite	Liquid	8/10/2011

The Appendix and Quality Control sections are integral parts of this laboratory report and may contain important data qualifiers.

All results are reported on a wet weight basis unless otherwise stated.

Samples will be retained for thirty days unless Continental is otherwise notified.

Continental is accredited by the State of Kansas through the National Environmental Laboratory Accreditation Program (NELAP). The results contained in this report were obtained using Continental's Standard Operating Procedures. These procedures are in substantial compliance with the approved methods referenced and the standards published by NELAP unless otherwise noted in the Appendix and Quality Control sections of this report.

This report may not be reproduced, except in full, without written approval from Continental Analytical Services, Inc.

Thank you for choosing Continental for this project. If you have any questions please contact me at (800)535-3076.

CONTINENTAL ANALYTICAL SERVICES, INC.

Clifford J. Baker
Technical Manager

Gregory J. Groene
Project Manager

525 N. Eighth St. - P.O. Box 3737 - Salina, KS 67402-3737
785-827-1273 800-535-3076 Fax 785-823-7830

KDHE Environmental Laboratory Accreditation No. E-10146

Continental Analytical Services, Inc.

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Reported: 08/26/2011
Date Received: 08/10/2011
Continental File No: 8339
Continental Order No: 57850

Lab Number: 11080680
Sample Description: Huntington - Grab

Date Sampled: 08/10/2011
Time Sampled: 0820

Analysis	Concentration	Units	Book/Page
Cadmium, Dissolved, ICP-MS	ND(1)	µg/L	7127/55
Cadmium, Tot. Rec., ICP-MS	ND(1)	µg/L	7127/53
Copper, Dissolved, ICP-MS	ND(5)	µg/L	7127/55
Copper, Tot. Rec., ICP-MS	7	µg/L	7127/53
Hardness (Calculated)	26.6	mg/L as CaCO3	7157/33
Zinc, Dissolved, ICP-MS	ND(20)	µg/L	7127/55
Zinc, Tot. Rec., ICP-MS	29	µg/L	7127/53
Chloride	4.7	mg/L	7107/107
E. Coli	2420 HT	MPN/100 mL	7057/338
Hexane Extractable Material	ND(5.6) L	mg/L	7109/21
Solids, Total Dissolved	38	mg/L	7059/437
Solids, Total Suspended	19	mg/L	7059/443

Analysis	Date/Time Prepared	Date/Time Analyzed	QC Batch	Inst. Batch	Analyst	Method(s)
Cadmium, Dissolved, ICP-MS	08/17/11 1253	08/20/11 1256	110817-5	1IP3232	KMW	200.8 Rev. 5.4
Cadmium, Tot. Rec., ICP-MS	08/15/11 1129	08/18/11 1426	110815-6	2IP3230	KMW	200.8 Rev. 5.4
Copper, Dissolved, ICP-MS	08/17/11 1253	08/20/11 1256	110817-5	1IP3232	KMW	200.8 Rev. 5.4
Copper, Tot. Rec., ICP-MS	08/15/11 1129	08/18/11 1426	110815-6	2IP3230	KMW	200.8 Rev. 5.4
Hardness (Calculated)	08/12/11 1040	08/16/11 0025	110812-4	15IP4227	KMW	200.7 & SM 2340B
Zinc, Dissolved, ICP-MS	08/17/11 1253	08/20/11 1256	110817-5	1IP3232	KMW	200.8 Rev. 5.4
Zinc, Tot. Rec., ICP-MS	08/15/11 1129	08/18/11 1426	110815-6	2IP3230	KMW	200.8 Rev. 5.4
Chloride	N/A	08/16/11 1543	1IC2228	1IC2228	MLL	300.0
E. Coli	N/A	08/10/11 1740	110810-1	110810-1	ASK	SM 9223B Colilert
Hexane Extractable Materia	08/25/11	08/25/11 0938	110825-1	110825-1	JND	1664
Solids, Total Dissolved	N/A	08/11/11 1030	110811-1	110811-1	KJH	SM20th 2540C
Solids, Total Suspended	N/A	08/12/11 1456	110812-1	110812-1	KJH	SM20th 2540D
Dissolved Metals Preparation Method						200.7/200.8
Total Recoverable Metals Preparation Method						200.7/200.8
Calculated as Hardness Preparation Method						200.7/6010B
HEM Preparation Method						1664

Conclusion of Lab Number: 11080680

Continental Analytical Services, Inc.

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Reported: 08/26/2011
Date Received: 08/10/2011
Continental File No: 8339
Continental Order No: 57850

Lab Number: 11080681
Sample Description: Huntington - Composite

Date Sampled: 08/10/2011
Time Sampled: 0820

Analysis	Concentration	Units	Book/Page
Cadmium, Dissolved, ICP-MS	ND(1)	µg/L	7127/55
Cadmium, Tot. Rec., ICP-MS	ND(1)	µg/L	7127/53
Copper, Dissolved, ICP-MS	ND(5)	µg/L	7127/55
Copper, Tot. Rec., ICP-MS	8	µg/L	7127/53
Hardness (Calculated)	27.5	mg/L as CaCO3	7157/33
Zinc, Dissolved, ICP-MS	ND(20)	µg/L	7127/55
Zinc, Tot. Rec., ICP-MS	35	µg/L	7127/53
BOD	ND(5)	mg/L	7060/191
Chloride	4.8	mg/L	7129/48
Kjeldahl Nitrogen, as N (TKN)	ND(1.0)	mg/L	6854/240
Nitrate, as N	0.5 B	mg/L	7129/48
Nitrite, as N	ND(0.1)	mg/L	7129/48
Nitrogen (TKN + NO3/NO2), as N	ND(1.0)	mg/L	9999/247
Phosphorus, Total, as P	ND(0.20)	mg/L	7061/150
Solids, Total Dissolved	30.	mg/L	7059/437
Solids, Total Suspended	15	mg/L	7059/443

Analysis	Date/Time Prepared	Date/Time Analyzed	QC Batch	Inst. Batch	Analyst	Method(s)
Cadmium, Dissolved, ICP-MS	08/17/11 1253	08/20/11 1302	110817-5	1IP3232	KMW	200.8 Rev. 5.4
Cadmium, Tot. Rec., ICP-MS	08/15/11 1129	08/18/11 1349	110815-6	2IP3230	KMW	200.8 Rev. 5.4
Copper, Dissolved, ICP-MS	08/17/11 1253	08/20/11 1302	110817-5	1IP3232	KMW	200.8 Rev. 5.4
Copper, Tot. Rec., ICP-MS	08/15/11 1129	08/18/11 1349	110815-6	2IP3230	KMW	200.8 Rev. 5.4
Hardness (Calculated)	08/12/11 1040	08/16/11 0029	110812-4	15IP4227	KMW	200.7 & SM 2340B
Zinc, Dissolved, ICP-MS	08/17/11 1253	08/20/11 1302	110817-5	1IP3232	KMW	200.8 Rev. 5.4
Zinc, Tot. Rec., ICP-MS	08/15/11 1129	08/18/11 1349	110815-6	2IP3230	KMW	200.8 Rev. 5.4
BOD	N/A	08/11/11 1550	110811-1	110811-1	ASK	SM 5210B
Chloride	N/A	08/11/11 1258	1IC1223	2IC1223	MLL	300.0
Kjeldahl Nitrogen, as N (T	08/12/11 1241	08/15/11 1057	110812-1	110815-2	JND	EPA 351.2
Nitrate, as N	N/A	08/11/11 1258	1IC1223	2IC1223	MLL	300.0
Nitrite, as N	N/A	08/11/11 1258	1IC1223	2IC1223	MLL	300.0
Nitrogen (TKN + NO3/NO2),	N/A	08/15/11				Calculation
Phosphorus, Total, as P	N/A	08/16/11 1419	110816-1	110816-2	KJH	SM 4500-P(B&F)(M
Solids, Total Dissolved	N/A	08/11/11 1031	110811-1	110811-1	KJH	SM20th 2540C
Solids, Total Suspended	N/A	08/12/11 1456	110812-1	110812-1	KJH	SM20th 2540D
Dissolved Metals Preparation Method						200.7/200.8
Total Recoverable Metals Preparation Method						200.7/200.8
Calculated as Hardness Preparation Method						200.7/6010B

Conclusion of Lab Number: 11080681

Continental Analytical Services, Inc.

APPENDIX

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Reported: 08/26/2011
Date Received: 08/10/2011
Continental File No: 8339
Continental Order No: 57850

ND(), where reported, indicates the analyte was not detected above the limit of quantitation (LOQ). The concentration of the limit of quantitation is inside the parentheses.

All samples which require cooling were received at a temperature of less than 6 degrees Celsius.

The following table presents the date and time sampled, the date and time analyzed, and the total time elapsed for each analysis with an EPA recommended holding time of seventy-two hours or less.

CAS LAB ID #	ANALYSIS	DATE/TIME SAMPLED	DATE/TIME ANALYZED	ELAPSED HRS:MIN
11080680	E. Coli	08/10/2011 0820	08/10/2011 1740	9:20
11080681	BOD	08/10/2011 0820	08/11/2011 1550	31:30
11080681	Nitrate, as N	08/10/2011 0820	08/11/2011 1258	28:38
11080681	Nitrite, as N	08/10/2011 0820	08/11/2011 1258	28:38

HT - This sample exceeded the EPA maximum in transit holding time of six hours permitted for this analysis.

B - Analyte is also present in the method blank or load blank at the concentration indicated either to the right of the letter B and/or in the enclosed Quality Control Report. The reported sample concentration has not been blank corrected.

L - Reporting limit higher than normal due to limited sample volume available.

Continental Analytical Services, Inc.

Continental Analytical Services, Inc.
Accreditation Summary Report

Client: City of Wichita
CAS Order Number: 57850

NELAP accreditation is issued under each EPA regulatory program for a given matrix/analyte/method combination. Continental is NELAP accredited for each matrix/analyte/method and EPA program cited in this Laboratory Report, except for those listed in the table below and analysis performed in the field. For most of the analyses listed in the table, NELAP accreditation is not offered under the listed EPA program and Continental is NELAP accredited for the analysis, using the same analytical technology, but under a different EPA program. Continental's full NELAP accreditation status may be viewed at www.kdheks.gov/envlab. Note that unless qualified otherwise in the Laboratory Report, Continental performs all analyses, including each analysis listed in the table below, utilizing NELAP protocol.

Test	Analysis	Matrix-Regulatory Program	Method	CAS NELAP Accredited in Other Reg. Program
GL343	Nitrogen (TKN + NO3/NO2), as N	L-NPDES	Calculation	N

Continental Analytical Services, Inc.

Quality Control Report
Batch Summary

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Reported: 08/26/2011
Date Received: 08/10/2011
Continental File No: 8339
Continental Order No: 57850

Test	Testname	QC Batch	Method Blank	LCS	MS Lab No.
SL323	Hardness (Calculated)	110812-4	110812BLK4	110812LCS4	11080684MS
Lab numbers associated with this batch: 11080680 11080681					
SL006	Cadmium, Tot. Rec., ICP-MS	110815-6	110815BLK6	110815LCS6	11080695MS
SL012	Copper, Tot. Rec., ICP-MS	110815-6	110815BLK6	110815LCS6	11080695MS
SL033	Zinc, Tot. Rec., ICP-MS	110815-6	110815BLK6	110815LCS6	11080695MS
Lab numbers associated with this batch: 11080680 11080681					
SL156	Cadmium, Dissolved, ICP-MS	110817-5	110817BLK5	110817LCS5	11080684MS
SL162	Copper, Dissolved, ICP-MS	110817-5	110817BLK5	110817LCS5	11080684MS
SL183	Zinc, Dissolved, ICP-MS	110817-5	110817BLK5	110817LCS5	11080684MS
Lab numbers associated with this batch: 11080680 11080681					
GL123	BOD	110811-1	110811BLK1	110811LCS1	11080702MS
Lab numbers associated with this batch: 11080681					
GL502	Chloride	1IC1223	BLK1IC1223	LCS1IC1223	11080697MS
Lab numbers associated with this batch: 11080681					
GL502	Chloride	1IC2228	BLK1IC2228	LCS1IC2228	11081273MS
Lab numbers associated with this batch: 11080680					
GL347	E. Coli	110810-1	110810BLK1	110810LCS1	11080608MS
Lab numbers associated with this batch: 11080680					
GL188	Hexane Extractable Material	110825-1	110825BLK1	110825LCS1	11081987MS
Lab numbers associated with this batch: 11080680					
GL595	Kjeldahl Nitrogen, as N (TKN)	110812-1	110812BLK1	110812LCS1	11080719MS
Lab numbers associated with this batch: 11080681					
GL505	Nitrate, as N	1IC1223	BLK1IC1223	LCS1IC1223	
Lab numbers associated with this batch: 11080681					

Continental Analytical Services, Inc.

Quality Control Report
Batch Summary

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Page: 7
Date Reported: 08/26/2011
Date Received: 08/10/2011
Continental File No: 8339
Continental Order No: 57850

Test	Testname	QC Batch	Method Blank	LCS	MS Lab No.
GL503	Nitrite, as N	1IC1223	BLK1IC1223	LCS1IC1223	
Lab numbers associated with this batch: 11080681					
GL343	Nitrogen (TKN + NO3/NO2), as N				
Lab numbers associated with this batch: 11080681					
GL218	Phosphorus, Total, as P	110816-1	110816BLK1	110816LCS1	11080374MS
Lab numbers associated with this batch: 11080681					
GL242	Solids, Total Dissolved	110811-1	110811BLK1	110811LCS1	11080533MS
Lab numbers associated with this batch: 11080680 11080681					
GL243	Solids, Total Suspended	110812-1	110812BLK1	110812LCS1	11080625MS
Lab numbers associated with this batch: 11080680 11080681					

Continental Analytical Services, Inc.

Quality Control Report
Method Blank, LCS, MS/MSD Data

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Reported: 08/26/2011
Date Received: 08/10/2011
Continental File No: 8339
Continental Order No: 57850

Analysis	Blank Data	% Rec LCS	Limits	Spike Level	Units	Spiked Sample (% Recovery) MS	MSD	Limits	Spike Level	Units	Spiked Sample Precision Data RPD	Limit
QC Batch: 110810-1	For sample analyzed on: 08/10/2011					Spiked sample: 11080608						
E. Coli	ND(1)	N/A			MPN/100	MN	MN	#		MPN/100	**	105
QC Batch: 110811-1	For sample analyzed on: 08/11/2011					Spiked sample: 11080533						
Solids, Total Dissolved	ND(30)	N/A			mg/L	MN	MN	#		mg/L	**	5.2
QC Batch: 110811-1	For sample analyzed on: 08/11/2011					Spiked sample: 11080702						
BOD	ND(5)	91.7	70.5-110	198	mg/L	MN	MN	#		mg/L	**	13.2
QC Batch: 110812-1	For sample analyzed on: 08/12/2011					Spiked sample: 11080625						
Solids, Total Suspended	ND(5)	N/A			mg/L	MN	MN	#		mg/L	**	18.2
QC Batch: 110812-1	For samples prepared on: 08/12/2011					Spiked sample: 11080719						
Kjeldahl Nitrogen, as N (TKN)	ND(1.0)	110	#	4.0	mg/L	MN	MN	#	4.0	mg/L	**	#
QC Batch: 110812-4	For samples prepared on: 08/12/2011					Spiked sample: 11080684						
Hardness (Calculated)	ND(5.0)	98.1	80.0-120	337	mg/L a	MN	MN	80.0-120	337	mg/L as	**	20.0
QC Batch: 110815-6	For samples prepared on: 08/15/2011					Spiked sample: 11080695						
Cadmium, Tot. Rec., ICP-MS	ND(1)	96.8	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
Copper, Tot. Rec., ICP-MS	ND(5)	94.0	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
Zinc, Tot. Rec., ICP-MS	ND(20)	99.6	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
QC Batch: 110816-1	For sample analyzed on: 08/16/2011					Spiked sample: 11080374						
Phosphorus, Total, as P	ND(0.20)	97.3	90.0-110	2.0	mg/L	MN	MN	71.2-135	2.0	mg/L	**	21.2
QC Batch: 110817-5	For samples prepared on: 08/17/2011					Spiked sample: 11080684						
Cadmium, Dissolved, ICP-MS	ND(1)	93.2	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
Copper, Dissolved, ICP-MS	ND(3) J	87.4	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
Zinc, Dissolved, ICP-MS	ND(20)	96.8	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
QC Batch: 110825-1	For samples prepared on: 08/25/2011					Spiked sample: 11081987						
Hexane Extractable Material	ND(1.4)	93.5	78.0-114	40.0	mg/L	MN	MN	78.0-114	40.0	mg/L	**	18.0
QC Batch: IIC1223	For sample analyzed on: 08/11/2011					Spiked sample:						
Nitrite, as N	ND(0.1)	107	90.0-110	2.0	mg/L	MN	MN	78.5-127			**	10.1
Nitrate, as N	0.08 J	101	90.0-110	2.0	mg/L	MN	MN	79.3-118			**	12.1
QC Batch: IIC1223	For sample analyzed on: 08/11/2011					Spiked sample: 11080697						
Chloride	ND(1.0)	101	90.0-110	4.0	mg/L	MN	MN	82.1-126	80.0	mg/L	**	12.5
QC Batch: IIC2228	For sample analyzed on: 08/16/2011					Spiked sample: 11081273						
Chloride	ND(1.0)	96.5	90.0-110	4.0	mg/L	MN	MN	82.1-126	80.0	mg/L	**	12.5

Data Qualifiers:
N/A - Not Applicable

MN - The MS/MSD sample analyses were not performed on a sample from this Continental order number.

J - The concentration or not detected (ND) value is below the Limit of Quantitation (LOQ) and is considered an estimated value.

\# - Limits not available.

** - RPD cannot be calculated.

Continental Analytical Services, Inc.

Quality Control Report

Continuing Calibration Verification Data Summary

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Reported: 08/26/2011
Date Received: 08/10/2011
Continental File No: 8339
Continental Order No: 57850

Analysis	Date of Analysis	Instrument Batch ID	Amount in Standard	Amount Detected	Units	Percent Recovery
Cadmium, Dissolved, ICP-MS	08/20/2011	1IP3232	CCV recovery acceptable for this Instrument Batch.			
Cadmium, Tot. Rec., ICP-MS	08/18/2011	2IP3230	CCV recovery acceptable for this Instrument Batch.			
Cadmium, Dissolved, ICP-MS	08/20/2011	2IP3232	CCV recovery acceptable for this Instrument Batch.			
Cadmium, Tot. Rec., ICP-MS	08/18/2011	3IP3230	CCV recovery acceptable for this Instrument Batch.			
Copper, Dissolved, ICP-MS	08/20/2011	1IP3232	CCV recovery acceptable for this Instrument Batch.			
Copper, Tot. Rec., ICP-MS	08/18/2011	2IP3230	CCV recovery acceptable for this Instrument Batch.			
Copper, Dissolved, ICP-MS	08/20/2011	2IP3232	CCV recovery acceptable for this Instrument Batch.			
Copper, Tot. Rec., ICP-MS	08/18/2011	3IP3230	CCV recovery acceptable for this Instrument Batch.			
BOD	08/11/2011	110811-1	CCV recovery acceptable for this Instrument Batch.			
BOD	08/11/2011	110811-2	CCV recovery acceptable for this Instrument Batch.			
Hexane Extractable Material	08/25/2011	110825-1	CCV recovery acceptable for this Instrument Batch.			
Hexane Extractable Material	08/25/2011	110825-2	CCV recovery acceptable for this Instrument Batch.			
Phosphorus, Total, as P	08/16/2011	110816-2	CCV recovery acceptable for this Instrument Batch.			
Phosphorus, Total, as P	08/16/2011	110816-3	CCV recovery acceptable for this Instrument Batch.			
Chloride	08/11/2011	2IC1223	CCV recovery acceptable for this Instrument Batch.			
Chloride	08/11/2011	3IC1223	CCV recovery acceptable for this Instrument Batch.			
Chloride	08/16/2011	1IC2228	CCV recovery acceptable for this Instrument Batch.			
Chloride	08/16/2011	2IC2228	CCV recovery acceptable for this Instrument Batch.			
Nitrite, as N	08/11/2011	2IC1223	CCV recovery acceptable for this Instrument Batch.			
Nitrite, as N	08/11/2011	3IC1223	CCV recovery acceptable for this Instrument Batch.			
Nitrate, as N	08/11/2011	2IC1223	CCV recovery acceptable for this Instrument Batch.			
Nitrate, as N	08/11/2011	3IC1223	CCV recovery acceptable for this Instrument Batch.			
Kjeldahl Nitrogen, as N (TKN)	08/15/2011	110815-2	CCV recovery acceptable for this Instrument Batch.			
Kjeldahl Nitrogen, as N (TKN)	08/15/2011	110815-3	CCV recovery acceptable for this Instrument Batch.			
Hardness (Calculated)	08/16/2011	15IP4227	CCV recovery acceptable for this Instrument Batch.			
Hardness (Calculated)	08/16/2011	16IP4227	CCV recovery acceptable for this Instrument Batch.			
Zinc, Dissolved, ICP-MS	08/20/2011	1IP3232	CCV recovery acceptable for this Instrument Batch.			
Zinc, Tot. Rec., ICP-MS	08/18/2011	2IP3230	CCV recovery acceptable for this Instrument Batch.			
Zinc, Dissolved, ICP-MS	08/20/2011	2IP3232	CCV recovery acceptable for this Instrument Batch.			
Zinc, Tot. Rec., ICP-MS	08/18/2011	3IP3230	CCV recovery acceptable for this Instrument Batch.			

- Laboratory Report Conclusion -

Continental Analytical Services, Inc.

525 N. 8th Street, Salina, KS 67401
(785)827-1273 (800)535-3076 Fax (785)823-7830
www.cas-lab.com

CAS ORDER NO. 57850

CHAIN OF CUSTODY RECORD

Continental Shipping Order Number: _____

Client/Reporting Information		Invoice Information	
ıny Name: f Wichita Storm Water Management		Company Name: City of Wichita Storm Water Management	
ıs: Iall, 8th Floor, 455 N. Main		Address: City Hall, 8th Floor, 455 N. Main	
ta	State: KS / Zip: 67202	City: Wichita	State: KS / Zip: 67202
ct: ardesty	E-mail: Jhardesty@wichita.gov	Contact: Jim Hardesty	E-mail: Jhardesty@wichita.go
Number: 268-8317	Fax Number: (316)858-7889	Phone Number: (316)268-8317	Fax Number: (316)858-7889
er's Name:(Printed) Justin Murph	Sampler's Name:(Signature)	Purchase Order Number:	
umber:	Project Name: Stormwater		

SAMPLE IDENTIFICATION (30 Characters or less)	Matrix (Sample Type)	Regulatory Program	Date Sampled	Time Sampled	C-Composite G-Grab	Total Containers	Number of Preserved Bottles: HCL	NaOH	HNO3	H2SO4	NONE	OTHER:	Cadmium, Copper, Zinc - Total Recoverable 250ml Plastic - HNO3	Cadmium, Copper, Zinc - Dissolved, Hardness, TSS TDS, Cl 1000ml Plastic - None	Hexane Extractable Material 2 - 1000ml Amber Glass - H2SO4	Total Metals, Dissolved Metals, Hardness, TSS, TDS, Cl, BOD, TKN, Total P, NO3, NO2, Tot. Nitrogen Large Carboy	E. Coli				COMMENTS
rington-Grab	WW	N	8/10/2011	0820	G	5			1	2	2		X	X	X		X				
tington-Composite	WW	N	8/10/2011	0820	C	1					1					X					5 Gal. Container to be poured off at lab as needed for required tests. Remaining volume will be saved for for organics if needed.

Discrepancies See C/S RF 8-10-11

latory Program: N=NPDES, R=RCRA, D=Drinking Water, SL=503 Sludge, O=Other

(Please note if non-standard turnaround. Rush & Emergency subject to additional charge)
Standard TAT: (15 working days) Rush TAT: (3 working days) Emergency TAT: (3 working days)

ix (Sample Type): DW=Drinking Water, GW=Ground Water, WW=Waste Water, W=Wipe, S=Solid/Soil, SL=Sludge, A=Air, OL = Oil/Organic Liquid, O=Other

QUISHED BY:	DATE: 8/10/11	TIME: 1400	RECEIVED BY:	DATE:	TIME:
QUISHED BY:	DATE:	TIME:	RECEIVED BY:	DATE:	TIME:
VED AT LAB BY:	DATE: 8-10-11	TIME: 1640	SHIPPED VIA: / AIRBILL:	SEAL #: / SEAL DATE:	

Continental's Standard Terms and Conditions of Sale will apply to all samples received unless a separate contractual agreement has been made.

Continental Analytical Services, Inc.
Cooler/Sample Receipt Form (C/S RF)

CAS Order No.: 57850

Client Name: Wichita

CAS File No.: 8339

Sample ID's in cooler: See COC

Huntington

Cooler 1 of 1 for this CAS Order No.

Cooler Identification: CAS Cooler #: _____ / Client's Cooler / Box / Letter / Hand-delivered
Other: _____

Date/Time Cooler Received: 8 / 10 / 11 16 : 40

Delivered By: UPS / FedX / AB Express / Field Svcs / Mail / Walk-In / Other: _____

Custody Seal: Present: Intact / Broken Absent: X Seal No: _____
Seal Name: _____ Seal Date: _____
Seal matches Chain of Custody: Yes / No / N/A

Type of Packing Material: Blue Ice / Ice / Melted Ice / Bubble / Foam / Paper / Peanuts / Vermiculite / None / Other: _____

Cooler Temperature (°C): Original Reading (°C) 0.2 Corrected Reading (°C) 0.6
Temp. By: Temp. Blank Cooler Surface: Glass / Plastic /Metal /Other: _____
Thermo. ID No : 585 Thermo. Correction Factor (°C): 0.4

☐ Evidence of Cooling and date received = date sampled

Sample Receipt Discrepancies: ☐ No ☒ Yes (See below for discrepancies.)

Note: If discrepancies are present, CAS will proceed with analyses until/unless directed otherwise by the client.

- ☐ Chain of Custody not present - information taken from:
  - Cover Letter ☐ Container ☐
  - PO ☐ CAS Proj. Mgr. ☐
- ☒ Container label absent
- ☐ Chain of Custody incomplete [see detail below]
- ☐ Chain of Custody missing date/time sampled (excl. TB or Dup.)
- ☐ Date or Time sampled obtained from container label
- ☐ Chain of Custody missing sampler's name
- ☐ Chain of Custody missing matrix (sample type)
- ☐ Missing relinquished information: signature date time
- ☐ Sample excluded from Chain of Custody
- ☐ Sample listed on Chain of Custody, not received
- ☐ Sample description on container and Chain of Custody do not agree
- ☐ Air bubbles in Aqueous VOA vials larger than pea-size [approx. 6 mm]
- ☐ Cooler temperature exceeded 0.1 - 6.0 °C requirement [Do not mark if samples do not require cooling to 0.1 - 6.0 °C.]
- ☐ Broken or leaking containers (detail actions below)
- ☐ Sample container type or labeled chemical preservation inappropriate
- ☐ Other discrepancies: _____

Detail to discrepancies/comments: 2 - 250ml - not labeled

Completed by: Tomar Date Completed: 8-10-11

Continental
Analytical Services, Inc.

08/26/2011

City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date and Time Received: 08/10/2011 16:40
Continental File No.: 8339
Continental Order No.: 57852
Project ID: Stormwater

Dear Mr. Hardesty:

This laboratory report containing the samples indicated below, includes 9 pages for the analytical report, 1 page(s) for the chain of custody and/or analysis request, and 1 page(s) for the sample receipt form.

CAS LAB ID #	SAMPLE DESCRIPTION	SAMPLE TYPE	DATE SAMPLED
11080683	Town East - Grab	Liquid	8/10/2011
11080684	Town East - Composite	Liquid	8/10/2011

The Appendix and Quality Control sections are integral parts of this laboratory report and may contain important data qualifiers.

All results are reported on a wet weight basis unless otherwise stated.

Samples will be retained for thirty days unless Continental is otherwise notified.

Continental is accredited by the State of Kansas through the National Environmental Laboratory Accreditation Program (NELAP). The results contained in this report were obtained using Continental's Standard Operating Procedures. These procedures are in substantial compliance with the approved methods referenced and the standards published by NELAP unless otherwise noted in the Appendix and Quality Control sections of this report.

This report may not be reproduced, except in full, without written approval from Continental Analytical Services, Inc.

Thank you for choosing Continental for this project. If you have any questions please contact me at (800)535-3076.

CONTINENTAL ANALYTICAL SERVICES, INC.

Clifford J. Baker
Technical Manager

Gregory J. Groene
Project Manager

525 N. Eighth St. - P.O. Box 3737 - Salina, KS 67402-3737
785-827-1273 800-535-3076 Fax 785-823-7830

KDHE Environmental Laboratory Accreditation No. E-10146

Continental Analytical Services, Inc.

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Reported: 08/26/2011
Date Received: 08/10/2011
Continental File No: 8339
Continental Order No: 57852

Lab Number: 11080683
Sample Description: Town East - Grab

Date Sampled: 08/10/2011
Time Sampled: 0830

Analysis	Concentration	Units	Book/Page
Cadmium, Dissolved, ICP-MS	ND(1)	µg/L	7127/55
Cadmium, Tot. Rec., ICP-MS	ND(1)	µg/L	7127/53
Copper, Dissolved, ICP-MS	ND(5)	µg/L	7127/55
Copper, Tot. Rec., ICP-MS	ND(5)	µg/L	7127/53
Hardness (Calculated)	21.4	mg/L as CaCO3	7157/33
Zinc, Dissolved, ICP-MS	ND(20)	µg/L	7127/55
Zinc, Tot. Rec., ICP-MS	31	µg/L	7127/53
Chloride	3.4	mg/L	7107/107
E. Coli	>2420 HT	MPN/100 mL	7057/338
Hexane Extractable Material	ND(5.0)	mg/L	7109/21
Solids, Total Dissolved	52	mg/L	7059/437
Solids, Total Suspended	ND(5)	mg/L	7059/443

Analysis	Date/Time Prepared	Date/Time Analyzed	QC Batch	Inst. Batch	Analyst	Method(s)
Cadmium, Dissolved, ICP-MS	08/17/11 1253	08/20/11 1312	110817-5	1IP3232	KMW	200.8 Rev. 5.4
Cadmium, Tot. Rec., ICP-MS	08/15/11 1129	08/18/11 1400	110815-6	2IP3230	KMW	200.8 Rev. 5.4
Copper, Dissolved, ICP-MS	08/17/11 1253	08/20/11 1312	110817-5	1IP3232	KMW	200.8 Rev. 5.4
Copper, Tot. Rec., ICP-MS	08/15/11 1129	08/18/11 1400	110815-6	2IP3230	KMW	200.8 Rev. 5.4
Hardness (Calculated)	08/12/11 1040	08/16/11 0037	110812-4	15IP4227	KMW	200.7 & SM 2340B
Zinc, Dissolved, ICP-MS	08/17/11 1253	08/20/11 1312	110817-5	1IP3232	KMW	200.8 Rev. 5.4
Zinc, Tot. Rec., ICP-MS	08/15/11 1129	08/18/11 1400	110815-6	2IP3230	KMW	200.8 Rev. 5.4
Chloride	N/A	08/16/11 1636	1IC2228	2IC2228	MLL	300.0
E. Coli	N/A	08/10/11 1740	110810-1	110810-1	ASK	SM 9223B Colilier
Hexane Extractable Materia	08/25/11	08/25/11 0938	110825-1	110825-1	JND	1664
Solids, Total Dissolved	N/A	08/11/11 1032	110811-1	110811-1	KJH	SM20th 2540C
Solids, Total Suspended	N/A	08/12/11 1458	110812-1	110812-1	KJH	SM20th 2540D
Dissolved Metals Preparation Method						200.7/200.8
Total Recoverable Metals Preparation Method						200.7/200.8
Calculated as Hardness Preparation Method						200.7/6010B
HEM Preparation Method						1664

Conclusion of Lab Number: 11080683

Continental Analytical Services, Inc.

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Reported: 08/26/2011
Date Received: 08/10/2011
Continental File No: 8339
Continental Order No: 57852

Lab Number: 11080684
Sample Description: Town East - Composite

Date Sampled: 08/10/2011
Time Sampled: 0830

Analysis	Concentration	Units	Book/Page
Cadmium, Dissolved, ICP-MS	ND(1)	µg/L	7127/55
Cadmium, Tot. Rec., ICP-MS	ND(1)	µg/L	7127/53
Copper, Dissolved, ICP-MS	ND(5)	µg/L	7127/55
Copper, Tot. Rec., ICP-MS	ND(5)	µg/L	7127/53
Hardness (Calculated)	20.7	mg/L as CaCO3	7157/33
Zinc, Dissolved, ICP-MS	ND(20)	µg/L	7127/55
Zinc, Tot. Rec., ICP-MS	26	µg/L	7127/53
BOD	ND(5)	mg/L	7060/191
Chloride	3.1	mg/L	7129/48
Kjeldahl Nitrogen, as N (TKN)	ND(1.0)	mg/L	6854/240
Nitrate, as N	0.3 B	mg/L	7129/48
Nitrite, as N	ND(0.1)	mg/L	7129/48
Nitrogen (TKN + NO3/NO2), as N	ND(1.0)	mg/L	9999/247
Phosphorus, Total, as P	ND(0.20)	mg/L	7061/150
Solids, Total Dissolved	ND(30)	mg/L	7059/437
Solids, Total Suspended	ND(5)	mg/L	7059/443

Analysis	Date/Time Prepared	Date/Time Analyzed	QC Batch	Inst. Batch	Analyst	Method(s)
Cadmium, Dissolved, ICP-MS	08/17/11 1253	08/20/11 1317	110817-5	1IP3232	KMW	200.8 Rev. 5.4
Cadmium, Tot. Rec., ICP-MS	08/15/11 1129	08/18/11 1405	110815-6	2IP3230	KMW	200.8 Rev. 5.4
Copper, Dissolved, ICP-MS	08/17/11 1253	08/20/11 1317	110817-5	1IP3232	KMW	200.8 Rev. 5.4
Copper, Tot. Rec., ICP-MS	08/15/11 1129	08/18/11 1405	110815-6	2IP3230	KMW	200.8 Rev. 5.4
Hardness (Calculated)	08/12/11 1040	08/16/11 0042	110812-4	15IP4227	KMW	200.7 & SM 2340B
Zinc, Dissolved, ICP-MS	08/17/11 1253	08/20/11 1317	110817-5	1IP3232	KMW	200.8 Rev. 5.4
Zinc, Tot. Rec., ICP-MS	08/15/11 1129	08/18/11 1405	110815-6	2IP3230	KMW	200.8 Rev. 5.4
BOD	N/A	08/11/11 1550	110811-1	110811-1	ASK	SM 5210B
Chloride	N/A	08/11/11 1351	1IC1223	2IC1223	MLL	300.0
Kjeldahl Nitrogen, as N (T	08/12/11 1241	08/15/11 1101	110812-1	110815-2	JND	EPA 351.2
Nitrate, as N	N/A	08/11/11 1351	1IC1223	2IC1223	MLL	300.0
Nitrite, as N	N/A	08/11/11 1351	1IC1223	2IC1223	MLL	300.0
Nitrogen (TKN + NO3/NO2),	N/A	08/15/11				Calculation
Phosphorus, Total, as P	N/A	08/16/11 1422	110816-1	110816-3	KJH	SM 4500-P(B&F)(M
Solids, Total Dissolved	N/A	08/11/11 1032	110811-1	110811-1	KJH	SM20th 2540C
Solids, Total Suspended	N/A	08/12/11 1458	110812-1	110812-1	KJH	SM20th 2540D
Dissolved Metals Preparation Method						200.7/200.8
Total Recoverable Metals Preparation Method						200.7/200.8
Calculated as Hardness Preparation Method						200.7/6010B

Conclusion of Lab Number: 11080684

Continental Analytical Services, Inc.

APPENDIX

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Reported: 08/26/2011
Date Received: 08/10/2011
Continental File No: 8339
Continental Order No: 57852

ND(), where reported, indicates the analyte was not detected above the limit of quantitation (LOQ). The concentration of the limit of quantitation is inside the parentheses.

All samples which require cooling were received at a temperature of less than 6 degrees Celsius.

The following table presents the date and time sampled, the date and time analyzed, and the total time elapsed for each analysis with an EPA recommended holding time of seventy-two hours or less.

CAS LAB ID #	ANALYSIS	DATE/TIME SAMPLED	DATE/TIME ANALYZED	ELAPSED HRS:MIN
11080683	E. Coli	08/10/2011 0830	08/10/2011 1740	9:10
11080684	BOD	08/10/2011 0830	08/11/2011 1550	31:20
11080684	Nitrate, as N	08/10/2011 0830	08/11/2011 1351	29:21
11080684	Nitrite, as N	08/10/2011 0830	08/11/2011 1351	29:21

HT - This sample exceeded the EPA maximum in transit holding time of six hours permitted for this analysis.

B - Analyte is also present in the method blank or load blank at the concentration indicated either to the right of the letter B and/or in the enclosed Quality Control Report. The reported sample concentration has not been blank corrected.

Continental Analytical Services, Inc.

Continental Analytical Services, Inc.
Accreditation Summary Report

Client: City of Wichita
CAS Order Number: 57852

NELAP accreditation is issued under each EPA regulatory program for a given matrix/analyte/method combination. Continental is NELAP accredited for each matrix/analyte/method and EPA program cited in this Laboratory Report, except for those listed in the table below and analysis performed in the field. For most of the analyses listed in the table, NELAP accreditation is not offered under the listed EPA program and Continental is NELAP accredited for the analysis, using the same analytical technology, but under a different EPA program. Continental's full NELAP accreditation status may be viewed at www.kdheks.gov/envlab. Note that unless qualified otherwise in the Laboratory Report, Continental performs all analyses, including each analysis listed in the table below, utilizing NELAP protocol.

Test	Analysis	Matrix-Regulatory Program	Method	CAS NELAP Accredited in Other Reg. Program
GL343	Nitrogen (TKN + NO3/NO2), as N	L-NPDES	Calculation	N

Continental Analytical Services, Inc.

Quality Control Report
Batch Summary

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Reported: 08/26/2011
Date Received: 08/10/2011
Continental File No: 8339
Continental Order No: 57852

Test	Testname	QC Batch	Method Blank	LCS	MS Lab No.
SL323	Hardness (Calculated)	110812-4	110812BLK4	110812LCS4	11080684MS
Lab numbers associated with this batch: 11080683 11080684					
SL006	Cadmium, Tot. Rec., ICP-MS	110815-6	110815BLK6	110815LCS6	11080695MS
SL012	Copper, Tot. Rec., ICP-MS	110815-6	110815BLK6	110815LCS6	11080695MS
SL033	Zinc, Tot. Rec., ICP-MS	110815-6	110815BLK6	110815LCS6	11080695MS
Lab numbers associated with this batch: 11080683 11080684					
SL156	Cadmium, Dissolved, ICP-MS	110817-5	110817BLK5	110817LCS5	11080684MS
SL162	Copper, Dissolved, ICP-MS	110817-5	110817BLK5	110817LCS5	11080684MS
SL183	Zinc, Dissolved, ICP-MS	110817-5	110817BLK5	110817LCS5	11080684MS
Lab numbers associated with this batch: 11080683 11080684					
GL123	BOD	110811-1	110811BLK1	110811LCS1	11080702MS
Lab numbers associated with this batch: 11080684					
GL502	Chloride	1IC1223	BLK1IC1223	LCS1IC1223	11080697MS
Lab numbers associated with this batch: 11080684					
GL502	Chloride	1IC2228	BLK1IC2228	LCS1IC2228	11081273MS
Lab numbers associated with this batch: 11080683					
GL347	E. Coli	110810-1	110810BLK1	110810LCS1	11080608MS
Lab numbers associated with this batch: 11080683					
GL188	Hexane Extractable Material	110825-1	110825BLK1	110825LCS1	11081987MS
Lab numbers associated with this batch: 11080683					
GL595	Kjeldahl Nitrogen, as N (TKN)	110812-1	110812BLK1	110812LCS1	11080719MS
Lab numbers associated with this batch: 11080684					
GL505	Nitrate, as N	1IC1223	BLK1IC1223	LCS1IC1223	
Lab numbers associated with this batch: 11080684					

Continental Analytical Services, Inc.

Quality Control Report
Batch Summary

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Page: 7
Date Reported: 08/26/2011
Date Received: 08/10/2011
Continental File No: 8339
Continental Order No: 57852

Test	Testname	QC Batch	Method Blank	LCS	MS Lab No.
GL503	Nitrite, as N	1IC1223	BLK1IC1223	LCS1IC1223	
Lab numbers associated with this batch: 11080684					
GL343	Nitrogen (TKN + NO3/NO2), as N				
Lab numbers associated with this batch: 11080684					
GL218	Phosphorus, Total, as P	110816-1	110816BLK1	110816LCS1	11080374MS
Lab numbers associated with this batch: 11080684					
GL242	Solids, Total Dissolved	110811-1	110811BLK1	110811LCS1	11080533MS
Lab numbers associated with this batch: 11080683 11080684					
GL243	Solids, Total Suspended	110812-1	110812BLK1	110812LCS1	11080625MS
Lab numbers associated with this batch: 11080683 11080684					

Continental Analytical Services, Inc.

Quality Control Report
Method Blank, LCS, MS/MSD Data

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Reported: 08/26/2011
Date Received: 08/10/2011
Continental File No: 8339
Continental Order No: 57852

Analysis	Blank Data	% Rec LCS	Limits	Spike Level	Units	Spiked Sample (% Recovery) MS	MSD	Limits	Spike Level	Units	Spiked Sample Precision Data RPD	Limit
QC Batch: 110810-1	For sample analyzed on: 08/10/2011					Spiked sample: 11080608						
E. Coli	ND(1)	N/A			MPN/100ML	MN	MN	#		MPN/100	**	105
QC Batch: 110811-1	For sample analyzed on: 08/11/2011					Spiked sample: 11080533						
Solids, Total Dissolved	ND(30)	N/A			mg/L	MN	MN	#		mg/L	**	5.2
QC Batch: 110811-1	For sample analyzed on: 08/11/2011					Spiked sample: 11080702						
BOD	ND(5)	91.7	70.5-110	198	mg/L	MN	MN	#		mg/L	**	13.2
QC Batch: 110812-1	For sample analyzed on: 08/12/2011					Spiked sample: 11080625						
Solids, Total Suspended	ND(5)	N/A			mg/L	MN	MN	#		mg/L	**	18.2
QC Batch: 110812-1	For samples prepared on: 08/12/2011					Spiked sample: 11080719						
Kjeldahl Nitrogen, as N (TKN)	ND(1.0)	110	#	4.0	mg/L	MN	MN	#	4.0	mg/L	**	#
QC Batch: 110812-4	For samples prepared on: 08/12/2011					Spiked sample: 11080684						
Hardness (Calculated)	ND(5.0)	98.1	80.0-120	337	mg/L a	96.1	93.8	80.0-120	337	mg/L as	2.4	20.0
QC Batch: 110815-6	For samples prepared on: 08/15/2011					Spiked sample: 11080695						
Cadmium, Tot. Rec., ICP-MS	ND(1)	96.8	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
Copper, Tot. Rec., ICP-MS	ND(5)	94.0	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
Zinc, Tot. Rec., ICP-MS	ND(20)	99.6	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
QC Batch: 110816-1	For sample analyzed on: 08/16/2011					Spiked sample: 11080374						
Phosphorus, Total, as P	ND(0.20)	97.3	90.0-110	2.0	mg/L	MN	MN	71.2-135	2.0	mg/L	**	21.2
QC Batch: 110817-5	For samples prepared on: 08/17/2011					Spiked sample: 11080684						
Cadmium, Dissolved, ICP-MS	ND(1)	93.2	85.0-115	500	µg/L	91.9	91.2	80.0-120	500	µg/L	0.8	20.0
Copper, Dissolved, ICP-MS	ND(3) J	87.4	85.0-115	500	µg/L	87.6	86.4	80.0-120	500	µg/L	1.4	20.0
Zinc, Dissolved, ICP-MS	ND(20)	96.8	85.0-115	500	µg/L	95.7	95.2	80.0-120	500	µg/L	0.5	20.0
QC Batch: 110825-1	For samples prepared on: 08/25/2011					Spiked sample: 11081987						
Hexane Extractable Material	ND(1.4)	93.5	78.0-114	40.0	mg/L	MN	MN	78.0-114	40.0	mg/L	**	18.0
QC Batch: 1IC1223	For sample analyzed on: 08/11/2011					Spiked sample:						
Nitrite, as N	ND(0.1)	107	90.0-110	2.0	mg/L	MN	MN	78.5-127			**	10.1
Nitrate, as N	0.08 J	101	90.0-110	2.0	mg/L	MN	MN	79.3-118			**	12.1
QC Batch: 1IC1223	For sample analyzed on: 08/11/2011					Spiked sample: 11080697						
Chloride	ND(1.0)	101	90.0-110	4.0	mg/L	MN	MN	82.1-126	80.0	mg/L	**	12.5
QC Batch: 1IC2220	For sample analyzed on: 08/16/2011					Spiked sample: 11081273						
Chloride	ND(1.0)	96.5	90.0-110	4.0	mg/L	MN	MN	82.1-126	80.0	mg/L	**	12.5

Data Qualifiers:
N/A - Not Applicable

MN - The MS/MSD sample analyses were not performed on a sample from this Continental order number.

J - The concentration or not detected (ND) value is below the Limit of Quantitation (LOQ) and is considered an estimated value.

- Limits not available.

** - RPD cannot be calculated.

Continental Analytical Services, Inc.

Quality Control Report

Continuing Calibration Verification Data Summary

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Reported: 08/26/2011
Date Received: 08/10/2011
Continental File No: 8339
Continental Order No: 57852

Analysis	Date of Analysis	Instrument Batch ID	Amount in Standard	Amount Detected	Units	Percent Recovery
Cadmium, Dissolved, ICP-MS	08/20/2011	1IP3232	CCV recovery acceptable for this Instrument Batch.			
Cadmium, Tot. Rec., ICP-MS	08/18/2011	2IP3230	CCV recovery acceptable for this Instrument Batch.			
Cadmium, Dissolved, ICP-MS	08/20/2011	2IP3232	CCV recovery acceptable for this Instrument Batch.			
Cadmium, Tot. Rec., ICP-MS	08/18/2011	3IP3230	CCV recovery acceptable for this Instrument Batch.			
Copper, Dissolved, ICP-MS	08/20/2011	1IP3232	CCV recovery acceptable for this Instrument Batch.			
Copper, Tot. Rec., ICP-MS	08/18/2011	2IP3230	CCV recovery acceptable for this Instrument Batch.			
Copper, Dissolved, ICP-MS	08/20/2011	2IP3232	CCV recovery acceptable for this Instrument Batch.			
Copper, Tot. Rec., ICP-MS	08/18/2011	3IP3230	CCV recovery acceptable for this Instrument Batch.			
BOD	08/11/2011	110811-1	CCV recovery acceptable for this Instrument Batch.			
BOD	08/11/2011	110811-2	CCV recovery acceptable for this Instrument Batch.			
Hexane Extractable Material	08/25/2011	110825-1	CCV recovery acceptable for this Instrument Batch.			
Hexane Extractable Material	08/25/2011	110825-2	CCV recovery acceptable for this Instrument Batch.			
Phosphorus, Total, as P	08/16/2011	110816-3	CCV recovery acceptable for this Instrument Batch.			
Phosphorus, Total, as P	08/16/2011	110816-4	CCV recovery acceptable for this Instrument Batch.			
Chloride	08/11/2011	2IC1223	CCV recovery acceptable for this Instrument Batch.			
Chloride	08/11/2011	3IC1223	CCV recovery acceptable for this Instrument Batch.			
Chloride	08/16/2011	2IC2228	CCV recovery acceptable for this Instrument Batch.			
Chloride	08/16/2011	3IC2228	CCV recovery acceptable for this Instrument Batch.			
Nitrite, as N	08/11/2011	2IC1223	CCV recovery acceptable for this Instrument Batch.			
Nitrite, as N	08/11/2011	3IC1223	CCV recovery acceptable for this Instrument Batch.			
Nitrate, as N	08/11/2011	2IC1223	CCV recovery acceptable for this Instrument Batch.			
Nitrate, as N	08/11/2011	3IC1223	CCV recovery acceptable for this Instrument Batch.			
Kjeldahl Nitrogen, as N (TKN)	08/15/2011	110815-2	CCV recovery acceptable for this Instrument Batch.			
Kjeldahl Nitrogen, as N (TKN)	08/15/2011	110815-3	CCV recovery acceptable for this Instrument Batch.			
Hardness (Calculated)	08/16/2011	15IP4227	CCV recovery acceptable for this Instrument Batch.			
Hardness (Calculated)	08/16/2011	16IP4227	CCV recovery acceptable for this Instrument Batch.			
Zinc, Dissolved, ICP-MS	08/20/2011	1IP3232	CCV recovery acceptable for this Instrument Batch.			
Zinc, Tot. Rec., ICP-MS	08/18/2011	2IP3230	CCV recovery acceptable for this Instrument Batch.			
Zinc, Dissolved, ICP-MS	08/20/2011	2IP3232	CCV recovery acceptable for this Instrument Batch.			
Zinc, Tot. Rec., ICP-MS	08/18/2011	3IP3230	CCV recovery acceptable for this Instrument Batch.			

- Laboratory Report Conclusion -

Continental Analytical Services, Inc.
Cooler/Sample Receipt Form (C/S RF)

CAS Order No.: 57852

Client Name: Wichita

CAS File No.: 8339

Sample ID's in cooler: See COC

Towne East

Cooler 1 of 1 for this CAS Order No.

Cooler Identification: CAS Cooler #: _____ / Client's Cooler / Box / Letter / Hand-delivered
Other: _____

Date/Time Cooler Received: 8 / 10 / 11 16 : 40

Delivered By: UPS / FedX / AB Express / Field Svcs / Mail / Walk-In / Other: _____

Custody Seal: Present: Intact / Broken Absent: X Seal No: _____
Seal Name: _____ Seal Date: _____
Seal matches Chain of Custody: Yes / No / N/A

Type of Packing Material: Blue Ice / Ice / Melted Ice / Bubble / Foam / Paper / Peanuts / Vermiculite / None / Other: _____

Cooler Temperature (°C): Original Reading (°C) 1.6 Corrected Reading (°C) 2.0
Temp. By: Temp. Blank Cooler Surface: Glass / Plastic /Metal /Other: _____
Thermo. ID No.: 585 Thermo. Correction Factor (°C): 0.4

☐ Evidence of Cooling and date received = date sampled

Sample Receipt Discrepancies: ☒ No ☐ Yes (See below for discrepancies.)

Note: If discrepancies are present, CAS will proceed with analyses until/unless directed otherwise by the client.

- ☐ Chain of Custody not present - information taken from:
  - Cover Letter ☐ Container ☐
  - PO ☐ CAS Proj. Mgr. ☐
- ☐ Container label absent
- ☐ Chain of Custody incomplete [see detail below]
- ☐ Chain of Custody missing date/time sampled (excl. TB or Dup.)
- ☐ Date or Time sampled obtained from container label
- ☐ Chain of Custody missing sampler's name
- ☐ Chain of Custody missing matrix (sample type)
- ☐ Missing relinquished information: signature date time
- ☐ Sample excluded from Chain of Custody
- ☐ Sample listed on Chain of Custody, not received
- ☐ Sample description on container and Chain of Custody do not agree
- ☐ Air bubbles in Aqueous VOA vials larger than pea-size [approx. 6 mm]
- ☐ Cooler temperature exceeded 0.1 - 6.0 °C requirement [Do not mark if samples do not require cooling to 0.1 - 6.0 °C.]
- ☐ Broken or leaking containers (detail actions below)
- ☐ Sample container type or labeled chemical preservation inappropriate
- ☐ Other discrepancies: _____

Detail to discrepancies/comments:

Completed by: [illegible] Date Completed: 8-10-11

Continental Analytical Services, Inc.

525 N. 8th Street, Salina, KS 67401
(785)827-1273 (800)535-3076 Fax (785)823-7830
www.cas-lab.com

CAS ORDER NO 5 1059

CHAIN OF CUSTODY RECORD

Continental Shipping Order Number: _____

Client/Reporting Information		Invoice Information	
r Name: Wichita Storm Water Management		Company Name: City of Wichita Storm Water Management	
ll, 8th Floor, 455 N. Main		Address: City Hall, 8th Floor, 455 N. Main	
State: KS	Zip: 67202	City: Wichita	State: KS Zip: 67202
desty	E-mail: Jhardesty@wichita.gov	Contact: Jim Hardesty	E-mail: Jhardesty@wichita.go
mber: 8-8317	Fax Number: (316)858-7889	Phone Number: (316)268-8317	Fax Number: (316)858-7889
s Name:(Printed) Jim Murphy	Sampler's Name:(Signature)	Purchase Order Number:	
nber:	Project Name: Stormwater		

SAMPLE IDENTIFICATION (30 Characters or less)	Matrix (Sample Type)	Regulatory Program	Date Sampled	Time Sampled	C-Composite G-Grab	Total Containers	Number of Preserved Bottles: HCL	NaOH	HNO3	H2SO4	NONe	OTHER	Cadmium, Copper, Zinc - Total Recoverable 250ml Plastic - HNO3	Cadmium, Copper, Zinc - Dissolved, Hardness, TSS TDS, Cl 1000ml Plastic - None	Hexane Extractable Material 2 - 1000ml Amber Glass - H2SO4	Total Metals, Dissolved Metals, Hardness, TSS, TPO4, Cl, BOD, TKN, Total P, NO3, NO2, Tot. Nitrogen Large Carboy	E. Coli				COMMENTS
East-Grab	WW	N	8/10/2011	0830	G	5			1	2	2		X	X	X		X				5 Gal. Container to be poured off at lab
East-Composite	WW	N	8/10/2011	0830	C	1					1					X					as needed for required tests.
																					Remaining volume will be saved for
																					for organics if needed.

atory Program: N=NPDES, R=RCRA, D=Drinking Water, SL=503 Sludge, O=Other

(Please note if non-standard turnaround. Rush & Emergency subject to additional charge)
Standard TAT: (15 working days) Rush TAT: (5 working days) Emergency TAT: (3 working days)

x (Sample Type): DW=Drinking Water, GW=Ground Water, WW=Waste Water, W=Wipe, S=Solid/Soil, SL=Sludge, A=Air, OL = Oil/Organic Liquid, O=Other

QUISHED BY:	DATE: 8/10/11	TIME: 1400	RECEIVED BY:	DATE:	TIME:
QUISHED BY:	DATE:	TIME:	RECEIVED BY:	DATE:	TIME:
VED AT LAB BY:	DATE: 8-10-11	TIME: 1640	SHIPPED VIA: / AIRBILL:	SEAL #: / SEAL DATE:	

Continental's Standard Terms and Conditions of Sale will apply to all samples received unless a separate contractual agreement has been made.

C:\Documents and Settings\tmurphy\Local Settings\Temporary Internet Files\Content.Outlook\3FQHF8AQ\Wichita Stormwater.XLS00151

Continental
Analytical Services, Inc.

08/26/2011

City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date and Time Received: 08/10/2011 16:40
Continental File No.: 8339
Continental Order No.: 57854
Project ID: Stormwater

Dear Mr. Hardesty:

This laboratory report containing the samples indicated below, includes 10 pages for the analytical report, 1 page(s) for the chain of custody and/or analysis request, and 1 page(s) for the sample receipt form.

CAS LAB ID #	SAMPLE DESCRIPTION	SAMPLE TYPE	DATE SAMPLED
11080686	McLean - Grab	Liquid	8/10/2011
11080687	McLean - Composite	Liquid	8/10/2011

The Appendix and Quality Control sections are integral parts of this laboratory report and may contain important data qualifiers.

All results are reported on a wet weight basis unless otherwise stated.

Samples will be retained for thirty days unless Continental is otherwise notified.

Continental is accredited by the State of Kansas through the National Environmental Laboratory Accreditation Program (NELAP). The results contained in this report were obtained using Continental's Standard Operating Procedures. These procedures are in substantial compliance with the approved methods referenced and the standards published by NELAP unless otherwise noted in the Appendix and Quality Control sections of this report.

This report may not be reproduced, except in full, without written approval from Continental Analytical Services, Inc.

Thank you for choosing Continental for this project. If you have any questions please contact me at (800)535-3076.

CONTINENTAL ANALYTICAL SERVICES, INC.

Clifford J. Baker
Technical Manager

Gregory J. Groene
Project Manager

525 N. Eighth St. - P.O. Box 3737 - Salina, KS 67402-3737
785-827-1273 800-535-3076 Fax 785-823-7830
KDHE Environmental Laboratory Accreditation No. E-10146

Continental Analytical Services, Inc.

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Reported: 08/26/2011
Date Received: 08/10/2011
Continental File No: 8339
Continental Order No: 57854

Lab Number: 11080686
Sample Description: McLean - Grab

Date Sampled: 08/10/2011
Time Sampled: 0900

Analysis	Concentration	Units	Book/Page
Cadmium, Dissolved, ICP-MS	ND(1)	µg/L	7127/55
Cadmium, Tot. Rec., ICP-MS	2	µg/L	7127/53
Copper, Dissolved, ICP-MS	9	µg/L	7127/55
Copper, Tot. Rec., ICP-MS	15	µg/L	7127/53
Hardness (Calculated)	40.4	mg/L as CaCO3	7157/33
Zinc, Dissolved, ICP-MS	29	µg/L	7127/55
Zinc, Tot. Rec., ICP-MS	123	µg/L	7127/53
Chloride	2.3	mg/L	7107/107
E. Coli	>2420 HT	MPN/100 mL	7057/338
Hexane Extractable Material	ND(5.0)	mg/L	7109/21
Solids, Total Dissolved	54	mg/L	7059/437
Solids, Total Suspended	27 QC	mg/L	7059/446

Analysis	Date/Time Prepared	Date/Time Analyzed	QC Batch	Inst. Batch	Analyst	Method(s)
Cadmium, Dissolved, ICP-MS	08/17/11 1253	08/20/11 1354	110817-5	2IP3232	KMW	200.8 Rev. 5.4
Cadmium, Tot. Rec., ICP-MS	08/15/11 1129	08/18/11 1415	110815-6	2IP3230	KMW	200.8 Rev. 5.4
Copper, Dissolved, ICP-MS	08/17/11 1253	08/20/11 1354	110817-5	2IP3232	KMW	200.8 Rev. 5.4
Copper, Tot. Rec., ICP-MS	08/15/11 1129	08/18/11 1415	110815-6	2IP3230	KMW	200.8 Rev. 5.4
Hardness (Calculated)	08/12/11 1040	08/16/11 0112	110812-4	16IP4227	KMW	200.7 & SM 2340B
Zinc, Dissolved, ICP-MS	08/17/11 1253	08/20/11 1354	110817-5	2IP3232	KMW	200.8 Rev. 5.4
Zinc, Tot. Rec., ICP-MS	08/15/11 1129	08/18/11 1415	110815-6	2IP3230	KMW	200.8 Rev. 5.4
Chloride	N/A	08/16/11 1434	1IC2228	1IC2228	MLL	300.0
E. Coli	N/A	08/10/11 1740	110810-1	110810-1	ASK	SM 9223B Colilert
Hexane Extractable Materia	08/25/11	08/25/11 0938	110825-1	110825-1	JND	1664
Solids, Total Dissolved	N/A	08/11/11 1033	110811-1	110811-1	KJH	SM20th 2540C
Solids, Total Suspended	N/A	08/16/11 0939	110816-1	110816-1	KJH	SM20th 2540D
Dissolved Metals Preparation Method						200.7/200.8
Total Recoverable Metals Preparation Method						200.7/200.8
Calculated as Hardness Preparation Method						200.7/6010B
HEM Preparation Method						1664

Conclusion of Lab Number: 11080686

Continental Analytical Services, Inc.

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Reported: 08/26/2011
Date Received: 08/10/2011
Continental File No: 8339
Continental Order No: 57854

Lab Number: 11080687
Sample Description: McLean - Composite

Date Sampled: 08/10/2011
Time Sampled: 0900

Analysis	Concentration	Units	Book/Page
Cadmium, Dissolved, ICP-MS	ND(1)	µg/L	7127/55
Cadmium, Tot. Rec., ICP-MS	2	µg/L	7127/53
Copper, Dissolved, ICP-MS	7	µg/L	7127/55
Copper, Tot. Rec., ICP-MS	17	µg/L	7127/53
Hardness (Calculated)	40.5	mg/L as CaCO3	7157/33
Zinc, Dissolved, ICP-MS	27	µg/L	7127/55
Zinc, Tot. Rec., ICP-MS	124	µg/L	7127/53
BOD	ND(5)	mg/L	7060/191
Chloride	2.3	mg/L	7129/48
Kjeldahl Nitrogen, as N (TKN)	ND(1.0)	mg/L	6854/240
Nitrate, as N	0.6 B	mg/L	7129/48
Nitrite, as N	ND(0.1)	mg/L	7129/48
Nitrogen (TKN + NO3/NO2), as N	ND(1.0)	mg/L	9999/247
Phosphorus, Total, as P	ND(0.20)	mg/L	7061/150
Solids, Total Dissolved	56 QC	mg/L	7059/441
Solids, Total Suspended	15	mg/L	7059/446

Analysis	Date/Time Prepared	Date/Time Analyzed	QC Batch	Inst. Batch	Analyst	Method(s)
Cadmium, Dissolved, ICP-MS	08/17/11 1253	08/20/11 1359	110817-5	2IP3232	KMW	200.8 Rev. 5.4
Cadmium, Tot. Rec., ICP-MS	08/15/11 1129	08/18/11 1421	110815-6	2IP3230	KMW	200.8 Rev. 5.4
Copper, Dissolved, ICP-MS	08/17/11 1253	08/20/11 1359	110817-5	2IP3232	KMW	200.8 Rev. 5.4
Copper, Tot. Rec., ICP-MS	08/15/11 1129	08/18/11 1421	110815-6	2IP3230	KMW	200.8 Rev. 5.4
Hardness (Calculated)	08/12/11 1040	08/16/11 0116	110812-4	16IP4227	KMW	200.7 & SM 2340B
Zinc, Dissolved, ICP-MS	08/17/11 1253	08/20/11 1359	110817-5	2IP3232	KMW	200.8 Rev. 5.4
Zinc, Tot. Rec., ICP-MS	08/15/11 1129	08/18/11 1421	110815-6	2IP3230	KMW	200.8 Rev. 5.4
BOD	N/A	08/11/11 1550	110811-1	110811-1	ASK	SM 5210B
Chloride	N/A	08/11/11 1510	1IC1223	3IC1223	MLL	300.0
Kjeldahl Nitrogen, as N (T	08/12/11 1241	08/15/11 1106	110812-1	110815-2	JND	EPA 351.2
Nitrate, as N	N/A	08/11/11 1510	1IC1223	3IC1223	MLL	300.0
Nitrite, as N	N/A	08/11/11 1510	1IC1223	3IC1223	MLL	300.0
Nitrogen (TKN + NO3/NO2),	N/A	08/15/11				Calculation
Phosphorus, Total, as P	N/A	08/16/11 1423	110816-1	110816-3	KJH	SM 4500-P(B&F)(M
Solids, Total Dissolved	N/A	08/12/11 1236	110812-1	110812-1	KJH	SM20th 2540C
Solids, Total Suspended	N/A	08/16/11 0939	110816-1	110816-1	KJH	SM20th 2540D
Dissolved Metals Preparation Method						200.7/200.8
Total Recoverable Metals Preparation Method						200.7/200.8
Calculated as Hardness Preparation Method						200.7/6010B

Conclusion of Lab Number: 11080687

Continental Analytical Services, Inc.

APPENDIX

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Reported: 08/26/2011
Date Received: 08/10/2011
Continental File No: 8339
Continental Order No: 57854

ND(), where reported, indicates the analyte was not detected above the limit of quantitation (LOQ). The concentration of the limit of quantitation is inside the parentheses.

All samples which require cooling were received at a temperature of less than 6 degrees Celsius.

The following table presents the date and time sampled, the date and time analyzed, and the total time elapsed for each analysis with an EPA recommended holding time of seventy-two hours or less.

