City of Roswell, NM

Local Limits

November30, 2017

City of Roswell, NM
Industrial Pretreatment Program
Local Limits Revision

A. Purpose

The General Pretreatment Regulations (40 CFR Part 403) require that each Publicly Owned Treatment Works (POTW) with a pretreatment program develop and enforce Technically-Based Local Limits (TBLLs) which will establish the maximum loading of pollutants that can be accepted from industrial users without causing a violation of applicable environmental standards. Local limits are developed and enforced to prevent Pass Through, Interference, protect sludge disposal practices and prevent impacts to the health and safety of workers (40 CFR sections 403.2 and 403.5(c)(1)). The City of Roswell, NM (City) used the EPA July 2004 Local Limits Development Guidance (EPA 833-R-04-002A) as a framework for establishing limits to protect the POTW and environment (40 CFR Section 403.8(f)(4)). The City has an on-going pollutant monitoring program and permit which required sampling as specified in its National Pollutant Discharge Elimination System (NPDES) Permit (NM0020311) issued to the City of Roswell Wastewater Treatment Facility and a Groundwater Discharge Permit (DP-281) issued by the State of New Mexico. The State of New Mexico has not been authorized to issue NPDES permit nor implement and enforce the Industrial Pretreatment Program under 40 CFR Part 403. EPA is the Approval Authority for the Pretreatment Program. The City is updating local limits pursuant to the general requirement to keep local limits up-to-date (40 CFR Section 403.5(c)(1)).

B. Municipal Organization

The City serves a population of approximately 48,366 (Population U.S. Census Bureau April 1, 2010). The City has a Mayor and City Council form of government. The Mayor and City Council oversee the City Manager. The City Manager oversees Public Works. Within Public Works, the Utilities Department is responsible for wastewater management, including the Pretreatment Program. The Pretreatment Program Coordinator reports top the Utilities Director and is located at the downtown Utilities Department building and has an office at the Treatment Plant.

Changes to the Pretreatment Program legal authority (City Code, Chapter 26, Article III, Division 3 - Industrial Waste) is initiated by the Pretreatment Coordinator. The Pretreatment Coordinator drafts required modifications to the City Code and processes the changes through the Utilities Director and City Attorney. After needed revisions, the final draft is sent for concurrence through the Utilities Director, City Attorney and City Manager. The revisions are then sent to EPA Region 6 for informal review and comment. The City coordinates with EPA to resolve any issues that would interfere with processing the changes as a substantial modification to the City Pretreatment Program and as a minor modification to the City's NPDES Permit. Once EPA comments are resolved, the final program modifications (e.g. changes to the City Code) are sent to the City Attorney and City Manager and routed to the to the City Clerk's Office to allow for the introduction at the City Council meeting (e.g. 1st

reading/work session). After introducing the modifications at the City Council Meeting, the City submits the modifications and Attorney Statement to EPA requesting approval of the modifications. EPA will public notice the proposed modifications for at least 30 days in a newspaper of general circulation that provides meaningful public notice serving the City and other jurisdictions. The City will have a 2nd reading at some point during the EPA public comment period. After the EPA 30-day public comment period, EPA and the City Council will approve the changes to the City Code. The Mayor and City Clerk sign the final Ordinance.

C. Description of POTW(s)

The City of Roswell Wastewater Treatment Plant discharges from a 7 million gallons per day (mgd) wastewater treatment plant located at 2306 East College Boulevard, Roswell, Chaves County, New Mexico. Preliminary treatment at the plant consists of bar screen and grit removal. The influent is split into two primary clarifiers then flows to the aeration basins equipped with fine bubble diffusers. The wastewater then flows into the final clarifiers and disinfection occurs with Ultraviolet (UV) light. Sludge is anaerobically digested, composited using the static windrow method and land applied/distributed to the public. The sludge is in full compliance with 40 CFR Part 503.

Receiving Water:

The POTW discharges through Outfall 001 to the Rio Hondo River and Outfall 002 to Berrendo Creek (Waterbody ID NM2105_71). Both receiving waters are within the Berrendo Creek-Rio Hondo Watershed in the Pecos River-Upper Pecos-Long Arroyo Basin. The receiving waters have Standards established by the State (NMAC 20.6.4). Protected uses include irrigation, warm water aquatic life, livestock, wildlife habitat and secondary contact.

NPDES Permit Required Monitoring Frequency for Pollutants Relevant to the Local Limits Study

Pollutant	NPDES Permit (covers outfalls101, 001 and 002)	
	Influent	Effluent
Flow		Daily
Biochemical Oxygen Demand (BOD_5), effluent		5 per week
Total Suspended Solids (TSS)		5 per week
Ammonia		5 per week
Conventional Pollutants		1 per year, years 2,3,4
Nutrients, TDS, Chloride, Oil & Grease		1 per year, years 2,3,4
NPDES Priority Pollutants - Hardness, Metals, Organics		1 per year, years 2,3,4

Pollutant	NPDES Permit (covers outfalls101, 001 and 002)	
	Influent	Effluent
Pretreatment: Priority Pollutants (Appendix C of Part II of NPDES Permit, 40 CFR Part 122, Appendix D, Table II)	1 per 6 months	1 per 6 months
Pretreatment: Priority Pollutants (Appendix C of Part II of NPDES Permit, 40 CFR Part 122, Appendix D, Table III)	1 per 2 months	1 per 2 months
Pretreatment: Priority Pollutants (Appendix C of Part II of NPDES Permit, 40 CFR Part 122, Appendix D, Table V if believed to be present)	1 per 2 months	1 per 2 months

The State issued a Groundwater Permit. The City discharges under this Groundwater Permit primarily during February-November. Discharges are made to treatment plant irrigation, irrigated cropland and golf course turf. Protected uses include domestic water supply and agricultural water supply. Standards are found at NMAC 20.6.2.3103.

Groundwater Permit Required Monitoring Frequency for Pollutants Relevant to the Local Limits Study

Pollutant	NPDES Permit (covers outfalls 001 and 002)	
	Influent	Effluent for GW Permit
Flow	Daily	Daily (Report monthly flows)
Total Kjeldahl Nitrogen (TKN)		1 per 3 months
Nitrate-N		1 per 3 months
Total Dissolved Solids (TDS)		1 per 3 months
Chlorides		1 per 3 months
Biochemical Oxygen Demand (BOD_5), effluent		1 per 2 weeks
EPA Metals and Aluminum, Barium, Boron, Cobalt, Cyanide, Fluoride, Iron, Manganese, pH, Radium226 & Radium228, Sulfate and Uranium		1 per year
Various priority pollutants		1 per year
Total Nitrogen (Total Nitrogen = TKN (NH3+organic+reduced N) +NO3+NO2).		As needed to evaluate limit of 15 mg/L during reuse.

D. Other Municipal/County/State Contributors

The City does not accept wastewater from other government agencies. See below for a permitted discharge from EPA.

E. Significant Industrial Users

The City permits 3 Significant Industrial Users (SIUs). In addition, the City issued a temporary SIU permit to EPA Region 6 for a groundwater clean-up. EPA is expected to apply for a SIU permit for a continuous discharge in 2017. In the current local limits evaluation, the City has developed limits for SIUs. The City's decision to establish local limits for SIUs is being done consistent with the 2004 EPA Local Limits Guidance and 40 CFR Section 403.18(b)(2).

F. Local Limits Process

Local limits are those concentrations or loadings of pollutants that a POTW can accept and prevent Pass Through, Interference, adverse health effects, or a violation of the General and Specific Prohibitions. These limits are adopted by the City into their legal authority and apply at the point of discharge from the industrial user into the sewerage system. Local limits are Pretreatment Standards and are based on the Maximum Allowable Headworks Loading (MAHL).

The first step of the process is to review and compile data, supplementing data with additional monitoring where necessary. The City develops a list of Pollutants of Concern (POC) to further evaluate. When the final Pollutants of concern are identified, the City uses applicable standards and flows to calculate all applicable Allowable Headworks Loading (AHL) for each Standard. The City then uses the most stringent AHL, the MAHL, in calculating local limits.

To calculate the MAIL (or local limit), the City subtracts out an EPA recommended Safety Factor. The City then subtracts out domestic+commercial loadings to obtain the Maximum Allowable Industrial Load (MAIL), which is the regulatory number that EPA approves pursuant to 40 CFR Section 403.18(b). If the City is adopting uniform concentration-based local limits, the City may set aside some of the MAIL or include additional flow in the calculations for expansion of existing industrial users or new industrial users. This "set aside" is at the full discretion of the POTW and may be implemented without further notice to EPA as long as the approved MAIL does not change (see 40 CFR Section 403.18 and the 2004 EPA Local Limits guidance manual). The City may adopt uniform concentration limits, the MAIL the adjusted MAIL or a combination of these.

An example local limits calculation is shown in Attachment 1.

G. Legal Authority Language

1. The new and existing local limits are shown in the following table.

Pollutant[(a)]	Existing Local Limits -	Revised Daily Maximum Discharge Limit	Units of Measurement
Arsenic	No Limit	0.22	mg/L
Cadmium	2.0788	0.058	mg/L
Chromium	13.3716	4.26	mg/L
Copper	2.6151	2.65	mg/L
Cyanide	0.8339	No Limit	mg/L
Lead	4.1380	1.74	mg/L
Mercury	0.0782	0.104	mg/L
Molybdenum	No Limit	1.96	mg/L
Nickel	1.7547	4.83	mg/L
Selenium	No Limit	0.122	mg/L
Silver	1.2783	2.01	mg/L
Zinc	4.6815	4.30	mg/L
5-Day Biochemical Oxygen Demand (BOD_5)	No Limit	4,833	lbs/day[(b)]
Total Suspended Solids (TSS)	No Limit	10,070	lbs/day[(b)]
Total Nitrogen ($TKN+NO_2+NO_3$)	No Limit	165.7	lbs/day[(b)]
pH	6.0 to 9.0	6.0 to 11.0	Standard Units

2. Existing Code Language: The City is revoking and re-adopting Section 26-62 (Ordinance 1320) for Local Limits. The existing language is being revoked because it is outdated language. The revised ordinance language is protecting the City's authority to establish local limits as needed.

Sec. 26-62. - ~~**Additional city requirements authorized.**~~

~~(a) The city reserves the right to establish more stringent limits or pretreatment requirements on discharges to the POTW and to re-evaluate and update those~~

~~limits and requirements if deemed necessary to comply with the objectives presented in section 26-58. The limits currently in use may be obtained from the director.~~

~~(b) The procedure for establishment, re-evaluation and update of the limits shall be as follows:~~

~~(1) Once the director has determined the need, the limits shall be evaluated using the "EPA Computer Program/Model for Developing Local Limits for Industrial Pretreatment Programs at Publicly Owned Treatment Works," most current release, with appropriate modifications as determined by the director.~~

~~(2) Upon development of the limits, the director shall submit the proposed limits to EPA for comment and approval. Upon approval of the proposed limits by EPA, the director shall publish the proposed limits in the legal section of the classified advertisements of the local newspaper for six consecutive publications. The publication of the limits shall include a provision to allow for written comment on the proposed limits for a period of 28 days following the last publication.~~

~~(3) A hearing shall be conducted by the director on the proposed limits 14 days after the end of the comment period. At such time the director shall respond to any comments received and act on the proposed limits.~~

~~(4) Upon adoption of the proposed limits and any modification thereof by the director, the adopted limits shall be published in the legal section of the local newspaper. This publication shall establish the effective date of the limits which shall be 30 days following the publication. Following the effective date of the limits, the director shall update any permit which is affected by any change in the limits.~~

~~(Code 1984 § 31-82; Ord. No. 1223, § 3, 11-1992; Ord. No. 1320, 4-1999)~~

3. New Code Language: The City is adopting the revised Section 26-62 for Local Limits.

Sec. 26-62 – Local Discharge Limitations

(a) Specific Discharge Limitations.

(1) Specific Discharge Limitations

No Significant Industrial User (SIU) shall discharge or cause to be discharged wastewater that exceeds the following limits:

Pollutant[a]	Daily Maximum Discharge Limit	Units of Measurement
Arsenic	0.22	mg/L
Cadmium	0.058	mg/L
Chromium	4.26	mg/L
Copper	2.65	mg/L
Lead	1.74	mg/L
Mercury	0.104	mg/L
Molybdenum	1.96	mg/L
Nickel	4.83	mg/L
Selenium	0.122	mg/L
Silver	2.01	mg/L
Zinc	4.30	mg/L
5-Day Biochemical Oxygen Demand (BOD_5)	4,833	lbs/day[b]
Total Suspended Solids (TSS)	10,070	lbs/day[b]
Total Nitrogen ($TKN+NO_2+NO_3$)	165.7	lbs/day[b]
pH	6.0 to 11.0	Standard Units

(a) All Pollutants as Total.

(b) This limit is the total mass in pounds per day (lbs/day) that are available to allocate to all Significant Industrial Users. Allocations are at the sole discretion of the City.

(2) The City may, at its sole discretion, implement local limits through allocation of the Maximum Allowable Industrial Load (MAIL) to Significant Industrial Users that correspond to the uniform concentration local limits shown in the table above. The MAILs that correspond to the Daily Maximum Discharge Limits in the Local Limits Report dated May 21, 2017 are hereby incorporated by reference.

(3) The Director may establish more stringent pollutant limits, additional site-specific pollutant limits, Best Management Practices, or additional Pretreatment Requirements when, in the judgment of the City, such limitations are necessary to implement the provisions of Chapter 26, Article III, Sewers and Sewerage Disposal.

(4) A Significant Industrial User or other designated industrial user who introduces wastewater into the POTW may be required to submit a Salinity Control Plan if monitoring of the Industrial User's discharge shows it exceeds one thousand two hundred (1,200) mg/L Total Dissolved Solids (TDS). This Plan shall contain a description of the chemicals and materials used that contribute to the TDS concentration and the source control measures that could be implemented to reduce the TDS concentration in the discharge to less than one thousand two hundred (1,200) mg/L or to a level specified by the City that prevents discharges that cause or contribute to Pass Through or Interference.

(5) The following limits shall apply to wastewaters that are discharged from the groundwater cleanup of petroleum or gasoline underground storage tanks or other remediation wastewaters containing these pollutants or where these pollutants are appropriate surrogates. It shall be unlawful for any Industrial User to discharge or cause to be discharged any waste or wastewater that exceeds the following limits, as applicable.

Pollutant[(a)(c)]	Daily Maximum Limit (mg/L)
Benzene	0.050
BTEX[(b)]	0.750

(a) All pollutants shown in the Table are total.

(b) BTEX shall be measured as the sum of Benzene, Ethylbenzene, Toluene and Xylenes.

(c) These limits are based upon installation of air stripping technology as described in the EPA document: "Model NPDES Permit for Discharges Resulting from the Cleanup of Gasoline Released from Underground Storage Tanks. June 1989."

H. Pollutants of Concern (POC) Evaluation Criteria

The following criteria/data considerations were used to evaluate the POC pollutants consistent with the 2004 EPA Local Limits Guidance:

1. Pollutants of Concern established by EPA, including Arsenic, Cadmium, Chromium, Copper, Cyanide, Lead, Mercury, Nickel, Selenium, Silver, Zinc, BOD_5, Total Suspended Solids, Ammonia and Phosphorus. In addition, the following pollutants/pollutant parameters were evaluated because the City has established Local Limits for these pollutants: Aluminum and pH.

2. Data review of POTW influent, effluent and sludge data (organics, metals and conventional pollutants).

3. POTW influent/effluent Priority Pollutant analyses, as required by the NPDES permit were reviewed.

4. Permit limited pollutants were reviewed and included in the sampling program, as appropriate (e.g. BOD, TSS).

5. Water Quality Standards as specified at NMAC 20.6.4 and Groundwater Standards as specified at NMAC 20.6.2.

6. Inhibition was evaluated. However, no inhibition has been experienced and based upon operations and influent sampling is not expected to be an issue. Consistent with the 2004 EPA Local Limits guidance, site-specific inhibition studies were not conducted.

7. Sludge was evaluated. The sludge is in full compliance with 40 CFR Part 503. No violations have been identified.

8. Pollutants that may cause adverse worker health and safety effects were evaluated. No pollutants were identified in sampling results that were an acute threat to worker health and safety.

9. Trucked and Hauled Waste. The POTW accepts an average flow of 3,038 gpd from 8 waste haulers. The hauled waste includes septic tanks, chemical toilets, FOG and carwash sand traps. Wastewater is collected in a pretreatment tank above the headworks.

10. The initial pollutants that were detected and considered potential Pollutants of Concern are shown below and reflect those pollutants recommended by EPA, of concern to the City or otherwise detected in POTW influent or effluent sampling. As allowed for in 40 CFR 403.8(f)(4) and consistent with the 2004 Local Limits Guidance, the City is evaluating some of the pollutants for the need for local limits as noted. Note: Pollutants not shown on the table had all POTW influent and effluent measurements <RL.

Pollutant	Pollutant of Concern?	Comments
Flow	No	Influent average: 3.35 mgd; Effluent average 3.45 mgd. Design 7 mgd.
Arsenic, Total	Yes	EPA Recommended
Cadmium, Total	Yes	EPA Recommended
Chromium, Total	Yes	EPA Recommended
Copper, Total	Yes	EPA Recommended
Lead, Total	Yes	EPA Recommended
Mercury, Total	Yes	EPA Recommended
Nickel, Total	Yes	EPA Recommended
Selenium, Total	Yes	EPA Recommended
Silver, Total	Yes	EPA Recommended
Zinc, Total	Yes	EPA Recommended
1,4-Dichlorobenzene	No	All POTW effluent measurements <RL.
2-Butanone	No	No Standard. Not reported as present in POTW effluent.
3+4 Methylphenol	No	No Standard. Not reported as present in POTW effluent.
Acetone	No	No Standard. No adverse effects noted.
Aluminum	No	POTW effluent averages 0.071 mg/L or 1% of the most stringent Standard (Irrigation).
Ammonia	No	POTW effluent Ammonia averages 4.74 mg/L. No adverse impacts have been reported.
Antimony	No	All POTW effluent measurements <RL.
Barium	No	POTW effluent averages 0.0248 mg/L or 2% of the most stringent Standard (Groundwater Standards).
Beryllium	No	All POTW effluent measurements were <RL.
bis (2-Ethylhexyl) phthalate	No	POTW effluent averages 0.0067 mg/L or 30% of the Groundwater Standard. The Groundwater Standard applies to groundwater rather than POTW effluent.
Biochemical Oxygen Demand (BOD_5)	Yes - POTW Option	City will adopt the MAIL. POTW influent is at 55% of the design loading.

Pollutant	Pollutant of Concern?	Comments
Chloride	No	City effluent averages 378 mg/L. The Groundwater Standard is 250 mg/L. The Groundwater Standard applies to groundwater rather than POTW effluent. The groundwater indicates a Chloride concentration of 2436 mg/L, indicating high background concentrations. The City will monitor each IU or require the IU to monitor for this pollutant and evaluate sources of Chloride.
Chloroform	No	All POTW effluent measurements were <RL. The POTW influent averaged 0.00136 mg/L or 2% of the fume toxicity number provided by EPA.
Cyanide	No	All POTW influent measurements were <RL and 16 of 17 POTW measurements were <RL.
D-BHC	No	All POTW influent measurements were <RL and 3 of 4 POTW effluent were <RL. No Standard.
Dichloronitromethane	No	No Standard. POTW effluent averaged 1.2 µg/L (n=2).
Fluoride	No	POTW effluent averaged 0.49 mg/L or 31% of the Groundwater Standard. The Groundwater Standard applies to groundwater rather than POTW effluent.
Fluoronitrophenol	No	POTW effluent averaged 17 µg/L. No Standard.
Iron	No	POTW effluent averaged 0.0675 mg/L or 7% of the Groundwater Standard. The Groundwater Standard applies to groundwater rather than POTW effluent.
Manganese, Total	No	POTW effluent averaged 0.03 mg/L or 15% of the Groundwater Standard. The Groundwater Standard applies to groundwater rather than POTW effluent.
Nitrate	No	The POTW effluent averaged 12.7 mg/L. The applicable Groundwater Standard is 10 mg/L. The Groundwater Standard applies to groundwater rather than POTW effluent. The POTW monitors and reports to the State and data from 2016 indicates that groundwater averages 6 mg/L.
Oil and Grease HEM	No	No adverse impacts at the treatment works were reported. The City will continue to rely on its FOG program.
Phosphorus	No	The POTW effluent averages 1.2 mg/L. No applicable Limits.
Sulfate	No	The POTW effluent averages 505 mg/L. Groundwater is limited at 600 mg/L. The Groundwater Standard applies to groundwater rather than POTW effluent.
TDS	No	The POTW effluent averages 1558 mg/L. Groundwater is limited to 1000 mg/L. The Groundwater Standard applies to groundwater rather than POTW effluent. Groundwater in the area is typically high in TDS. The City will monitor each IU or require the IU to monitor for this pollutant and evaluate sources of TDS.
Tetrachloroethylene	No	All POTW influent and effluent measurements were <RL. The City prohibits discharge of chlorinated solvents.
Thallium	No	All POTW effluent measurements are <RL.