CAS LAB ID #	ANALYSIS	DATE/TIME SAMPLED	DATE/TIME ANALYZED	ELAPSED HRS:MIN
11080686	E. Coli	08/10/2011 0900	08/10/2011 1740	8:40
11080687	BOD	08/10/2011 0900	08/11/2011 1550	30:50
11080687	Nitrate, as N	08/10/2011 0900	08/11/2011 1510	30:10
11080687	Nitrite, as N	08/10/2011 0900	08/11/2011 1510	30:10

HT - This sample exceeded the EPA maximum in transit holding time of six hours permitted for this analysis.

B - Analyte is also present in the method blank or load blank at the concentration indicated either to the right of the letter B and/or in the enclosed Quality Control Report. The reported sample concentration has not been blank corrected.

QC - QC data qualifiers were noted. See the Quality Control Report.

Continental Analytical Services, Inc.

Continental Analytical Services, Inc.
Accreditation Summary Report

Client: City of Wichita
CAS Order Number: 57854

NELAP accreditation is issued under each EPA regulatory program for a given matrix/analyte/method combination. Continental is NELAP accredited for each matrix/analyte/method and EPA program cited in this Laboratory Report, except for those listed in the table below and analysis performed in the field. For most of the analyses listed in the table, NELAP accreditation is not offered under the listed EPA program and Continental is NELAP accredited for the analysis, using the same analytical technology, but under a different EPA program. Continental's full NELAP accreditation status may be viewed at www.kdheks.gov/envlab. Note that unless qualified otherwise in the Laboratory Report, Continental performs all analyses, including each analysis listed in the table below, utilizing NELAP protocol.

Test	Analysis	Matrix-Regulatory Program	Method	CAS NELAP Accredited in Other Reg. Program
GL343	Nitrogen (TKN + NO3/NO2), as N	L-NPDES	Calculation	N

Continental Analytical Services, Inc.

Quality Control Report
Batch Summary

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Reported: 08/26/2011
Date Received: 08/10/2011
Continental File No: 8339
Continental Order No: 57854

Test	Testname	QC Batch	Method Blank	LCS	MS Lab No.
SL323	Hardness (Calculated)	110812-4	110812BLK4	110812LCS4	11080684MS
Lab numbers associated with this batch: 11080686 11080687					
SL006	Cadmium, Tot. Rec., ICP-MS	110815-6	110815BLK6	110815LCS6	11080695MS
SL012	Copper, Tot. Rec., ICP-MS	110815-6	110815BLK6	110815LCS6	11080695MS
SL033	Zinc, Tot. Rec., ICP-MS	110815-6	110815BLK6	110815LCS6	11080695MS
Lab numbers associated with this batch: 11080686 11080687					
SL156	Cadmium, Dissolved, ICP-MS	110817-5	110817BLK5	110817LCS5	11080684MS
SL162	Copper, Dissolved, ICP-MS	110817-5	110817BLK5	110817LCS5	11080684MS
SL183	Zinc, Dissolved, ICP-MS	110817-5	110817BLK5	110817LCS5	11080684MS
Lab numbers associated with this batch: 11080686 11080687					
GL123	BOD	110811-1	110811BLK1	110811LCS1	11080702MS
Lab numbers associated with this batch: 11080687					
GL502	Chloride	1IC1223	BLK1IC1223	LCS1IC1223	11080697MS
Lab numbers associated with this batch: 11080687					
GL502	Chloride	1IC2228	BLK1IC2228	LCS1IC2228	11081273MS
Lab numbers associated with this batch: 11080686					
GL347	E. Coli	110810-1	110810BLK1	110810LCS1	11080608MS
Lab numbers associated with this batch: 11080686					
GL188	Hexane Extractable Material	110825-1	110825BLK1	110825LCS1	11081987MS
Lab numbers associated with this batch: 11080686					
GL595	Kjeldahl Nitrogen, as N (TKN)	110812-1	110812BLK1	110812LCS1	11080719MS
Lab numbers associated with this batch: 11080687					
GL505	Nitrate, as N	1IC1223	BLK1IC1223	LCS1IC1223	
Lab numbers associated with this batch: 11080687					

Continental Analytical Services, Inc.

Quality Control Report
Batch Summary

Date Reported: 08/26/2011
Date Received: 08/10/2011
Continental File No: 8339
Continental Order No: 57854

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Test	Testname	QC Batch	Method Blank	LCS	MS Lab No.
GL503	Nitrite, as N	1IC1223	BLK1IC1223	LCS1IC1223	
Lab numbers associated with this batch: 11080687					
GL343	Nitrogen (TKN + NO3/NO2), as N				
Lab numbers associated with this batch: 11080687					
GL218	Phosphorus, Total, as P	110816-1	110816BLK1	110816LCS1	11080374MS
Lab numbers associated with this batch: 11080687					
GL242	Solids, Total Dissolved	110811-1	110811BLK1	110811LCS1	11080533MS
Lab numbers associated with this batch: 11080686					
GL242	Solids, Total Dissolved	110812-1	110812BLK1	110812LCS1	11080687MS
Lab numbers associated with this batch: 11080687					
GL243	Solids, Total Suspended	110816-1	110816BLK1	110816LCS1	11080686MS
Lab numbers associated with this batch: 11080686 11080687					

Continental Analytical Services, Inc.

Quality Control Report
Method Blank, LCS, MS/MSD Data

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Reported: 08/26/2011
Date Received: 08/10/2011
Continental File No: 8339
Continental Order No: 57854

Analysis	Blank Data	% Rec LCS	Limits	Spike Level	Units	Spiked Sample (% Recovery) MS	MSD	Limits	Spike Level	Units	Spiked Sample Precision Data RPD	Limit
QC Batch: 110810-1	For sample analyzed on: 08/10/2011					Spiked sample: 11080608						
E. Coli	ND(1)	N/A			MPN/100ML	MN	MN	#		MPN/100	**	105
QC Batch: 110811-1	For sample analyzed on: 08/11/2011					Spiked sample: 11080533						
Solids, Total Dissolved	ND(30)	N/A			mg/L	MN	MN	#		mg/L	**	5.2
QC Batch: 110811-1	For sample analyzed on: 08/11/2011					Spiked sample: 11080702						
BOD	ND(5)	91.7	70.5-110	198	mg/L	MN	MN	#		mg/L	**	13.2
QC Batch: 110812-1	For sample analyzed on: 08/12/2011					Spiked sample: 11080687						
Solids, Total Dissolved	ND(30)	N/A			mg/L	56 T	46 T MP	#		mg/L	19.6	5.2
QC Batch: 110812-1	For samples prepared on: 08/12/2011					Spiked sample: 11080719						
Kjeldahl Nitrogen, as N (TKN)	ND(1.0)	110	#	4.0	mg/L	MN	MN	#	4.0	mg/L	**	#
QC Batch: 110812-4	For samples prepared on: 08/12/2011					Spiked sample: 11080684						
Hardness (Calculated)	ND(5.0)	98.1	80.0-120	337	mg/L a	MN	MN	80.0-120	337	mg/L as	**	20.0
QC Batch: 110815-6	For samples prepared on: 08/15/2011					Spiked sample: 11080695						
Cadmium, Tot. Rec., ICP-MS	ND(1)	96.8	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
Copper, Tot. Rec., ICP-MS	ND(5)	94.0	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
Zinc, Tot. Rec., ICP-MS	ND(20)	99.6	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
QC Batch: 110816-1	For sample analyzed on: 08/16/2011					Spiked sample: 11080374						
Phosphorus, Total, as P	ND(0.20)	97.3	90.0-110	2.0	mg/L	MN	MN	71.2-135	2.0	mg/L	**	21.2
QC Batch: 110816-1	For sample analyzed on: 08/16/2011					Spiked sample: 11080686						
Solids, Total Suspended	ND(5)	N/A			mg/L	27 T	35 T MP	#		mg/L	28.6	18.2
QC Batch: 110817-5	For samples prepared on: 08/17/2011					Spiked sample: 11080684						
Cadmium, Dissolved, ICP-MS	ND(1)	93.2	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
Copper, Dissolved, ICP-MS	ND(3) J	87.4	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
Zinc, Dissolved, ICP-MS	ND(20)	96.8	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
QC Batch: 110825-1	For samples prepared on: 08/25/2011					Spiked sample: 11081987						
Hexane Extractable Material	ND(1.4)	93.5	78.0-114	40.0	mg/L	MN	MN	78.0-114	40.0	mg/L	**	18.0
QC Batch: 1IC1223	For sample analyzed on: 08/11/2011					Spiked sample:						
Nitrite, as N	ND(0.1)	107	90.0-110	2.0	mg/L	MN	MN	78.5-127			**	10.1
Nitrate, as N	0.08 J	101	90.0-110	2.0	mg/L	MN	MN	79.3-118			**	12.1
QC Batch: 1IC1223	For sample analyzed on: 08/11/2011					Spiked sample: 11080697						
Chloride	ND(1.0)	101	90.0-110	4.0	mg/L	MN	MN	82.1-126	80.0	mg/L	**	12.5
QC Batch: 1IC2228	For sample analyzed on: 08/16/2011					Spiked sample: 11081273						
Chloride	ND(1.0)	96.5	90.0-110	4.0	mg/L	MN	MN	82.1-126	80.0	mg/L	**	12.5

Data Qualifiers:
N/A - Not Applicable

MN - The MS/MSD sample analyses were not performed on a sample from this Continental order number.

T - MS/MSD cannot be performed for this analysis. The MS result is the same as the sample result. The MSD result is a duplicate of the sample.

Continental Analytical Services, Inc.

Quality Control Report
Method Blank, LCS, MS/MSD Data

Date Reported: 08/26/2011
Date Received: 08/10/2011
Continental File No: 8339
Continental Order No: 57854

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Analysis	Blank Data	% Rec LCS	Limits	Spike Level	Units	Spiked Sample (% Recovery) MS	MSD	Limits	Spike Level	Units	Spiked Sample Precision Data RPD	Limit

MP - The MS/MSD recoveries for this analyte exceeded the method or laboratory precision control limit. The reported sample concentration is estimated.

J - The concentration or not detected (ND) value is below the Limit of Quantitation (LOQ) and is considered an estimated value.

\# - Limits not available.

** - RPD cannot be calculated.

Continental Analytical Services, Inc.

Quality Control Report

Continuing Calibration Verification Data Summary

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Reported: 08/26/2011
Date Received: 08/10/2011
Continental File No: 8339
Continental Order No: 57854

Analysis	Date of Analysis	Instrument Batch ID	Amount in Standard	Amount Detected	Units	Percent Recovery
Cadmium, Tot. Rec., ICP-MS	08/18/2011	2IP3230	CCV recovery acceptable for this Instrument Batch.			
Cadmium, Dissolved, ICP-MS	08/20/2011	2IP3232	CCV recovery acceptable for this Instrument Batch.			
Cadmium, Tot. Rec., ICP-MS	08/18/2011	3IP3230	CCV recovery acceptable for this Instrument Batch.			
Cadmium, Dissolved, ICP-MS	08/20/2011	3IP3232	CCV recovery acceptable for this Instrument Batch.			
Copper, Tot. Rec., ICP-MS	08/18/2011	2IP3230	CCV recovery acceptable for this Instrument Batch.			
Copper, Dissolved, ICP-MS	08/20/2011	2IP3232	CCV recovery acceptable for this Instrument Batch.			
Copper, Tot. Rec., ICP-MS	08/18/2011	3IP3230	CCV recovery acceptable for this Instrument Batch.			
Copper, Dissolved, ICP-MS	08/20/2011	3IP3232	CCV recovery acceptable for this Instrument Batch.			
BOD	08/11/2011	110811-1	CCV recovery acceptable for this Instrument Batch.			
BOD	08/11/2011	110811-2	CCV recovery acceptable for this Instrument Batch.			
Hexane Extractable Material	08/25/2011	110825-1	CCV recovery acceptable for this Instrument Batch.			
Hexane Extractable Material	08/25/2011	110825-2	CCV recovery acceptable for this Instrument Batch.			
Phosphorus, Total, as P	08/16/2011	110816-3	CCV recovery acceptable for this Instrument Batch.			
Phosphorus, Total, as P	08/16/2011	110816-4	CCV recovery acceptable for this Instrument Batch.			
Chloride	08/11/2011	3IC1223	CCV recovery acceptable for this Instrument Batch.			
Chloride	08/11/2011	4IC1223	CCV recovery acceptable for this Instrument Batch.			
Chloride	08/16/2011	1IC2228	CCV recovery acceptable for this Instrument Batch.			
Chloride	08/16/2011	2IC2228	CCV recovery acceptable for this Instrument Batch.			
Nitrite, as N	08/11/2011	3IC1223	CCV recovery acceptable for this Instrument Batch.			
Nitrite, as N	08/11/2011	4IC1223	CCV recovery acceptable for this Instrument Batch.			
Nitrate, as N	08/11/2011	3IC1223	CCV recovery acceptable for this Instrument Batch.			
Nitrate, as N	08/11/2011	4IC1223	CCV recovery acceptable for this Instrument Batch.			
Kjeldahl Nitrogen, as N (TKN)	08/15/2011	110815-2	CCV recovery acceptable for this Instrument Batch.			
Kjeldahl Nitrogen, as N (TKN)	08/15/2011	110815-3	CCV recovery acceptable for this Instrument Batch.			
Hardness (Calculated)	08/16/2011	16IP4227	CCV recovery acceptable for this Instrument Batch.			
Hardness (Calculated)	08/16/2011	17IP4227	CCV recovery acceptable for this Instrument Batch.			
Zinc, Tot. Rec., ICP-MS	08/18/2011	2IP3230	CCV recovery acceptable for this Instrument Batch.			
Zinc, Dissolved, ICP-MS	08/20/2011	2IP3232	CCV recovery acceptable for this Instrument Batch.			
Zinc, Tot. Rec., ICP-MS	08/18/2011	3IP3230	CCV recovery acceptable for this Instrument Batch.			
Zinc, Dissolved, ICP-MS	08/20/2011	3IP3232	CCV recovery acceptable for this Instrument Batch.			

- Laboratory Report Conclusion -

Continental Analytical Services, Inc.

525 N. 8th Street, Salina, KS 67401
(785)827-1273 (800)535-3076 Fax (785)823-7830
www.cas-lab.com

CAS ORDER NO 57854
CHAIN OF CUSTODY RECORD

Continental Shipping Order Number: _____

Client/Reporting Information			Invoice Information		
ny Name: f Wichita Storm Water Management			Company Name: City of Wichita Storm Water Management		
ss: Hall, 8th Floor, 455 N. Main			Address: City Hall, 8th Floor, 455 N. Main		
ta	State: KS	Zip: 67202	City: Wichita	State: KS	Zip: 67202
t: ardesty	E-mail: Jhardesty@wichita.gov		Contact: Jim Hardesty	E-mail: Jhardesty@wichita.go	
Number: 68-8317	Fax Number: (316)858-7889		Phone Number: (316)268-8317	Fax Number: (316)858-7889	
er's Name:(Printed) ustin M-M	Sampler's Name:(Signature)		Purchase Order Number:		
umber:	Project Name: Stormwater				

SAMPLE IDENTIFICATION (30 Characters or less)	Matrix (Sample Type)	Regulatory Program	Date Sampled	Time Sampled	C-Composite G-Grab	Total Containers	Number of Preserved Bottles: HCL	NaOH	HNO3	H2SO4	NONE	OTHER	Cadmium, Copper, Zinc - Total Recoverable 250ml Plastic - HNO3	Cadmium, Copper, Zinc - Dissolved, Hardness, TSS TDS, Cl 1000ml Plastic - None	Hexane Extractable Material 2 - 1000ml Amber Glass - H2SO4	Total Metals, Dissolved Metals, Hardness, TSS, TDS, Cl, BOD, TKN, Total P, NO3, NO2, Tot. Nitrogen Large Carboy	E.Coli				COMMENTS
an-Grab	WW	N	8/10/2011	0900	G	5			1	2	2		X	X	X		X				
an-Composite	WW	N	8/10/2011	0900	C	1					1					X					5 Gal. Container to be poured off at lab
																					as needed for required tests.
																					Remaining volume will be saved for
																					for organics if needed.

latory Program: N=NPDES, R=RCRA, D=Drinking Water, SL=503 Sludge, O=Other

(Please note if non-standard turnaround. Rush & Emergency subject to additional charge)
Standard TAT: (15 working days) Rush TAT: (5 working days) Emergency TAT: (3 working days)

x (Sample Type): DW=Drinking Water, GW=Ground Water, WW=Waste Water, W=Wipe, S=Solid/Soil, SL=Sludge, A=Air, OL = Oil/Organic Liquid, O=Other

QUISHED BY:	DATE: 8/10/11	TIME: 1400	RECEIVED BY:	DATE:	TIME:
QUISHED BY:	DATE:	TIME:	RECEIVED BY:	DATE:	TIME:
VED AT LAB BY:	DATE: 8/10/11	TIME: 1640	SHIPPED VIA: / AIRBILL:	SEAL #: / SEAL DATE:	

Continental's Standard Terms and Conditions of Sale will apply to all samples received unless a separate contractual agreement has been made.

C:\Documents and Settings\

Continental Analytical Services, Inc.
Cooler/Sample Receipt Form (C/S RF)

CAS Order No.: S7884

Client Name: Wichita

CAS File No.: 8339

Sample ID's in cooler: See COC
Melvin

Cooler 1 of 1 for this CAS Order No.

Cooler Identification: CAS Cooler #: _____ / Client's Cooler / Box / Letter / Hand-delivered
Other: _____

Date/Time Cooler Received: 8 / 10 / 11 16 : 40

Delivered By: UPS / FedX / AB Express / Field Svcs / Mail / Walk-In / Other: _____

Custody Seal: Present: Intact / Broken Absent: X Seal No: _____
Seal Name: _____ Seal Date: _____
Seal matches Chain of Custody: Yes / No / N/A

Type of Packing Material: Blue Ice / Ice / Melted Ice / Bubble / Foam / Paper / Peanuts / Vermiculite / None / Other: _____

Cooler Temperature (°C): Original Reading (°C) 0.8 Corrected Reading (°C) 1.2
MY 8-10-11 Temp. By: Temp. Blank Cooler Surface: Glass / Plastic /Metal /Other: _____
Thermo. ID No.: 585 Thermo. Correction Factor (°C): 0.4

☐ Evidence of Cooling and date received = date sampled

Sample Receipt Discrepancies: ☒ No ☐ Yes (See below for discrepancies.)

Note: **If discrepancies are present, CAS will proceed with analyses until/unless directed otherwise by the client.**

☐ Chain of Custody not present - information taken from:
Cover Letter ☐ Container ☐
PO ☐ CAS Proj. Mgr. ☐
☐ Container label absent
☐ Chain of Custody incomplete [see detail below]
☐ Chain of Custody missing date/time sampled (excl. TB or Dup.)
☐ Date or Time sampled obtained from container label
☐ Chain of Custody missing sampler's name
☐ Chain of Custody missing matrix (sample type)
☐ Missing relinquished information: signature date time

☐ Sample excluded from Chain of Custody
☐ Sample listed on Chain of Custody, not received
☐ Sample description on container and Chain of Custody do not agree
☐ Air bubbles in Aqueous VOA vials larger than pea-size [approx. 6 mm]
☐ Cooler temperature exceeded 0.1 - 6.0 °C requirement
[Do not mark if samples do not require cooling to 0.1 - 6.0 °C.]
☐ Broken or leaking containers (detail actions below)
☐ Sample container type or labeled chemical preservation inappropriate
☐ Other discrepancies: _____

Detail to discrepancies/comments:

Completed by: RLG Date Completed: 8/10/11

Continental
Analytical Services, Inc.

08/26/2011

City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date and Time Received: 08/10/2011 16:40
Continental File No.: 8339
Continental Order No.: 57860
Project ID: Stormwater

Dear Mr. Hardesty:

This laboratory report containing the samples indicated below, includes 9 pages for the analytical report, 1 page(s) for the chain of custody and/or analysis request, and 1 page(s) for the sample receipt form.

CAS LAB ID #	SAMPLE DESCRIPTION	SAMPLE TYPE	DATE SAMPLED
11080695	Broadway - Grab	Liquid	8/10/2011
11080696	Broadway - Composite	Liquid	8/10/2011

The Appendix and Quality Control sections are integral parts of this laboratory report and may contain important data qualifiers.

All results are reported on a wet weight basis unless otherwise stated.

Samples will be retained for thirty days unless Continental is otherwise notified.

Continental is accredited by the State of Kansas through the National Environmental Laboratory Accreditation Program (NELAP). The results contained in this report were obtained using Continental's Standard Operating Procedures. These procedures are in substantial compliance with the approved methods referenced and the standards published by NELAP unless otherwise noted in the Appendix and Quality Control sections of this report.

This report may not be reproduced, except in full, without written approval from Continental Analytical Services, Inc.

Thank you for choosing Continental for this project. If you have any questions please contact me at (800)535-3076.

CONTINENTAL ANALYTICAL SERVICES, INC.

Clifford J. Baker
Technical Manager

Gregory J. Groene
Project Manager

525 N. Eighth St. - P.O. Box 3737 - Salina, KS 67402-3737
785-827-1273 800-535-3076 Fax 785-823-7830
KDHE Environmental Laboratory Accreditation No. E-10146

Continental Analytical Services, Inc.

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Reported: 08/26/2011
Date Received: 08/10/2011
Continental File No: 8339
Continental Order No: 57860

Lab Number: 11080695
Sample Description: Broadway - Grab

Date Sampled: 08/10/2011
Time Sampled: 0920

Analysis	Concentration	Units	Book/Page
Cadmium, Dissolved, ICP-MS	ND(1)	µg/L	7127/55
Cadmium, Tot. Rec., ICP-MS	ND(1)	µg/L	7127/54
Copper, Dissolved, ICP-MS	ND(5)	µg/L	7127/55
Copper, Tot. Rec., ICP-MS	ND(5)	µg/L	7127/54
Hardness (Calculated)	16.9	mg/L as CaCO3	7157/35
Zinc, Dissolved, ICP-MS	ND(20)	µg/L	7127/55
Zinc, Tot. Rec., ICP-MS	39	µg/L	7127/54
Chloride	1.1	mg/L	7107/107
E. Coli	>2420 HT	MPN/100 mL	7057/338
Hexane Extractable Material	ND(5.0)	mg/L	7109/21
Solids, Total Dissolved	30.	mg/L	7059/441
Solids, Total Suspended	11	mg/L	7059/446

Analysis	Date/Time Prepared	Date/Time Analyzed	QC Batch	Inst. Batch	Analyst	Method(s)
Cadmium, Dissolved, ICP-MS	08/17/11 1253	08/20/11 1452	110817-5	3IP3232	KMW	200.8 Rev. 5.4
Cadmium, Tot. Rec., ICP-MS	08/15/11 1129	08/18/11 1518	110815-6	3IP3230	KMW	200.8 Rev. 5.4
Copper, Dissolved, ICP-MS	08/17/11 1253	08/20/11 1452	110817-5	3IP3232	KMW	200.8 Rev. 5.4
Copper, Tot. Rec., ICP-MS	08/15/11 1129	08/18/11 1518	110815-6	3IP3230	KMW	200.8 Rev. 5.4
Hardness (Calculated)	08/12/11 1227	08/16/11 1806	110812-4	3IP4228	KMW	200.7 & SM 2340B
Zinc, Dissolved, ICP-MS	08/17/11 1253	08/20/11 1452	110817-5	3IP3232	KMW	200.8 Rev. 5.4
Zinc, Tot. Rec., ICP-MS	08/15/11 1129	08/18/11 1518	110815-6	3IP3230	KMW	200.8 Rev. 5.4
Chloride	N/A	08/16/11 1526	1IC2228	1IC2228	MLL	300.0
E. Coli	N/A	08/10/11 1740	110810-1	110810-1	ASK	SM 9223B Colilert
Hexane Extractable Materia	08/25/11	08/25/11 0939	110825-1	110825-1	JND	1664
Solids, Total Dissolved	N/A	08/12/11 1240	110812-1	110812-1	KJH	SM20th 2540C
Solids, Total Suspended	N/A	08/16/11 0942	110816-1	110816-1	KJH	SM20th 2540D
Dissolved Metals Preparation Method						200.7/200.8
Total Recoverable Metals Preparation Method						200.7/200.8
Calculated as Hardness Preparation Method						200.7/6010B
HEM Preparation Method						1664

Conclusion of Lab Number: 11080695

Continental Analytical Services, Inc.

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Reported: 08/26/2011
Date Received: 08/10/2011
Continental File No: 8339
Continental Order No: 57860

Lab Number: 11080696
Sample Description: Broadway - Composite

Date Sampled: 08/10/2011
Time Sampled: 0920

Analysis	Concentration	Units	Book/Page
Cadmium, Dissolved, ICP-MS	ND(1)	µg/L	7127/55
Cadmium, Tot. Rec., ICP-MS	ND(1)	µg/L	7127/54
Copper, Dissolved, ICP-MS	ND(5)	µg/L	7127/55
Copper, Tot. Rec., ICP-MS	ND(5)	µg/L	7127/54
Hardness (Calculated)	17.0	mg/L as CaCO3	7157/35
Zinc, Dissolved, ICP-MS	ND(20)	µg/L	7127/55
Zinc, Tot. Rec., ICP-MS	35	µg/L	7127/54
BOD	ND(5)	mg/L	7060/191
Chloride	1.3	mg/L	7129/48
Kjeldahl Nitrogen, as N (TKN)	ND(1.0)	mg/L	6854/240
Nitrate, as N	0.3 B	mg/L	7129/48
Nitrite, as N	ND(0.1)	mg/L	7129/48
Nitrogen (TKN + NO3/NO2), as N	ND(1.0)	mg/L	9999/247
Phosphorus, Total, as P	ND(0.20)	mg/L	7061/150
Solids, Total Dissolved	30.	mg/L	7059/441
Solids, Total Suspended	5	mg/L	7059/446

Analysis	Date/Time Prepared	Date/Time Analyzed	QC Batch	Inst. Batch	Analyst	Method(s)
Cadmium, Dissolved, ICP-MS	08/17/11 1253	08/20/11 1457	110817-5	3IP3232	KMW	200.8 Rev. 5.4
Cadmium, Tot. Rec., ICP-MS	08/15/11 1129	08/18/11 1555	110815-6	4IP3230	KMW	200.8 Rev. 5.4
Copper, Dissolved, ICP-MS	08/17/11 1253	08/20/11 1457	110817-5	3IP3232	KMW	200.8 Rev. 5.4
Copper, Tot. Rec., ICP-MS	08/15/11 1129	08/18/11 1555	110815-6	4IP3230	KMW	200.8 Rev. 5.4
Hardness (Calculated)	08/12/11 1040	08/16/11 1810	110812-4	3IP4228	KMW	200.7 & SM 2340B
Zinc, Dissolved, ICP-MS	08/17/11 1253	08/20/11 1457	110817-5	3IP3232	KMW	200.8 Rev. 5.4
Zinc, Tot. Rec., ICP-MS	08/15/11 1129	08/18/11 1555	110815-6	4IP3230	KMW	200.8 Rev. 5.4
BOD	N/A	08/11/11 1550	110811-1	110811-1	ASK	SM 5210B
Chloride	N/A	08/11/11 1815	1IC1223	4IC1223	MLL	300.0
Kjeldahl Nitrogen, as N (T	08/12/11 1241	08/15/11 1123	110812-1	110815-3	JND	EPA 351.2
Nitrate, as N	N/A	08/11/11 1815	1IC1223	4IC1223	MLL	300.0
Nitrite, as N	N/A	08/11/11 1815	1IC1223	4IC1223	MLL	300.0
Nitrogen (TKN + NO3/NO2),	N/A	08/15/11				Calculation
Phosphorus, Total, as P	N/A	08/16/11 1431	110816-2	110816-4	KJH	SM 4500-P(B&F)(M
Solids, Total Dissolved	N/A	08/12/11 1240	110812-1	110812-1	KJH	SM20th 2540C
Solids, Total Suspended	N/A	08/16/11 0943	110816-1	110816-1	KJH	SM20th 2540D
Dissolved Metals Preparation Method						200.7/200.8
Total Recoverable Metals Preparation Method						200.7/200.8
Calculated as Hardness Preparation Method						200.7/6010B

Conclusion of Lab Number: 11080696

APPENDIX

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Reported: 08/26/2011
Date Received: 08/10/2011
Continental File No: 8339
Continental Order No: 57860

ND(), where reported, indicates the analyte was not detected above the limit of quantitation (LOQ). The concentration of the limit of quantitation is inside the parentheses.

All samples which require cooling were received at a temperature of less than 6 degrees Celsius.

The following table presents the date and time sampled, the date and time analyzed, and the total time elapsed for each analysis with an EPA recommended holding time of seventy-two hours or less.

CAS LAB ID #	ANALYSIS	DATE/TIME SAMPLED	DATE/TIME ANALYZED	ELAPSED HRS:MIN
11080695	E. Coli	08/10/2011 0920	08/10/2011 1740	8:20
11080696	BOD	08/10/2011 0920	08/11/2011 1550	30:30
11080696	Nitrate, as N	08/10/2011 0920	08/11/2011 1815	32:55
11080696	Nitrite, as N	08/10/2011 0920	08/11/2011 1815	32:55

HT - This sample exceeded the EPA maximum in transit holding time of six hours permitted for this analysis.

B - Analyte is also present in the method blank or load blank at the concentration indicated either to the right of the letter B and/or in the enclosed Quality Control Report. The reported sample concentration has not been blank corrected.

Continental Analytical Services, Inc.

Date: 08/26/2011

Continental Analytical Services, Inc.
Accreditation Summary Report

Client: City of Wichita
CAS Order Number: 57860

NELAP accreditation is issued under each EPA regulatory program for a given matrix/analyte/method combination. Continental is NELAP accredited for each matrix/analyte/method and EPA program cited in this Laboratory Report, except for those listed in the table below and analysis performed in the field. For most of the analyses listed in the table, NELAP accreditation is not offered under the listed EPA program and Continental is NELAP accredited for the analysis, using the same analytical technology, but under a different EPA program. Continental's full NELAP accreditation status may be viewed at www.kdheks.gov/envlab. Note that unless qualified otherwise in the Laboratory Report, Continental performs all analyses, including each analysis listed in the table below, utilizing NELAP protocol.

Test	Analysis	Matrix-Regulatory Program	Method	CAS NELAP Accredited in Other Reg. Program
GL343	Nitrogen (TKN + NO3/NO2), as N	L-NPDES	Calculation	N

Continental Analytical Services, Inc.

Quality Control Report
Batch Summary

Date Reported: 08/26/2011
Date Received: 08/10/2011
Continental File No: 8339
Continental Order No: 57860

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Test	Testname	QC Batch	Method Blank	LCS	MS Lab No.
SL323	Hardness (Calculated)	110812-4	110812BLK4	110812LCS4	11080684MS
Lab numbers associated with this batch: 11080695 11080696					
SL006	Cadmium, Tot. Rec., ICP-MS	110815-6	110815BLK6	110815LCS6	11080695MS
SL012	Copper, Tot. Rec., ICP-MS	110815-6	110815BLK6	110815LCS6	11080695MS
SL033	Zinc, Tot. Rec., ICP-MS	110815-6	110815BLK6	110815LCS6	11080695MS
Lab numbers associated with this batch: 11080695 11080696					
SL156	Cadmium, Dissolved, ICP-MS	110817-5	110817BLK5	110817LCS5	11080684MS
SL162	Copper, Dissolved, ICP-MS	110817-5	110817BLK5	110817LCS5	11080684MS
SL183	Zinc, Dissolved, ICP-MS	110817-5	110817BLK5	110817LCS5	11080684MS
Lab numbers associated with this batch: 11080695 11080696					
GL123	BOD	110811-1	110811BLK1	110811LCS1	11080702MS
Lab numbers associated with this batch: 11080696					
GL502	Chloride	1IC1223	BLK1IC1223	LCS1IC1223	11080697MS
Lab numbers associated with this batch: 11080696					
GL502	Chloride	1IC2228	BLK1IC2228	LCS1IC2228	11081273MS
Lab numbers associated with this batch: 11080695					
GL347	E. Coli	110810-1	110810BLK1	110810LCS1	11080608MS
Lab numbers associated with this batch: 11080695					
GL188	Hexane Extractable Material	110825-1	110825BLK1	110825LCS1	11081987MS
Lab numbers associated with this batch: 11080695					
GL595	Kjeldahl Nitrogen, as N (TKN)	110812-1	110812BLK1	110812LCS1	11080719MS
Lab numbers associated with this batch: 11080696					
GL505	Nitrate, as N	1IC1223	BLK1IC1223	LCS1IC1223	
Lab numbers associated with this batch: 11080696					

Continental Analytical Services, Inc.

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Quality Control Report
Batch Summary

Date Reported: 08/26/2011
Date Received: 08/10/2011
Continental File No: 8339
Continental Order No: 57860

Test	Testname	QC Batch	Method Blank	LCS	MS Lab No.
GL503	Nitrite, as N	1IC1223	BLK1IC1223	LCS1IC1223	
Lab numbers associated with this batch: 11080696					
GL343	Nitrogen (TKN + NO3/NO2), as N				
Lab numbers associated with this batch: 11080696					
GL218	Phosphorus, Total, as P	110816-2	110816BLK2	110816LCS2	11080696MS
Lab numbers associated with this batch: 11080696					
GL242	Solids, Total Dissolved	110812-1	110812BLK1	110812LCS1	11080687MS
Lab numbers associated with this batch: 11080695 11080696					
GL243	Solids, Total Suspended	110816-1	110816BLK1	110816LCS1	11080686MS
Lab numbers associated with this batch: 11080695 11080696					

Continental Analytical Services, Inc.

Quality Control Report
Method Blank, LCS, MS/MSD Data

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Reported: 08/26/2011
Date Received: 08/10/2011
Continental File No: 8339
Continental Order No: 57860

Analysis	Blank Data	% Rec LCS	Limits	Spike Level	Units	Spiked Sample (% Recovery) MS	MSD	Limits	Spike Level	Units	Spiked Sample Precision Data RPD	Limit
QC Batch: 110810-1	For sample analyzed on: 08/10/2011					Spiked sample: 11080608						
E. Coli	ND(1)	N/A			MPN/100ML	MN	MN	#		MPN/100	**	105
QC Batch: 110811-1	For sample analyzed on: 08/11/2011					Spiked sample: 11080702						
BOD	ND(5)	91.7	70.5-110	198	mg/L	MN	MN	#		mg/L	**	13.2
QC Batch: 110812-1	For sample analyzed on: 08/12/2011					Spiked sample: 11080687						
Solids, Total Dissolved	ND(30)	N/A			mg/L	MN	MN	#		mg/L	**	5.2
QC Batch: 110812-1	For samples prepared on: 08/12/2011					Spiked sample: 11080719						
Kjeldahl Nitrogen, as N (TKN)	ND(1.0)	110	#	4.0	mg/L	MN	MN	#	4.0	mg/L	**	#
QC Batch: 110812-4	For samples prepared on: 08/12/2011					Spiked sample: 11080684						
Hardness (Calculated)	ND(5.0)	98.1	80.0-120	337	mg/L a	MN	MN	80.0-120	337	mg/L as	**	20.0
QC Batch: 110815-6	For samples prepared on: 08/15/2011					Spiked sample: 11080695						
Cadmium, Tot. Rec., ICP-MS	ND(1)	96.8	85.0-115	500	µg/L	98.4	97.6	80.0-120	500	µg/L	0.8	20.0
Copper, Tot. Rec., ICP-MS	ND(5)	94.0	85.0-115	500	µg/L	95.8	94.6	80.0-120	500	µg/L	1.3	20.0
Zinc, Tot. Rec., ICP-MS	ND(20)	99.6	85.0-115	500	µg/L	99.0	98.1	80.0-120	500	µg/L	0.9	20.0
QC Batch: 110816-1	For sample analyzed on: 08/16/2011					Spiked sample: 11080686						
Solids, Total Suspended	ND(5)	N/A			mg/L	MN	MN	#		mg/L	**	18.2
QC Batch: 110816-2	For sample analyzed on: 08/16/2011					Spiked sample: 11080696						
Phosphorus, Total, as P	ND(0.20)	96.6	90.0-110	2.0	mg/L	102	103	71.2-135	2.0	mg/L	1.0	21.2
QC Batch: 110817-5	For samples prepared on: 08/17/2011					Spiked sample: 11080684						
Cadmium, Dissolved, ICP-MS	ND(1)	93.2	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
Copper, Dissolved, ICP-MS	ND(3) J	87.4	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
Zinc, Dissolved, ICP-MS	ND(20)	96.8	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
QC Batch: 110825-1	For samples prepared on: 08/25/2011					Spiked sample: 11081987						
Hexane Extractable Material	ND(1.4)	93.5	78.0-114	40.0	mg/L	MN	MN	78.0-114	40.0	mg/L	**	18.0
QC Batch: 1IC1223	For sample analyzed on: 08/11/2011					Spiked sample:						
Nitrite, as N	ND(0.1)	107	90.0-110	2.0	mg/L	MN	MN	78.5-127			**	10.1
Nitrate, as N	0.06 J	101	90.0-110	2.0	mg/L	MN	MN	79.3-118			**	12.1
QC Batch: 1IC1223	For sample analyzed on: 08/11/2011					Spiked sample: 11080697						
Chloride	ND(1.0)	101	90.0-110	4.0	mg/L	MN	MN	82.1-126	80.0	mg/L	**	12.5
QC Batch: 1IC2228	For sample analyzed on: 08/16/2011					Spiked sample: 11081273						
Chloride	ND(1.0)	96.5	90.0-110	4.0	mg/L	MN	MN	82.1-126	80.0	mg/L	**	12.5

Data Qualifiers:
N/A - Not Applicable

MN - The MS/MSD sample analyses were not performed on a sample from this Continental order number.

J - The concentration or not detected (ND) value is below the Limit of Quantitation (LOQ) and is considered an estimated value.

- Limits not available.

** - RPD cannot be calculated.

Continental Analytical Services, Inc.

Quality Control Report

Continuing Calibration Verification Data Summary

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Reported: 08/26/2011
Date Received: 08/10/2011
Continental File No: 8339
Continental Order No: 57860

Analysis	Date of Analysis	Instrument Batch ID	Amount in Standard	Amount Detected	Units	Percent Recovery
Cadmium, Tot. Rec., ICP-MS	08/18/2011	3IP3230	CCV recovery acceptable for this Instrument Batch.			
Cadmium, Dissolved, ICP-MS	08/20/2011	3IP3232	CCV recovery acceptable for this Instrument Batch.			
Cadmium, Tot. Rec., ICP-MS	08/18/2011	4IP3230	CCV recovery acceptable for this Instrument Batch.			
Cadmium, Dissolved, ICP-MS	08/20/2011	4IP3232	CCV recovery acceptable for this Instrument Batch.			
Cadmium, Tot. Rec., ICP-MS	08/18/2011	5IP3230	CCV recovery acceptable for this Instrument Batch.			
Copper, Tot. Rec., ICP-MS	08/18/2011	3IP3230	CCV recovery acceptable for this Instrument Batch.			
Copper, Dissolved, ICP-MS	08/20/2011	3IP3232	CCV recovery acceptable for this Instrument Batch.			
Copper, Tot. Rec., ICP-MS	08/18/2011	4IP3230	CCV recovery acceptable for this Instrument Batch.			
Copper, Dissolved, ICP-MS	08/20/2011	4IP3232	CCV recovery acceptable for this Instrument Batch.			
Copper, Tot. Rec., ICP-MS	08/18/2011	5IP3230	CCV recovery acceptable for this Instrument Batch.			
BOD	08/11/2011	110811-1	CCV recovery acceptable for this Instrument Batch.			
BOD	08/11/2011	110811-2	CCV recovery acceptable for this Instrument Batch.			
Hexane Extractable Material	08/25/2011	110825-1	CCV recovery acceptable for this Instrument Batch.			
Hexane Extractable Material	08/25/2011	110825-2	CCV recovery acceptable for this Instrument Batch.			
Phosphorus, Total, as P	08/16/2011	110816-4	CCV recovery acceptable for this Instrument Batch.			
Phosphorus, Total, as P	08/16/2011	110816-5	CCV recovery acceptable for this Instrument Batch.			
Chloride	08/11/2011	4IC1223	CCV recovery acceptable for this Instrument Batch.			
Chloride	08/11/2011	5IC1223	CCV recovery acceptable for this Instrument Batch.			
Chloride	08/16/2011	1IC2228	CCV recovery acceptable for this Instrument Batch.			
Chloride	08/16/2011	2IC2228	CCV recovery acceptable for this Instrument Batch.			
Nitrite, as N	08/11/2011	4IC1223	CCV recovery acceptable for this Instrument Batch.			
Nitrite, as N	08/11/2011	5IC1223	CCV recovery acceptable for this Instrument Batch.			
Nitrate, as N	08/11/2011	4IC1223	CCV recovery acceptable for this Instrument Batch.			
Nitrate, as N	08/11/2011	5IC1223	CCV recovery acceptable for this Instrument Batch.			
Kjeldahl Nitrogen, as N (TKN)	08/15/2011	110815-3	CCV recovery acceptable for this Instrument Batch.			
Kjeldahl Nitrogen, as N (TKN)	08/15/2011	110815-4	CCV recovery acceptable for this Instrument Batch.			
Hardness (Calculated)	08/16/2011	3IP4228	CCV recovery acceptable for this Instrument Batch.			
Hardness (Calculated)	08/16/2011	4IP4228	CCV recovery acceptable for this Instrument Batch.			
Zinc, Tot. Rec., ICP-MS	08/18/2011	3IP3230	CCV recovery acceptable for this Instrument Batch.			
Zinc, Dissolved, ICP-MS	08/20/2011	3IP3232	CCV recovery acceptable for this Instrument Batch.			
Zinc, Tot. Rec., ICP-MS	08/18/2011	4IP3230	CCV recovery acceptable for this Instrument Batch.			
Zinc, Dissolved, ICP-MS	08/20/2011	4IP3232	CCV recovery acceptable for this Instrument Batch.			
Zinc, Tot. Rec., ICP-MS	08/18/2011	5IP3230	CCV recovery acceptable for this Instrument Batch.			

- Laboratory Report Conclusion -

Continental Analytical Services, Inc.

525 N. 8th Street, Salina, KS 67401
(785)827-1273 (800)535-3076 Fax (785)823-7830
www.cas-lab.com

CAS ORDER NO. 5 1860

CHAIN OF CUSTODY RECORD

Continental Shipping Order Number: _____

Client/Reporting Information		Invoice Information	
ıny Name: f Wichita Storm Water Management		Company Name: City of Wichita Storm Water Management	
ss: Hall, 8th Floor, 455 N. Main		Address: City Hall, 8th Floor, 455 N. Main	
ta	State: KS / Zip: 67202	City: Wichita	State: KS / Zip: 67202
t: ardesty	E-mail: Jhardesty@wichita.gov	Contact: Jim Hardesty	E-mail: Jhardesty@wichita.go
Number: 68-8317	Fax Number: (316)858-7889	Phone Number: (316)268-8317	Fax Number: (316)858-7889
er's Name:(Printed) Josh M-y	Sampler's Name(Signature)	Purchase Order Number:	
umber:)	Project Name: Stormwater		

SAMPLE IDENTIFICATION (30 Characters or less)	Matrix (Sample Type)	Regulatory Program	Date Sampled	Time Sampled	C-Composite G-Grab	Total Containers	Number of Preserved Bottles: HCL	NaOH	HNO3	H2SO4	NONE	OTHER	Cadmium, Copper, Zinc - Total Recoverable 250ml Plastic - HNO3	Cadmium, Copper, Zinc - Dissolved, Hardness, TSS TDS, Cl 1000ml Plastic - None	Hexane Extractable Material 2 - 1000ml Amber Glass - H2SO4	Total Metals, Dissolved Metals, Hardness, TSS, TDS, Cl, BOD, TKN, Total P, NO3, NO2, Tot. Nitrogen Large Carboy	E. Coli				COMMENTS
dway-Grab	WW	N	8/10/2011	0920	G	5			1	2	2		X	X	X		X				
dway-Composite	WW	N	8/10/2011	0920	C	1					1					X					5 Gal. Container to be poured off at lab
																					as needed for required tests.
																					Remaining volume will be saved for
																					for organics if needed.

latory Program: N=NPDES, R=RCRA, D=Drinking Water, SL=503 Sludge, O=Other

(Please note if non-standard turnaround. Rush & Emergency subject to additional charge)
Standard TAT: (15 working days) Rush TAT: (5 working days) Emergency TAT: (3 working days)

ix (Sample Type): DW=Drinking Water, GW=Ground Water, WW=Waste Water, W=Wipe, S=Solid/Soil, SL=Sludge, A=Air, OL = Oil/Organic Liquid, O=Other

QUISHED BY:	DATE: 8/10/11	TIME: 1400	RECEIVED BY:	DATE:	TIME:
QUISHED BY:	DATE:	TIME:	RECEIVED BY:	DATE:	TIME:
VED AT LAB BY:	DATE: 8/10/11	TIME: 1640	SHIPPED VIA: / AIRBILL:	SEAL #: / SEAL DATE:	

Continental's Standard Terms and Conditions of Sale will apply to all samples received unless a separate contractual agreement has been made.

C:\Documents and Settings\murphy\Local Settings\Temporary Internet Files\Content.Outlook\3FOHPAAO\Wichita Stormwater.XLS00ASI

Continental Analytical Services, Inc.
Cooler/Sample Receipt Form (C/S RF)

CAS Order No.: 57860

Client Name: Wichita

CAS File No.: 8339

Sample ID's in cooler: See COC

Cooler 1 of 1 for this CAS Order No.

Cooler Identification: CAS Cooler #: 3289 / Client's Cooler / Box / Letter / Hand-delivered
Other:

Date/Time Cooler Received: 8/10/11 16:40

Delivered By: UPS / FedX / AB Express / Field Svcs / Mail / Walk-In / Other:

Custody Seal: Present: Intact / Broken Absent: X Seal No:
Seal Name: Seal Date:
Seal matches Chain of Custody: Yes / No / N/A

Type of Packing Material: Blue Ice / Ice / Melted Ice / Bubble / Foam / Paper / Peanuts / Vermiculite / None / Other:

Cooler Temperature (°C): Original Reading (°C) 1.0 Corrected Reading (°C) 1.4
Temp. By: Temp. Blank Cooler Surface: Glass / Plastic /Metal /Other:
Thermo. ID No.: 585 Thermo. Correction Factor (°C): 0.4

☐ Evidence of Cooling and date received = date sampled

Sample Receipt Discrepancies: ☒ No ☐ Yes (See below for discrepancies.)

Note: **If discrepancies are present, CAS will proceed with analyses until/unless directed otherwise by the client.**

- ☐ Chain of Custody not present - information taken from:
  - Cover Letter ☐ Container ☐
  - PO ☐ CAS Proj. Mgr. ☐
- ☐ Container label absent
- ☐ Chain of Custody incomplete [see detail below]
- ☐ Chain of Custody missing date/time sampled (excl. TB or Dup.)
- ☐ Date or Time sampled obtained from container label
- ☐ Chain of Custody missing sampler's name
- ☐ Chain of Custody missing matrix (sample type)
- ☐ Missing relinquished information: signature date time
- ☐ Sample excluded from Chain of Custody
- ☐ Sample listed on Chain of Custody, not received
- ☐ Sample description on container and Chain of Custody do not agree
- ☐ Air bubbles in Aqueous VOA vials larger than pea-size [approx. 6 mm]
- ☐ Cooler temperature exceeded 0.1 - 6.0 °C requirement [Do not mark if samples do not require cooling to 0.1 - 6.0 °C.]
- ☐ Broken or leaking containers (detail actions below)
- ☐ Sample container type or labeled chemical preservation inappropriate
- ☐ Other discrepancies:

Detail to discrepancies/comments:

Completed by: [illegible] Date Completed: 8-10-11

Continental Analytical Services, Inc.

12/01/2011

City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date and Time Received: 11/08/2011 11:35
Continental File No.: 8339
Continental Order No.: 59783
Project ID: SW Upstream

Dear Mr. Hardesty:

This laboratory report containing the samples indicated below, includes 8 pages for the analytical report, 1 page(s) for the chain of custody and/or analysis request, and 1 page(s) for the sample receipt form.

CAS LAB ID #	SAMPLE DESCRIPTION	SAMPLE TYPE	DATE SAMPLED
11110485	Huntington Upstream	Liquid	11/7/2011

The Appendix and Quality Control sections are integral parts of this laboratory report and may contain important data qualifiers.

All results are reported on a wet weight basis unless otherwise stated.

Samples will be retained for thirty days unless Continental is otherwise notified.

Continental is accredited by the State of Kansas through the National Environmental Laboratory Accreditation Program (NELAP). The results contained in this report were obtained using Continental's Standard Operating Procedures. These procedures are in substantial compliance with the approved methods referenced and the standards published by NELAP unless otherwise noted in the Appendix and Quality Control sections of this report.

This report may not be reproduced, except in full, without written approval from Continental Analytical Services, Inc.

Thank you for choosing Continental for this project.

CONTINENTAL ANALYTICAL SERVICES, INC.

Clifford J. Baker
Technical Manager

Gregory J. Groene
Project Manager

525 N. Eighth St. - P.O. Box 3737 - Salina, KS 67402-3737
785-827-1273 800-535-3076 Fax 785-823-7830

KDHE Environmental Laboratory Accreditation No. E-10146

Continental Analytical Services, Inc.

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Reported: 12/01/2011
Date Received: 11/08/2011
Continental File No: 8339
Continental Order No: 59783

Lab Number: 11110485
Sample Description: Huntington Upstream

Date Sampled: 11/07/2011
Time Sampled: 1310

Analysis	Concentration	Units	Book/Page
Cadmium, Dissolved, ICP-MS	ND(1) DM	µg/L	7202/43
Cadmium, Tot. Rec., ICP-MS	ND(1)	µg/L	7202/42
Copper, Dissolved, ICP-MS	10 DM	µg/L	7202/43
Copper, Tot. Rec., ICP-MS	23	µg/L	7202/42
Hardness (Calculated)	50.9	mg/L as CaCO3	7157/120
Zinc, Dissolved, ICP-MS	ND(20) DM	µg/L	7202/43
Zinc, Tot. Rec., ICP-MS	85	µg/L	7202/42
BOD	15	mg/L	7060/276
Chloride	10.8	mg/L	7129/85
Kjeldahl Nitrogen, as N (TKN)	2.0	mg/L	6854/351
Nitrate, as N	0.6	mg/L	7129/85
Nitrite, as N	ND(0.1)	mg/L	7129/85
Nitrogen (TKN + NO3/NO2), as N	2.6	mg/L	9999/596
Phosphorus, Total, as P	0.29	mg/L	7061/219
Solids, Total Dissolved	116	mg/L	7059/603
Solids, Total Suspended	119	mg/L	7059/607

Analysis	Date/Time Prepared	Date/Time Analyzed	QC Batch	Inst. Batch	Analyst	Method(s)
Cadmium, Dissolved, ICP-MS	11/11/11 1012	11/15/11 1538	111111-3	1IP3319	KMW	200.8 Rev. 5.4
Cadmium, Tot. Rec., ICP-MS	11/10/11 0837	11/14/11 1740	111110-2	1IP3318	KMW	200.8 Rev. 5.4
Copper, Dissolved, ICP-MS	11/11/11 1012	11/15/11 1538	111111-3	1IP3319	KMW	200.8 Rev. 5.4
Copper, Tot. Rec., ICP-MS	11/10/11 0837	11/14/11 1740	111110-2	1IP3318	KMW	200.8 Rev. 5.4
Hardness (Calculated)	11/09/11 0914	11/11/11 0130	111109-3	11IP4314	KMW	200.7 & SM 2340B
Zinc, Dissolved, ICP-MS	11/11/11 1012	11/15/11 1538	111111-3	1IP3319	KMW	200.8 Rev. 5.4
Zinc, Tot. Rec., ICP-MS	11/10/11 0837	11/14/11 1740	111110-2	1IP3318	KMW	200.8 Rev. 5.4
BOD	N/A	11/09/11 1015	111109-1	111109-1	ASK	SM 5210B
Chloride	N/A	11/08/11 1708	1IC1312	1IC1312	MLL	300.0
Kjeldahl Nitrogen, as N (T	11/11/11 1632	11/15/11 1040	111111-1	111115-1	JND	EPA 351.2
Nitrate, as N	N/A	11/08/11 1708	1IC1312	1IC1312	MLL	300.0
Nitrite, as N	N/A	11/08/11 1708	1IC1312	1IC1312	MLL	300.0
Nitrogen (TKN + NO3/NO2),	N/A	11/17/11 1422				Calculation
Phosphorus, Total, as P	N/A	11/30/11 1656	111130-1	111130-1	KJH	SM 4500-P(B&F)(M)
Solids, Total Dissolved	N/A	11/09/11 1358	111109-1	111109-1	KJH	SM20th 2540C
Solids, Total Suspended	N/A	11/14/11 1441	111114-1	111114-1	KJH	SM20th 2540D
Dissolved Metals Preparation Method						200.7/200.8
Total Recoverable Metals Preparation Method						200.7/200.8
Calculated as Hardness Preparation Method						200.7/6010B

Conclusion of Lab Number: 11110485

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Reported: 12/01/2011
Date Received: 11/08/2011
Continental File No: 8339
Continental Order No: 59783

ND(), where reported, indicates the analyte was not detected above the Limit of Quantitation (LOQ). The concentration of the LOQ is inside the parentheses.

All samples which require cooling were received at a temperature of less than 6 degrees Celsius.

The following table presents the date and time sampled, the date and time analyzed, and the total time elapsed for each analysis with an EPA recommended holding time of seventy-two hours or less.

CAS LAB ID #	ANALYSIS	DATE/TIME SAMPLED	DATE/TIME ANALYZED	ELAPSED HRS:MIN
11110485	BOD	11/07/2011 1310	11/09/2011 1015	45:05
11110485	Nitrate, as N	11/07/2011 1310	11/08/2011 1708	27:58
11110485	Nitrite, as N	11/07/2011 1310	11/08/2011 1708	27:58

DM - NPDES requirements specify that dissolved metals and orthophosphate must be filtered within 15 minutes of the time of collection. This analysis did not meet these criteria.

Continental Analytical Services, Inc.

Accreditation Summary

Client: City of Wichita
Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Reported: 12/01/2011
Date Received: 11/08/2011
Continental File No: 8339
Continental Order No: 59783

NELAP accreditation is issued under each EPA regulatory program for a given matrix/analyte/method combination. Continental is NELAP accredited for each matrix/analyte/method and EPA program cited in this Laboratory Report, except for those listed in the table below and analysis performed in the field. For most of the analyses listed in the table, NELAP accreditation is not offered under the listed EPA program and Continental is NELAP accredited for the analysis, using the same analytical technology, but under a different EPA program. Continental's full NELAP accreditation status may be viewed at www.kdheks.gov/envlab. Note that unless qualified otherwise in the Laboratory Report, Continental performs all analyses, including each analysis listed in the table below, utilizing NELAP protocol.

Test	Analysis	Matrix-Regulatory Program	Method	CAS NELAP Accredited in Other Reg. Program
GL343	Nitrogen (TKN + NO3/NO2), as N	L-NPDES	Calculation	N

Continental Analytical Services, Inc.

Quality Control Report
Batch Summary

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Reported: 12/01/2011
Date Received: 11/08/2011
Continental File No: 8339
Continental Order No: 59783

Test	Testname	QC Batch	Method Blank	LCS	MS Lab No.
SL323	Hardness (Calculated)	111109-3	111109BLK3	111109LCS3	11110496MS
Lab numbers associated with this batch: 11110485					
SL006	Cadmium, Tot. Rec., ICP-MS	111110-2	111110BLK2	111110LCS2	11110506MS
SL012	Copper, Tot. Rec., ICP-MS	111110-2	111110BLK2	111110LCS2	11110506MS
SL033	Zinc, Tot. Rec., ICP-MS	111110-2	111110BLK2	111110LCS2	11110506MS
Lab numbers associated with this batch: 11110485					
SL156	Cadmium, Dissolved, ICP-MS	111111-3	111111BLK3	111111LCS3	11110500MS
SL162	Copper, Dissolved, ICP-MS	111111-3	111111BLK3	111111LCS3	11110500MS
SL183	Zinc, Dissolved, ICP-MS	111111-3	111111BLK3	111111LCS3	11110500MS
Lab numbers associated with this batch: 11110485					
GL123	BOD	111109-1	111109BLK1	111109LCS1	11110446MS
Lab numbers associated with this batch: 11110485					
GL502	Chloride	1IC1312	BLK1IC1312	LCS1IC1312	11102140MS
Lab numbers associated with this batch: 11110485					
GL595	Kjeldahl Nitrogen, as N (TKN)	111111-1	111111BLK1	111111LCS1	11110769MS
Lab numbers associated with this batch: 11110485					
GL505	Nitrate, as N	1IC1312	BLK1IC1312	LCS1IC1312	
GL503	Nitrite, as N	1IC1312	BLK1IC1312	LCS1IC1312	
Lab numbers associated with this batch: 11110485					
GL343	Nitrogen (TKN + NO3/NO2), as N				
Lab numbers associated with this batch: 11110485					
GL218	Phosphorus, Total, as P	111130-1	111130BLK1	111130LCS1	11110500MS
Lab numbers associated with this batch: 11110485					

Continental Analytical Services, Inc.

Quality Control Report
Batch Summary

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Reported: 12/01/2011
Date Received: 11/08/2011
Continental File No: 8339
Continental Order No: 59783

Test	Testname	QC Batch	Method Blank	LCS	MS Lab No.
GL242	Solids, Total Dissolved	111109-1	111109BLK1	111109LCS1	11110167MS
Lab numbers associated with this batch: 11110485					
GL243	Solids, Total Suspended	111114-1	111114BLK1	111114LCS1	11110446MS
Lab numbers associated with this batch: 11110485					

Continental Analytical Services, Inc.

Quality Control Report
Method Blank, LCS, MS/MSD Data

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Reported: 12/01/2011
Date Received: 11/08/2011
Continental File No: 8339
Continental Order No: 59783

Analysis	Blank Data	% Rec LCS	Limits	Spike Level	Units	Spiked Sample (% Recovery) MS	MSD	Limits	Spike Level	Units	Spiked Sample Precision Data RPD	Limit
QC Batch: 111109-1	For sample analyzed on: 11/09/2011					Spiked sample: 11110167						
Solids, Total Dissolved	ND(30)	N/A			mg/L	MN	MN	#		mg/L	**	5.2
QC Batch: 111109-1	For sample analyzed on: 11/09/2011					Spiked sample: 11110446						
BOD	ND(5)	98.9	70.5-110	198	mg/L	MN	MN	#		mg/L	**	13.2
QC Batch: 111109-3	For samples prepared on: 11/09/2011					Spiked sample: 11110496						
Hardness (Calculated)	ND(5.0)	105	80.0-120	337	mg/L a	MN	MN	80.0-120	337	mg/L as	**	20.0
QC Batch: 111110-2	For samples prepared on: 11/10/2011					Spiked sample: 11110506						
Cadmium, Tot. Rec., ICP-MS	ND(1)	95.8	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
Copper, Tot. Rec., ICP-MS	ND(5)	91.8	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
Zinc, Tot. Rec., ICP-MS	ND(20)	102	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
QC Batch: 111111-1	For samples prepared on: 11/11/2011					Spiked sample: 11110769						
Kjeldahl Nitrogen, as N (TKN)	ND(1.0)	111	#	4.0	mg/L	MN	MN	#	20.0	mg/L	**	#
QC Batch: 111111-3	For samples prepared on: 11/11/2011					Spiked sample: 11110500						
Cadmium, Dissolved, ICP-MS	ND(1)	96.9	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
Copper, Dissolved, ICP-MS	ND(5)	89.4	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
Zinc, Dissolved, ICP-MS	ND(20)	99.3	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
QC Batch: 111114-1	For sample analyzed on: 11/14/2011					Spiked sample: 11110446						
Solids, Total Suspended	ND(5)	N/A			mg/L	MN	MN	#		mg/L	**	18.2
QC Batch: 111130-1	For sample analyzed on: 11/30/2011					Spiked sample: 11110500						
Phosphorus, Total, as P	ND(0.20)	98.3	90.0-110	2.0	mg/L	MN	MN	71.2-135	2.0	mg/L	**	21.2
QC Batch: 11C1312	For sample analyzed on: 11/08/2011					Spiked sample:						
Nitrite, as N	ND(0.1)	107	90.0-110	2.0	mg/L	MN	MN	78.5-127			**	10.1
Nitrate, as N	ND(0.1)	103	90.0-110	2.0	mg/L	MN	MN	79.3-118			**	12.1
QC Batch: 11C1312	For sample analyzed on: 11/08/2011					Spiked sample: 11102140						
Chloride	ND(1.0)	104	90.0-110	4.0	mg/L	MN	MN	82.1-126	400	mg/L	**	12.5

Data Qualifiers:
N/A - Not Applicable

MN - The MS/MSD sample analyses were not performed on a sample from this Continental order number.

- Limits not available.

** - RPD cannot be calculated.

Continental Analytical Services, Inc.

Quality Control Report
Continuing Calibration Data Summary

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Reported: 12/01/2011
Date Received: 11/08/2011
Continental File No: 8339
Continental Order No: 59783

Analysis	Date of Analysis	Instrument Batch ID	Amount in Standard	Amount Detected	Units	Percent Recovery
Cadmium, Tot. Rec., ICP-MS	11/14/2011	1IP3318	CCV recovery acceptable for this Instrument Batch.			
Cadmium, Dissolved, ICP-MS	11/15/2011	1IP3319	CCV recovery acceptable for this Instrument Batch.			
Cadmium, Tot. Rec., ICP-MS	11/14/2011	2IP3318	CCV recovery acceptable for this Instrument Batch.			
Cadmium, Dissolved, ICP-MS	11/15/2011	2IP3319	CCV recovery acceptable for this Instrument Batch.			
Copper, Tot. Rec., ICP-MS	11/14/2011	1IP3318	CCV recovery acceptable for this Instrument Batch.			
Copper, Dissolved, ICP-MS	11/15/2011	1IP3319	CCV recovery acceptable for this Instrument Batch.			
Copper, Tot. Rec., ICP-MS	11/14/2011	2IP3318	CCV recovery acceptable for this Instrument Batch.			
Copper, Dissolved, ICP-MS	11/15/2011	2IP3319	CCV recovery acceptable for this Instrument Batch.			
BOD	11/09/2011	111109-1	CCV recovery acceptable for this Instrument Batch.			
BOD	11/09/2011	111109-2	CCV recovery acceptable for this Instrument Batch.			
Phosphorus, Total, as P	11/30/2011	111130-1	CCV recovery acceptable for this Instrument Batch.			
Phosphorus, Total, as P	11/30/2011	111130-2	CCV recovery acceptable for this Instrument Batch.			
Chloride	11/08/2011	1IC1312	CCV recovery acceptable for this Instrument Batch.			
Nitrite, as N	11/08/2011	1IC1312	CCV recovery acceptable for this Instrument Batch.			
Nitrate, as N	11/08/2011	1IC1312	CCV recovery acceptable for this Instrument Batch.			
Kjeldahl Nitrogen, as N (TKN)	11/15/2011	111115-1	CCV recovery acceptable for this Instrument Batch.			
Kjeldahl Nitrogen, as N (TKN)	11/15/2011	111115-2	CCV recovery acceptable for this Instrument Batch.			
Hardness (Calculated)	11/11/2011	11IP4314	CCV recovery acceptable for this Instrument Batch.			
Hardness (Calculated)	11/11/2011	12IP4314	CCV recovery acceptable for this Instrument Batch.			
Zinc, Tot. Rec., ICP-MS	11/14/2011	1IP3318	CCV recovery acceptable for this Instrument Batch.			
Zinc, Dissolved, ICP-MS	11/15/2011	1IP3319	CCV recovery acceptable for this Instrument Batch.			
Zinc, Tot. Rec., ICP-MS	11/14/2011	2IP3318	CCV recovery acceptable for this Instrument Batch.			
Zinc, Dissolved, ICP-MS	11/15/2011	2IP3319	CCV recovery acceptable for this Instrument Batch.			

- Laboratory Report Conclusion -

Continental Analytical Services, Inc.