Pollutant	Pollutant of Concern?	Comments
TKN	No	No Standard. POTW effluent averages 4.8 mg/L. Part of the Total Nitrogen parameter.
Toluene	No	All POTW effluent measurements are <RL.
Total Nitrogen (TKN + NO3 + NO2)	Yes	The POTW effluent averages 17.8 mg/L. The Groundwater Permit establishes a limit of 15 mg/L for the effluent when reuse is occurring.
Trichlorethylene	No	All POTW influent and effluent measurements were <RL. The City prohibits discharge of chlorinated solvents.
Total Suspended Solids (TSS)	Yes - POTW Option	City will adopt the MAIL. City is at 50% of the design loading.

I. Wastewater Treatment Plant Data Summaries for Local Limits

POTW Flow for Local Limits (mgd)	3.400	Average flow: 3.35 mgd - SIU average flow: 0.196 mgd (estimated) + Permitted SIU flow: 0.250 mgd. Includes a flow allowance for anticipated discharges from EPA.
Average SIU Flow	0.196	
Permitted SIU Flow for Local Limits (mgd):	0.250	
Total SIU + Other Non-SIU Flows for Local Limits:	0.250	
Will Domestic & Commercial Flows and Sampling be Treated Together (Y/N)?	Y	
Combined plus Domestic + Commercial Flow (mgd):	3.154	Calculated
Is the POTW applying local limits to the trucked and hauled waste sector? (Y/N):	N	
Trucked and Hauled Wastewater Flow (mgd):	0.003038	
Total Current POTW Flow (mgd)	3.399	
Total flows as a percentage of POTW Local Limits Flow (%):	100	
Increase/Decrease in Flow for Local Limits vs. Actual Average Flow (mgd):	0.00	
SIU Permitted Flow not being discharged but allocated through permits (mgd):	0.05	
Specific Gravity of Sludge to Disposal (kg/L):	1.25	
Sludge Flow to Disposal (mgd):	0.001854	
% Solids to Disposal (%):	66.9	
Sludge Table (1,3 OR "O"THER) Based on Disposal Option:	3	
End-of-Pipe Flow (mgd):	0.000	
Acute (mgd):	0.000	
Chronic, Fish Consumption, Water and Fish Consumption, Agricultural, Water Supply and Irrigation flows (mgd):	0.89	
Hardness for Metals Calculations (mg/L):	400	

The POTW flow for local limits reflects the actual POTW wastewater influent flow and includes reuse flows and the average flow for Significant Industrial Users (SIUs).

Applicable Standards for the Local Limits Evaluation

Applicable Standards Pollutant	GW Permit mg/L	POTW Design lbs/day	State Acute WQS mg/L	State Chronic WQS mg/L	Human Health Organism mg/L	Sludge mg/Kg DW	Groundwater Stds mg/L	Irrigation mg/L	Livestock mg/L	Groundwater mg/L	Wildlife mg/L
Arsenic			0.34	0.15	0.009	41	0.01	0.1	0.2	0.100	
Cadmium			0.0061	0.0014		39	0.005	0.01	0.05	0.010	
Chromium			5.612	0.268			0.1	0.1	1.00	0.050	
Copper			0.0517	0.0305		1500	1.3	0.2	0.5		
Lead			0.4768	0.0186		300	0.015	5	0.1	0.050	
Mercury			0.0014	0.000770		17	0.002		0.0100	0.002	0.00077
Molybdenum			7.92	1.895		75*	1	1			
Nickel			1.516	0.1685	4.6	420	0.7	0.2			
Selenium			0.02	0.005		100	0.05			0.050	0.005
Silver			0.0411				0.05			0.050	
Zinc			0.577	0.434	26		10.5	2	25.000		
BOD_5		10400									
TSS		15800									
Total Nitrogen	15										

* - The ceiling concentration for Molybdenum from Table 1 is 75 mg/kg DW.

POTW Influent Loading

Monitoring Data Pollutant	Average POTW Influent mg/L	# obs and Notes	RL Handling	Average POTW Flow mgd	POTW Influent lbs/day
Arsenic	0.0025	n=16, 16<RL	1/2 RL	3.35	0.06990
Cadmium	0.0005	n=15, 15<RL	1/2 RL	3.35	0.01400
Chromium	0.0045	n=15, 10<RL	1/2 RL	3.35	0.12580
Copper	0.093	n=16, 0<RL	N/A	3.35	2.59990
Lead	0.009	n=16, 1<RL	1/2 RL	3.35	0.25160
Mercury	0.0002	n=15, 13<RL	1/2 RL	3.35	0.0055910
Molybdenum	0.003	n=16, 15<RL	1/2 RL	3.35	0.08390
Nickel	0.005	n=16, 8<RL	1/2 RL	3.35	0.13980
Selenium	0.0025	n=16, 16<RL	1/2 RL	3.35	0.06990
Silver	0.0006	n=16, 14<RL	1/2 RL	3.35	0.01680
Zinc	0.21	n=15, 0<RL	N/A	3.35	5.87070
BOD5	206	n=226	N/A	3.35	5759
TSS	284	n=225	N/A	3.35	7939
Total Nitrogen	43.07	n=16, 0<RL	N/A	3.35	1204.1

POTW Effluent Loading

Monitoring Data Pollutant	Effluent Data Average POTW Effluent mg/L	Comment and Notes	RL Handling	Average POTW Flow mgd	POTW Effluent lbs/day
Arsenic	0.0024	n=18, 17<RL	1/2 RL	3.45	0.06910
Cadmium	0.00050	n=18, 18<RL	1/2 RL	3.45	0.01440
Chromium	0.00250	n=15, 15<RL	1/2 RL	3.45	0.07200
Copper	0.01310	n=18, 5<RL	1/2 RL	3.45	0.37720
Lead	0.00060	n=18, 15<RL	1/2 RL	3.45	0.01730
Mercury	0.0001000	n=18, 18<RL	1/2 RL	3.45	0.00290
Molybdenum	0.0027	n=16, 15<RL	1/2 RL	3.45	0.07770
Nickel	0.00260	n=18, 16<RL	1/2 RL	3.45	0.07490
Selenium	0.0025	n=18, 18<RL	1/2 RL	3.45	0.07200
Silver	0.00060	n=18, 17<RL	1/2 RL	3.45	0.01730
Zinc	0.038	n=18, 0<RL	N/A	3.45	1.09690
BOD5	3.3	n=229	N/A	3.45	95
TSS	5.9	n=228	N/A	3.45	170
Total Nitrogen	17.8	n=46	N/A	3.45	512.5

POTW Domestic+Commercial Loading

Pollutant	Domestic+Commercial Contribution to POTW mg/L	Comment and Notes	RL Handling	Domestic plus Commercial Average Flow mgd	Calculated Domestic+Commercial Contribution lbs/Day
Arsenic	0.0025	n=8, 8<RL	1/2 RL	3.2	0.0668
Cadmium	0.0006	n=8, 6<RL	1/2 RL	3.2	0.0160
Chromium	0.0025	n=8, 8<RL	1/2 RL	3.2	0.0668
Copper	0.056	n=8, 0<RL	N/A	3.2	1.4954
Lead	0.004	n=8, 0<RL	N/A	3.2	0.1068
Mercury	0.0001	n=8, 8<RL	1/2 RL	3.2	0.0027
Molybdenum	0.0025	n=8, 8<RL	1/2 RL	3.2	0.0668
Nickel	0.0029	n=8, 7<RL	1/2 RL	3.2	0.0774
Selenium	0.0025	n=8, 8<RL	1/2 RL	3.2	0.0668
Silver	0.0005	n=8, 8<RL	1/2 RL	3.2	0.0134
Zinc	0.142	n=8, 0<RL	N/A	3.2	3.7920
BOD5	189	n=8, 0<RL	N/A	3.2	5047
TSS	185	n=6, 0<RL	N/A	3.2	4940
Total Nitrogen	30.43	CWACS, n=20	N/A	3.2	813

Maximum Sludge Concentrations and Standards

Sewage Sludge Pollutant	Maximum POTW Sludge to Disposal mg/kg Dry Weight	Table 1 Maximum Land Application Sludge Criteria mg/kg DW	Table 3 "Clean" Land Application Sludge Criteria mg/kg
Arsenic	7.5	75	41
Cadmium	3.1	85	39
Chromium	46		
Copper	822	4300	1500
Lead	120	840	300
Mercury	2	57	17
Molybdenum	30	75*	
Nickel	33	420	420
Selenium	21	100	100
Silver	10		
Zinc	1550	7500	2800
BOD5			
TSS			
Total Nitrogen (TKN + NO3 + NO2)			

* Molybdenum: No limit for Table 3. Table 1 is 75 mg/kg

Removal Efficiency Calculations

Removal Efficiency Calculations POLLUTANT	MRE Mean Removal Efficiency %	LIT Literature Removal Efficiency %	Source of Literature Removal Efficiency Data	Removal Efficiency to be Used: MRE or LIT	Final POTW Removal %
Arsenic	4.0	45	EPA	LIT	45
Cadmium	0.0	67	EPA	LIT	67
Chromium	44.4	82	EPA	LIT	82
Copper	85.9			MRE	86
Lead	93.3			MRE	93
Mercury	50.0	90	EPA	LIT	90
Molybdenum	10.0	21	CWACS n=33	LIT	21
Nickel	48.0			MRE	48
Selenium	0.0	50	EPA	LIT	50
Silver	0.0	75	EPA	LIT	75
Zinc	81.9			MRE	82
BOD5	98.4			MRE	98.4
TSS	97.9			MRE	97.9
Total Nitrogen	58.7			MRE	58.7

(a) Removal Efficiency calculations based upon influent and effluent concentration.

(b) Default removal efficiency was used for Arsenic, Cadmium, Chromium, Mercury, Molybdenum, Selenium and Silver due to be being reported <RL in the majority of influent and/or effluent samples.

Allowable Headworks Loading Calculations

AHL Calculations Pollutant	Groundwater lbs/day	POTW Design lbs/day	State Acute WQS lbs/day	State Chronic WQS lbs/day	Human Health Organism lbs/day	Sludge lbs/day	Water Supply (Ac) lbs/day	Irrigation lbs/day	Livestock lbs/day	Groundwater lbs/day	Wildlife lbs/day
Arsenic			17.5397	9.7637	0.5858	1.1760	0.6509	6.5091	13.0182	0.6509	
Cadmium			0.5245	0.1519		0.7513	0.5424	1.0849	5.4243	0.5424	
Chromium			884.6071	53.3023			19.8889	19.8889	198.8892	19.8889	
Copper			10.4777	7.7993		22.5124	332.4290	51.1429	127.8573	332.4290	
Lead			193.2607	9.5126		4.1636	7.6714	2557.1464	51.1429	7.6714	
Mercury			0.3972	0.275660		0.243801	0.716001		3.5800	0.716001	0.2757
Molybdenum			284.4483	85.8748		4.6097		45.3165		45.3165	
Nickel			82.7182	11.6006	316.6928	11.2937	48.1924	13.7693		48.1924	
Selenium			1.1349	0.3580		2.5814	3.5800			3.5800	0.3580
Silver			4.6645							7.1600	
Zinc			90.9512	86.3179	5171.1183	44.0730	2088.3363	397.7783	4972.2292	2088.3363	
BOD5		10400									
TSS		15800									
Total Nitrogen	1029.8										

Maximum Allowable Industrial Loading (MAIL) Calculation

Pollutant	MAHL lbs/day	Controlling Criteria or Standard for MAHL	Safety Factor %	MAHL minus Safety Factor lbs/day	Subtract out Domestic+Commercial Loadings lbs/day	MAIL Maximum Available Industrial Loading lbs/day
Arsenic	0.5858	Organism	10	0.5272	0.4604	0.4604
Cadmium	0.1519	State Chronic WQS	10	0.1367	0.1207	0.1207
Chromium	9.9445	Groundwater	10	8.9501	8.8833	8.8833
Copper	7.7993	State Chronic WQS	10	7.0194	5.5240	5.5240
Lead	4.1636	Sludge	10	3.7472	3.6404	3.6404
Mercury	0.2438	Sludge	10	0.2194	0.2168	0.2168
Molybdenum	4.6097	Sludge	10	4.1487	4.0819	4.0819
Nickel	11.2937	Sludge	10	10.1643	10.0869	10.0869
Selenium	0.3580	State Chronic WQS	10	0.3222	0.2554	0.2554
Silver	4.6645	State Acute WQS	10	4.1981	4.1847	4.1847
Zinc	44.0730	Sludge	10	39.6657	35.8737	35.8737
BOD5	10400	POTW Design	5	9880	4833	4833
TSS	15800	POTW Design	5	15010	10070	10070
Total Nitrogen	1029.8	Acute NPDES	5	978.3	165.7	165.7

(a) A safety factor of 5% was used for BOD5, TSS and Total Nitrogen due to the significant number of monitoring results and the City's belief that the data is accurate.

Local Limits Calculations

Local Limits Pollutant	MAHL lbs/day	Final MAIL lbs/day	Expansion Factor %	Adjusted POTW Controlled Loading w/ expansion factor lbs/day	Local Limits to be Adopted as (U)niform or (M)ass	Calculated SIU Limits	Units
Arsenic	0.5858	0.4604	0	0.4604	U	0.22	mg/L
Cadmium	0.1519	0.1207	0	0.1207	U	0.058	mg/L
Chromium	9.9445	8.8833	0	8.8833	U	4.26	mg/L
Copper	7.7993	5.5240	0	5.5240	U	2.65	mg/L
Lead	4.1636	3.6404	0	3.6404	U	1.74	mg/L
Mercury	0.2438	0.2168	0	0.2168	U	0.104	mg/L
Molybdenum	4.6097	4.0819	0	4.0819	U	1.96	mg/L
Nickel	11.2937	10.0869	0	10.0869	U	4.83	mg/L
Selenium	0.3580	0.2554	0	0.2554	U	0.122	mg/L
Silver	4.6645	4.1847	0	4.1847	U	2.01	mg/L
Zinc	44.0730	35.8737	75	8.9684	U	4.30	mg/L
BOD5	10400	4833	0	4833	M	4833	lbs/day
TSS	15800	10070	0	10070	M	10070	lbs/day
Total Nitrogen	1029.8	165.7	0	165.7	M	165.7	lbs/day

The Expansion factor is on a pollutant-by-pollutant basis to set aside some loading for new SIUs or expansion of existing SIUs where available loading allows. The uniform concentration local limit will decrease as the expansion factor increases. The Expansion Factor decision is at the full discretion of the City and does not affect the Final MAIL that is being adopted.

J. Summary Pollutant Data (POTW Influent, Effluent, Domestic+Commercial)

The pollutants in the following table are as mg/L and total unless otherwise specified. Pollutant data is from samples 2013-2016. Data for conventional pollutants (DMR monitoring) represents and includes data collected in 2013-2016.

INFLUENT - Pollutant	Average	Maximum	Minimum	Count	# <RL
1,4-Dichlorobenzene	0.0022	0.0025	0.0019	5	0
2-Butanone	0.0060	0.007	0.005	2	0
3+4 Methylphenol	0.0515	0.062	0.04	4	0
Acetone	0.1295	0.2	0.06	4	0
Aluminum	0.84	1.56	0.196	22	0
Ammonia	31.7	41.0	26.0	16	0
Antimony	0.0025	0.0025	0.0025	16	16
Arsenic, Total	0.0025	0.0025	0.0025	16	16
Barium	0.072	0.103	0.044	4	0
Beryllium	0.001	0.001	0.00025	16	16
bis (2-Ethylhexyl) phthalate	0.0276	0.0484	0.01	9	2
BOD5	206	388	20	226	0
Cadmium, Total	0.0005	0.0005	0.0005	15	15
Chloride	378	454	302	19	0
Chloroform	0.00136	0.0018	0.0005	5	1
Chromium, Total	0.0045	0.011	0.0025	15	10
Copper, Total	0.093	0.158	0.0494	16	0
Cyanide	0.0097	0.01	0.005	16	16
D-BHC	0.00075	0.0015	0.0005	4	4
Flow	3.35	8.70	1.50	1062	0
Fluoride	1.0	2.4	0.5	4	0
Iron	1.84	4.53	0.86	4	0
Lead, Total	0.009	0.024	0.004	16	1
Manganese, Total	0.041	0.069	0.031	4	0
Mercury, Total	0.0002	0.0008	0.0001	15	13
Molybdenum, Total	0.0030	0.01	0.0025	16	15
Nickel, Total	0.005	0.010	0.0025	16	8
Nitrate	0.05	0.05	0.1	4	6
Nitrate+Nitrite	0.07	0.17	0.1	16	13
Oil and Grease HEM	54	84	35.5	4	1
Phosphorus	5.7	9.0	4.4	16	0
Selenium, Total	0.0025	0.0025	0.0025	16	16
Silver, Total	0.0006	0.002	0.00025	16	14
Sulfate	442	515	399	4	0

INFLUENT - Pollutant	Average	Maximum	Minimum	Count	# <RL
TDS	1600	1810	1250	20	0
Tetrachloroethylene	0.0004	0.0005	0.00025	8	8
Thallium	0.002	0.01	0.001	16	16
TKN	43	53	37	16	0
Toluene	0.0008	0.0022	0.0005	5	3
Trichlorethylene	0.0004	0.0005	0.00025	8	8
TSS	284	710	69	225	0
Zinc, Total	0.21	0.358	0.144	15	0

The pollutants in the following table are as mg/L and total unless otherwise specified. Pollutant data is from samples 2013-2016. Data for conventional pollutants (DMR monitoring) represents and includes data collected in 2013-2016.

EFFLUENT - Pollutant	Average	Maximum	Minimum	Count	# <MDL
1,4-Dichlorobenzene	0.0005	0.0005	0.0005	10	10
Acetone	0.0160	0.016	0.016	1	0
Aluminum	0.0712	0.176	0.015	24	10
Ammonia	4.74	39.57	0.06	696	0
Antimony	0.0025	0.0025	0.0025	15	15
Arsenic, Total	0.0024	0.0026	0.00025	18	17
Barium	0.0248	0.033	0.02	4	0
Beryllium	0.0010	0.001	0.001	15	15
bis(2-ethylhexyl) phthalate	0.0067	0.013	0.0025	11	4
BOD	3.3	12.0	1.0	229	0
Cadmium, Total	0.0005	0.0005	0.0005	18	18
Chloride	377.8	930.0	246.0	50	0
Chloroform	0.0005	0.0005	0.0005	10	10
Chromium, Total	0.0025	0.0025	0.0025	15	15
Copper, Total	0.0131	0.032	0.0027	18	5
Cyanide	0.0126	0.06	0.005	17	16
D-BHC	0.000034	0.00006	0.000025	4	3
Dichloronitromethane	0.0120	0.016	0.0079	2	0
Flow	3.45	4.80	1.90	230	0
Flow - Irrigation	2.34	4.90	-1.20	608	0
Fluoride	0.49	0.7	0.05	4	1

EFFLUENT - Pollutant	Average	Maximum	Minimum	Count	# <MDL
Fluoronitrophenol	0.0171	0.034	0.0064	4	0
Hardness	723	828	585	10	0
Iron	0.0675	0.12	0.05	4	3
Lead, Total	0.0006	0.0015	0.0005	18	15
Manganese	0.0303	0.043	0.019	4	0
Mercury, Total	0.0001	0.0001	0.0001	18	18
Molybdenum, Total	0.0027	0.006	0.0025	16	15
Nickel	0.0026	0.008	0.0003	18	16
Nitrate	12.7	28.6	0.5	690	0
Nitrate	6.65	10.5	3.2	4	0
Nitrate+Nitrite	13.0	29.2	5.2	46	0
Oil and Grease - HEM	2.5	2.5	2.5	2	2
Phosphorus	1.2	2.94	0.44	9	0
Selenium, Total	0.0025	0.0025	0.0025	18	18
Silver, Total	0.0006	0.002	0.00025	18	17
Sulfate	505	563	453	4	0
TDS	1558	1880	1200	51	0
Tetrachloroethylene	0.0004	0.0005	0.00025	15	15
Thallium	0.0010	0.001	0.00025	18	18
TKN	4.8	14.5	0.5	46	1
Toluene	0.0005	0.0005	0.0005	11	11
Trichloroethylene	0.0004	0.0005	0.00025	15	15
TSS	5.9	50.0	1.0	228	0
Zinc, Total	0.0381	0.052	0.024	18	0

The pollutants in the following table are as mg/L and total unless otherwise specified. Pollutant data is from samples in 2014-2016.

Domestic+Commercial - Pollutant	Average	Maximum	Minimum	Count	# <MDL
1,4-Dichlorobenzene	0.0029	0.0029	0.0029	2	0
Aluminum	0.308	0.308	0.308	1	0
Antimony	0.0025	0.0025	0.0025	2	2
Arsenic, Total	0.0025	0.0025	0.0025	8	8
Barium	0.032	0.032	0.032	2	0
Beryllium	0.001	0.001	0.001	2	2
Bis (2-ethylhexyl) phthalate	0.02	0.028	0.01	8	4

Domestic+Commercial - Pollutant	Average	Maximum	Minimum	Count	# <MDL
BOD5	189	243	133	8	0
Cadmium, Total	0.0006	0.001	0.0005	8	6
Chloride	243	340	152	8	0
Chloroform	0.0012	0.0012	0.0011	2	0
Chromium, Total	0.0025	0.0025	0.0025	8	8
Copper, Total	0.056	0.071	0.039	8	0
Cyanide	0.01	0.01	0.01	2	2
D-BHC	0.001	0.001	0.0005	2	2
Fluoride	0.4	0.5	0.2	2	0
Iron	0.74	0.88	0.6	2	0
Lead, Total	0.004	0.01	0.002	8	0
Manganese	0.031	0.033	0.029	2	0
Mercury, Total	0.0001	0.0001	0.0001	8	8
Molybdenum, Total	0.0025	0.0025	0.0025	8	8
Nickel, Total	0.0029	0.006	0.0025	8	7
Nitrate	0.05	0.05	0.05	2	2
Oil and Grease - HEM	40.9	45.9	35.8	2	0
Phosphorus	6	6.32	4.68	6	0
Selenium, Total	0.0025	0.0025	0.0025	8	8
Silver, Total	0.0005	0.0005	0.0005	8	8
Sulfate	446	465	426	2	0
TDS	1290	1640	968	7	0
Tetrachlorethylene	0.0003	0.0005	0.00025	8	8
Thallium	0.0010	0.001	0.001	2	2
Toluene	0.0005	0.0005	0.0005	2	2
Trichloroethylene	0.0003	0.0005	0.00025	7	7
TSS	185	322	108	6	0
Zinc, Total	0.142	0.2	0.084	8	0

The pollutants in the following table are as Total mg/kg Dry Weight. Pollutant data is from samples in 2014-2016. Red font denotes <RL.

Sludge	Maximum	Count
Arsenic	7.5	27
Cadmium	3.1	26
Chromium	46	16
Copper	822	27
Lead	120	27
Mercury	2	27
Molybdenum	30	26
Nickel	33	27
Selenium	21	27
Silver	10	16
Zinc	1550	27

K. Analytical and Sampling Methods

1. Analytical Methods and Sample Preservation

All wastewater samples were collected, preserved and analyzed using methods approved pursuant to 40 CFR Part 136 and 40 CFR Part 403, Appendix E and were of such quality as to be legally defensible. The City uses a mix of in-house and external support for analytical work performed under its pretreatment program.

2. Sample Types

POTW influent and effluent samples were collected as required by the NPDES Permit. If sampling for oil and grease, cyanide, pH, sulfides, phenols or volatile organic compounds, the City would use the appropriate sample type as allowed in its NPDES permit.

3. Example Liquid Matrix Sampling Criteria

Pollutant	Sample Type	Sample Hold Time	Sample Preservation
Arsenic	24 hr Composite	6 Months	HNO_3 to pH <2
Biochemical Oxygen Demand (BOD5)	24 hr Composite	48 Hours	Cool to 6°C
Cadmium	24 hr Composite	6 Months	HNO_3 to pH <2
Chromium (total)	24 hr Composite	6 Months	HNO_3 to pH <2
Copper	24 hr Composite	6 Months	HNO_3 to pH <2
Cyanide	Grab (for Pretreatment Required Sampling)	14 Days	Cool to 6°C, 1:1 NaOH to pH >12
Lead	24 hr Composite	6 Months	HNO_3 to pH <2
Mercury 1631E	Grab	90 Days	5 mL/L 12N HCl or 5 mL/L BrCl
Mercury 245.1	24 hr Composite	28 Days	HNO_3 to pH <2
Molybdenum	24 hr Composite	6 Months	HNO_3 to pH <2
Nickel	24 hr Composite	6 Months	HNO_3 to pH <2
Phosphorus	24 hr Composite	28 days	Cool to 6°C, 1:1 H_2SO_4 to pH <2
Selenium	24 hr Composite	6 Months	Cool to 6°C, 1:1 HNO_3 to pH <2
Silver	24 hr Composite	6 Months	HNO_3 to pH <2
Total Suspended Solids (TSS)	24 hr Composite	7 Days	Cool to 6°C
Zinc	24 hr Composite	6 Months	HNO_3 to pH <2

4. Chain of Custody (COC)

All samples included a COC for sample identification (sample location) and tracking. COC information and records are maintained at the Industrial Pretreatment Program. Quality Assurance/Quality Control for sampling is provided with each sample report by the contract laboratory.

L. Recordkeeping

All records that are the basis for the local limits developed shall be maintained for at least three years beyond when the local limits are no longer implemented and enforced. The records will be kept at the Industrial Pretreatment Program as a hardcopy and/or in electronic (.pdf) format.

M. Acronyms

BMP	Best Management Practice
BOD_5	Biochemical Oxygen Demand
°C	degrees Celsius
CFR	Code of Federal Regulations
CWA	Clean Water Act
EPA	U.S. Environmental Protection Agency
°F	degrees Fahrenheit
gpd	gallons per day
IU	Industrial User
MAHL	Maximum Allowable Headworks Loading
MAIL	Maximum Allowable Industrial Loading
mgd	million gallons per day
mg/L	milligrams per Liter
NPDES	National Pollutant Discharge Elimination System
POTW	Publicly Owned Treatment Works
SIU	Significant Industrial User
TSS	Total Suspended Solids

ATTACHMENT 1
EXAMPLE CALCULATION AND FORMULAS

Process and Formulas used in Calculating Allowable Headworks Loadings (from 2004 EPA Guidance) – Copper Example

1. Applicable Allowable Headworks Loadings (AHLs)

Water Quality: $(8.345*(WQS*(Q_{recH2O} + Q_{POTW})-(Q_{recH2O} * C_{stream})))/(1-(R_{POTW}/100))$

WQS: Applicable Water Quality Standard (mg/L): Acute or Chronic, as appropriate
Q_{recH2O}: Receiving Water Low Flow (mgd): Acute = 0 mgd and Chronic = 0.89 mgd.
Q_{POTW}: POTW flow for local limits (mgd): 3.40 mgd
C_{stream}: Upstream Receiving Water Concentration (mg/L) if specified by State: N/A
R_{POTW}: Removal Efficiency for POTW (%).

Rounding may change the values below from that in the submittal by a small quantity.

Water Quality (Acute) = (8.345 * 0.0517 mg/L * 3.40 mgd)))/(1-(86/100))
= 10.4778 lbs/day

Water Quality Chronic = (8.345 * 0.0305 mg/L * 4.29 mgd)))/(1-(86/100))
= 7.7993 lbs/day

Agriculture WQS = (8.345 * 0.5 mg/L* 4.29 mgd)))/(1-(86/100))
= 127.8573 lbs/day

Irrigation WQS = (8.345 * 0.2 mg/L* 4.29 mgd)))/(1-86/100)
= 51.1429 lbs/day

Water Supply = (8.345 * 1.3 mg/L* 3.40 mgd)))/(1-86/100)
= 263.4636 lbs/day

Sludge = 22.5124 lbs/day

2. Determine MAHL (most stringent AHL) = 7.7993 lbs/day, Chronic WQS.

3. Determine the Maximum Allowable Industrial Loading (MAIL)

MAIL = MAHL * 1-SF/100 - Domestic+Commercial Loading
MAIL = (7.7993 lbs/day * 0.9 – 1.4954 lbs/day) = 5.5240 lbs/day

4. Expansion Factor Set Aside for New IUs and expansion of SIUs.

MAIL * (1 - Expansion Factor/100) = adjusted MAIL: No Expansion Factor adopted for Copper.

5. Calculate the Uniform Concentration Local Limit (mg/L)

(MAIL/(SIU + Permitted non-SIU Flow (mgd) * 8.345))
5.5240 lbs/day / (0.250 mgd * 8.345) = 2.65 mg/L

ATTACHMENT 2
EXAMPLE LAB REPORT

Legal review and technical Review by: City of Roswell, NM

Prepared by:

CWA Consulting Services, LLC.
P.O. Box 620848
Littleton, CO 80162
www.POTW.com

Curt McCormick
(303) 904-6049
Fax: (720) 836-4209
Curt@POTW.com

CITY OF ROSWELL
P.O. BOX 1838 + ROSWELL, NM USA 88202-1838 + TEL: 575.624.6700 + FAX: 575.624.6709 + www.roswell-nm.gov

January 16, 2018

Rudy Molina, Pretreatment Coordinator
NPDES Permits & TMDLs Branch (6WQ-PO)
EPA Region 6
Suite 1200
1445 Ross Avenue
Dallas, Texas 75202

Re: Amendments to the Industrial Waste Ordinance

Dear Mr. Molina,

I am the City Attorney for the City of Roswell. On May 26, 2017, the City of Roswell submitted proposed changes to its Industrial Waste Ordinance for informal review. After that submission and resolutions of any comments, you requested an attorney's statement regarding the modification accompany the final submission and request for approval of the proposed changes.

The City of Roswell's pretreatment program was first approved by EPA in 1993 pursuant to 40 CFR Section 403.11. In that submittal, the City of Roswell affirmed that the City of Roswell had adequate legal authority to implement and enforce the requirements of 40 CFR Part 403. After the program approval, the City of Roswell has continued to update its legal authority and pretreatment program. EPA approved these substantial modifications in 2011 pursuant to 40 CFR sections 403.11 and 403.18. In each of these substantial modifications, the City of Roswell affirmed the ability to apply and enforce the requirements of 40 CFR Part 403.

In my opinion, the proposed changes submitted by the City of Roswell as detailed in the enclosure to this letter, will have no negative effect on the City of Roswell's ability to enforce and implement its Industrial Pretreatment Program and will continue to allow the City of Roswell to fully implement and enforce all applicable pretreatment standards and requirements. The changes to the City of Roswell's legal authority were adopted by the City Council pursuant to its statutory authority, subject to EPA approval. It is also my opinion that the proposed changes to the City of Roswell's legal authority follow State law, the City's governing documents and established standards, and the City of Roswell's National Pollutant Discharge Elimination System Permit (NPDES).

Please feel free to contact me at (575) 637-6220 if you have questions or require any additional information regarding this matter.

Sincerely,

Aaron Holloman
City Attorney
a.holloman@roswell-nm.gov

POTW Inf-Eff

10/27/2016

City of Roswell
Attn: James Norton
Post Office Drawer 1838
Roswell, NM 88202

Date and Time Received: 10/12/2016 1030
Pace File No.: 5626
Pace Order No.: 136343
P.O./Project No: 171317

Dear Mr. Norton:

This laboratory report, containing the samples indicated below, includes 28 pages for the analytical report, 12 page(s) for the chain of custody and/or analysis request, and 1 page(s) for the sample receipt form.

PACE LAB ID #	SAMPLE DESCRIPTION	SAMPLE TYPE	DATE SAMPLED
16100702	141-INF-16	Liquid	10/10/2016
16100703	142-INF-16	Liquid	10/10/2016
16100704	143-INF-16	Liquid	10/11/2016
16100705	144-EFF-16	Liquid	10/11/2016
16100706	145-EFF-16	Liquid	10/11/2016
16100707	146-EFF-16	Liquid	10/11/2016
16100708	147-INF-16	Liquid	10/11/2016
16100709	148-EFF-16	Liquid	10/11/2016
16100710	150-EFF-16	Liquid	10/11/2016
16100711	151-INF-16	Liquid	10/11/2016
16100712	149-SL-16	Sludge	10/11/2016
16100712R	149-SL-16	Sludge	10/11/2016
16100755	Trip Blank	Liquid	10/11/2016

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 Pace is otherwise notified. Pace is accredited by the State of Kansas through the National Environmental Laboratory Accreditation Program (NELAP). The results contained in this report were obtained using Pace'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.

Thank you for choosing Pace for this project.

525 N. Eighth St. - Salina, KS 67401
785-827-1273 800-535-3076 Fax 785-823-7830
KDHE Environmental Laboratory Accreditation No. E-10146

Gregory J. Groene
Project Manager
Gregory.Groene@pacelabs.com

Sample Results

Client: City of Roswell
Attn: James Norton
Post Office Drawer 1838
Roswell, NM 88202

Date Reported: 10/27/2016
Date Received: 10/12/2016
Pace File No: 5626
Pace Order No: 136343

Lab Number: 16100702
Sample Description: 141-INF-16

Date Sampled: 10/10/2016
Time Sampled: 0500

Analysis	Concentration	Units	Dilution Factor	LOQ	Book/Page
Aluminum, Tot. Rec., ICP-MS	694	µg/L	1.0	2.5	7202/923
Antimony, Tot. Rec., ICP-MS	ND(5)	µg/L	1.0	5	7202/917
Arsenic, Tot. Rec., ICP-MS	ND(5)	µg/L	1.0	0.5	7202/917
Beryllium, Tot. Rec., ICP-MS	ND(0.5)	µg/L	1.0	0.5	7202/924
Cadmium, Tot. Rec., ICP-MS	ND(1)	µg/L	1.0	1	7202/917
Chromium, Tot. Rec., ICP-MS	ND(5)	µg/L	1.0	5	7202/919
Copper, Tot. Rec., ICP-MS	49.4	µg/L	1.0	0.5	7202/919
Lead, Tot. Rec., ICP-MS	6	µg/L	1.0	0.5	7202/917
Mercury, Total	ND(0.2)	µg/L	1.0	0.2	7203/964
Molybdenum, Tot. Rec., ICP	ND(5)	µg/L	1.0	5	7443/777
Nickel, Tot. Rec., ICP-MS	3.5	µg/L	1.0	0.5	7202/919
Selenium, Tot. Rec., ICP-MS	ND(5)	µg/L	1.0	5	7202/923
Silver, Tot. Rec., ICP-MS	ND(0.5)	µg/L	1.0	0.5	7202/925
Thallium, Tot. Rec., ICP-MS	ND(2)	µg/L	1.0	0.5	7202/917
Zinc, Tot. Rec., ICP-MS	171	µg/L	1.0	20	7202/919

Analysis	Date/Time Prepared	Date/Time Analyzed	QC Batch	Inst. Batch	Analyst	Method(s)
Aluminum, Tot. Rec., ICP-MS	10/13/16 0823	10/27/16 1327	161013-2	1IP3301	KMW	200.8 Rev. 5.4
Antimony, Tot. Rec., ICP-MS	10/13/16 0823	10/18/16 1520	161013-2	4IP3292	KMW	200.8 Rev. 5.4
Arsenic, Tot. Rec., ICP-MS	10/13/16 0823	10/18/16 1520	161013-2	4IP3292	KMW	200.8 Rev. 5.4
Beryllium, Tot. Rec., ICP-MS	10/13/16 0823	10/27/16 1327	161013-2	1IP3301	KMW	200.8 Rev. 5.4
Cadmium, Tot. Rec., ICP-MS	10/13/16 0823	10/18/16 1520	161013-2	4IP3292	KMW	200.8 Rev. 5.4
Chromium, Tot. Rec., ICP-MS	10/13/16 0823	10/18/16 1520	161013-2	4IP3292	KMW	200.8 Rev. 5.4
Copper, Tot. Rec., ICP-MS	10/13/16 0823	10/18/16 1520	161013-2	4IP3292	KMW	200.8 Rev. 5.4
Lead, Tot. Rec., ICP-MS	10/13/16 0823	10/18/16 1520	161013-2	4IP3292	KMW	200.8 Rev. 5.4
Mercury, Total	10/14/16 0810	10/14/16 1614	161014-1	3MA3288	JDL	SM 3112B-2009
Molybdenum, Tot. Rec., ICP	10/13/16 0823	10/13/16 2232	161013-2	9IP4287	KMW	200.7 Rev. 4.4
Nickel, Tot. Rec., ICP-MS	10/13/16 0823	10/18/16 1520	161013-2	4IP3292	KMW	200.8 Rev. 5.4
Selenium, Tot. Rec., ICP-MS	10/13/16 0823	10/27/16 1327	161013-2	1IP3301	KMW	200.8 Rev. 5.4
Silver, Tot. Rec., ICP-MS	10/13/16 0823	10/25/16 1552	161013-2	3IP3299	KMW	200.8 Rev. 5.4
Thallium, Tot. Rec., ICP-MS	10/13/16 0823	10/18/16 1520	161013-2	4IP3292	KMW	200.8 Rev. 5.4
Zinc, Tot. Rec., ICP-MS	10/13/16 0823	10/18/16 1520	161013-2	4IP3292	KMW	200.8 Rev. 5.4
Mercury Total Preparation Method						SM 3112B-2009
Total Recoverable Metals Preparation Method						200.2/200.7/200.8

Conclusion of Lab Number: 16100702

Pace Analytical

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Client: City of Roswell
Attn: James Norton
Post Office Drawer 1838
Roswell, NM 88202

Date Reported: 10/27/2016
Date Received: 10/12/2016
Pace File No: 5626
Pace Order No: 136343

Lab Number: 16100703
Sample Description: 142-INF-16

Date Sampled: 10/10/2016
Time Sampled: 0000

Analysis	Concentration	Units	Dilution Factor	LOQ	Book/Page
Cyanide, Total	ND(0.02) SD	mg/L	1.0	0.02	7543/135

Analysis	Date/Time Prepared	Date/Time Analyzed	QC Batch	Inst. Batch	Analyst	Method(s)
Cyanide, Total	10/17/16 1323	10/17/16 1810	161017-1	161017-2	ASK	4500-CN(B,C,E)-99

Conclusion of Lab Number: 16100703

Lab Number: 16100704
Sample Description: 143-INF-16

Date Sampled: 10/11/2016
Time Sampled: 0000

Analysis	Concentration	Units	Dilution Factor	LOQ	Book/Page
Phenolic Compounds	0.039	mg/L	1.0	0.006	6815/307

Analysis	Date/Time Prepared	Date/Time Analyzed	QC Batch	Inst. Batch	Analyst	Method(s)
Phenolic Compounds	N/A	10/25/16 1214	161025-2	161025-3	BLA	SM 5530 C/D-2005