525 N. 8th Street, Salina, KS 67401
(785)827-1273 (800)535-3076 Fax (785)823-7830
www.cas-lab.com

CAS ORDER NO: 59183

CHAIN OF CUSTODY RECORD

Continental Shipping Order Number: _____

Client/Reporting Information			Invoice Information		
Company Name: City of Wichita Storm Water Management			Company Name: City of Wichita Storm Water Management		
Address: City Hall, 8th Floor, 455 N. Main			Address: City Hall, 8th Floor, 455 N. Main		
City: Wichita	State: KS	Zip: 67202	City: Wichita	State: KS	Zip: 67202
Contact: Jim Hardesty	E-mail: Jhardesty@wichita.gov		Contact: Jim Hardesty	E-mail: Jhardesty@wichita.gov	
Phone Number: (316)268-8317	Fax Number: (316)858-7889		Phone Number: (316)268-8317	Fax Number: (316)858-7889	

Sampler's Name:(Printed) Justin Murphy
Sampler's Name:(Signature)
Purchase Order Number:
File Number: 8339
Project Name: Stormwater - UPSTREAM

SAMPLE IDENTIFICATION (30 Characters or less)	Matrix (Sample Type)	Regulatory Program	Date Sampled	Time Sampled	C-Composite G-Grab	Total Containers	Number of Preserved Bottles: HCL	NaOH	HNO3	H2SO4	NONE	OTHER	Total Cadmium, Copper, Zinc 250mL Plastic - HNO3	Dissolved Cadmium, Copper, Zinc 250mL Plastic - None	Hardness, TSS, TDS, Cl, BOD, NO3, NO2, Tot. Nitrogen 100mL Plastic - None	TKN, Total P 250mL Plastic - H2SO4					COMMENTS
Huntington Upstream	WW	N	11/7/11	1310	G	4			1	1	2		X	X	X	X					

Regulatory Program: N=NPDES, R=RCRA, D=Drinking Water, SL=503 Sludge, O=Other

(Please note if non-standard turnaround Rush & Emergency subject to additional charge)
Standard TAT (15 working days) Rush TAT (5 working days) Emergency TAT (3 working days)

Matrix (Sample Type): DW=Drinking Water, GW=Ground Water, WW=Waste Water, W=Wipe, S=Solid/Soil, SL=Sludge, A=Air, OL = Oil/Organic Liquid, O=Other

	DATE	TIME		DATE	TIME
RELINQUISHED BY:	11/8/11	0830	RECEIVED BY:	11/8/11	0840
RELINQUISHED BY:	11/8/11	11:35	RECEIVED BY:		
RECEIVED AT LAB BY:	11/8/11	11:35	SHIPPED VIA: / AIRBILL:	SEAL #: / SEAL DATE:	

Continental's Standard Terms and Conditions of Sale will apply to all samples received unless a separate contractual agreement has been made.

Continental Analytical Services, Inc.
Cooler/Sample Receipt Form (C/S RF)

CAS Order No.: 57283

Client Name: Vichitz

CAS File No.: 8329

Sample ID's in cooler: See Coc

Huntington

Cooler 1 of 1 for this CAS Order No.

Cooler Identification: CAS Cooler #: _____ (Client's Cooler) / Box / Letter / Hand-delivered
Other: _____

Date/Time Cooler Received: 11 / 8 / 11 11 : 35

Delivered By: UPS / FedX / AB Express / Field Svcs / Mail / Walk-In / (Other): CT

Custody Seal: Present: Intact / Broken Absent: X Seal No: _____
Seal Name: _____ Seal Date: _____
Seal matches Chain of Custody: Yes / No / (N/A)

Type of Packing Material: Blue Ice / (Ice) / Melted Ice / Bubble / Foam / Paper / Peanuts / Vermiculite / None / Other: _____

Cooler Temperature (°C): Original Reading (°C) 1.0 Corrected Reading (°C) 1.4
Temp. By: (Temp. Blank) Cooler Surface: Glass / Plastic / Metal / Other: _____
Thermo. ID No.: 58r Thermo. Correction Factor (°C): 0.4

☐ Evidence of Cooling and date received = *date sampled*

Sample Receipt Discrepancies: ☒ No ☐ Yes **(See below for discrepancies.)**

Note: If discrepancies are present, CAS will proceed with analyses until/unless directed otherwise by the client.

☐ Chain of Custody not present - information taken from:
Cover Letter ☐ Container ☐
PO ☐ CAS Proj. Mgr. ☐
☐ Container label absent
☐ Chain of Custody incomplete [see detail below]
☐ Chain of Custody missing date/time sampled (excl. TB or Dup.)
☐ Date or Time sampled obtained from container label
☐ Chain of Custody missing sampler's name
☐ Chain of Custody missing matrix (sample type)
☐ Missing relinquished information: signature date time

☐ Sample excluded from Chain of Custody
☐ Sample listed on Chain of Custody, not received
☐ Sample description on container and Chain of Custody do not agree
☐ Air bubbles in Aqueous VOA vials larger than pea-size [approx. 6 mm]
☐ Cooler temperature exceeded 0.1 - 6.0 °C requirement
[Do not mark if samples do not require cooling to 0.1 - 6.0 °C.]
☐ Broken or leaking containers (detail actions below)
☐ Sample container type or labeled chemical preservation inappropriate
☐ Other discrepancies: _____

Detail to discrepancies/comments:

Completed by: Max *Date Completed:* 11-8-11

Continental
Analytical Services, Inc.

12/01/2011

City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date and Time Received: 11/08/2011 11:35
Continental File No.: 8339
Continental Order No.: 59784
Project ID: SW Upstream

Dear Mr. Hardesty:

This laboratory report containing the samples indicated below, includes 8 pages for the analytical report, 1 page(s) for the chain of custody and/or analysis request, and 1 page(s) for the sample receipt form.

CAS LAB ID #	SAMPLE DESCRIPTION	SAMPLE TYPE	DATE SAMPLED
11110486	McLean Upstream	Liquid	11/7/2011

The Appendix and Quality Control sections are integral parts of this laboratory report and may contain important data qualifiers.

All results are reported on a wet weight basis unless otherwise stated.

Samples will be retained for thirty days unless Continental is otherwise notified.

Continental is accredited by the State of Kansas through the National Environmental Laboratory Accreditation Program (NELAP). The results contained in this report were obtained using Continental's Standard Operating Procedures. These procedures are in substantial compliance with the approved methods referenced and the standards published by NELAP unless otherwise noted in the Appendix and Quality Control sections of this report.

This report may not be reproduced, except in full, without written approval from Continental Analytical Services, Inc.

Thank you for choosing Continental for this project.

CONTINENTAL ANALYTICAL SERVICES, INC.

Clifford J. Baker
Technical Manager

Gregory J. Groene
Project Manager

525 N. Eighth St. - P.O. Box 3737 - Salina, KS 67402-3737
785-827-1273 800-535-3076 Fax 785-823-7830

KDHE Environmental Laboratory Accreditation No. E-10146

Continental Analytical Services, Inc.

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Reported: 12/01/2011
Date Received: 11/08/2011
Continental File No: 8339
Continental Order No: 59784

Lab Number: 11110486
Sample Description: McLean Upstream

Date Sampled: 11/07/2011
Time Sampled: 1255

Analysis	Concentration	Units	Book/Page
Cadmium, Dissolved, ICP-MS	ND(1) DM	µg/L	7202/43
Cadmium, Tot. Rec., ICP-MS	ND(1)	µg/L	7202/42
Copper, Dissolved, ICP-MS	ND(5) DM	µg/L	7202/43
Copper, Tot. Rec., ICP-MS	7	µg/L	7202/42
Hardness (Calculated)	267	mg/L as CaCO3	7157/132
Zinc, Dissolved, ICP-MS	ND(20) DM	µg/L	7202/43
Zinc, Tot. Rec., ICP-MS	35	µg/L	7202/42
BOD	10	mg/L	7060/276
Chloride	119	mg/L	7129/85
Kjeldahl Nitrogen, as N (TKN)	1.9	mg/L	6854/351
Nitrate, as N	0.3	mg/L	7129/85
Nitrite, as N	ND(1) M	mg/L	7129/85
Nitrogen (TKN + NO3/NO2), as N	2.2	mg/L	9999/596
Phosphorus, Total, as P	0.32	mg/L	7061/219
Solids, Total Dissolved	566	mg/L	7059/603
Solids, Total Suspended	120.	mg/L	7059/607

Analysis	Date/Time Prepared	Date/Time Analyzed	QC Batch	Inst. Batch	Analyst	Method(s)
Cadmium, Dissolved, ICP-MS	11/11/11 1012	11/15/11 1544	111111-3	1IP3319	KMW	200.8 Rev. 5.4
Cadmium, Tot. Rec., ICP-MS	11/11/11 0836	11/14/11 2116	111111-1	4IP3318	KMW	200.8 Rev. 5.4
Copper, Dissolved, ICP-MS	11/11/11 1012	11/15/11 1544	111111-3	1IP3319	KMW	200.8 Rev. 5.4
Copper, Tot. Rec., ICP-MS	11/11/11 0836	11/14/11 2116	111111-1	4IP3318	KMW	200.8 Rev. 5.4
Hardness (Calculated)	11/18/11 1242	11/29/11 1732	111118-3	3IP4333	KMW	200.7 & SM 2340B
Zinc, Dissolved, ICP-MS	11/11/11 1012	11/15/11 1544	111111-3	1IP3319	KMW	200.8 Rev. 5.4
Zinc, Tot. Rec., ICP-MS	11/11/11 0836	11/14/11 2116	111111-1	4IP3318	KMW	200.8 Rev. 5.4
BOD	N/A	11/09/11 1015	111109-1	111109-1	ASK	SM 5210B
Chloride	N/A	11/08/11 1748	1IC1312	1IC1312	MLL	300.0
Kjeldahl Nitrogen, as N (T	11/11/11 1632	11/15/11 1042	111111-1	111115-1	JND	EPA 351.2
Nitrate, as N	N/A	11/08/11 1735	1IC1312	1IC1312	MLL	300.0
Nitrite, as N	N/A	11/08/11 1748	1IC1312	1IC1312	MLL	300.0
Nitrogen (TKN + NO3/NO2),	N/A	11/17/11 1422				Calculation
Phosphorus, Total, as P	N/A	11/30/11 1657	111130-1	111130-1	KJH	SM 4500-P(B&F)(M
Solids, Total Dissolved	N/A	11/09/11 1358	111109-1	111109-1	KJH	SM20th 2540C
Solids, Total Suspended	N/A	11/14/11 1442	111114-1	111114-1	KJH	SM20th 2540D
Dissolved Metals Preparation Method						200.7/200.8
Total Recoverable Metals Preparation Method						200.7/200.8
Calculated as Hardness Preparation Method						200.7/6010B

Conclusion of Lab Number: 11110486

Appendix

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Reported: 12/01/2011
Date Received: 11/08/2011
Continental File No: 8339
Continental Order No: 59784

ND(), where reported, indicates the analyte was not detected above the Limit of Quantitation (LOQ). The concentration of the LOQ is inside the parentheses.

All samples which require cooling were received at a temperature of less than 6 degrees Celsius.

The following table presents the date and time sampled, the date and time analyzed, and the total time elapsed for each analysis with an EPA recommended holding time of seventy-two hours or less.

CAS LAB ID #	ANALYSIS	DATE/TIME SAMPLED	DATE/TIME ANALYZED	ELAPSED HRS:MIN
11110486	BOD	11/07/2011 1255	11/09/2011 1015	45:20
11110486	Nitrate, as N	11/07/2011 1255	11/08/2011 1735	28:40
11110486	Nitrite, as N	11/07/2011 1255	11/08/2011 1748	28:53

DM - NPDES requirements specify that dissolved metals and orthophosphate must be filtered within 15 minutes of the time of collection. This analysis did not meet these criteria.

M - Reporting limit higher than normal due to matrix interferences.

Continental Analytical Services, Inc.

Accreditation Summary

Client: City of Wichita
Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Reported: 12/01/2011
Date Received: 11/08/2011
Continental File No: 8339
Continental Order No: 59784

NELAP accreditation is issued under each EPA regulatory program for a given matrix/analyte/method combination. Continental is NELAP accredited for each matrix/analyte/method and EPA program cited in this Laboratory Report, except for those listed in the table below and analysis performed in the field. For most of the analyses listed in the table, NELAP accreditation is not offered under the listed EPA program and Continental is NELAP accredited for the analysis, using the same analytical technology, but under a different EPA program. Continental's full NELAP accreditation status may be viewed at www.kdheks.gov/envlab. Note that unless qualified otherwise in the Laboratory Report, Continental performs all analyses, including each analysis listed in the table below, utilizing NELAP protocol.

Test	Analysis	Matrix-Regulatory Program	Method	CAS NELAP Accredited in Other Reg. Program
GL343	Nitrogen (TKN + NO3/NO2), as N	L-NPDES	Calculation	N

Continental Analytical Services, Inc.

Quality Control Report
Batch Summary

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Reported: 12/01/2011
Date Received: 11/08/2011
Continental File No: 8339
Continental Order No: 59784

Test	Testname	QC Batch	Method Blank	LCS	MS Lab No.
SL006	Cadmium, Tot. Rec., ICP-MS	111111-1	111111BLK1	111111LCS1	11110498MS
SL012	Copper, Tot. Rec., ICP-MS	111111-1	111111BLK1	111111LCS1	11110498MS
SL033	Zinc, Tot. Rec., ICP-MS	111111-1	111111BLK1	111111LCS1	11110498MS
Lab numbers associated with this batch: 11110486					
SL156	Cadmium, Dissolved, ICP-MS	111111-3	111111BLK3	111111LCS3	11110500MS
SL162	Copper, Dissolved, ICP-MS	111111-3	111111BLK3	111111LCS3	11110500MS
SL183	Zinc, Dissolved, ICP-MS	111111-3	111111BLK3	111111LCS3	11110500MS
Lab numbers associated with this batch: 11110486					
SL323	Hardness (Calculated)	111118-3	111118BLK3	111118LCS3	11110486MS
Lab numbers associated with this batch: 11110486					
GL123	BOD	111109-1	111109BLK1	111109LCS1	11110446MS
Lab numbers associated with this batch: 11110486					
GL502	Chloride	1IC1312	BLK1IC1312	LCS1IC1312	11102140MS
Lab numbers associated with this batch: 11110486					
GL595	Kjeldahl Nitrogen, as N (TKN)	111111-1	111111BLK1	111111LCS1	11110769MS
Lab numbers associated with this batch: 11110486					
GL505	Nitrate, as N	1IC1312	BLK1IC1312	LCS1IC1312	
GL503	Nitrite, as N	1IC1312	BLK1IC1312	LCS1IC1312	
Lab numbers associated with this batch: 11110486					
GL343	Nitrogen (TKN + NO3/NO2), as N				
Lab numbers associated with this batch: 11110486					
GL218	Phosphorus, Total, as P	111130-1	111130BLK1	111130LCS1	11110500MS
Lab numbers associated with this batch: 11110486					

Continental Analytical Services, Inc.

Quality Control Report
Batch Summary

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Reported: 12/01/2011
Date Received: 11/08/2011
Continental File No: 8339
Continental Order No: 59784

Test	Testname	QC Batch	Method Blank	LCS	MS Lab No.
GL242	Solids, Total Dissolved	111109-1	111109BLK1	111109LCS1	11110167MS
Lab numbers associated with this batch: 11110486					
GL243	Solids, Total Suspended	111114-1	111114BLK1	111114LCS1	11110446MS
Lab numbers associated with this batch: 11110486					

Continental Analytical Services, Inc.

Quality Control Report
Method Blank, LCS, MS/MSD Data

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Reported: 12/01/2011
Date Received: 11/08/2011
Continental File No: 8339
Continental Order No: 59784

Analysis	Blank Data	% Rec LCS	Limits	Spike Level	Units	Spiked Sample (% Recovery) MS	MSD	Limits	Spike Level	Units	Spiked Sample Precision Data RPD	Limit
QC Batch: 111109-1	For sample analyzed on: 11/09/2011					Spiked sample: 11110167						
Solids, Total Dissolved	ND(30)	N/A			mg/L	MN	MN	#		mg/L	**	5.2
QC Batch: 111109-1	For sample analyzed on: 11/09/2011					Spiked sample: 11110446						
BOD	ND(5)	98.9	70.5-110	198	mg/L	MN	MN	#		mg/L	**	13.2
QC Batch: 111111-1	For samples prepared on: 11/11/2011					Spiked sample: 11110498						
Cadmium, Tot. Rec., ICP-MS	ND(1)	98.4	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
Copper, Tot. Rec., ICP-MS	ND(5)	91.8	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
Zinc, Tot. Rec., ICP-MS	ND(20)	104	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
QC Batch: 111111-1	For samples prepared on: 11/11/2011					Spiked sample: 11110769						
Kjeldahl Nitrogen, as N (TKN)	ND(1.0)	111	#	4.0	mg/L	MN	MN	#	20.0	mg/L	**	#
QC Batch: 111111-3	For samples prepared on: 11/11/2011					Spiked sample: 11110500						
Cadmium, Dissolved, ICP-MS	ND(1)	96.9	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
Copper, Dissolved, ICP-MS	ND(5)	89.4	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
Zinc, Dissolved, ICP-MS	ND(20)	99.3	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
QC Batch: 111114-1	For sample analyzed on: 11/14/2011					Spiked sample: 11110446						
Solids, Total Suspended	ND(5)	N/A			mg/L	MN	MN	#		mg/L	**	18.2
QC Batch: 111118-3	For samples prepared on: 11/18/2011					Spiked sample: 11110486						
Hardness (Calculated)	ND(5.0)	107	80.0-120	337	mg/L a	108	99.5	80.0-120	337	mg/L as	8.2	20.0
QC Batch: 111130-1	For sample analyzed on: 11/30/2011					Spiked sample: 11110500						
Phosphorus, Total, as P	ND(0.20)	98.3	90.0-110	2.0	mg/L	MN	MN	71.2-135	2.0	mg/L	**	21.2
QC Batch: 11C1312	For sample analyzed on: 11/08/2011					Spiked sample:						
Nitrite, as N	ND(0.1)	107	90.0-110	2.0	mg/L	MN	MN	78.5-127			**	10.1
Nitrate, as N	ND(0.1)	103	90.0-110	2.0	mg/L	MN	MN	79.3-118			**	12.1
QC Batch: 11C1312	For sample analyzed on: 11/08/2011					Spiked sample: 11102140						
Chloride	ND(1.0)	104	90.0-110	4.0	mg/L	MN	MN	82.1-126	400	mg/L	**	12.5

Data Qualifiers:
N/A - Not Applicable

MN - The MS/MSD sample analyses were not performed on a sample from this Continental order number.

- Limits not available.

** - RPD cannot be calculated.

Continental Analytical Services, Inc.

Quality Control Report
Continuing Calibration Data Summary

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Reported: 12/01/2011
Date Received: 11/08/2011
Continental File No: 8339
Continental Order No: 59784

Analysis	Date of Analysis	Instrument Batch ID	Amount in Standard	Amount Detected	Units	Percent Recovery
Cadmium, Dissolved, ICP-MS	11/15/2011	1IP3319	CCV recovery acceptable for this Instrument Batch.			
Cadmium, Dissolved, ICP-MS	11/15/2011	2IP3319	CCV recovery acceptable for this Instrument Batch.			
Cadmium, Tot. Rec., ICP-MS	11/14/2011	4IP3318	CCV recovery acceptable for this Instrument Batch.			
Cadmium, Tot. Rec., ICP-MS	11/14/2011	5IP3318	CCV recovery acceptable for this Instrument Batch.			
Copper, Dissolved, ICP-MS	11/15/2011	1IP3319	CCV recovery acceptable for this Instrument Batch.			
Copper, Dissolved, ICP-MS	11/15/2011	2IP3319	CCV recovery acceptable for this Instrument Batch.			
Copper, Tot. Rec., ICP-MS	11/14/2011	4IP3318	CCV recovery acceptable for this Instrument Batch.			
Copper, Tot. Rec., ICP-MS	11/14/2011	5IP3318	CCV recovery acceptable for this Instrument Batch.			
BOD	11/09/2011	111109-1	CCV recovery acceptable for this Instrument Batch.			
BOD	11/09/2011	111109-2	CCV recovery acceptable for this Instrument Batch.			
Phosphorus, Total, as P	11/30/2011	111130-1	CCV recovery acceptable for this Instrument Batch.			
Phosphorus, Total, as P	11/30/2011	111130-2	CCV recovery acceptable for this Instrument Batch.			
Chloride	11/08/2011	1IC1312	CCV recovery acceptable for this Instrument Batch.			
Nitrite, as N	11/08/2011	1IC1312	CCV recovery acceptable for this Instrument Batch.			
Nitrate, as N	11/08/2011	1IC1312	CCV recovery acceptable for this Instrument Batch.			
Kjeldahl Nitrogen, as N (TKN)	11/15/2011	111115-1	CCV recovery acceptable for this Instrument Batch.			
Kjeldahl Nitrogen, as N (TKN)	11/15/2011	111115-2	CCV recovery acceptable for this Instrument Batch.			
Hardness (Calculated)	11/29/2011	3IP4333	CCV recovery acceptable for this Instrument Batch.			
Hardness (Calculated)	11/29/2011	4IP4333	CCV recovery acceptable for this Instrument Batch.			
Zinc, Dissolved, ICP-MS	11/15/2011	1IP3319	CCV recovery acceptable for this Instrument Batch.			
Zinc, Dissolved, ICP-MS	11/15/2011	2IP3319	CCV recovery acceptable for this Instrument Batch.			
Zinc, Tot. Rec., ICP-MS	11/14/2011	4IP3318	CCV recovery acceptable for this Instrument Batch.			
Zinc, Tot. Rec., ICP-MS	11/14/2011	5IP3318	CCV recovery acceptable for this Instrument Batch.			

- Laboratory Report Conclusion -

CAS ORDER NO. 51189

Continental Analytical Services, Inc.

525 N. 8th Street, Salina, KS 67401
(785)827-1273 (800)535-3076 Fax (785)823-7830
www.cas-lab.com

CHAIN OF CUSTODY RECORD

Continental Shipping Order Number: _____

Client/Reporting Information			Invoice Information		
Company Name: City of Wichita Storm Water Management			Company Name: City of Wichita Storm Water Management		
Address: City Hall, 8th Floor, 455 N. Main			Address: City Hall, 8th Floor, 455 N. Main		
City: Wichita	State: KS	Zip: 67202	City: Wichita	State: KS	Zip: 67202
Contact: Jim Hardesty	E-mail: Jhardesty@wichita.gov		Contact: Jim Hardesty	E-mail: Jhardesty@wichita.gov	
Phone Number: (316)268-8317	Fax Number: (316)858-7889		Phone Number: (316)268-8317	Fax Number: (316)858-7889	

Sampler's Name:(Printed): Justin Murphy

Sampler's Name:(Signature):

Purchase Order Number:

File Number: 8339

Project Name: Stormwater - UPSTREAM

SAMPLE IDENTIFICATION (30 Characters or less)	Matrix (Sample Type)	Regulatory Program	Date Sampled	Time Sampled	C-Composite G-Grab	Total Containers	Number of Preserved Bottles: HCL	NaOH	HNO3	H2SO4	NONE	OTHER	Total Cadmium, Copper, Zinc 250mL Plastic - HNO3	Dissolved Cadmium, Copper, Zinc 250mL Plastic - None	Hardness, TSS, TDS, Cl, BOD, NO3, NO2, Tot. Nitrogen 1000mL Plastic - None	TKN, Total P 250mL Plastic - H2SO4					COMMENTS
McLean Upstream	WW	N	11/7/11	1255	G	4			1	1	2		X	X	X	X					

Regulatory Program: N=NPDES, R=RCRA, D=Drinking Water, SL=503 Sludge, O=Other

(Please note if non-standard turnaround. Rush & Emergency subject to additional charge)
Standard TAT (15 working days) Rush TAT (5 working days) Emergency TAT (3 working days)

Matrix (Sample Type): DW=Drinking Water, GW=Ground Water, WW=Waste Water, W=Wipe, S=Solid/Soil, SL=Sludge, A=Air, OL = Oil/Organic Liquid, O=Other

	DATE	TIME		DATE	TIME
RELINQUISHED BY	11/8/11	0830	RECEIVED BY	11/8/11	0940
RELINQUISHED BY	11/8/11	11:35	RECEIVED BY	DATE:	TIME:
RECEIVED AT LAB BY	11/8/11	1135	SHIPPED VIA: AIRBILL.	SEAL #: SEAL DATE.	

Continental's Standard Terms and Conditions of Sale will apply to all samples received unless a separate contractual agreement has been made.

Continental Analytical Services, Inc.
Cooler/Sample Receipt Form (C/S RF)

CAS Order No.: 59784

Client Name: Wichita

CAS File No.: 8339

Sample ID's in cooler: See COC

McClean

Cooler 1 of 1 for this CAS Order No.

Cooler Identification: CAS Cooler #: _____ (Client's Cooler) / Box / Letter / Hand-delivered
Other: _____

Date/Time Cooler Received: 11 / 8 / 11 11 : 35

Delivered By: UPS / FedX / AB Express / Field Svcs / Mail / Walk-In / (Other): CT

Custody Seal: Present: Intact / Broken Absent: X Seal No: _____
Seal Name: _____ Seal Date: _____
Seal matches Chain of Custody: Yes / No / (N/A)

Type of Packing Material: Blue Ice / (Ice) / Melted Ice / (Bubble) / Foam / Paper / Peanuts / Vermiculite / None / Other: _____

Cooler Temperature (°C): Original Reading (°C) 0.7 Corrected Reading (°C) 1.1
Temp. By: (Temp. Blank) Cooler Surface: Glass / Plastic / Metal / Other: _____
Thermo. ID No.: 58r Thermo. Correction Factor (°C): 0.4

☐ Evidence of Cooling and date received = date sampled

Sample Receipt Discrepancies: ☒ No ☐ Yes (See below for discrepancies.)

Note: **If discrepancies are present, CAS will proceed with analyses until/unless directed otherwise by the client.**

- ☐ Chain of Custody not present - information taken from:
  - Cover Letter ☐ Container ☐
  - PO ☐ CAS Proj. Mgr. ☐
- ☐ Container label absent
- ☐ Chain of Custody incomplete [see detail below]
- ☐ Chain of Custody missing date/time sampled (excl. TB or Dup.)
- ☐ Date or Time sampled obtained from container label
- ☐ Chain of Custody missing sampler's name
- ☐ Chain of Custody missing matrix (sample type)
- ☐ Missing relinquished information: signature date time
- ☐ Sample excluded from Chain of Custody
- ☐ Sample listed on Chain of Custody, not received
- ☐ Sample description on container and Chain of Custody do not agree
- ☐ Air bubbles in Aqueous VOA vials larger than pea-size [approx. 6 mm]
- ☐ Cooler temperature exceeded 0.1 - 6.0 °C requirement [Do not mark if samples do not require cooling to 0.1 - 6.0 °C.]
- ☐ Broken or leaking containers (detail actions below)
- ☐ Sample container type or labeled chemical preservation inappropriate
- ☐ Other discrepancies: _____

Detail to discrepancies/comments:

Completed by: MVC Date Completed: 11-8-11

Continental
Analytical Services, Inc.

12/01/2011

City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date and Time Received: 11/08/2011 11:35
Continental File No.: 8339
Continental Order No.: 59785
Project ID: SW Upstream

Dear Mr. Hardesty:

This laboratory report containing the samples indicated below, includes 8 pages for the analytical report, 1 page(s) for the chain of custody and/or analysis request, and 1 page(s) for the sample receipt form.

CAS LAB ID #	SAMPLE DESCRIPTION	SAMPLE TYPE	DATE SAMPLED
11110487	Towne East Upstream	Liquid	11/7/2011

The Appendix and Quality Control sections are integral parts of this laboratory report and may contain important data qualifiers.

All results are reported on a wet weight basis unless otherwise stated.

Samples will be retained for thirty days unless Continental is otherwise notified.

Continental is accredited by the State of Kansas through the National Environmental Laboratory Accreditation Program (NELAP). The results contained in this report were obtained using Continental's Standard Operating Procedures. These procedures are in substantial compliance with the approved methods referenced and the standards published by NELAP unless otherwise noted in the Appendix and Quality Control sections of this report.

This report may not be reproduced, except in full, without written approval from Continental Analytical Services, Inc.

Thank you for choosing Continental for this project.

CONTINENTAL ANALYTICAL SERVICES, INC.

Clifford J. Baker
Technical Manager

Gregory J. Groene
Project Manager

525 N. Eighth St. - P.O. Box 3737 - Salina, KS 67402-3737
785-827-1273 800-535-3076 Fax 785-823-7830
KDHE Environmental Laboratory Accreditation No. E-10146

Continental Analytical Services, Inc.

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Reported: 12/01/2011
Date Received: 11/08/2011
Continental File No: 8339
Continental Order No: 59785

Lab Number: 11110487
Sample Description: Towne East Upstream

Date Sampled: 11/07/2011
Time Sampled: 1315

Analysis	Concentration	Units	Book/Page
Cadmium, Dissolved, ICP-MS	ND(1) DM	µg/L	7202/43
Cadmium, Tot. Rec., ICP-MS	ND(1)	µg/L	7202/42
Copper, Dissolved, ICP-MS	ND(5) DM	µg/L	7202/43
Copper, Tot. Rec., ICP-MS	6	µg/L	7202/42
Hardness (Calculated)	139	mg/L as CaCO3	7157/132
Zinc, Dissolved, ICP-MS	ND(20) DM	µg/L	7202/43
Zinc, Tot. Rec., ICP-MS	44	µg/L	7202/42
BOD	7	mg/L	7060/277
Chloride	71	mg/L	7129/85
Kjeldahl Nitrogen, as N (TKN)	1.2	mg/L	6854/351
Nitrate, as N	0.3	mg/L	7129/85
Nitrite, as N	ND(1) M	mg/L	7129/85
Nitrogen (TKN + NO3/NO2), as N	1.5	mg/L	9999/596
Phosphorus, Total, as P	ND(0.20)	mg/L	7061/219
Solids, Total Dissolved	278	mg/L	7059/603
Solids, Total Suspended	71	mg/L	7059/607

Analysis	Date/Time Prepared	Date/Time Analyzed	QC Batch	Inst. Batch	Analyst	Method(s)
Cadmium, Dissolved, ICP-MS	11/11/11 1012	11/15/11 1549	111111-3	1IP3319	KMW	200.8 Rev. 5.4
Cadmium, Tot. Rec., ICP-MS	11/10/11 0837	11/14/11 1746	111110-2	1IP3318	KMW	200.8 Rev. 5.4
Copper, Dissolved, ICP-MS	11/11/11 1012	11/15/11 1549	111111-3	1IP3319	KMW	200.8 Rev. 5.4
Copper, Tot. Rec., ICP-MS	11/10/11 0837	11/14/11 1746	111110-2	1IP3318	KMW	200.8 Rev. 5.4
Hardness (Calculated)	11/18/11 1242	11/29/11 1748	111118-3	3IP4333	KMW	200.7 & SM 2340B
Zinc, Dissolved, ICP-MS	11/11/11 1012	11/15/11 1549	111111-3	1IP3319	KMW	200.8 Rev. 5.4
Zinc, Tot. Rec., ICP-MS	11/10/11 0837	11/14/11 1746	111110-2	1IP3318	KMW	200.8 Rev. 5.4
BOD	N/A	11/09/11 1110	111109-2	111109-4	ASK	SM 5210B
Chloride	N/A	11/08/11 1814	1IC1312	1IC1312	MLL	300.0
Kjeldahl Nitrogen, as N (T	11/11/11 1632	11/15/11 1044	111111-1	111115-1	JND	EPA 351.2
Nitrate, as N	N/A	11/08/11 1801	1IC1312	1IC1312	MLL	300.0
Nitrite, as N	N/A	11/08/11 1814	1IC1312	1IC1312	MLL	300.0
Nitrogen (TKN + NO3/NO2),	N/A	11/17/11 1422				Calculation
Phosphorus, Total, as P	N/A	11/30/11 1658	111130-1	111130-1	KJH	SM 4500-P(B&F)(M)
Solids, Total Dissolved	N/A	11/09/11 1359	111109-1	111109-1	KJH	SM20th 2540C
Solids, Total Suspended	N/A	11/14/11 1442	111114-1	111114-1	KJH	SM20th 2540D
Dissolved Metals Preparation Method						200.7/200.8
Total Recoverable Metals Preparation Method						200.7/200.8
Calculated as Hardness Preparation Method						200.7/6010B

Conclusion of Lab Number: 11110487

Appendix

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Reported: 12/01/2011
Date Received: 11/08/2011
Continental File No: 8339
Continental Order No: 59785

ND(), where reported, indicates the analyte was not detected above the Limit of Quantitation (LOQ). The concentration of the LOQ is inside the parentheses.

All samples which require cooling were received at a temperature of less than 6 degrees Celsius.

The following table presents the date and time sampled, the date and time analyzed, and the total time elapsed for each analysis with an EPA recommended holding time of seventy-two hours or less.

CAS LAB ID #	ANALYSIS	DATE/TIME SAMPLED	DATE/TIME ANALYZED	ELAPSED HRS:MIN
11110487	BOD	11/07/2011 1315	11/09/2011 1110	45:55
11110487	Nitrate, as N	11/07/2011 1315	11/08/2011 1801	28:46
11110487	Nitrite, as N	11/07/2011 1315	11/08/2011 1814	28:59

DM - NPDES requirements specify that dissolved metals and orthophosphate must be filtered within 15 minutes of the time of collection. This analysis did not meet these criteria.

M - Reporting limit higher than normal due to matrix interferences.

Continental
Analytical Services, Inc.

Accreditation Summary

Client: City of Wichita
Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Reported: 12/01/2011
Date Received: 11/08/2011
Continental File No: 8339
Continental Order No: 59785

NELAP accreditation is issued under each EPA regulatory program for a given matrix/analyte/method combination. Continental is NELAP accredited for each matrix/analyte/method and EPA program cited in this Laboratory Report, except for those listed in the table below and analysis performed in the field. For most of the analyses listed in the table, NELAP accreditation is not offered under the listed EPA program and Continental is NELAP accredited for the analysis, using the same analytical technology, but under a different EPA program. Continental's full NELAP accreditation status may be viewed at www.kdheks.gov/envlab. Note that unless qualified otherwise in the Laboratory Report, Continental performs all analyses, including each analysis listed in the table below, utilizing NELAP protocol.

Test	Analysis	Matrix-Regulatory Program	Method	CAS NELAP Accredited in Other Reg. Program
GL343	Nitrogen (TKN + NO3/NO2), as N	L-NPDES	Calculation	N

Continental Analytical Services, Inc.

Quality Control Report
Batch Summary

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Reported: 12/01/2011
Date Received: 11/08/2011
Continental File No: 8339
Continental Order No: 59785

Test	Testname	QC Batch	Method Blank	LCS	MS Lab No.
SL006	Cadmium, Tot. Rec., ICP-MS	111110-2	111110BLK2	111110LCS2	11110506MS
SL012	Copper, Tot. Rec., ICP-MS	111110-2	111110BLK2	111110LCS2	11110506MS
SL033	Zinc, Tot. Rec., ICP-MS	111110-2	111110BLK2	111110LCS2	11110506MS
Lab numbers associated with this batch: 11110487					
SL156	Cadmium, Dissolved, ICP-MS	111111-3	111111BLK3	111111LCS3	11110500MS
SL162	Copper, Dissolved, ICP-MS	111111-3	111111BLK3	111111LCS3	11110500MS
SL183	Zinc, Dissolved, ICP-MS	111111-3	111111BLK3	111111LCS3	11110500MS
Lab numbers associated with this batch: 11110487					
SL323	Hardness (Calculated)	111118-3	111118BLK3	111118LCS3	11110987MS
Lab numbers associated with this batch: 11110487					
GL123	BOD	111109-2	111109BLK2	111109LCS2	11110413MS
Lab numbers associated with this batch: 11110487					
GL502	Chloride	1IC1312	BLK1IC1312	LCS1IC1312	11102140MS
Lab numbers associated with this batch: 11110487					
GL595	Kjeldahl Nitrogen, as N (TKN)	111111-1	111111BLK1	111111LCS1	11110769MS
Lab numbers associated with this batch: 11110487					
GL505	Nitrate, as N	1IC1312	BLK1IC1312	LCS1IC1312	
GL503	Nitrite, as N	1IC1312	BLK1IC1312	LCS1IC1312	
Lab numbers associated with this batch: 11110487					
GL343	Nitrogen (TKN + NO3/NO2), as N				
Lab numbers associated with this batch: 11110487					
GL218	Phosphorus, Total, as P	111130-1	111130BLK1	111130LCS1	11110500MS
Lab numbers associated with this batch: 11110487					

Continental Analytical Services, Inc.

Quality Control Report
Batch Summary

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Reported: 12/01/2011
Date Received: 11/08/2011
Continental File No: 8339
Continental Order No: 59785

Test	Testname	QC Batch	Method Blank	LCS	MS Lab No.
GL242	Solids, Total Dissolved	111109-1	111109BLK1	111109LCS1	11110167MS
Lab numbers associated with this batch: 11110487					
GL243	Solids, Total Suspended	111114-1	111114BLK1	111114LCS1	11110446MS
Lab numbers associated with this batch: 11110487					

Continental Analytical Services, Inc.

Quality Control Report
Method Blank, LCS, MS/MSD Data

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Reported: 12/01/2011
Date Received: 11/08/2011
Continental File No: 8339
Continental Order No: 59785

Analysis	Blank Data	% Rec LCS	Limits	Spike Level	Units	Spiked Sample (% Recovery) MS	MSD	Limits	Spike Level	Units	Spiked Sample Precision Data RPD	Limit
QC Batch: 111109-1	For sample analyzed on: 11/09/2011					Spiked sample: 11110167						
Solids, Total Dissolved	ND(30)	N/A			mg/L	MN	MN	#		mg/L	**	5.2
QC Batch: 111109-2	For sample analyzed on: 11/09/2011					Spiked sample: 11110413						
BOD	ND(5)	93.1	70.5-110	198	mg/L	MN	MN	#		mg/L	**	13.2
QC Batch: 111110-2	For samples prepared on: 11/10/2011					Spiked sample: 11110506						
Cadmium, Tot. Rec., ICP-MS	ND(1)	95.8	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
Copper, Tot. Rec., ICP-MS	ND(5)	91.8	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
Zinc, Tot. Rec., ICP-MS	ND(20)	102	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
QC Batch: 111111-1	For samples prepared on: 11/11/2011					Spiked sample: 11110769						
Kjeldahl Nitrogen, as N (TKN)	ND(1.0)	111	#	4.0	mg/L	MN	MN	#	20.0	mg/L	**	#
QC Batch: 111111-3	For samples prepared on: 11/11/2011					Spiked sample: 11110500						
Cadmium, Dissolved, ICP-MS	ND(1)	96.9	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
Copper, Dissolved, ICP-MS	ND(5)	89.4	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
Zinc, Dissolved, ICP-MS	ND(20)	99.3	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
QC Batch: 111114-1	For sample analyzed on: 11/14/2011					Spiked sample: 11110446						
Solids, Total Suspended	ND(5)	N/A			mg/L	MN	MN	#		mg/L	**	18.2
QC Batch: 111118-3	For samples prepared on: 11/18/2011					Spiked sample: 11110987						
Hardness (Calculated)	ND(5.0)	107	80.0-120	337	mg/L a	MN	MN	80.0-120	337	mg/L as	**	20.0
QC Batch: 111130-1	For sample analyzed on: 11/30/2011					Spiked sample: 11110500						
Phosphorus, Total, as P	ND(0.20)	98.3	90.0-110	2.0	mg/L	MN	MN	71.2-135	2.0	mg/L	**	21.2
QC Batch: 1XC1312	For sample analyzed on: 11/08/2011					Spiked sample:						
Nitrite, as N	ND(0.1)	107	90.0-110	2.0	mg/L	MN	MN	78.5-127			**	10.1
Nitrate, as N	ND(0.1)	103	90.0-110	2.0	mg/L	MN	MN	79.3-118			**	12.1
QC Batch: 1XC1312	For sample analyzed on: 11/08/2011					Spiked sample: 11102140						
Chloride	ND(1.0)	104	90.0-110	4.0	mg/L	MN	MN	82.1-126	400	mg/L	**	12.5

Data Qualifiers:
N/A - Not Applicable

MN - The MS/MSD sample analyses were not performed on a sample from this Continental order number.
- Limits not available.
** - RPD cannot be calculated.

Continental Analytical Services, Inc.

Quality Control Report
Continuing Calibration Data Summary

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Reported: 12/01/2011
Date Received: 11/08/2011
Continental File No: 8339
Continental Order No: 59785

Analysis	Date of Analysis	Instrument Batch ID	Amount in Standard	Amount Detected	Units	Percent Recovery
Cadmium, Tot. Rec., ICP-MS	11/14/2011	1IP3318	CCV recovery acceptable for this Instrument Batch.			
Cadmium, Dissolved, ICP-MS	11/15/2011	1IP3319	CCV recovery acceptable for this Instrument Batch.			
Cadmium, Tot. Rec., ICP-MS	11/14/2011	2IP3318	CCV recovery acceptable for this Instrument Batch.			
Cadmium, Dissolved, ICP-MS	11/15/2011	2IP3319	CCV recovery acceptable for this Instrument Batch.			
Copper, Tot. Rec., ICP-MS	11/14/2011	1IP3318	CCV recovery acceptable for this Instrument Batch.			
Copper, Dissolved, ICP-MS	11/15/2011	1IP3319	CCV recovery acceptable for this Instrument Batch.			
Copper, Tot. Rec., ICP-MS	11/14/2011	2IP3318	CCV recovery acceptable for this Instrument Batch.			
Copper, Dissolved, ICP-MS	11/15/2011	2IP3319	CCV recovery acceptable for this Instrument Batch.			
BOD	11/09/2011	111109-4	CCV recovery acceptable for this Instrument Batch.			
BOD	11/09/2011	111109-5	CCV recovery acceptable for this Instrument Batch.			
Phosphorus, Total, as P	11/30/2011	111130-1	CCV recovery acceptable for this Instrument Batch.			
Phosphorus, Total, as P	11/30/2011	111130-2	CCV recovery acceptable for this Instrument Batch.			
Chloride	11/08/2011	1IC1312	CCV recovery acceptable for this Instrument Batch.			
Nitrite, as N	11/08/2011	1IC1312	CCV recovery acceptable for this Instrument Batch.			
Nitrate, as N	11/08/2011	1IC1312	CCV recovery acceptable for this Instrument Batch.			
Kjeldahl Nitrogen, as N (TKN)	11/15/2011	111115-1	CCV recovery acceptable for this Instrument Batch.			
Kjeldahl Nitrogen, as N (TKN)	11/15/2011	111115-2	CCV recovery acceptable for this Instrument Batch.			
Hardness (Calculated)	11/29/2011	3IP4333	CCV recovery acceptable for this Instrument Batch.			
Hardness (Calculated)	11/29/2011	4IP4333	CCV recovery acceptable for this Instrument Batch.			
Zinc, Tot. Rec., ICP-MS	11/14/2011	1IP3318	CCV recovery acceptable for this Instrument Batch.			
Zinc, Dissolved, ICP-MS	11/15/2011	1IP3319	CCV recovery acceptable for this Instrument Batch.			
Zinc, Tot. Rec., ICP-MS	11/14/2011	2IP3318	CCV recovery acceptable for this Instrument Batch.			
Zinc, Dissolved, ICP-MS	11/15/2011	2IP3319	CCV recovery acceptable for this Instrument Batch.			

- Laboratory Report Conclusion -

Continental Analytical Services, Inc.

525 N. 8th Street, Salina, KS 67401
(785)827-1273 (800)535-3076 Fax (785)823-7830
www.cas-lab.com

CAS ORDER NO: 59785

CHAIN OF CUSTODY RECORD

Continental Shipping Order Number: _____

Client/Reporting Information			Invoice Information		
Company Name: City of Wichita Storm Water Management			Company Name: City of Wichita Storm Water Management		
Address: City Hall, 8th Floor, 455 N. Main			Address: City Hall, 8th Floor, 455 N. Main		
City: Wichita	State: KS	Zip: 67202	City: Wichita	State: KS	Zip: 67202
Contact: Jim Hardesty	E-mail: Jhardesty@wichita.gov		Contact: Jim Hardesty	E-mail: Jhardesty@wichita.gov	
Phone Number: (316)268-8317	Fax Number: (316)858-7889		Phone Number: (316)268-8317	Fax Number: (316)858-7889	

Sampler's Name:(Printed) Justin Murphy

Sampler's Name:(Signature)

Purchase Order Number:

File Number: 8339

Project Name: Stormwater - UPSTREAM

SAMPLE IDENTIFICATION (30 Characters or less)	Matrix (Sample Type)	Regulatory Program	Date Sampled	Time Sampled	C-Composite G-Grab	Total Containers	Number of Preserved Bottles: HCL	NaOH	HNO3	H2SO4	NONE	OTHER	Total Cadmium, Copper, Zinc 250mL Plastic - HNO3	Dissolved Cadmium, Copper, Zinc 250mL Plastic - None	Hardness, TSS, TDS, Cl, BOD, NO3, NO2, Tot. Nitrogen 1000mL Plastic - None	TKN, Total P 250mL Plastic - H2SO4					COMMENTS
Towne East Upstream	WW	N	11/7/11	1315	G	4			1	1	2		X	X	X	X					

Regulatory Program: N=NPDES, R=RCRA, D=Drinking Water, SL=503 Sludge, O=Other

(Please note if non-standard turnaround. Rush & Emergency subject to additional charge)
Standard TAT (15 working days) Rush TAT (5 working days) Emergency TAT (3 working days)

Matrix (Sample Type): DW=Drinking Water, GW=Ground Water, WW=Waste Water, W=Wipe, S=Solid/Soil, SL=Sludge, A=Air, OL=Oil/Organic Liquid, O=Other

RELINQUISHED BY: [signature]	DATE: 11/8/11	TIME: 0830	RECEIVED BY: [signature]	DATE: 11/8/11	TIME: 0940
RELINQUISHED BY: [signature]	DATE: 11/8/11	TIME: 11:35	RECEIVED BY:	DATE:	TIME:
RECEIVED AT LAB BY: [signature]	DATE: 11/8/11	TIME: 1135	SHIPPED VIA: / AIRBILL:	SEAL #: / SEAL DATE:	

Continental's Standard Terms and Conditions of Sale will apply to all samples received unless a separate contractual agreement has been made.

Continental Analytical Services, Inc.
Cooler/Sample Receipt Form (C/S RF)

CAS Order No.: 59785

Client Name: Wichita

CAS File No.: 8339

Sample ID's in cooler: Six COC
Town East

Cooler 1 of 1 for this CAS Order No.

Cooler Identification: CAS Cooler #: _____ / Client's Cooler / Box / Letter / Hand-delivered
Other: _____

Date/Time Cooler Received: 11 / 8 / 11 11 : 35

Delivered By: UPS / FedX / AB Express / Field Svcs / Mail / Walk-In / Other: CJ

Custody Seal: Present: Intact / Broken Absent: X Seal No: _____
Seal Name: _____ Seal Date: _____
Seal matches Chain of Custody: Yes / No / N/A

Type of Packing Material: Blue Ice / Ice / Melted Ice / Bubble / Foam / Paper / Peanuts / Vermiculite / None / Other: _____

Cooler Temperature (°C): Original Reading (°C) 1.1 Corrected Reading (°C) 1.5
Temp. By: Temp. Blank Cooler Surface: Glass / Plastic /Metal /Other: _____
Thermo. ID No.: 585 Thermo. Correction Factor (°C): 0.4

☐ Evidence of Cooling and date received = date sampled

Sample Receipt Discrepancies: ☒ No ☐ Yes (See below for discrepancies.)

Note: If discrepancies are present, CAS will proceed with analyses until/unless directed otherwise by the client.

☐ Chain of Custody not present - information taken from:
Cover Letter ☐ Container ☐
PO ☐ CAS Proj. Mgr. ☐
☐ Container label absent
☐ Chain of Custody incomplete [see detail below]
☐ Chain of Custody missing date/time sampled (excl. TB or Dup.)
☐ Date or Time sampled obtained from container label
☐ Chain of Custody missing sampler's name
☐ Chain of Custody missing matrix (sample type)
☐ Missing relinquished information: signature date time

☐ Sample excluded from Chain of Custody
☐ Sample listed on Chain of Custody, not received
☐ Sample description on container and Chain of Custody do not agree
☐ Air bubbles in Aqueous VOA vials larger than pea-size [approx. 6 mm]
☐ Cooler temperature exceeded 0.1 - 6.0 °C requirement
[Do not mark if samples do not require cooling to 0.1 - 6.0 °C.]
☐ Broken or leaking containers (detail actions below)
☐ Sample container type or labeled chemical preservation inappropriate
☐ Other discrepancies: _____

Detail to discrepancies/comments:

Completed by: [illegible] Date Completed: 11-8-11

Continental
Analytical Services, Inc.

12/01/2011

City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date and Time Received: 11/08/2011 11:35
Continental File No.: 8339
Continental Order No.: 59788
Project ID: Stormwater

Dear Mr. Hardesty:

This laboratory report containing the samples indicated below, includes 10 pages for the analytical report, 1 page(s) for the chain of custody and/or analysis request, and 1 page(s) for the sample receipt form.

CAS LAB ID #	SAMPLE DESCRIPTION	SAMPLE TYPE	DATE SAMPLED
11110491	McLean - Grab	Liquid	11/7/2011
11110492	McLean - Composite	Liquid	11/7/2011

The Appendix and Quality Control sections are integral parts of this laboratory report and may contain important data qualifiers.

All results are reported on a wet weight basis unless otherwise stated.

Samples will be retained for thirty days unless Continental is otherwise notified.

Continental is accredited by the State of Kansas through the National Environmental Laboratory Accreditation Program (NELAP). The results contained in this report were obtained using Continental's Standard Operating Procedures. These procedures are in substantial compliance with the approved methods referenced and the standards published by NELAP unless otherwise noted in the Appendix and Quality Control sections of this report.

This report may not be reproduced, except in full, without written approval from Continental Analytical Services, Inc.

Thank you for choosing Continental for this project.

CONTINENTAL ANALYTICAL SERVICES, INC.

Clifford J. Baker
Technical Manager

Gregory J. Groene
Project Manager

525 N. Eighth St. - P.O. Box 3737 - Salina, KS 67402-3737
785-827-1273 800-535-3076 Fax 785-823-7830

KDHE Environmental Laboratory Accreditation No. E-10146

Continental Analytical Services, Inc.

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Reported: 12/01/2011
Date Received: 11/08/2011
Continental File No: 8339
Continental Order No: 59788

Lab Number: 11110491
Sample Description: McLean - Grab

Date Sampled: 11/07/2011
Time Sampled: 1255

Analysis	Concentration	Units	Book/Page
Cadmium, Dissolved, ICP-MS	ND(1) DM	µg/L	7202/46
Cadmium, Tot. Rec., ICP-MS	6	µg/L	7202/42
Copper, Dissolved, ICP-MS	6 DM	µg/L	7202/46
Copper, Tot. Rec., ICP-MS	28	µg/L	7202/42
Hardness (Calculated)	169	mg/L as CaCO3	7157/120
Zinc, Dissolved, ICP-MS	24 DM	µg/L	7202/46
Zinc, Tot. Rec., ICP-MS	382	µg/L	7202/42
Chloride	2.8	mg/L	7129/92
Hexane Extractable Material	ND(5.0)	mg/L	7198/20
Solids, Total Dissolved	106	mg/L	7059/603
Solids, Total Suspended	203	mg/L	7059/607

Analysis	Date/Time Prepared	Date/Time Analyzed	QC Batch	Inst. Batch	Analyst	Method(s)
Cadmium, Dissolved, ICP-MS	11/17/11 0151	11/28/11 1606	111117-5	2IP3332	KMW	200.8 Rev. 5.4
Cadmium, Tot. Rec., ICP-MS	11/10/11 0837	11/14/11 1807	111110-2	1IP3318	KMW	200.8 Rev. 5.4
Copper, Dissolved, ICP-MS	11/17/11 0151	11/28/11 1606	111117-5	2IP3332	KMW	200.8 Rev. 5.4
Copper, Tot. Rec., ICP-MS	11/10/11 0837	11/14/11 1807	111110-2	1IP3318	KMW	200.8 Rev. 5.4
Hardness (Calculated)	11/09/11 0914	11/11/11 0142	111109-3	11IP4314	KMW	200.7 & SM 2340B
Zinc, Dissolved, ICP-MS	11/17/11 0151	11/28/11 1606	111117-5	2IP3332	KMW	200.8 Rev. 5.4
Zinc, Tot. Rec., ICP-MS	11/10/11 0837	11/14/11 1807	111110-2	1IP3318	KMW	200.8 Rev. 5.4
Chloride	N/A	11/18/11 1619	1IC1322	3IC1322	MLL	300.0
Hexane Extractable Materia	11/22/11 1100	11/22/11 0851	111122-1	111122-1	JND	1664
Solids, Total Dissolved	N/A	11/09/11 1400	111109-1	111109-1	KJH	SM20th 2540C
Solids, Total Suspended	N/A	11/14/11 1445	111114-1	111114-1	KJH	SM20th 2540D
Dissolved Metals Preparation Method						200.7/200.8
Total Recoverable Metals Preparation Method						200.7/200.8
Calculated as Hardness Preparation Method						200.7/6010B
HEM Preparation Method						1664

Conclusion of Lab Number: 11110491

Continental Analytical Services, Inc.

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Reported: 12/01/2011
Date Received: 11/08/2011
Continental File No: 8339
Continental Order No: 59788

Lab Number: 11110492
Sample Description: McLean - Composite

Date Sampled: 11/07/2011
Time Sampled: 1255

Analysis	Concentration	Units	Book/Page
Cadmium, Dissolved, ICP-MS	ND(1) DM	µg/L	7202/43
Cadmium, Tot. Rec., ICP-MS	6	µg/L	7202/42
Copper, Dissolved, ICP-MS	5 DM	µg/L	7202/43
Copper, Tot. Rec., ICP-MS	26	µg/L	7202/42
Hardness (Calculated)	153	mg/L as CaCO3	7157/120
Zinc, Dissolved, ICP-MS	ND(20) DM	µg/L	7202/43
Zinc, Tot. Rec., ICP-MS	361	µg/L	7202/42
BOD	6	mg/L	7060/276
Chloride	2.8	mg/L	7129/85
Kjeldahl Nitrogen, as N (TKN)	1.4	mg/L	6854/351
Nitrate, as N	0.6	mg/L	7129/85
Nitrite, as N	ND(0.1)	mg/L	7129/86
Nitrogen (TKN + NO3/NO2), as N	2.0	mg/L	9999/596
Phosphorus, Total, as P	0.26	mg/L	7061/219
Solids, Total Dissolved	106	mg/L	7059/603
Solids, Total Suspended	187	mg/L	7059/607

Analysis	Date/Time Prepared	Date/Time Analyzed	QC Batch	Inst. Batch	Analyst	Method(s)
Cadmium, Dissolved, ICP-MS	11/11/11 1012	11/15/11 1605	111111-3	1IP3319	KMW	200.8 Rev. 5.4
Cadmium, Tot. Rec., ICP-MS	11/10/11 0837	11/14/11 1812	111110-2	1IP3318	KMW	200.8 Rev. 5.4
Copper, Dissolved, ICP-MS	11/11/11 1012	11/15/11 1605	111111-3	1IP3319	KMW	200.8 Rev. 5.4
Copper, Tot. Rec., ICP-MS	11/10/11 0837	11/14/11 1812	111110-2	1IP3318	KMW	200.8 Rev. 5.4
Hardness (Calculated)	11/09/11 0914	11/11/11 0146	111109-3	11IP4314	KMW	200.7 & SM 2340B
Zinc, Dissolved, ICP-MS	11/11/11 1012	11/15/11 1605	111111-3	1IP3319	KMW	200.8 Rev. 5.4
Zinc, Tot. Rec., ICP-MS	11/10/11 0837	11/14/11 1812	111110-2	1IP3318	KMW	200.8 Rev. 5.4
BOD	N/A	11/09/11 1015	111109-1	111109-1	ASK	SM 5210B
Chloride	N/A	11/08/11 2158	1IC1312	3IC1312	MLL	300.0
Kjeldahl Nitrogen, as N (T	11/11/11 1632	11/15/11 1051	111111-1	111115-1	JND	EPA 351.2
Nitrate, as N	N/A	11/08/11 2158	1IC1312	3IC1312	MLL	300.0
Nitrite, as N	N/A	11/09/11 1234	1IC1313	1IC1313	MLL	300.0
Nitrogen (TKN + NO3/NO2),	N/A	11/17/11 1422				Calculation
Phosphorus, Total, as P	N/A	11/30/11 1700	111130-1	111130-1	KJH	SM 4500-P(B&F)(M)
Solids, Total Dissolved	N/A	11/09/11 1400	111109-1	111109-1	KJH	SM20th 2540C
Solids, Total Suspended	N/A	11/14/11 1445	111114-1	111114-1	KJH	SM20th 2540D
Dissolved Metals Preparation Method						200.7/200.8
Total Recoverable Metals Preparation Method						200.7/200.8
Calculated as Hardness Preparation Method						200.7/6010B

Conclusion of Lab Number: 11110492

Continental
Analytical Services, Inc.

Appendix

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Reported: 12/01/2011
Date Received: 11/08/2011
Continental File No: 8339
Continental Order No: 59788

ND(), where reported, indicates the analyte was not detected above the Limit of Quantitation (LOQ). The concentration of the LOQ is inside the parentheses.

All samples which require cooling were received at a temperature of less than 6 degrees Celsius.

The following table presents the date and time sampled, the date and time analyzed, and the total time elapsed for each analysis with an EPA recommended holding time of seventy-two hours or less.

CAS LAB ID #	ANALYSIS	DATE/TIME SAMPLED	DATE/TIME ANALYZED	ELAPSED HRS:MIN
11110492	BOD	11/07/2011 1255	11/09/2011 1015	45:20
11110492	Nitrate, as N	11/07/2011 1255	11/08/2011 2158	33:03
11110492	Nitrite, as N	11/07/2011 1255	11/09/2011 1234	47:39

DM - NPDES requirements specify that dissolved metals and orthophosphate must be filtered within 15 minutes of the time of collection. This analysis did not meet these criteria.

Continental Analytical Services, Inc.

Accreditation Summary

Client: City of Wichita
Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Reported: 12/01/2011
Date Received: 11/08/2011
Continental File No: 8339
Continental Order No: 59788

NELAP accreditation is issued under each EPA regulatory program for a given matrix/analyte/method combination. Continental is NELAP accredited for each matrix/analyte/method and EPA program cited in this Laboratory Report, except for those listed in the table below and analysis performed in the field. For most of the analyses listed in the table, NELAP accreditation is not offered under the listed EPA program and Continental is NELAP accredited for the analysis, using the same analytical technology, but under a different EPA program. Continental's full NELAP accreditation status may be viewed at www.kdheks.gov/envlab. Note that unless qualified otherwise in the Laboratory Report, Continental performs all analyses, including each analysis listed in the table below, utilizing NELAP protocol.

Test	Analysis	Matrix-Regulatory Program	Method	CAS NELAP Accredited in Other Reg. Program
GL343	Nitrogen (TKN + NO3/NO2), as N	L-NPDES	Calculation	N

Continental Analytical Services, Inc.

Quality Control Report
Batch Summary

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Reported: 12/01/2011
Date Received: 11/08/2011
Continental File No: 8339
Continental Order No: 59788

Test	Testname	QC Batch	Method Blank	LCS	MS Lab No.
SL323	Hardness (Calculated)	111109-3	111109BLK3	111109LCS3	11110496MS
Lab numbers associated with this batch: 11110491 11110492					
SL006	Cadmium, Tot. Rec., ICP-MS	111110-2	111110BLK2	111110LCS2	11110506MS
SL012	Copper, Tot. Rec., ICP-MS	111110-2	111110BLK2	111110LCS2	11110506MS
SL033	Zinc, Tot. Rec., ICP-MS	111110-2	111110BLK2	111110LCS2	11110506MS
Lab numbers associated with this batch: 11110491 11110492					
SL156	Cadmium, Dissolved, ICP-MS	111111-3	111111BLK3	111111LCS3	11110500MS
SL162	Copper, Dissolved, ICP-MS	111111-3	111111BLK3	111111LCS3	11110500MS
SL183	Zinc, Dissolved, ICP-MS	111111-3	111111BLK3	111111LCS3	11110500MS
Lab numbers associated with this batch: 11110492					
SL156	Cadmium, Dissolved, ICP-MS	111117-5	111117BLK5	111117LCS5	11110491MS
SL162	Copper, Dissolved, ICP-MS	111117-5	111117BLK5	111117LCS5	11110491MS
SL183	Zinc, Dissolved, ICP-MS	111117-5	111117BLK5	111117LCS5	11110491MS
Lab numbers associated with this batch: 11110491					
GL123	BOD	111109-1	111109BLK1	111109LCS1	11110446MS
Lab numbers associated with this batch: 11110492					
GL502	Chloride	1IC1312	BLK1IC1312	LCS1IC1312	11102140MS
Lab numbers associated with this batch: 11110492					
GL502	Chloride	1IC1322	BLK1IC1322	LCS1IC1322	11111686MS
Lab numbers associated with this batch: 11110491					
GL188	Hexane Extractable Material	111122-1	111122BLK1	111122LCS1	11110491MS
Lab numbers associated with this batch: 11110491					
GL595	Kjeldahl Nitrogen, as N (TKN)	111111-1	111111BLK1	111111LCS1	11110769MS
Lab numbers associated with this batch: 11110492					

Continental Analytical Services, Inc.

Quality Control Report
Batch Summary

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Reported: 12/01/2011
Date Received: 11/08/2011
Continental File No: 8339
Continental Order No: 59788

Test	Testname	QC Batch	Method Blank	LCS	MS Lab No.
GL505	Nitrate, as N	1IC1312	BLK1IC1312	LCS1IC1312	
Lab numbers associated with this batch: 11110492					
GL503	Nitrite, as N	1IC1313	BLK1IC1313	LCS1IC1313	
Lab numbers associated with this batch: 11110492					
GL343	Nitrogen (TKN + NO3/NO2), as N				
Lab numbers associated with this batch: 11110492					
GL218	Phosphorus, Total, as P	111130-1	111130BLK1	111130LCS1	11110500MS
Lab numbers associated with this batch: 11110492					
GL242	Solids, Total Dissolved	111109-1	111109BLK1	111109LCS1	11110167MS
Lab numbers associated with this batch: 11110491 11110492					
GL243	Solids, Total Suspended	111114-1	111114BLK1	111114LCS1	11110446MS
Lab numbers associated with this batch: 11110491 11110492					

Continental Analytical Services, Inc.

Quality Control Report
Method Blank, LCS, MS/MSD Data

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Reported: 12/01/2011
Date Received: 11/08/2011
Continental File No: 8339
Continental Order No: 59788

Analysis	Blank Data	% Rec LCS	Limits	Spike Level	Units	Spiked Sample (% Recovery) MS	MSD	Limits	Spike Level	Units	Spiked Sample Precision Data RPD	Limit
QC Batch: 111109-1	For sample analyzed on: 11/09/2011					Spiked sample: 11110167						
Solids, Total Dissolved	ND(30)	N/A			mg/L	MN	MN	#		mg/L	**	5.2
QC Batch: 111109-1	For sample analyzed on: 11/09/2011					Spiked sample: 11110446						
BOD	ND(5)	98.9	70.5-110	198	mg/L	MN	MN	#		mg/L	**	13.2
QC Batch: 111109-3	For samples prepared on: 11/09/2011					Spiked sample: 11110496						
Hardness (Calculated)	ND(5.0)	105	80.0-120	337	mg/L a	MN	MN	80.0-120	337	mg/L as	**	20.0
QC Batch: 111110-2	For samples prepared on: 11/10/2011					Spiked sample: 11110506						
Cadmium, Tot. Rec., ICP-MS	ND(1)	95.8	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
Copper, Tot. Rec., ICP-MS	ND(5)	91.8	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
Zinc, Tot. Rec., ICP-MS	ND(20)	102	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
QC Batch: 111111-1	For samples prepared on: 11/11/2011					Spiked sample: 11110769						
Kjeldahl Nitrogen, as N (TKN)	ND(1.0)	111	#	4.0	mg/L	MN	MN	#	20.0	mg/L	**	#
QC Batch: 111111-3	For samples prepared on: 11/11/2011					Spiked sample: 11110500						
Cadmium, Dissolved, ICP-MS	ND(1)	96.9	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
Copper, Dissolved, ICP-MS	ND(5)	89.4	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
Zinc, Dissolved, ICP-MS	ND(20)	99.3	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
QC Batch: 111114-1	For sample analyzed on: 11/14/2011					Spiked sample: 11110446						
Solids, Total Suspended	ND(5)	N/A			mg/L	MN	MN	#		mg/L	**	18.2
QC Batch: 111117-5	For samples prepared on: 11/17/2011					Spiked sample: 11110491						
Cadmium, Dissolved, ICP-MS	ND(1)	96.1	85.0-115	500	µg/L	98.1	97.3	80.0-120	500	µg/L	0.8	20.0
Copper, Dissolved, ICP-MS	ND(3) J	92.0	85.0-115	500	µg/L	94.5	93.4	80.0-120	500	µg/L	1.2	20.0
Zinc, Dissolved, ICP-MS	ND(20)	100.	85.0-115	500	µg/L	101	101	80.0-120	500	µg/L	0.0	20.0
QC Batch: 111122-1	For samples prepared on: 11/22/2011					Spiked sample: 11110491						
Hexane Extractable Material	ND(1.4)	91.5	78.0-114	40.0	mg/L	93.0	F	78.0-114	40.0	mg/L	**	18.0
QC Batch: 111130-1	For sample analyzed on: 11/30/2011					Spiked sample: 11110500						
Phosphorus, Total, as P	ND(0.20)	98.3	90.0-110	2.0	mg/L	MN	MN	71.2-135	2.0	mg/L	**	21.2
QC Batch: 1IC1312	For sample analyzed on: 11/08/2011					Spiked sample:						
Nitrate, as N	ND(0.1)	103	90.0-110	2.0	mg/L	MN	MN	79.3-118			**	12.1
QC Batch: 1IC1312	For sample analyzed on: 11/08/2011					Spiked sample: 11102140						
Chloride	ND(1.0)	104	90.0-110	4.0	mg/L	MN	MN	82.1-126	400	mg/L	**	12.5
QC Batch: 1IC1313	For sample analyzed on: 11/09/2011					Spiked sample:						
Nitrite, as N	ND(0.1)	102	90.0-110	2.0	mg/L	MN	MN	78.5-127			**	10.1
QC Batch: 1IC1322	For sample analyzed on: 11/18/2011					Spiked sample: 11111686						
Chloride	ND(1.0)	94.3	90.0-110	4.0	mg/L	MN	MN	82.1-126	40.0	mg/L	**	12.5

Data Qualifiers:
N/A - Not Applicable

MN - The MS/MSD sample analyses were not performed on a sample from this Continental order number.