Conclusion of Lab Number: 16100704

Lab Number: 16100705
Sample Description: 144-EFF-16

Date Sampled: 10/11/2016
Time Sampled: 1300

Analysis	Concentration	Units	Dilution Factor	LOQ	Book/Page
Aluminum, Tot. Rec., ICP-MS	25.1	µg/L	1.0	2.5	7202/923
Antimony, Tot. Rec., ICP-MS	ND(5)	µg/L	1.0	5	7202/917
Arsenic, Tot. Rec., ICP-MS	ND(5)	µg/L	1.0	0.5	7202/917
Beryllium, Tot. Rec., ICP-MS	ND(0.5)	µg/L	1.0	0.5	7202/924
Cadmium, Tot. Rec., ICP-MS	ND(1)	µg/L	1.0	1	7202/917
Chromium, Tot. Rec., ICP-MS	ND(5)	µg/L	1.0	5	7202/919
Copper, Tot. Rec., ICP-MS	4.3	µg/L	1.0	0.5	7202/919
Lead, Tot. Rec., ICP-MS	ND(1)	µg/L	1.0	0.5	7202/917

-Continued-

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Date Reported: 10/27/2016
Date Received: 10/12/2016
Pace File No: 5626
Pace Order No: 136343

Lab Number: 16100705
Sample Description: 144-EFF-16

Date Sampled: 10/11/2016
Time Sampled: 1300

Analysis	Concentration	Units	Dilution Factor	LOQ	Book/Page
Mercury, Total	ND(0.2)	µg/L	1.0	0.2	7203/964
Molybdenum, Tot. Rec., ICP	ND(5)	µg/L	1.0	5	7443/777
Nickel, Tot. Rec., ICP-MS	0.7	µg/L	1.0	0.5	7202/919
Selenium, Tot. Rec., ICP-MS	ND(5)	µg/L	1.0	5	7202/923
Silver, Tot. Rec., ICP-MS	ND(0.5)	µg/L	1.0	0.5	7202/925
Thallium, Tot. Rec., ICP-MS	ND(2)	µg/L	1.0	0.5	7202/917
Zinc, Tot. Rec., ICP-MS	25	µg/L	1.0	20	7202/919

Analysis	Date/Time Prepared	Date/Time Analyzed	QC Batch	Inst. Batch	Analyst	Method(s)
Aluminum, Tot. Rec., ICP-MS	10/13/16 0823	10/27/16 1322	161013-2	1IP3301	KMW	200.8 Rev. 5.4
Antimony, Tot. Rec., ICP-MS	10/13/16 0823	10/18/16 1525	161013-2	4IP3292	KMW	200.8 Rev. 5.4
Arsenic, Tot. Rec., ICP-MS	10/13/16 0823	10/18/16 1525	161013-2	4IP3292	KMW	200.8 Rev. 5.4
Beryllium, Tot. Rec., ICP-MS	10/13/16 0823	10/27/16 1322	161013-2	1IP3301	KMW	200.8 Rev. 5.4
Cadmium, Tot. Rec., ICP-MS	10/13/16 0823	10/18/16 1525	161013-2	4IP3292	KMW	200.8 Rev. 5.4
Chromium, Tot. Rec., ICP-MS	10/13/16 0823	10/18/16 1525	161013-2	4IP3292	KMW	200.8 Rev. 5.4
Copper, Tot. Rec., ICP-MS	10/13/16 0823	10/18/16 1525	161013-2	4IP3292	KMW	200.8 Rev. 5.4
Lead, Tot. Rec., ICP-MS	10/13/16 0823	10/18/16 1525	161013-2	4IP3292	KMW	200.8 Rev. 5.4
Mercury, Total	10/14/16 0810	10/14/16 1618	161014-1	3MA3288	JDL	SM 3112B-2009
Molybdenum, Tot. Rec., ICP	10/13/16 0823	10/13/16 2236	161013-2	9IP4287	KMW	200.7 Rev. 4.4
Nickel, Tot. Rec., ICP-MS	10/13/16 0823	10/18/16 1525	161013-2	4IP3292	KMW	200.8 Rev. 5.4
Selenium, Tot. Rec., ICP-MS	10/13/16 0823	10/27/16 1322	161013-2	1IP3301	KMW	200.8 Rev. 5.4
Silver, Tot. Rec., ICP-MS	10/13/16 0823	10/25/16 1557	161013-2	3IP3299	KMW	200.8 Rev. 5.4
Thallium, Tot. Rec., ICP-MS	10/13/16 0823	10/18/16 1525	161013-2	4IP3292	KMW	200.8 Rev. 5.4
Zinc, Tot. Rec., ICP-MS	10/13/16 0823	10/18/16 1525	161013-2	4IP3292	KMW	200.8 Rev. 5.4
Mercury Total Preparation Method						SM 3112B-2009
Total Recoverable Metals Preparation Method						200.2/200.7/200.8

Conclusion of Lab Number: 16100705

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Roswell, NM 88202

Date Reported: 10/27/2016
Date Received: 10/12/2016
Pace File No: 5626
Pace Order No: 136343

Lab Number: 16100706
Sample Description: 145-EFF-16

Date Sampled: 10/11/2016
Time Sampled: 0800

Analysis	Concentration	Units	Dilution Factor	LOQ	Book/Page
Cyanide, Total	ND(0.02)	mg/L	1.0	0.02	7543/135

Analysis	Date/Time Prepared	Date/Time Analyzed	QC Batch	Inst. Batch	Analyst	Method(s)
Cyanide, Total	10/17/16 1323	10/17/16 1811	161017-1	161017-2	ASK	4500-CN(B,C,E)-99

Conclusion of Lab Number: 16100706

Lab Number: 16100707
Sample Description: 146-EFF-16

Date Sampled: 10/11/2016
Time Sampled: 0800

Analysis	Concentration	Units	Dilution Factor	LOQ	Book/Page
Phenolic Compounds	ND(0.006)	mg/L	1.0	0.006	6815/307
Phosphorus, Total, as P	0.53	mg/L	1.0	0.05	7515/394

Analysis	Date/Time Prepared	Date/Time Analyzed	QC Batch	Inst. Batch	Analyst	Method(s)
Phenolic Compounds	N/A	10/25/16 1215	161025-2	161025-3	BLA	SM 5530 C/D-2005
Phosphorus, Total, as P	10/17/16 0817	10/18/16 1441	161018-2	161018-4	MLL	4500-P(B&G)-2011

Conclusion of Lab Number: 16100707

Client: City of Roswell
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Date Reported: 10/27/2016
Date Received: 10/12/2016
Pace File No: 5626
Pace Order No: 136343

Lab Number: 16100708
Sample Description: 147-INF-16

Date Sampled: 10/11/2016
Time Sampled: 0000

Analysis	Concentration	Units	Dilution Factor	LOQ	Book/Page
Tetrachloroethylene	ND(0.5)	µg/L	1.0	0.5	7466/398
Trichloroethene	ND(0.5)	µg/L	1.0	0.5	7466/398

Analysis	Date/Time Prepared	Date/Time Analyzed	QC Batch	Inst. Batch	Analyst	Method(s)
Tetrachloroethylene	N/A	10/18/16 1601	1MS8292	1MS8292	GMA	624
Trichloroethene	N/A	10/18/16 1601	1MS8292	1MS8292	GMA	624
Volatile Analysis Preparation Method						624

Conclusion of Lab Number: 16100708

Lab Number: 16100709
Sample Description: 148-EFF-16

Date Sampled: 10/11/2016
Time Sampled: 0800

Analysis	Concentration	Units	Dilution Factor	LOQ	Book/Page
Tetrachloroethylene	ND(0.5)	µg/L	1.0	0.5	7466/398
Trichloroethene	ND(0.5)	µg/L	1.0	0.5	7466/398

Analysis	Date/Time Prepared	Date/Time Analyzed	QC Batch	Inst. Batch	Analyst	Method(s)
Tetrachloroethylene	N/A	10/18/16 1636	1MS8292	1MS8292	GMA	624
Trichloroethene	N/A	10/18/16 1636	1MS8292	1MS8292	GMA	624
Volatile Analysis Preparation Method						624

Conclusion of Lab Number: 16100709

Client: City of Roswell
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Roswell, NM 88202

Date Reported: 10/27/2016
Date Received: 10/12/2016
Pace File No: 5626
Pace Order No: 136343

Lab Number: 16100710
Sample Description: 150-EFF-16

Date Sampled: 10/11/2016
Time Sampled: 0000

Analysis	Concentration	Units	Dilution Factor	LOQ	Book/Page
No Tests Assigned	on hold		1.0		7544/599

Analysis	Date/Time Prepared	Date/Time Analyzed	QC Batch	Inst. Batch	Analyst	Method(s)
No Tests Assigned	N/A	10/11/16	N/A	N/A		N/A

Conclusion of Lab Number: 16100710

Lab Number: 16100711
Sample Description: 151-INF-16

Date Sampled: 10/11/2016
Time Sampled: 0500

Analysis	Concentration	Units	Dilution Factor	LOQ	Book/Page
Bis(2-Ethylhexyl)phthalate	25.1 B MQ	µg/L	2.0	10	7471/277

Analysis	Date/Time Prepared	Date/Time Analyzed	QC Batch	Inst. Batch	Analyst	Method(s)
Bis(2-Ethylhexyl)phthalate	10/18/16 0745	10/25/16 0105	161018-1	1MS6298	JMM	625
Acid Preparation Method						625/3510C

Conclusion of Lab Number: 16100711

Client: City of Roswell
Attn: James Norton
Post Office Drawer 1838
Roswell, NM 88202

Date Reported: 10/27/2016
Date Received: 10/12/2016
Pace File No: 5626
Pace Order No: 136343

Lab Number: 16100712
Sample Description: 149-SL-16

Date Sampled: 10/11/2016
Time Sampled: 1300

Analysis	Concentration	Units	Dilution Factor	LOQ	Book/Page
TCLP Pesticides					
Chlordane	ND(5.0)	µg/L	1.0	5.0	7221/943
Endrin	ND(1.0)	µg/L	1.0	1.0	7221/943
Heptachlor	ND(1.0)	µg/L	1.0	1.0	7221/943
Heptachlor Epoxide	ND(1.0)	µg/L	1.0	1.0	7221/943
Lindane (G-BHC)	ND(0.5)	µg/L	1.0	0.5	7221/943
Methoxychlor	ND(2.0)	µg/L	1.0	2.0	7221/943
Toxaphene	ND(50)	µg/L	1.0	50	7221/943
a-Chlordane	ND(1.0)	µg/L	1.0	1.0	7221/943
g-Chlordane	ND(1.0)	µg/L	1.0	1.0	7221/943
TCLP Herbicides					
2,4,5-TP	ND(10)	µg/L	1.0	10	7462/132
2,4-D	ND(10)	µg/L	1.0	10	7462/132
TCLP Volatiles					
1,1-Dichloroethylene	ND(20)	µg/L	20	20	7466/400
1,2-Dichloroethane	ND(20)	µg/L	20	20	7466/400
Benzene	ND(20)	µg/L	20	20	7466/400
Carbon Tetrachloride	ND(20)	µg/L	20	20	7466/400
Chlorobenzene	ND(20)	µg/L	20	20	7466/400
Chloroform	ND(20)	µg/L	20	20	7466/400
Methyl Ethyl Ketone	ND(500)	µg/L	20	500	7466/400
Tetrachloroethylene	ND(20)	µg/L	20	20	7466/400
Trichloroethylene	ND(20)	µg/L	20	20	7466/400
Vinyl Chloride	ND(20)	µg/L	20	20	7466/400
TCLP Extractables					
2,4,5-Trichlorophenol	ND(100) QC	µg/L	4.0	100	7471/276
2,4,6-Trichlorophenol	ND(100)	µg/L	4.0	100	7471/276
2,4-Dinitrotoluene	ND(100)	µg/L	4.0	100	7471/276
Hexachlorobenzene	ND(100)	µg/L	4.0	100	7471/276
Hexachlorobutadiene	ND(100)	µg/L	4.0	100	7471/276
Hexachloroethane	ND(100)	µg/L	4.0	100	7471/276
m & p-Cresol	OC	µg/L	4.0	100	7471/276
Nitrobenzene	ND(100)	µg/L	4.0	100	7471/276
o-Cresol	ND(100)	µg/L	4.0	100	7471/276
p-Dichlorobenzene	ND(100)	µg/L	4.0	100	7471/276
Pentachlorophenol	ND(300)	µg/L	4.0	300	7471/276
Pyridine	ND(100)	µg/L	4.0	100	7471/276
Arsenic, TCLP	ND(0.10)	mg/L	1.0	0.10	7443/784
Barium, TCLP	ND(1.0)	mg/L	1.0	1.0	7443/784

-Continued-

Client: City of Roswell
Attn: James Norton
Post Office Drawer 1838
Roswell, NM 88202

Date Reported: 10/27/2016
Date Received: 10/12/2016
Pace File No: 5626
Pace Order No: 136343

Lab Number: 16100712
Sample Description: 149-SL-16

Date Sampled: 10/11/2016
Time Sampled: 1300

Analysis	Concentration	Units	Dilution Factor	LOQ	Book/Page
Cadmium, TCLP	ND(0.06)	mg/L	1.0	0.03	7443/784
Chromium, TCLP	ND(0.10)	mg/L	1.0	0.10	7443/784
Lead, TCLP	ND(0.05)	mg/L	1.0	0.05	7443/784
Mercury, TCLP	ND(0.005)	mg/L	1.0	0.005	7203/965
Selenium, TCLP	ND(0.10)	mg/L	1.0	0.10	7443/784
Silver, TCLP	ND(0.20)	mg/L	1.0	0.20	7443/784
Aluminum, Total, ICP	9230	mg/kg dry wt.	1.93	30	7443/781
Antimony, Total, ICP	ND(3.1) M	mg/kg dry wt.	1.95	3.1	7443/785
Arsenic, Total, ICP	5.4	mg/kg dry wt.	1.93	2	7443/781
Beryllium, Total, ICP	ND(0.6) M	mg/kg dry wt.	1.93	0.6	7443/781
Cadmium, Total, ICP	2.2	mg/kg dry wt.	1.93	0.6	7443/781
Chromium, Total, ICP	26.4	mg/kg dry wt.	1.93	2	7443/781
Copper, Total, ICP	570	mg/kg dry wt.	1.93	3.1	7443/781
Lead, Total, ICP	60.7	mg/kg dry wt.	1.93	0.9	7443/781
Mercury, Total	1.2	mg/kg dry wt.	3.0	0.1	7203/963
Molybdenum, Total, ICP	16.2	mg/kg dry wt.	1.93	2	7443/781
Nickel, Total, ICP	23.1	mg/kg dry wt.	1.93	2	7443/781
Selenium, Total, ICP	16.9	mg/kg dry wt.	1.93	2	7443/781
Silver, Total, ICP	5.1	mg/kg dry wt.	1.93	2	7443/781
Thallium, Total, ICP	ND(2) M	mg/kg dry wt.	1.93	2	7443/781
Zinc, Total, ICP	1250	mg/kg dry wt.	1.93	3.1	7443/781
Cyanide, Total	2	mg/kg dry wt.	1.0	2	7543/143
Phenolic Compounds	52.0	mg/kg dry wt.	10	10	6815/306
Solids, Total	62.4	% by weight	1.0	0.1	7518/637
Solids, Total Volatile	48.9	% by weight	1.0	0.1	7518/638

Analysis	Date/Time Prepared	Date/Time Analyzed	QC Batch	Inst. Batch	Analyst	Method(s)
TCLP Pesticides	10/20/16 1145	10/25/16 2239	161020-3	2EX6299	SPA	8081A
TCLP Herbicides	10/20/16 0725	10/24/16 1247	161020-1	1NX5298	JMM	8151A
TCLP Volatiles	N/A	10/19/16 2324	1MS8293	2MS8293	GMA	8260B
TCLP Extractables	10/20/16 0810	10/21/16 1129	161020-2	1MS6295	JMM	8270C
Arsenic, TCLP	10/18/16 1049	10/20/16 1559	161018-2	6IP4294	KMW	6010B
Barium, TCLP	10/18/16 1049	10/20/16 1559	161018-2	6IP4294	KMW	6010B
Cadmium, TCLP	10/18/16 1049	10/20/16 1559	161018-2	6IP4294	KMW	6010B
Chromium, TCLP	10/18/16 1049	10/20/16 1559	161018-2	6IP4294	KMW	6010B
Lead, TCLP	10/18/16 1049	10/20/16 1559	161018-2	6IP4294	KMW	6010B
Mercury, TCLP	10/18/16 1032	10/18/16 1458	161018-1	1MA3292	JDL	7470A
Selenium, TCLP	10/18/16 1049	10/20/16 1559	161018-2	6IP4294	KMW	6010B

-Continued-

Sample Results

Client: City of Roswell
Attn: James Norton
Post Office Drawer 1838
Roswell, NM 88202

Date Reported: 10/27/2016
Date Received: 10/12/2016
Pace File No: 5626
Pace Order No: 136343

Analysis	Date/Time Prepared	Date/Time Analyzed	QC Batch	Inst. Batch	Analyst	Method(s)
Silver, TCLP	10/18/16 1049	10/20/16 1559	161018-2	6IP4294	KMW	6010B
Aluminum, Total, ICP	10/13/16 0743	10/18/16 2010	161013-1	9IP4292	KMW	6010B
Antimony, Total, ICP	10/20/16 1011	10/25/16 0159	161020-2	13IP4298	KMW	6010B
Arsenic, Total, ICP	10/13/16 0743	10/18/16 2010	161013-1	9IP4292	KMW	6010B
Beryllium, Total, ICP	10/13/16 0743	10/18/16 2010	161013-1	9IP4292	KMW	6010B
Cadmium, Total, ICP	10/13/16 0743	10/18/16 2010	161013-1	9IP4292	KMW	6010B
Chromium, Total, ICP	10/13/16 0743	10/18/16 2010	161013-1	9IP4292	KMW	6010B
Copper, Total, ICP	10/13/16 0743	10/18/16 2010	161013-1	9IP4292	KMW	6010B
Lead, Total, ICP	10/13/16 0743	10/18/16 2010	161013-1	9IP4292	KMW	6010B
Mercury, Total	10/13/16 1022	10/13/16 1717	161013-2	2MA3287	JDL	7471A
Molybdenum, Total, ICP	10/13/16 0743	10/18/16 2010	161013-1	9IP4292	KMW	6010B
Nickel, Total, ICP	10/13/16 0743	10/18/16 2010	161013-1	9IP4292	KMW	6010B
Selenium, Total, ICP	10/13/16 0743	10/18/16 2010	161013-1	9IP4292	KMW	6010B
Silver, Total, ICP	10/13/16 0743	10/18/16 2010	161013-1	9IP4292	KMW	6010B
Thallium, Total, ICP	10/13/16 0743	10/18/16 2010	161013-1	9IP4292	KMW	6010B
Zinc, Total, ICP	10/13/16 0743	10/18/16 2010	161013-1	9IP4292	KMW	6010B
Cyanide, Total	10/24/16 1645	10/24/16 1854	161024-2	161024-3	ASK	9010B(Mod),9014
Phenolic Compounds	N/A	10/25/16 1201	161025-1	161025-1	BLA	9065(Modified)
Solids, Total	N/A	10/13/16 1458	161013-1	161013-1	BLA	SM 2540 (G)-1997
Solids, Total Volatile	N/A	10/14/16 1552	161014-1	161014-1	BLA	SM 2540 (G)-1997
TCLP Preparation	10/17/16 1545		161017-2		JDL	1311
TCLP/ZHE Preparation	10/17/16 1545		161017-1		JDL	1311
Volatile Analysis Preparation Method						5035A
Base Neutral/Acid TCLP Preparation Method						3510C
Herbicides TCLP Preparation Method						8151A(M)
ICP Metals Total Preparation Method						3050B
Mercury Total Preparation Method						7471A
ICP Metals TCLP Preparation Method						3010A
Mercury TCLP Preparation Method						7470A
Antimony Total Preparation Method						3050B
Organochlor. Pest/PCB TCLP Preparation Method						3510C

Conclusion of Lab Number: 16100712

Client: City of Roswell
Attn: James Norton
Post Office Drawer 1838
Roswell, NM 88202

Date Reported: 10/27/2016
Date Received: 10/12/2016
Pace File No: 5626
Pace Order No: 136343

Lab Number: 16100712R
Sample Description: 149-SL-16

Date Sampled: 10/11/2016
Time Sampled: 1300

A laboratory number ending with R is from a second preparation and/or analysis of the sample.

Analysis	Concentration	Units	Dilution Factor	LOQ	Book/Page
TCLP Extractables					
2,4,5-Trichlorophenol	ND(250)	µg/L	10	250	7471/277
2,4,6-Trichlorophenol	ND(250)	µg/L	10	250	7471/277
2,4-Dinitrotoluene	ND(250)	µg/L	10	250	7471/277
Hexachlorobenzene	ND(250)	µg/L	10	250	7471/277
Hexachlorobutadiene	ND(250)	µg/L	10	250	7471/277
Hexachloroethane	ND(250)	µg/L	10	250	7471/277
m & p-Cresol	3360	µg/L	10	250	7471/277
Nitrobenzene	ND(250)	µg/L	10	250	7471/277
o-Cresol	ND(250)	µg/L	10	250	7471/277
p-Dichlorobenzene	ND(250)	µg/L	10	250	7471/277
Pentachlorophenol	ND(750)	µg/L	10	750	7471/277
Pyridine	ND(250)	µg/L	10	250	7471/277

Analysis	Date/Time Prepared	Date/Time Analyzed	QC Batch	Inst. Batch	Analyst	Method(s)
TCLP Extractables	10/20/16 0810	10/25/16 0021	161020-2	1MS6298	JMM	8270C
Base Neutral/Acid TCLP Preparation Method						3510C

Conclusion of Lab Number: 16100712R

Lab Number: 16100755
Sample Description: Trip Blank

Date Sampled: 10/11/2016
Time Sampled:

Analysis	Concentration	Units	Dilution Factor	LOQ	Book/Page
No Tests Assigned	on hold		1.0		7544/599

Analysis	Date/Time Prepared	Date/Time Analyzed	QC Batch	Inst. Batch	Analyst	Method(s)
No Tests Assigned	N/A	10/11/16	N/A	N/A		N/A

Conclusion of Lab Number: 16100755

Pace Analytical®

Pace Analytical Services, Inc.
525 N. Eighth St. - Salina, KS 67401
785-827-1273 800-535-3076 Fax 785-823-7830

Appendix

Client: City of Roswell
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Roswell, NM 88202

Date Reported: 10/27/2016
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ND indicates not detected with the LOQ (Limit of Quantitation) in parentheses. The LOQ value has been adjusted for the dilution factor and percent solids, as applicable. Due to rounding of significant figures, the LOQ value may vary slightly from the reported concentration. The LOQ is the lowest concentration of the analytical standard that was used for calibrating the instrument. If an analytical standard is analyzed at the LOQ, an error of as much as +/- 50% can be expected. N/A, if present, indicates not applicable.

No analysis with a holding time of seventy-two hours or less was performed in this Pace order.

SD - The screen test indicated the presence of sulfide. The sample was treated to remove sulfide prior to distillation. Sulfide must be removed prior to pH preservation. The reported concentration is estimated and resampling is recommended.

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 Quality Control Report. The reported sample concentration has not been blank corrected.

M - The Limit of Quantitation (LOQ) is higher than normal due to matrix interferences.

MQ - Sample analysis performed at dilution due to historical matrix interferences.

OC - The response for this analyte exceeded the calibration range of the instrument. Sample dilution and reanalysis is necessary to obtain an accurate result. The reported result, if provided, is estimated.

QC - QC data qualifiers were noted. See the Quality Control Report.

Accreditation Summary

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James Norton
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Roswell, NM 88202

Date Reported: 10/27/2016
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NELAP accreditation is issued under each EPA regulatory program for a given matrix/analyte/method combination. Pace 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 for analyses performed in the field. For most of the analyses listed in the table, NELAP accreditation is not offered under the listed EPA program and Pace is NELAP accredited for the analysis, using the same analytical technology, but under a different EPA program. Pace's full NELAP accreditation status may be viewed at www.kdheks.gov/envlab. Note that unless qualified otherwise in the Laboratory Report, Pace performs all analyses, including each analysis listed in the table below, utilizing NELAP protocol.

Test	Analysis	Matrix-Regulatory Program	Method	Pace NELAP Accredited in Other Reg. Program

Pace is accredited for all analytes.

Pace Analytical

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Quality Control Report
Batch Summary

Client: City of Roswell
Attn: James Norton
Post Office Drawer 1838
Roswell, NM 88202

Date Reported: 10/27/2016
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Test Code	Testname	QC Batch	Method Blank Date/Time Analyzed	LCS Date/Time Analyzed	MS Lab No. Date/Time Analyzed
CL464	TCLP Pesticides	161020-3	161020BLK3 10/25/16 2130	161020LCS3 10/25/16 2205	16100712MS 10/25/16 2314
Lab numbers associated with this batch: 16100712					
CL465	TCLP Herbicides	161020-1	161020BLK1 10/24/16 1128	161020LCS1 10/24/16 1208	16100712MS 10/24/16 1326
Lab numbers associated with this batch: 16100712					
MS131	Tetrachloroethylene	1MS8292	BLK1MS8292 10/18/16 1449	LCS1MS8292 10/18/16 1338	
Lab numbers associated with this batch: 16100708 16100709					
MS133	Trichloroethene	1MS8292	BLK1MS8292 10/18/16 1449	LCS1MS8292 10/18/16 1338	
Lab numbers associated with this batch: 16100708 16100709					
MS143	TCLP Volatiles	1MS8293	BLK1MS8293 10/19/16 1317	LCS1MS8293 10/19/16 1205	
Lab numbers associated with this batch: 16100712					
MS144	TCLP Extractables	161020-2	161020BLK2 10/21/16 1001	161020LCS2 10/21/16 1045	16100712MS 10/21/16 1213
Lab numbers associated with this batch: 16100712 16100712R					
MS289	Bis(2-Ethylhexyl)phthalate	161018-1	161018BLK1 10/24/16 2253	161018LCS1 10/24/16 2337	16100711MS 10/25/16 0150
Lab numbers associated with this batch: 16100711					
SL702	Arsenic, TCLP	161018-2	161018BLK2 10/18/16 1606	161018LCS2 10/18/16 1610	16100712MS 10/20/16 1604
Lab numbers associated with this batch: 16100712					
SL703	Barium, TCLP	161018-2	161018BLK2 10/18/16 1606	161018LCS2 10/18/16 1610	16100712MS 10/20/16 1604
Lab numbers associated with this batch: 16100712					
SL706	Cadmium, TCLP	161018-2	161018BLK2 10/18/16 1606	161018LCS2 10/18/16 1610	16100712MS 10/20/16 1604
Lab numbers associated with this batch: 16100712					

Quality Control Report
Batch Summary

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Test Code	Testname	QC Batch	Method Blank Date/Time Analyzed	LCS Date/Time Analyzed	MS Lab No. Date/Time Analyzed
SL708	Chromium, TCLP	161018-2	161018BLK2 10/18/16 1606	161018LCS2 10/18/16 1610	16100712MS 10/20/16 1604
Lab numbers associated with this batch: 16100712					
SL728	Lead, TCLP	161018-2	161018BLK2 10/18/16 1606	161018LCS2 10/18/16 1610	16100712MS 10/20/16 1604
Lab numbers associated with this batch: 16100712					
SL733	Mercury, TCLP	161018-1	161018BLK1 10/18/16 1433	161018LCS1 10/18/16 1437	16100712MS 10/18/16 1503
Lab numbers associated with this batch: 16100712					
SL750	Selenium, TCLP	161018-2	161018BLK2 10/18/16 1606	161018LCS2 10/18/16 1610	16100712MS 10/20/16 1604
Lab numbers associated with this batch: 16100712					
SL753	Silver, TCLP	161018-2	161018BLK2 10/18/16 1606	161018LCS2 10/18/16 1610	16100712MS 10/20/16 1604
Lab numbers associated with this batch: 16100712					
SL802	Arsenic, Total, ICP	161013-1	161013BLK1 10/13/16 1631	161013LCS1 10/13/16 1636	16100588MS 10/14/16 1606
Lab numbers associated with this batch: 16100712					
SL306	Cadmium, Total, ICP	161013-1	161013BLK1 10/13/16 1631	161013LCS1 10/13/16 1636	16100588MS 10/14/16 1606
Lab numbers associated with this batch: 16100712					
SL308	Chromium, Total, ICP	161013-1	161013BLK1 10/13/16 1631	161013LCS1 10/13/16 1636	16100588MS 10/13/16 1644
Lab numbers associated with this batch: 16100712					
SL313	Copper, Total, ICP	161013-1	161013BLK1 10/13/16 1631	161013LCS1 10/13/16 1636	16100588MS 10/13/16 1644
Lab numbers associated with this batch: 16100712					
SL311	Lead, Total, ICP	161013-1	161013BLK1 10/13/16 1631	161013LCS1 10/13/16 1636	16100588MS 10/14/16 1606
Lab numbers associated with this batch: 16100712					

Quality Control Report
Batch Summary

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Test Code	Testname	QC Batch	Method Blank Date/Time Analyzed	LCS Date/Time Analyzed	MS Lab No. Date/Time Analyzed
SL850	Selenium, Total, ICP	161013-1	161013BLK1 10/13/16 1631	161013LCS1 10/13/16 1636	16100588MS 10/14/16 1606
Lab numbers associated with this batch: 16100712					
SL353	Silver, Total, ICP	161013-1	161013BLK1 10/13/16 1631	161013LCS1 10/13/16 1636	16100588MS 10/13/16 1644
Lab numbers associated with this batch: 16100712					
SL300	Aluminum, Total, ICP	161013-1	161013BLK1 10/18/16 1946	161013LCS1 10/18/16 1950	
Lab numbers associated with this batch: 16100712					
SL304	Beryllium, Total, ICP	161013-1	161013BLK1 10/18/16 1946	161013LCS1 10/18/16 1950	
Lab numbers associated with this batch: 16100712					
SL334	Molybdenum, Total, ICP	161013-1	161013BLK1 10/18/16 1946	161013LCS1 10/18/16 1950	
Lab numbers associated with this batch: 16100712					
SL336	Nickel, Total, ICP	161013-1	161013BLK1 10/18/16 1946	161013LCS1 10/18/16 1950	
Lab numbers associated with this batch: 16100712					
SL860	Thallium, Total, ICP	161013-1	161013BLK1 10/18/16 1946	161013LCS1 10/18/16 1950	
Lab numbers associated with this batch: 16100712					
SL369	Zinc, Total, ICP	161013-1	161013BLK1 10/18/16 1946	161013LCS1 10/18/16 1950	
Lab numbers associated with this batch: 16100712					
SL333	Mercury, Total	161013-2	161013BLK2 10/13/16 1628	161013LCS2 10/13/16 1632	16100588MS 10/13/16 1640
Lab numbers associated with this batch: 16100712					
SL634	Molybdenum, Tot. Rec., ICP	161013-2	161013BLK2 10/13/16 2056	161013LCS2 10/13/16 2100	
Lab numbers associated with this batch: 16100702 16100705					

Quality Control Report
Batch Summary

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Test Code	Testname	QC Batch	Method Blank Date/Time Analyzed	LCS Date/Time Analyzed	MS Lab No. Date/Time Analyzed
SL000	Aluminum, Tot. Rec., ICP-MS	161013-2	161013BLK2 10/18/16 1356	161013LCS2 10/18/16 1401	16100671MS 10/18/16 1438
Lab numbers associated with this batch: 16100702 16100705					
SL001	Antimony, Tot. Rec., ICP-MS	161013-2	161013BLK2 10/18/16 1356	161013LCS2 10/18/16 1401	16100671MS 10/18/16 1438
Lab numbers associated with this batch: 16100702 16100705					
SL002	Arsenic, Tot. Rec., ICP-MS	161013-2	161013BLK2 10/18/16 1356	161013LCS2 10/18/16 1401	16100671MS 10/18/16 1438
Lab numbers associated with this batch: 16100702 16100705					
SL004	Beryllium, Tot. Rec., ICP-MS	161013-2	161013BLK2 10/18/16 1356	161013LCS2 10/18/16 1401	16100671MS 10/18/16 1438
Lab numbers associated with this batch: 16100702 16100705					
SL006	Cadmium, Tot. Rec., ICP-MS	161013-2	161013BLK2 10/18/16 1356	161013LCS2 10/18/16 1401	16100671MS 10/18/16 1438
Lab numbers associated with this batch: 16100702 16100705					
SL008	Chromium, Tot. Rec., ICP-MS	161013-2	161013BLK2 10/18/16 1356	161013LCS2 10/18/16 1401	16100671MS 10/18/16 1438
Lab numbers associated with this batch: 16100702 16100705					
SL012	Copper, Tot. Rec., ICP-MS	161013-2	161013BLK2 10/18/16 1356	161013LCS2 10/18/16 1401	16100671MS 10/18/16 1438
Lab numbers associated with this batch: 16100702 16100705					
SL011	Lead, Tot. Rec., ICP-MS	161013-2	161013BLK2 10/18/16 1356	161013LCS2 10/18/16 1401	16100671MS 10/18/16 1438
Lab numbers associated with this batch: 16100702 16100705					
SL019	Nickel, Tot. Rec., ICP-MS	161013-2	161013BLK2 10/18/16 1356	161013LCS2 10/18/16 1401	16100671MS 10/18/16 1438
Lab numbers associated with this batch: 16100702 16100705					
SL025	Silver, Tot. Rec., ICP-MS	161013-2	161013BLK2 10/18/16 1356	161013LCS2 10/18/16 1401	16100671MS 10/18/16 1438
Lab numbers associated with this batch: 16100702 16100705					

Quality Control Report
Batch Summary

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Test Code	Testname	QC Batch	Method Blank Date/Time Analyzed	LCS Date/Time Analyzed	MS Lab No. Date/Time Analyzed
SL029	Thallium, Tot. Rec., ICP-MS	161013-2	161013BLK2 10/18/16 1356	161013LCS2 10/18/16 1401	16100671MS 10/18/16 1438
	Lab numbers associated with this batch: 16100702 16100705				
SL033	Zinc, Tot. Rec., ICP-MS	161013-2	161013BLK2 10/18/16 1356	161013LCS2 10/18/16 1401	
	Lab numbers associated with this batch: 16100702 16100705				
SL023	Selenium, Tot. Rec., ICP-MS	161013-2	161013BLK2 10/27/16 1312	161013LCS2 10/27/16 1317	16100671MS 10/27/16 1354
	Lab numbers associated with this batch: 16100702 16100705				
SL333	Mercury, Total	161014-1	161014BLK1 N/A	161014LCS1 10/14/16 1508	16100775MS 10/14/16 1627
	Lab numbers associated with this batch: 16100702 16100705				
SL600	ZHE Prep	161017-1			
	Lab numbers associated with this batch: 16100712				
SL601	TCLP Prep	161017-2			
	Lab numbers associated with this batch: 16100712				
SL801	Antimony, Total, ICP	161020-2	161020BLK2 10/25/16 0151	161020LCS2 10/25/16 0155	16100712MS 10/25/16 0204
	Lab numbers associated with this batch: 16100712				
GL158	Cyanide, Total	161017-1	161017BLK1 10/17/16 1805	161017LCS1 10/17/16 1806	16100661MS 10/17/16 1806
	Lab numbers associated with this batch: 16100703 16100706				
GL158	Cyanide, Total	161024-2	161024BLK2 10/24/16 1854	161024LCS2 10/24/16 1854	16100712MS 10/24/16 1855
	Lab numbers associated with this batch: 16100712				
GL100	No Tests Assigned		N/A	N/A	
	Lab numbers associated with this batch: 16100710 16100755				
GL213	Phenolic Compounds	161025-1	161025BLK1 10/25/16 1159	161025LCS1 10/25/16 1200	16100712MS 10/25/16 1202
	Lab numbers associated with this batch: 16100712				

Quality Control Report
Batch Summary

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Test Code	Testname	QC Batch	Method Blank Date/Time Analyzed	LCS Date/Time Analyzed	MS Lab No. Date/Time Analyzed
GL213	Phenolic Compounds	161025-2	161025BLK2 10/25/16 1212	161025LCS2 10/25/16 1214	16100707MS 10/25/16 1216
Lab numbers associated with this batch: 16100704 16100707					
GL218	Phosphorus, Total, as P	161018-2	161018BLK2 10/18/16 1429	161018LCS2 10/18/16 1430	16100684MS 10/18/16 1439
Lab numbers associated with this batch: 16100707					
GL244	Solids, Total	161013-1	161013BLK1 10/13/16 1452	N/A	16100712MS 10/13/16 1458
Lab numbers associated with this batch: 16100712					
GL246	Solids, Total Volatile	161014-1	161014BLK1 10/14/16 1551	N/A	16100712MS 10/14/16 1552
Lab numbers associated with this batch: 16100712					