Continental Analytical Services, Inc.

Quality Control Report
Method Blank, LCS, MS/MSD Data

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Reported: 12/01/2011
Date Received: 11/08/2011
Continental File No: 8339
Continental Order No: 59788

Analysis	Blank Data	% Rec LCS	Limits	Spike Level	Units	Spiked Sample (% Recovery) MS	MSD	Limits	Spike Level	Units	Spiked Sample Precision Data RPD	Limit

J - The concentration or not detected (ND) value is below the Limit of Quantitation (LOQ) and is considered an estimated value.

F - MS and/or MSD sample data are not available due to insufficient sample volume.

- Limits not available.

** - RPD cannot be calculated.

Continental Analytical Services, Inc.

Quality Control Report
Continuing Calibration Data Summary

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Reported: 12/01/2011
Date Received: 11/08/2011
Continental File No: 8339
Continental Order No: 59788

Analysis	Date of Analysis	Instrument Batch ID	Amount in Standard	Amount Detected	Units	Percent Recovery
Cadmium, Tot. Rec., ICP-MS	11/14/2011	1IP3318	CCV recovery acceptable for this Instrument Batch.			
Cadmium, Dissolved, ICP-MS	11/15/2011	1IP3319	CCV recovery acceptable for this Instrument Batch.			
Cadmium, Tot. Rec., ICP-MS	11/14/2011	2IP3318	CCV recovery acceptable for this Instrument Batch.			
Cadmium, Dissolved, ICP-MS	11/15/2011	2IP3319	CCV recovery acceptable for this Instrument Batch.			
Cadmium, Dissolved, ICP-MS	11/28/2011	2IP3332	CCV recovery acceptable for this Instrument Batch.			
Cadmium, Dissolved, ICP-MS	11/28/2011	3IP3332	CCV recovery acceptable for this Instrument Batch.			
Copper, Tot. Rec., ICP-MS	11/14/2011	1IP3318	CCV recovery acceptable for this Instrument Batch.			
Copper, Dissolved, ICP-MS	11/15/2011	1IP3319	CCV recovery acceptable for this Instrument Batch.			
Copper, Tot. Rec., ICP-MS	11/14/2011	2IP3318	CCV recovery acceptable for this Instrument Batch.			
Copper, Dissolved, ICP-MS	11/15/2011	2IP3319	CCV recovery acceptable for this Instrument Batch.			
Copper, Dissolved, ICP-MS	11/28/2011	2IP3332	CCV recovery acceptable for this Instrument Batch.			
Copper, Dissolved, ICP-MS	11/28/2011	3IP3332	CCV recovery acceptable for this Instrument Batch.			
BOD	11/09/2011	111109-1	CCV recovery acceptable for this Instrument Batch.			
BOD	11/09/2011	111109-2	CCV recovery acceptable for this Instrument Batch.			
Hexane Extractable Material	11/22/2011	111122-1	CCV recovery acceptable for this Instrument Batch.			
Hexane Extractable Material	11/22/2011	111122-2	CCV recovery acceptable for this Instrument Batch.			
Phosphorus, Total, as P	11/30/2011	111130-1	CCV recovery acceptable for this Instrument Batch.			
Phosphorus, Total, as P	11/30/2011	111130-2	CCV recovery acceptable for this Instrument Batch.			
Chloride	11/08/2011	3IC1312	CCV recovery acceptable for this Instrument Batch.			
Chloride	11/08/2011	4IC1312	CCV recovery acceptable for this Instrument Batch.			
Chloride	11/18/2011	3IC1322	CCV recovery acceptable for this Instrument Batch.			
Chloride	11/18/2011	4IC1322	CCV recovery acceptable for this Instrument Batch.			
Nitrite, as N	11/09/2011	1IC1313	CCV recovery acceptable for this Instrument Batch.			
Nitrite, as N	11/09/2011	2IC1313	CCV recovery acceptable for this Instrument Batch.			
Nitrate, as N	11/08/2011	3IC1312	CCV recovery acceptable for this Instrument Batch.			
Nitrate, as N	11/08/2011	4IC1312	CCV recovery acceptable for this Instrument Batch.			
Kjeldahl Nitrogen, as N (TKN)	11/15/2011	111115-1	CCV recovery acceptable for this Instrument Batch.			
Kjeldahl Nitrogen, as N (TKN)	11/15/2011	111115-2	CCV recovery acceptable for this Instrument Batch.			
Hardness (Calculated)	11/11/2011	11IP4314	CCV recovery acceptable for this Instrument Batch.			
Hardness (Calculated)	11/11/2011	12IP4314	CCV recovery acceptable for this Instrument Batch.			
Zinc, Tot. Rec., ICP-MS	11/14/2011	1IP3318	CCV recovery acceptable for this Instrument Batch.			
Zinc, Dissolved, ICP-MS	11/15/2011	1IP3319	CCV recovery acceptable for this Instrument Batch.			
Zinc, Tot. Rec., ICP-MS	11/14/2011	2IP3318	CCV recovery acceptable for this Instrument Batch.			
Zinc, Dissolved, ICP-MS	11/15/2011	2IP3319	CCV recovery acceptable for this Instrument Batch.			
Zinc, Dissolved, ICP-MS	11/28/2011	2IP3332	CCV recovery acceptable for this Instrument Batch.			
Zinc, Dissolved, ICP-MS	11/28/2011	3IP3332	CCV recovery acceptable for this Instrument Batch.			

- Laboratory Report Conclusion -

Continenta Analytical Services, Inc.

525 N. 8th Street, Salina, KS 67401
(785)827-1273 (800)535-3076 Fax (785)823-7830
www.cas-lab.com

CHAIN OF CUSTODY RECORD

Continental Shipping Order Number: _____

Client/Reporting Information		Invoice Information	
Company Name: City of Wichita Storm Water Management		Company Name: City of Wichita Storm Water Management	
Address: City Hall, 8th Floor, 455 N. Main		Address: City Hall, 8th Floor, 455 N. Main	
City: Wichita	State: KS / Zip: 67202	City: Wichita	State: KS / Zip: 67202
Contact: Jim Hardesty	E-mail: Jhardesty@wichita.gov	Contact: Jim Hardesty	E-mail: Jhardesty@wichita.gov
Phone Number: (316)268-8317	Fax Number: (316)858-7889	Phone Number: (316)268-8317	Fax Number: (316)858-7889
Sampler's Name:(Printed) Justin Murphy	Sampler's Name:(Signature)	Purchase Order Number:	
File Number: 3339	Project Name: Stormwater		

SAMPLE IDENTIFICATION (30 Characters or less)	Matrix (Sample Type)	Regulatory Program	Date Sampled	Time Sampled	C-Composite G-Grab	Total Containers	HCL	NaOH	HNO3	H2SO4	NONE	OTHER:	Cadmium, Copper, Zinc - Total Recoverable 250ml Plastic - HNO3	Cadmium, Copper, Zinc - Dissolved, Hardness, TSS TDS, Cl 1000ml Plastic - None	Hexane Extractable Material 2 - 1000ml Amber Glass - H2SO4	Total Metals, Dissolved Metals, Hardness, TSS, TDS, Cl, BOD, TKN, Total P, NO3, NO2, Tot. Nitrogen Large Carbey					COMMENTS
McLean-Grab	WW	N	11/7/11	1255	G	4			1	2	1		X	X	X						5 Gal Container to be poured off at lab
McLean-Composite	WW	N	11/7/11	1255	C	1					1					X					as needed for required tests.
																					Remaining volume will be saved for
																					for organics if needed.

(Please note if non-standard turnaround. Rush & Emergency subject to additional charge)
Standard TAT (15 working days) Rush TAT (5 working days) Emergency TAT (3 working days)

Regulatory Program: N=NPDES, R=RCRA, D=Drinking Water, SL=503 Sludge, O=Other

Matrix (Sample Type): DW=Drinking Water, GW=Ground Water, WW=Waste Water, W=Wipe, S=Solid/Soil, SL=Sludge, A=Air, OL = Oil/Organic Liquid, O=Other

	DATE	TIME		DATE	TIME
RELINQUISHED BY	11/8/11	0830	RECEIVED BY	11/8/11	0940
RELINQUISHED BY	11/8/11	11:35	RECEIVED BY	DATE	TIME
RECEIVED AT LAB BY	11/8/11	11:35	SHIPPED VIA / AIRBILL	SEAL # / SEAL DATE	

Continental's Standard Terms and Conditions of Sale will apply to all samples received unless a separate contractual agreement has been made.

Continental Analytical Services, Inc.
Cooler/Sample Receipt Form (C/S RF)

CAS Order No.: 59788

Client Name: Wichita

CAS File No.: 8339

Sample ID's in cooler: See COC

McClean

Cooler 1 of 1 for this CAS Order No.

Cooler Identification: CAS Cooler #: _____ / Client's Cooler / Box / Letter / Hand-delivered
Other: _____

Date/Time Cooler Received: 11 / 8 / 11 11 : 35

Delivered By: UPS / FedX / AB Express / Field Svcs / Mail / Walk-In / Other: CT

Custody Seal: Present: Intact / Broken Absent: X Seal No: _____
Seal Name: _____ Seal Date: _____
Seal matches Chain of Custody: Yes / No / N/A

Type of Packing Material: Blue Ice / Ice / Melted Ice / Bubble / Foam / Paper / Peanuts / Vermiculite / None / Other: _____

Cooler Temperature (°C): Original Reading (°C) 0.7 Corrected Reading (°C) 1.1
Temp. By: Temp. Blank Cooler Surface: Glass / Plastic /Metal /Other: _____
Thermo. ID No.: 58r Thermo. Correction Factor (°C): 0.4

☐ Evidence of Cooling and date received = date sampled

Sample Receipt Discrepancies: ☒ No ☐ Yes **(See below for discrepancies.)**

Note: If discrepancies are present, CAS will proceed with analyses until/unless directed otherwise by the client.

☐ Chain of Custody not present - information taken from:
Cover Letter ☐ Container ☐
PO ☐ CAS Proj. Mgr. ☐
☐ Container label absent
☐ Chain of Custody incomplete [see detail below]
☐ Chain of Custody missing date/time sampled (excl. TB or Dup.)
☐ Date or Time sampled obtained from container label
☐ Chain of Custody missing sampler's name
☐ Chain of Custody missing matrix (sample type)
☐ Missing relinquished information: signature date time

☐ Sample excluded from Chain of Custody
☐ Sample listed on Chain of Custody, not received
☐ Sample description on container and Chain of Custody do not agree
☐ Air bubbles in Aqueous VOA vials larger than pea-size [approx. 6 mm]
☐ Cooler temperature exceeded 0.1 - 6.0 °C requirement
[Do not mark if samples do not require cooling to 0.1 - 6.0 °C.]
☐ Broken or leaking containers (detail actions below)
☐ Sample container type or labeled chemical preservation inappropriate
☐ Other discrepancies: _____

Detail to discrepancies/comments:

Completed by: MVR Date Completed: 11-8-11

Continental
Analytical Services, Inc.

12/01/2011

City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date and Time Received: 11/08/2011 11:35
Continental File No.: 8339
Continental Order No.: 59787
Project ID: Stormwater

Dear Mr. Hardesty:

This laboratory report containing the samples indicated below, includes 10 pages for the analytical report, 1 page(s) for the chain of custody and/or analysis request, and 1 page(s) for the sample receipt form.

CAS LAB ID #	SAMPLE DESCRIPTION	SAMPLE TYPE	DATE SAMPLED
11110489	Huntington - Grab	Liquid	11/7/2011
11110490	Huntington - Composite	Liquid	11/7/2011

The Appendix and Quality Control sections are integral parts of this laboratory report and may contain important data qualifiers.

All results are reported on a wet weight basis unless otherwise stated.

Samples will be retained for thirty days unless Continental is otherwise notified.

Continental is accredited by the State of Kansas through the National Environmental Laboratory Accreditation Program (NELAP). The results contained in this report were obtained using Continental's Standard Operating Procedures. These procedures are in substantial compliance with the approved methods referenced and the standards published by NELAP unless otherwise noted in the Appendix and Quality Control sections of this report.

This report may not be reproduced, except in full, without written approval from Continental Analytical Services, Inc.

Thank you for choosing Continental for this project.

CONTINENTAL ANALYTICAL SERVICES, INC.

Clifford J. Baker
Technical Manager

Gregory J. Groene
Project Manager

525 N. Eighth St. - P.O. Box 3737 - Salina, KS 67402-3737
785-827-1273 800-535-3076 Fax 785-823-7830

KDHE Environmental Laboratory Accreditation No. E-10146

Continental Analytical Services, Inc.

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Reported: 12/01/2011
Date Received: 11/08/2011
Continental File No: 8339
Continental Order No: 59787

Lab Number: 11110489
Sample Description: Huntington - Grab

Date Sampled: 11/07/2011
Time Sampled: 1310

Analysis	Concentration	Units	Book/Page
Cadmium, Dissolved, ICP-MS	ND(1) DM	µg/L	7202/46
Cadmium, Tot. Rec., ICP-MS	ND(1)	µg/L	7202/42
Copper, Dissolved, ICP-MS	6 DM	µg/L	7202/46
Copper, Tot. Rec., ICP-MS	9	µg/L	7202/42
Hardness (Calculated)	34.7	mg/L as CaCO3	7157/120
Zinc, Dissolved, ICP-MS	ND(20) DM	µg/L	7202/46
Zinc, Tot. Rec., ICP-MS	35	µg/L	7202/42
Chloride	5.9	mg/L	7129/92
Hexane Extractable Material	ND(5.0)	mg/L	7198/16
Solids, Total Dissolved	78	mg/L	7059/603
Solids, Total Suspended	43	mg/L	7059/607

Analysis	Date/Time Prepared	Date/Time Analyzed	QC Batch	Inst. Batch	Analyst	Method(s)
Cadmium, Dissolved, ICP-MS	11/17/11 0151	11/28/11 1601	111117-5	2IP3332	KMW	200.8 Rev. 5.4
Cadmium, Tot. Rec., ICP-MS	11/10/11 0837	11/14/11 1756	111110-2	1IP3318	KMW	200.8 Rev. 5.4
Copper, Dissolved, ICP-MS	11/17/11 0151	11/28/11 1601	111117-5	2IP3332	KMW	200.8 Rev. 5.4
Copper, Tot. Rec., ICP-MS	11/10/11 0837	11/14/11 1756	111110-2	1IP3318	KMW	200.8 Rev. 5.4
Hardness (Calculated)	11/09/11 0914	11/11/11 0134	111109-3	11IP4314	KMW	200.7 & SM 2340B
Zinc, Dissolved, ICP-MS	11/17/11 0151	11/28/11 1601	111117-5	2IP3332	KMW	200.8 Rev. 5.4
Zinc, Tot. Rec., ICP-MS	11/10/11 0837	11/14/11 1756	111110-2	1IP3318	KMW	200.8 Rev. 5.4
Chloride	N/A	11/18/11 1605	1IC1322	3IC1322	MLL	300.0
Hexane Extractable Material	11/17/11	11/17/11 1717	111117-1	111117-1	JND	1664
Solids, Total Dissolved	N/A	11/09/11 1359	111109-1	111109-1	KJH	SM20th 2540C
Solids, Total Suspended	N/A	11/14/11 1445	111114-1	111114-1	KJH	SM20th 2540D
Dissolved Metals Preparation Method						200.7/200.8
Total Recoverable Metals Preparation Method						200.7/200.8
Calculated as Hardness Preparation Method						200.7/6010B
HEM Preparation Method						1664

Conclusion of Lab Number: 11110489

Continental Analytical Services, Inc.

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Reported: 12/01/2011
Date Received: 11/08/2011
Continental File No: 8339
Continental Order No: 59787

Lab Number: 11110490
Sample Description: Huntington - Composite

Date Sampled: 11/07/2011
Time Sampled: 1310

Analysis	Concentration	Units	Book/Page
Cadmium, Dissolved, ICP-MS	ND(1) DM	µg/L	7202/43
Cadmium, Tot. Rec., ICP-MS	ND(1)	µg/L	7202/42
Copper, Dissolved, ICP-MS	ND(5) DM	µg/L	7202/43
Copper, Tot. Rec., ICP-MS	8	µg/L	7202/42
Hardness (Calculated)	31.5	mg/L as CaCO3	7157/120
Zinc, Dissolved, ICP-MS	ND(20) DM	µg/L	7202/43
Zinc, Tot. Rec., ICP-MS	27	µg/L	7202/42
BOD	11	mg/L	7060/276
Chloride	5.4	mg/L	7129/85
Kjeldahl Nitrogen, as N (TKN)	1.4	mg/L	6854/351
Nitrate, as N	0.6	mg/L	7129/85
Nitrite, as N	ND(1) M QC	mg/L	7129/85
Nitrogen (TKN + NO3/NO2), as N	2.0	mg/L	9999/596
Phosphorus, Total, as P	0.28	mg/L	7061/219
Solids, Total Dissolved	74	mg/L	7059/603
Solids, Total Suspended	28	mg/L	7059/607

Analysis	Date/Time Prepared	Date/Time Analyzed	QC Batch	Inst. Batch	Analyst	Method(s)
Cadmium, Dissolved, ICP-MS	11/11/11 1012	11/15/11 1559	111111-3	1IP3319	KMW	200.8 Rev. 5.4
Cadmium, Tot. Rec., ICP-MS	11/10/11 0837	11/14/11 1801	111110-2	1IP3318	KMW	200.8 Rev. 5.4
Copper, Dissolved, ICP-MS	11/11/11 1012	11/15/11 1559	111111-3	1IP3319	KMW	200.8 Rev. 5.4
Copper, Tot. Rec., ICP-MS	11/10/11 0837	11/14/11 1801	111110-2	1IP3318	KMW	200.8 Rev. 5.4
Hardness (Calculated)	11/09/11 0914	11/11/11 0138	111109-3	11IP4314	KMW	200.7 & SM 2340B
Zinc, Dissolved, ICP-MS	11/11/11 1012	11/15/11 1559	111111-3	1IP3319	KMW	200.8 Rev. 5.4
Zinc, Tot. Rec., ICP-MS	11/10/11 0837	11/14/11 1801	111110-2	1IP3318	KMW	200.8 Rev. 5.4
BOD	N/A	11/09/11 1015	111109-1	111109-1	ASK	SM 5210B
Chloride	N/A	11/08/11 2132	1IC1312	3IC1312	MLL	300.0
Kjeldahl Nitrogen, as N (T	11/11/11 1632	11/15/11 1049	111111-1	111115-1	JND	EPA 351.2
Nitrate, as N	N/A	11/08/11 2132	1IC1312	3IC1312	MLL	300.0
Nitrite, as N	N/A	11/08/11 2145	1IC1312	3IC1312	MLL	300.0
Nitrogen (TKN + NO3/NO2),	N/A	11/17/11 1422				Calculation
Phosphorus, Total, as P	N/A	11/30/11 1659	111130-1	111130-1	KJH	SM 4500-P(B&F)(M)
Solids, Total Dissolved	N/A	11/09/11 1359	111109-1	111109-1	KJH	SM20th 2540C
Solids, Total Suspended	N/A	11/14/11 1445	111114-1	111114-1	KJH	SM20th 2540D
Dissolved Metals Preparation Method						200.7/200.8
Total Recoverable Metals Preparation Method						200.7/200.8
Calculated as Hardness Preparation Method						200.7/6010B

Conclusion of Lab Number: 11110490

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Reported: 12/01/2011
Date Received: 11/08/2011
Continental File No: 8339
Continental Order No: 59787

ND(), where reported, indicates the analyte was not detected above the Limit of Quantitation (LOQ). The concentration of the LOQ is inside the parentheses.

All samples which require cooling were received at a temperature of less than 6 degrees Celsius.

The following table presents the date and time sampled, the date and time analyzed, and the total time elapsed for each analysis with an EPA recommended holding time of seventy-two hours or less.

CAS LAB ID #	ANALYSIS	DATE/TIME SAMPLED	DATE/TIME ANALYZED	ELAPSED HRS:MIN
11110490	BOD	11/07/2011 1310	11/09/2011 1015	45:05
11110490	Nitrate, as N	11/07/2011 1310	11/08/2011 2132	32:22
11110490	Nitrite, as N	11/07/2011 1310	11/08/2011 2145	32:35

DM - NPDES requirements specify that dissolved metals and orthophosphate must be filtered within 15 minutes of the time of collection. This analysis did not meet these criteria.

M - Reporting limit higher than normal due to matrix interferences.

QC - QC data qualifiers were noted. See the Quality Control Report.

Continental Analytical Services, Inc.

Accreditation Summary

Client: City of Wichita
Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Reported: 12/01/2011
Date Received: 11/08/2011
Continental File No: 8339
Continental Order No: 59787

NELAP accreditation is issued under each EPA regulatory program for a given matrix/analyte/method combination. Continental is NELAP accredited for each matrix/analyte/method and EPA program cited in this Laboratory Report, except for those listed in the table below and analysis performed in the field. For most of the analyses listed in the table, NELAP accreditation is not offered under the listed EPA program and Continental is NELAP accredited for the analysis, using the same analytical technology, but under a different EPA program. Continental's full NELAP accreditation status may be viewed at www.kdheks.gov/envlab. Note that unless qualified otherwise in the Laboratory Report, Continental performs all analyses, including each analysis listed in the table below, utilizing NELAP protocol.

Test	Analysis	Matrix-Regulatory Program	Method	CAS NELAP Accredited in Other Reg. Program
GL343	Nitrogen (TKN + NO3/NO2), as N	L-NPDES	Calculation	N

Continental Analytical Services, Inc.

Quality Control Report
Batch Summary

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Reported: 12/01/2011
Date Received: 11/08/2011
Continental File No: 8339
Continental Order No: 59787

Test	Testname	QC Batch	Method Blank	LCS	MS Lab No.
SL323	Hardness (Calculated)	111109-3	111109BLK3	111109LCS3	11110496MS
Lab numbers associated with this batch: 11110489 11110490					
SL006	Cadmium, Tot. Rec., ICP-MS	111110-2	111110BLK2	111110LCS2	11110506MS
SL012	Copper, Tot. Rec., ICP-MS	111110-2	111110BLK2	111110LCS2	11110506MS
SL033	Zinc, Tot. Rec., ICP-MS	111110-2	111110BLK2	111110LCS2	11110506MS
Lab numbers associated with this batch: 11110489 11110490					
SL156	Cadmium, Dissolved, ICP-MS	111111-3	111111BLK3	111111LCS3	11110500MS
SL162	Copper, Dissolved, ICP-MS	111111-3	111111BLK3	111111LCS3	11110500MS
SL183	Zinc, Dissolved, ICP-MS	111111-3	111111BLK3	111111LCS3	11110500MS
Lab numbers associated with this batch: 11110490					
SL156	Cadmium, Dissolved, ICP-MS	111117-5	111117BLK5	111117LCS5	11110491MS
SL162	Copper, Dissolved, ICP-MS	111117-5	111117BLK5	111117LCS5	11110978MS
SL183	Zinc, Dissolved, ICP-MS	111117-5	111117BLK5	111117LCS5	11110491MS
Lab numbers associated with this batch: 11110489					
GL123	BOD	111109-1	111109BLK1	111109LCS1	11110446MS
Lab numbers associated with this batch: 11110490					
GL502	Chloride	1IC1312	BLK1IC1312	LCS1IC1312	11102140MS
Lab numbers associated with this batch: 11110490					
GL502	Chloride	1IC1322	BLK1IC1322	LCS1IC1322	11111686MS
Lab numbers associated with this batch: 11110489					
GL188	Hexane Extractable Material	111117-1	111117BLK1	111117LCS1	11110872MS
Lab numbers associated with this batch: 11110489					
GL595	Kjeldahl Nitrogen, as N (TKN)	111111-1	111111BLK1	111111LCS1	11110769MS
Lab numbers associated with this batch: 11110490					

Continental Analytical Services, Inc.

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Quality Control Report
Batch Summary

Date Reported: 12/01/2011
Date Received: 11/08/2011
Continental File No: 8339
Continental Order No: 59787

Test	Testname	QC Batch	Method Blank	LCS	MS Lab No.
GL505	Nitrate, as N	1IC1312	BLK1IC1312	LCS1IC1312	
GL503	Nitrite, as N	1IC1312	BLK1IC1312	LCS1IC1312	
Lab numbers associated with this batch: 11110490					
GL343	*Nitrogen (TKN + NO3/NO2), as N*				
Lab numbers associated with this batch: 11110490					
GL218	Phosphorus, Total, as P	111130-1	111130BLK1	111130LCS1	11110500MS
Lab numbers associated with this batch: 11110490					
GL242	Solids, Total Dissolved	111109-1	111109BLK1	111109LCS1	11110167MS
Lab numbers associated with this batch: 11110489 11110490					
GL243	Solids, Total Suspended	111114-1	111114BLK1	111114LCS1	11110446MS
Lab numbers associated with this batch: 11110489 11110490					

Continental Analytical Services, Inc.

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Quality Control Report
Method Blank, LCS, MS/MSD Data

Date Reported: 12/01/2011
Date Received: 11/08/2011
Continental File No: 8339
Continental Order No: 59787

Analysis	Blank Data	% Rec LCS	Limits	Spike Level	Units	Spiked Sample (% Recovery) MS	MSD	Limits	Spike Level	Units	Spiked Sample Precision Data RPD	Limit
QC Batch: 111109-1	For sample analyzed on: 11/09/2011					Spiked sample: 11110167						
Solids, Total Dissolved	ND(30)	N/A			mg/L	MN	MN	#		mg/L	**	5.2
QC Batch: 111109-1	For sample analyzed on: 11/09/2011					Spiked sample: 11110446						
BOD	ND(5)	98.9	70.5-110	198	mg/L	MN	MN	#		mg/L	**	13.2
QC Batch: 111109-2	For samples prepared on: 11/09/2011					Spiked sample: 11110496						
Hardness (Calculated)	ND(5.0)	105	80.0-120	337	mg/L a	MN	MN	80.0-120	337	mg/L as	**	20.0
QC Batch: 111110-2	For samples prepared on: 11/10/2011					Spiked sample: 11110506						
Cadmium, Tot. Rec., ICP-MS	ND(1)	95.8	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
Copper, Tot. Rec., ICP-MS	ND(5)	91.8	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
Zinc, Tot. Rec., ICP-MS	ND(20)	102	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
QC Batch: 111111-1	For samples prepared on: 11/11/2011					Spiked sample: 11110769						
Kjeldahl Nitrogen, as N (TKN)	ND(1.0)	111	#	4.0	mg/L	MN	MN	#	20.0	mg/L	**	#
QC Batch: 111111-2	For samples prepared on: 11/11/2011					Spiked sample: 11110500						
Cadmium, Dissolved, ICP-MS	ND(1)	96.9	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
Copper, Dissolved, ICP-MS	ND(5)	89.4	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
Zinc, Dissolved, ICP-MS	ND(20)	99.3	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
QC Batch: 111114-1	For sample analyzed on: 11/14/2011					Spiked sample: 11110446						
Solids, Total Suspended	ND(5)	N/A			mg/L	MN	MN	#		mg/L	**	18.2
QC Batch: 111117-1	For samples prepared on: 11/17/2011					Spiked sample: 11110872						
Hexane Extractable Material	ND(1.4)	94.0	78.0-114	40.0	mg/L	MN	MN	78.0-114	40.0	mg/L	**	18.0
QC Batch: 111117-5	For samples prepared on: 11/17/2011					Spiked sample: 11110491						
Cadmium, Dissolved, ICP-MS	ND(1)	96.1	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
Zinc, Dissolved, ICP-MS	ND(20)	100.	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
QC Batch: 111117-5	For samples prepared on: 11/17/2011					Spiked sample: 11110978						
Copper, Dissolved, ICP-MS	ND(3) J	92.0	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
QC Batch: 111130-1	For sample analyzed on: 11/30/2011					Spiked sample: 11110500						
Phosphorus, Total, as P	ND(0.20)	98.3	90.0-110	2.0	mg/L	MN	MN	71.2-135	2.0	mg/L	**	21.2
QC Batch: 1IC1312	For sample analyzed on: 11/08/2011					Spiked sample:						
Nitrite, as N	ND(0.1)	107	90.0-110	2.0	mg/L	MN	MN	78.5-127			**	10.1
Nitrate, as N	ND(0.1)	103	90.0-110	2.0	mg/L	MN	MN	79.3-118			**	12.1
QC Batch: 1IC1312	For sample analyzed on: 11/08/2011					Spiked sample: 11102140						
Chloride	ND(1.0)	104	90.0-110	4.0	mg/L	MN	MN	82.1-126	400	mg/L	**	12.5
QC Batch: 1IC1322	For sample analyzed on: 11/18/2011					Spiked sample: 11111686						
Chloride	ND(1.0)	94.1	90.0-110	4.0	mg/L	MN	MN	82.1-126	40.0	mg/L	**	12.5

Data Qualifiers:
N/A - Not Applicable

MN - The MS/MSD sample analyses were not performed on a sample from this Continental order number.

Continental Analytical Services, Inc.

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Quality Control Report
Method Blank, LCS, MS/MSD Data

Date Reported: 12/01/2011
Date Received: 11/08/2011
Continental File No: 8339
Continental Order No: 59787

Analysis	Blank Data	% Rec LCS	Limits	Spike Level	Units	Spiked Sample (% Recovery) MS	MSD	Limits	Spike Level	Units	Spiked Sample Precision Data RPD	Limit

J - The concentration or not detected (ND) value is below the Limit of Quantitation (LOQ) and is considered an estimated value.

- Limits not available.

** - RPD cannot be calculated.

Continental Analytical Services, Inc.

Quality Control Report
Continuing Calibration Data Summary

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Reported: 12/01/2011
Date Received: 11/08/2011
Continental File No: 8339
Continental Order No: 59787

Analysis	Date of Analysis	Instrument Batch ID	Amount in Standard	Amount Detected	Units	Percent Recovery
Cadmium, Tot. Rec., ICP-MS	11/14/2011	1IP3318	CCV recovery acceptable for this Instrument Batch.			
Cadmium, Dissolved, ICP-MS	11/15/2011	1IP3319	CCV recovery acceptable for this Instrument Batch.			
Cadmium, Tot. Rec., ICP-MS	11/14/2011	2IP3318	CCV recovery acceptable for this Instrument Batch.			
Cadmium, Dissolved, ICP-MS	11/15/2011	2IP3319	CCV recovery acceptable for this Instrument Batch.			
Cadmium, Dissolved, ICP-MS	11/28/2011	2IP3332	CCV recovery acceptable for this Instrument Batch.			
Cadmium, Dissolved, ICP-MS	11/28/2011	3IP3332	CCV recovery acceptable for this Instrument Batch.			
Copper, Tot. Rec., ICP-MS	11/14/2011	1IP3318	CCV recovery acceptable for this Instrument Batch.			
Copper, Dissolved, ICP-MS	11/15/2011	1IP3319	CCV recovery acceptable for this Instrument Batch.			
Copper, Tot. Rec., ICP-MS	11/14/2011	2IP3318	CCV recovery acceptable for this Instrument Batch.			
Copper, Dissolved, ICP-MS	11/15/2011	2IP3319	CCV recovery acceptable for this Instrument Batch.			
Copper, Dissolved, ICP-MS	11/28/2011	2IP3332	CCV recovery acceptable for this Instrument Batch.			
Copper, Dissolved, ICP-MS	11/28/2011	3IP3332	CCV recovery acceptable for this Instrument Batch.			
BOD	11/09/2011	111109-1	CCV recovery acceptable for this Instrument Batch.			
BOD	11/09/2011	111109-2	CCV recovery acceptable for this Instrument Batch.			
Hexane Extractable Material	11/17/2011	111117-1	CCV recovery acceptable for this Instrument Batch.			
Hexane Extractable Material	11/17/2011	111117-2	CCV recovery acceptable for this Instrument Batch.			
Phosphorus, Total, as P	11/30/2011	111130-1	CCV recovery acceptable for this Instrument Batch.			
Phosphorus, Total, as P	11/30/2011	111130-2	CCV recovery acceptable for this Instrument Batch.			
Chloride	11/08/2011	3IC1312	CCV recovery acceptable for this Instrument Batch.			
Chloride	11/08/2011	4IC1312	CCV recovery acceptable for this Instrument Batch.			
Chloride	11/18/2011	3IC1322	CCV recovery acceptable for this Instrument Batch.			
Chloride	11/18/2011	4IC1322	CCV recovery acceptable for this Instrument Batch.			
Nitrite, as N	11/08/2011	3IC1312	2.00	1.80	mg/L	89.8 CL

Samples associated with this Continuing Calibration Verification:

Laboratory Number	Instrument Batch	Sample Description
11110490	3IC1312	Huntington - Composite

Analysis	Date of Analysis	Instrument Batch ID	Amount in Standard	Amount Detected	Units	Percent Recovery
Nitrite, as N	11/08/2011	4IC1312	CCV recovery acceptable for this Instrument Batch.			
Nitrate, as N	11/08/2011	3IC1312	CCV recovery acceptable for this Instrument Batch.			
Nitrate, as N	11/08/2011	4IC1312	CCV recovery acceptable for this Instrument Batch.			
Kjeldahl Nitrogen, as N (TKN)	11/15/2011	111115-1	CCV recovery acceptable for this Instrument Batch.			
Kjeldahl Nitrogen, as N (TKN)	11/15/2011	111115-2	CCV recovery acceptable for this Instrument Batch.			
Hardness (Calculated)	11/11/2011	11IP4314	CCV recovery acceptable for this Instrument Batch.			
Hardness (Calculated)	11/11/2011	12IP4314	CCV recovery acceptable for this Instrument Batch.			
Zinc, Tot. Rec., ICP-MS	11/14/2011	1IP3318	CCV recovery acceptable for this Instrument Batch.			
Zinc, Dissolved, ICP-MS	11/15/2011	1IP3319	CCV recovery acceptable for this Instrument Batch.			
Zinc, Tot. Rec., ICP-MS	11/14/2011	2IP3318	CCV recovery acceptable for this Instrument Batch.			
Zinc, Dissolved, ICP-MS	11/15/2011	2IP3319	CCV recovery acceptable for this Instrument Batch.			
Zinc, Dissolved, ICP-MS	11/28/2011	2IP3332	CCV recovery acceptable for this Instrument Batch.			
Zinc, Dissolved, ICP-MS	11/28/2011	3IP3332	CCV recovery acceptable for this Instrument Batch.			

Data Qualifiers:
CL - The continuing calibration verification (CCV) standard recovery for this analyte was below the method or SOP limit. The reported concentration for this analyte may be biased low.

- Laboratory Report Conclusion -

Continental Analytical Services, Inc.

525 N. 8th Street, Salina, KS 67401
(785)827-1273 (800)535-3076 Fax (785)823-7830
www.cas-lab.com

CAS ORDER NO. 5918

CHAIN OF CUSTODY RECORD

Continental Shipping Order Number: _____

Client/Reporting Information			Invoice Information		
Company Name: City of Wichita Storm Water Management			Company Name: City of Wichita Storm Water Management		
Address: City Hall, 8th Floor, 455 N. Main			Address: City Hall, 8th Floor, 455 N. Main		
City: Wichita	State: KS	Zip: 67202	City: Wichita	State: KS	Zip: 67202
Contact: Jim Hardesty	E-mail: Jhardesty@wichita.gov		Contact: Jim Hardesty	E-mail: Jhardesty@wichita.gov	
Phone Number: (316)268-8317	Fax Number: (316)858-7889		Phone Number: (316)268-8317	Fax Number: (316)858-7889	

Sampler's Name (Printed): Justin Murphy
Sampler's Name (Signature): [signature]
Purchase Order Number:
File Number: 8339
Project Name: Stormwater

SAMPLE IDENTIFICATION (30 Characters or less)	Matrix (Sample Type)	Regulatory Program	Date Sampled	Time Sampled	C-Composite G-Grab	Total Containers	Number of Preserved Bottles: HCL	NaOH	HNO3	H2SO4	NONE	OTHER:	Cadmium, Copper, Zinc - Total Recoverable 250ml Plastic - HNO3	Cadmium, Copper, Zinc - Dissolved, Hardness, TSS TDS, Cl 1000ml Plastic - None	Hexane Extractable Material 2 - 1000ml Amber Glass - H2SO4	Total Metals, Dissolved Metals, Hardness, TSS, TDS, Cl, HO3, TKN, Total P, NO3, NO2, Tot. Nitrogen Large Carboy					COMMENTS
Huntington-Grab	WW	N	11/7/11	1310	G	4			1	2	1		X	X	X						
Huntington-Composite	WW	N	11/7/11	1310	C	1					1					X					5 Gal. Container to be poured off at lab
																					as needed for required tests
																					Remaining volume will be saved for
																					for organics if needed.

Regulatory Program: N=NPDES, R=RCRA, D=Drinking Water, SL=503 Sludge, O=Other

(Please note if non-standard turnaround. Rush & Emergency subject to additional charge)
Standard TAT (15 working days) Rush TAT (5 working days) Emergency TAT (3 working days)

Matrix (Sample Type): DW=Drinking Water, GW=Ground Water, WW=Waste Water, W=Wipe, S=Solid/Soil, SL=Sludge, A=Air, OL = Oil/Organic Liquid, O=Other

RELINQUISHED BY: [signature]	DATE: 11/8/11	TIME: 0830	RECEIVED BY: [signature]	DATE: 11/8/11	TIME: 0940
RELINQUISHED BY: [signature]	DATE: 11/8/11	TIME: 11:35	RECEIVED BY	DATE:	TIME:
RECEIVED AT LAB BY: [signature]	DATE: 11/8/11	TIME: 1135	SHIPPED VIA: AIRBILL	SEAL #: SEAL DATE:	

Continental's Standard Terms and Conditions of Sale will apply to all samples received unless a separate contractual agreement has been made.

C:\Documents and Settings\jmurphy\Local Settings\Temporary Internet Files\Content.Outlook\3HQIPIAQ\Wichita Stormwater.XLS\0151

Continental Analytical Services, Inc.
Cooler/Sample Receipt Form (C/S RF)

CAS Order No.: 59787

Client Name: Vichity

CAS File No.: 8339

Sample ID's in cooler: See Coc

Huntington

Cooler 1 of 1 for this CAS Order No.

Cooler Identification: CAS Cooler #: _____ (Client's Cooler) / Box / Letter / Hand-delivered
Other: _____

Date/Time Cooler Received: 11 / 8 / 11 11 : 35

Delivered By: UPS / FedX / AB Express / Field Svcs / Mail / Walk-In / (Other): CT

Custody Seal: Present: Intact / Broken Absent: X Seal No: _____
Seal Name: _____ Seal Date: _____
Seal matches Chain of Custody: Yes / No / (N/A)

Type of Packing Material: Blue Ice / (Ice) / Melted Ice / Bubble / Foam / Paper / Peanuts / Vermiculite / None / Other: _____

Cooler Temperature (°C): Original Reading (°C) 1.0 Corrected Reading (°C) 1.4
Temp. By: (Temp. Blank) Cooler Surface: Glass / Plastic /Metal /Other: _____
Thermo. ID No.: 58r Thermo. Correction Factor (°C): 0.4

☐ Evidence of Cooling and date received = date sampled

Sample Receipt Discrepancies: ☒ No ☐ Yes (See below for discrepancies.)

Note: **If discrepancies are present, CAS will proceed with analyses until/unless directed otherwise by the client.**

☐ Chain of Custody not present - information taken from:
Cover Letter ☐ Container ☐
PO ☐ CAS Proj. Mgr. ☐
☐ Container label absent
☐ Chain of Custody incomplete [see detail below]
☐ Chain of Custody missing date/time sampled (excl. TB or Dup.)
☐ Date or Time sampled obtained from container label
☐ Chain of Custody missing sampler's name
☐ Chain of Custody missing matrix (sample type)
☐ Missing relinquished information: signature date time

☐ Sample excluded from Chain of Custody
☐ Sample listed on Chain of Custody, not received
☐ Sample description on container and Chain of Custody do not agree
☐ Air bubbles in Aqueous VOA vials larger than pea-size [approx. 6 mm]
☐ Cooler temperature exceeded 0.1 - 6.0 °C requirement
[Do not mark if samples do not require cooling to 0.1 - 6.0 °C.]
☐ Broken or leaking containers (detail actions below)
☐ Sample container type or labeled chemical preservation inappropriate
☐ Other discrepancies: _____

Detail to discrepancies/comments:

Completed by: max Date Completed: 11-8-11

Continental Analytical Services, Inc.

12/01/2011

City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date and Time Received: 11/08/2011 11:35
Continental File No.: 8339
Continental Order No.: 59786
Project ID: SW Upstream

Dear Mr. Hardesty:

This laboratory report containing the samples indicated below, includes 8 pages for the analytical report, 1 page(s) for the chain of custody and/or analysis request, and 1 page(s) for the sample receipt form.

CAS LAB ID #	SAMPLE DESCRIPTION	SAMPLE TYPE	DATE SAMPLED
11110488	Broadway Upstream	Liquid	11/7/2011

The Appendix and Quality Control sections are integral parts of this laboratory report and may contain important data qualifiers.

All results are reported on a wet weight basis unless otherwise stated.

Samples will be retained for thirty days unless Continental is otherwise notified.

Continental is accredited by the State of Kansas through the National Environmental Laboratory Accreditation Program (NELAP). The results contained in this report were obtained using Continental's Standard Operating Procedures. These procedures are in substantial compliance with the approved methods referenced and the standards published by NELAP unless otherwise noted in the Appendix and Quality Control sections of this report.

This report may not be reproduced, except in full, without written approval from Continental Analytical Services, Inc.

Thank you for choosing Continental for this project.

CONTINENTAL ANALYTICAL SERVICES, INC.

Clifford J. Baker
Technical Manager

Gregory J. Groene
Project Manager

525 N. Eighth St. - P.O. Box 3737 - Salina, KS 67402-3737
785-827-1273 800-535-3076 Fax 785-823-7830

KDHE Environmental Laboratory Accreditation No. E-10146

Continental Analytical Services, Inc.

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Reported: 12/01/2011
Date Received: 11/08/2011
Continental File No: 8339
Continental Order No: 59786

Lab Number: 11110488
Sample Description: Broadway Upstream

Date Sampled: 11/07/2011
Time Sampled: 1240

Analysis	Concentration	Units	Book/Page
Cadmium, Dissolved, ICP-MS	ND(1) DM	µg/L	7202/43
Cadmium, Tot. Rec., ICP-MS	ND(1)	µg/L	7202/42
Copper, Dissolved, ICP-MS	ND(5) DM	µg/L	7202/43
Copper, Tot. Rec., ICP-MS	29	µg/L	7202/42
Hardness (Calculated)	163	mg/L as CaCO3	7157/132
Zinc, Dissolved, ICP-MS	ND(20) DM	µg/L	7202/43
Zinc, Tot. Rec., ICP-MS	204	µg/L	7202/42
BOD	25	mg/L	7060/276
Chloride	60.	mg/L	7129/85
Kjeldahl Nitrogen, as N (TKN)	6.4	mg/L	6854/351
Nitrate, as N	0.3	mg/L	7129/85
Nitrite, as N	ND(1) M	mg/L	7129/86
Nitrogen (TKN + NO3/NO2), as N	6.7	mg/L	9999/596
Phosphorus, Total, as P	ND(0.20)	mg/L	7061/219
Solids, Total Dissolved	300.	mg/L	7059/603
Solids, Total Suspended	198	mg/L	7059/607

Analysis	Date/Time Prepared	Date/Time Analyzed	QC Batch	Inst. Batch	Analyst	Method(s)
Cadmium, Dissolved, ICP-MS	11/11/11 1012	11/15/11 1554	111111-3	1IP3319	KMW	200.8 Rev. 5.4
Cadmium, Tot. Rec., ICP-MS	11/10/11 0837	11/14/11 1751	111110-2	1IP3318	KMW	200.8 Rev. 5.4
Copper, Dissolved, ICP-MS	11/11/11 1012	11/15/11 1554	111111-3	1IP3319	KMW	200.8 Rev. 5.4
Copper, Tot. Rec., ICP-MS	11/10/11 0837	11/14/11 1751	111110-2	1IP3318	KMW	200.8 Rev. 5.4
Hardness (Calculated)	11/18/11 1242	11/29/11 1752	111118-3	3IP4333	KMW	200.7 & SM 2340B
Zinc, Dissolved, ICP-MS	11/11/11 1012	11/15/11 1554	111111-3	1IP3319	KMW	200.8 Rev. 5.4
Zinc, Tot. Rec., ICP-MS	11/10/11 0837	11/14/11 1751	111110-2	1IP3318	KMW	200.8 Rev. 5.4
BOD	N/A	11/09/11 1015	111109-1	111109-1	ASK	SM 5210B
Chloride	N/A	11/08/11 1907	1IC1312	2IC1312	MLL	300.0
Kjeldahl Nitrogen, as N (T	11/11/11 1632	11/15/11 1047	111111-1	111115-1	JND	EPA 351.2
Nitrate, as N	N/A	11/08/11 1854	1IC1312	2IC1312	MLL	300.0
Nitrite, as N	N/A	11/09/11 1207	1IC1313	1IC1313	MLL	300.0
Nitrogen (TKN + NO3/NO2),	N/A	11/17/11 1422				Calculation
Phosphorus, Total, as P	N/A	11/30/11 1659	111130-1	111130-1	KJH	SM 4500-P(B&F)(M)
Solids, Total Dissolved	N/A	11/09/11 1359	111109-1	111109-1	KJH	SM20th 2540C
Solids, Total Suspended	N/A	11/14/11 1442	111114-1	111114-1	KJH	SM20th 2540D
Dissolved Metals Preparation Method						200.7/200.8
Total Recoverable Metals Preparation Method						200.7/200.8
Calculated as Hardness Preparation Method						200.7/6010B

Conclusion of Lab Number: 11110488

Appendix

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Reported: 12/01/2011
Date Received: 11/08/2011
Continental File No: 8339
Continental Order No: 59786

ND(), where reported, indicates the analyte was not detected above the Limit of Quantitation (LOQ). The concentration of the LOQ is inside the parentheses.

All samples which require cooling were received at a temperature of less than 6 degrees Celsius.

The following table presents the date and time sampled, the date and time analyzed, and the total time elapsed for each analysis with an EPA recommended holding time of seventy-two hours or less.

CAS LAB ID #	ANALYSIS	DATE/TIME SAMPLED	DATE/TIME ANALYZED	ELAPSED HRS:MIN
11110488	BOD	11/07/2011 1240	11/09/2011 1015	45:35
11110488	Nitrate, as N	11/07/2011 1240	11/08/2011 1854	30:14
11110488	Nitrite, as N	11/07/2011 1240	11/09/2011 1207	47:27

DM - NPDES requirements specify that dissolved metals and orthophosphate must be filtered within 15 minutes of the time of collection. This analysis did not meet these criteria.

M - Reporting limit higher than normal due to matrix interferences.

Continental Analytical Services, Inc.

Accreditation Summary

Client: City of Wichita
Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Reported: 12/01/2011
Date Received: 11/08/2011
Continental File No: 8339
Continental Order No: 59786

NELAP accreditation is issued under each EPA regulatory program for a given matrix/analyte/method combination. Continental is NELAP accredited for each matrix/analyte/method and EPA program cited in this Laboratory Report, except for those listed in the table below and analysis performed in the field. For most of the analyses listed in the table, NELAP accreditation is not offered under the listed EPA program and Continental is NELAP accredited for the analysis, using the same analytical technology, but under a different EPA program. Continental's full NELAP accreditation status may be viewed at www.kdheks.gov/envlab. Note that unless qualified otherwise in the Laboratory Report, Continental performs all analyses, including each analysis listed in the table below, utilizing NELAP protocol.

Test	Analysis	Matrix-Regulatory Program	Method	CAS NELAP Accredited in Other Reg. Program
GL343	Nitrogen (TKN + NO3/NO2), as N	L-NPDES	Calculation	N

Continental Analytical Services, Inc.

Quality Control Report
Batch Summary

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Reported: 12/01/2011
Date Received: 11/08/2011
Continental File No: 8339
Continental Order No: 59786

Test	Testname	QC Batch	Method Blank	LCS	MS Lab No.
SL006	Cadmium, Tot. Rec., ICP-MS	111110-2	111110BLK2	111110LCS2	11110506MS
SL012	Copper, Tot. Rec., ICP-MS	111110-2	111110BLK2	111110LCS2	11110506MS
SL033	Zinc, Tot. Rec., ICP-MS	111110-2	111110BLK2	111110LCS2	11110506MS
Lab numbers associated with this batch: 11110488					
SL156	Cadmium, Dissolved, ICP-MS	111111-3	111111BLK3	111111LCS3	11110500MS
SL162	Copper, Dissolved, ICP-MS	111111-3	111111BLK3	111111LCS3	11110500MS
SL183	Zinc, Dissolved, ICP-MS	111111-3	111111BLK3	111111LCS3	11110500MS
Lab numbers associated with this batch: 11110488					
SL323	Hardness (Calculated)	111118-3	111118BLK3	111118LCS3	11110987MS
Lab numbers associated with this batch: 11110488					
GL123	BOD	111109-1	111109BLK1	111109LCS1	11110446MS
Lab numbers associated with this batch: 11110488					
GL502	Chloride	1IC1312	BLK1IC1312	LCS1IC1312	11102140MS
Lab numbers associated with this batch: 11110488					
GL595	Kjeldahl Nitrogen, as N (TKN)	111111-1	111111BLK1	111111LCS1	11110769MS
Lab numbers associated with this batch: 11110488					
GL505	Nitrate, as N	1IC1312	BLK1IC1312	LCS1IC1312	
Lab numbers associated with this batch: 11110488					
GL503	Nitrite, as N	1IC1313	BLK1IC1313	LCS1IC1313	
Lab numbers associated with this batch: 11110488					
GL343	Nitrogen (TKN + NO3/NO2), as N				
Lab numbers associated with this batch: 11110488					
GL218	Phosphorus, Total, as P	111130-1	111130BLK1	111130LCS1	11110500MS
Lab numbers associated with this batch: 11110488					

Continental Analytical Services, Inc.

Quality Control Report
Batch Summary

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Reported: 12/01/2011
Date Received: 11/08/2011
Continental File No: 8339
Continental Order No: 59786

Test	Testname	QC Batch	Method Blank	LCS	MS Lab No.
GL242	Solids, Total Dissolved	111109-1	111109BLK1	111109LCS1	11110167MS
Lab numbers associated with this batch: 11110488					
GL243	Solids, Total Suspended	111114-1	111114BLK1	111114LCS1	11110446MS
Lab numbers associated with this batch: 11110488					

Continental Analytical Services, Inc.

Quality Control Report
Method Blank, LCS, MS/MSD Data

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Reported: 12/01/2011
Date Received: 11/08/2011
Continental File No: 8339
Continental Order No: 59786

Analysis	Blank Data	% Rec LCS	Limits	Spike Level	Units	Spiked Sample (% Recovery) MS	MSD	Limits	Spike Level	Units	Spiked Sample Precision Data RPD	Limit
QC Batch: 111109-1	For sample analyzed on: 11/09/2011					Spiked sample: 11110167						
Solids, Total Dissolved	ND(30)	N/A			mg/L	MN	MN	#		mg/L	**	5.2
QC Batch: 111109-1	For sample analyzed on: 11/09/2011					Spiked sample: 11110446						
BOD	ND(5)	98.9	70.5-110	198	mg/L	MN	MN	#		mg/L	**	13.2
QC Batch: 111110-2	For samples prepared on: 11/10/2011					Spiked sample: 11110506						
Cadmium, Tot. Rec., ICP-MS	ND(1)	95.8	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
Copper, Tot. Rec., ICP-MS	ND(5)	91.8	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
Zinc, Tot. Rec., ICP-MS	ND(20)	102	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
QC Batch: 111111-1	For samples prepared on: 11/11/2011					Spiked sample: 11110769						
Kjeldahl Nitrogen, as N (TKN)	ND(1.0)	111	#	4.0	mg/L	MN	MN	#	20.0	mg/L	**	#
QC Batch: 111111-3	For samples prepared on: 11/11/2011					Spiked sample: 11110500						
Cadmium, Dissolved, ICP-MS	ND(1)	96.9	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
Copper, Dissolved, ICP-MS	ND(5)	89.4	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
Zinc, Dissolved, ICP-MS	ND(20)	99.3	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
QC Batch: 111114-1	For sample analyzed on: 11/14/2011					Spiked sample: 11110446						
Solids, Total Suspended	ND(5)	N/A			mg/L	MN	MN	#		mg/L	**	18.2
QC Batch: 111118-3	For samples prepared on: 11/18/2011					Spiked sample: 11110987						
Hardness (Calculated)	ND(5.0)	107	80.0-120	337	mg/L a	MN	MN	80.0-120	337	mg/L as	**	20.0
QC Batch: 111130-1	For sample analyzed on: 11/30/2011					Spiked sample: 11110500						
Phosphorus, Total, as P	ND(0.20)	98.3	90.0-110	2.0	mg/L	MN	MN	71.2-135	2.0	mg/L	**	21.2
QC Batch: 1IC1312	For sample analyzed on: 11/08/2011					Spiked sample:						
Nitrate, as N	ND(0.1)	103	90.0-110	2.0	mg/L	MN	MN	79.3-118			**	12.1
QC Batch: 1IC1312	For sample analyzed on: 11/08/2011					Spiked sample: 11102140						
Chloride	ND(1.0)	104	90.0-110	4.0	mg/L	MN	MN	82.1-126	400	mg/L	**	12.5
QC Batch: 1IC1313	For sample analyzed on: 11/09/2011					Spiked sample:						
Nitrite, as N	ND(0.1)	102	90.0-110	2.0	mg/L	MN	MN	78.5-127			**	10.1

Data Qualifiers:
N/A - Not Applicable

MN - The MS/MSD sample analyses were not performed on a sample from this Continental order number.

- Limits not available.

** - RPD cannot be calculated.

Continental Analytical Services, Inc.

Quality Control Report
Continuing Calibration Data Summary

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Reported: 12/01/2011
Date Received: 11/08/2011
Continental File No: 8339
Continental Order No: 59786

Analysis	Date of Analysis	Instrument Batch ID	Amount in Standard	Amount Detected	Units	Percent Recovery
Cadmium, Tot. Rec., ICP-MS	11/14/2011	1IP3318	CCV recovery acceptable for this Instrument Batch.			
Cadmium, Dissolved, ICP-MS	11/15/2011	1IP3319	CCV recovery acceptable for this Instrument Batch.			
Cadmium, Tot. Rec., ICP-MS	11/14/2011	2IP3318	CCV recovery acceptable for this Instrument Batch.			
Cadmium, Dissolved, ICP-MS	11/15/2011	2IP3319	CCV recovery acceptable for this Instrument Batch.			
Copper, Tot. Rec., ICP-MS	11/14/2011	1IP3318	CCV recovery acceptable for this Instrument Batch.			
Copper, Dissolved, ICP-MS	11/15/2011	1IP3319	CCV recovery acceptable for this Instrument Batch.			
Copper, Tot. Rec., ICP-MS	11/14/2011	2IP3318	CCV recovery acceptable for this Instrument Batch.			
Copper, Dissolved, ICP-MS	11/15/2011	2IP3319	CCV recovery acceptable for this Instrument Batch.			
BOD	11/09/2011	111109-1	CCV recovery acceptable for this Instrument Batch.			
BOD	11/09/2011	111109-2	CCV recovery acceptable for this Instrument Batch.			
Phosphorus, Total, as P	11/30/2011	111130-1	CCV recovery acceptable for this Instrument Batch.			
Phosphorus, Total, as P	11/30/2011	111130-2	CCV recovery acceptable for this Instrument Batch.			
Chloride	11/08/2011	3IC1312	CCV recovery acceptable for this Instrument Batch.			
Nitrite, as N	11/09/2011	1IC1313	CCV recovery acceptable for this Instrument Batch.			
Nitrite, as N	11/09/2011	2IC1313	CCV recovery acceptable for this Instrument Batch.			
Nitrate, as N	11/08/2011	3IC1312	CCV recovery acceptable for this Instrument Batch.			
Kjeldahl Nitrogen, as N (TKN)	11/15/2011	111115-1	CCV recovery acceptable for this Instrument Batch.			
Kjeldahl Nitrogen, as N (TKN)	11/15/2011	111115-2	CCV recovery acceptable for this Instrument Batch.			
Hardness (Calculated)	11/29/2011	3IP4333	CCV recovery acceptable for this Instrument Batch.			
Hardness (Calculated)	11/29/2011	4IP4333	CCV recovery acceptable for this Instrument Batch.			
Zinc, Tot. Rec., ICP-MS	11/14/2011	1IP3318	CCV recovery acceptable for this Instrument Batch.			
Zinc, Dissolved, ICP-MS	11/15/2011	1IP3319	CCV recovery acceptable for this Instrument Batch.			
Zinc, Tot. Rec., ICP-MS	11/14/2011	2IP3318	CCV recovery acceptable for this Instrument Batch.			
Zinc, Dissolved, ICP-MS	11/15/2011	2IP3319	CCV recovery acceptable for this Instrument Batch.			

- Laboratory Report Conclusion -

CAS JOB NO. 91164

Continental Analytical Services, Inc.

525 N. 8th Street, Salina, KS 67401
(785)827-1273 (800)535-3076 Fax (785)823-7830
www.cas-lab.com

CHAIN OF CUSTODY RECORD

Continental Shipping Order Number: _____

Client/Reporting Information			Invoice Information		
Company Name: City of Wichita Storm Water Management			Company Name: City of Wichita Storm Water Management		
Address: City Hall, 8th Floor, 455 N. Main			Address: City Hall, 8th Floor, 455 N. Main		
City: Wichita	State: KS	Zip: 67202	City: Wichita	State: KS	Zip: 67202
Contact: Jim Hardesty	E-mail: Jhardesty@wichita.gov		Contact: Jim Hardesty	E-mail: Jhardesty@wichita.gov	
Phone Number: (316)268-8317	Fax Number: (316)858-7889		Phone Number: (316)268-8317	Fax Number: (316)858-7889	

Sampler's Name (Printed): Justin Murphy
Sampler's Name (Signature): [signature]
Purchase Order Number:
File Number: 8339
Project Name: Stormwater - UPSTREAM

SAMPLE IDENTIFICATION (30 Characters or less)	Matrix (Sample Type)	Regulatory Program	Date Sampled	Time Sampled	C-Composite G-Grab	Total Containers	Number of Preserved Bottles: HCl	NaOH	HNO3	H2SO4	NONE	OTHER	Total Cadmium, Copper, Zinc 250mL Plastic - HNO3	Dissolved Cadmium, Copper, Zinc 250mL Plastic - None	Hardness, TSS, TDS, Cl, BOD, NO3, NO2, Tot. Nitrogen 1000mL Plastic - None	TKN, Total P 250mL Plastic - H2SO4					COMMENTS
Broadway Upstream	WW	N	11/7/11	1240	G	4			1	1	2		X	X	X	X					

Regulatory Program: N=NPDES, R=RCRA, D=Drinking Water, SL=503 Sludge, O=Other

(Please note if non-standard turnaround Rush & Emergency subject to additional charge)
Standard TAT (15 working days) Rush TAT. (5 working days) Emergency TAT (3 working days)

Matrix (Sample Type): DW=Drinking Water, GW=Ground Water, WW=Waste Water, W=Wipe, S=Solid/Soil, SL=Sludge, A=Air, OL = Oil/Organic Liquid, O=Other

RELINQUISHED BY: [signature]	DATE: 11/8/11	TIME: 0830	RECEIVED BY: [signature]	DATE: 11/8/11	TIME: 0940
RELINQUISHED BY: [signature]	DATE: 11/8/11	TIME: 11:35	RECEIVED BY	DATE:	TIME:
RECEIVED AT LAB BY: [signature]	DATE: 11/8/11	TIME: 1135	SHIPPED VIA: AIRBILL:	SEAL #: SEAL DATE	

Continental's Standard Terms and Conditions of Sale will apply to all samples received unless a separate contractual agreement has been made.

Continental Analytical Services, Inc.
Cooler/Sample Receipt Form (C/S RF)

CAS Order No.: 59786

Client Name: Wichita

CAS File No.: 8339

Sample ID's in cooler: Fico
Broadway

Cooler 1 of 1 for this CAS Order No.

Cooler Identification: CAS Cooler #: _____ / Client's Cooler / Box / Letter / Hand-delivered
Other: _____

Date/Time Cooler Received: 11 / 8 / 11 11 : 35

Delivered By: UPS / FedX / AB Express / Field Svcs / Mail / Walk-In / Other: CT

Custody Seal: Present: Intact / Broken Absent: X Seal No: _____
Seal Name: _____ Seal Date: _____
Seal matches Chain of Custody: Yes / No / N/A

Type of Packing Material: Blue Ice / Ice / Melted Ice / Bubble / Foam / Paper / Peanuts / Vermiculite / None / Other: _____

Cooler Temperature (°C): Original Reading (°C) 0.4 Corrected Reading (°C) 0.8
Temp. By: Temp. Blank Cooler Surface: Glass / Plastic /Metal /Other: _____
Thermo. ID No.: 585 Thermo. Correction Factor (°C): 0.4

☐ Evidence of Cooling and date received = date sampled

Sample Receipt Discrepancies: ☒ No ☐ Yes **(See below for discrepancies.)**

Note: **If discrepancies are present, CAS will proceed with analyses until/unless directed otherwise by the client.**

☐ Chain of Custody not present - information taken from:
Cover Letter ☐ Container ☐
PO ☐ CAS Proj. Mgr. ☐
☐ Container label absent
☐ Chain of Custody incomplete [see detail below]
☐ Chain of Custody missing date/time sampled (excl. TB or Dup.)
☐ Date or Time sampled obtained from cootainer label
☐ Chain of Custody missing sampler's name
☐ Chain of Custody missing matrix (sample type)
☐ Missing relinquished information: signature date time

☐ Sample excluded from Chain of Custody
☐ Sample listed on Chain of Custody, not received
☐ Sample description on container and Chain of Custody do not agree
☐ Air bubbles in Aqueous VOA vials larger than pea-size [approx. 6 mm]
☐ Cooler temperature exceeded 0.1 - 6.0 °C requirement
[Do not mark if samples do not require cooling to 0.1 - 6.0 °C.]
☐ Broken or leaking containers (detail actions below)
☐ Sample container type or labeled chemical preservation inappropriate
☐ Other discrepancies: _____

Detail to discrepancies/comments:

Completed by: [illegible] Date Completed: 11-8-11

Continental Analytical Services, Inc.