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

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Analysis	Method Blank	LCS % Rec	LCS Limits	LCS Spike Level	Units	Spiked Sample (% Recovery) MS	MSD	MS/MSD Limits	MS/MSD Spike Level	Units	Spiked Sample Precision Data RPD	Limit
QC Batch: 161013-1	For samples prepared on: 10/13/2016 0743					Spiked sample:						
Aluminum, Total, ICP	ND(10)	101	80.0-120	2550	mg/kg	MN	MN	75.0-125		mg/kg	**	20.0
Beryllium, Total, ICP	ND(0.2)	105	80.0-120	25.0	mg/kg	MN	MN	75.0-125		mg/kg	**	20.0
Molybdenum, Total, ICP	ND(0.5)	105	80.0-120	25.0	mg/kg	MN	MN	75.0-125		mg/kg	**	20.0
Nickel, Total, ICP	ND(0.5)	102	80.0-120	25.0	mg/kg	MN	MN	75.0-125		mg/kg	**	20.0
Thallium, Total, ICP	ND(0.5)	95.2	80.0-120	25.0	mg/kg	MN	MN	75.0-125		mg/kg	**	20.0
Zinc, Total, ICP	ND(1.0)	103	80.0-120	25.0	mg/kg	MN	MN	75.0-125		mg/kg	**	20.0
QC Batch: 161013-1	For samples prepared on: 10/13/2016 0743					Spiked sample: 16100588						
Arsenic, Total, ICP	ND(0.5)	103	80.0-120	25.0	mg/kg	MN	MN	75.0-125	96.5	mg/kg	**	20.0
Cadmium, Total, ICP	ND(0.2)	102	80.0-120	25.0	mg/kg	MN	MN	75.0-125	96.5	mg/kg	**	20.0
Chromium, Total, ICP	ND(0.5)	104	80.0-120	25.0	mg/kg	MN	MN	75.0-125	96.5	mg/kg	**	20.0
Copper, Total, ICP	ND(1.0)	108	80.0-120	25.0	mg/kg	MN	MN	75.0-125	96.5	mg/kg	**	20.0
Lead, Total, ICP	ND(0.3)	100.	80.0-120	25.0	mg/kg	MN	MN	75.0-125	96.5	mg/kg	**	20.0
Selenium, Total, ICP	ND(0.5)	99.7	80.0-120	25.0	mg/kg	MN	MN	75.0-125	96.5	mg/kg	**	20.0
Silver, Total, ICP	ND(0.5)	105	80.0-120	5.0	mg/kg	MN	MN	75.0-125	19.3	mg/kg	**	20.0
QC Batch: 161013-1	For sample analyzed on: 10/13/2016					Spiked sample: 16100712						
Solids, Total	ND(0.1)	N/A	#	N/A	% by w	62.4 T	65.5 T	#	N/A	% by w	4.80	5.9
QC Batch: 161013-2	For samples prepared on: 10/13/2016 0823					Spiked sample:						
Molybdenum, Tot. Rec., ICP	ND(5)	104	85.0-115	500	µg/L	MN	MN	80.0-120		µg/L	**	20.0
Zinc, Tot. Rec., ICP-MS	ND(20)	101	85.0-115	500	µg/L	MN	MN	80.0-120		µg/L	**	20.0
QC Batch: 161013-2	For samples prepared on: 10/13/2016 1022					Spiked sample: 16100588						
Mercury, Total	ND(0.03)	96.9	80.0-120	0.25	mg/kg	MN	MN	75.0-125	0.25	mg/kg	**	20.0
QC Batch: 161013-2	For samples prepared on: 10/13/2016 0823					Spiked sample: 16100671						
Aluminum, Tot. Rec., ICP-MS	ND(2.5)	101	85.0-115	51000	µg/L	MN	MN	80.0-120	51000	µg/L	**	20.0
Antimony, Tot. Rec., ICP-MS	ND(5)	110	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
Arsenic, Tot. Rec., ICP-MS	ND(0.5)	98.7	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
Beryllium, Tot. Rec., ICP-MS	ND(0.5)	105	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
Cadmium, Tot. Rec., ICP-MS	ND(1)	108	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
Chromium, Tot. Rec., ICP-MS	ND(3)	99.0	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
Copper, Tot. Rec., ICP-MS	ND(2)	95.9	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
Lead, Tot. Rec., ICP-MS	ND(0.5)	108	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
Nickel, Tot. Rec., ICP-MS	ND(2)	99.2	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
Selenium, Tot. Rec., ICP-MS	ND(5)	105	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
Silver, Tot. Rec., ICP-MS	ND(0.5)	90.4	85.0-115	100	µg/L	MN	MN	80.0-120	100	µg/L	**	20.0
Thallium, Tot. Rec., ICP-MS	ND(0.5)	112	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
QC Batch: 161014-1	For sample analyzed on: 10/14/2016					Spiked sample: 16100712						
Solids, Total Volatile	ND(0.1)	N/A	#	N/A	% by w	48.9 T	46.7 T	#	N/A	% by w	4.60	10.3
QC Batch: 161014-1	For samples prepared on: 10/14/2016 0810					Spiked sample: 16100775						
Mercury, Total	ND(0.03) J	99.0	80.0-120	5.0	µg/L	MN	MN	80.0-120	5.0	µg/L	**	20.0
QC Batch: 161017-1	For samples prepared on: 10/17/2016 1323					Spiked sample: 16100661						
Cyanide, Total	ND(0.010)	87.7	51.4-114	0.17	mg/L	MN	MN	0.10-148	0.17	mg/L	**	46.8
QC Batch: 161018-1	For samples prepared on: 10/18/2016 0745					Spiked sample: 16100711						
Bis(2-Ethylhexyl)phthalate	4.6 RB	128	67.0-168	25.0	µg/L	95.0	F	79.6-126	25.0	µg/L	**	1.9
Surrogate Data:												
TERPHENYL-d14	113	108	67.5-149	100	µg/L	119		67.5-149	100	µg/L	**	

Pace Analytical Services, Inc.
525 N. Eighth St. - Salina, KS 67401
785-827-1273 800-535-3076 Fax 785-823-7830

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

Client: City of Roswell
Attn: James Norton
Post Office Drawer 1838
Roswell, NM 88202

Date Reported: 10/27/2016
Date Received: 10/12/2016
Pace File No: 5626
Pace Order No: 136343

Analysis	Method Blank	LCS % Rec	LCS Limits	LCS Spike Level	Units	Spiked Sample (% Recovery) MS	MSD	MS/MSD Limits	MS/MSD Spike Level	Units	Spiked Sample Precision Data RPD	Limit
QC Batch: 161018-1	**For samples prepared on: 10/18/2016 1032**					**Spiked sample: 16100712**						
Mercury, TCLP	ND(0.0005)	103	80.0-120	0.0050	mg/L	96.4	98.0	80.0-120	0.050	mg/L	1.60	20.0
QC Batch: 161018-2	**For samples prepared on: 10/17/2016 0817**					**Spiked sample: 16100684**						
Phosphorus, Total, as P	ND(0.05)	102	90.0-116	2.0	mg/L	MN	MN	84.3-124	2.0	mg/L	**	9.8
QC Batch: 161018-2	**For samples prepared on: 10/18/2016 1049**					**Spiked sample: 16100712**						
Arsenic, TCLP	ND(0.010)	100.	80.0-120	0.50	mg/L	101	104	80.0-120	5.0	mg/L	2.90	20.0
Barium, TCLP	ND(0.10)	105	80.0-120	1.5	mg/L	103	109	80.0-120	15.0	mg/L	5.70	20.0
Cadmium, TCLP	ND(0.003)	102	80.0-120	0.50	mg/L	91.6	91.4	80.0-120	5.0	mg/L	0.20	20.0
Chromium, TCLP	ND(0.010)	95.8	80.0-120	0.50	mg/L	107	106	80.0-120	5.0	mg/L	0.90	20.0
Lead, TCLP	ND(0.005)	102	80.0-120	0.50	mg/L	91.2	91.5	80.0-120	5.0	mg/L	0.30	20.0
Selenium, TCLP	ND(0.010)	96.7	80.0-120	0.50	mg/L	97.2	100.	80.0-120	5.0	mg/L	2.80	20.0
Silver, TCLP	ND(0.020)	96.2	80.0-120	0.10	mg/L	107	107	80.0-120	1.0	mg/L	0.0	20.0
QC Batch: 161020-1	**For samples prepared on: 10/20/2016 0725**					**Spiked sample: 16100712**						
TCLP Herbicides												
2,4,5-TP	ND(10)	107	64.7-120	4.0	µg/L	95.2	105	54.8-117	40.0	µg/L	9.80	13.5
2,4-D	ND(10)	85.8	68.0-127	4.0	µg/L	97.2	105	65.7-129	40.0	µg/L	7.70	13.6
Surrogate Data:												
DCAA(TCLP)	114	125 SH	65.3-119	5.0	µg/L	99.8	107	65.3-119	50.0	µg/L		
QC Batch: 161020-2	**For samples prepared on: 10/20/2016 0810**					**Spiked sample: 16100712**						
TCLP Extractables												
2,4,5-Trichlorophenol	ND(25)	95.9	77.4-113	50.0	µg/L	85.4	97.9 MP	79.7-109	250	µg/L	13.6	8 1
2,4,6-Trichlorophenol	ND(25)	99.6	78.5-111	50.0	µg/L	84.4	89.6	83.1-108	250	µg/L	6.00	7.6
2,4-Dinitrotoluene	ND(25)	106	77.3-114	25.0	µg/L	86.7	92.0	77.5-108	125	µg/L	5.90	9.0
Hexachlorobenzene	ND(25)	99.3	68.4-111	25.0	µg/L	81.8	78.9	59.1-120	125	µg/L	200	10.4
Hexachlorobutadiene	ND(25)	90.2	44.6-108	25.0	µg/L	C	C	43.9-107	125	µg/L	**	12.5
Hexachloroethane	ND(25)	88.9	60.1-99.8	25.0	µg/L	C	C	60.6-97.8	125	µg/L	**	10.0
m & p-Cresol	ND(25)	73.5	52.2-87.6	50.0	µg/L	I	I	51.9-86.4	250	µg/L	**	13.7
Nitrobenzene	ND(25)	97.8	74.4-106	25.0	µg/L	89.9	93.9	70.9-112	125	µg/L	4.40	11.4
o-Cresol	ND(25)	83.8	55.8-94.0	50.0	µg/L	86.4	85.3	56.1-92.2	250	µg/L	1.30	12.0
p-Dichlorobenzene	ND(25)	93.4	67.9-94.5	25.0	µg/L	C	C	69.7-92.2	125	µg/L	**	9 3
Pentachlorophenol	ND(75)	81.4	58.0-115	50.0	µg/L	C	C	56.8-132	250	µg/L	**	8.2
Pyridine	ND(25)	52.3	31.0-70.5	25.0	µg/L	C	C	34.8-69.9	125	µg/L	**	19.2
Surrogate Data:												
NITROBENZENE-d5(TCLP)	86.6	88.2	69.6-103	100	µg/L	83.2	83.8	69.6-103	500	µg/L		
2-FLUOROBIPHENYL(TCLP)	80.8	83.0	61.1-99.5	100	µg/L	79.1	81.5	61.1-99.5	500	µg/L		
PHENOL-d6(TCLP)	36.7	37.1	25.9-44.8	150	µg/L	36.4	36.0	25.9-44.8	750	µg/L		
2-FLUOROPHENOL(TCLP)	56.2	57.5	42.0-68.8	150	µg/L	53.2	52.0	42.0-68.8	750	µg/L		
QC Batch: 161020-2	**For samples prepared on: 10/20/2016 1011**					**Spiked sample: 16100712**						
Antimony, Total, ICP	ND(1.0)	100.	80.0-120	25.0	mg/kg	80.7	79.5	75.0-125	49.7	mg/kg	1.50	20.0
QC Batch: 161020-3	**For samples prepared on: 10/20/2016 1145**					**Spiked sample: 16100712**						
TCLP Pesticides												
Chlordane	ND(5.0)	N/A	70.0-130		µg/L			70.0-130		µg/L	**	20.0
Endrin	ND(1.0)	93.7	76.3-112	0.50	µg/L	95.3	95.5	75.2-122	5.0	µg/L	0.20	10.4
Heptachlor	ND(1.0)	95.5	73.8-110	0.50	µg/L	88.1	86.0	69.3-114	5.0	µg/L	2.40	11.7
Heptachlor Epoxide	ND(1.0)	95.6	84.5-112	0.50	µg/L	89.3	89.6	77.8-116	5.0	µg/L	0.30	9.2
Lindane (G-BHC)	ND(0.5)	92.6	82.7-112	0.50	µg/L	83.6	81.9	72.7-116	5.0	µg/L	2.10	10.0
Methoxychlor	ND(2.0)	100	81.2-121	0.50	µg/L	97.5	96.5	86.4-116	5.0	µg/L	1.00	11.5

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

Client: City of Roswell
Attn: James Norton
Post Office Drawer 1838
Roswell, NM 88202

Date Reported: 10/27/2016
Date Received: 10/12/2016
Pace File No: 5626
Pace Order No: 136343

Analysis	Method Blank	LCS % Rec	LCS Limits	LCS Spike Level	Units	Spiked Sample (% Recovery) MS	MSD	MS/MSD Limits	MS/MSD Spike Level	Units	Spiked Sample Precision Data RPD	Limit
QC Batch: 161020-3	**For samples prepared on: 10/20/2016 1145**					**Spiked sample: 16100712**						
Toxaphene	ND(50)	N/A	70.0-130		µg/L			70.0-130		µg/L	**	20.0
a-Chlordane	ND(1.0)	95.3	71.0-127	0.50	µg/L	88.2	86.8	29.9-136	5.0	µg/L	1.60	9.5
g-Chlordane	ND(1.0)	94.1	67.3-125	0.50	µg/L	85.7	85.0	32.4-130	5.0	µg/L	0.80	11.2
Surrogate Data:												
DECACHLOROBIPHENYL(TCLP)	88.6	94.7	49.3-120	0.50	µg/L	70.3	71.6	49.3-120	5.0	µg/L		
TCMX(TCLP)	85.7	87.2	68.6-118	0.50	µg/L	80.6	78.5	68.6-118	5.0	µg/L		
QC Batch: 161024-2	**For samples prepared on: 10/24/2016 1645**					**Spiked sample: 16100712**						
Cyanide, Total	ND(1)	84.3	65.8-101	5.0	mg/kg	47.8	45.4	0.10-154	5.0	mg/kg	4.80	102
QC Batch: 161025-1	**For sample analyzed on: 10/25/2016**					**Spiked sample: 16100712**						
Phenolic Compounds	ND(0.6)	102	77.2-124	6.3	mg/kg	I	I	41.1-125	6.3	mg/kg	**	17.7
QC Batch: 161025-2	**For sample analyzed on: 10/25/2016**					**Spiked sample: 16100707**						
Phenolic Compounds	ND(0.006)	104	79.8-116	0.050	mg/L	102	92.0	69.7-120	0.050	mg/L	10.3	12.3
QC Batch: 1MS8292	**For sample analyzed on: 10/18/2016**					**Spiked sample:**						
Tetrachloroethylene	ND(0.5)	106	80.0-120	10.0	µg/L	MN	MN	82.0-121		µg/L	**	11.3
Surrogate Data:												
TOLUENE-d8	102	93.8	80.0-120	10.0	µg/L	MN	MN	80.0-120		µg/L	**	
QC Batch: 1MS8292	**For sample analyzed on: 10/18/2016**					**Spiked sample:**						
Trichloroethene	ND(0.5)	95.4	80.0-120	10.0	µg/L	MN	MN	79.3-120		µg/L	**	13.7
Surrogate Data:												
1,2-DICHLOROETHANE-d4	91.3	88.4	76.2-126	10.0	µg/L	MN	MN	76.2-126		µg/L	**	
QC Batch: 1MS8293	**For sample analyzed on: 10/19/2016**					**Spiked sample:**						
TCLP Volatiles						MN	MN					
1,1-Dichloroethylene	ND(1.0)	95.9	80.0-121	10.0	µg/L			82.1-123		µg/L	**	9.4
1,2-Dichloroethane	ND(1.0)	93.5	75.6-120	10.0	µg/L			77.5-122		µg/L	**	9.5
Benzene	ND(1.0)	98.1	80.0-120	10.0	µg/L			82.7-117		µg/L	**	8.3
Carbon Tetrachloride	ND(1.0)	104	79.9-125	10.0	µg/L			79.0-125		µg/L	**	13.6
Chlorobenzene	ND(1.0)	106	80.0-120	10.0	µg/L			82.1-117		µg/L	**	7.0
Chloroform	ND(1.0)	93.8	79.6-120	10.0	µg/L			78.4-117		µg/L	**	9.2
Methyl Ethyl Ketone	ND(25)	83.4	53.6-142	40.0	µg/L			64.7-126		µg/L	**	13.7
Tetrachloroethylene	ND(1.0)	113	80.0-120	10.0	µg/L			82.0-121		µg/L	**	11.3
Trichloroethylene	ND(1.0)	98.3	80.0-120	10.0	µg/L			79.3-120		µg/L	**	13.7
Vinyl Chloride	ND(1.0)	109	76.2-128	10.0	µg/L			78.0-130		µg/L	**	14.6
Surrogate Data:												
1,2-DICHLOROETHANE-d4	92.3	91.7	76.2-126	10.0	µg/L	MN	MN	76.2-126		µg/L	**	
TOLUENE-d8	101	105	80.0-120	10.0	µg/L	MN	MN	80.0-120		µg/L	**	

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

T - A MS/MSD cannot be performed for this analysis and a duplicate analysis is performed. The MS and MSD results are from two separate analyses.

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

RB - To meet client data objectives the reported concentration or non-detect value is below the normal limit of quantitation (LOQ) but within the instrument calibration range and above the calculated MDL.

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

Client: City of Roswell
Attn: James Norton
Post Office Drawer 1838
Roswell, NM 88202

Date Reported: 10/27/2016
Date Received: 10/12/2016
Pace File No: 5626
Pace Order No: 136343

Analysis	Method Blank	LCS % Rec	LCS Limits	LCS Spike Level	Units	Spiked Sample (% Recovery) MS	MSD	MS/MSD Limits	MS/MSD Spike Level	Units	Spiked Sample Precision Data RPD	Limit

F - MS and/or MSD sample data are not available due to insufficient sample volume.

SH - One or more surrogate recoveries for this analysis was above the method or laboratory control limits. The reported sample concentration may be biased high.

MP - The MS/MSD recoveries for this analyte exceeded the method or laboratory precision control limit. The reported sample concentration is estimated.

C - Due to matrix interference(s) and/or high concentration(s) of analyte(s) present in the sample, dilution was required causing the spike level for this analyte to be below the reporting limit and/or below the lowest point of the calibration curve.

I - Due to the concentration of analyte in the sample, the spike level is too low to allow accurate quantification of the spike recovery.

- Limits not applicable/not available for this analysis.

** - RPD calculation not applicable/not available for this analysis.

Quality Control Report
Sample Surrogate Data

Client: City of Roswell
Attn: James Norton
Post Office Drawer 1838
Roswell, NM 88202

Date Reported: 10/27/2016
Date Received: 10/12/2016
Pace File No: 5626
Pace Order No: 136343

Surrogate	Date Prepared	Date Analyzed	Spike Level	Units	% Recovery	Acceptable % Limits
Lab Number: 16100708		**Sample Description:147-INF-16**				
Volatile Analysis						
TOLUENE-d8		10/18/2016	10	µg/L	101	80.0-120
Volatile Analysis						
1,2-DICHLOROETHANE-d4		10/18/2016	10	µg/L	87.7	76.2-126
Lab Number: 16100709		**Sample Description:148-EFF-16**				
Volatile Analysis						
TOLUENE-d8		10/18/2016	10	µg/L	106	80.0-120
Volatile Analysis						
1,2-DICHLOROETHANE-d4		10/18/2016	10	µg/L	86.5	76.2-126
Lab Number: 16100711		**Sample Description:151-INF-16**				
Acid						
TERPHENYL-d14	10/18/2016	10/25/2016	100	µg/L	108	67.5-149
Lab Number: 16100712		**Sample Description:149-SL-16**				
TCLP Pesticides						
DECACHLOROBIPHENYL(TCLP)	10/20/2016	10/25/2016	5.0	µg/L	68.8	49.3-120
TCMX(TCLP)	10/20/2016	10/25/2016	5.0	µg/L	76.7	68.6-118
TCLP Herbicides						
DCAA(TCLP)	10/20/2016	10/24/2016	50	µg/L	108	65.3-119
TCLP Volatiles						
1,2-DICHLOROETHANE-d4		10/19/2016	200	µg/L	97.0	76.2-126
TOLUENE-d8		10/19/2016	200	µg/L	99.6	80.0-120
TCLP Extractables						
NITROBENZENE-d5(TCLP)	10/20/2016	10/21/2016	500	µg/L	80.7	69.6-103
2-FLUOROBIPHENYL(TCLP)	10/20/2016	10/21/2016	500	µg/L	78.6	61.1-99.5
PHENOL-d6(TCLP)	10/20/2016	10/21/2016	750	µg/L	34.7	25.9-44.8
2-FLUOROPHENOL(TCLP)	10/20/2016	10/21/2016	750	µg/L	49.7	42.0-68.8
Lab Number: 16100712R		**Sample Description:149-SL-16**				
TCLP Extractables						
NITROBENZENE-d5(TCLP)	10/20/2016	10/25/2016	500	µg/L	86.3	69.6-103
2-FLUOROBIPHENYL(TCLP)	10/20/2016	10/25/2016	500	µg/L	74.7	61.1-99.5
PHENOL-d6(TCLP)	10/20/2016	10/25/2016	750	µg/L	33.7	25.9-44.8
2-FLUOROPHENOL(TCLP)	10/20/2016	10/25/2016	750	µg/L	47.5	42.0-68.8

Quality Control Report
Continuing Calibration Report

Client: City of Roswell
Attn: James Norton
Post Office Drawer 1838
Roswell, NM 88202

Date Reported: 10/27/2016
Date Received: 10/12/2016
Pace File No: 5626
Pace Order No: 136343