12/01/2011

City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date and Time Received: 11/08/2011 11:35
Continental File No.: 8339
Continental Order No.: 59791
Project ID: SW Upstream

Dear Mr. Hardesty:

This laboratory report containing the samples indicated below, includes 8 pages for the analytical report, 1 page(s) for the chain of custody and/or analysis request, and 1 page(s) for the sample receipt form.

CAS LAB ID #	SAMPLE DESCRIPTION	SAMPLE TYPE	DATE SAMPLED
11110497	Harvest Court Upstream	Liquid	11/7/2011

The Appendix and Quality Control sections are integral parts of this laboratory report and may contain important data qualifiers.

All results are reported on a wet weight basis unless otherwise stated.

Samples will be retained for thirty days unless Continental is otherwise notified.

Continental is accredited by the State of Kansas through the National Environmental Laboratory Accreditation Program (NELAP). The results contained in this report were obtained using Continental's Standard Operating Procedures. These procedures are in substantial compliance with the approved methods referenced and the standards published by NELAP unless otherwise noted in the Appendix and Quality Control sections of this report.

This report may not be reproduced, except in full, without written approval from Continental Analytical Services, Inc.

Thank you for choosing Continental for this project.

CONTINENTAL ANALYTICAL SERVICES, INC.

Clifford J. Baker
Technical Manager

Gregory J. Groene
Project Manager

525 N. Eighth St. - P.O. Box 3737 - Salina, KS 67402-3737
785-827-1273 800-535-3076 Fax 785-823-7830

KDHE Environmental Laboratory Accreditation No. E-10146

Continental Analytical Services, Inc.

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Reported: 12/01/2011
Date Received: 11/08/2011
Continental File No: 8339
Continental Order No: 59791

Lab Number: 11110497
Sample Description: Harvest Court Upstream

Date Sampled: 11/07/2011
Time Sampled: 1130

Analysis	Concentration	Units	Book/Page
Cadmium, Dissolved, ICP-MS	ND(1) DM	µg/L	7202/43
Cadmium, Tot. Rec., ICP-MS	ND(1)	µg/L	7202/42
Copper, Dissolved, ICP-MS	ND(5) DM	µg/L	7202/43
Copper, Tot. Rec., ICP-MS	6	µg/L	7202/42
Hardness (Calculated)	139	mg/L as CaCO3	7157/132
Zinc, Dissolved, ICP-MS	ND(20) DM	µg/L	7202/43
Zinc, Tot. Rec., ICP-MS	34	µg/L	7202/42
BOD	22	mg/L	7060/276
Chloride	31.9	mg/L	7129/85
Kjeldahl Nitrogen, as N (TKN)	2.5	mg/L	6854/351
Nitrate, as N	ND(0.1)	mg/L	7129/85
Nitrite, as N	ND(1) M	mg/L	7129/86
Nitrogen (TKN + NO3/NO2), as N	2.5	mg/L	9999/596
Phosphorus, Total, as P	0.60	mg/L	7061/219
Solids, Total Dissolved	252	mg/L	7059/608
Solids, Total Suspended	55	mg/L	7059/607

Analysis	Date/Time Prepared	Date/Time Analyzed	QC Batch	Inst. Batch	Analyst	Method(s)
Cadmium, Dissolved, ICP-MS	11/11/11 1012	11/15/11 1636	111111-3	2IP3319	KMW	200.8 Rev. 5.4
Cadmium, Tot. Rec., ICP-MS	11/11/11 0836	11/14/11 2126	111111-1	4IP3318	KMW	200.8 Rev. 5.4
Copper, Dissolved, ICP-MS	11/11/11 1012	11/15/11 1636	111111-3	2IP3319	KMW	200.8 Rev. 5.4
Copper, Tot. Rec., ICP-MS	11/11/11 0836	11/14/11 2126	111111-1	4IP3318	KMW	200.8 Rev. 5.4
Hardness (Calculated)	11/18/11 1242	11/29/11 1756	111118-3	3IP4333	KMW	200.7 & SM 2340B
Zinc, Dissolved, ICP-MS	11/11/11 1012	11/15/11 1636	111111-3	2IP3319	KMW	200.8 Rev. 5.4
Zinc, Tot. Rec., ICP-MS	11/11/11 0836	11/14/11 2126	111111-1	4IP3318	KMW	200.8 Rev. 5.4
BOD	N/A	11/09/11 1015	111109-1	111109-1	ASK	SM 5210B
Chloride	N/A	11/08/11 1920	1IC1312	2IC1312	MLL	300.0
Kjeldahl Nitrogen, as N (T	11/11/11 1632	11/15/11 1102	111111-1	111115-2	JND	EPA 351.2
Nitrate, as N	N/A	11/08/11 1920	1IC1312	2IC1312	MLL	300.0
Nitrite, as N	N/A	11/09/11 1101	1IC1313	1IC1313	MLL	300.0
Nitrogen (TKN + NO3/NO2),	N/A	11/17/11 1422				Calculation
Phosphorus, Total, as P	N/A	11/30/11 1704	111130-1	111130-2	KJH	SM 4500-P(B&F)(M)
Solids, Total Dissolved	N/A	11/14/11 1640	111114-1	111114-1	KJH	SM20th 2540C
Solids, Total Suspended	N/A	11/14/11 1459	111114-1	111114-1	KJH	SM20th 2540D
Dissolved Metals Preparation Method						200.7/200.8
Total Recoverable Metals Preparation Method						200.7/200.8
Calculated as Hardness Preparation Method						200.7/6010B

Conclusion of Lab Number: 11110497

Appendix

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Reported: 12/01/2011
Date Received: 11/08/2011
Continental File No: 8339
Continental Order No: 59791

ND(), where reported, indicates the analyte was not detected above the Limit of Quantitation (LOQ). The concentration of the LOQ is inside the parentheses.

All samples which require cooling were received at a temperature of less than 6 degrees Celsius.

The following table presents the date and time sampled, the date and time analyzed, and the total time elapsed for each analysis with an EPA recommended holding time of seventy-two hours or less.

CAS LAB ID #	ANALYSIS	DATE/TIME SAMPLED	DATE/TIME ANALYZED	ELAPSED HRS:MIN
11110497	BOD	11/07/2011 1130	11/09/2011 1015	46:45
11110497	Nitrate, as N	11/07/2011 1130	11/08/2011 1920	31:50
11110497	Nitrite, as N	11/07/2011 1130	11/09/2011 1101	47:31

DM - NPDES requirements specify that dissolved metals and orthophosphate must be filtered within 15 minutes of the time of collection. This analysis did not meet these criteria.

M - Reporting limit higher than normal due to matrix interferences.

Continental Analytical Services, Inc.

Accreditation Summary

Client: City of Wichita
Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Reported: 12/01/2011
Date Received: 11/08/2011
Continental File No: 8339
Continental Order No: 59791

NELAP accreditation is issued under each EPA regulatory program for a given matrix/analyte/method combination. Continental is NELAP accredited for each matrix/analyte/method and EPA program cited in this Laboratory Report, except for those listed in the table below and analysis performed in the field. For most of the analyses listed in the table, NELAP accreditation is not offered under the listed EPA program and Continental is NELAP accredited for the analysis, using the same analytical technology, but under a different EPA program. Continental's full NELAP accreditation status may be viewed at www.kdheks.gov/envlab. Note that unless qualified otherwise in the Laboratory Report, Continental performs all analyses, including each analysis listed in the table below, utilizing NELAP protocol.

Test	Analysis	Matrix-Regulatory Program	Method	CAS NELAP Accredited in Other Reg. Program
GL343	Nitrogen (TKN + NO3/NO2), as N	L-NPDES	Calculation	N

Continental Analytical Services, Inc.

Quality Control Report
Batch Summary

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Reported: 12/01/2011
Date Received: 11/08/2011
Continental File No: 8339
Continental Order No: 59791

Test	Testname	QC Batch	Method Blank	LCS	MS Lab No.
SL006	Cadmium, Tot. Rec., ICP-MS	111111-1	111111BLK1	111111LCS1	11110498MS
SL012	Copper, Tot. Rec., ICP-MS	111111-1	111111BLK1	111111LCS1	11110498MS
SL033	Zinc, Tot. Rec., ICP-MS	111111-1	111111BLK1	111111LCS1	11110498MS
Lab numbers associated with this batch: 11110497					
SL156	Cadmium, Dissolved, ICP-MS	111111-3	111111BLK3	111111LCS3	11110500MS
SL162	Copper, Dissolved, ICP-MS	111111-3	111111BLK3	111111LCS3	11110500MS
SL183	Zinc, Dissolved, ICP-MS	111111-3	111111BLK3	111111LCS3	11110500MS
Lab numbers associated with this batch: 11110497					
SL323	Hardness (Calculated)	111118-3	111118BLK3	111118LCS3	11110987MS
Lab numbers associated with this batch: 11110497					
GL123	BOD	111109-1	111109BLK1	111109LCS1	11110446MS
Lab numbers associated with this batch: 11110497					
GL502	Chloride	1IC1312	BLK1IC1312	LCS1IC1312	11102140MS
Lab numbers associated with this batch: 11110497					
GL595	Kjeldahl Nitrogen, as N (TKN)	111111-1	111111BLK1	111111LCS1	11110769MS
Lab numbers associated with this batch: 11110497					
GL505	Nitrate, as N	1IC1312	BLK1IC1312	LCS1IC1312	
Lab numbers associated with this batch: 11110497					
GL503	Nitrite, as N	1IC1313	BLK1IC1313	LCS1IC1313	
Lab numbers associated with this batch: 11110497					
GL343	Nitrogen (TKN + NO3/NO2), as N				
Lab numbers associated with this batch: 11110497					
GL218	Phosphorus, Total, as P	111130-1	111130BLK1	111130LCS1	11110500MS
Lab numbers associated with this batch: 11110497					

Continental Analytical Services, Inc.

Quality Control Report
Batch Summary

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Reported: 12/01/2011
Date Received: 11/08/2011
Continental File No: 8339
Continental Order No: 59791

Test	Testname	QC Batch	Method Blank	LCS	MS Lab No.
GL242	Solids, Total Dissolved	111114-1	111114BLK1	111114LCS1	11110521MS
GL243	Solids, Total Suspended	111114-1	111114BLK1	111114LCS1	11110446MS

Lab numbers associated with this batch:
11110497

Continental Analytical Services, Inc.

Quality Control Report
Method Blank, LCS, MS/MSD Data

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Reported: 12/01/2011
Date Received: 11/08/2011
Continental File No: 8339
Continental Order No: 59791

Analysis	Blank Data	% Rec LCS	Limits	Spike Level	Units	Spiked Sample (% Recovery) MS	MSD	Limits	Spike Level	Units	Spiked Sample Precision Data RPD	Limit
QC Batch: 111109-1	For sample analyzed on: 11/09/2011					Spiked sample: 11110446						
BOD	ND(5)	98.9	70.5-110	198	mg/L	MN	MN	#		mg/L	**	13.2
QC Batch: 111111-1	For samples prepared on: 11/11/2011					Spiked sample: 11110498						
Cadmium, Tot. Rec., ICP-MS	ND(1)	98.4	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
Copper, Tot. Rec., ICP-MS	ND(5)	91.8	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
Zinc, Tot. Rec., ICP-MS	ND(20)	104	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
QC Batch: 111111-1	For samples prepared on: 11/11/2011					Spiked sample: 11110769						
Kjeldahl Nitrogen, as N (TKN)	ND(1.0)	111	#	4.0	mg/L	MN	MN	#	20.0	mg/L	**	#
QC Batch: 111111-3	For samples prepared on: 11/11/2011					Spiked sample: 11110500						
Cadmium, Dissolved, ICP-MS	ND(1)	96.9	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
Copper, Dissolved, ICP-MS	ND(5)	89.4	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
Zinc, Dissolved, ICP-MS	ND(20)	99.3	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
QC Batch: 111114-1	For sample analyzed on: 11/14/2011					Spiked sample: 11110446						
Solids, Total Suspended	ND(5)	N/A			mg/L	MN	MN	#		mg/L	**	18.2
QC Batch: 111114-1	For sample analyzed on: 11/14/2011					Spiked sample: 11110521						
Solids, Total Dissolved	ND(30)	N/A			mg/L	MN	MN	#		mg/L	**	5.2
QC Batch: 111118-3	For samples prepared on: 11/18/2011					Spiked sample: 11110987						
Hardness (Calculated)	ND(5.0)	107	80.0-120	337	mg/L a	MN	MN	80.0-120	337	mg/L as	**	20.0
QC Batch: 111130-1	For sample analyzed on: 11/30/2011					Spiked sample: 11110500						
Phosphorus, Total, as P	ND(0.20)	98.3	90.0-110	2.0	mg/L	MN	MN	71.2-135	2.0	mg/L	**	21.2
QC Batch: 1IC1312	For sample analyzed on: 11/08/2011					Spiked sample:						
Nitrate, as N	ND(0.1)	103	90.0-110	2.0	mg/L	MN	MN	79.3-118			**	12.1
QC Batch: 1IC1312	For sample analyzed on: 11/08/2011					Spiked sample: 11102140						
Chloride	ND(1.0)	104	90.0-110	4.0	mg/L	MN	MN	82.1-126	400	mg/L	**	12.5
QC Batch: 1IC1313	For sample analyzed on: 11/08/2011					Spiked sample:						
Nitrite, as N	ND(0.1)	102	90.0-110	2.0	mg/L	MN	MN	78.5-127			**	10.1

Data Qualifiers:
MN - The MS/MSD sample analyses were not performed on a sample from this Continental order number.

N/A - Not Applicable

- Limits not available.

** - RPD cannot be calculated.

Continental Analytical Services, Inc.

Quality Control Report
Continuing Calibration Data Summary

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Reported: 12/01/2011
Date Received: 11/08/2011
Continental File No: 8339
Continental Order No: 59791

Analysis	Date of Analysis	Instrument Batch ID	Amount in Standard	Amount Detected	Units	Percent Recovery
Cadmium, Dissolved, ICP-MS	11/15/2011	2IP3319	CCV recovery acceptable for this Instrument Batch.			
Cadmium, Dissolved, ICP-MS	11/15/2011	3IP3319	CCV recovery acceptable for this Instrument Batch.			
Cadmium, Tot. Rec., ICP-MS	11/14/2011	4IP3318	CCV recovery acceptable for this Instrument Batch.			
Cadmium, Tot. Rec., ICP-MS	11/14/2011	5IP3318	CCV recovery acceptable for this Instrument Batch.			
Copper, Dissolved, ICP-MS	11/15/2011	2IP3319	CCV recovery acceptable for this Instrument Batch.			
Copper, Dissolved, ICP-MS	11/15/2011	3IP3319	CCV recovery acceptable for this Instrument Batch.			
Copper, Tot. Rec., ICP-MS	11/14/2011	4IP3318	CCV recovery acceptable for this Instrument Batch.			
Copper, Tot. Rec., ICP-MS	11/14/2011	5IP3318	CCV recovery acceptable for this Instrument Batch.			
BOD	11/09/2011	111109-1	CCV recovery acceptable for this Instrument Batch.			
BOD	11/09/2011	111109-2	CCV recovery acceptable for this Instrument Batch.			
Phosphorus, Total, as P	11/30/2011	111130-2	CCV recovery acceptable for this Instrument Batch.			
Phosphorus, Total, as P	11/30/2011	111130-3	CCV recovery acceptable for this Instrument Batch.			
Chloride	11/08/2011	3IC1312	CCV recovery acceptable for this Instrument Batch.			
Nitrite, as N	11/09/2011	1IC1313	CCV recovery acceptable for this Instrument Batch.			
Nitrite, as N	11/09/2011	2IC1313	CCV recovery acceptable for this Instrument Batch.			
Nitrate, as N	11/08/2011	3IC1312	CCV recovery acceptable for this Instrument Batch.			
Kjeldahl Nitrogen, as N (TKN)	11/15/2011	111115-2	CCV recovery acceptable for this Instrument Batch.			
Kjeldahl Nitrogen, as N (TKN)	11/15/2011	111115-3	CCV recovery acceptable for this Instrument Batch.			
Hardness (Calculated)	11/29/2011	3IP4333	CCV recovery acceptable for this Instrument Batch.			
Hardness (Calculated)	11/29/2011	4IP4333	CCV recovery acceptable for this Instrument Batch.			
Zinc, Dissolved, ICP-MS	11/15/2011	2IP3319	CCV recovery acceptable for this Instrument Batch.			
Zinc, Dissolved, ICP-MS	11/15/2011	3IP3319	CCV recovery acceptable for this Instrument Batch.			
Zinc, Tot. Rec., ICP-MS	11/14/2011	4IP3318	CCV recovery acceptable for this Instrument Batch.			
Zinc, Tot. Rec., ICP-MS	11/14/2011	5IP3318	CCV recovery acceptable for this Instrument Batch.			

- Laboratory Report Conclusion -

Continental Analytical Services, Inc.

525 N. 8th Street, Salina, KS 67401
(785)827-1273 (800)535-3076 Fax (785)823-7830
www.cas-lab.com

CAS ORDER NO. 59791
CHAIN OF CUSTODY RECORD

Continental Shipping Order Number: _____

Client/Reporting Information			Invoice Information		
Company Name: City of Wichita Storm Water Management			Company Name: City of Wichita Storm Water Management		
Address: City Hall, 8th Floor, 455 N. Main			Address: City Hall, 8th Floor, 455 N. Main		
City: Wichita	State: KS	Zip: 67202	City: Wichita	State: KS	Zip: 67202
Contact: Jim Hardesty	E-mail: Jhardesty@wichita.gov		Contact: Jim Hardesty	E-mail: Jhardesty@wichita.gov	
Phone Number: (316)268-8317	Fax Number: (316)858-7889		Phone Number: (316)268-8317	Fax Number: (316)858-7889	
Sampler's Name:(Printed) Justin Murphy	Sampler's Name:(Signature)		Purchase Order Number:		
File Number: 8339	Project Name: Stormwater - UPSTREAM				

SAMPLE IDENTIFICATION (30 Characters or less)	Matrix (Sample Type)	Regulatory Program	Date Sampled	Time Sampled	C-Composite G-Grab	Total Containers	Number of Preserved Bottles: HCL	NaOH	HNO3	H2SO4	NONE	OTHER	Total Cadmium, Copper, Zinc 250mL Plastic - HNO3	Dissolved Cadmium, Copper, Zinc 250mL Plastic - None	Hardness, TSS, TDS, Cl, BOD, NO3, NO2, Tot. Nitrogen 1000mL Plastic - None	TKN, Total P 250mL Plastic - H2SO4					COMMENTS
Harvest Court Upstream	WW	N	11/7/11	1130	G	4			1	1	2		X	X	X	X					

Regulatory Program: N=NPDES, R=RCRA, D=Drinking Water, SL=503 Sludge, O=Other

(Please note if non-standard turnaround Rush & Emergency subject to additional charge)
Standard TAT (15 working days) Rush TAT (5 working days) Emergency TAT (3 working days)

Matrix (Sample Type): DW=Drinking Water, GW=Ground Water, WW=Waste Water, W=Wipe, S=Solid/Soil, SL=Sludge, A=Air, OL = Oil/Organic Liquid, O=Other

RELINQUISHED BY	DATE 11/8/11	TIME 0830	RECEIVED BY	DATE 11/8/11	TIME 0940
RELINQUISHED BY	DATE 11/8/11	TIME 11:35	RECEIVED BY:	DATE	TIME
RECEIVED AT LAB BY	DATE 11/8/11	TIME 1135	SHIPPED VIA: AIRBILL	SEAL #: SEAL DATE:	

Continental's Standard Terms and Conditions of Sale will apply to all samples received unless a separate contractual agreement has been made.

C:\Documents and Settings\murphyj\Local Settings\Temporary Internet Files\Content.Outlook\3FQHFRAQ\Wichita Stormwater XLS0049[illegible]

Continental Analytical Services, Inc.
Cooler/Sample Receipt Form (C/S RF)

CAS Order No.: 59791

Client Name: Wichita

CAS File No.: 8339

Sample ID's in cooler: R. coc

Harvert Court

Cooler 1 of 1 *for this CAS Order No.*

Cooler Identification: CAS Cooler #: _____ / Client's Cooler / Box / Letter / Hand-delivered
Other: _____

Date/Time Cooler Received: 11 / 8 / 11 11 : 3r

Delivered By: UPS / FedX / AB Express / Field Svcs / Mail / Walk-In / Other CT

Custody Seal: Present: Intact / Broken Absent: X Seal No: _____
Seal Name: _____ Seal Date: _____
Seal matches Chain of Custody: Yes / No / N/A

Type of Packing Material: Blue Ice / Ice / Melted Ice / Bubble / Foam / Paper / Peanuts / Vermiculite / None / Other: _____

Cooler Temperature (°C): Original Reading (°C) 0.0 Corrected Reading (°C) 0.Y
Temp. By: Temp. Blank Cooler Surface: Glass / Plastic /Metal /Other: _____
Thermo. ID No.: 585 Thermo. Correction Factor (°C): 0 Y

☐ *Evidence of Cooling and date received = date sampled*

Sample Receipt Discrepancies: ☒ No ☐ Yes **(See below for discrepancies.)**

Note: If discrepancies are present, CAS will proceed with analyses until/unless directed otherwise by the client.

☐ Chain of Custody not present - information taken from:
Cover Letter ☐ Container ☐
PO ☐ CAS Proj. Mgr. ☐
☐ Container label absent
☐ Chain of Custody incomplete [see detail below]
☐ Chain of Custody missing date/time sampled (excl. TB or Dup.)
☐ Date or Time sampled obtained from container label
☐ Chain of Custody missing sampler's name
☐ Chain of Custody missing matrix (sample type)
☐ Missing relinquished information: signature date time

☐ Sample excluded from Chain of Custody
☐ Sample listed on Chain of Custody, not received
☐ Sample description on container and Chain of Custody do not agree
☐ Air bubbles in Aqueous VOA vials larger than pea-size [approx. 6 mm]
☐ Cooler temperature exceeded 0.1 - 6.0 °C requirement
[Do not mark if samples do not require cooling to 0.1 - 6.0 °C.]
☐ Broken or leaking containers (detail actions below)
☐ Sample container type or labeled chemical preservation inappropriate
☐ Other discrepancies: _____

Detail to discrepancies/comments:

Completed by: mur Date Completed: 11-8-11

Continental
Analytical Services, Inc.

12/01/2011

City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date and Time Received: 11/08/2011 11:35
Continental File No.: 8339
Continental Order No.: 59790
Project ID: Stormwater

Dear Mr. Hardesty:

This laboratory report containing the samples indicated below, includes 9 pages for the analytical report, 1 page(s) for the chain of custody and/or analysis request, and 1 page(s) for the sample receipt form.

CAS LAB ID #	SAMPLE DESCRIPTION	SAMPLE TYPE	DATE SAMPLED
11110495	Broadway - Grab	Liquid	11/7/2011
11110496	Broadway - Composite	Liquid	11/7/2011

The Appendix and Quality Control sections are integral parts of this laboratory report and may contain important data qualifiers.

All results are reported on a wet weight basis unless otherwise stated.

Samples will be retained for thirty days unless Continental is otherwise notified.

Continental is accredited by the State of Kansas through the National Environmental Laboratory Accreditation Program (NELAP). The results contained in this report were obtained using Continental's Standard Operating Procedures. These procedures are in substantial compliance with the approved methods referenced and the standards published by NELAP unless otherwise noted in the Appendix and Quality Control sections of this report.

This report may not be reproduced, except in full, without written approval from Continental Analytical Services, Inc.

Thank you for choosing Continental for this project.

CONTINENTAL ANALYTICAL SERVICES, INC.

Clifford J. Baker
Technical Manager

Gregory J. Groene
Project Manager

525 N. Eighth St. - P.O. Box 3737 - Salina, KS 67402-3737
785-827-1273 800-535-3076 Fax 785-823-7830

KDHE Environmental Laboratory Accreditation No. E-10146

Continental Analytical Services, Inc.

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Reported: 12/01/2011
Date Received: 11/08/2011
Continental File No: 8339
Continental Order No: 59790

Lab Number: 11110495
Sample Description: Broadway - Grab

Date Sampled: 11/07/2011
Time Sampled: 1240

Analysis	Concentration	Units	Book/Page
Cadmium, Dissolved, ICP-MS	ND(1) DM	µg/L	7202/43
Cadmium, Tot. Rec., ICP-MS	ND(1)	µg/L	7202/42
Copper, Dissolved, ICP-MS	ND(5) DM	µg/L	7202/43
Copper, Tot. Rec., ICP-MS	5	µg/L	7202/42
Hardness (Calculated)	17.0	mg/L as CaCO3	7157/120
Zinc, Dissolved, ICP-MS	ND(20) DM	µg/L	7202/43
Zinc, Tot. Rec., ICP-MS	88	µg/L	7202/42
Chloride	ND(1.0)	mg/L	7129/92
Hexane Extractable Material	ND(5.0)	mg/L	7198/20
Solids, Total Dissolved	ND(30)	mg/L	7059/608
Solids, Total Suspended	50.	mg/L	7059/607

Analysis	Date/Time Prepared	Date/Time Analyzed	QC Batch	Inst. Batch	Analyst	Method(s)
Cadmium, Dissolved, ICP-MS	11/11/11 1012	11/15/11 1626	111111-3	2IP3319	KMW	200.8 Rev. 5.4
Cadmium, Tot. Rec., ICP-MS	11/10/11 0837	11/14/11 1833	111110-2	2IP3318	KMW	200.8 Rev. 5.4
Copper, Dissolved, ICP-MS	11/11/11 1012	11/15/11 1626	111111-3	2IP3319	KMW	200.8 Rev. 5.4
Copper, Tot. Rec., ICP-MS	11/10/11 0837	11/14/11 1833	111110-2	2IP3318	KMW	200.8 Rev. 5.4
Hardness (Calculated)	11/09/11 0914	11/11/11 0207	111109-3	12IP4314	KMW	200.7 & SM 2340B
Zinc, Dissolved, ICP-MS	11/11/11 1012	11/15/11 1626	111111-3	2IP3319	KMW	200.8 Rev. 5.4
Zinc, Tot. Rec., ICP-MS	11/10/11 0837	11/14/11 1833	111110-2	2IP3318	KMW	200.8 Rev. 5.4
Chloride	N/A	11/18/11 1645	1IC1322	3IC1322	MLL	300.0
Hexane Extractable Materia	11/22/11 1100	11/22/11 0853	111122-1	111122-1	JND	1664
Solids, Total Dissolved	N/A	11/14/11 1639	111114-1	111114-1	KJH	SM20th 2540C
Solids, Total Suspended	N/A	11/14/11 1458	111114-1	111114-1	KJH	SM20th 2540D
Dissolved Metals Preparation Method						200.7/200.8
Total Recoverable Metals Preparation Method						200.7/200.8
Calculated as Hardness Preparation Method						200.7/6010B
HEM Preparation Method						1664

Conclusion of Lab Number: 11110495

Continental Analytical Services, Inc.

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Reported: 12/01/2011
Date Received: 11/08/2011
Continental File No: 8339
Continental Order No: 59790

Lab Number: 11110496
Sample Description: Broadway - Composite

Date Sampled: 11/07/2011
Time Sampled: 1240

Analysis	Concentration	Units	Book/Page
Cadmium, Dissolved, ICP-MS	ND(1) DM	µg/L	7202/43
Cadmium, Tot. Rec., ICP-MS	ND(1)	µg/L	7202/42
Copper, Dissolved, ICP-MS	ND(5) DM	µg/L	7202/43
Copper, Tot. Rec., ICP-MS	6	µg/L	7202/42
Hardness (Calculated)	15.3	mg/L as CaCO3	7157/120
Zinc, Dissolved, ICP-MS	ND(20) DM	µg/L	7202/43
Zinc, Tot. Rec., ICP-MS	92	µg/L	7202/42
BOD	8	mg/L	7060/277
Chloride	ND(1.0)	mg/L	7129/85
Kjeldahl Nitrogen, as N (TKN)	1.1	mg/L	6854/351
Nitrate, as N	0.2	mg/L	7129/85
Nitrite, as N	ND(0.1)	mg/L	7129/86
Nitrogen (TKN + NO3/NO2), as N	1.3	mg/L	9999/596
Phosphorus, Total, as P	ND(0.20)	mg/L	7061/219
Solids, Total Dissolved	ND(30)	mg/L	7059/608
Solids, Total Suspended	58	mg/L	7059/607

Analysis	Date/Time Prepared	Date/Time Analyzed	QC Batch	Inst. Batch	Analyst	Method(s)
Cadmium, Dissolved, ICP-MS	11/11/11 1012	11/15/11 1631	111111-3	2IP3319	KMW	200.8 Rev. 5.4
Cadmium, Tot. Rec., ICP-MS	11/10/11 0837	11/14/11 1838	111110-2	2IP3318	KMW	200.8 Rev. 5.4
Copper, Dissolved, ICP-MS	11/11/11 1012	11/15/11 1631	111111-3	2IP3319	KMW	200.8 Rev. 5.4
Copper, Tot. Rec., ICP-MS	11/10/11 0837	11/14/11 1838	111110-2	2IP3318	KMW	200.8 Rev. 5.4
Hardness (Calculated)	11/09/11 0914	11/11/11 0211	111109-3	12IP4314	KMW	200.7 & SM 2340B
Zinc, Dissolved, ICP-MS	11/11/11 1012	11/15/11 1631	111111-3	2IP3319	KMW	200.8 Rev. 5.4
Zinc, Tot. Rec., ICP-MS	11/10/11 0837	11/14/11 1838	111110-2	2IP3318	KMW	200.8 Rev. 5.4
BOD	N/A	11/09/11 1110	111109-2	111109-4	ASK	SM 5210B
Chloride	N/A	11/08/11 2251	1IC1312	3IC1312	MLL	300.0
Kjeldahl Nitrogen, as N (T	11/11/11 1632	11/15/11 1100	111111-1	111115-2	JND	EPA 351.2
Nitrate, as N	N/A	11/08/11 2251	1IC1312	3IC1312	MLL	300.0
Nitrite, as N	N/A	11/09/11 1220	1IC1313	1IC1313	MLL	300.0
Nitrogen (TKN + NO3/NO2),	N/A	11/17/11 1422				Calculation
Phosphorus, Total, as P	N/A	11/30/11 1702	111130-1	111130-1	KJH	SM 4500-P(B&F)(M)
Solids, Total Dissolved	N/A	11/14/11 1640	111114-1	111114-1	KJH	SM20th 2540C
Solids, Total Suspended	N/A	11/14/11 1458	111114-1	111114-1	KJH	SM20th 2540D
Dissolved Metals Preparation Method						200.7/200.8
Total Recoverable Metals Preparation Method						200.7/200.8
Calculated as Hardness Preparation Method						200.7/6010B

Conclusion of Lab Number: 11110496

Appendix

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Reported: 12/01/2011
Date Received: 11/08/2011
Continental File No: 8339
Continental Order No: 59790

ND(), where reported, indicates the analyte was not detected above the Limit of Quantitation (LOQ). The concentration of the LOQ is inside the parentheses.

All samples which require cooling were received at a temperature of less than 6 degrees Celsius.

The following table presents the date and time sampled, the date and time analyzed, and the total time elapsed for each analysis with an EPA recommended holding time of seventy-two hours or less.

CAS LAB ID #	ANALYSIS	DATE/TIME SAMPLED	DATE/TIME ANALYZED	ELAPSED HRS:MIN
11110496	BOD	11/07/2011 1240	11/09/2011 1110	46:30
11110496	Nitrate, as N	11/07/2011 1240	11/08/2011 2251	34:11
11110496	Nitrite, as N	11/07/2011 1240	11/09/2011 1220	47:40

DM - NPDES requirements specify that dissolved metals and orthophosphate must be filtered within 15 minutes of the time of collection. This analysis did not meet these criteria.

Continental Analytical Services, Inc.

Accreditation Summary

Client: City of Wichita
Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Reported: 12/01/2011
Date Received: 11/08/2011
Continental File No: 8339
Continental Order No: 59790

NELAP accreditation is issued under each EPA regulatory program for a given matrix/analyte/method combination. Continental is NELAP accredited for each matrix/analyte/method and EPA program cited in this Laboratory Report, except for those listed in the table below and analysis performed in the field. For most of the analyses listed in the table, NELAP accreditation is not offered under the listed EPA program and Continental is NELAP accredited for the analysis, using the same analytical technology, but under a different EPA program. Continental's full NELAP accreditation status may be viewed at www.kdheks.gov/envlab. Note that unless qualified otherwise in the Laboratory Report, Continental performs all analyses, including each analysis listed in the table below, utilizing NELAP protocol.

Test	Analysis	Matrix-Regulatory Program	Method	CAS NELAP Accredited in Other Reg. Program
GL343	Nitrogen (TKN + NO3/NO2), as N	L-NPDES	Calculation	N

Continental Analytical Services, Inc.

Quality Control Report
Batch Summary

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Reported: 12/01/2011
Date Received: 11/08/2011
Continental File No: 8339
Continental Order No: 59790

Test	Testname	QC Batch	Method Blank	LCS	MS Lab No.
SL323	Hardness (Calculated)	111109-3	111109BLK3	111109LCS3	11110496MS
Lab numbers associated with this batch: 11110495 11110496					
SL006	Cadmium, Tot. Rec., ICP-MS	111110-2	111110BLK2	111110LCS2	11110506MS
SL012	Copper, Tot. Rec., ICP-MS	111110-2	111110BLK2	111110LCS2	11110506MS
SL033	Zinc, Tot. Rec., ICP-MS	111110-2	111110BLK2	111110LCS2	11110506MS
Lab numbers associated with this batch: 11110495 11110496					
SL156	Cadmium, Dissolved, ICP-MS	111111-3	111111BLK3	111111LCS3	11110500MS
SL162	Copper, Dissolved, ICP-MS	111111-3	111111BLK3	111111LCS3	11110500MS
SL183	Zinc, Dissolved, ICP-MS	111111-3	111111BLK3	111111LCS3	11110500MS
Lab numbers associated with this batch: 11110495 11110496					
GL123	BOD	111109-2	111109BLK2	111109LCS2	11110413MS
Lab numbers associated with this batch: 11110496					
GL502	Chloride	1IC1312	BLK1IC1312	LCS1IC1312	11102140MS
Lab numbers associated with this batch: 11110496					
GL502	Chloride	1IC1322	BLK1IC1322	LCS1IC1322	11111686MS
Lab numbers associated with this batch: 11110495					
GL188	Hexane Extractable Material	111122-1	111122BLK1	111122LCS1	11110491MS
Lab numbers associated with this batch: 11110495					
GL595	Kjeldahl Nitrogen, as N (TKN)	111111-1	111111BLK1	111111LCS1	11110769MS
Lab numbers associated with this batch: 11110496					
GL505	Nitrate, as N	1IC1312	BLK1IC1312	LCS1IC1312	
Lab numbers associated with this batch: 11110496					
GL503	Nitrite, as N	1IC1313	BLK1IC1313	LCS1IC1313	
Lab numbers associated with this batch: 11110496					

Continental Analytical Services, Inc.

Quality Control Report
Batch Summary

Client: City of Wichita
Attn: Jim Bardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Reported: 12/01/2011
Date Received: 11/08/2011
Continental File No: 8339
Continental Order No: 59790

Test	Testname	QC Batch	Method Blank	LCS	MS Lab No.
GL343	Nitrogen (TKN + NO3/NO2), as N				
Lab numbers associated with this batch: 11110496					
GL218	Phosphorus, Total, as P	111130-1	111130BLK1	111130LCS1	11110500MS
Lab numbers associated with this batch: 11110496					
GL242	Solids, Total Dissolved	111114-1	111114BLK1	111114LCS1	11110521MS
GL243	Solids, Total Suspended	111114-1	111114BLK1	111114LCS1	11110446MS
Lab numbers associated with this batch: 11110495 11110496					

Continental Analytical Services, Inc.

Quality Control Report
Method Blank, LCS, MS/MSD Data

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Reported: 12/01/2011
Date Received: 11/08/2011
Continental File No: 8339
Continental Order No: 59790

Analysis	Blank Data	% Rec LCS	Limits	Spike Level	Units	Spiked Sample (% Recovery) MS	MSD	Limits	Spike Level	Units	Spiked Sample Precision Data RPD	Limit
QC Batch: 111109-2	For sample analyzed on: 11/09/2011					Spiked sample: 11110413						
BOD	ND(5)	93.1	70.5-110	198	mg/L	MN	MN	#		mg/L	**	13.2
QC Batch: 111109-3	For samples prepared on: 11/09/2011					Spiked sample: 11110496						
Hardness (Calculated)	ND(5.0)	105	80.0-120	337	mg/L a	103	102	80.0-120	337	mg/L as	1.0	20.0
QC Batch: 111110-2	For samples prepared on: 11/10/2011					Spiked sample: 11110506						
Cadmium, Tot. Rec., ICP-MS	ND(1)	95.8	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
Copper, Tot. Rec., ICP-MS	ND(5)	91.8	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
Zinc, Tot. Rec., ICP-MS	ND(20)	102	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
QC Batch: 111111-1	For samples prepared on: 11/11/2011					Spiked sample: 11110769						
Kjeldahl Nitrogen, as N (TKN)	ND(1.0)	111	#	4.0	mg/L	MN	MN	#	20.0	mg/L	**	#
QC Batch: 111111-3	For samples prepared on: 11/11/2011					Spiked sample: 11110500						
Cadmium, Dissolved, ICP-MS	ND(1)	96.9	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
Copper, Dissolved, ICP-MS	ND(5)	89.4	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
Zinc, Dissolved, ICP-MS	ND(20)	99.3	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
QC Batch: 111114-1	For sample analyzed on: 11/14/2011					Spiked sample: 11110446						
Solids, Total Suspended	ND(5)	N/A			mg/L	MN	MN	#		mg/L	**	18.2
QC Batch: 111114-1	For sample analyzed on: 11/14/2011					Spiked sample: 11110521						
Solids, Total Dissolved	ND(30)	N/A			mg/L	MN	MN	#		mg/L	**	5.2
QC Batch: 111122-1	For samples prepared on: 11/22/2011					Spiked sample: 11110491						
Hexane Extractable Material	ND(1.4)	91.5	78.0-114	40.0	mg/L	MN	MN	78.0-114	40.0	mg/L	**	18.0
QC Batch: 111130-1	For sample analyzed on: 11/30/2011					Spiked sample: 11110500						
Phosphorus, Total, as P	ND(0.20)	98.3	90.0-110	2.0	mg/L	MN	MN	71.2-135	2.0	mg/L	**	21.2
QC Batch: 1IC1312	For sample analyzed on: 11/08/2011					Spiked sample:						
Nitrate, as N	ND(0.1)	103	90.0-110	2.0	mg/L	MN	MN	79.3-118			**	12.1
QC Batch: 1IC1312	For sample analyzed on: 11/08/2011					Spiked sample: 11102140						
Chloride	ND(1.0)	104	90.0-110	4.0	mg/L	MN	MN	82.1-126	400	mg/L	**	12.5
QC Batch: 1IC1313	For sample analyzed on: 11/08/2011					Spiked sample:						
Nitrite, as N	ND(0.1)	102	90.0-110	2.0	mg/L	MN	MN	78.5-127			**	10.1
QC Batch: 1IC1322	For sample analyzed on: 11/18/2011					Spiked sample: 11111686						
Chloride	ND(1.0)	94.1	90.0-110	4.0	mg/L	MN	MN	82.1-126	40.0	mg/L	**	12.5

Data Qualifiers:
MN - The MS/MSD sample analyses were not performed on a sample from this Continental order number.

N/A - Not Applicable

- Limits not available.

** - RPD cannot be calculated.

Continental Analytical Services, Inc.

Quality Control Report
Continuing Calibration Data Summary

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Reported: 12/01/2011
Date Received: 11/08/2011
Continental File No: 8339
Continental Order No: 59790

Analysis	Date of Analysis	Instrument Batch ID	Amount in Standard	Amount Detected	Units	Percent Recovery
Cadmium, Tot. Rec., ICP-MS	11/14/2011	2IP3318	CCV recovery acceptable for this Instrument Batch.			
Cadmium, Dissolved, ICP-MS	11/15/2011	2IP3319	CCV recovery acceptable for this Instrument Batch.			
Cadmium, Tot. Rec., ICP-MS	11/14/2011	3IP3318	CCV recovery acceptable for this Instrument Batch.			
Cadmium, Dissolved, ICP-MS	11/15/2011	3IP3319	CCV recovery acceptable for this Instrument Batch.			
Copper, Tot. Rec., ICP-MS	11/14/2011	2IP3318	CCV recovery acceptable for this Instrument Batch.			
Copper, Dissolved, ICP-MS	11/15/2011	2IP3319	CCV recovery acceptable for this Instrument Batch.			
Copper, Tot. Rec., ICP-MS	11/14/2011	3IP3318	CCV recovery acceptable for this Instrument Batch.			
Copper, Dissolved, ICP-MS	11/15/2011	3IP3319	CCV recovery acceptable for this Instrument Batch.			
BOD	11/09/2011	111109-4	CCV recovery acceptable for this Instrument Batch.			
BOD	11/09/2011	111109-5	CCV recovery acceptable for this Instrument Batch.			
Hexane Extractable Material	11/22/2011	111122-1	CCV recovery acceptable for this Instrument Batch.			
Hexane Extractable Material	11/22/2011	111122-2	CCV recovery acceptable for this Instrument Batch.			
Phosphorus, Total, as P	11/30/2011	111130-1	CCV recovery acceptable for this Instrument Batch.			
Phosphorus, Total, as P	11/30/2011	111130-2	CCV recovery acceptable for this Instrument Batch.			
Chloride	11/08/2011	3IC1312	CCV recovery acceptable for this Instrument Batch.			
Chloride	11/08/2011	4IC1312	CCV recovery acceptable for this Instrument Batch.			
Chloride	11/18/2011	3IC1322	CCV recovery acceptable for this Instrument Batch.			
Chloride	11/18/2011	4IC1322	CCV recovery acceptable for this Instrument Batch.			
Nitrite, as N	11/09/2011	1IC1313	CCV recovery acceptable for this Instrument Batch.			
Nitrite, as N	11/09/2011	2IC1313	CCV recovery acceptable for this Instrument Batch.			
Nitrate, as N	11/08/2011	3IC1312	CCV recovery acceptable for this Instrument Batch.			
Nitrate, as N	11/08/2011	4IC1312	CCV recovery acceptable for this Instrument Batch.			
Kjeldahl Nitrogen, as N (TKN)	11/15/2011	111115-2	CCV recovery acceptable for this Instrument Batch.			
Kjeldahl Nitrogen, as N (TKN)	11/15/2011	111115-3	CCV recovery acceptable for this Instrument Batch.			
Hardness (Calculated)	11/11/2011	12IP4314	CCV recovery acceptable for this Instrument Batch.			
Hardness (Calculated)	11/11/2011	13IP4314	CCV recovery acceptable for this Instrument Batch.			
Zinc, Tot. Rec., ICP-MS	11/14/2011	2IP3318	CCV recovery acceptable for this Instrument Batch.			
Zinc, Dissolved, ICP-MS	11/15/2011	2IP3319	CCV recovery acceptable for this Instrument Batch.			
Zinc, Tot. Rec., ICP-MS	11/14/2011	3IP3318	CCV recovery acceptable for this Instrument Batch.			
Zinc, Dissolved, ICP-MS	11/15/2011	3IP3319	CCV recovery acceptable for this Instrument Batch.			

- Laboratory Report Conclusion -

Continental Analytical Services, Inc.

525 N. 8th Street, Salina, KS 67401
(785)827-1273 (800)535-3076 Fax (785)823-7830
www.cas-lab.com

CAS ORDER NO. 59790

CHAIN OF CUSTODY RECORD

Continental Shipping Order Number: _____

Client/Reporting Information			Invoice Information		
Company Name: City of Wichita Storm Water Management			Company Name: City of Wichita Storm Water Management		
Address: City Hall, 8th Floor, 455 N. Main			Address: City Hall, 8th Floor, 455 N. Main		
City: Wichita	State: KS	Zip: 67202	City: Wichita	State: KS	Zip: 67202
Contact: Jim Hardesty	E-mail: Jhardesty@wichita.gov		Contact: Jim Hardesty	E-mail: Jhardesty@wichita.gov	
Phone Number: (316)268-8317	Fax Number: (316)858-7889		Phone Number: (316)268-8317	Fax Number: (316)858-7889	
Sampler's Name:(Printed) Tasha Murphy	Sampler's Name:(Signature)		Purchase Order Number:		
File Number: 8339	Project Name: Stormwater				

SAMPLE IDENTIFICATION (30 Characters or less)	Matrix (Sample Type)	Regulatory Program	Date Sampled	Time Sampled	C-Composite G-Grab	Total Containers	Number of Preserved Bottles: HCL	NaOH	HNO3	H2SO4	NONE	OTHER	Cadmium, Copper, Zinc - Total Recoverable 250ml Plastic - HNO3	Cadmium, Copper, Zinc - Dissolved, Hardness, TSS TDS, Cl 1000ml Plastic - None	Hexane Extractable Material 2 - 1000ml Amber Glass - H2SO4	Total Metals, Dissolved Metals, Hardness, TSS, TDS, Cl, BOD TKN, Total P, NO3, NO2, Tot. Nitrogen Large Carboy					COMMENTS
Boradway-Grab	WW	N	11/7/11	1240	G	4			1	2	1		X	X	X						
Broadway-Composite	WW	N	11/7/11	1240	C	1					1					X					5 Gal. Container to be poured off at lab
																					as needed for required tests.
																					Remaining volume will be saved for
																					for organics if needed

Regulatory Program: N=NPDES, R=RCRA, D=Drinking Water, SL=503 Sludge, O=Other

(Please note if non-standard turnaround. Rush & Emergency subject to additional charge)
Standard TAT (15 working days) Rush TAT (5 working days) Emergency TAT (3 working days)

Matrix (Sample Type): DW=Drinking Water, GW=Ground Water, WW=Waste Water, W=Wipe, S=Solid/Soil, SL=Sludge, A=Air, OL = Oil/Organic Liquid, O=Other

RELINQUISHED BY	DATE	TIME	RECEIVED BY	DATE	TIME
	11/8/11	0830		11/8/11	0940
RELINQUISHED BY	DATE	TIME	RECEIVED BY	DATE	TIME
	11/8/11	11:35			
RECEIVED AT LAB BY	DATE	TIME	SHIPPED VIA	SEAL #	
	11/8/11	1135	AIRBILL	SEAL DATE	

Continental's Standard Terms and Conditions of Sale will apply to all samples received unless a separate contractual agreement has been made.

C:\Documents and Settings\murphy\Local Settings\Temporary Internet Files\Content.Outlook\...

Continental Analytical Services, Inc.
Cooler/Sample Receipt Form (C/S RF)

CAS Order No.: 59790

Client Name: Wichts

CAS File No.: 8339

Sample ID's in cooler: Fr. Cor
Broadway

Cooler 1 of 1 for this CAS Order No.

Cooler Identification: CAS Cooler #: _____ / Client's Cooler / Box / Letter / Hand-delivered
Other: _____

Date/Time Cooler Received: 11 / 8 / 11 11 : 35

Delivered By: UPS / FedX / AB Express / Field Svcs / Mail / Walk-In / Other: CT

Custody Seal: Present: Intact / Broken Absent: X Seal No: _____
Seal Name: _____ Seal Date: _____
Seal matches Chain of Custody: Yes / No / N/A

Type of Packing Material: Blue Ice / Ice / Melted Ice / Bubble / Foam / Paper / Peanuts / Vermiculite / None / Other: _____

Cooler Temperature (°C): Original Reading (°C) 0.4 Corrected Reading (°C) 0.8
Temp. By: Temp. Blank Cooler Surface: Glass / Plastic /Metal /Other: _____
Thermo. ID No.: 585 Thermo. Correction Factor (°C): 0.4

☐ Evidence of Cooling and date received = date sampled

Sample Receipt Discrepancies: ☒ No ☐ Yes **(See below for discrepancies.)**

Note: **If discrepancies are present, CAS will proceed with analyses until/unless directed otherwise by the client.**

☐ Chain of Custody not present - information taken from:
Cover Letter ☐ Container ☐
PO ☐ CAS Proj. Mgr. ☐
☐ Container label absent
☐ Chain of Custody incomplete [see detail below]
☐ Chain of Custody missing date/time sampled (excl. TB or Dup.)
☐ Date or Time sampled obtained from container label
☐ Chain of Custody missing sampler's name
☐ Chain of Custody missing matrix (sample type)
☐ Missing relinquished information: signature date time

☐ Sample excluded from Chain of Custody
☐ Sample listed on Chain of Custody, not received
☐ Sample description on container and Chain of Custody do not agree
☐ Air bubbles in Aqueous VOA vials larger than pea-size [approx. 6 mm]
☐ Cooler temperature exceeded 0.1 - 6.0 °C requirement
[Do not mark if samples do not require cooling to 0.1 - 6.0 °C.]
☐ Broken or leaking containers (detail actions below)
☐ Sample container type or labeled chemical preservation inappropriate
☐ Other discrepancies: _____

Detail to discrepancies/comments:

Completed by: [illegible] Date Completed: 11-8-11

Continental Analytical Services, Inc.

12/01/2011

City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date and Time Received: 11/08/2011 11:35
Continental File No.: 8339
Continental Order No.: 59789
Project ID: Stormwater

Dear Mr. Hardesty:

This laboratory report containing the samples indicated below, includes 11 pages for the analytical report, 1 page(s) for the chain of custody and/or analysis request, and 1 page(s) for the sample receipt form.

CAS LAB ID #	SAMPLE DESCRIPTION	SAMPLE TYPE	DATE SAMPLED
11110493	Towne East - Grab	Liquid	11/7/2011
11110494	Towne East - Composite	Liquid	11/7/2011

The Appendix and Quality Control sections are integral parts of this laboratory report and may contain important data qualifiers.

All results are reported on a wet weight basis unless otherwise stated.

Samples will be retained for thirty days unless Continental is otherwise notified.

Continental is accredited by the State of Kansas through the National Environmental Laboratory Accreditation Program (NELAP). The results contained in this report were obtained using Continental's Standard Operating Procedures. These procedures are in substantial compliance with the approved methods referenced and the standards published by NELAP unless otherwise noted in the Appendix and Quality Control sections of this report.

This report may not be reproduced, except in full, without written approval from Continental Analytical Services, Inc.

Thank you for choosing Continental for this project.

CONTINENTAL ANALYTICAL SERVICES, INC.

Clifford J. Baker
Technical Manager

Gregory J. Groene
Project Manager

525 N. Eighth St. - P.O. Box 3737 - Salina, KS 67402-3737
785-827-1273 800-535-3076 Fax 785-823-7830

KDHE Environmental Laboratory Accreditation No. E-10146

Continental Analytical Services, Inc.

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Reported: 12/01/2011
Date Received: 11/08/2011
Continental File No: 8339
Continental Order No: 59789

Lab Number: 11110493
Sample Description: Towne East - Grab

Date Sampled: 11/07/2011
Time Sampled: 1315

Analysis	Concentration	Units	Book/Page
Cadmium, Dissolved, ICP-MS	ND(1) DM	µg/L	7202/46
Cadmium, Tot. Rec., ICP-MS	ND(1)	µg/L	7202/42
Copper, Dissolved, ICP-MS	ND(5) DM	µg/L	7202/46
Copper, Tot. Rec., ICP-MS	6	µg/L	7202/42
Hardness (Calculated)	35.8	mg/L as CaCO3	7157/120
Zinc, Dissolved, ICP-MS	21	µg/L	7202/46
Zinc, Tot. Rec., ICP-MS	46	µg/L	7202/42
Chloride	7.6	mg/L	7129/92
Hexane Extractable Material	ND(5.0)	mg/L	7198/20
Solids, Total Dissolved	68	mg/L	7059/603
Solids, Total Suspended	12	mg/L	7059/607

Analysis	Date/Time Prepared	Date/Time Analyzed	QC Batch	Inst. Batch	Analyst	Method(s)
Cadmium, Dissolved, ICP-MS	11/17/11 0151	11/28/11 1627	111117-5	2IP3332	KMW	200.8 Rev. 5.4
Cadmium, Tot. Rec., ICP-MS	11/11/11 0836	11/14/11 2121	111111-1	4IP3318	KMW	200.8 Rev. 5.4
Copper, Dissolved, ICP-MS	11/17/11 0151	11/28/11 1627	111117-5	2IP3332	KMW	200.8 Rev. 5.4
Copper, Tot. Rec., ICP-MS	11/11/11 0836	11/14/11 2121	111111-1	4IP3318	KMW	200.8 Rev. 5.4
Hardness (Calculated)	11/09/11 0914	11/11/11 0150	111109-3	11IP4314	KMW	200.7 & SM 2340B
Zinc, Dissolved, ICP-MS	11/17/11 0151	11/28/11 1627	111117-5	2IP3332	KMW	200.8 Rev. 5.4
Zinc, Tot. Rec., ICP-MS	11/11/11 0836	11/14/11 2121	111111-1	4IP3318	KMW	200.8 Rev. 5.4
Chloride	N/A	11/18/11 1632	1IC1322	3IC1322	MLL	300.0
Hexane Extractable Materia	11/22/11 1100	11/22/11 0852	111122-1	111122-1	JND	1664
Solids, Total Dissolved	N/A	11/09/11 1400	111109-1	111109-1	KJH	SM20th 2540C
Solids, Total Suspended	N/A	11/14/11 1446	111114-1	111114-1	KJH	SM20th 2540D
Dissolved Metals Preparation Method						200.7/200.8
Total Recoverable Metals Preparation Method						200.7/200.8
Calculated as Hardness Preparation Method						200.7/6010B
HEM Preparation Method						1664

Conclusion of Lab Number: 11110493

Continental Analytical Services, Inc.

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Reported: 12/01/2011
Date Received: 11/08/2011
Continental File No: 8339
Continental Order No: 59789

Lab Number: 11110494
Sample Description: Towne East - Composite

Date Sampled: 11/07/2011
Time Sampled: 1315

Analysis	Concentration	Units	Book/Page
Cadmium, Dissolved, ICP-MS	ND(1) DM	µg/L	7202/43
Cadmium, Tot. Rec., ICP-MS	ND(1)	µg/L	7202/42
Copper, Dissolved, ICP-MS	ND(5) DM	µg/L	7202/43
Copper, Tot. Rec., ICP-MS	7	µg/L	7202/42
Hardness (Calculated)	37.5	mg/L as CaCO3	7157/120
Zinc, Dissolved, ICP-MS	ND(20) DM	µg/L	7202/43
Zinc, Tot. Rec., ICP-MS	52	µg/L	7202/42
BOD	5	mg/L	7060/277
Chloride	6.7	mg/L	7129/85
Kjeldahl Nitrogen, as N (TKN)	1.1	mg/L	6854/351
Nitrate, as N	0.3	mg/L	7129/85
Nitrite, as N	ND(0.1) QC	mg/L	7129/85
Nitrogen (TKN + NO3/NO2), as N	1.4	mg/L	9999/596
Phosphorus, Total, as P	ND(0.20)	mg/L	7061/219
Solids, Total Dissolved	56	mg/L	7059/608
Solids, Total Suspended	15	mg/L	7059/607

Analysis	Date/Time Prepared	Date/Time Analyzed	QC Batch	Inst. Batch	Analyst	Method(s)
Cadmium, Dissolved, ICP-MS	11/11/11 1012	11/15/11 1610	111111-3	1IP3319	KMW	200.8 Rev. 5.4
Cadmium, Tot. Rec., ICP-MS	11/10/11 0837	11/14/11 1817	111110-2	1IP3318	KMW	200.8 Rev. 5.4
Copper, Dissolved, ICP-MS	11/11/11 1012	11/15/11 1610	111111-3	1IP3319	KMW	200.8 Rev. 5.4
Copper, Tot. Rec., ICP-MS	11/10/11 0837	11/14/11 1817	111110-2	1IP3318	KMW	200.8 Rev. 5.4
Hardness (Calculated)	11/09/11 0914	11/11/11 0154	111109-3	11IP4314	KMW	200.7 & SM 2340B
Zinc, Dissolved, ICP-MS	11/11/11 1012	11/15/11 1610	111111-3	1IP3319	KMW	200.8 Rev. 5.4
Zinc, Tot. Rec., ICP-MS	11/10/11 0837	11/14/11 1817	111110-2	1IP3318	KMW	200.8 Rev. 5.4
BOD	N/A	11/09/11 1110	111109-2	111109-4	ASK	SM 5210B
Chloride	N/A	11/08/11 2225	1IC1312	3IC1312	MLL	300.0
Kjeldahl Nitrogen, as N (T	11/11/11 1632	11/15/11 1053	111111-1	111115-1	JND	EPA 351.2
Nitrate, as N	N/A	11/08/11 2225	1IC1312	3IC1312	MLL	300.0
Nitrite, as N	N/A	11/08/11 2225	1IC1312	3IC1312	MLL	300.0
Nitrogen (TKN + NO3/NO2),	N/A	11/17/11 1422				Calculation
Phosphorus, Total, as P	N/A	11/30/11 1701	111130-1	111130-1	KJH	SM 4500-P(B&F) (N
Solids, Total Dissolved	N/A	11/14/11 1639	111114-1	111114-1	KJH	SM20th 2540C
Solids, Total Suspended	N/A	11/14/11 1446	111114-1	111114-1	KJH	SM20th 2540D
Dissolved Metals Preparation Method						200.7/200.8
Total Recoverable Metals Preparation Method						200.7/200.8
Calculated as Hardness Preparation Method						200.7/6010B

Conclusion of Lab Number: 11110494

Appendix

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Reported: 12/01/2011
Date Received: 11/08/2011
Continental File No: 8339
Continental Order No: 59789

ND(), where reported, indicates the analyte was not detected above the Limit of Quantitation (LOQ). The concentration of the LOQ is inside the parentheses.

All samples which require cooling were received at a temperature of less than 6 degrees Celsius.

The following table presents the date and time sampled, the date and time analyzed, and the total time elapsed for each analysis with an EPA recommended holding time of seventy-two hours or less.

CAS LAB ID #	ANALYSIS	DATE/TIME SAMPLED	DATE/TIME ANALYZED	ELAPSED HRS:MIN
11110494	BOD	11/07/2011 1315	11/09/2011 1110	45:55
11110494	Nitrate, as N	11/07/2011 1315	11/08/2011 2225	33:10
11110494	Nitrite, as N	11/07/2011 1315	11/08/2011 2225	33:10

DM - NPDES requirements specify that dissolved metals and orthophosphate must be filtered within 15 minutes of the time of collection. This analysis did not meet these criteria.

QC - QC data qualifiers were noted. See the Quality Control Report.

Continental Analytical Services, Inc.

Accreditation Summary

Client: City of Wichita
Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Reported: 12/01/2011
Date Received: 11/08/2011
Continental File No: 8339
Continental Order No: 59789

NELAP accreditation is issued under each EPA regulatory program for a given matrix/analyte/method combination. Continental is NELAP accredited for each matrix/analyte/method and EPA program cited in this Laboratory Report, except for those listed in the table below and analysis performed in the field. For most of the analyses listed in the table, NELAP accreditation is not offered under the listed EPA program and Continental is NELAP accredited for the analysis, using the same analytical technology, but under a different EPA program. Continental's full NELAP accreditation status may be viewed at www.kdheks.gov/envlab. Note that unless qualified otherwise in the Laboratory Report, Continental performs all analyses, including each analysis listed in the table below, utilizing NELAP protocol.

Test	Analysis	Matrix-Regulatory Program	Method	CAS NELAP Accredited in Other Reg. Program
GL343	Nitrogen (TKN + NO3/NO2), as N	L-NPDES	Calculation	N

Continental Analytical Services, Inc.

Quality Control Report
Batch Summary

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Reported: 12/01/2011
Date Received: 11/08/2011
Continental File No: 8339
Continental Order No: 59789

Test	Testname	QC Batch	Method Blank	LCS	MS Lab No.
SL323	Hardness (Calculated)	111109-3	111109BLK3	111109LCS3	11110496MS
Lab numbers associated with this batch: 11110493 11110494					
SL006	Cadmium, Tot. Rec., ICP-MS	111110-2	111110BLK2	111110LCS2	11110506MS
SL012	Copper, Tot. Rec., ICP-MS	111110-2	111110BLK2	111110LCS2	11110506MS
SL033	Zinc, Tot. Rec., ICP-MS	111110-2	111110BLK2	111110LCS2	11110506MS
Lab numbers associated with this batch: 11110494					
SL006	Cadmium, Tot. Rec., ICP-MS	111111-1	111111BLK1	111111LCS1	11110498MS
SL012	Copper, Tot. Rec., ICP-MS	111111-1	111111BLK1	111111LCS1	11110498MS
SL033	Zinc, Tot. Rec., ICP-MS	111111-1	111111BLK1	111111LCS1	11110498MS
Lab numbers associated with this batch: 11110493					
SL156	Cadmium, Dissolved, ICP-MS	111111-3	111111BLK3	111111LCS3	11110500MS
SL162	Copper, Dissolved, ICP-MS	111111-3	111111BLK3	111111LCS3	11110500MS
SL183	Zinc, Dissolved, ICP-MS	111111-3	111111BLK3	111111LCS3	11110500MS
Lab numbers associated with this batch: 11110494					
SL156	Cadmium, Dissolved, ICP-MS	111117-5	111117BLK5	111117LCS5	11110491MS
SL162	Copper, Dissolved, ICP-MS	111117-5	111117BLK5	111117LCS5	11110978MS
SL183	Zinc, Dissolved, ICP-MS	111117-5	111117BLK5	111117LCS5	11110491MS
Lab numbers associated with this batch: 11110493					
GL123	BOD	111109-2	111109BLK2	111109LCS2	11110413MS
Lab numbers associated with this batch: 11110494					
GL502	Chloride	1IC1312	BLK1IC1312	LCS1IC1312	11102140MS
Lab numbers associated with this batch: 11110494					
GL502	Chloride	1IC1322	BLK1IC1322	LCS1IC1322	11111686MS
Lab numbers associated with this batch: 11110493					
GL188	Hexane Extractable Material	111122-1	111122BLK1	111122LCS1	11110491MS
Lab numbers associated with this batch: 11110493					

Continental Analytical Services, Inc.

Quality Control Report
Batch Summary

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Reported: 12/01/2011
Date Received: 11/08/2011
Continental File No: 8339
Continental Order No: 59789

Test	Testname	QC Batch	Method Blank	LCS	MS Lab No.
GL595	Kjeldahl Nitrogen, as N (TKN)	111111-1	111111BLK1	111111LCS1	11110769MS
Lab numbers associated with this batch: 11110494					
GL505	Nitrate, as N	1IC1312	BLK1IC1312	LCS1IC1312	
GL503	Nitrite, as N	1IC1312	BLK1IC1312	LCS1IC1312	
Lab numbers associated with this batch: 11110494					
GL343	Nitrogen (TKN + NO3/NO2), as N				
Lab numbers associated with this batch: 11110494					
GL218	Phosphorus, Total, as P	111130-1	111130BLK1	111130LCS1	11110500MS
Lab numbers associated with this batch: 11110494					
GL242	Solids, Total Dissolved	111109-1	111109BLK1	111109LCS1	11110167MS
Lab numbers associated with this batch: 11110493					
GL242	Solids, Total Dissolved	111114-1	111114BLK1	111114LCS1	11110521MS
Lab numbers associated with this batch: 11110494					
GL243	Solids, Total Suspended	111114-1	111114BLK1	111114LCS1	11110446MS
Lab numbers associated with this batch: 11110493 11110494					

Continental Analytical Services, Inc.

Quality Control Report
Method Blank, LCS, MS/MSD Data

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Reported: 12/01/2011
Date Received: 11/08/2011
Continental File No: 8339
Continental Order No: 59789

Analysis	Blank Data	% Rec LCS	Limits	Spike Level	Units	Spiked Sample (% Recovery) MS	MSD	Limits	Spike Level	Units	Spiked Sample Precision Data RPD	Limit
QC Batch: 111109-1	For sample analyzed on: 11/09/2011					Spiked sample: 11110167						
Solids, Total Dissolved	ND(30)	N/A			mg/L	MN	MN	#		mg/L	**	5.2
QC Batch: 111109-2	For sample analyzed on: 11/09/2011					Spiked sample: 11110413						
BOD	ND(5)	93.1	70.5-110	198	mg/L	MN	MN	#		mg/L	**	13.2
QC Batch: 111109-3	For samples prepared on: 11/09/2011					Spiked sample: 11110496						
Hardness (Calculated)	ND(5.0)	105	80.0-120	337	mg/L a	MN	MN	80.0-120	337	mg/L as	**	20.0
QC Batch: 111110-2	For samples prepared on: 11/10/2011					Spiked sample: 11110506						
Cadmium, Tot. Rec., ICP-MS	ND(1)	95.8	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
Copper, Tot. Rec., ICP-MS	ND(5)	91.8	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
Zinc, Tot. Rec., ICP-MS	ND(20)	102	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
QC Batch: 111111-1	For samples prepared on: 11/11/2011					Spiked sample: 11110499						
Cadmium, Tot. Rec., ICP-MS	ND(1)	98.4	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
Copper, Tot. Rec., ICP-MS	ND(5)	91.8	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
Zinc, Tot. Rec., ICP-MS	ND(20)	104	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
QC Batch: 111111-1	For samples prepared on: 11/11/2011					Spiked sample: 11110769						
Kjeldahl Nitrogen, as N (TKN)	ND(1.0)	111	#	4.0	mg/L	MN	MN	#	20.0	mg/L	**	#
QC Batch: 111111-3	For samples prepared on: 11/11/2011					Spiked sample: 11110500						
Cadmium, Dissolved, ICP-MS	ND(1)	96.9	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
Copper, Dissolved, ICP-MS	ND(5)	89.4	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
Zinc, Dissolved, ICP-MS	ND(20)	99.3	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
QC Batch: 111114-1	For sample analyzed on: 11/14/2011					Spiked sample: 11110446						
Solids, Total Suspended	ND(5)	N/A			mg/L	MN	MN	#		mg/L	**	18.2
QC Batch: 111114-1	For sample analyzed on: 11/14/2011					Spiked sample: 11110521						
Solids, Total Dissolved	ND(30)	N/A			mg/L	MN	MN	#		mg/L	**	5.2
QC Batch: 111117-5	For samples prepared on: 11/17/2011					Spiked sample: 11110491						
Cadmium, Dissolved, ICP-MS	ND(1)	96.1	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
Zinc, Dissolved, ICP-MS	ND(20)	100.	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
QC Batch: 111117-5	For samples prepared on: 11/17/2011					Spiked sample: 11110978						
Copper, Dissolved, ICP-MS	ND(3) J	92.0	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
QC Batch: 111122-1	For samples prepared on: 11/22/2011					Spiked sample: 11110491						
Hexane Extractable Material	ND(1.4)	91.5	78.0-114	40.0	mg/L	MN	MN	78.0-114	40.0	mg/L	**	18.0
QC Batch: 111130-1	For sample analyzed on: 11/30/2011					Spiked sample: 11110500						
Phosphorus, Total, as P	ND(0.20)	98.3	90.0-110	2.0	mg/L	MN	MN	/1.2-135	2.0	mg/L	**	21.2
QC Batch: 1IC1112	For sample analyzed on: 11/08/2011					Spiked sample:						
Nitrite, as N	ND(0.1)	107	90.0-110	2.0	mg/L	MN	MN	78.5-127			**	10.1
Nitrate, as N	ND(0.1)	103	90.0-110	2.0	mg/L	MN	MN	79.3-118			**	12.1
QC Batch: 1IC1112	For sample analyzed on: 11/08/2011					Spiked sample: 11102140						
Chloride	ND(1.0)	104	90.0-110	4.0	mg/L	MN	MN	82.1-126	400	mg/L	**	12.5

Continental Analytical Services, Inc.

Quality Control Report
Method Blank, LCS, MS/MSD Data

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Reported: 12/01/2011
Date Received: 11/08/2011
Continental File No: 8339
Continental Order No: 59789

Analysis	Blank Data	% Rec LCS	Limits	Spike Level	Units	Spiked Sample (% Recovery) MS	MSD	Limits	Spike Level	Units	Spiked Sample Precision Data RPD	Limit
QC Batch: 1XC1322	For sample analysed on: 11/18/2011					Spiked sample: 11111686						
Chloride	ND(1.0)	94.1	90.0-110	4.0	mg/L	MN	MN	82.1-126	40.0	mg/L	**	12.5

Data Qualifiers:
N/A - Not Applicable

MN - The MS/MSD sample analyses were not performed on a sample from this Continental order number.

J - The concentration or not detected (ND) value is below the Limit of Quantitation (LOQ) and is considered an estimated value.

- Limits not available.

** - RPD cannot be calculated.

Continental Analytical Services, Inc.

Quality Control Report
Continuing Calibration Data Summary

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Reported: 12/01/2011
Date Received: 11/08/2011
Continental File No: 8339
Continental Order No: 59789

Analysis	Date of Analysis	Instrument Batch ID	Amount in Standard	Amount Detected	Units	Percent Recovery
Cadmium, Tot. Rec., ICP-MS	11/14/2011	1IP3318	CCV recovery acceptable for this Instrument Batch.			
Cadmium, Dissolved, ICP-MS	11/15/2011	1IP3319	CCV recovery acceptable for this Instrument Batch.			
Cadmium, Tot. Rec., ICP-MS	11/14/2011	2IP3318	CCV recovery acceptable for this Instrument Batch.			
Cadmium, Dissolved, ICP-MS	11/15/2011	2IP3319	CCV recovery acceptable for this Instrument Batch.			
Cadmium, Dissolved, ICP-MS	11/28/2011	2IP3332	CCV recovery acceptable for this Instrument Batch.			
Cadmium, Dissolved, ICP-MS	11/28/2011	3IP3332	CCV recovery acceptable for this Instrument Batch.			
Cadmium, Tot. Rec., ICP-MS	11/14/2011	4IP3318	CCV recovery acceptable for this Instrument Batch.			
Cadmium, Tot. Rec., ICP-MS	11/14/2011	5IP3318	CCV recovery acceptable for this Instrument Batch.			
Copper, Tot. Rec., ICP-MS	11/14/2011	1IP3318	CCV recovery acceptable for this Instrument Batch.			
Copper, Dissolved, ICP-MS	11/15/2011	1IP3319	CCV recovery acceptable for this Instrument Batch.			
Copper, Tot. Rec., ICP-MS	11/14/2011	2IP3318	CCV recovery acceptable for this Instrument Batch.			
Copper, Dissolved, ICP-MS	11/15/2011	2IP3319	CCV recovery acceptable for this Instrument Batch.			
Copper, Dissolved, ICP-MS	11/28/2011	2IP3332	CCV recovery acceptable for this Instrument Batch.			
Copper, Dissolved, ICP-MS	11/28/2011	3IP3332	CCV recovery acceptable for this Instrument Batch.			
Copper, Tot. Rec., ICP-MS	11/14/2011	4IP3318	CCV recovery acceptable for this Instrument Batch.			
Copper, Tot. Rec., ICP-MS	11/14/2011	5IP3318	CCV recovery acceptable for this Instrument Batch.			
BOD	11/09/2011	111109-4	CCV recovery acceptable for this Instrument Batch.			
BOD	11/09/2011	111109-5	CCV recovery acceptable for this Instrument Batch.			
Hexane Extractable Material	11/22/2011	111122-1	CCV recovery acceptable for this Instrument Batch.			
Hexane Extractable Material	11/22/2011	111122-2	CCV recovery acceptable for this Instrument Batch.			
Phosphorus, Total, as P	11/30/2011	111130-1	CCV recovery acceptable for this Instrument Batch.			
Phosphorus, Total, as P	11/30/2011	111130-2	CCV recovery acceptable for this Instrument Batch.			
Chloride	11/08/2011	3IC1312	CCV recovery acceptable for this Instrument Batch.			
Chloride	11/08/2011	4IC1312	CCV recovery acceptable for this Instrument Batch.			
Chloride	11/18/2011	3IC1322	CCV recovery acceptable for this Instrument Batch.			
Chloride	11/18/2011	4IC1322	CCV recovery acceptable for this Instrument Batch.			
Nitrite, as N	11/08/2011	3IC1312	2.00	1.80	mg/L	89.8 CL

Samples associated with this Continuing Calibration Verification:

Laboratory Number	Instrument Batch	Sample Description
11110494	3IC1312	Towne East - Composite

Analysis	Date of Analysis	Instrument Batch ID	Amount in Standard	Amount Detected	Units	Percent Recovery
Nitrite, as N	11/08/2011	4IC1312	CCV recovery acceptable for this Instrument Batch.			
Nitrate, as N	11/08/2011	3IC1312	CCV recovery acceptable for this Instrument Batch.			
Nitrate, as N	11/08/2011	4IC1312	CCV recovery acceptable for this Instrument Batch.			
Kjeldahl Nitrogen, as N (TKN)	11/15/2011	111115-1	CCV recovery acceptable for this Instrument Batch.			
Kjeldahl Nitrogen, as N (TKN)	11/15/2011	111115-2	CCV recovery acceptable for this Instrument Batch.			
Hardness (Calculated)	11/11/2011	11IP4314	CCV recovery acceptable for this Instrument Batch.			
Hardness (Calculated)	11/11/2011	12IP4314	CCV recovery acceptable for this Instrument Batch.			
Zinc, Tot. Rec., ICP-MS	11/14/2011	1IP3318	CCV recovery acceptable for this Instrument Batch.			
Zinc, Dissolved, ICP-MS	11/15/2011	1IP3319	CCV recovery acceptable for this Instrument Batch.			
Zinc, Tot. Rec., ICP-MS	11/14/2011	2IP3318	CCV recovery acceptable for this Instrument Batch.			

Quality Control Report
Continuing Calibration Data Summary

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Reported: 12/01/2011
Date Received: 11/08/2011
Continental File No: 8339
Continental Order No: 59789

Zinc, Dissolved, ICP-MS	11/15/2011	2IP3319	CCV recovery acceptable for this Instrument Batch.
Zinc, Dissolved, ICP-MS	11/28/2011	2IP3332	CCV recovery acceptable for this Instrument Batch.
Zinc, Dissolved, ICP-MS	11/28/2011	3IP3332	CCV recovery acceptable for this Instrument Batch.
Zinc, Tot. Rec., ICP-MS	11/14/2011	4IP3318	CCV recovery acceptable for this Instrument Batch.
Zinc, Tot. Rec., ICP-MS	11/14/2011	5IP3318	CCV recovery acceptable for this Instrument Batch.

Data Qualifiers:
CL - The continuing calibration verification (CCV) standard recovery for this analyte was below the method or SOP limit. The reported concentration for this analyte may be biased low.

- Laboratory Report Conclusion -

Continental Analytical Services, Inc.
525 N. 8th Street, Salina, KS 67401
(785)827-1273 (800)535-3076 Fax (785)823-7830
www.cas-lab.com

CHAIN OF CUSTODY RECORD

Continental Shipping Order Number: _____

Client/Reporting Information

Company Name: City of Wichita Storm Water Management
Address: City Hall, 8th Floor, 455 N. Main
City: Wichita State: KS Zip: 67202
Contact: Jim Hardesty E-mail: Jhardesty@wichita.gov
Phone Number: (316)268-8317 Fax Number: (316)858-7889

Invoice Information

Company Name: City of Wichita Storm Water Management
Address: City Hall, 8th Floor, 455 N. Main
City: Wichita State: KS Zip: 67202
Contact: Jim Hardesty E-mail: Jhardesty@wichita.gov
Phone Number: (316)268-8317 Fax Number: (316)858-7889

Sampler's Name:(Printed)
Sampler's Name:(Signature)
Purchase Order Number:
File Number: 8339
Project Name: Stormwater

SAMPLE IDENTIFICATION (30 Characters or less)	Matrix (Sample Type)	Regulatory Program	Date Sampled	Time Sampled	C-Composite G-Grab	Total Containers	Number of Preserved Bottles: HCL	NaOH	HNO3	H2SO4	NONE	OTHER	Cadmium, Copper, Zinc - Total Recoverable 250ml Plastic - HNO3	Cadmium, Copper, Zinc - Dissolved, Hardness, TSS TDS, Cl 1000ml Plastic - None	Hexane Extractable Material 2 - 1000ml Amber Glass - H2SO4	Total Metals, Dissolved Metals, Hardness, TSS, TDS, Cl, BOD, TKN, Total P, NO3, NO2, Tot. Nitrogen Large Carboy					COMMENTS
Towne East-Grab	WW	N	11/7/11	1315	G	4			1	2	1		X	X	X						5 Gal. Container to be poured off at lab
Towne East-Composite	WW	N	11/7/11	1315	C	1					1					X					as needed for required tests.
																					Remaining volume will be saved for
																					for organics if needed

(Please note if non-standard turnaround. Rush & Emergency subject to additional charge)
Standard TAT (15 working days) Rush TAT (5 working days) Emergency TAT: (3 working days)

Regulatory Program: N=NPDES, R=RCRA, D=Drinking Water, SL=503 Sludge, O=Other

Matrix (Sample Type): DW=Drinking Water, GW=Ground Water, WW=Waste Water, W=Wipe, S=Solid/Soil, SL=Sludge, A=Air, OL = Oil/Organic Liquid, O=Other

RELINQUISHED BY	DATE: 11/8/11	TIME: 0830	RECEIVED BY: G Thompson	DATE: 11/8/11	TIME: 0940
RELINQUISHED BY: G Thompson	DATE: 11/8/11	TIME: 11:35	RECEIVED BY	DATE:	TIME:
RECEIVED AT LAB BY: Jenny Graves	DATE: 11.8.11	TIME: 1135	SHIPPED VIA: AIRBILL	SEAL #: SEAL DATE:	

Continental's Standard Terms and Conditions of Sale will apply to all samples received unless a separate contractual agreement has been made.

Continental Analytical Services, Inc.
Cooler/Sample Receipt Form (C/S RF)

CAS Order No.: 59789

Client Name: Wichita

CAS File No.: 8339

Sample ID's in cooler: Six COC
Town East

Cooler 1 of 1 for this CAS Order No.

Cooler Identification: CAS Cooler #: _____ / Client's Cooler / Box / Letter / Hand-delivered
Other: _____

Date/Time Cooler Received: 11 / 8 / 11 11 : 35

Delivered By: UPS / FedX / AB Express / Field Svcs / Mail / Walk-In / Other: CJ

Custody Seal: Present: Intact / Broken Absent: X Seal No: _____
Seal Name: _____ Seal Date: _____
Seal matches Chain of Custody: Yes / No / N/A

Type of Packing Material: Blue Ice / Ice / Melted Ice / Bubble / Foam / Paper / Peanuts / Vermiculite / None / Other: _____

Cooler Temperature (°C): Original Reading (°C) 1.1 Corrected Reading (°C) 1.5
Temp. By: Temp. Blank Cooler Surface: Glass / Plastic /Metal /Other: _____
Thermo. ID No.: 585 Thermo. Correction Factor (°C): 0.4

☐ Evidence of Cooling and date received = date sampled

Sample Receipt Discrepancies: ☒ No ☐ Yes (See below for discrepancies.)

Note: **If discrepancies are present, CAS will proceed with analyses until/unless directed otherwise by the client.**

☐ Chain of Custody not present - information taken from:
Cover Letter ☐ Container ☐
PO ☐ CAS Proj. Mgr. ☐
☐ Container label absent
☐ Chain of Custody incomplete [see detail below]
☐ Chain of Custody missing date/time sampled (excl. TB or Dup.)
☐ Date or Time sampled obtained from container label
☐ Chain of Custody missing sampler's name
☐ Chain of Custody missing matrix (sample type)
☐ Missing relinquished information: signature date time

☐ Sample excluded from Chain of Custody
☐ Sample listed on Chain of Custody, not received
☐ Sample description on container and Chain of Custody do not agree
☐ Air bubbles in Aqueous VOA vials larger than pea-size [approx. 6 mm]
☐ Cooler temperature exceeded 0.1 - 6.0 °C requirement
[Do not mark if samples do not require cooling to 0.1 - 6.0 °C.]
☐ Broken or leaking containers (detail actions below)
☐ Sample container type or labeled chemical preservation inappropriate
☐ Other discrepancies: _____

Detail to discrepancies/comments:

Completed by: [illegible] Date Completed: 11-8-11

Continental
Analytical Services, Inc.

12/01/2011

City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date and Time Received: 11/08/2011 11:35
Continental File No.: 8339
Continental Order No.: 59794
Project ID: SW Upstream

Dear Mr. Hardesty:

This laboratory report containing the samples indicated below, includes 8 pages for the analytical report, 1 page(s) for the chain of custody and/or analysis request, and 1 page(s) for the sample receipt form.

CAS LAB ID #	SAMPLE DESCRIPTION	SAMPLE TYPE	DATE SAMPLED
11110500	21st and Hood Upstream	Liquid	11/7/2011

The Appendix and Quality Control sections are integral parts of this laboratory report and may contain important data qualifiers.

All results are reported on a wet weight basis unless otherwise stated.

Samples will be retained for thirty days unless Continental is otherwise notified.

Continental is accredited by the State of Kansas through the National Environmental Laboratory Accreditation Program (NELAP). The results contained in this report were obtained using Continental's Standard Operating Procedures. These procedures are in substantial compliance with the approved methods referenced and the standards published by NELAP unless otherwise noted in the Appendix and Quality Control sections of this report.

This report may not be reproduced, except in full, without written approval from Continental Analytical Services, Inc.

Thank you for choosing Continental for this project.

CONTINENTAL ANALYTICAL SERVICES, INC.

Clifford J. Baker
Technical Manager

Gregory J. Groene
Project Manager

525 N. Eighth St. - P.O. Box 3737 - Salina, KS 67402-3737
785-827-1273 800-535-3076 Fax 785-823-7830

KDHE Environmental Laboratory Accreditation No. E-10146

Continental Analytical Services, Inc.

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Reported: 12/01/2011
Date Received: 11/08/2011
Continental File No: 8339
Continental Order No: 59794

Lab Number: 11110500
Sample Description: 21st and Hood Upstream

Date Sampled: 11/07/2011
Time Sampled: 1215

Analysis	Concentration	Units	Book/Page
Cadmium, Dissolved, ICP-MS	ND(1) DM	µg/L	7202/43
Cadmium, Tot. Rec., ICP-MS	ND(1)	µg/L	7202/42
Copper, Dissolved, ICP-MS	ND(5) DM	µg/L	7202/43
Copper, Tot. Rec., ICP-MS	ND(5)	µg/L	7202/42
Hardness (Calculated)	290.	mg/L as CaCO3	7157/132
Zinc, Dissolved, ICP-MS	ND(20) DM	µg/L	7202/43
Zinc, Tot. Rec., ICP-MS	ND(20)	µg/L	7202/42
BOD	ND(5)	mg/L	7060/277
Chloride	121	mg/L	7129/85
Kjeldahl Nitrogen, as N (TKN)	ND(1.0)	mg/L	6854/351
Nitrate, as N	0.5	mg/L	7129/85
Nitrite, as N	ND(1) M	mg/L	7129/86
Nitrogen (TKN + NO3/NO2), as N	ND(1.0)	mg/L	9999/596
Phosphorus, Total, as P	ND(0.20)	mg/L	7061/219
Solids, Total Dissolved	598	mg/L	7059/608
Solids, Total Suspended	22	mg/L	7059/607

Analysis	Date/Time Prepared	Date/Time Analyzed	QC Batch	Inst. Batch	Analyst	Method(s)
Cadmium, Dissolved, ICP-MS	11/11/11 1012	11/15/11 1652	111111-3	2IP3319	KMW	200.8 Rev. 5.4
Cadmium, Tot. Rec., ICP-MS	11/10/11 0837	11/14/11 1849	111110-2	2IP3318	KMW	200.8 Rev. 5.4
Copper, Dissolved, ICP-MS	11/11/11 1012	11/15/11 1652	111111-3	2IP3319	KMW	200.8 Rev. 5.4
Copper, Tot. Rec., ICP-MS	11/10/11 0837	11/14/11 1849	111110-2	2IP3318	KMW	200.8 Rev. 5.4
Hardness (Calculated)	11/18/11 1242	11/29/11 1816	111118-3	4IP4333	KMW	200.7 & SM 2340B
Zinc, Dissolved, ICP-MS	11/11/11 1012	11/15/11 1652	111111-3	2IP3319	KMW	200.8 Rev. 5.4
Zinc, Tot. Rec., ICP-MS	11/10/11 0837	11/14/11 1849	111110-2	2IP3318	KMW	200.8 Rev. 5.4
BOD	N/A	11/09/11 1110	111109-2	111109-4	ASK	SM 5210B
Chloride	N/A	11/08/11 2052	1IC1312	2IC1312	MLL	300.0
Kjeldahl Nitrogen, as N (T	11/11/11 1632	11/15/11 1109	111111-1	111115-2	JND	EPA 351.2
Nitrate, as N	N/A	11/08/11 2039	1IC1312	2IC1312	MLL	300.0
Nitrite, as N	N/A	11/09/11 1141	1IC1313	1IC1313	MLL	300.0
Nitrogen (TKN + NO3/NO2),	N/A	11/17/11 1422				Calculation
Phosphorus, Total, as P	N/A	11/30/11 1706	111130-1	111130-2	KJH	SM 4500-P(B&F)(M
Solids, Total Dissolved	N/A	11/14/11 1641	111114-1	111114-1	KJH	SM20th 2540C
Solids, Total Suspended	N/A	11/14/11 1500	111114-2	111114-1	KJH	SM20th 2540D
Dissolved Metals Preparation Method						200.7/200.8
Total Recoverable Metals Preparation Method						200.7/200.8
Calculated as Hardness Preparation Method						200.7/6010B

Conclusion of Lab Number: 11110500

Appendix

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Reported: 12/01/2011
Date Received: 11/08/2011
Continental File No: 8339
Continental Order No: 59794

ND(), where reported, indicates the analyte was not detected above the Limit of Quantitation (LOQ). The concentration of the LOQ is inside the parentheses.

All samples which require cooling were received at a temperature of less than 6 degrees Celsius.

The following table presents the date and time sampled, the date and time analyzed, and the total time elapsed for each analysis with an EPA recommended holding time of seventy-two hours or less.

CAS LAB ID #	ANALYSIS	DATE/TIME SAMPLED	DATE/TIME ANALYZED	ELAPSED HRS:MIN
11110500	BOD	11/07/2011 1215	11/09/2011 1110	46:55
11110500	Nitrate, as N	11/07/2011 1215	11/08/2011 2039	32:24
11110500	Nitrite, as N	11/07/2011 1215	11/09/2011 1141	47:26

DM - NPDES requirements specify that dissolved metals and orthophosphate must be filtered within 15 minutes of the time of collection. This analysis did not meet these criteria.

M - Reporting limit higher than normal due to matrix interferences.

Continental Analytical Services, Inc.

Accreditation Summary

Client: City of Wichita
Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Reported: 12/01/2011
Date Received: 11/08/2011
Continental File No: 8339
Continental Order No: 59794

NELAP accreditation is issued under each EPA regulatory program for a given matrix/analyte/method combination. Continental is NELAP accredited for each matrix/analyte/method and EPA program cited in this Laboratory Report, except for those listed in the table below and analysis performed in the field. For most of the analyses listed in the table, NELAP accreditation is not offered under the listed EPA program and Continental is NELAP accredited for the analysis, using the same analytical technology, but under a different EPA program. Continental's full NELAP accreditation status may be viewed at www.kdheks.gov/envlab. Note that unless qualified otherwise in the Laboratory Report, Continental performs all analyses, including each analysis listed in the table below, utilizing NELAP protocol.

Test	Analysis	Matrix-Regulatory Program	Method	CAS NELAP Accredited in Other Reg. Program
GL343	Nitrogen (TKN + NO3/NO2), as N	L-NPDES	Calculation	N

Continental Analytical Services, Inc.

Quality Control Report
Batch Summary

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Reported: 12/01/2011
Date Received: 11/08/2011
Continental File No: 8339
Continental Order No: 59794

Test	Testname	QC Batch	Method Blank	LCS	MS Lab No.
SL006	Cadmium, Tot. Rec., ICP-MS	111110-2	111110BLK2	111110LCS2	11110506MS
SL012	Copper, Tot. Rec., ICP-MS	111110-2	111110BLK2	111110LCS2	11110506MS
SL033	Zinc, Tot. Rec., ICP-MS	111110-2	111110BLK2	111110LCS2	11110506MS
Lab numbers associated with this batch: 11110500					
SL156	Cadmium, Dissolved, ICP-MS	111111-3	111111BLK3	111111LCS3	11110500MS
SL162	Copper, Dissolved, ICP-MS	111111-3	111111BLK3	111111LCS3	11110500MS
SL183	Zinc, Dissolved, ICP-MS	111111-3	111111BLK3	111111LCS3	11110500MS
Lab numbers associated with this batch: 11110500					
SL323	Hardness (Calculated)	111118-3	111118BLK3	111118LCS3	11110987MS
Lab numbers associated with this batch: 11110500					
GL123	BOD	111109-2	111109BLK2	111109LCS2	11110413MS
Lab numbers associated with this batch: 11110500					
GL502	Chloride	1IC1312	BLK1IC1312	LCS1IC1312	11102140MS
Lab numbers associated with this batch: 11110500					
GL595	Kjeldahl Nitrogen, as N (TKN)	111111-1	111111BLK1	111111LCS1	11110769MS
Lab numbers associated with this batch: 11110500					
GL505	Nitrate, as N	1IC1312	BLK1IC1312	LCS1IC1312	
Lab numbers associated with this batch: 11110500					
GL503	Nitrite, as N	1IC1313	BLK1IC1313	LCS1IC1313	
Lab numbers associated with this batch: 11110500					
GL343	Nitrogen (TKN + NO3/NO2), as N				
Lab numbers associated with this batch: 11110500					
GL218	Phosphorus, Total, as P	111130-1	111130BLK1	111130LCS1	11110500MS
Lab numbers associated with this batch: 11110500					

Continental Analytical Services, Inc.

Quality Control Report
Batch Summary

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Reported: 12/01/2011
Date Received: 11/08/2011
Continental File No: 8339
Continental Order No: 59794

Test	Testname	QC Batch	Method Blank	LCS	MS Lab No.
GL242	Solids, Total Dissolved	111114-1	111114BLK1	111114LCS1	11110521MS
Lab numbers associated with this batch: 11110500					
GL243	Solids, Total Suspended	111114-2	111114BLK2	111114LCS2	11110526MS
Lab numbers associated with this batch: 11110500					

Continental Analytical Services, Inc.

Quality Control Report
Method Blank, LCS, MS/MSD Data

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Reported: 12/01/2011
Date Received: 11/08/2011
Continental File No: 8339
Continental Order No: 59794

Analysis	Blank Data	% Rec LCS	Limits	Spike Level	Units	Spiked Sample (% Recovery) MS	MSD	Limits	Spike Level	Units	Spiked Sample Precision Data RPD	Limit
QC Batch: 111109-2	For sample analyzed on: 11/09/2011					Spiked sample: 11110413						
BOD	ND(5)	93.1	70.5-110	198	mg/L	MN	MN	#		mg/L	**	13.2
QC Batch: 111110-2	For samples prepared on: 11/10/2011					Spiked sample: 11110506						
Cadmium, Tot. Rec., ICP-MS	ND(1)	95.8	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
Copper, Tot. Rec., ICP-MS	ND(5)	91.8	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
Zinc, Tot. Rec., ICP-MS	ND(20)	102	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
QC Batch: 111111-1	For samples prepared on: 11/11/2011					Spiked sample: 11110769						
Kjeldahl Nitrogen, as N (TKN)	ND(1.0)	111	#	4.0	mg/L	MN	MN	#	20.0	mg/L	**	#
QC Batch: 111111-3	For samples prepared on: 11/11/2011					Spiked sample: 11110500						
Cadmium, Dissolved, ICP-MS	ND(1)	96.9	85.0-115	500	µg/L	93.8	92.9	80.0-120	500	µg/L	1.0	20.0
Copper, Dissolved, ICP-MS	ND(5)	89.4	85.0-115	500	µg/L	86.6	86.2	80.0-120	500	µg/L	0.5	20.0
Zinc, Dissolved, ICP-MS	ND(20)	99.3	85.0-115	500	µg/L	94.6	93.8	80.0-120	500	µg/L	0.8	20.0
QC Batch: 111114-1	For sample analyzed on: 11/14/2011					Spiked sample: 11110521						
Solids, Total Dissolved	ND(30)	N/A			mg/L	MN	MN	#		mg/L	**	5.2
QC Batch: 111114-2	For sample analyzed on: 11/14/2011					Spiked sample: 11110526						
Solids, Total Suspended	ND(5)	N/A			mg/L	MN	MN	#		mg/L	**	18.2
QC Batch: 111118-3	For samples prepared on: 11/18/2011					Spiked sample: 11110987						
Hardness (Calculated)	ND(5.0)	107	80.0-120	337	mg/L a	MN	MN	80.0-120	337	mg/L as	**	20.0
QC Batch: 111130-1	For sample analyzed on: 11/30/2011					Spiked sample: 11110500						
Phosphorus, Total, as P	ND(0.20)	98.3	90.0-110	2.0	mg/L	100.	98.4	71.2-135	2.0	mg/L	1.6	21.2
QC Batch: 1IC1312	For sample analyzed on: 11/08/2011					Spiked sample:						
Nitrate, as N	ND(0.1)	103	90.0-110	2.0	mg/L	MN	MN	79.3-118			**	12.1
QC Batch: 1IC1312	For sample analyzed on: 11/08/2011					Spiked sample: 11102140						
Chloride	ND(1.0)	104	90.0-110	4.0	mg/L	MN	MN	82.1-126	400	mg/L	**	12.5
QC Batch: 1IC1313	For sample analyzed on: 11/09/2011					Spiked sample:						
Nitrite, as N	ND(0.1)	102	90.0-110	2.0	mg/L	MN	MN	78.5-127			**	10.1

Data Qualifiers:
MN - The MS/MSD sample analyses were not performed on a sample from this Continental order number.

N/A - Not Applicable
- Limits not available.
** - RPD cannot be calculated.

Continental Analytical Services, Inc.

Quality Control Report
Continuing Calibration Data Summary

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Reported: 12/01/2011
Date Received: 11/08/2011
Continental File No: 8339
Continental Order No: 59794

Analysis	Date of Analysis	Instrument Batch ID	Amount in Standard	Amount Detected	Units	Percent Recovery
Cadmium, Tot. Rec., ICP-MS	11/14/2011	2IP3318	CCV recovery acceptable for this Instrument Batch.			
Cadmium, Dissolved, ICP-MS	11/15/2011	2IP3319	CCV recovery acceptable for this Instrument Batch.			
Cadmium, Tot. Rec., ICP-MS	11/14/2011	3IP3318	CCV recovery acceptable for this Instrument Batch.			
Cadmium, Dissolved, ICP-MS	11/15/2011	3IP3319	CCV recovery acceptable for this Instrument Batch.			
Copper, Tot. Rec., ICP-MS	11/14/2011	2IP3318	CCV recovery acceptable for this Instrument Batch.			
Copper, Dissolved, ICP-MS	11/15/2011	2IP3319	CCV recovery acceptable for this Instrument Batch.			
Copper, Tot. Rec., ICP-MS	11/14/2011	3IP3318	CCV recovery acceptable for this Instrument Batch.			
Copper, Dissolved, ICP-MS	11/15/2011	3IP3319	CCV recovery acceptable for this Instrument Batch.			
BOD	11/09/2011	111109-4	CCV recovery acceptable for this Instrument Batch.			
BOD	11/09/2011	111109-5	CCV recovery acceptable for this Instrument Batch.			
Phosphorus, Total, as P	11/30/2011	111130-2	CCV recovery acceptable for this Instrument Batch.			
Phosphorus, Total, as P	11/30/2011	111130-3	CCV recovery acceptable for this Instrument Batch.			
Chloride	11/08/2011	3IC1312	CCV recovery acceptable for this Instrument Batch.			
Nitrite, as N	11/09/2011	1IC1313	CCV recovery acceptable for this Instrument Batch.			
Nitrite, as N	11/09/2011	2IC1313	CCV recovery acceptable for this Instrument Batch.			
Nitrate, as N	11/08/2011	3IC1312	CCV recovery acceptable for this Instrument Batch.			
Kjeldahl Nitrogen, as N (TKN)	11/15/2011	111115-2	CCV recovery acceptable for this Instrument Batch.			
Kjeldahl Nitrogen, as N (TKN)	11/15/2011	111115-3	CCV recovery acceptable for this Instrument Batch.			
Hardness (Calculated)	11/29/2011	4IP4333	CCV recovery acceptable for this Instrument Batch.			
Hardness (Calculated)	11/29/2011	5IP4333	CCV recovery acceptable for this Instrument Batch.			
Zinc, Tot. Rec., ICP-MS	11/14/2011	2IP3318	CCV recovery acceptable for this Instrument Batch.			
Zinc, Dissolved, ICP-MS	11/15/2011	2IP3319	CCV recovery acceptable for this Instrument Batch.			
Zinc, Tot. Rec., ICP-MS	11/14/2011	3IP3318	CCV recovery acceptable for this Instrument Batch.			
Zinc, Dissolved, ICP-MS	11/15/2011	3IP3319	CCV recovery acceptable for this Instrument Batch.			

- Laboratory Report Conclusion -

Continental Analytical Services, Inc.

525 N. 8th Street, Salina, KS 67401
(785)827-1273 (800)535-3076 Fax (785)823-7830
www.cas-lab.com

CAS ORDER NO. 9777

CHAIN OF CUSTODY RECORD

Continental Shipping Order Number: _____

Client/Reporting Information			Invoice Information		
Company Name: City of Wichita Storm Water Management			Company Name: City of Wichita Storm Water Management		
Address: City Hall, 8th Floor, 455 N. Main			Address: City Hall, 8th Floor, 455 N. Main		
City: Wichita	State: KS	Zip: 67202	City: Wichita	State: KS	Zip: 67202
Contact: Jim Hardesty	E-mail: Jhardesty@wichita.gov		Contact: Jim Hardesty	E-mail: Jhardesty@wichita.gov	
Phone Number: (316)268-8317	Fax Number: (316)858-7889		Phone Number: (316)268-8317	Fax Number: (316)858-7889	

Sampler's Name:(Printed): Justin Murphy
Sampler's Name:(Signature): [signature]
Purchase Order Number:
File Number: 8339
Project Name: Stormwater - UPSTREAM

PARAMETERS/CONTAINER TYPE: Total Cadmium, Copper, Zinc 250mL Plastic - HNO3; Dissolved Cadmium, Copper, Zinc 250mL Plastic - None; Hardness, TSS, TDS, Cl, BOD, NO3, NO2, Tot. Nitrogen 1000mL Plastic - None; TKN, Total P 250mL Plastic - H2SO4

Edits made prior to sample receipt [initials] 11/8/11

SAMPLE IDENTIFICATION (30 Characters or less)	Matrix (Sample Type)	Regulatory Program	Date Sampled	Time Sampled	C-Composite G-Grab	Total Containers	Number of Preserved Bottles: HCL	NaOH	HNO3	H2SO4	NONE	OTHER	Total Cadmium, Copper, Zinc 250mL Plastic - HNO3	Dissolved Cadmium, Copper, Zinc 250mL Plastic - None	Hardness, TSS, TDS, Cl, BOD, NO3, NO2, Tot. Nitrogen 1000mL Plastic - None	TKN, Total P 250mL Plastic - H2SO4					COMMENTS
21st and Hood Upstream	WW	N	11/7/11	1215	G	4			1	1	2		X	X	X	X					

Regulatory Program: N=NPDES, R=RCRA, D=Drinking Water, SL=503 Sludge, O=Other

(Please note if non-standard turnaround. Rush & Emergency subject to additional charge)
Standard TAT (15 working days) Rush TAT (5 working days) Emergency TAT: (3 working days)

Matrix (Sample Type): DW=Drinking Water, GW=Ground Water, WW=Waste Water, W=Wipe, S=Solid/Soil, SL=Sludge, A=Air, OL=Oil/Organic Liquid, O=Other

RELINQUISHED BY [signature]	DATE: 11/7/11	TIME: 0830	RECEIVED BY [signature]	DATE: 11/8/11	TIME: 0940
RELINQUISHED BY [signature]	DATE: 11/8/11	TIME: 11:35	RECEIVED BY	DATE:	TIME:
RECEIVED AT LAB BY [signature]	DATE: 11/8/11	TIME: 11:35	SHIPPED VIA: AIRBILL	SEAL #: SEAL DATE:	

Continental's Standard Terms and Conditions of Sale will apply to all samples received unless a separate contractual agreement has been made.

Continental Analytical Services, Inc.
Cooler/Sample Receipt Form (C/S RF)

CAS Order No.: 5994

Client Name: Wichita

CAS File No.: 8339

Sample ID's in cooler: 5 - COC
21 st & Hood

Cooler 1 of 1 for this CAS Order No.

Cooler Identification: CAS Cooler #: _____ / Client's Cooler / Box / Letter / Hand-delivered
Other: _____

Date/Time Cooler Received: 11 / 8 / 11 11 : 35

Delivered By: UPS / FedX / AB Express / Field Svcs / Mail / Walk-In / Other: CT

Custody Seal: Present: Intact / Broken Absent: X Seal No: _____
Seal Name: _____ Seal Date: _____
Seal matches Chain of Custody: Yes / No / N/A

Type of Packing Material: Blue Ice / Ice / Melted Ice / Bubble / Foam / Paper / Peanuts / Vermiculite / None / Other: _____

Cooler Temperature (°C): Original Reading (°C) -0.2 Corrected Reading (°C) 0.2
Temp. By: Temp. Blank Cooler Surface: Glass / Plastic /Metal /Other: _____
Thermo. ID No.: 585 Thermo. Correction Factor (°C): 0.4
☐ Evidence of Cooling and date received = date sampled

Sample Receipt Discrepancies: ☒ No ☐ Yes (See below for discrepancies.)

Note: **If discrepancies are present, CAS will proceed with analyses until/unless directed otherwise by the client.**

- ☐ Chain of Custody not present - information taken from:
  - Cover Letter ☐ Container ☐
  - PO ☐ CAS Proj. Mgr. ☐
- ☐ Container label absent
- ☐ Chain of Custody incomplete [see detail below]
- ☐ Chain of Custody missing date/time sampled (excl. TB or Dup.)
- ☐ Date or Time sampled obtained from container label
- ☐ Chain of Custody missing sampler's name
- ☐ Chain of Custody missing matrix (sample type)
- ☐ Missing relinquished information: signature date time
- ☐ Sample excluded from Chain of Custody
- ☐ Sample listed on Chain of Custody, not received
- ☐ Sample description on container and Chain of Custody do not agree
- ☐ Air bubbles in Aqueous VOA vials larger than pea-size [approx. 6 mm]
- ☐ Cooler temperature exceeded 0.1 - 6.0 °C requirement [Do not mark if samples do not require cooling to 0.1 - 6.0 °C.]
- ☐ Broken or leaking containers (detail actions below)
- ☐ Sample container type or labeled chemical preservation inappropriate
- ☐ Other discrepancies: _____

Detail to discrepancies/comments:

Completed by: [illegible] Date Completed: 11-8-11

Continental
Analytical Services, Inc.

12/01/2011

City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date and Time Received: 11/08/2011 11:35
Continental File No.: 8339
Continental Order No.: 59793
Project ID: SW Upstream

Dear Mr. Hardesty:

This laboratory report containing the samples indicated below, includes 8 pages for the analytical report, 1 page(s) for the chain of custody and/or analysis request, and 1 page(s) for the sample receipt form.

CAS LAB ID #	SAMPLE DESCRIPTION	SAMPLE TYPE	DATE SAMPLED
11110499	Maple and Cowskin Upstream	Liquid	11/7/2011

The Appendix and Quality Control sections are integral parts of this laboratory report and may contain important data qualifiers.

All results are reported on a wet weight basis unless otherwise stated.

Samples will be retained for thirty days unless Continental is otherwise notified.

Continental is accredited by the State of Kansas through the National Environmental Laboratory Accreditation Program (NELAP). The results contained in this report were obtained using Continental's Standard Operating Procedures. These procedures are in substantial compliance with the approved methods referenced and the standards published by NELAP unless otherwise noted in the Appendix and Quality Control sections of this report.

This report may not be reproduced, except in full, without written approval from Continental Analytical Services, Inc.

Thank you for choosing Continental for this project.

CONTINENTAL ANALYTICAL SERVICES, INC.

Clifford J. Baker
Technical Manager

Gregory J. Groene
Project Manager

525 N. Eighth St. - P.O. Box 3737 - Salina, KS 67402-3737
785-827-1273 800-535-3076 Fax 785-823-7830

KDHE Environmental Laboratory Accreditation No. E-10146

Continental Analytical Services, Inc.

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Reported: 12/01/2011
Date Received: 11/08/2011
Continental File No: 8339
Continental Order No: 59793

Lab Number: 11110499
Sample Description: Maple and Cowskin Upstream

Date Sampled: 11/07/2011
Time Sampled: 1150

Analysis	Concentration	Units	Book/Page
Cadmium, Dissolved, ICP-MS	ND(1) DM	µg/L	7202/43
Cadmium, Tot. Rec., ICP-MS	ND(1)	µg/L	7202/42
Copper, Dissolved, ICP-MS	ND(5) DM	µg/L	7202/43
Copper, Tot. Rec., ICP-MS	ND(5)	µg/L	7202/42
Hardness (Calculated)	248	mg/L as CaCO3	7157/132
Zinc, Dissolved, ICP-MS	22 DM	µg/L	7202/43
Zinc, Tot. Rec., ICP-MS	ND(20)	µg/L	7202/42
BOD	8	mg/L	7060/276
Chloride	136	mg/L	7129/85
Kjeldahl Nitrogen, as N (TKN)	1.6	mg/L	6854/351
Nitrate, as N	ND(0.1)	mg/L	7129/85
Nitrite, as N	ND(1) M	mg/L	7129/86
Nitrogen (TKN + NO3/NO2), as N	1.6	mg/L	9999/596
Phosphorus, Total, as P	0.26	mg/L	7061/219
Solids, Total Dissolved	658	mg/L	7059/608
Solids, Total Suspended	16	mg/L	7059/607

Analysis	Date/Time Prepared	Date/Time Analyzed	QC Batch	Inst. Batch	Analyst	Method(s)
Cadmium, Dissolved, ICP-MS	11/11/11 1012	11/15/11 1647	111111-3	2IP3319	KMW	200.8 Rev. 5.4
Cadmium, Tot. Rec., ICP-MS	11/10/11 0837	11/14/11 1843	111110-2	2IP3318	KMW	200.8 Rev. 5.4
Copper, Dissolved, ICP-MS	11/11/11 1012	11/15/11 1647	111111-3	2IP3319	KMW	200.8 Rev. 5.4
Copper, Tot. Rec., ICP-MS	11/10/11 0837	11/14/11 1843	111110-2	2IP3318	KMW	200.8 Rev. 5.4
Hardness (Calculated)	11/18/11 1242	11/29/11 1812	111118-3	4IP4333	KMW	200.7 & SM 2340B
Zinc, Dissolved, ICP-MS	11/11/11 1012	11/15/11 1647	111111-3	2IP3319	KMW	200.8 Rev. 5.4
Zinc, Tot. Rec., ICP-MS	11/10/11 0837	11/14/11 1843	111110-2	2IP3318	KMW	200.8 Rev. 5.4
BOD	N/A	11/09/11 1015	111109-1	111109-1	ASK	SM 5210B
Chloride	N/A	11/08/11 2026	1IC1312	2IC1312	MLL	300.0
Kjeldahl Nitrogen, as N (T	11/11/11 1632	11/15/11 1106	111111-1	111115-2	JND	EPA 351.2
Nitrate, as N	N/A	11/08/11 2013	1IC1312	2IC1312	MLL	300.0
Nitrite, as N	N/A	11/09/11 1128	1IC1313	1IC1313	MLL	300.0
Nitrogen (TKN + NO3/NO2),	N/A	11/17/11 1422				Calculation
Phosphorus, Total, as P	N/A	11/30/11 1705	111130-1	111130-2	KJH	SM 4500-P(B&F)(M)
Solids, Total Dissolved	N/A	11/14/11 1641	111114-1	111114-1	KJH	SM20th 2540C
Solids, Total Suspended	N/A	11/14/11 1459	111114-2	111114-1	KJH	SM20th 2540D
Dissolved Metals Preparation Method						200.7/200.8
Total Recoverable Metals Preparation Method						200.7/200.8
Calculated as Hardness Preparation Method						200.7/6010B

Conclusion of Lab Number: 11110499

Appendix

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Reported: 12/01/2011
Date Received: 11/08/2011
Continental File No: 8339
Continental Order No: 59793

ND(), where reported, indicates the analyte was not detected above the Limit of Quantitation (LOQ). The concentration of the LOQ is inside the parentheses.

All samples which require cooling were received at a temperature of less than 6 degrees Celsius.

The following table presents the date and time sampled, the date and time analyzed, and the total time elapsed for each analysis with an EPA recommended holding time of seventy-two hours or less.

CAS LAB ID #	ANALYSIS	DATE/TIME SAMPLED	DATE/TIME ANALYZED	ELAPSED HRS:MIN
11110499	BOD	11/07/2011 1150	11/09/2011 1015	46:25
11110499	Nitrate, as N	11/07/2011 1150	11/08/2011 2013	32:23
11110499	Nitrite, as N	11/07/2011 1150	11/09/2011 1128	47:38

DM - NPDES requirements specify that dissolved metals and orthophosphate must be filtered within 15 minutes of the time of collection. This analysis did not meet these criteria.

M - Reporting limit higher than normal due to matrix interferences.

Continental Analytical Services, Inc.

Accreditation Summary

Client: City of Wichita
Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Reported: 12/01/2011
Date Received: 11/08/2011
Continental File No: 8339
Continental Order No: 59793

NELAP accreditation is issued under each EPA regulatory program for a given matrix/analyte/method combination. Continental is NELAP accredited for each matrix/analyte/method and EPA program cited in this Laboratory Report, except for those listed in the table below and analysis performed in the field. For most of the analyses listed in the table, NELAP accreditation is not offered under the listed EPA program and Continental is NELAP accredited for the analysis, using the same analytical technology, but under a different EPA program. Continental's full NELAP accreditation status may be viewed at www.kdheks.gov/envlab. Note that unless qualified otherwise in the Laboratory Report, Continental performs all analyses, including each analysis listed in the table below, utilizing NELAP protocol.

Test	Analysis	Matrix-Regulatory Program	Method	CAS NELAP Accredited in Other Reg. Program
GL343	Nitrogen (TKN + NO3/NO2), as N	L-NPDES	Calculation	N

Continental Analytical Services, Inc.

Quality Control Report
Batch Summary

Client: City of Wichita
Attn: Jim Bardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Reported: 12/01/2011
Date Received: 11/08/2011
Continental File No: 8339
Continental Order No: 59793

Test	Testname	QC Batch	Method Blank	LCS	MS Lab No.
SL006	Cadmium, Tot. Rec., ICP-MS	111110-2	111110BLK2	111110LCS2	11110506MS
SL012	Copper, Tot. Rec., ICP-MS	111110-2	111110BLK2	111110LCS2	11110506MS
SL033	Zinc, Tot. Rec., ICP-MS	111110-2	111110BLK2	111110LCS2	11110506MS
Lab numbers associated with this batch: 11110499					
SL156	Cadmium, Dissolved, ICP-MS	111111-3	111111BLK3	111111LCS3	11110500MS
SL162	Copper, Dissolved, ICP-MS	111111-3	111111BLK3	111111LCS3	11110500MS
SL183	Zinc, Dissolved, ICP-MS	111111-3	111111BLK3	111111LCS3	11110500MS
Lab numbers associated with this batch: 11110499					
SL323	Hardness (Calculated)	111118-3	111118BLK3	111118LCS3	11110987MS
Lab numbers associated with this batch: 11110499					
GL123	BOD	111109-1	111109BLK1	111109LCS1	11110446MS
Lab numbers associated with this batch: 11110499					
GL502	Chloride	1IC1312	BLK1IC1312	LCS1IC1312	11102140MS
Lab numbers associated with this batch: 11110499					
GL595	Kjeldahl Nitrogen, as N (TKN)	111111-1	111111BLK1	111111LCS1	11110769MS
Lab numbers associated with this batch: 11110499					
GL505	Nitrate, as N	1IC1312	BLK1IC1312	LCS1IC1312	
Lab numbers associated with this batch: 11110499					
GL503	Nitrite, as N	1IC1313	BLK1IC1313	LCS1IC1313	
Lab numbers associated with this batch: 11110499					
GL343	Nitrogen (TKN + NO3/NO2), as N				
Lab numbers associated with this batch: 11110499					
GL218	Phosphorus, Total, as P	111130-1	111130BLK1	111130LCS1	11110500MS
Lab numbers associated with this batch: 11110499					

Continental Analytical Services, Inc.

Quality Control Report
Batch Summary

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Reported: 12/01/2011
Date Received: 11/08/2011
Continental File No: 8339
Continental Order No: 59793

Test	Testname	QC Batch	Method Blank	LCS	MS Lab No.
GL242	Solids, Total Dissolved	111114-1	111114BLK1	111114LCS1	11110521MS
Lab numbers associated with this batch: 11110499					
GL243	Solids, Total Suspended	111114-2	111114BLK2	111114LCS2	11110526MS
Lab numbers associated with this batch: 11110499					

Continental Analytical Services, Inc.

Quality Control Report
Method Blank, LCS, MS/MSD Data

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Reported: 12/01/2011
Date Received: 11/08/2011
Continental File No: 8339
Continental Order No: 59793

Analysis	Blank Data	% Rec LCS	Limits	Spike Level	Units	Spiked Sample (% Recovery) MS	MSD	Limits	Spike Level	Units	Spiked Sample Precision Data RPD	Limit
QC Batch: 111109-1	For sample analyzed on: 11/09/2011					Spiked sample: 11110446						
BOD	ND(5)	98.9	70.5-110	198	mg/L	MN	MN	#		mg/L	**	13.2
QC Batch: 111110-2	For samples prepared on: 11/10/2011					Spiked sample: 11110506						
Cadmium, Tot. Rec., ICP-MS	ND(1)	95.8	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
Copper, Tot. Rec., ICP-MS	ND(5)	91.8	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
Zinc, Tot. Rec., ICP-MS	ND(20)	102	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
QC Batch: 111111-1	For samples prepared on: 11/11/2011					Spiked sample: 11110769						
Kjeldahl Nitrogen, as N (TKN)	ND(1.0)	111	#	4.0	mg/L	MN	MN	#	20.0	mg/L	**	#
QC Batch: 111111-3	For samples prepared on: 11/11/2011					Spiked sample: 11110500						
Cadmium, Dissolved, ICP-MS	ND(1)	96.9	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
Copper, Dissolved, ICP-MS	ND(5)	89.4	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
Zinc, Dissolved, ICP-MS	ND(20)	99.3	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
QC Batch: 111114-1	For sample analyzed on: 11/14/2011					Spiked sample: 11110521						
Solids, Total Dissolved	ND(30)	N/A			mg/L	MN	MN	#		mg/L	**	5.2
QC Batch: 111114-2	For sample analyzed on: 11/14/2011					Spiked sample: 11110526						
Solids, Total Suspended	ND(5)	N/A			mg/L	MN	MN	#		mg/L	**	18.2
QC Batch: 111118-3	For samples prepared on: 11/18/2011					Spiked sample: 11110987						
Hardness (Calculated)	ND(5.0)	107	80.0-120	337	mg/L a	MN	MN	80.0-120	337	mg/L as	**	20.0
QC Batch: 111130-1	For sample analyzed on: 11/30/2011					Spiked sample: 11110500						
Phosphorus, Total, as P	ND(0.20)	98.3	90.0-110	2.0	mg/L	MN	MN	71.2-135	2.0	mg/L	**	21.2
QC Batch: 1IC1312	For sample analyzed on: 11/08/2011					Spiked sample:						
Nitrate, as N	ND(0.1)	103	90.0-110	2.0	mg/L	MN	MN	79.3-118			**	12.1
QC Batch: 1IC1312	For sample analyzed on: 11/08/2011					Spiked sample: 11102160						
Chloride	ND(1.0)	104	90.0-110	4.0	mg/L	MN	MN	82.1-126	400	mg/L	**	12.5
QC Batch: 1IC1313	For sample analyzed on: 11/09/2011					Spiked sample:						
Nitrite, as N	ND(0.1)	102	90.0-110	2.0	mg/L	MN	MN	78.5-127			**	10.1

Data Qualifiers:
MN - The MS/MSD sample analyses were not performed on a sample from this Continental order number.

N/A - Not Applicable

- Limits not available.

** - RPD cannot be calculated.

Continental Analytical Services, Inc.

Quality Control Report
Continuing Calibration Data Summary

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Reported: 12/01/2011
Date Received: 11/08/2011
Continental File No: 8339
Continental Order No: 59793

Analysis	Date of Analysis	Instrument Batch ID	Amount in Standard	Amount Detected	Units	Percent Recovery
Cadmium, Tot. Rec., ICP-MS	11/14/2011	2IP3318	CCV recovery acceptable for this Instrument Batch.			
Cadmium, Dissolved, ICP-MS	11/15/2011	2IP3319	CCV recovery acceptable for this Instrument Batch.			
Cadmium, Tot. Rec., ICP-MS	11/14/2011	3IP3318	CCV recovery acceptable for this Instrument Batch.			
Cadmium, Dissolved, ICP-MS	11/15/2011	3IP3319	CCV recovery acceptable for this Instrument Batch.			
Copper, Tot. Rec., ICP-MS	11/14/2011	2IP3318	CCV recovery acceptable for this Instrument Batch.			
Copper, Dissolved, ICP-MS	11/15/2011	2IP3319	CCV recovery acceptable for this Instrument Batch.			
Copper, Tot. Rec., ICP-MS	11/14/2011	3IP3318	CCV recovery acceptable for this Instrument Batch.			
Copper, Dissolved, ICP-MS	11/15/2011	3IP3319	CCV recovery acceptable for this Instrument Batch.			
BOD	11/09/2011	111109-1	CCV recovery acceptable for this Instrument Batch.			
BOD	11/09/2011	111109-2	CCV recovery acceptable for this Instrument Batch.			
Phosphorus, Total, as P	11/30/2011	111130-2	CCV recovery acceptable for this Instrument Batch.			
Phosphorus, Total, as P	11/30/2011	111130-3	CCV recovery acceptable for this Instrument Batch.			
Chloride	11/08/2011	3IC1312	CCV recovery acceptable for this Instrument Batch.			
Nitrite, as N	11/09/2011	1IC1313	CCV recovery acceptable for this Instrument Batch.			
Nitrite, as N	11/09/2011	2IC1313	CCV recovery acceptable for this Instrument Batch.			
Nitrate, as N	11/08/2011	3IC1312	CCV recovery acceptable for this Instrument Batch.			
Kjeldahl Nitrogen, as N (TKN)	11/15/2011	111115-2	CCV recovery acceptable for this Instrument Batch.			
Kjeldahl Nitrogen, as N (TKN)	11/15/2011	111115-3	CCV recovery acceptable for this Instrument Batch.			
Hardness (Calculated)	11/29/2011	4IP4333	CCV recovery acceptable for this Instrument Batch.			
Hardness (Calculated)	11/29/2011	5IP4333	CCV recovery acceptable for this Instrument Batch.			
Zinc, Tot. Rec., ICP-MS	11/14/2011	2IP3318	CCV recovery acceptable for this Instrument Batch.			
Zinc, Dissolved, ICP-MS	11/15/2011	2IP3319	CCV recovery acceptable for this Instrument Batch.			
Zinc, Tot. Rec., ICP-MS	11/14/2011	3IP3318	CCV recovery acceptable for this Instrument Batch.			
Zinc, Dissolved, ICP-MS	11/15/2011	3IP3319	CCV recovery acceptable for this Instrument Batch.			

- Laboratory Report Conclusion -

Continental Analytical Services, Inc.

525 N. 8th Street, Salina, KS 67401
(785)827-1273 (800)535-3076 Fax (785)823-7830
www.cas-lab.com

CAS ORDER NO 59793
CHAIN OF CUSTODY RECORD

Continental Shipping Order Number: _____

Client/Reporting Information			Invoice Information		
Company Name: City of Wichita Storm Water Management			Company Name: City of Wichita Storm Water Management		
Address: City Hall, 8th Floor, 455 N. Main			Address: City Hall, 8th Floor, 455 N. Main		
City: Wichita	State: KS	Zip: 67202	City: Wichita	State: KS	Zip: 67202
Contact: Jim Hardesty	E-mail: Jhardesty@wichita.gov		Contact: Jim Hardesty	E-mail: Jhardesty@wichita.gov	
Phone Number: (316)268-8317	Fax Number: (316)858-7889		Phone Number: (316)268-8317	Fax Number: (316)858-7889	

Sampler's Name:(Printed) Justin Murphy
Sampler's Name:(Signature)
Purchase Order Number:
File Number: 8339
Project Name: Stormwater - UPSTREAM

SAMPLE IDENTIFICATION (30 Characters or less)	Matrix (Sample Type)	Regulatory Program	Date Sampled	Time Sampled	C-Composite G-Grab	Total Containers	Number of Preserved Bottles: HCL	NaOH	HNO3	H2SO4	NONE	OTHER:	Total Cadmium, Copper, Zinc 250mL Plastic - HNO3	Dissolved Cadmium, Copper, Zinc 250mL Plastic - None	Hardness, TSS, TDS, Cl, BOD, NO3, NO2, Tot. Nitrogen 1000mL Plastic - None	TKN, Total P 250mL Plastic - H2SO4					COMMENTS
Maple and Cowskin Upstream	WW	N	11/7/11	1150	G	4			1	1	2		X	X	X	X					

Regulatory Program: N=NPDES, R=RCRA, D=Drinking Water, SL=503 Sludge, O=Other

(Please note if non-standard turnaround. Rush & Emergency subject to additional charge)
Standard TAT (15 working days) Rush TAT (5 working days) Emergency TAT (3 working days)

Matrix (Sample Type): DW=Drinking Water, GW=Ground Water, WW=Waste Water, W=Wipe, S=Solid/Soil, SL=Sludge, A=Air, OL = Oil/Organic Liquid, O=Other

RELINQUISHED BY:	DATE: 11/8/11	TIME: 0930	RECEIVED BY:	DATE: 11/8/11	TIME: 0940
RELINQUISHED BY:	DATE: 11/8/11	TIME: 11:35	RECEIVED BY	DATE:	TIME:
RECEIVED AT LAB BY:	DATE: 11/8/11	TIME: 11:35	SHIPPED VIA: AIRBILL:	SEAL #: SEAL DATE:	

Continental's Standard Terms and Conditions of Sale will apply to all samples received unless a separate contractual agreement has been made.

Continental Analytical Services, Inc.
Cooler/Sample Receipt Form (C/S RF)

CAS Order No.: 59793

Client Name: Wichita

CAS File No.: 8339

Sample ID's in cooler: Sr. Cor
Cowskin Sample

Cooler 1 of 1 for this CAS Order No.

Cooler Identification: CAS Cooler #: _____ / Client's Cooler / Box / Letter / Hand-delivered
Other: _____

Date/Time Cooler Received: 11 / 8 / 11 11 :30

Delivered By: UPS / FedX / AB Express / Field Svcs / Mail / Walk-In / Other: CJ

Custody Seal: Present: Intact / Broken Absent: X Seal No: _____
Seal Name: _____ Seal Date: _____
Seal matches Chain of Custody: Yes / No / N/A

Type of Packing Material: Blue Ice / Ice / Melted Ice / Bubble / Foam / Paper / Peanuts / Vermiculite / None / Other: _____

Cooler Temperature (°C): Original Reading (°C) 1.2 Corrected Reading (°C) 1.6
Temp. By: Temp. Blank Cooler Surface: Glass / Plastic /Metal /Other: _____
Thermo. ID No.: 5Br Thermo. Correction Factor (°C): 0.4

☐ Evidence of Cooling and date received = date sampled

Sample Receipt Discrepancies: ☑ No ☐ Yes **(See below for discrepancies.)**

Note: **If discrepancies are present, CAS will proceed with analyses until/unless directed otherwise by the client.**

- ☐ Chain of Custody not present - information taken from:
  - Cover Letter ☐ Container ☐
  - PO ☐ CAS Proj. Mgr. ☐
- ☐ Container label absent
- ☐ Chain of Custody incomplete [see detail below]
- ☐ Chain of Custody missing date/time sampled (excl. TB or Dup.)
- ☐ Date or Time sampled obtained from container label
- ☐ Chain of Custody missing sampler's name
- ☐ Chain of Custody missing matrix (sample type)
- ☐ Missing relinquished information: signature date time
- ☐ Sample excluded from Chain of Custody
- ☐ Sample listed on Chain of Custody, not received
- ☐ Sample description on container and Chain of Custody do not agree
- ☐ Air bubbles in Aqueous VOA vials larger than pea-size [approx. 6 mm]
- ☐ Cooler temperature exceeded 0.1 - 6.0 °C requirement [Do not mark if samples do not require cooling to 0.1 - 6.0 °C.]
- ☐ Broken or leaking containers (detail actions below)
- ☐ Sample container type or labeled chemical preservation inappropriate
- ☐ Other discrepancies: _____

Detail to discrepancies/comments:

Completed by: MWr Date Completed: 11-8-11

Continental
Analytical Services, Inc.

12/01/2011

City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date and Time Received: 11/08/2011 11:35
Continental File No.: 8339
Continental Order No.: 59792
Project ID: SW Upstream

Dear Mr. Hardesty:

This laboratory report containing the samples indicated below, includes 8 pages for the analytical report, 1 page(s) for the chain of custody and/or analysis request, and 1 page(s) for the sample receipt form.

CAS LAB ID #	SAMPLE DESCRIPTION	SAMPLE TYPE	DATE SAMPLED
11110498	13th and River Upstream	Liquid	11/7/2011

The Appendix and Quality Control sections are integral parts of this laboratory report and may contain important data qualifiers.

All results are reported on a wet weight basis unless otherwise stated.

Samples will be retained for thirty days unless Continental is otherwise notified.

Continental is accredited by the State of Kansas through the National Environmental Laboratory Accreditation Program (NELAP). The results contained in this report were obtained using Continental's Standard Operating Procedures. These procedures are in substantial compliance with the approved methods referenced and the standards published by NELAP unless otherwise noted in the Appendix and Quality Control sections of this report.

This report may not be reproduced, except in full, without written approval from Continental Analytical Services, Inc.

Thank you for choosing Continental for this project.

CONTINENTAL ANALYTICAL SERVICES, INC.

Clifford J. Baker
Technical Manager

Gregory J. Groene
Project Manager

525 N. Eighth St. - P.O. Box 3737 - Salina, KS 67402-3737
785-827-1273 800-535-3076 Fax 785-823-7830

KDHE Environmental Laboratory Accreditation No. E-10146

Continental Analytical Services, Inc.