Analysis	Date of Analysis	Instrument Batch ID	Amount in Standard	Amount Detected	Units	Percent Recovery
TCLP Pesticides	10/25/2016	2EX6299	CCV recovery acceptable for this Instrument Batch.			
TCLP Pesticides	10/26/2016	3EX6299	CCV recovery acceptable for this Instrument Batch.			
TCLP Herbicides	10/24/2016	1NX5298	CCV recovery acceptable for this Instrument Batch.			
TCLP Herbicides	10/24/2016	2NX5298	CCV recovery acceptable for this Instrument Batch.			
Cyanide, Total	10/17/2016	161017-2	CCV recovery acceptable for this Instrument Batch.			
Cyanide, Total	10/17/2016	161017-3	CCV recovery acceptable for this Instrument Batch.			
Cyanide, Total	10/24/2016	161024-3	CCV recovery acceptable for this Instrument Batch.			
Cyanide, Total	10/24/2016	161024-4	CCV recovery acceptable for this Instrument Batch.			
Phenolic Compounds	10/25/2016	161025-1	CCV recovery acceptable for this Instrument Batch.			
Phenolic Compounds	10/25/2016	161025-2	CCV recovery acceptable for this Instrument Batch.			
Phenolic Compounds	10/25/2016	161025-3	CCV recovery acceptable for this Instrument Batch.			
Phenolic Compounds	10/25/2016	161025-4	CCV recovery acceptable for this Instrument Batch.			
Phosphorus, Total, as P	10/18/2016	161018-4	CCV recovery acceptable for this Instrument Batch.			
Phosphorus, Total, as P	10/18/2016	161018-5	CCV recovery acceptable for this Instrument Batch.			
Tetrachloroethylene	10/18/2016	1MS8292	CCV recovery acceptable for this Instrument Batch.			
Tetrachloroethylene	10/18/2016	2MS8292	CCV recovery acceptable for this Instrument Batch.			
Trichloroethene	10/18/2016	1MS8292	CCV recovery acceptable for this Instrument Batch.			
Trichloroethene	10/18/2016	2MS8292	CCV recovery acceptable for this Instrument Batch.			
TCLP Volatiles	10/19/2016	2MS8293	CCV recovery acceptable for this Instrument Batch.			
TCLP Volatiles	10/20/2016	3MS8293	CCV recovery acceptable for this Instrument Batch.			
TCLP Extractables	10/21/2016	1MS6295	CCV recovery acceptable for this Instrument Batch.			
TCLP Extractables	10/21/2016	2MS6295	CCV recovery acceptable for this Instrument Batch.			
TCLP Extractables	10/24/2016	1MS6298	CCV recovery acceptable for this Instrument Batch.			
TCLP Extractables	10/25/2016	2MS6298	CCV recovery acceptable for this Instrument Batch.			
Bis(2-Ethylhexyl)phthalate	10/24/2016	1MS6298	CCV recovery acceptable for this Instrument Batch.			
Bis(2-Ethylhexyl)phthalate	10/25/2016	2MS6298	CCV recovery acceptable for this Instrument Batch.			
Aluminum, Tot. Rec., ICP-MS	10/27/2016	1IP3301	CCV recovery acceptable for this Instrument Batch.			
Aluminum, Tot. Rec., ICP-MS	10/27/2016	2IP3301	CCV recovery acceptable for this Instrument Batch.			
Antimony, Tot. Rec., ICP-MS	10/18/2016	4IP3292	CCV recovery acceptable for this Instrument Batch.			
Antimony, Tot. Rec., ICP-MS	10/18/2016	5IP3292	CCV recovery acceptable for this Instrument Batch.			
Arsenic, Tot. Rec., ICP-MS	10/18/2016	4IP3292	CCV recovery acceptable for this Instrument Batch.			
Arsenic, Tot. Rec., ICP-MS	10/18/2016	5IP3292	CCV recovery acceptable for this Instrument Batch.			
Beryllium, Tot. Rec., ICP-MS	10/27/2016	1IP3301	CCV recovery acceptable for this Instrument Batch.			
Beryllium, Tot. Rec., ICP-MS	10/27/2016	2IP3301	CCV recovery acceptable for this Instrument Batch.			
Cadmium, Tot. Rec., ICP-MS	10/18/2016	4IP3292	CCV recovery acceptable for this Instrument Batch.			
Cadmium, Tot. Rec., ICP-MS	10/18/2016	5IP3292	CCV recovery acceptable for this Instrument Batch.			
Chromium, Tot. Rec., ICP-MS	10/18/2016	4IP3292	CCV recovery acceptable for this Instrument Batch.			
Chromium, Tot. Rec., ICP-MS	10/18/2016	5IP3292	CCV recovery acceptable for this Instrument Batch.			
Lead, Tot. Rec., ICP-MS	10/18/2016	4IP3292	CCV recovery acceptable for this Instrument Batch.			
Lead, Tot. Rec., ICP-MS	10/18/2016	5IP3292	CCV recovery acceptable for this Instrument Batch.			
Copper, Tot. Rec., ICP-MS	10/18/2016	4IP3292	CCV recovery acceptable for this Instrument Batch.			
Copper, Tot. Rec., ICP-MS	10/18/2016	5IP3292	CCV recovery acceptable for this Instrument Batch.			
Nickel, Tot. Rec., ICP-MS	10/18/2016	4IP3292	CCV recovery acceptable for this Instrument Batch.			

Client: City of Roswell
Attn: James Norton
Post Office Drawer 1838
Roswell, NM 88202

Date Reported: 10/27/2016
Date Received: 10/12/2016
Pace File No: 5626
Pace Order No: 136343

Nickel, Tot. Rec., ICP-MS	10/18/2016	5IP3292	CCV recovery acceptable for this Instrument Batch.
Selenium, Tot. Rec., ICP-MS	10/27/2016	1IP3301	CCV recovery acceptable for this Instrument Batch.
Selenium, Tot. Rec., ICP-MS	10/27/2016	2IP3301	CCV recovery acceptable for this Instrument Batch.
Silver, Tot. Rec., ICP-MS	10/25/2016	3IP3299	CCV recovery acceptable for this Instrument Batch.
Silver, Tot. Rec., ICP-MS	10/25/2016	4IP3299	CCV recovery acceptable for this Instrument Batch.
Thallium, Tot. Rec., ICP-MS	10/18/2016	4IP3292	CCV recovery acceptable for this Instrument Batch.
Thallium, Tot. Rec., ICP-MS	10/18/2016	5IP3292	CCV recovery acceptable for this Instrument Batch.
Zinc, Tot. Rec., ICP-MS	10/18/2016	4IP3292	CCV recovery acceptable for this Instrument Batch.
Zinc, Tot. Rec., ICP-MS	10/18/2016	5IP3292	CCV recovery acceptable for this Instrument Batch.
Aluminum, Total, ICP	10/18/2016	9IP4292	CCV recovery acceptable for this Instrument Batch.
Aluminum, Total, ICP	10/18/2016	10IP4292	CCV recovery acceptable for this Instrument Batch.
Beryllium, Total, ICP	10/18/2016	9IP4292	CCV recovery acceptable for this Instrument Batch.
Beryllium, Total, ICP	10/18/2016	10IP4292	CCV recovery acceptable for this Instrument Batch.
Cadmium, Total, ICP	10/18/2016	9IP4292	CCV recovery acceptable for this Instrument Batch.
Cadmium, Total, ICP	10/18/2016	10IP4292	CCV recovery acceptable for this Instrument Batch.
Chromium, Total, ICP	10/18/2016	9IP4292	CCV recovery acceptable for this Instrument Batch.
Chromium, Total, ICP	10/18/2016	10IP4292	CCV recovery acceptable for this Instrument Batch.
Lead, Total, ICP	10/18/2016	9IP4292	CCV recovery acceptable for this Instrument Batch.
Lead, Total, ICP	10/18/2016	10IP4292	CCV recovery acceptable for this Instrument Batch.
Copper, Total, ICP	10/18/2016	9IP4292	CCV recovery acceptable for this Instrument Batch.
Copper, Total, ICP	10/18/2016	10IP4292	CCV recovery acceptable for this Instrument Batch.
Mercury, Total	10/13/2016	2MA3287	CCV recovery acceptable for this Instrument Batch.
Mercury, Total	10/13/2016	3MA3287	CCV recovery acceptable for this Instrument Batch.
Mercury, Total	10/14/2016	3MA3288	CCV recovery acceptable for this Instrument Batch.
Mercury, Total	10/14/2016	4MA3288	CCV recovery acceptable for this Instrument Batch.
Molybdenum, Total, ICP	10/18/2016	9IP4292	CCV recovery acceptable for this Instrument Batch.
Molybdenum, Total, ICP	10/18/2016	10IP4292	CCV recovery acceptable for this Instrument Batch.
Nickel, Total, ICP	10/18/2016	9IP4292	CCV recovery acceptable for this Instrument Batch.
Nickel, Total, ICP	10/18/2016	10IP4292	CCV recovery acceptable for this Instrument Batch.
Silver, Total, ICP	10/18/2016	9IP4292	CCV recovery acceptable for this Instrument Batch.
Silver, Total, ICP	10/18/2016	10IP4292	CCV recovery acceptable for this Instrument Batch.
Zinc, Total, ICP	10/18/2016	9IP4292	CCV recovery acceptable for this Instrument Batch.
Zinc, Total, ICP	10/18/2016	10IP4292	CCV recovery acceptable for this Instrument Batch.
Molybdenum, Tot. Rec., ICP	10/13/2016	9IP4287	CCV recovery acceptable for this Instrument Batch.
Molybdenum, Tot. Rec., ICP	10/13/2016	10IP4287	CCV recovery acceptable for this Instrument Batch.
Arsenic, TCLP	10/20/2016	6IP4294	CCV recovery acceptable for this Instrument Batch.
Arsenic, TCLP	10/20/2016	7IP4294	CCV recovery acceptable for this Instrument Batch.
Barium, TCLP	10/20/2016	6IP4294	CCV recovery acceptable for this Instrument Batch.
Barium, TCLP	10/20/2016	7IP4294	CCV recovery acceptable for this Instrument Batch.
Cadmium, TCLP	10/20/2016	6IP4294	CCV recovery acceptable for this Instrument Batch.
Cadmium, TCLP	10/20/2016	7IP4294	CCV recovery acceptable for this Instrument Batch.
Chromium, TCLP	10/20/2016	6IP4294	CCV recovery acceptable for this Instrument Batch.
Chromium, TCLP	10/20/2016	7IP4294	CCV recovery acceptable for this Instrument Batch.
Lead, TCLP	10/20/2016	6IP4294	CCV recovery acceptable for this Instrument Batch.
Lead, TCLP	10/20/2016	7IP4294	CCV recovery acceptable for this Instrument Batch.

Client: City of Roswell
Attn: James Norton
Post Office Drawer 1838
Roswell, NM 88202

Date Reported: 10/27/2016
Date Received: 10/12/2016
Pace File No: 5626
Pace Order No: 136343

Mercury, TCLP	10/18/2016	1MA3292	CCV recovery acceptable for this Instrument Batch.
Mercury, TCLP	10/18/2016	2MA3292	CCV recovery acceptable for this Instrument Batch.
Selenium, TCLP	10/20/2016	6IP4294	CCV recovery acceptable for this Instrument Batch.
Selenium, TCLP	10/20/2016	7IP4294	CCV recovery acceptable for this Instrument Batch.
Silver, TCLP	10/20/2016	6IP4294	CCV recovery acceptable for this Instrument Batch.
Silver, TCLP	10/20/2016	7IP4294	CCV recovery acceptable for this Instrument Batch.
Antimony, Total, ICP	10/25/2016	13IP4298	CCV recovery acceptable for this Instrument Batch.
Antimony, Total, ICP	10/25/2016	14IP4298	CCV recovery acceptable for this Instrument Batch.
Arsenic, Total, ICP	10/18/2016	9IP4292	CCV recovery acceptable for this Instrument Batch.
Arsenic, Total, ICP	10/18/2016	10IP4292	CCV recovery acceptable for this Instrument Batch.
Selenium, Total, ICP	10/18/2016	9IP4292	CCV recovery acceptable for this Instrument Batch.
Selenium, Total, ICP	10/18/2016	10IP4292	CCV recovery acceptable for this Instrument Batch.
Thallium, Total, ICP	10/18/2016	9IP4292	CCV recovery acceptable for this Instrument Batch.
Thallium, Total, ICP	10/18/2016	10IP4292	CCV recovery acceptable for this Instrument Batch.

October 10, 2016

ORDER NO:
136343

Mr. Greg Groene
Pace Analytical Services, Inc.
1804 Glendale Road
Salina, KS 67401

Dear Mr.Groene:

Please analyze the enclosed samples as follows:

141-INF-16 To be analyzed for Antimony, Arsenic, Beryllium, Cadmium, Chromium, Copper, Lead, Mercury, Molybdenum, Nickel, Selenium, Silver, Zinc, and Thallium.

142-INF-16 To be analyzed for Total Cyanide

143-INF-16 To be analyzed for Total Phenols

144-EFF-16 To be analyzed for Antimony, Arsenic, Beryllium, Cadmium, Chromium, Copper, Lead, Mercury, Molybdenum, Nickel, Selenium, Silver, Zinc, Thallium.

145-EFF-16 To be analyzed for Total Cyanide

146-EFF-16 To be analyzed for Total Phenols

147-INF-16 To be analyzed for TCE/PCE

148-EFF-16 To be analyzed for TCE/PCE

150EFF-16 To be analyzed for PHOSPHORUS

151-INF-16 To be analyzed for BIS2(ETHYLHEXYL) PHTHALATE

149-SL-16 To be analyzed for Total Solids, Total Volatile Solids

149-SL-16 To be analyzed for Aluminum, Antimony, Arsenic, Beryllium, Cadmium, Chromium, Copper, Lead, Mercury, Molybdenum, Nickel, Selenium, Silver, Thallium, Zinc, Total Cyanide and Total Phenols. TCLP also. JN

Purchase order is enclosed to cover costs. If you have any questions, please call me at (575) 622-1449.

Sincerely,

James Norton

Industrial
Pre- Treatment Coordinator/Tech.
James Norton

10-12-16 1030

ORDER NO:
136343

CHAIN OF CUSTODY

ROSWELL PRETREATMENT PROGRAM

Sample Number:	Time Sample Taken	Date Sample Taken
141-INF-16	06:00 AM - 05:00Am	10/10/16

Industrial User	Preservative and Type of Container:
Wastewater Treatment Plant - Influent	HNO_3 pH < 2.0 1x500ml plastic container
Collected by: James Norton	Sample Matrix: Wastewater

Remarks: pH @ 6AM 7.7 @ 12 NOON 7.3 @ 6PM 7.3 @ 12M. 7.2

Sample Method	IU File Number	IU Phone # and Representative
24 hr. Sampling - One Composite Sample	122-Q	Art Torrez 622-1449

ANALYSIS REQUIRED (mg/l)Total Metals

	Cadmium .... ✔	Mercury ..... ✔	Silver ..... ✔
Antimony. .... ✔	Chromium .... ✔	Molybdenum ..... ✔	Thallium ..... ✔
Arsenic ..... ✔	Copper ..... ✔	Nickel ..... ✔	Zinc ..... ✔
Beryllium ..... ✔	Lead ..... ✔	Selenium ..... ✔	

I hereby certify that I received this sample and it's in the condition noted below.

RECEIPT OF SAMPLES

Received From	Date Received	Time Received
Fed Ex	10-12-16	1030
Condition of Sample Good	Signature	

I hereby certify that I obtained this sample and dispatched it as noted below.

DISPATCH OF SAMPLES

Date Obtained	Time Obtained	Source	Date Dispatched
As Noted Above	As Noted Above	As Noted Above	10/10/16
Time Dispatched 2:45 p.m.	Method of Shipment & Attach Receipt from ShipperFedEx.	Sent To PACE	Samplers Signature James Norton

Discrepancies
See C/S RF SL 10-12-16.

ORDER NO:
136343

☞	CHAIN OF CUSTODY	☜

ROSWELL PRETREATMENT PROGRAM

Sample Number:	Time Sample Taken	Date Sample Taken:
142-INF-16	06:00am 12noon 6pm 12 midnight	10/10/16

Industrial User	Preservative and Type of Container:
Wastewater Treatment Plant - Influent	(Cyanide)NaOH pH >12.0 1x500ml Amber plastic
Collected by: James Norton	Sample Matrix: Wastewater

6am 12noon 6pm 12 midnight

Sample Method	IU File Number	IU Phone # and Representative
GRAB	122-Q	Art Torrez 622-1449

ANALYSIS REQUIRED (mg/l)

Cyanide (CN^-) ..... ✓			

I hereby certify that I received this sample and it's in the condition noted below.

RECEIPT OF SAMPLES

Received From	Date Received	Time Received
Fed Ex.	10-12-16	1030
Condition of Sample: Good	Signature:	

I hereby certify that I obtained this sample and dispatched it as noted below.

DISPATCH OF SAMPLES

Date Obtained	Time Obtained	Source	Date Dispatched
As Noted Above	As Noted Above	As Noted Above	10/11/16
Time Dispatched: 2:45 p.m.	Method of Shipment & Attach Receipt from Shipper. FedEx	Sent To: PACE	Samplers Signature: James Norton

ORDER NO:
136343

	CHAIN OF CUSTODY	

ROSWELL PRETREATMENT PROGRAM

Sample Number	Time Sample Taken:	Date Sample Taken
144-EFF-16	2pm-1pm	10/10-11/16

Industrial User	Preservative and Type of Container:
Wastewater Treatment Plant -Effluent	Cool to 4°C 1x500 ml Plastic Container preserved with HNO3pH<2
Collected by: James Norton	Sample Matrix: Wastewater

Remarks: pH = 2PM 7.3 8PM 7.3 2AM 7.4 8AM 7.3

Sample Method:	IU File Number	IU Phone # and Representative
24hr Composite	122-Q	Arthur Torrez 622-1449

ANALYSIS REQUIRED (mg/l)Total Metals

..... ✔	Chromium ..... ✔	Nickel ..... ✔	..... ✔
Antimony..... ✔	Copper ..... ✔	Selenium ..... ✔	..... ✔
Arsenic ..... ✔	Lead ..... ✔	Silver ..... ✔	
Beryllium ..... ✔	Mercury ..... ✔	Thallium ..... ✔	
Cadmium ..... ✔	Molybdenum ..... ✔	Zinc ..... ✔	

I hereby certify that I received this sample and it's in the condition noted below.

RECEIPT OF SAMPLES

Received From	Date Received	Time Received
Fed Ex	10-12-16	1030
Condition ~~of~~ Sample: Good	~~Signature~~	

I hereby certify that I obtained this sample and dispatched it as noted below

DISPATCH OF SAMPLES

Date Obtained	Time Obtained	Source	Date Dispatched
As Noted Above	As Noted Above	As Noted Above	10/11/16
Time Dispatched: 2:45	Method of Shipment & Attach Receipt from Shipper. FedEx	Sent To: PACE	Samplers Signature: James Norton

ORDER NO:
136343

CHAIN OF CUSTODY

ROSWELL PRETREATMENT PROGRAM

Sample Number	Time Sample Taken	Date Sample Taken
145- EFF-16	2:00pm 8:00pm 2:00am 8:00am	10/10-11/16

Industrial User	Preservative and Type of Container:
Wastewater Treatment Plant - Effluent	NaOH pH >12(Cyanide) 1x 500ml amber plastic bottle
Collected by: James Norton	Sample Matrix: Wastewater

Remarks: pH's 2pm 7.3 8pm 7.3 2am 7.4 8am 7.5

1000ml amber glass enclosed for Phenols. One 500ml plastic container for Cyanide.

Sample Method	IU File Number	IU Phone # and Representative
Grab then Composite	122-Q	Art Torrez 622-1449

ANALYSIS REQUIRED (mg/l)

Cyanide (CN^-) . . . ✓			

I hereby certify that I received this sample and it's in the condition noted below.

RECEIPT OF SAMPLES

Received From	Date Received	Time Received
Fed Ex	10-12-16	1030
Condition of Sample: Cool	Signature	

I hereby certify that I obtained this sample and dispatched it as noted below.

DISPATCH OF SAMPLES

Date Obtained	Time Obtained	Source	Date Dispatched
As Noted Above	As Noted Above	As Noted Above	10/11/16
Time Dispatched	**Method of Shipment & Attach Receipt from Shipper.**	**Sent To**	**Samplers Signature**
2:45	FedEx	PACE	James Norton

ORDER NO:
136343

☞	CHAIN OF CUSTODY	☜

ROSWELL PRETREATMENT PROGRAM

Sample Number	Time Sample Taken	Date Sample Taken
146- EFF-16	2:00pm 8:00pm 2:00am 8:00am	10/10-11/16

Industrial User	Preservative and Type of Container:
Wastewater Treatment Plant - Effluent	H2SO4 pH<2 (Phenols) 1x1000 Amber Glass bottle
Collected by: James Norton	Sample Matrix: Wastewater

Remarks: pH's 2pm 8pm 2am 8am

1000ml amber glass enclosed for Phenols. One 500ml plastic container for Cyanide.