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Reported: 12/01/2011
Date Received: 11/08/2011
Continental File No: 8339
Continental Order No: 59792

Lab Number: 11110498
Sample Description: 13th and River Upstream

Date Sampled: 11/07/2011
Time Sampled: 1225

Analysis	Concentration	Units	Book/Page
Cadmium, Dissolved, ICP-MS	ND(1) DM	µg/L	7202/43
Cadmium, Tot. Rec., ICP-MS	ND(1)	µg/L	7202/42
Copper, Dissolved, ICP-MS	ND(5) DM	µg/L	7202/43
Copper, Tot. Rec., ICP-MS	ND(5)	µg/L	7202/42
Hardness (Calculated)	308	mg/L as CaCO3	7157/132
Zinc, Dissolved, ICP-MS	ND(20) DM	µg/L	7202/43
Zinc, Tot. Rec., ICP-MS	ND(20)	µg/L	7202/42
BOD	ND(5)	mg/L	7060/277
Chloride	118	mg/L	7129/85
Kjeldahl Nitrogen, as N (TKN)	1.0	mg/L	6854/351
Nitrate, as N	0.5	mg/L	7129/85
Nitrite, as N	ND(1) M	mg/L	7129/86
Nitrogen (TKN + NO3/NO2), as N	1.5	mg/L	9999/596
Phosphorus, Total, as P	ND(0.20)	mg/L	7061/219
Solids, Total Dissolved	576	mg/L	7059/608
Solids, Total Suspended	52	mg/L	7059/607

Analysis	Date/Time Prepared	Date/Time Analyzed	QC Batch	Inst. Batch	Analyst	Method(s)
Cadmium, Dissolved, ICP-MS	11/11/11 1012	11/15/11 1641	111111-3	2IP3319	KMW	200.8 Rev. 5.4
Cadmium, Tot. Rec., ICP-MS	11/11/11 0836	11/14/11 2142	111111-1	5IP3318	KMW	200.8 Rev. 5.4
Copper, Dissolved, ICP-MS	11/11/11 1012	11/15/11 1641	111111-3	2IP3319	KMW	200.8 Rev. 5.4
Copper, Tot. Rec., ICP-MS	11/11/11 0836	11/14/11 2142	111111-1	5IP3318	KMW	200.8 Rev. 5.4
Hardness (Calculated)	11/18/11 1242	11/29/11 1800	111118-3	3IP4333	KMW	200.7 & SM 2340B
Zinc, Dissolved, ICP-MS	11/11/11 1012	11/15/11 1641	111111-3	2IP3319	KMW	200.8 Rev. 5.4
Zinc, Tot. Rec., ICP-MS	11/11/11 0836	11/14/11 2142	111111-1	5IP3318	KMW	200.8 Rev. 5.4
BOD	N/A	11/09/11 1110	111109-2	111109-4	ASK	SM 5210B
Chloride	N/A	11/08/11 2000	1IC1312	2IC1312	MLL	300.0
Kjeldahl Nitrogen, as N (T	11/11/11 1632	11/15/11 1104	111111-1	111115-2	JND	EPA 351.2
Nitrate, as N	N/A	11/08/11 1946	1IC1312	2IC1312	MLL	300.0
Nitrite, as N	N/A	11/09/11 1154	1IC1313	1IC1313	MLL	300.0
Nitrogen (TKN + NO3/NO2),	N/A	11/17/11 1422				Calculation
Phosphorus, Total, as P	N/A	11/30/11 1705	111130-1	111130-2	KJH	SM 4500-P(B&F) (N
Solids, Total Dissolved	N/A	11/14/11 1640	111114-1	111114-1	KJH	SM20th 2540C
Solids, Total Suspended	N/A	11/14/11 1459	111114-1	111114-1	KJH	SM20th 2540D
Dissolved Metals Preparation Method						200.7/200.8
Total Recoverable Metals Preparation Method						200.7/200.8
Calculated as Hardness Preparation Method						200.7/6010B

Conclusion of Lab Number: 11110498

Appendix

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Reported: 12/01/2011
Date Received: 11/08/2011
Continental File No: 8339
Continental Order No: 59792

ND(), where reported, indicates the analyte was not detected above the Limit of Quantitation (LOQ). The concentration of the LOQ is inside the parentheses.

All samples which require cooling were received at a temperature of less than 6 degrees Celsius.

The following table presents the date and time sampled, the date and time analyzed, and the total time elapsed for each analysis with an EPA recommended holding time of seventy-two hours or less.

CAS LAB ID #	ANALYSIS	DATE/TIME SAMPLED	DATE/TIME ANALYZED	ELAPSED HRS:MIN
11110498	BOD	11/07/2011 1225	11/09/2011 1110	46:45
11110498	Nitrate, as N	11/07/2011 1225	11/08/2011 1946	31:21
11110498	Nitrite, as N	11/07/2011 1225	11/09/2011 1154	47:29

DM - NPDES requirements specify that dissolved metals and orthophosphate must be filtered within 15 minutes of the time of collection. This analysis did not meet these criteria.

M - Reporting limit higher than normal due to matrix interferences.

Continental Analytical Services, Inc.

Accreditation Summary

Client: City of Wichita
Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Reported: 12/01/2011
Date Received: 11/08/2011
Continental File No: 8339
Continental Order No: 59792

NELAP accreditation is issued under each EPA regulatory program for a given matrix/analyte/method combination. Continental is NELAP accredited for each matrix/analyte/method and EPA program cited in this Laboratory Report, except for those listed in the table below and analysis performed in the field. For most of the analyses listed in the table, NELAP accreditation is not offered under the listed EPA program and Continental is NELAP accredited for the analysis, using the same analytical technology, but under a different EPA program. Continental's full NELAP accreditation status may be viewed at www.kdheks.gov/envlab. Note that unless qualified otherwise in the Laboratory Report, Continental performs all analyses, including each analysis listed in the table below, utilizing NELAP protocol.

Test	Analysis	Matrix-Regulatory Program	Method	CAS NELAP Accredited in Other Reg. Program
GL343	Nitrogen (TKN + NO3/NO2), as N	L-NPDES	Calculation	N

Continental Analytical Services, Inc.

Quality Control Report
Batch Summary

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Reported: 12/01/2011
Date Received: 11/08/2011
Continental File No: 8339
Continental Order No: 59792

Test	Testname	QC Batch	Method Blank	LCS	MS Lab No.
SL006	Cadmium, Tot. Rec., ICP-MS	111111-1	111111BLK1	111111LCS1	11110498MS
SL012	Copper, Tot. Rec., ICP-MS	111111-1	111111BLK1	111111LCS1	11110498MS
SL033	Zinc, Tot. Rec., ICP-MS	111111-1	111111BLK1	111111LCS1	11110498MS
Lab numbers associated with this batch: 11110498					
SL156	Cadmium, Dissolved, ICP-MS	111111-3	111111BLK3	111111LCS3	11110500MS
SL162	Copper, Dissolved, ICP-MS	111111-3	111111BLK3	111111LCS3	11110500MS
SL183	Zinc, Dissolved, ICP-MS	111111-3	111111BLK3	111111LCS3	11110500MS
Lab numbers associated with this batch: 11110498					
SL323	Hardness (Calculated)	111118-3	111118BLK3	111118LCS3	11110987MS
Lab numbers associated with this batch: 11110498					
GL123	BOD	111109-2	111109BLK2	111109LCS2	11110413MS
Lab numbers associated with this batch: 11110498					
GL502	Chloride	1IC1312	BLK1IC1312	LCS1IC1312	11102140MS
Lab numbers associated with this batch: 11110498					
GL595	Kjeldahl Nitrogen, as N (TKN)	111111-1	111111BLK1	111111LCS1	11110769MS
Lab numbers associated with this batch: 11110498					
GL505	Nitrate, as N	1IC1312	BLK1IC1312	LCS1IC1312	
Lab numbers associated with this batch: 11110498					
GL503	Nitrite, as N	1IC1313	BLK1IC1313	LCS1IC1313	
Lab numbers associated with this batch: 11110498					
GL343	Nitrogen (TKN + NO3/NO2), as N				
Lab numbers associated with this batch: 11110498					
GL218	Phosphorus, Total, as P	111130-1	111130BLK1	111130LCS1	11110500MS
Lab numbers associated with this batch: 11110498					

Continental Analytical Services, Inc.

Quality Control Report
Batch Summary

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Reported: 12/01/2011
Date Received: 11/08/2011
Continental File No: 8339
Continental Order No: 59792

Test	Testname	QC Batch	Method Blank	LCS	MS Lab No.
GL242	Solids, Total Dissolved	111114-1	111114BLK1	111114LCS1	11110521MS
GL243	Solids, Total Suspended	111114-1	111114BLK1	111114LCS1	11110446MS

Lab numbers associated with this batch:
11110498

Continental Analytical Services, Inc.

Quality Control Report
Method Blank, LCS, MS/MSD Data

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Reported: 12/01/2011
Date Received: 11/08/2011
Continental File No: 8339
Continental Order No: 59792

Analysis	Blank Data	% Rec LCS	Limits	Spike Level	Units	Spiked Sample (% Recovery) MS	MSD	Limits	Spike Level	Units	Spiked Sample Precision Data RPD	Limit
QC Batch: 111109-2	For sample analyzed on: 11/09/2011					Spiked sample: 11110413						
BOD	ND(5)	93.1	70.5-110	198	mg/L	MN	MN	#		mg/L	**	13.2
QC Batch: 111111-1	For samples prepared on: 11/11/2011					Spiked sample: 11110498						
Cadmium, Tot. Rec., ICP-MS	ND(1)	98.4	85.0-115	500	µg/L	94.3	94.6	80.0-120	500	µg/L	0.3	20.0
Copper, Tot. Rec., ICP-MS	ND(5)	91.8	85.0-115	500	µg/L	89.0	90.1	80.0-120	500	µg/L	1.2	20.0
Zinc, Tot. Rec., ICP-MS	ND(20)	104	85.0-115	500	µg/L	97.6	97.7	80.0-120	500	µg/L	0.1	20.0
QC Batch: 111111-1	For samples prepared on: 11/11/2011					Spiked sample: 11110769						
Kjeldahl Nitrogen, as N (TKN)	ND(1.0)	111	#	4.0	mg/L	MN	MN	#	20.0	mg/L	**	#
QC Batch: 111111-3	For samples prepared on: 11/11/2011					Spiked sample: 11110500						
Cadmium, Dissolved, ICP-MS	ND(1)	96.9	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
Copper, Dissolved, ICP-MS	ND(5)	89.4	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
Zinc, Dissolved, ICP-MS	ND(20)	99.3	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
QC Batch: 111114-1	For sample analyzed on: 11/14/2011					Spiked sample: 11110446						
Solids, Total Suspended	ND(5)	N/A			mg/L	MN	MN	#		mg/L	**	18.2
QC Batch: 111114-1	For sample analyzed on: 11/14/2011					Spiked sample: 11110521						
Solids, Total Dissolved	ND(30)	N/A			mg/L	MN	MN	#		mg/L	**	5.2
QC Batch: 111118-3	For samples prepared on: 11/18/2011					Spiked sample: 11110987						
Hardness (Calculated)	ND(5.0)	107	80.0-120	337	mg/L a	MN	MN	80.0-120	337	mg/L as	**	20.0
QC Batch: 111130-1	For sample analyzed on: 11/30/2011					Spiked sample: 11110500						
Phosphorus, Total, as P	ND(0.20)	98.3	90.0-110	2.0	mg/L	MN	MN	71.2-135	2.0	mg/L	**	21.2
QC Batch: 1IC1312	For sample analyzed on: 11/08/2011					Spiked sample:						
Nitrate, as N	ND(0.1)	103	90.0-110	2.0	mg/L	MN	MN	79.3-118			**	12.1
QC Batch: 1IC1312	For sample analyzed on: 11/08/2011					Spiked sample: 11102140						
Chloride	ND(1.0)	104	90.0-110	4.0	mg/L	MN	MN	82.1-126	400	mg/L	**	12.5
QC Batch: 1IC1313	For sample analyzed on: 11/09/2011					Spiked sample:						
Nitrite, as N	ND(0.1)	102	90.0-110	2.0	mg/L	MN	MN	78.5-127			**	10.1

Data Qualifiers:
MN - The MS/MSD sample analyses were not performed on a sample from this Continental order number.

N/A - Not Applicable
- Limits not available.
** - RPD cannot be calculated.

Continental Analytical Services, Inc.

Quality Control Report
Continuing Calibration Data Summary

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Reported: 12/01/2011
Date Received: 11/08/2011
Continental File No: 8339
Continental Order No: 59792

Analysis	Date of Analysis	Instrument Batch ID	Amount in Standard	Amount Detected	Units	Percent Recovery
Cadmium, Dissolved, ICP-MS	11/15/2011	2IP3319	CCV recovery acceptable for this Instrument Batch.			
Cadmium, Dissolved, ICP-MS	11/15/2011	3IP3319	CCV recovery acceptable for this Instrument Batch.			
Cadmium, Tot. Rec., ICP-MS	11/14/2011	5IP3318	CCV recovery acceptable for this Instrument Batch.			
Cadmium, Tot. Rec., ICP-MS	11/14/2011	6IP3318	CCV recovery acceptable for this Instrument Batch.			
Copper, Dissolved, ICP-MS	11/15/2011	2IP3319	CCV recovery acceptable for this Instrument Batch.			
Copper, Dissolved, ICP-MS	11/15/2011	3IP3319	CCV recovery acceptable for this Instrument Batch.			
Copper, Tot. Rec., ICP-MS	11/14/2011	5IP3318	CCV recovery acceptable for this Instrument Batch.			
Copper, Tot. Rec., ICP-MS	11/14/2011	6IP3318	CCV recovery acceptable for this Instrument Batch.			
BOD	11/09/2011	111109-4	CCV recovery acceptable for this Instrument Batch.			
BOD	11/09/2011	111109-5	CCV recovery acceptable for this Instrument Batch.			
Phosphorus, Total, as P	11/30/2011	111130-2	CCV recovery acceptable for this Instrument Batch.			
Phosphorus, Total, as P	11/30/2011	111130-3	CCV recovery acceptable for this Instrument Batch.			
Chloride	11/08/2011	3IC1312	CCV recovery acceptable for this Instrument Batch.			
Nitrite, as N	11/09/2011	1IC1313	CCV recovery acceptable for this Instrument Batch.			
Nitrite, as N	11/09/2011	2IC1313	CCV recovery acceptable for this Instrument Batch.			
Nitrate, as N	11/08/2011	3IC1312	CCV recovery acceptable for this Instrument Batch.			
Kjeldahl Nitrogen, as N (TKN)	11/15/2011	111115-2	CCV recovery acceptable for this Instrument Batch.			
Kjeldahl Nitrogen, as N (TKN)	11/15/2011	111115-3	CCV recovery acceptable for this Instrument Batch.			
Hardness (Calculated)	11/29/2011	3IP4333	CCV recovery acceptable for this Instrument Batch.			
Hardness (Calculated)	11/29/2011	4IP4333	CCV recovery acceptable for this Instrument Batch.			
Zinc, Dissolved, ICP-MS	11/15/2011	2IP3319	CCV recovery acceptable for this Instrument Batch.			
Zinc, Dissolved, ICP-MS	11/15/2011	3IP3319	CCV recovery acceptable for this Instrument Batch.			
Zinc, Tot. Rec., ICP-MS	11/14/2011	5IP3318	CCV recovery acceptable for this Instrument Batch.			
Zinc, Tot. Rec., ICP-MS	11/14/2011	6IP3318	CCV recovery acceptable for this Instrument Batch.			

- Laboratory Report Conclusion -

Continental Analytical Services, Inc.

525 N. 8th Street, Salina, KS 67401
(785)827-1273 (800)535-3076 Fax (785)823-7830
www.cas-lab.com

CAS ORDER NO: 31 P12

CHAIN OF CUSTODY RECORD

Continental Shipping Order Number: _____

Client/Reporting Information	Invoice Information
Company Name: City of Wichita Storm Water Management	Company Name: City of Wichita Storm Water Management
Address: City Hall, 8th Floor, 455 N. Main	Address: City Hall, 8th Floor, 455 N. Main
City: Wichita State: KS Zip: 67202	City: Wichita State: KS Zip: 67202
Contact: Jim Hardesty E-mail: Jhardesty@wichita.gov	Contact: Jim Hardesty E-mail: Jhardesty@wichita.gov
Phone Number: (316)268-8317 Fax Number: (316)858-7889	Phone Number: (316)268-8317 Fax Number: (316)858-7889

Sampler's Name (Printed): Justin Murphy
Sampler's Name (Signature): [signature]
Purchase Order Number:
File Number: 8339
Project Name: Stormwater - UPSTREAM

SAMPLE IDENTIFICATION (30 Characters or less)	Matrix (Sample Type)	Regulatory Program	Date Sampled	Time Sampled	C-Composite G-Grab	Total Containers	Number of Preserved Bottles: HCL	NaOH	HNO3	H2SO4	NONE	OTHER	Total Cadmium, Copper, Zinc 250mL Plastic - HNO3	Dissolved Cadmium, Copper, Zinc 250mL Plastic - None	Hardness, TSS, TDS, Cl, BOD, NO3, NO2, Tot. Nitrogen 1000mL Plastic - None	TKN, Total P 250mL Plastic - H2SO4					COMMENTS
13th and River Upstream	WW	N	11/7/11	1225	G	4			1	1	2		X	X	X	X					

Regulatory Program: N=NPDES, R=RCRA, D=Drinking Water, SL=503 Sludge, O=Other

(Please note if non-standard turnaround. Rush & Emergency subject to additional charge)
Standard TAT (15 working days) Rush TAT (5 working days) Emergency TAT (3 working days)

Matrix (Sample Type): DW=Drinking Water, GW=Ground Water, WW=Waste Water, W=Wipe, S=Solid/Soil, SL=Sludge, A=Air, OL = Oil/Organic Liquid, O=Other

RELINQUISHED BY	DATE	TIME	RECEIVED BY	DATE	TIME
[signature]	11/8/11	0830	[signature]	11/8/11	0940
RELINQUISHED BY: [signature]	DATE: 11/8/11	TIME: 1135	RECEIVED BY	DATE	TIME
RECEIVED AT LAB BY: [signature]	DATE: 11/8/11	TIME: 1135	SHIPPED VIA: AIRBILL	SEAL #: SEAL DATE	

Continental's Standard Terms and Conditions of Sale will apply to all samples received unless a separate contractual agreement has been made.

C:\Documents and Settings\murphy\Local Settings\Temporary Internet Files\Content.Outlook\3FQHFIAQ\Wichita Stormwater XL200ESO

Continental Analytical Services, Inc.
Cooler/Sample Receipt Form (C/S RF)

CAS Order No.: 59792

Client Name: Wichita

CAS File No.: 8339

Sample ID's in cooler: Sa. Coc
13th & River

Cooler 1 of 1 for this CAS Order No.

Cooler Identification: CAS Cooler #: _____ / Client's Cooler / Box / Letter / Hand-delivered
Other: _____

Date/Time Cooler Received: 11 / 8 / 11 11 : 35

Delivered By: UPS / FedX / AB Express / Field Svcs / Mail / Walk-In / Other: CT

Custody Seal: Present: Intact / Broken Absent X Seal No: _____
Seal Name: _____ Seal Date: _____
Seal matches Chain of Custody: Yes / No / N/A

Type of Packing Material: Blue Ice / Ice / Melted Ice / Bubble / Foam / Paper / Peanuts / Vermiculite / None / Other: _____

Cooler Temperature (°C): Original Reading (°C) -0.3 Corrected Reading (°C) 0.1
Temp. By: Temp. Blank Cooler Surface: Glass / Plastic /Metal /Other: _____
Thermo. ID No.: 58r Thermo. Correction Factor (°C): 0.4
☐ Evidence of Cooling and date received = date sampled

Sample Receipt Discrepancies: ☑ No ☐ Yes **(See below for discrepancies.)**

Note: **If discrepancies are present, CAS will proceed with analyses until/unless directed otherwise by the client.**

- ☐ Chain of Custody not present - information taken from:
  - Cover Letter ☐ Container ☐
  - PO ☐ CAS Proj. Mgr. ☐
- ☐ Container label absent
- ☐ Chain of Custody incomplete [see detail below]
- ☐ Chain of Custody missing date/time sampled (excl. TB or Dup.)
- ☐ Date or Time sampled obtained from container label
- ☐ Chain of Custody missing sampler's name
- ☐ Chain of Custody missing matrix (sample type)
- ☐ Missing relinquished information: signature date time
- ☐ Sample excluded from Chain of Custody
- ☐ Sample listed on Chain of Custody, not received
- ☐ Sample description on container and Chain of Custody do not agree
- ☐ Air bubbles in Aqueous VOA vials larger than pea-size [approx. 6 mm]
- ☐ Cooler temperature exceeded 0.1 - 6.0 °C requirement [Do not mark if samples do not require cooling to 0.1 - 6.0 °C.]
- ☐ Broken or leaking containers (detail actions below)
- ☐ Sample container type or labeled chemical preservation inappropriate
- ☐ Other discrepancies: _____

Detail to discrepancies/comments:

Completed by: mw Date Completed: 11-8-11

Continental Analytical Services, Inc.

12/01/2011

City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date and Time Received: 11/08/2011 11:35
Continental File No.: 8339
Continental Order No.: 59800
Project ID: Stormwater

Dear Mr. Hardesty:

This laboratory report containing the samples indicated below, includes 10 pages for the analytical report, 1 page(s) for the chain of custody and/or analysis request, and 1 page(s) for the sample receipt form.

CAS LAB ID #	SAMPLE DESCRIPTION	SAMPLE TYPE	DATE SAMPLED
11110511	21st and Hood - Grab	Liquid	11/7/2011
11110512	21st and Hood - Composite	Liquid	11/7/2011

The Appendix and Quality Control sections are integral parts of this laboratory report and may contain important data qualifiers.

All results are reported on a wet weight basis unless otherwise stated.

Samples will be retained for thirty days unless Continental is otherwise notified.

Continental is accredited by the State of Kansas through the National Environmental Laboratory Accreditation Program (NELAP). The results contained in this report were obtained using Continental's Standard Operating Procedures. These procedures are in substantial compliance with the approved methods referenced and the standards published by NELAP unless otherwise noted in the Appendix and Quality Control sections of this report.

This report may not be reproduced, except in full, without written approval from Continental Analytical Services, Inc.

Thank you for choosing Continental for this project.

CONTINENTAL ANALYTICAL SERVICES, INC.

Clifford J. Baker
Technical Manager

Gregory J. Groene
Project Manager

525 N. Eighth St. - P.O. Box 3737 - Salina, KS 67402-3737
785-827-1273 800-535-3076 Fax 785-823-7830
KDHE Environmental Laboratory Accreditation No. E-10146

Continental Analytical Services, Inc.

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Reported: 12/01/2011
Date Received: 11/08/2011
Continental File No: 8339
Continental Order No: 59800

Lab Number: 11110511
Sample Description: 21st and Hood - Grab

Date Sampled: 11/07/2011
Time Sampled: 1215

Analysis	Concentration	Units	Book/Page
Cadmium, Dissolved, ICP-MS	ND(1) DM	µg/L	7202/43
Cadmium, Tot. Rec., ICP-MS	ND(1)	µg/L	7202/42
Copper, Dissolved, ICP-MS	ND(5) DM	µg/L	7202/43
Copper, Tot. Rec., ICP-MS	11	µg/L	7202/42
Hardness (Calculated)	34.8	mg/L as CaCO3	7157/120
Zinc, Dissolved, ICP-MS	22 DM	µg/L	7202/43
Zinc, Tot. Rec., ICP-MS	99	µg/L	7202/42
Chloride	4.6	mg/L	7129/92
Solids, Total Dissolved	102	mg/L	7059/608
Solids, Total Suspended	21	mg/L	7059/607

Analysis	Date/Time Prepared	Date/Time Analyzed	QC Batch	Inst. Batch	Analyst	Method(s)
Cadmium, Dissolved, ICP-MS	11/11/11 1012	11/15/11 1755	111111-3	3IP3319	KMW	200.8 Rev. 5.4
Cadmium, Tot. Rec., ICP-MS	11/10/11 0837	11/14/11 1957	111110-2	3IP3318	KMW	200.8 Rev. 5.4
Copper, Dissolved, ICP-MS	11/11/11 1012	11/15/11 1755	111111-3	3IP3319	KMW	200.8 Rev. 5.4
Copper, Tot. Rec., ICP-MS	11/10/11 0837	11/14/11 1957	111110-2	3IP3318	KMW	200.8 Rev. 5.4
Hardness (Calculated)	11/09/11 0914	11/11/11 0303	111109-3	13IP4314	KMW	200.7 & SM 2340B
Zinc, Dissolved, ICP-MS	11/11/11 1012	11/15/11 1755	111111-3	3IP3319	KMW	200.8 Rev. 5.4
Zinc, Tot. Rec., ICP-MS	11/10/11 0837	11/14/11 1957	111110-2	3IP3318	KMW	200.8 Rev. 5.4
Chloride	N/A	11/18/11 1738	1IC1322	3IC1322	MLL	300.0
Solids, Total Dissolved	N/A	11/14/11 1644	111114-1	111114-1	KJH	SM20th 2540C
Solids, Total Suspended	N/A	11/14/11 1502	111114-2	111114-1	KJH	SM20th 2540D
Dissolved Metals Preparation Method						200.7/200.8
Total Recoverable Metals Preparation Method						200.7/200.8
Calculated as Hardness Preparation Method						200.7/6010B

Conclusion of Lab Number: 11110511

Continental Analytical Services, Inc.

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Reported: 12/01/2011
Date Received: 11/08/2011
Continental File No: 8339
Continental Order No: 59800

Lab Number: 11110512
Sample Description: 21st and Hood - Composite

Date Sampled: 11/07/2011
Time Sampled: 1215

Analysis	Concentration	Units	Book/Page
Cadmium, Dissolved, ICP-MS	ND(1) DM	µg/L	7202/46
Cadmium, Tot. Rec., ICP-MS	ND(1)	µg/L	7202/42
Copper, Dissolved, ICP-MS	5 DM	µg/L	7202/46
Copper, Tot. Rec., ICP-MS	9	µg/L	7202/42
Hardness (Calculated)	36.1	mg/L as CaCO3	7157/120
Zinc, Dissolved, ICP-MS	27	µg/L	7202/46
Zinc, Tot. Rec., ICP-MS	76	µg/L	7202/42
BOD	12	mg/L	7060/277
Chloride	4.5	mg/L	7129/85
Kjeldahl Nitrogen, as N (TKN)	1.7	mg/L	6854/351
Nitrate, as N	0.4	mg/L	7129/85
Nitrite, as N	ND(0.1)	mg/L	7129/85
Nitrogen (TKN + NO3/NO2), as N	2.1	mg/L	9999/596
Phosphorus, Total, as P	0.30	mg/L	7061/219
Solids, Total Dissolved	98	mg/L	7059/608
Solids, Total Suspended	23	mg/L	7059/607

Analysis	Date/Time Prepared	Date/Time Analyzed	QC Batch	Inst. Batch	Analyst	Method(s)
Cadmium, Dissolved, ICP-MS	11/17/11 0151	11/28/11 1632	111117-5	2IP3332	KMW	200.8 Rev. 5.4
Cadmium, Tot. Rec., ICP-MS	11/10/11 0837	11/14/11 2002	111110-2	3IP3318	KMW	200.8 Rev. 5.4
Copper, Dissolved, ICP-MS	11/17/11 0151	11/28/11 1632	111117-5	2IP3332	KMW	200.8 Rev. 5.4
Copper, Tot. Rec., ICP-MS	11/10/11 0837	11/14/11 2002	111110-2	3IP3318	KMW	200.8 Rev. 5.4
Hardness (Calculated)	11/09/11 0914	11/11/11 0307	111109-3	13IP4314	KMW	200.7 & SM 2340B
Zinc, Dissolved, ICP-MS	11/17/11 0151	11/28/11 1632	111117-5	2IP3332	KMW	200.8 Rev. 5.4
Zinc, Tot. Rec., ICP-MS	11/10/11 0837	11/14/11 2002	111110-2	3IP3318	KMW	200.8 Rev. 5.4
BOD	N/A	11/09/11 1110	111109-2	111109-4	ASK	SM 5210B
Chloride	N/A	11/09/11 0103	1IC1312	4IC1312	MLL	300.0
Kjeldahl Nitrogen, as N (T	11/11/11 1632	11/15/11 1117	111111-1	111115-2	JND	EPA 351.2
Nitrate, as N	N/A	11/09/11 0103	1IC1312	4IC1312	MLL	300.0
Nitrite, as N	N/A	11/09/11 0103	1IC1312	4IC1312	MLL	300.0
Nitrogen (TKN + NO3/NO2),	N/A	11/17/11 1422				Calculation
Phosphorus, Total, as P	N/A	11/30/11 1711	111130-1	111130-2	KJH	SM 4500-P(B&F)(M
Solids, Total Dissolved	N/A	11/14/11 1644	111114-1	111114-1	KJH	SM20th 2540C
Solids, Total Suspended	N/A	11/14/11 1503	111114-2	111114-1	KJH	SM20th 2540D
Dissolved Metals Preparation Method						200.7/200.8
Total Recoverable Metals Preparation Method						200.7/200.8
Calculated as Hardness Preparation Method						200.7/6010B

Conclusion of Lab Number: 11110512

Appendix

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Reported: 12/01/2011
Date Received: 11/08/2011
Continental File No: 8339
Continental Order No: 59800

ND(), where reported, indicates the analyte was not detected above the Limit of Quantitation (LOQ). The concentration of the LOQ is inside the parentheses.

All samples which require cooling were received at a temperature of less than 6 degrees Celsius.

The following table presents the date and time sampled, the date and time analyzed, and the total time elapsed for each analysis with an EPA recommended holding time of seventy-two hours or less.

CAS LAB ID #	ANALYSIS	DATE/TIME SAMPLED	DATE/TIME ANALYZED	ELAPSED HRS:MIN
11110512	BOD	11/07/2011 1215	11/09/2011 1110	46:55
11110512	Nitrate, as N	11/07/2011 1215	11/09/2011 0103	36:48
11110512	Nitrite, as N	11/07/2011 1215	11/09/2011 0103	36:48

DM - NPDES requirements specify that dissolved metals and orthophosphate must be filtered within 15 minutes of the time of collection. This analysis did not meet these criteria.

Continental Analytical Services, Inc.

Accreditation Summary

Client: City of Wichita
Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Reported: 12/01/2011
Date Received: 11/08/2011
Continental File No: 8339
Continental Order No: 59800

NELAP accreditation is issued under each EPA regulatory program for a given matrix/analyte/method combination. Continental is NELAP accredited for each matrix/analyte/method and EPA program cited in this Laboratory Report, except for those listed in the table below and analysis performed in the field. For most of the analyses listed in the table, NELAP accreditation is not offered under the listed EPA program and Continental is NELAP accredited for the analysis, using the same analytical technology, but under a different EPA program. Continental's full NELAP accreditation status may be viewed at www.kdheks.gov/envlab. Note that unless qualified otherwise in the Laboratory Report, Continental performs all analyses, including each analysis listed in the table below, utilizing NELAP protocol.

Test	Analysis	Matrix-Regulatory Program	Method	CAS NELAP Accredited in Other Reg. Program
GL343	Nitrogen (TKN + NO3/NO2), as N	L-NPDES	Calculation	N

Continental Analytical Services, Inc.

Quality Control Report
Batch Summary

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Reported: 12/01/2011
Date Received: 11/08/2011
Continental File No: 8339
Continental Order No: 59800

Test	Testname	QC Batch	Method Blank	LCS	MS Lab No.
SL323	Hardness (Calculated)	111109-3	111109BLK3	111109LCS3	11110496MS
Lab numbers associated with this batch: 11110511 11110512					
SL006	Cadmium, Tot. Rec., ICP-MS	111110-2	111110BLK2	111110LCS2	11110506MS
SL012	Copper, Tot. Rec., ICP-MS	111110-2	111110BLK2	111110LCS2	11110506MS
SL033	Zinc, Tot. Rec., ICP-MS	111110-2	111110BLK2	111110LCS2	11110506MS
Lab numbers associated with this batch: 11110511 11110512					
SL156	Cadmium, Dissolved, ICP-MS	111111-3	111111BLK3	111111LCS3	11110500MS
SL162	Copper, Dissolved, ICP-MS	111111-3	111111BLK3	111111LCS3	11110500MS
SL183	Zinc, Dissolved, ICP-MS	111111-3	111111BLK3	111111LCS3	11110500MS
Lab numbers associated with this batch: 11110511					
SL156	Cadmium, Dissolved, ICP-MS	111117-5	111117BLK5	111117LCS5	11110491MS
SL162	Copper, Dissolved, ICP-MS	111117-5	111117BLK5	111117LCS5	11110978MS
SL183	Zinc, Dissolved, ICP-MS	111117-5	111117BLK5	111117LCS5	11110491MS
Lab numbers associated with this batch: 11110512					
GL123	BOD	111109-2	111109BLK2	111109LCS2	11110413MS
Lab numbers associated with this batch: 11110512					
GL502	Chloride	1IC1312	BLK1IC1312	LCS1IC1312	11102140MS
Lab numbers associated with this batch: 11110512					
GL502	Chloride	1IC1322	BLK1IC1322	LCS1IC1322	11111686MS
Lab numbers associated with this batch: 11110511					
GL595	Kjeldahl Nitrogen, as N (TKN)	111111-1	111111BLK1	111111LCS1	11110769MS
Lab numbers associated with this batch: 11110512					
GL505	Nitrate, as N	1IC1312	BLK1IC1312	LCS1IC1312	
GL503	Nitrite, as N	1IC1312	BLK1IC1312	LCS1IC1312	
Lab numbers associated with this batch: 11110512					

Continental Analytical Services, Inc.

Quality Control Report
Batch Summary

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Reported: 12/01/2011
Date Received: 11/08/2011
Continental File No: 8339
Continental Order No: 59800

Test	Testname	QC Batch	Method Blank	LCS	MS Lab No.
GL343	Nitrogen (TKN + NO3/NO2), as N				
Lab numbers associated with this batch: 11110512					
GL218	Phosphorus, Total, as P	111130-1	111130BLK1	111130LCS1	11110500MS
Lab numbers associated with this batch: 11110512					
GL242	Solids, Total Dissolved	111114-1	111114BLK1	111114LCS1	11110521MS
Lab numbers associated with this batch: 11110511 11110512					
GL243	Solids, Total Suspended	111114-2	111114BLK2	111114LCS2	11110526MS
Lab numbers associated with this batch: 11110511 11110512					

Continental Analytical Services, Inc.

Quality Control Report
Method Blank, LCS, MS/MSD Data

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Reported: 12/01/2011
Date Received: 11/08/2011
Continental File No: 8339
Continental Order No: 59800

Analysis	Blank Data	% Rec LCS	Limits	Spike Level	Units	Spiked Sample (% Recovery) MS	MSD	Limits	Spike Level	Units	Spiked Sample Precision Data RPD	Limit
QC Batch: 111109-2	For sample analyzed on: 11/09/2011					Spiked sample: 11110413						
BOD	ND(5)	93.1	70.5-110	198	mg/L	MN	MN	#		mg/L	**	13.2
QC Batch: 111109-3	For samples prepared on: 11/09/2011					Spiked sample: 11110496						
Hardness (Calculated)	ND(5.0)	105	80.0-120	337	mg/L a	MN	MN	80.0-120	337	mg/L as	**	20.0
QC Batch: 111110-2	For samples prepared on: 11/10/2011					Spiked sample: 11110506						
Cadmium, Tot. Rec., ICP-MS	ND(1)	95.8	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
Copper, Tot. Rec., ICP-MS	ND(5)	91.8	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
Zinc, Tot. Rec., ICP-MS	ND(20)	102	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
QC Batch: 111111-1	For samples prepared on: 11/11/2011					Spiked sample: 11110769						
Kjeldahl Nitrogen, as N (TKN)	ND(1.0)	111	#	4.0	mg/L	MN	MN	#	20.0	mg/L	**	#
QC Batch: 111111-3	For samples prepared on: 11/11/2011					Spiked sample: 11110500						
Cadmium, Dissolved, ICP-MS	ND(1)	96.9	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
Copper, Dissolved, ICP-MS	ND(5)	89.4	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
Zinc, Dissolved, ICP-MS	ND(20)	99.3	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
QC Batch: 111114-1	For sample analyzed on: 11/14/2011					Spiked sample: 11110521						
Solids, Total Dissolved	ND(30)	N/A			mg/L	MN	MN	#		mg/L	**	5.2
QC Batch: 111114-2	For sample analyzed on: 11/14/2011					Spiked sample: 11110526						
Solids, Total Suspended	ND(5)	N/A			mg/L	MN	MN	#		mg/L	**	18.2
QC Batch: 111117-5	For samples prepared on: 11/17/2011					Spiked sample: 11110491						
Cadmium, Dissolved, ICP-MS	ND(1)	96.1	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
Zinc, Dissolved, ICP-MS	ND(20)	100.	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
QC Batch: 111117-5	For samples prepared on: 11/17/2011					Spiked sample: 11110978						
Copper, Dissolved, ICP-MS	ND(3) J	92.0	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
QC Batch: 111130-1	For sample analyzed on: 11/30/2011					Spiked sample: 11110300						
Phosphorus, Total, as P	ND(0.20)	98.3	90.0-110	2.0	mg/L	MN	MN	71.2-135	2.0	mg/L	**	21.2
QC Batch: 1IC1312	For sample analyzed on: 11/08/2011					Spiked sample:						
Nitrite, as N	ND(0.1)	107	90.0-110	2.0	mg/L	MN	MN	78.5-127			**	10.1
Nitrate, as N	ND(0.1)	103	90.0-110	2.0	mg/L	MN	MN	79.3-118			**	12.1
QC Batch: 1IC1312	For sample analyzed on: 11/08/2011					Spiked sample: 11102140						
Chloride	ND(1.0)	104	90.0-110	4.0	mg/L	MN	MN	82.1-126	400	mg/L	**	12.5
QC Batch: 1IC1322	For sample analyzed on: 11/10/2011					Spiked sample: 11111686						
Chloride	ND(1.0)	94.1	90.0-110	4.0	mg/L	MN	MN	82.1-126	40.0	mg/L	**	12.5

Data Qualifiers:

MN - The MS/MSD sample analyses were not performed on a sample from this Continental order number.

N/A - Not Applicable

J - The concentration or not detected (ND) value is below the Limit of Quantitation (LOQ) and is considered an estimated value.

- Limits not available.

** - RPD cannot be calculated.

Continental Analytical Services, Inc.

Client: City of Wichita
Attn: Jim Bardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Quality Control Report
Method Blank, LCS, MS/MSD Data

Date Reported: 12/01/2011
Date Received: 11/08/2011
Continental File No: 8339
Continental Order No: 59800

Analysis	Blank Data	% Rec LCS	Limits	Spike Level	Units	Spiked Sample (% Recovery) MS	MSD	Limits	Spike Level	Units	Spiked Sample Precision Data RPD	Limit

Continental Analytical Services, Inc.

Quality Control Report
Continuing Calibration Data Summary

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Reported: 12/01/2011
Date Received: 11/08/2011
Continental File No: 8339
Continental Order No: 59800

Analysis	Date of Analysis	Instrument Batch ID	Amount in Standard	Amount Detected	Units	Percent Recovery
Cadmium, Dissolved, ICP-MS	11/28/2011	2IP3332	CCV recovery acceptable for this Instrument Batch.			
Cadmium, Tot. Rec., ICP-MS	11/14/2011	3IP3318	CCV recovery acceptable for this Instrument Batch.			
Cadmium, Dissolved, ICP MS	11/15/2011	3IP3319	CCV recovery acceptable for this Instrument Batch.			
Cadmium, Dissolved, ICP-MS	11/28/2011	3IP3332	CCV recovery acceptable for this Instrument Batch.			
Cadmium, Tot. Rec., ICP-MS	11/14/2011	4IP3318	CCV recovery acceptable for this Instrument Batch.			
Cadmium, Dissolved, ICP-MS	11/15/2011	4IP3319	CCV recovery acceptable for this Instrument Batch.			
Copper, Dissolved, ICP-MS	11/28/2011	2IP3332	CCV recovery acceptable for this Instrument Batch.			
Copper, Tot. Rec., ICP-MS	11/14/2011	3IP3318	CCV recovery acceptable for this Instrument Batch.			
Copper, Dissolved, ICP-MS	11/15/2011	3IP3319	CCV recovery acceptable for this Instrument Batch.			
Copper, Dissolved, ICP-MS	11/28/2011	3IP3332	CCV recovery acceptable for this Instrument Batch.			
Copper, Tot. Rec., ICP-MS	11/14/2011	4IP3318	CCV recovery acceptable for this Instrument Batch.			
Copper, Dissolved, ICP-MS	11/15/2011	4IP3319	CCV recovery acceptable for this Instrument Batch.			
BOD	11/09/2011	111109-4	CCV recovery acceptable for this Instrument Batch.			
BOD	11/09/2011	111109-5	CCV recovery acceptable for this Instrument Batch.			
Phosphorus, Total, as P	11/30/2011	111130-2	CCV recovery acceptable for this Instrument Batch.			
Phosphorus, Total, as P	11/30/2011	111130-3	CCV recovery acceptable for this Instrument Batch.			
Chloride	11/08/2011	4IC1312	CCV recovery acceptable for this Instrument Batch.			
Chloride	11/09/2011	5IC1312	CCV recovery acceptable for this Instrument Batch.			
Chloride	11/18/2011	3IC1322	CCV recovery acceptable for this Instrument Batch.			
Chloride	11/18/2011	4IC1322	CCV recovery acceptable for this Instrument Batch.			
Nitrite, as N	11/08/2011	4IC1312	CCV recovery acceptable for this Instrument Batch.			
Nitrite, as N	11/09/2011	5IC1312	CCV recovery acceptable for this Instrument Batch.			
Nitrate, as N	11/08/2011	4IC1312	CCV recovery acceptable for this Instrument Batch.			
Nitrate, as N	11/09/2011	5IC1312	CCV recovery acceptable for this Instrument Batch.			
Kjeldahl Nitrogen, as N (TKN)	11/15/2011	111115-2	CCV recovery acceptable for this Instrument Batch.			
Kjeldahl Nitrogen, as N (TKN)	11/15/2011	111115-3	CCV recovery acceptable for this Instrument Batch.			
Hardness (Calculated)	11/11/2011	13IP4314	CCV recovery acceptable for this Instrument Batch.			
Hardness (Calculated)	11/11/2011	14IP4314	CCV recovery acceptable for this Instrument Batch.			
Zinc, Dissolved, ICP-MS	11/28/2011	2IP3332	CCV recovery acceptable for this Instrument Batch.			
Zinc, Tot. Rec., ICP-MS	11/14/2011	3IP3318	CCV recovery acceptable for this Instrument Batch.			
Zinc, Dissolved, ICP-MS	11/15/2011	3IP3319	CCV recovery acceptable for this Instrument Batch.			
Zinc, Dissolved, ICP-MS	11/28/2011	3IP3332	CCV recovery acceptable for this Instrument Batch.			
Zinc, Tot. Rec., ICP-MS	11/14/2011	4IP3318	CCV recovery acceptable for this Instrument Batch.			
Zinc, Dissolved, ICP-MS	11/15/2011	4IP3319	CCV recovery acceptable for this Instrument Batch.			

- Laboratory Report Conclusion -

Continenta Analytical Services, Inc.

525 N. 8th Street, Salina, KS 67401
(785)827-1273 (800)535-3076 Fax (785)823-7830
www.cas-lab.com

CAS ORDER NO. 5[illegible]

CHAIN OF CUSTODY RECORD

Continental Shipping Order Number: _____

Client/Reporting Information	Invoice Information
Company Name: City of Wichita Storm Water Management	Company Name: City of Wichita Storm Water Management
Address: City Hall, 8th Floor, 455 N. Main	Address: City Hall, 8th Floor, 455 N. Main
City: Wichita State: KS Zip: 67202	City: Wichita State: KS Zip: 67202
Contact: Jim Hardesty E-mail: Jhardesty@wichita.gov	Contact: Jim Hardesty E-mail: Jhardesty@wichita.gov
Phone Number: (316)268-8317 Fax Number: (316)858-7889	Phone Number: (316)268-8317 Fax Number: (316)858-7889

Sampler's Name:(Printed): Justin Murphy
Sampler's Name:(Signature): [signature]
Purchase Order Number:
File Number: 8339
Project Name: Stormwater

SAMPLE IDENTIFICATION (30 Characters or less)	Matrix (Sample Type)	Regulatory Program	Date Sampled	Time Sampled	C-Composite G-Grab	Total Containers	Number of Preserved Bottles: HCL	NaOH	HNO3	H2SO4	NONE	UNFIX.	Cadmium, Copper, Zinc - Total Recoverable 250ml Plastic - HNO3	Hardness, TSS TDS, Cl, Diss - Cd, Cu, Zn 1000ml Plastic - None	Total Metals, Dissolved Metals, Hardness, TSS, TDS, Cl, BOD, TKN, Total P, NO3, NO2, Tot Nitrogen Large Carboy						COMMENTS
21st and Hood-Grab	WW	N	11/7/11	1215	G	2			1		1		X	X							
21st and Hood-Composite	WW	N	11/7/11	1215	C	1					1				X						5 Gal. Container to be poured off at lab
																					as needed for required tests.
																					Remaining volume will be saved for
																					for organics if needed.

Regulatory Program: N=NPDES, R=RCRA, D=Drinking Water, SL=503 Sludge, O=Other

(Please note if non-standard turnaround. Rush & Emergency subject to additional charge)
Standard TAT (15 working days) Rush TAT (5 working days) Emergency TAT (3 working days)

Matrix (Sample Type): DW=Drinking Water, GW=Ground Water, WW=Waste Water, W=Wipe, S=Solid/Soil, SL=Sludge, A=Air, OL=Oil/Organic Liquid, O=Other

	DATE	TIME		DATE	TIME
RELINQUISHED BY: [signature]	11/8/11	0830	RECEIVED BY: [signature]	11/8/11	0940
RELINQUISHED BY: [signature]	11/8/11	11:35	RECEIVED BY	DATE	TIME
RECEIVED AT LAB BY: [signature]	11/8/11	11:35	SHIPPED VIA: AIRBILL	SEAL #: SEAL DATE	

Continental's Standard Terms and Conditions of Sale will apply to all samples received unless a separate contractual agreement has been made.

Continental Analytical Services, Inc.
Cooler/Sample Receipt Form (C/S RF)

CAS Order No.: S9800

Client Name: Wichita

CAS File No.: 8339

Sample ID's in cooler: Sa. Coe

21st & Hood

Cooler 1 of 1 for this CAS Order No.

Cooler Identification: CAS Cooler #: _____ / Client's Cooler / Box / Letter / Hand-delivered
Other: _____

Date/Time Cooler Received: 11 / 8 / 11 11 :35

Delivered By: UPS / FedX / AB Express / Field Svcs / Mail / Walk-In / Other: CT

Custody Seal: Present: Intact / Broken Absent: X Seal No: _____
Seal Name: _____ Seal Date: _____
Seal matches Chain of Custody: Yes / No / N/A

Type of Packing Material: Blue Ice / Ice / Melted Ice / Bubble / Foam / Paper / Peanuts / Vermiculite / None / Other: _____

Cooler Temperature (°C): Original Reading (°C) -0.2 Corrected Reading (°C) 0.2
Temp. By: Temp. Blank Cooler Surface: Glass / Plastic /Metal /Other: _____
Thermo. ID No.: 586 Thermo. Correction Factor (°C): 0.4

☐ Evidence of Cooling and date received = date sampled

Sample Receipt Discrepancies: ☒ No ☐ Yes **(See below for discrepancies.)**

Note: If discrepancies are present, CAS will proceed with analyses until/unless directed otherwise by the client.

- ☐ Chain of Custody not present - information taken from:
  - Cover Letter ☐ Container ☐
  - PO ☐ CAS Proj. Mgr. ☐
- ☐ Container label absent
- ☐ Chain of Custody incomplete [see detail below]
- ☐ Chain of Custody missing date/time sampled (excl. TB or Dup.)
- ☐ Date or Time sampled obtained from container label
- ☐ Chain of Custody missing sampler's name
- ☐ Chain of Custody missing matrix (sample type)
- ☐ Missing relinquished information: signature date time
- ☐ Sample excluded from Chain of Custody
- ☐ Sample listed on Chain of Custody, not received
- ☐ Sample description on container and Chain of Custody do not agree
- ☐ Air bubbles in Aqueous VOA vials larger than pea-size [approx. 6 mm]
- ☐ Cooler temperature exceeded 0.1 - 6.0 °C requirement [Do not mark if samples do not require cooling to 0.1 - 6.0 °C.]
- ☐ Broken or leaking containers (detail actions below)
- ☐ Sample container type or labeled chemical preservation inappropriate
- ☐ Other discrepancies: _____

Detail to discrepancies/comments:

Completed by: [illegible] Date Completed: 11-8-11

Continental
Analytical Services, Inc.

12/01/2011

City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date and Time Received: 11/08/2011 11:35
Continental File No.: 8339
Continental Order No.: 59799
Project ID: Stormwater

Dear Mr. Hardesty:

This laboratory report containing the samples indicated below, includes 9 pages for the analytical report, 1 page(s) for the chain of custody and/or analysis request, and 1 page(s) for the sample receipt form.

CAS LAB ID #	SAMPLE DESCRIPTION	SAMPLE TYPE	DATE SAMPLED
11110509	Maple and Cowskin - Grab	Liquid	11/7/2011
11110510	Maple and Cowskin - Composite	Liquid	11/7/2011

The Appendix and Quality Control sections are integral parts of this laboratory report and may contain important data qualifiers.

All results are reported on a wet weight basis unless otherwise stated.

Samples will be retained for thirty days unless Continental is otherwise notified.

Continental is accredited by the State of Kansas through the National Environmental Laboratory Accreditation Program (NELAP). The results contained in this report were obtained using Continental's Standard Operating Procedures. These procedures are in substantial compliance with the approved methods referenced and the standards published by NELAP unless otherwise noted in the Appendix and Quality Control sections of this report.

This report may not be reproduced, except in full, without written approval from Continental Analytical Services, Inc.

Thank you for choosing Continental for this project.

CONTINENTAL ANALYTICAL SERVICES, INC.

Clifford J. Baker
Technical Manager

Gregory J. Groene
Project Manager

525 N. Eighth St. - P.O. Box 3737 - Salina, KS 67402-3737
785-827-1273 800-535-3076 Fax 785-823-7830
KDHE Environmental Laboratory Accreditation No. E-10146

Continental Analytical Services, Inc.

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Reported: 12/01/2011
Date Received: 11/08/2011
Continental File No: 8339
Continental Order No: 59799

Lab Number: 11110509
Sample Description: Maple and Cowskin - Grab

Date Sampled: 11/07/2011
Time Sampled: 1150

Analysis	Concentration	Units	Book/Page
Cadmium, Dissolved, ICP-MS	ND(1) DM	µg/L	7202/43
Cadmium, Tot. Rec., ICP-MS	ND(1)	µg/L	7202/42
Copper, Dissolved, ICP-MS	5 DM	µg/L	7202/43
Copper, Tot. Rec., ICP-MS	14	µg/L	7202/42
Hardness (Calculated)	37.7	mg/L as CaCO3	7157/120
Zinc, Dissolved, ICP-MS	25 DM	µg/L	7202/43
Zinc, Tot. Rec., ICP-MS	162	µg/L	7202/42
Chloride	4.8	mg/L	7129/92
Solids, Total Dissolved	112	mg/L	7059/608
Solids, Total Suspended	49	mg/L	7059/607

Analysis	Date/Time Prepared	Date/Time Analyzed	QC Batch	Inst. Batch	Analyst	Method(s)
Cadmium, Dissolved, ICP-MS	11/11/11 1012	11/15/11 1745	111111-3	3IP3319	KMW	200.8 Rev. 5.4
Cadmium, Tot. Rec., ICP-MS	11/10/11 0837	11/14/11 1947	111110-2	3IP3318	KMW	200.8 Rev. 5.4
Copper, Dissolved, ICP-MS	11/11/11 1012	11/15/11 1745	111111-3	3IP3319	KMW	200.8 Rev. 5.4
Copper, Tot. Rec., ICP-MS	11/10/11 0837	11/14/11 1947	111110-2	3IP3318	KMW	200.8 Rev. 5.4
Hardness (Calculated)	11/09/11 0914	11/11/11 0246	111109-3	12IP4314	KMW	200.7 & SM 2340B
Zinc, Dissolved, ICP-MS	11/11/11 1012	11/15/11 1745	111111-3	3IP3319	KMW	200.8 Rev. 5.4
Zinc, Tot. Rec., ICP-MS	11/10/11 0837	11/14/11 1947	111110-2	3IP3318	KMW	200.8 Rev. 5.4
Chloride	N/A	11/18/11 1724	1IC1322	3IC1322	MLL	300.0
Solids, Total Dissolved	N/A	11/14/11 1643	111114-1	111114-1	KJH	SM20th 2540C
Solids, Total Suspended	N/A	11/14/11 1502	111114-2	111114-1	KJH	SM20th 2540D
Dissolved Metals Preparation Method						200.7/200.8
Total Recoverable Metals Preparation Method						200.7/200.8
Calculated as Hardness Preparation Method						200.7/6010B

Conclusion of Lab Number: 11110509

Continental Analytical Services, Inc.

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Reported: 12/01/2011
Date Received: 11/08/2011
Continental File No: 8339
Continental Order No: 59799

Lab Number: 11110510
Sample Description: Maple and Cowskin - Composite

Date Sampled: 11/07/2011
Time Sampled: 1150

Analysis	Concentration	Units	Book/Page
Cadmium, Dissolved, ICP-MS	ND(1) DM	µg/L	7202/43
Cadmium, Tot. Rec., ICP-MS	ND(1)	µg/L	7202/42
Copper, Dissolved, ICP-MS	5 DM	µg/L	7202/43
Copper, Tot. Rec., ICP-MS	13	µg/L	7202/42
Hardness (Calculated)	40.1	mg/L as CaCO3	7157/120
Zinc, Dissolved, ICP-MS	25 DM	µg/L	7202/43
Zinc, Tot. Rec., ICP-MS	167	µg/L	7202/42
BOD	13	mg/L	7060/276
Chloride	5.2	mg/L	7129/85
Kjeldahl Nitrogen, as N (TKN)	2.0	mg/L	6854/351
Nitrate, as N	0.5	mg/L	7129/85
Nitrite, as N	ND(0.1)	mg/L	7129/85
Nitrogen (TKN + NO3/NO2), as N	2.5	mg/L	9999/596
Phosphorus, Total, as P	0.23	mg/L	7061/219
Solids, Total Dissolved	106	mg/L	7059/608
Solids, Total Suspended	53	mg/L	7059/607

Analysis	Date/Time Prepared	Date/Time Analyzed	QC Batch	Inst. Batch	Analyst	Method(s)
Cadmium, Dissolved, ICP-MS	11/11/11 1012	11/15/11 1750	111111-3	3IP3319	KMW	200.8 Rev. 5.4
Cadmium, Tot. Rec., ICP-MS	11/10/11 0837	11/14/11 1952	111110-2	3IP3318	KMW	200.8 Rev. 5.4
Copper, Dissolved, ICP-MS	11/11/11 1012	11/15/11 1750	111111-3	3IP3319	KMW	200.8 Rev. 5.4
Copper, Tot. Rec., ICP-MS	11/10/11 0837	11/14/11 1952	111110-2	3IP3318	KMW	200.8 Rev. 5.4
Hardness (Calculated)	11/09/11 0914	11/11/11 0259	111109-3	13IP4314	KMW	200.7 & SM 2340B
Zinc, Dissolved, ICP-MS	11/11/11 1012	11/15/11 1750	111111-3	3IP3319	KMW	200.8 Rev. 5.4
Zinc, Tot. Rec., ICP-MS	11/10/11 0837	11/14/11 1952	111110-2	3IP3318	KMW	200.8 Rev. 5.4
BOD	N/A	11/09/11 1015	111109-1	111109-1	ASK	SM 5210B
Chloride	N/A	11/09/11 0036	1IC1312	4IC1312	MLL	300.0
Kjeldahl Nitrogen, as N (T	11/11/11 1632	11/15/11 1115	111111-1	111115-2	JND	EPA 351.2
Nitrate, as N	N/A	11/09/11 0036	1IC1312	4IC1312	MLL	300.0
Nitrite, as N	N/A	11/09/11 0036	1IC1312	4IC1312	MLL	300.0
Nitrogen (TKN + NO3/NO2),	N/A	11/17/11 1422				Calculation
Phosphorus, Total, as P	N/A	11/30/11 1710	111130-1	111130-2	KJH	SM 4500-P(B&F)(M)
Solids, Total Dissolved	N/A	11/14/11 1643	111114-1	111114-1	KJH	SM20th 2540C
Solids, Total Suspended	N/A	11/14/11 1502	111114-2	111114-1	KJH	SM20th 2540D
Dissolved Metals Preparation Method						200.7/200.8
Total Recoverable Metals Preparation Method						200.7/200.8
Calculated as Hardness Preparation Method						200.7/6010B

Conclusion of Lab Number: 11110510

Appendix

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Reported: 12/01/2011
Date Received: 11/08/2011
Continental File No: 8339
Continental Order No: 59799

ND(), where reported, indicates the analyte was not detected above the Limit of Quantitation (LOQ). The concentration of the LOQ is inside the parentheses.

All samples which require cooling were received at a temperature of less than 6 degrees Celsius.

The following table presents the date and time sampled, the date and time analyzed, and the total time elapsed for each analysis with an EPA recommended holding time of seventy-two hours or less.

CAS LAB ID #	ANALYSIS	DATE/TIME SAMPLED	DATE/TIME ANALYZED	ELAPSED HRS:MIN
11110510	BOD	11/07/2011 1150	11/09/2011 1015	46:25
11110510	Nitrate, as N	11/07/2011 1150	11/09/2011 0036	36:46
11110510	Nitrite, as N	11/07/2011 1150	11/09/2011 0036	36:46

DM - NPDES requirements specify that dissolved metals and orthophosphate must be filtered within 15 minutes of the time of collection. This analysis did not meet these criteria.

Continental
Analytical Services, Inc.

Accreditation Summary

Client: City of Wichita
Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Reported: 12/01/2011
Date Received: 11/08/2011
Continental File No: 8339
Continental Order No: 59799

NELAP accreditation is issued under each EPA regulatory program for a given matrix/analyte/method combination. Continental is NELAP accredited for each matrix/analyte/method and EPA program cited in this Laboratory Report, except for those listed in the table below and analysis performed in the field. For most of the analyses listed in the table, NELAP accreditation is not offered under the listed EPA program and Continental is NELAP accredited for the analysis, using the same analytical technology, but under a different EPA program. Continental's full NELAP accreditation status may be viewed at www.kdheks.gov/envlab. Note that unless qualified otherwise in the Laboratory Report, Continental performs all analyses, including each analysis listed in the table below, utilizing NELAP protocol.

Test	Analysis	Matrix-Regulatory Program	Method	CAS NELAP Accredited in Other Reg. Program
GL343	Nitrogen (TKN + NO3/NO2), as N	L-NPDES	Calculation	N

Continental Analytical Services, Inc.

Quality Control Report
Batch Summary

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Reported: 12/01/2011
Date Received: 11/08/2011
Continental File No: 8339
Continental Order No: 59799

Test	Testname	QC Batch	Method Blank	LCS	MS Lab No.
SL323	Hardness (Calculated)	111109-3	111109BLK3	111109LCS3	11110496MS
Lab numbers associated with this batch: 11110509 11110510					
SL006	Cadmium, Tot. Rec., ICP-MS	111110-2	111110BLK2	111110LCS2	11110506MS
SL012	Copper, Tot. Rec., ICP-MS	111110-2	111110BLK2	111110LCS2	11110506MS
SL033	Zinc, Tot. Rec., ICP-MS	111110-2	111110BLK2	111110LCS2	11110506MS
Lab numbers associated with this batch: 11110509 11110510					
SL156	Cadmium, Dissolved, ICP-MS	111111-3	111111BLK3	111111LCS3	11110500MS
SL162	Copper, Dissolved, ICP-MS	111111-3	111111BLK3	111111LCS3	11110500MS
SL183	Zinc, Dissolved, ICP-MS	111111-3	111111BLK3	111111LCS3	11110500MS
Lab numbers associated with this batch: 11110509 11110510					
GL123	BOD	111109-1	111109BLK1	111109LCS1	11110446MS
Lab numbers associated with this batch: 11110510					
GL502	Chloride	1IC1312	BLK1IC1312	LCS1IC1312	11102140MS
Lab numbers associated with this batch: 11110510					
GL502	Chloride	1IC1322	BLK1IC1322	LCS1IC1322	11111686MS
Lab numbers associated with this batch: 11110509					
GL595	Kjeldahl Nitrogen, as N (TKN)	111111-1	111111BLK1	111111LCS1	11110769MS
Lab numbers associated with this batch: 11110510					
GL505	Nitrate, as N	1IC1312	BLK1IC1312	LCS1IC1312	
GL503	Nitrite, as N	1IC1312	BLK1IC1312	LCS1IC1312	
Lab numbers associated with this batch: 11110510					
GL343	Nitrogen (TKN + NO3/NO2), as N				
Lab numbers associated with this batch: 11110510					

Continental Analytical Services, Inc.

Quality Control Report
Batch Summary

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Reported: 12/01/2011
Date Received: 11/08/2011
Continental File No: 8339
Continental Order No: 59799

Test	Testname	QC Batch	Method Blank	LCS	MS Lab No.
GL218	Phosphorus, Total, as P	111130-1	111130BLK1	111130LCS1	11110500MS
Lab numbers associated with this batch: 11110510					
GL242	Solids, Total Dissolved	111114-1	111114BLK1	111114LCS1	11110521MS
Lab numbers associated with this batch: 11110509 11110510					
GL243	Solids, Total Suspended	111114-2	111114BLK2	111114LCS2	11110526MS
Lab numbers associated with this batch: 11110509 11110510					

Continental Analytical Services, Inc.

Quality Control Report
Method Blank, LCS, MS/MSD Data

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Reported: 12/01/2011
Date Received: 11/08/2011
Continental File No: 8339
Continental Order No: 59799

Analysis	Blank Data	% Rec LCS	Limits	Spike Level	Units	Spiked Sample (% Recovery) MS	MSD	Limits	Spike Level	Units	Spiked Sample Precision Data RPD	Limit
QC Batch: 111109-1	For sample analyzed on: 11/09/2011					Spiked sample: 11110446						
BOD	ND(5)	98.9	70.5-110	198	mg/L	MN	MN	#		mg/L	**	13.2
QC Batch: 111109-3	For samples prepared on: 11/09/2011					Spiked sample: 11110496						
Hardness (Calculated)	ND(5.0)	105	80.0-120	337	mg/L a	MN	MN	80.0-120	337	mg/L as	**	20.0
QC Batch: 111110-2	For samples prepared on: 11/10/2011					Spiked sample: 11110506						
Cadmium, Tot. Rec., ICP-MS	ND(1)	95.8	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
Copper, Tot. Rec., ICP-MS	ND(5)	91.8	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
Zinc, Tot. Rec., ICP-MS	ND(20)	102	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
QC Batch: 111111-1	For samples prepared on: 11/11/2011					Spiked sample: 11110769						
Kjeldahl Nitrogen, as N (TKN)	ND(1.0)	111	#	4.0	mg/L	MN	MN	#	20.0	mg/L	**	#
QC Batch: 111111-3	For samples prepared on: 11/11/2011					Spiked sample: 11110900						
Cadmium, Dissolved, ICP-MS	ND(1)	96.9	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
Copper, Dissolved, ICP-MS	ND(5)	89.4	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
Zinc, Dissolved, ICP-MS	ND(20)	99.3	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
QC Batch: 111114-1	For sample analyzed on: 11/14/2011					Spiked sample: 11110521						
Solids, Total Dissolved	ND(30)	N/A			mg/L	MN	MN	#		mg/L	**	5.2
QC Batch: 111114-2	For sample analyzed on: 11/14/2011					Spiked sample: 11110526						
Solids, Total Suspended	ND(5)	N/A			mg/L	MN	MN	#		mg/L	**	18.2
QC Batch: 111130-1	For sample analyzed on: 11/30/2011					Spiked sample: 11110500						
Phosphorus, Total, as P	ND(0.20)	98.3	90.0-110	2.0	mg/L	MN	MN	71.2-135	2.0	mg/L	**	21.2
QC Batch: 1IC1312	For sample analyzed on: 11/08/2011					Spiked sample:						
Nitrite, as N	ND(0.1)	107	90.0-110	2.0	mg/L	MN	MN	78.5-127			**	10.1
Nitrate, as N	ND(0.1)	103	90.0-110	2.0	mg/L	MN	MN	79.3-118			**	12.1
QC Batch: 1IC1312	For sample analyzed on: 11/08/2011					Spiked sample: 11102140						
Chloride	ND(1.0)	104	90.0-110	4.0	mg/L	MN	MN	82.1-126	400	mg/L	**	12.5
QC Batch: 1IC1322	For sample analyzed on: 11/18/2011					Spiked sample: 11111686						
Chloride	ND(1.0)	94.1	90.0-110	4.0	mg/L	MN	MN	82.1-126	40.0	mg/L	**	12.5

Data Qualifiers:

MN - The MS/MSD sample analyses were not performed on a sample from this Continental order number.

N/A - Not Applicable

- Limits not available.

** - RPD cannot be calculated.

Continental Analytical Services, Inc.

Quality Control Report
Continuing Calibration Data Summary

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Reported: 12/01/2011
Date Received: 11/08/2011
Continental File No: 8339
Continental Order No: 59799

Analysis	Date of Analysis	Instrument Batch ID	Amount in Standard	Amount Detected	Units	Percent Recovery
Cadmium, Tot. Rec., ICP-MS	11/14/2011	3IP3318	CCV recovery acceptable for this Instrument Batch.			
Cadmium, Dissolved, ICP-MS	11/15/2011	3IP3319	CCV recovery acceptable for this Instrument Batch.			
Cadmium, Tot. Rec., ICP-MS	11/14/2011	4IP3318	CCV recovery acceptable for this Instrument Batch.			
Cadmium, Dissolved, ICP-MS	11/15/2011	4IP3319	CCV recovery acceptable for this Instrument Batch.			
Copper, Tot. Rec., ICP-MS	11/14/2011	3IP3318	CCV recovery acceptable for this Instrument Batch.			
Copper, Dissolved, ICP-MS	11/15/2011	3IP3319	CCV recovery acceptable for this Instrument Batch.			
Copper, Tot. Rec., ICP-MS	11/14/2011	4IP3318	CCV recovery acceptable for this Instrument Batch.			
Copper, Dissolved, ICP-MS	11/15/2011	4IP3319	CCV recovery acceptable for this Instrument Batch.			
BOD	11/09/2011	111109-1	CCV recovery acceptable for this Instrument Batch.			
BOD	11/09/2011	111109-2	CCV recovery acceptable for this Instrument Batch.			
Phosphorus, Total, as P	11/30/2011	111130-2	CCV recovery acceptable for this Instrument Batch.			
Phosphorus, Total, as P	11/30/2011	111130-3	CCV recovery acceptable for this Instrument Batch.			
Chloride	11/08/2011	4IC1312	CCV recovery acceptable for this Instrument Batch.			
Chloride	11/09/2011	5IC1312	CCV recovery acceptable for this Instrument Batch.			
Chloride	11/18/2011	3IC1322	CCV recovery acceptable for this Instrument Batch.			
Chloride	11/18/2011	4IC1322	CCV recovery acceptable for this Instrument Batch.			
Nitrite, as N	11/08/2011	4IC1312	CCV recovery acceptable for this Instrument Batch.			
Nitrite, as N	11/09/2011	5IC1312	CCV recovery acceptable for this Instrument Batch.			
Nitrate, as N	11/08/2011	4IC1312	CCV recovery acceptable for this Instrument Batch.			
Nitrate, as N	11/09/2011	5IC1312	CCV recovery acceptable for this Instrument Batch.			
Kjeldahl Nitrogen, as N (TKN)	11/15/2011	111115-2	CCV recovery acceptable for this Instrument Batch.			
Kjeldahl Nitrogen, as N (TKN)	11/15/2011	111115-3	CCV recovery acceptable for this Instrument Batch.			
Hardness (Calculated)	11/11/2011	12IP4314	CCV recovery acceptable for this Instrument Batch.			
Hardness (Calculated)	11/11/2011	13IP4314	CCV recovery acceptable for this Instrument Batch.			
Hardness (Calculated)	11/11/2011	14IP4314	CCV recovery acceptable for this Instrument Batch.			
Zinc, Tot. Rec., ICP-MS	11/14/2011	3IP3318	CCV recovery acceptable for this Instrument Batch.			
Zinc, Dissolved, ICP-MS	11/15/2011	3IP3319	CCV recovery acceptable for this Instrument Batch.			
Zinc, Tot. Rec., ICP-MS	11/14/2011	4IP3318	CCV recovery acceptable for this Instrument Batch.			
Zinc, Dissolved, ICP-MS	11/15/2011	4IP3319	CCV recovery acceptable for this Instrument Batch.			

- Laboratory Report Conclusion -

CAS ORDER NO. 59 M4

Continental Analytical Services, Inc.

525 N. 8th Street, Salina, KS 67401
(785)827-1273 (800)535-3076 Fax (785)823-7830
www.cas-lab.com

CHAIN OF CUSTODY RECORD

Continental Shipping Order Number: _____

Client/Reporting Information	Invoice Information
Company Name: City of Wichita Storm Water Management	Company Name: City of Wichita Storm Water Management
Address: City Hall, 8th Floor, 455 N. Main	Address: City Hall, 8th Floor, 455 N. Main
City: Wichita State: KS Zip: 67202	City: Wichita State: KS Zip: 67202
Contact: Jim Hardesty E-mail: Jhardesty@wichita.gov	Contact: Jim Hardesty E-mail: Jhardesty@wichita.gov
Phone Number: (316)268-8317 Fax Number: (316)858-7889	Phone Number: (316)268-8317 Fax Number: (316)858-7889

Sampler's Name (Printed): Justin Marsh
Sampler's Name (Signature): [signature]
Purchase Order Number:
File Number: 8339
Project Name: Stormwater

SAMPLE IDENTIFICATION (30 Characters or less)	Matrix (Sample Type)	Regulatory Program	Date Sampled	Time Sampled	C-Composite G-Grab	Total Containers	Number of Preserved Bottles: HCL	NaOH	HNO3	H2SO4	NONE	OTHER	Cadmium, Copper, Zinc - Total Recoverable 250ml Plastic - HNO3	Hardness, TSS TDS, Cl, Diss. - Cd, Cu, Zn 1000ml Plastic - None	Total Metals, Dissolved Metals, Hardness, TSS, TDS, Cl, BOD, TKN, Total P, NO3, NO2, Tot. Nitrogen Large Carboy						COMMENTS
Maple and Cowskin-Grab	WW	N	11/7/11	1150	G	2			1		1		X	X							
Maple and Cowskin-Composite	WW	N	11/7/11	1150	C	1					1				X						5 Gal. Container to be poured off at lab
																					as needed for required tests.
																					Remaining volume will be saved for
																					for organics if needed.

Regulatory Program: N=NPDES, R=RCRA, D=Drinking Water, SL=503 Sludge, O=Other

(Please note if non-standard turnaround. Rush & Emergency subject to additional charge)
Standard TAT (15 working days) Rush TAT (5 working days) Emergency TAT (3 working days)

Matrix (Sample Type): DW=Drinking Water, GW=Ground Water, WW=Waste Water, W=Wipe, S=Solid/Soil, SL=Sludge, A=Air, OL=Oil/Organic Liquid, O=Other

RELINQUISHED BY [signature]	DATE 11/8/11	TIME 0830	RECEIVED BY [signature]	DATE 11/8/11	TIME 0940
RELINQUISHED BY [signature]	DATE 11/8/11	TIME 11:35	RECEIVED BY	DATE	TIME
RECEIVED AT LAB BY [signature]	DATE 11/8/11	TIME 1135	SHIPPED VIA: AIRBILL:	SEAL #: SEAL DATE:	

Continental's Standard Terms and Conditions of Sale will apply to all samples received unless a separate contractual agreement has been made.

Continental Analytical Services, Inc.
Cooler/Sample Receipt Form (C/S RF)

CAS Order No.: 59799

Client Name: W. Chity

CAS File No.: 8339

Sample ID's in cooler: Sri coc

Cowskin Sample

Cooler 1 of 1 for this CAS Order No.

Cooler Identification: CAS Cooler #: _____ / Client's Cooler / Box / Letter / Hand-delivered
Other: _____

Date/Time Cooler Received: 11 / 8 / 11 11 :38

Delivered By: UPS / FedX / AB Express / Field Svcs / Mail / Walk-In / (Other): CJ

Custody Seal: Present: Intact / Broken Absent: X Seal No: _____

Seal Name: _____ Seal Date: _____

Seal matches Chain of Custody: Yes / No / (N/A)

Type of Packing Material: Blue Ice / (Ice) / Melted Ice / Bubble / Foam / Paper / Peanuts / Vermiculite / None / Other: _____

Cooler Temperature (°C): Original Reading (°C) 1.2 Corrected Reading (°C) 1.6

Temp. By: (Temp. Blank) Cooler Surface: Glass / Plastic /Metal /Other: _____

Thermo. ID No.: 585 Thermo. Correction Factor (°C): 0.4

☐ Evidence of Cooling and date received = date sampled

Sample Receipt Discrepancies: ☑ No ☐ Yes (See below for discrepancies.)

Note: If discrepancies are present, CAS will proceed with analyses until/unless directed otherwise by the client.

- ☐ Chain of Custody not present - information taken from:
  - Cover Letter ☐ Container ☐
  - PO ☐ CAS Proj. Mgr. ☐
- ☐ Container label absent
- ☐ Chain of Custody incomplete [see detail below]
- ☐ Chain of Custody missing date/time sampled (excl. TB or Dup.)
- ☐ Date or Time sampled obtained from container label
- ☐ Chain of Custody missing sampler's name
- ☐ Chain of Custody missing matrix (sample type)
- ☐ Missing relinquished information: signature date time
- ☐ Sample excluded from Chain of Custody
- ☐ Sample listed on Chain of Custody, not received
- ☐ Sample description on container and Chain of Custody do not agree
- ☐ Air bubbles in Aqueous VOA vials larger than pea-size [approx. 6 mm]
- ☐ Cooler temperature exceeded 0.1 - 6.0 °C requirement [Do not mark if samples do not require cooling to 0.1 - 6.0 °C.]
- ☐ Broken or leaking containers (detail actions below)
- ☐ Sample container type or labeled chemical preservation inappropriate
- ☐ Other discrepancies: _____

Detail to discrepancies/comments:

Completed by: MWY Date Completed: 11-8-11

Continental Analytical Services, Inc.

12/01/2011

City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date and Time Received: 11/08/2011 11:35
Continental File No.: 8339
Continental Order No.: 59798
Project ID: Stormwater

Dear Mr. Hardesty:

This laboratory report containing the samples indicated below, includes 9 pages for the analytical report, 1 page(s) for the chain of custody and/or analysis request, and 1 page(s) for the sample receipt form.

CAS LAB ID #	SAMPLE DESCRIPTION	SAMPLE TYPE	DATE SAMPLED
11110507	13th and River - Grab	Liquid	11/7/2011
11110508	13th and River - Composite	Liquid	11/7/2011

The Appendix and Quality Control sections are integral parts of this laboratory report and may contain important data qualifiers.

All results are reported on a wet weight basis unless otherwise stated.

Samples will be retained for thirty days unless Continental is otherwise notified.

Continental is accredited by the State of Kansas through the National Environmental Laboratory Accreditation Program (NELAP). The results contained in this report were obtained using Continental's Standard Operating Procedures. These procedures are in substantial compliance with the approved methods referenced and the standards published by NELAP unless otherwise noted in the Appendix and Quality Control sections of this report.

This report may not be reproduced, except in full, without written approval from Continental Analytical Services, Inc.

Thank you for choosing Continental for this project.

CONTINENTAL ANALYTICAL SERVICES, INC.

Clifford J. Baker
Technical Manager

Gregory J. Groene
Project Manager

525 N. Eighth St. - P.O. Box 3737 - Salina, KS 67402-3737
785-827-1273 800-535-3076 Fax 785-823-7830
KDHE Environmental Laboratory Accreditation No. E-10146

Continental Analytical Services, Inc.

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Reported: 12/01/2011
Date Received: 11/08/2011
Continental File No: 8339
Continental Order No: 59798

Lab Number: 11110507
Sample Description: 13th and River - Grab

Date Sampled: 11/07/2011
Time Sampled: 1225

Analysis	Concentration	Units	Book/Page
Cadmium, Dissolved, ICP-MS	ND(1) DM	µg/L	7202/43
Cadmium, Tot. Rec., ICP-MS	ND(1)	µg/L	7202/42
Copper, Dissolved, ICP-MS	8 DM	µg/L	7202/43
Copper, Tot. Rec., ICP-MS	9	µg/L	7202/42
Hardness (Calculated)	44.0	mg/L as CaCO3	7157/120
Zinc, Dissolved, ICP-MS	34 DM	µg/L	7202/43
Zinc, Tot. Rec., ICP-MS	57	µg/L	7202/42
Chloride	11.4	mg/L	7129/92
Solids, Total Dissolved	124	mg/L	7059/608
Solids, Total Suspended	26	mg/L	7059/607

Analysis	Date/Time Prepared	Date/Time Analyzed	QC Batch	Inst. Batch	Analyst	Method(s)
Cadmium, Dissolved, ICP-MS	11/11/11 1012	11/15/11 1734	111111-3	3IP3319	KMW	200.8 Rev. 5.4
Cadmium, Tot. Rec., ICP-MS	11/10/11 0837	11/14/11 1936	111110-2	3IP3318	KMW	200.8 Rev. 5.4
Copper, Dissolved, ICP-MS	11/11/11 1012	11/15/11 1734	111111-3	3IP3319	KMW	200.8 Rev. 5.4
Copper, Tot. Rec., ICP-MS	11/10/11 0837	11/14/11 1936	111110-2	3IP3318	KMW	200.8 Rev. 5.4
Hardness (Calculated)	11/09/11 0914	11/11/11 0237	111109-3	12IP4314	KMW	200.7 & SM 2340B
Zinc, Dissolved, ICP-MS	11/11/11 1012	11/15/11 1734	111111-3	3IP3319	KMW	200.8 Rev. 5.4
Zinc, Tot. Rec., ICP-MS	11/10/11 0837	11/14/11 1936	111110-2	3IP3318	KMW	200.8 Rev. 5.4
Chloride	N/A	11/18/11 1711	1IC1322	3IC1322	MLL	300.0
Solids, Total Dissolved	N/A	11/14/11 1642	111114-1	111114-1	KJH	SM20th 2540C
Solids, Total Suspended	N/A	11/14/11 1501	111114-2	111114-1	KJH	SM20th 2540D
Dissolved Metals Preparation Method						200.7/200.8
Total Recoverable Metals Preparation Method						200.7/200.8
Calculated as Hardness Preparation Method						200.7/6010B

Conclusion of Lab Number: 11110507

Continental Analytical Services, Inc.

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Reported: 12/01/2011
Date Received: 11/08/2011
Continental File No: 8339
Continental Order No: 59798

Lab Number: 11110508
Sample Description: 13th and River - Composite

Date Sampled: 11/07/2011
Time Sampled: 1225

Analysis	Concentration	Units	Book/Page
Cadmium, Dissolved, ICP-MS	ND(1) DM	µg/L	7202/43
Cadmium, Tot. Rec., ICP-MS	ND(1)	µg/L	7202/42
Copper, Dissolved, ICP-MS	7 DM	µg/L	7202/43
Copper, Tot. Rec., ICP-MS	9	µg/L	7202/42
Hardness (Calculated)	46.7	mg/L as CaCO3	7157/120
Zinc, Dissolved, ICP-MS	35 DM	µg/L	7202/43
Zinc, Tot. Rec., ICP-MS	66	µg/L	7202/42
BOD	62	mg/L	7060/277
Chloride	11.3	mg/L	7129/85
Kjeldahl Nitrogen, as N (TKN)	2.7	mg/L	6854/351
Nitrate, as N	0.5	mg/L	7129/85
Nitrite, as N	ND(0.1)	mg/L	7129/85
Nitrogen (TKN + NO3/NO2), as N	3.2	mg/L	9999/596
Phosphorus, Total, as P	0.71	mg/L	7061/219
Solids, Total Dissolved	110.	mg/L	7059/608
Solids, Total Suspended	41	mg/L	7059/607

Analysis	Date/Time Prepared	Date/Time Analyzed	QC Batch	Inst. Batch	Analyst	Method(s)
Cadmium, Dissolved, ICP-MS	11/11/11 1012	11/15/11 1739	111111-3	3IP3319	KMW	200.8 Rev. 5.4
Cadmium, Tot. Rec., ICP-MS	11/10/11 0837	11/14/11 1941	111110-2	3IP3318	KMW	200.8 Rev. 5.4
Copper, Dissolved, ICP-MS	11/11/11 1012	11/15/11 1739	111111-3	3IP3319	KMW	200.8 Rev. 5.4
Copper, Tot. Rec., ICP-MS	11/10/11 0837	11/14/11 1941	111110-2	3IP3318	KMW	200.8 Rev. 5.4
Hardness (Calculated)	11/09/11 0914	11/11/11 0242	111109-3	12IP4314	KMW	200.7 & SM 2340B
Zinc, Dissolved, ICP-MS	11/11/11 1012	11/15/11 1739	111111-3	3IP3319	KMW	200.8 Rev. 5.4
Zinc, Tot. Rec., ICP-MS	11/10/11 0837	11/14/11 1941	111110-2	3IP3318	KMW	200.8 Rev. 5.4
BOD	N/A	11/09/11 1110	111109-2	111109-4	ASK	SM 5210B
Chloride	N/A	11/09/11 0010	1IC1312	4IC1312	MLL	300.0
Kjeldahl Nitrogen, as N (T	11/11/11 1632	11/15/11 1113	111111-1	111115-2	JND	EPA 351.2
Nitrate, as N	N/A	11/09/11 0010	1IC1312	4IC1312	MLL	300.0
Nitrite, as N	N/A	11/09/11 0010	1IC1312	4IC1312	MLL	300.0
Nitrogen (TKN + NO3/NO2),	N/A	11/17/11 1422				Calculation
Phosphorus, Total, as P	N/A	11/30/11 1709	111130-1	111130-2	KJH	SM 4500-P(B&F)(M)
Solids, Total Dissolved	N/A	11/14/11 1642	111114-1	111114-1	KJH	SM20th 2540C
Solids, Total Suspended	N/A	11/14/11 1502	111114-2	111114-1	KJH	SM20th 2540D
Dissolved Metals Preparation Method						200.7/200.8
Total Recoverable Metals Preparation Method						200.7/200.8
Calculated as Hardness Preparation Method						200.7/6010B

Conclusion of Lab Number: 11110508

Appendix

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Reported: 12/01/2011
Date Received: 11/08/2011
Continental File No: 8339
Continental Order No: 59798

ND(), where reported, indicates the analyte was not detected above the Limit of Quantitation (LOQ). The concentration of the LOQ is inside the parentheses.

All samples which require cooling were received at a temperature of less than 6 degrees Celsius.

The following table presents the date and time sampled, the date and time analyzed, and the total time elapsed for each analysis with an EPA recommended holding time of seventy-two hours or less.

CAS LAB ID #	ANALYSIS	DATE/TIME SAMPLED	DATE/TIME ANALYZED	ELAPSED HRS:MIN
11110508	BOD	11/07/2011 1225	11/09/2011 1110	46:45
11110508	Nitrate, as N	11/07/2011 1225	11/09/2011 0010	35:45
11110508	Nitrite, as N	11/07/2011 1225	11/09/2011 0010	35:45

DM - NPDES requirements specify that dissolved metals and orthophosphate must be filtered within 15 minutes of the time of collection. This analysis did not meet these criteria.

Continental Analytical Services, Inc.

Accreditation Summary

Client: City of Wichita
Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Reported: 12/01/2011
Date Received: 11/08/2011
Continental File No: 8339
Continental Order No: 59798

NELAP accreditation is issued under each EPA regulatory program for a given matrix/analyte/method combination. Continental is NELAP accredited for each matrix/analyte/method and EPA program cited in this Laboratory Report, except for those listed in the table below and analysis performed in the field. For most of the analyses listed in the table, NELAP accreditation is not offered under the listed EPA program and Continental is NELAP accredited for the analysis, using the same analytical technology, but under a different EPA program. Continental's full NELAP accreditation status may be viewed at www.kdheks.gov/envlab. Note that unless qualified otherwise in the Laboratory Report, Continental performs all analyses, including each analysis listed in the table below, utilizing NELAP protocol.

Test	Analysis	Matrix-Regulatory Program	Method	CAS NELAP Accredited in Other Reg. Program
GL343	Nitrogen (TKN + NO3/NO2), as N	L-NPDES	Calculation	N

Continental Analytical Services, Inc.

Quality Control Report
Batch Summary

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Reported: 12/01/2011
Date Received: 11/08/2011
Continental File No: 8339
Continental Order No: 59798

Test	Testname	QC Batch	Method Blank	LCS	MS Lab No.
SL323	Hardness (Calculated)	111109-3	111109BLK3	111109LCS3	11110496MS
Lab numbers associated with this batch: 11110507 11110508					
SL006	Cadmium, Tot. Rec., ICP-MS	111110-2	111110BLK2	111110LCS2	11110506MS
SL012	Copper, Tot. Rec., ICP-MS	111110-2	111110BLK2	111110LCS2	11110506MS
SL033	Zinc, Tot. Rec., ICP-MS	111110-2	111110BLK2	111110LCS2	11110506MS
Lab numbers associated with this batch: 11110507 11110508					
SL156	Cadmium, Dissolved, ICP-MS	111111-3	111111BLK3	111111LCS3	11110500MS
SL162	Copper, Dissolved, ICP-MS	111111-3	111111BLK3	111111LCS3	11110500MS
SL183	Zinc, Dissolved, ICP-MS	111111-3	111111BLK3	111111LCS3	11110500MS
Lab numbers associated with this batch: 11110507 11110508					
GL123	BOD	111109-2	111109BLK2	111109LCS2	11110413MS
Lab numbers associated with this batch: 11110508					
GL502	Chloride	1IC1312	BLK1IC1312	LCS1IC1312	11102140MS
Lab numbers associated with this batch: 11110508					
GL502	Chloride	1IC1322	BLK1IC1322	LCS1IC1322	11111686MS
Lab numbers associated with this batch: 11110507					
GL595	Kjeldahl Nitrogen, as N (TKN)	111111-1	111111BLK1	111111LCS1	11110769MS
Lab numbers associated with this batch: 11110508					
GL505	Nitrate, as N	1IC1312	BLK1IC1312	LCS1IC1312	
GL503	Nitrite, as N	1IC1312	BLK1IC1312	LCS1IC1312	
Lab numbers associated with this batch: 11110508					
GL343	Nitrogen (TKN + NO3/NO2), as N				
Lab numbers associated with this batch: 11110508					

Continental Analytical Services, Inc.

Quality Control Report
Batch Summary

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Reported: 12/01/2011
Date Received: 11/08/2011
Continental File No: 8339
Continental Order No: 59798

Test	Testname	QC Batch	Method Blank	LCS	MS Lab No.
GL218	Phosphorus, Total, as P	111130-1	111130BLK1	111130LCS1	11110500MS
Lab numbers associated with this batch: 11110508					
GL242	Solids, Total Dissolved	111114-1	111114BLK1	111114LCS1	11110521MS
Lab numbers associated with this batch: 11110507 11110508					
GL243	Solids, Total Suspended	111114-2	111114BLK2	111114LCS2	11110526MS
Lab numbers associated with this batch: 11110507 11110508					

Continental Analytical Services, Inc.

Quality Control Report
Method Blank, LCS, MS/MSD Data

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Reported: 12/01/2011
Date Received: 11/08/2011
Continental File No: 8339
Continental Order No: 59798

Analysis	Blank Data	% Rec LCS	Limits	Spike Level	Units	Spiked Sample (% Recovery) MS	MSD	Limits	Spike Level	Units	Spiked Sample Precision Data RPD	Limit
QC Batch: 111109-2	For sample analyzed on: 11/09/2011					Spiked sample: 11110413						
BOD	ND(5)	93.1	70.5-110	198	mg/L	MN	MN	#		mg/L	**	13.2
QC Batch: 111109-3	For samples prepared on: 11/09/2011					Spiked sample: 11110496						
Hardness (Calculated)	ND(5.0)	105	80.0-120	337	mg/L a	MN	MN	80.0-120	337	mg/L as	**	20.0
QC Batch: 111110-2	For samples prepared on: 11/10/2011					Spiked sample: 11110506						
Cadmium, Tot. Rec., ICP-MS	ND(1)	95.8	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
Copper, Tot. Rec., ICP-MS	ND(5)	91.8	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
Zinc, Tot. Rec., ICP-MS	ND(20)	102	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
QC Batch: 111111-1	For samples prepared on: 11/11/2011					Spiked sample: 11110769						
Kjeldahl Nitrogen, as N (TKN)	ND(1.0)	111	#	4.0	mg/L	MN	MN	#	20.0	mg/L	**	#
QC Batch: 111111-3	For samples prepared on: 11/11/2011					Spiked sample: 11110500						
Cadmium, Dissolved, ICP-MS	ND(1)	96.9	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
Copper, Dissolved, ICP-MS	ND(5)	89.4	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
Zinc, Dissolved, ICP-MS	ND(20)	99.3	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
QC Batch: 111114-1	For sample analyzed on: 11/14/2011					Spiked sample: 11110521						
Solids, Total Dissolved	ND(30)	N/A			mg/L	MN	MN	#		mg/L	**	5.2
QC Batch: 111114-2	For sample analyzed on: 11/14/2011					Spiked sample: 11110526						
Solids, Total Suspended	ND(5)	N/A			mg/L	MN	MN	#		mg/L	**	18.2
QC Batch: 111130-1	For sample analyzed on: 11/30/2011					Spiked sample: 11110500						
Phosphorus, Total, as P	ND(0.20)	98.3	90.0-110	2.0	mg/L	MN	MN	71.2-135	2.0	mg/L	**	21.2
QC Batch: 1IC1312	For sample analyzed on: 11/08/2011					Spiked sample:						
Nitrite, as N	ND(0.1)	107	90.0-110	2.0	mg/L	MN	MN	78.5-127			**	10.1
Nitrate, as N	ND(0.1)	103	90.0-110	2.0	mg/L	MN	MN	79.3-118			**	12.1
QC Batch: 1IC1312	For sample analyzed on: 11/08/2011					Spiked sample: 11102140						
Chloride	ND(1.0)	104	90.0-110	4.0	mg/L	MN	MN	82.1-126	400	mg/L	**	12.5
QC Batch: 1IC1322	For sample analyzed on: 11/18/2011					Spiked sample: 11111686						
Chloride	ND(1.0)	94.1	90.0-110	4.0	mg/L	MN	MN	82.1-126	40.0	mg/L	**	12.5

Data Qualifiers:

MN - The MS/MSD sample analyses were not performed on a sample from this Continental order number.

N/A - Not Applicable

- Limits not available.

** - RPD cannot be calculated.

Continental Analytical Services, Inc.

Quality Control Report
Continuing Calibration Data Summary

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Reported: 12/01/2011
Date Received: 11/08/2011
Continental File No: 8339
Continental Order No: 59798

Analysis	Date of Analysis	Instrument Batch ID	Amount in Standard	Amount Detected	Units	Percent Recovery
Cadmium, Tot. Rec., ICP-MS	11/14/2011	3IP3318	CCV recovery acceptable for this Instrument Batch.			
Cadmium, Dissolved, ICP-MS	11/15/2011	3IP3319	CCV recovery acceptable for this Instrument Batch.			
Cadmium, Tot. Rec., ICP-MS	11/14/2011	4IP3318	CCV recovery acceptable for this Instrument Batch.			
Cadmium, Dissolved, ICP-MS	11/15/2011	4IP3319	CCV recovery acceptable for this Instrument Batch.			
Copper, Tot. Rec., ICP-MS	11/14/2011	3IP3318	CCV recovery acceptable for this Instrument Batch.			
Copper, Dissolved, ICP-MS	11/15/2011	3IP3319	CCV recovery acceptable for this Instrument Batch.			
Copper, Tot. Rec., ICP-MS	11/14/2011	4IP3318	CCV recovery acceptable for this Instrument Batch.			
Copper, Dissolved, ICP-MS	11/15/2011	4IP3319	CCV recovery acceptable for this Instrument Batch.			
BOD	11/09/2011	111109-4	CCV recovery acceptable for this Instrument Batch.			
BOD	11/09/2011	111109-5	CCV recovery acceptable for this Instrument Batch.			
Phosphorus, Total, as P	11/30/2011	111130-2	CCV recovery acceptable for this Instrument Batch.			
Phosphorus, Total, as P	11/30/2011	111130-3	CCV recovery acceptable for this Instrument Batch.			
Chloride	11/08/2011	4IC1312	CCV recovery acceptable for this Instrument Batch.			
Chloride	11/09/2011	5IC1312	CCV recovery acceptable for this Instrument Batch.			
Chloride	11/18/2011	3IC1322	CCV recovery acceptable for this Instrument Batch.			
Chloride	11/18/2011	4IC1322	CCV recovery acceptable for this Instrument Batch.			
Nitrite, as N	11/08/2011	4IC1312	CCV recovery acceptable for this Instrument Batch.			
Nitrite, as N	11/09/2011	5IC1312	CCV recovery acceptable for this Instrument Batch.			
Nitrate, as N	11/08/2011	4IC1312	CCV recovery acceptable for this Instrument Batch.			
Nitrate, as N	11/09/2011	5IC1312	CCV recovery acceptable for this Instrument Batch.			
Kjeldahl Nitrogen, as N (TKN)	11/15/2011	111115-2	CCV recovery acceptable for this Instrument Batch.			
Kjeldahl Nitrogen, as N (TKN)	11/15/2011	111115-3	CCV recovery acceptable for this Instrument Batch.			
Hardness (Calculated)	11/11/2011	12IP4314	CCV recovery acceptable for this Instrument Batch.			
Hardness (Calculated)	11/11/2011	13IP4314	CCV recovery acceptable for this Instrument Batch.			
Zinc, Tot. Rec., ICP-MS	11/14/2011	3IP3318	CCV recovery acceptable for this Instrument Batch.			
Zinc, Dissolved, ICP-MS	11/15/2011	3IP3319	CCV recovery acceptable for this Instrument Batch.			
Zinc, Tot. Rec., ICP-MS	11/14/2011	4IP3318	CCV recovery acceptable for this Instrument Batch.			
Zinc, Dissolved, ICP-MS	11/15/2011	4IP3319	CCV recovery acceptable for this Instrument Batch.			

- Laboratory Report Conclusion -

CAS ORDER NO. 59798

Continental Analytical Services, Inc.

525 N. 8th Street, Salina, KS 67401
(785)827-1273 (800)535-3076 Fax (785)823-7830
www.cas-lab.com

CHAIN OF CUSTODY RECORD

Continental Shipping Order Number: _____

Client/Reporting Information			Invoice Information		
Company Name: City of Wichita Storm Water Management			Company Name: City of Wichita Storm Water Management		
Address: City Hall, 8th Floor, 455 N. Main			Address: City Hall, 8th Floor, 455 N. Main		
City: Wichita	State: KS	Zip: 67202	City: Wichita	State: KS	Zip: 67202
Contact: Jim Hardesty	E-mail: Jhardesty@wichita.gov		Contact: Jim Hardesty	E-mail: Jhardesty@wichita.gov	
Phone Number: (316)268-8317	Fax Number: (316)858-7889		Phone Number: (316)268-8317	Fax Number: (316)858-7889	

Sampler's Name:(Printed): Justin Murphy
Sampler's Name:(Signature): [signature]
Purchase Order Number:
File Number: 8339
Project Name: Stormwater

SAMPLE IDENTIFICATION (30 Characters or less)	Matrix (Sample Type)	Regulatory Program	Date Sampled	Time Sampled	C-Composite G-Grab	Total Containers	Number of Preserved Bottles: HCL	NaOH	HNO3	H2SO4	NONE	OTHER:	Cadmium, Copper, Zinc - Total Recoverable 250ml Plastic - HNO3	Hardness, TSS TDS, Cl, Diss. - Cd, Cu, Zn 1000ml Plastic - None	Total Metals, Dissolved Metals, Hardness, TSS, TDS, Cl, BOD, TKN, Total P, NO3, NO2, Tot. Nitrogen Large Carboy						COMMENTS
13th and River-Grab	WW	N	11/7/11	1225	G	2			1		1		X	X							
13th and River-Composite	WW	N	11/7/11	1225	C	1					1				X						5 Gal. Container to be poured off at lab
																					as needed for required tests
																					Remaining volume will be saved for
																					for organics if needed.

Regulatory Program: N=NPDES, R=RCRA, D=Drinking Water, SL=503 Sludge, O=Other

(Please note if non-standard turnaround. Rush & Emergency subject to additional charge)
Standard TAT (15 working days) Rush TAT (5 working days) Emergency TAT (3 working days)

Matrix (Sample Type): DW=Drinking Water, GW=Ground Water, WW=Waste Water, W=Wipe, S=Solid/Soil, SL=Sludge, A=Air, OL = Oil/Organic Liquid, O=Other

RELINQUISHED BY: [signature]	DATE: 11/8/11	TIME: 0830	RECEIVED BY: [signature]	DATE: 11/8/11	TIME: 0940
RELINQUISHED BY: [signature]	DATE: 11/8/11	TIME: 11:35	RECEIVED BY:	DATE:	TIME:
RECEIVED AT LAB BY: [signature]	DATE: 11/8/11	TIME: 11:35	SHIPPED VIA: AIRBILL	SEAL #: SEAL DATE:	

Continental's Standard Terms and Conditions of Sale will apply to all samples received unless a separate contractual agreement has been made.

Continental Analytical Services, Inc.
Cooler/Sample Receipt Form (C/S RF)

CAS Order No.: 59798

Client Name: Wichita

CAS File No.: 8339

Sample ID's in cooler: Jan. Coc
13th & River

Cooler 1 of 1 for this CAS Order No.

Cooler Identification: CAS Cooler #: _____ / Client's Cooler / Box / Letter / Hand-delivered
Other: _____

Date/Time Cooler Received: 11 / 8 / 11 11 : 35

Delivered By: UPS / FedX / AB Express / Field Svcs / Mail / Walk-In / Other: CT

Custody Seal: Present: Intact / Broken Absent: X Seal No: _____
Seal Name: _____ Seal Date: _____
Seal matches Chain of Custody: Yes / No / N/A

Type of Packing Material: Blue Ice / Ice / Melted Ice / Bubble / Foam / Paper / Peanuts / Vermiculite / None / Other: _____

Cooler Temperature (°C): Original Reading (°C) -0.3 Corrected Reading (°C) 0.1
Temp. By: Temp. Blank Cooler Surface: Glass / Plastic /Metal /Other: _____
Thermo. ID No.: 585 Thermo. Correction Factor (°C): 0.4

☐ Evidence of Cooling and date received = date sampled

Sample Receipt Discrepancies: ☑ No ☐ Yes (See below for discrepancies.)

Note: If discrepancies are present, CAS will proceed with analyses until/unless directed otherwise by the client.

- ☐ Chain of Custody not present - information taken from:
  - Cover Letter ☐ Container ☐
  - PO ☐ CAS Proj. Mgr. ☐
- ☐ Container label absent
- ☐ Chain of Custody incomplete [see detail below]
- ☐ Chain of Custody missing date/time sampled (excl. TB or Dup.)
- ☐ Date or Time sampled obtained from container label
- ☐ Chain of Custody missing sampler's name
- ☐ Chain of Custody missing matrix (sample type)
- ☐ Missing relinquished information: signature date time
- ☐ Sample excluded from Chain of Custody
- ☐ Sample listed on Chain of Custody, not received
- ☐ Sample description on container and Chain of Custody do not agree
- ☐ Air bubbles in Aqueous VOA vials larger than pea-size [approx. 6 mm]
- ☐ Cooler temperature exceeded 0.1 - 6.0 °C requirement [Do not mark if samples do not require cooling to 0.1 - 6.0 °C.]
- ☐ Broken or leaking containers (detail actions below)
- ☐ Sample container type or labeled chemical preservation inappropriate
- ☐ Other discrepancies: _____

Detail to discrepancies/comments:

Completed by: MW Date Completed: 11-8-11

Continental
Analytical Services, Inc.

12/01/2011

City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date and Time Received: 11/08/2011 11:35
Continental File No.: 8339
Continental Order No.: 59797
Project ID: Stormwater

Dear Mr. Hardesty:

This laboratory report containing the samples indicated below, includes 9 pages for the analytical report, 1 page(s) for the chain of custody and/or analysis request, and 1 page(s) for the sample receipt form.

CAS LAB ID #	SAMPLE DESCRIPTION	SAMPLE TYPE	DATE SAMPLED
11110505	Harvest Court - Grab	Liquid	11/7/2011
11110506	Harvest Court - Composite	Liquid	11/7/2011

The Appendix and Quality Control sections are integral parts of this laboratory report and may contain important data qualifiers.

All results are reported on a wet weight basis unless otherwise stated.

Samples will be retained for thirty days unless Continental is otherwise notified.

Continental is accredited by the State of Kansas through the National Environmental Laboratory Accreditation Program (NELAP). The results contained in this report were obtained using Continental's Standard Operating Procedures. These procedures are in substantial compliance with the approved methods referenced and the standards published by NELAP unless otherwise noted in the Appendix and Quality Control sections of this report.

This report may not be reproduced, except in full, without written approval from Continental Analytical Services, Inc.

Thank you for choosing Continental for this project.

CONTINENTAL ANALYTICAL SERVICES, INC.

Clifford J. Baker
Technical Manager

Gregory J. Groene
Project Manager

525 N. Eighth St. - P.O. Box 3737 - Salina, KS 67402-3737
785-827-1273 800-535-3076 Fax 785-823-7830
KDHE Environmental Laboratory Accreditation No. E-10146

Continental Analytical Services, Inc.

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Reported: 12/01/2011
Date Received: 11/08/2011
Continental File No: 8339
Continental Order No: 59797

Lab Number: 11110505
Sample Description: Harvest Court - Grab

Date Sampled: 11/07/2011
Time Sampled: 1130

Analysis	Concentration	Units	Book/Page
Cadmium, Dissolved, ICP-MS	ND(1) DM	µg/L	7202/43
Cadmium, Tot. Rec., ICP-MS	ND(1)	µg/L	7202/42
Copper, Dissolved, ICP-MS	8 DM	µg/L	7202/43
Copper, Tot. Rec., ICP-MS	26	µg/L	7202/42
Hardness (Calculated)	51.4	mg/L as CaCO3	7157/120
Zinc, Dissolved, ICP-MS	ND(20) DM	µg/L	7202/43
Zinc, Tot. Rec., ICP-MS	102	µg/L	7202/42
Chloride	8.3	mg/L	7129/92
Solids, Total Dissolved	108	mg/L	7059/608
Solids, Total Suspended	146	mg/L	7059/607

Analysis	Date/Time Prepared	Date/Time Analyzed	QC Batch	Inst. Batch	Analyst	Method(s)
Cadmium, Dissolved, ICP-MS	11/11/11 1012	11/15/11 1713	111111-3	2IP3319	KMW	200.8 Rev. 5.4
Cadmium, Tot. Rec., ICP-MS	11/10/11 0837	11/14/11 1854	111110-2	2IP3318	KMW	200.8 Rev. 5.4
Copper, Dissolved, ICP-MS	11/11/11 1012	11/15/11 1713	111111-3	2IP3319	KMW	200.8 Rev. 5.4
Copper, Tot. Rec., ICP-MS	11/10/11 0837	11/14/11 1854	111110-2	2IP3318	KMW	200.8 Rev. 5.4
Hardness (Calculated)	11/09/11 0914	11/11/11 0229	111109-3	12IP4314	KMW	200.7 & SM 2340B
Zinc, Dissolved, ICP-MS	11/11/11 1012	11/15/11 1713	111111-3	2IP3319	KMW	200.8 Rev. 5.4
Zinc, Tot. Rec., ICP-MS	11/10/11 0837	11/14/11 1854	111110-2	2IP3318	KMW	200.8 Rev. 5.4
Chloride	N/A	11/18/11 1658	1IC1322	3IC1322	MLL	300.0
Solids, Total Dissolved	N/A	11/14/11 1641	111114-1	111114-1	KJH	SM20th 2540C
Solids, Total Suspended	N/A	11/14/11 1500	111114-2	111114-1	KJH	SM20th 2540D
Dissolved Metals Preparation Method						200.7/200.8
Total Recoverable Metals Preparation Method						200.7/200.8
Calculated as Hardness Preparation Method						200.7/6010B

Conclusion of Lab Number: 11110505

Continental Analytical Services, Inc.

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Reported: 12/01/2011
Date Received: 11/08/2011
Continental File No: 8339
Continental Order No: 59797

Lab Number: 11110506
Sample Description: Harvest Court - Composite

Date Sampled: 11/07/2011
Time Sampled: 1130

Analysis	Concentration	Units	Book/Page
Cadmium, Dissolved, ICP-MS	ND(1) DM	µg/L	7202/43
Cadmium, Tot. Rec., ICP-MS	ND(1)	µg/L	7202/42
Copper, Dissolved, ICP-MS	8 DM	µg/L	7202/43
Copper, Tot. Rec., ICP-MS	21	µg/L	7202/42
Hardness (Calculated)	66.1	mg/L as CaCO3	7157/120
Zinc, Dissolved, ICP-MS	ND(20) DM	µg/L	7202/43
Zinc, Tot. Rec., ICP-MS	95	µg/L	7202/42
BOD	51	mg/L	7060/276
Chloride	14.9	mg/L	7129/85
Kjeldahl Nitrogen, as N (TKN)	4.7	mg/L	6854/351
Nitrate, as N	1.3	mg/L	7129/85
Nitrite, as N	0.1	mg/L	7129/86
Nitrogen (TKN + NO3/NO2), as N	6.1	mg/L	9999/596
Phosphorus, Total, as P	0.57	mg/L	7061/219
Solids, Total Dissolved	150.	mg/L	7059/608
Solids, Total Suspended	220.	mg/L	7059/607

Analysis	Date/Time Prepared	Date/Time Analyzed	QC Batch	Inst. Batch	Analyst	Method(s)
Cadmium, Dissolved, ICP-MS	11/11/11 1012	11/15/11 1729	111111-3	3IP3319	KMW	200.8 Rev. 5.4
Cadmium, Tot. Rec., ICP-MS	11/10/11 0837	11/14/11 1859	111110-2	2IP3318	KMW	200.8 Rev. 5.4
Copper, Dissolved, ICP-MS	11/11/11 1012	11/15/11 1729	111111-3	3IP3319	KMW	200.8 Rev. 5.4
Copper, Tot. Rec., ICP-MS	11/10/11 0837	11/14/11 1859	111110-2	2IP3318	KMW	200.8 Rev. 5.4
Hardness (Calculated)	11/09/11 0914	11/11/11 0233	111109-3	12IP4314	KMW	200.7 & SM 2340B
Zinc, Dissolved, ICP-MS	11/11/11 1012	11/15/11 1729	111111-3	3IP3319	KMW	200.8 Rev. 5.4
Zinc, Tot. Rec., ICP-MS	11/10/11 0837	11/14/11 1859	111110-2	2IP3318	KMW	200.8 Rev. 5.4
BOD	N/A	11/09/11 1015	111109-1	111109-1	ASK	SM 5210B
Chloride	N/A	11/08/11 2317	1IC1312	3IC1312	MLL	300.0
Kjeldahl Nitrogen, as N (T	11/11/11 1632	11/15/11 1111	111111-1	111115-2	JND	EPA 351.2
Nitrate, as N	N/A	11/08/11 2317	1IC1312	3IC1312	MLL	300.0
Nitrite, as N	N/A	11/09/11 1114	1IC1313	1IC1313	MLL	300.0
Nitrogen (TKN + NO3/NO2),	N/A	11/17/11 1422				Calculation
Phosphorus, Total, as P	N/A	11/30/11 1708	111130-1	111130-2	KJH	SM 4500-P(B&F)(M)
Solids, Total Dissolved	N/A	11/14/11 1641	111114-1	111114-1	KJH	SM20th 2540C
Solids, Total Suspended	N/A	11/14/11 1500	111114-2	111114-1	KJH	SM20th 2540D
Dissolved Metals Preparation Method						200.7/200.8
Total Recoverable Metals Preparation Method						200.7/200.8
Calculated as Hardness Preparation Method						200.7/6010B

Conclusion of Lab Number: 11110506

Appendix

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Reported: 12/01/2011
Date Received: 11/08/2011
Continental File No: 8339
Continental Order No: 59797

ND(), where reported, indicates the analyte was not detected above the Limit of Quantitation (LOQ). The concentration of the LOQ is inside the parentheses.

All samples which require cooling were received at a temperature of less than 6 degrees Celsius.

The following table presents the date and time sampled, the date and time analyzed, and the total time elapsed for each analysis with an EPA recommended holding time of seventy-two hours or less.

CAS LAB ID #	ANALYSIS	DATE/TIME SAMPLED	DATE/TIME ANALYZED	ELAPSED HRS:MIN
11110506	BOD	11/07/2011 1130	11/09/2011 1015	46:45
11110506	Nitrate, as N	11/07/2011 1130	11/08/2011 2317	35:47
11110506	Nitrite, as N	11/07/2011 1130	11/09/2011 1114	47:44

DM - NPDES requirements specify that dissolved metals and orthophosphate must be filtered within 15 minutes of the time of collection. This analysis did not meet these criteria.

Continental Analytical Services, Inc.

Accreditation Summary

Client: City of Wichita
Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Reported: 12/01/2011
Date Received: 11/08/2011
Continental File No: 8339
Continental Order No: 59797

NELAP accreditation is issued under each EPA regulatory program for a given matrix/analyte/method combination. Continental is NELAP accredited for each matrix/analyte/method and EPA program cited in this Laboratory Report, except for those listed in the table below and analysis performed in the field. For most of the analyses listed in the table, NELAP accreditation is not offered under the listed EPA program and Continental is NELAP accredited for the analysis, using the same analytical technology, but under a different EPA program. Continental's full NELAP accreditation status may be viewed at www.kdheks.gov/envlab. Note that unless qualified otherwise in the Laboratory Report, Continental performs all analyses, including each analysis listed in the table below, utilizing NELAP protocol.

Test	Analysis	Matrix-Regulatory Program	Method	CAS NELAP Accredited in Other Reg. Program
GL343	Nitrogen (TKN + NO3/NO2), as N	L-NPDES	Calculation	N

Continental Analytical Services, Inc.

Quality Control Report
Batch Summary

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Reported: 12/01/2011
Date Received: 11/08/2011
Continental File No: 8339
Continental Order No: 59797

Test	Testname	QC Batch	Method Blank	LCS	MS Lab No.
SL323	Hardness (Calculated)	111109-3	111109BLK3	111109LCS3	11110496MS
Lab numbers associated with this batch: 11110505 11110506					
SL006	Cadmium, Tot. Rec., ICP-MS	111110-2	111110BLK2	111110LCS2	11110506MS
SL012	Copper, Tot. Rec., ICP-MS	111110-2	111110BLK2	111110LCS2	11110506MS
SL033	Zinc, Tot. Rec., ICP-MS	111110-2	111110BLK2	111110LCS2	11110506MS
Lab numbers associated with this batch: 11110505 11110506					
SL156	Cadmium, Dissolved, ICP-MS	111111-3	111111BLK3	111111LCS3	11110500MS
SL162	Copper, Dissolved, ICP-MS	111111-3	111111BLK3	111111LCS3	11110500MS
SL183	Zinc, Dissolved, ICP-MS	111111-3	111111BLK3	111111LCS3	11110500MS
Lab numbers associated with this batch: 11110505 11110506					
GL123	BOD	111109-1	111109BLK1	111109LCS1	11110446MS
Lab numbers associated with this batch: 11110506					
GL502	Chloride	1IC1312	BLK1IC1312	LCS1IC1312	11102140MS
Lab numbers associated with this batch: 11110506					
GL502	Chloride	1IC1322	BLK1IC1322	LCS1IC1322	11111686MS
Lab numbers associated with this batch: 11110505					
GL595	Kjeldahl Nitrogen, as N (TKN)	111111-1	111111BLK1	111111LCS1	11110769MS
Lab numbers associated with this batch: 11110506					
GL505	Nitrate, as N	1IC1312	BLK1IC1312	LCS1IC1312	
Lab numbers associated with this batch: 11110506					
GL503	Nitrite, as N	1IC1313	BLK1IC1313	LCS1IC1313	
Lab numbers associated with this batch: 11110506					
GL343	Nitrogen (TKN + NO3/NO2), as N				
Lab numbers associated with this batch: 11110506					

Continental Analytical Services, Inc.

Quality Control Report
Batch Summary

Client: City of Wichita
Attn: Jim Hardesty
City Hall, 8th Floor
455 N. Main
Wichita, KS 67202

Date Reported: 12/01/2011
Date Received: 11/08/2011
Continental File No: 8339
Continental Order No: 59797

Test	Testname	QC Batch	Method Blank	LCS	MS Lab No.
GL218	Phosphorus, Total, as P	111130-1	111130BLK1	111130LCS1	11110500MS
Lab numbers associated with this batch: 11110506					
GL242	Solids, Total Dissolved	111114-1	111114BLK1	111114LCS1	11110521MS
Lab numbers associated with this batch: 11110505 11110506					
GL243	Solids, Total Suspended	111114-2	111114BLK2	111114LCS2	11110526MS
Lab numbers associated with this batch: 11110505 11110506					

Continental Analytical Services, Inc.

Quality Control Report
Method Blank, LCS, MS/MSD Data

Client: City of Wichita
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Analysis	Blank Data	% Rec LCS	Limits	Spike Level	Units	Spiked Sample (% Recovery) MS	MSD	Limits	Spike Level	Units	Spiked Sample Precision Data RPD	Limit
QC Batch: 111109-1	For sample analyzed on: 11/09/2011					Spiked sample: 11110446						
BOD	ND(5)	98.9	70.5-110	198	mg/L	MN	MN	#		mg/L	**	13.2
QC Batch: 111109-3	For samples prepared on: 11/09/2011					Spiked sample: 11110496						
Hardness (Calculated)	ND(5.0)	105	80.0-120	337	mg/L a	MN	MN	80.0-120	337	mg/L as	**	20.0
QC Batch: 111110-2	For samples prepared on: 11/10/2011					Spiked sample: 11110506						
Cadmium, Tot. Rec., ICP-MS	ND(1)	95.8	85.0-115	500	µg/L	95.3	95.8	80.0-120	500	µg/L	0.5	20.0
Copper, Tot. Rec., ICP-MS	ND(5)	91.8	85.0-115	500	µg/L	89.0	89.4	80.0-120	500	µg/L	0.4	20.0
Zinc, Tot. Rec., ICP-MS	ND(20)	102	85.0-115	500	µg/L	96.8	96.8	80.0-120	500	µg/L	0.0	20.0
QC Batch: 111111-1	For samples prepared on: 11/11/2011					Spiked sample: 11110769						
Kjeldahl Nitrogen, as N (TKN)	ND(1.0)	111	#	4.0	mg/L	MN	MN	#	20.0	mg/L	**	#
QC Batch: 111111-3	For samples prepared on: 11/11/2011					Spiked sample: 11110500						
Cadmium, Dissolved, ICP-MS	ND(1)	96.9	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
Copper, Dissolved, ICP-MS	ND(5)	89.4	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
Zinc, Dissolved, ICP-MS	ND(20)	99.3	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
QC Batch: 111114-1	For sample analyzed on: 11/14/2011					Spiked sample: 11110521						
Solids, Total Dissolved	ND(30)	N/A			mg/L	MN	MN	#		mg/L	**	5.2
QC Batch: 111114-2	For sample analyzed on: 11/14/2011					Spiked sample: 11110526						
Solids, Total Suspended	ND(5)	N/A			mg/L	MN	MN	#		mg/L	**	18.2
QC Batch: 111130-1	For sample analyzed on: 11/30/2011					Spiked sample: 11110500						
Phosphorus, Total, as P	ND(0.20)	98.3	90.0-110	2.0	mg/L	MN	MN	71.2-135	2.0	mg/L	**	21.2
QC Batch: 1IC1312	For sample analyzed on: 11/08/2011					Spiked sample:						
Nitrate, as N	ND(0.1)	103	90.0-110	2.0	mg/L	MN	MN	79.3-118			**	12.1
QC Batch: 1IC1312	For sample analyzed on: 11/08/2011					Spiked sample: 11102140						
Chloride	ND(1.0)	104	90.0-110	4.0	mg/L	MN	MN	82.1-126	400	mg/L	**	12.5
QC Batch: 1IC1313	For sample analyzed on: 11/09/2011					Spiked sample:						
Nitrite, as N	ND(0.1)	102	90.0-110	2.0	mg/L	MN	MN	78.5-127			**	10.1
QC Batch: 1IC1322	For sample analyzed on: 11/18/2011					Spiked sample: 11111686						
Chloride	ND(1.0)	94.1	90.0-110	4.0	mg/L	MN	MN	82.1-126	40.0	mg/L	**	12.5

Data Qualifiers:
MN - The MS/MSD sample analyses were not performed on a sample from this Continental order number.

N/A - Not Applicable

- Limits not available.

** - RPD cannot be calculated.

Continental Analytical Services, Inc.

Client: City of Wichita
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455 N. Main
Wichita, KS 67202

Quality Control Report
Continuing Calibration Data Summary

Date Reported: 12/01/2011
Date Received: 11/08/2011
Continental File No: 8339
Continental Order No: 59797

Analysis	Date of Analysis	Instrument Batch ID	Amount in Standard	Amount Detected	Units	Percent Recovery
Cadmium, Tot. Rec., ICP-MS	11/14/2011	2IP3318	CCV recovery acceptable for this Instrument Batch.			
Cadmium, Dissolved, ICP-MS	11/15/2011	2IP3319	CCV recovery acceptable for this Instrument Batch.			
Cadmium, Tot. Rec., ICP-MS	11/14/2011	3IP3318	CCV recovery acceptable for this Instrument Batch.			
Cadmium, Dissolved, ICP-MS	11/15/2011	3IP3319	CCV recovery acceptable for this Instrument Batch.			
Cadmium, Dissolved, ICP-MS	11/15/2011	4IP3319	CCV recovery acceptable for this Instrument Batch.			
Copper, Tot. Rec., ICP-MS	11/14/2011	2IP3318	CCV recovery acceptable for this Instrument Batch.			
Copper, Dissolved, ICP-MS	11/15/2011	2IP3319	CCV recovery acceptable for this Instrument Batch.			
Copper, Tot. Rec., ICP-MS	11/14/2011	3IP3318	CCV recovery acceptable for this Instrument Batch.			
Copper, Dissolved, ICP-MS	11/15/2011	3IP3319	CCV recovery acceptable for this Instrument Batch.			
Copper, Dissolved, ICP-MS	11/15/2011	4IP3319	CCV recovery acceptable for this Instrument Batch.			
BOD	11/09/2011	111109-1	CCV recovery acceptable for this Instrument Batch.			
BOD	11/09/2011	111109-2	CCV recovery acceptable for this Instrument Batch.			
Phosphorus, Total, as P	11/30/2011	111130-2	CCV recovery acceptable for this Instrument Batch.			
Phosphorus, Total, as P	11/30/2011	111130-3	CCV recovery acceptable for this Instrument Batch.			
Chloride	11/08/2011	3IC1312	CCV recovery acceptable for this Instrument Batch.			
Chloride	11/08/2011	4IC1312	CCV recovery acceptable for this Instrument Batch.			
Chloride	11/18/2011	3IC1322	CCV recovery acceptable for this Instrument Batch.			
Chloride	11/18/2011	4IC1322	CCV recovery acceptable for this Instrument Batch.			
Nitrite, as N	11/09/2011	1IC1313	CCV recovery acceptable for this Instrument Batch.			
Nitrite, as N	11/09/2011	2IC1313	CCV recovery acceptable for this Instrument Batch.			
Nitrate, as N	11/08/2011	3IC1312	CCV recovery acceptable for this Instrument Batch.			
Nitrate, as N	11/08/2011	4IC1312	CCV recovery acceptable for this Instrument Batch.			
Kjeldahl Nitrogen, as N (TKN)	11/15/2011	111115-2	CCV recovery acceptable for this Instrument Batch.			
Kjeldahl Nitrogen, as N (TKN)	11/15/2011	111115-3	CCV recovery acceptable for this Instrument Batch.			
Hardness (Calculated)	11/11/2011	12IP4314	CCV recovery acceptable for this Instrument Batch.			
Hardness (Calculated)	11/11/2011	13IP4314	CCV recovery acceptable for this Instrument Batch.			
Zinc, Tot. Rec., ICP-MS	11/14/2011	2IP3318	CCV recovery acceptable for this Instrument Batch.			
Zinc, Dissolved, ICP-MS	11/15/2011	2IP3319	CCV recovery acceptable for this Instrument Batch.			
Zinc, Tot. Rec., ICP-MS	11/14/2011	3IP3318	CCV recovery acceptable for this Instrument Batch.			
Zinc, Dissolved, ICP-MS	11/15/2011	3IP3319	CCV recovery acceptable for this Instrument Batch.			
Zinc, Dissolved, ICP-MS	11/15/2011	4IP3319	CCV recovery acceptable for this Instrument Batch.			

- Laboratory Report Conclusion -

Continental Analytical Services, Inc.

525 N. 8th Street, Salina, KS 67401
(785)827-1273 (800)535-3076 Fax (785)823-7830
www.cas-lab.com

CAS ORDER NO. 59 K1

CHAIN OF CUSTODY RECORD

Continental Shipping Order Number: _____

Client/Reporting Information	Invoice Information
Company Name: City of Wichita Storm Water Management	Company Name: City of Wichita Storm Water Management
Address: City Hall, 8th Floor, 455 N. Main	Address: City Hall, 8th Floor, 455 N. Main
City: Wichita State: KS Zip: 67202	City: Wichita State: KS Zip: 67202
Contact: Jim Hardesty E-mail: Jhardesty@wichita.gov	Contact: Jim Hardesty E-mail: Jhardesty@wichita.gov
Phone Number: (316)268-8317 Fax Number: (316)858-7889	Phone Number: (316)268-8317 Fax Number: (316)858-7889
Sampler's Name (Printed): Justin Murph Sampler's Name (Signature):	Purchase Order Number:
File Number: 8339 Project Name: Stormwater	

SAMPLE IDENTIFICATION (30 Characters or less)	Matrix (Sample Type)	Regulatory Program	Date Sampled	Time Sampled	C-Composite G-Grab	Total Containers	Number of Preserved Bottles: HCL	NaOH	HNO3	H2SO4	NONE	OTHER	Cadmium, Copper, Zinc - Total Recoverable 250ml Plastic - HNO3	Hardness, TSS TDS, Cl, Diss. - Cd, Cu, Zn 1000ml Plastic - None	Total Metals, Dissolved Metals, Hardness, TSS, TDS, Cl, BOD, TKN, Total P, NO3, NO2, Tot. Nitrogen Large Carboy						COMMENTS
Harvet Court-Grab	WW	N	11/7/11	1130	G	2			1		1		X	X							
Harvest Court-Composite	WW	N	11/7/11	1130	C	1					1				X						5 Gal. Container to be poured off at lab
																					as needed for required tests.
																					Remaining volume will be saved for
																					for organics if needed

Regulatory Program: N=NPDES, R=RCRA, D=Drinking Water, SL=503 Sludge, O=Other

(Please note if non-standard turnaround. Rush & Emergency subject to additional charge)
Standard TAT (15 working days) Rush TAT (5 working days) Emergency TAT (3 working days)

Matrix (Sample Type): DW=Drinking Water, GW=Ground Water, WW=Waste Water, W=Wipe, S=Solid/Soil, SL=Sludge, A=Air, OL=Oil/Organic Liquid, O=Other

RELINQUISHED BY	DATE	TIME	RECEIVED BY	DATE	TIME
[signature]	11/8/11	0830	[signature]	11/8/11	0940
RELINQUISHED BY: [signature]	DATE: 11/8/11	TIME: 11:35	RECEIVED BY	DATE:	TIME:
RECEIVED AT LAB BY: [signature]	DATE: 11/8/11	TIME: 11:35	SHIPPED VIA: AIRBILL:	SEAL #: SEAL DATE:	

Continental's Standard Terms and Conditions of Sale will apply to all samples received unless a separate contractual agreement has been made.

Continental Analytical Services, Inc.
Cooler/Sample Receipt Form (C/S RF)

CAS Order No.: S0797

Client Name: Wichita

CAS File No.: 8339

Sample ID's in cooler: Air COC

Harvert Court

Cooler 1 of 1 for this CAS Order No.

Cooler Identification: CAS Cooler #: _____ / Client's Cooler / Box / Letter / Hand-delivered
Other: _____

Date/Time Cooler Received: 11 / 8 / 11 11 : 35

Delivered By: UPS / FedX / AB Express / Field Svcs / Mail / Walk-In / Other: CT

Custody Seal: Present: Intact / Broken Absent: X Seal No: _____
Seal Name: _____ Seal Date: _____
Seal matches Chain of Custody: Yes / No / N/A

Type of Packing Material: Blue Ice / Ice / Melted Ice / Bubble / Foam / Paper / Peanuts / Vermiculite / None / Other: _____

Cooler Temperature (°C): Original Reading (°C) 0.0 Corrected Reading (°C) 0.Y
Temp. By: Temp. Blank Cooler Surface: Glass / Plastic /Metal /Other: _____
Thermo. ID No.: 585 Thermo. Correction Factor (°C): 0 Y

☐ Evidence of Cooling and date received = date sampled

Sample Receipt Discrepancies: ☒ No ☐ Yes (See below for discrepancies.)

Note: If discrepancies are present, CAS will proceed with analyses until/unless directed otherwise by the client.

- ☐ Chain of Custody not present - information taken from:
  - Cover Letter ☐ Container ☐
  - PO ☐ CAS Proj. Mgr. ☐
- ☐ Container label absent
- ☐ Chain of Custody incomplete [see detail below]
- ☐ Chain of Custody missing date/time sampled (excl. TB or Dup.)
- ☐ Date or Time sampled obtained from container label
- ☐ Chain of Custody missing sampler's name
- ☐ Chain of Custody missing matrix (sample type)
- ☐ Missing relinquished information: signature date time
- ☐ Sample excluded from Chain of Custody
- ☐ Sample listed on Chain of Custody, not received
- ☐ Sample description on container and Chain of Custody do not agree
- ☐ Air bubbles in Aqueous VOA vials larger than pea-size [approx. 6 mm]
- ☐ Cooler temperature exceeded 0.1 - 6.0 °C requirement [Do not mark if samples do not require cooling to 0.1 - 6.0 °C.]
- ☐ Broken or leaking containers (detail actions below)
- ☐ Sample container type or labeled chemical preservation inappropriate
- ☐ Other discrepancies: _____

Detail to discrepancies/comments:

Completed by: MWF Date Completed: 11-8-11

Storm Water

5/11/11

CITY OF WICHITA SEWAGE TREATMENT DIVISION
BACTERIOLOGICAL RESULTS

SAMPLE ID Julian #	DATE OF ANALYSIS	~~FECAL COLIFORM CFU/100 ML~~	Reading 5/12/11 E.COLI IDEXX MPN/100 ML	~~FECAL STREP CFU/100 ML~~
#131 Upstream Harvest (1:100)	5-11-11		1350	$\bar{X}$=1452
Upstream Harvest (1:1)	5-11-11		1553.07	Dup=86.9%
downstream Harvest C+ (1:100)			22470	
Cowskin @ Maple Upstream			39.9	
Cowskin (1:100) @ Maple downstream			29090	$\bar{X}$=21015
Cowskin (1:100) @ Maple downstream dup			19560	Dup=87.0%

RECEIVED

MAY 16 2011

City of Wichita
Water Utilities
Sewage Treatment Division

Storm water
5-20-2011

CITY OF WICHITA SEWAGE TREATMENT DIVISION
BACTERIOLOGICAL RESULTS

SAMPLE ID Sampler: ESI Justin Murphy Julian #140	DATE OF ANALYSIS	FECAL COLIFORM CFU/100 ML	E.COLI IDEXX MPN/100 ML	FECAL STREP CFU/100 ML
Towne East & Armour	5-20-11		>2419.2	
Towne East & Armour upstream			>2419.2	
Towne East & Armour upstream (1:2)			>2419.2	
Huntington & Armour			>2419.2	
Huntington & Armour upstream			2419.17	
Hutington & Armour upstream (1:2)			>2419.2	
Broadway & Arkansas			49.5	
Broadway & Arkansas upstream			>2419.2	
*Broadway & Arkansas upstream (1:5)			256	
Mclean & walker			51.2	
Mclean & walker (1:2)			99.0	
Mclean & walker upstream			2419.17	
13th & River Blvd			>2419.2	
13th & River Blvd dup upstream			2419.17	
13th & River Blvd upstream			2419.17	
Little Arkansas & Hood			2419.17	
Little Arkansas & Hood upstream			>2419.2	

* Most the samples ~~are~~ were looked pretty clean and clear. therefore I didn't do the dilution, or didn't dilute enough to get a number
* Maybe dilute too much?

Storm Water

NOVEMBER 7th 2011

CITY OF WICHITA SEWAGE TREATMENT DIVISION
BACTERIOLOGICAL RESULTS

SAMPLE ID	DATE OF ANALYSIS	Date read back ~~#-8~~ E.COLI IDEXX 11/8/11 MPN/100 ML	FECAL COLIFORM CFU/100 ML	
#311 Harvest Ct.	11-7-11	1413.60		
Harvest Ct upstream	11-7-11	1119.85		
Cowskin & Maple		120958.5		
Cowskin & Maple upstream		228.2		
* 21st & Hood		1568.3		
* 21st & Hood upstream		130.8		
13th & River		46110		
13th & River upstream		629.0		
* Broadway		3385.6		
* Broadway upstream		1153 0		
McLean		2204.6		
McLean upstream		2339.6		
Huntington		1972.1		
Huntington upstream		1732.87		
Towne East		1553.0		
Towne East upstream		248.1		

* used BioLab sterilized bottles, rest of the bottles were from CAS, the sterility of the bottles were unknown, most likely were nonsterilized bottles, we tried to steril one bottle and the lid liner didn't withstand the high heat & pressure.

RJT (11-9-11) NOV 9th 2011