Sample Method	IU File Number	IU Phone # and Representative
Grab then Composite	122-Q	Art Torrez 622-1449

ANALYSIS REQUIRED (mg/l)

Phenols.....✔			

I hereby certify that I received this sample and it's in the condition noted below.

RECEIPT OF SAMPLES

Received From	Date Received	Time Received
Fed Ex	10-12-16	1030
Condition of Sample: Good	Signature: [signature]	

I hereby certify that I obtained this sample and dispatched it as noted below.

DISPATCH OF SAMPLES

Date Obtained	Time Obtained	Source	Date Dispatched
As Noted Above	As Noted Above	As Noted Above	10/11/16
Time Dispatched	**Method of Shipment & Attach Receipt from Shipper.**	**Sent To**	**Samplers Signature**
2:45	FedEx	PACE	James Norton

ORDER NO:
136343

	CHAIN OF CUSTODY	

ROSWELL PRETREATMENT PROGRAM

Sample Number:	Time Sample Taken:	Date Sample Taken:
147-INF-16	6AM12PM6PM12AM	10/10-11/16

Industrial User / Wastewater Treatment Plant	Preservative and Type of Container:
INFLUENT ~~EFFLUENT~~ JW LL	3 x 40ml septum vials/HCL and teflon caps Ref. @ 4°C
Collected by: James Norton	Sample Matrix: Wastewater

Remarks: 3 x 40ml. vials for each grab sample taken.
Local Limits

Sample Method:	IU File Number:	IU Phone # and Representative
Grabs (4)	122-Q	DANIEL MENDIOLA (505)622-1449

ANALYSIS REQUIRED (mg/l)

PCE , TCE. . .✓			

I hereby certify that I received this sample and it's in the condition noted below.

RECEIPT OF SAMPLES

Received ~~From~~	Date Received	Time Received
Fed Ex	10-12-16	1030
Condition ~~of Sample~~ Good	Signature ~~Signature~~	

I hereby certify that I obtained this sample and dispatched it as noted below.

DISPATCH OF SAMPLES

Date Obtained	Time Obtained	Source	Date Dispatched
10/10-11/16	6AM12PM6PM12AM	UV	10/11/16
Time Dispatched	**Method of Shipment & Attach Receipt from Shipper.**	**Sent To**	**Samplers Signature**
JW 12:30PM 2:45	FedEx	PACE	James Norton

ORDER NO:
136343

CHAIN OF CUSTODY

ROSWELL PRETREATMENT PROGRAM

Sample Number:	Time Sample Taken:	Date Sample Taken:
148-EFF-16	2PM 8PM 2AM 8AM	10/10-11/16

Industrial User	Preservative and Type of Container:
Wastewater Treatment Plant -EFFLUENT Local Limits L.L.	3 x 40ml septum vials/HCL and teflon caps Ref. @ 4°C
Collected by: James Norton	Sample Matrix: Wastewater

Remarks: 3 x 40ml. vials for each grab sample taken.

Sample Method:	IU File Number:	IU Phone # and Representative
Grabs (4)	122-Q	DANIEL MENDIOLA (505)622-1449

ANALYSIS REQUIRED (mg/l)

PCE , TCE. . .✓			

I hereby certify that I received this sample and it's in the condition noted below.

RECEIPT OF SAMPLES

Received From	Date Received	Time Received
Fed Ex	10-12-16	1030
Condition of Sample: Good	Signature: [signature]	

I hereby certify that I obtained this sample and dispatched it as noted below.

DISPATCH OF SAMPLES

Date Obtained	Time Obtained	Source	Date Dispatched
10/10-11/16	2PM8PM2AM8AM	UV	10/11/16
Time Dispatched	**Method of Shipment & Attach Receipt from Shipper.**	**Sent To**	**Samplers Signature**
2:45 ~~12:30~~PM JN	FedEx	PACE	James Norton

Discrepancies
See C/S RF 10-12-16

ORDER NO:
136343

	CHAIN OF CUSTODY	

ROSWELL PRETREATMENT PROGRAM

Sample Number	Time Sample Taken	Date Sample Taken
151-INF-16	6 AM 5AM	10/10-11/16

Industrial User : LOCAL LIMITS-WWTP	Preservative and Type of Container: (1) 1000ml Amber glass bottle
Collected by: James Norton	Sample Matrix: Waste Water

Remarks:

Sample Method	IU File Number	IU Phone # and Representative
24 HOUR DISCRETE SAMPLERthen composite	122-Q	DANIEL MENDIOLA

ANALYSIS REQUIRED (mg/l) ✔ - Indicates analysis requested			
bis 2 (ethylhexyl) phthalate . . ✓			

I hereby certify that I received this sample and it's in the condition noted below.

RECEIPT OF SAMPLES

Received From	Date Received	Time Received
Fed Ex	10-12-16	1030
Condition of Sample: Good	Signature: [signature]	

I hereby certify that I obtained this sample and dispatched it as noted below.

DISPATCH OF SAMPLES

Date Obtained	TimeObtained	Source headworks	Date Dispatched
10/10-11/16	6:00-5:00AM		10/11/16
Time Dispatched ~~11:30~~ JN 2:45	Method of Shipment: Fedex	Sent To: PaceLab	Samplers Signature: James Norton

ORDER NO:
136343

CHAIN OF CUSTODY

ROSWELL PRETREATMENT PROGRAM

Sample Number	Time Sample Taken:	Date Sample Taken:
149-SL-16	1:00 pm	10/11/16

Industrial User	Preservative and Type of Container:
Wastewater Treatment Plant -Sludge	Cool to 4°C 2x 1000 ml Amber Glass Container With Teflon Cap 8 oz. Glass Container
Collected by: James Norton	Sample Matrix: Sludge

Remarks:Ph. TCLP ALSO ON Letter handwritten

Sample Method	IU File Number	IU Phone # and Representative
Grab	122-Q	Arthur Torrez 622-1449

ANALYSIS REQUIRED (mg/l)

Antimony..... ✔	Copper ..... ✔	Silver ..... ✔	Total Phenols ..... ✔
Arsenic ..... ✔	Lead ..... ✔	Selenium ..... ✔	Cyanide (CN^-) ..... ✔
Beryllium ..... ✔	Mercury ..... ✔	Thallium ..... ✔	TCLP.....✔
Cadmium ..... ✔	Molybdenum ..... ✔	Zinc ..... ✔	pH 7.7
Chromium ..... ✔	Nickel ..... ✔	Aluminum.....✔	

I hereby certify that I received this sample and it's in the condition noted below.

RECEIPT OF SAMPLES

Received From	Date Received	Time Received
Fed Ex	10-12-16	1030
Condition of Sample Good	Signature [signature]	

I hereby certify that I obtained this sample and dispatched it as noted below.

DISPATCH OF SAMPLES

Date Obtained	Time Obtained	Source	Date Dispatched
As Noted Above	As Noted Above	As Noted Above	10/11/16
Time Dispatched 2:45	Method of Shipment & FEDEX	Sent To Pace	Samplers Signature James Norton

ORDER NO:
13.6343

CHAIN OF CUSTODY

ROSWELL PRETREATMENT PROGRAM

Sample Number: 149-SL-16	Time Sample Taken 1:00 pm	Date Sample Taken 10/11/16
Industrial User Wastewater Treatment Plant -Sludge	Preservative and Type of Container: Cool to 4°C 1000 ml Polyethylene container	
Collected by: James Norton	Sample Matrix: Sludge	
Remarks: Ph. 7.7		
Sample Method Grab	IU File Number 122-Q	IU Phone # and Representative Arthur Torrez 622-1449

ANALYSIS REQUIRED (mg/l)

Total Volatile Solids ..... ✔		
Total solids ..... ✔		

I hereby certify that I received this sample and it's in the condition noted below.

RECEIPT OF SAMPLES

Received From	Date Received	Time Received
Fed Ex	10-12-16	1030
Condition of Sample Cool	Signature James Norton	

I hereby certify that I obtained this sample and dispatched it as noted below.

DISPATCH OF SAMPLES

Date Obtained As Noted Above	Time Obtained As Noted Above	Source As Noted Above	Date Dispatched 10/11/16
Time Dispatched 2:45	Method of Shipment & Attach Receipt from Shipper. FEDEX	Sent To Pace Lab	Samplers Signature James Norton

CITY OF ROSWELL

PAGE: 1

PURCHASE ORDER

P.O. NO.: 171317
DATE: 10/10/16

INVOICE TO:
CITY OF ROSWELL
PURCHASING DEPARTMENT
P.O. BOX 1838
ROSWELL NM 882021838

SHIP TO:
CITY OF ROSWELL
421 N RICHARDSON
ROSWELL NM 88201

TO: PACE ANALYTICAL SERVICES INC
525 N EIGHTH ST
SALINA KS 67401

VENDOR NO.
11967

DELIVER BY	SHIP VIA	F.O.B.	TERMS
10/10/16	BEST WAY	DESTINATION	NET

CONFIRM BY	CONFIRM TO	REQUISITIONED BY
ASHLEY BONIN	LUPITA EVERETT	JAMES NORTON

FREIGHT	CONTRACT NO.	ACCOUNT NO.	PROJECT	REQ. NO.	REQ. DATE
		630435543548O8		1700001210	10/10/16

LINE NO.	QUANTITY	UOM	ITEM NO. AND DESCRIPTION	UNIT COST	EXTENDED COST	TAX
			**********			
			* *			
			* CONFIRMATION COPY - DO NOT DUPLICATE *			
			* *			
			**********			
1	1.00	EA	999 998 GEN GEN WWTP 4TH QUARTER	900.0000	900.00	NO
				TOTAL	900.00	***

Greg Robson 10-12-16 1030

Authorized by: Lupita Everett, Purchasing Agent

Pace Analytical Services, Inc. Pace Order No.: 136343

Cooler/Sample Receipt Form (C/S RF)

Client Name: Boswell Environmental. Pace File No.: 5626

Sample ID's in cooler: See COC

Cooler 1 of _____ for this Pace Order No.

Cooler Identification: Pace Cooler #: unknown / Client's Cooler / Box / Letter / Hand-delivered
Other: _____

Date/Time Cooler Received: 10/12/16 10:30

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

Custody Seal: Present: Intact / Broken Absent: _____ Seal No: N/A.
Seal Name: JN Seal Date: 10-11-16
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) 3.3 Corrected Reading (°C) 3.2
Temperature. By: Temperature Blank Surface Temperature
Thermo. ID No.: 585 Thermo. Correction Factor (°C): -0.1

☐ Evidence of Cooling and date received = date sampled

Sample Receipt Discrepancies: ☐ No ☑ Yes **(See below for discrepancies.)**

Note: If discrepancies are present, Pace will proceed with analyses until/unless directed otherwise by the client.

- ☐ Chain of Custody not present - information taken from: Cover Letter ☐ Container ☐ PO ☐ Pace 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 identification 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: 150EFF16 - Wrong Preserv. - HNO3.

Detail to discrepancies/comments:

NOC Reads 500mL Amber - Rec'd 125mL NAOH. - 142-INF-16
NOC Reads 1-1000mL Amber - Rec'd 2-1Lt. - 151-INF-16
*1-500mL Bottle Wrong Preserv - Bottle HNO3 - 150EFF-16.
Rec'd 3-VOC Trip Blanks not on COC
*NO COC FOR 150EFF-16. - ON Cover Sheet.

Completed by: _____ Date Completed: 10-12-16

POTW Inf-Eff

Pace Analytical®

12/20/2016

City of Roswell
Attn: James Norton
Post Office Drawer 1838
Roswell, NM 88202

Date and Time Received: 12/07/2016 1015
Pace File No.: 5626
Pace Order No.: 137453
P.O./Project No: 170878

Dear Mr. Norton:

This laboratory report, containing the samples indicated below, includes 10 pages for the analytical report, 3 page(s) for the chain of custody and/or analysis request, and 1 page(s) for the sample receipt form.

PACE LAB ID #	SAMPLE DESCRIPTION	SAMPLE TYPE	DATE SAMPLED
16120492	201-INF-16	Liquid	12/6/2016
16120493	202-EFF-16	Liquid	12/6/2016
16120732	Trip Blank	Liquid	12/6/2016

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 Pace is otherwise notified. Pace is accredited by the State of Kansas through the National Environmental Laboratory Accreditation Program (NELAP). The results contained in this report were obtained using Pace'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.

Thank you for choosing Pace for this project.

Gregory J. Groene
Project Manager
Gregory.Groene@pacelabs.com

525 N. Eighth St. - Salina, KS 67401
785-827-1273 800-535-3076 Fax 785-823-7830
KDHE Environmental Laboratory Accreditation No. E-10146

Sample Results

Client: City of Roswell
Attn: James Norton
Post Office Drawer 1838
Roswell, NM 88202

Date Reported: 12/20/2016
Date Received: 12/07/2016
Pace File No: 5626
Pace Order No: 137453

Lab Number: 16120492
Sample Description: 201-INF-16

Date Sampled: 12/06/2016
Time Sampled: 0000

Analysis	Concentration	Units	Dilution Factor	LOQ	Book/Page
GC/MS Priority Pollutant Vol.					
1,1,1-Trichloroethane	ND(1.0)	µg/L	1.0	1.0	7466/424
1,1,2,2-Tetrachloroethane	ND(1.0)	µg/L	1.0	1.0	7466/424
1,1,2-Trichloroethane	ND(1.0)	µg/L	1.0	1.0	7466/424
1,1-Dichloroethane	ND(1.0)	µg/L	1.0	1.0	7466/424
1,1-Dichloroethylene	ND(1.0)	µg/L	1.0	1.0	7466/424
1,2-Dichloroethane	ND(1.0)	µg/L	1.0	1.0	7466/424
1,2-Dichloroethylene (Trans)	ND(1.0)	µg/L	1.0	1.0	7466/424
1,2-Dichloropropane	ND(1.0)	µg/L	1.0	1.0	7466/424
1,3-Dichloropropene (Trans)	ND(1.0)	µg/L	1.0	1.0	7466/424
2-Chloroethylvinyl Ether	ND(5.0) EZ	µg/L	1.0	5.0	7466/424
Acrolein	ND(25) EV	µg/L	1.0	25	7466/424
Acrylonitrile	ND(25)	µg/L	1.0	25	7466/424
Benzene	ND(1.0)	µg/L	1.0	1.0	7466/424
Bromodichloromethane	ND(1.0)	µg/L	1.0	1.0	7466/424
Bromoform	ND(1.0)	µg/L	1.0	1.0	7466/424
Bromomethane	ND(1.0)	µg/L	1.0	1.0	7466/424
Carbon Tetrachloride	ND(1.0)	µg/L	1.0	1.0	7466/424
Chlorobenzene	ND(1.0)	µg/L	1.0	1.0	7466/424
Chloroethane	ND(1.0)	µg/L	1.0	1.0	7466/424
Chloroform	1.7	µg/L	1.0	1.0	7466/424
Chloromethane	ND(1.0)	µg/L	1.0	1.0	7466/424
Dibromochloromethane	ND(1.0)	µg/L	1.0	1.0	7466/424
Ethylbenzene	ND(1.0)	µg/L	1.0	1.0	7466/424
Methylene Chloride	1.5	µg/L	1.0	1.0	7466/424
Tetrachloroethylene	ND(1.0)	µg/L	1.0	1.0	7466/424
Toluene	2.2	µg/L	1.0	1.0	7466/424
Trichloroethylene	ND(1.0)	µg/L	1.0	1.0	7466/424
Vinyl Chloride	ND(1.0)	µg/L	1.0	1.0	7466/424
1,2-Dichloroethylene (Cis)	ND(1.0)	µg/L	1.0	1.0	7466/424
1,3-Dichloropropene (Cis)	ND(1.0)	µg/L	1.0	1.0	7466/424
1,2-Dichlorobenzene	ND(1.0)	µg/L	1.0	1.0	7466/424
1,3-Dichlorobenzene	ND(1.0)	µg/L	1.0	1.0	7466/424
1,4-Dichlorobenzene	2.4	µg/L	1.0	1.0	7466/424

Analysis	Date/Time Prepared	Date/Time Analyzed	QC Batch	Inst. Batch	Analyst	Method(s)
GC/MS Priority Pollutant Vol	N/A	12/09/16 0242	1MS8343	2MS8343	GMA	624
Volatile Analysis Preparation Method						624

Conclusion of Lab Number: 16120492

Pace Analytical®

Pace Analytical Services, Inc.
525 N. Eighth St. - Salina, KS 67401
785-827-1273 800-535-3076 Fax 785-823-7830

Sample Results

Client: City of Roswell
Attn: James Norton
Post Office Drawer 1838
Roswell, NM 88202

Date Reported: 12/20/2016
Date Received: 12/07/2016
Pace File No: 5626
Pace Order No: 137453

Lab Number: 16120493
Sample Description: 202-EFF-16

Date Sampled: 12/06/2016
Time Sampled: 0000

Analysis	Concentration	Units	Dilution Factor	LOQ	Book/Page
GC/MS Priority Pollutant Vol.					
1,1,1-Trichloroethane	ND(1.0)	µg/L	1.0	1.0	7466/424
1,1,2,2-Tetrachloroethane	ND(1.0)	µg/L	1.0	1.0	7466/424
1,1,2-Trichloroethane	ND(1.0)	µg/L	1.0	1.0	7466/424
1,1-Dichloroethane	ND(1.0)	µg/L	1.0	1.0	7466/424
1,1-Dichloroethylene	ND(1.0)	µg/L	1.0	1.0	7466/424
1,2-Dichloroethane	ND(1.0)	µg/L	1.0	1.0	7466/424
1,2-Dichloroethylene (Trans)	ND(1.0)	µg/L	1.0	1.0	7466/424
1,2-Dichloropropane	ND(1.0)	µg/L	1.0	1.0	7466/424
1,3-Dichloropropene (Trans)	ND(1.0)	µg/L	1.0	1.0	7466/424
2-Chloroethylvinyl Ether	ND(5.0) EZ	µg/L	1.0	5.0	7466/424
Acrolein	ND(25) EV	µg/L	1.0	25	7466/424
Acrylonitrile	ND(25)	µg/L	1.0	25	7466/424
Benzene	ND(1.0)	µg/L	1.0	1.0	7466/424
Bromodichloromethane	ND(1.0)	µg/L	1.0	1.0	7466/424
Bromoform	ND(1.0)	µg/L	1.0	1.0	7466/424
Bromomethane	ND(1.0)	µg/L	1.0	1.0	7466/424
Carbon Tetrachloride	ND(1.0)	µg/L	1.0	1.0	7466/424
Chlorobenzene	ND(1.0)	µg/L	1.0	1.0	7466/424
Chloroethane	ND(1.0)	µg/L	1.0	1.0	7466/424
Chloroform	ND(1.0)	µg/L	1.0	1.0	7466/424
Chloromethane	ND(1.0)	µg/L	1.0	1.0	7466/424
Dibromochloromethane	ND(1.0)	µg/L	1.0	1.0	7466/424
Ethylbenzene	ND(1.0)	µg/L	1.0	1.0	7466/424
Methylene Chloride	ND(1.0)	µg/L	1.0	1.0	7466/424
Tetrachloroethylene	ND(1.0)	µg/L	1.0	1.0	7466/424
Toluene	ND(1.0)	µg/L	1.0	1.0	7466/424
Trichloroethylene	ND(1.0)	µg/L	1.0	1.0	7466/424
Vinyl Chloride	ND(1.0)	µg/L	1.0	1.0	7466/424
1,2-Dichloroethylene (Cis)	ND(1.0)	µg/L	1.0	1.0	7466/424
1,3-Dichloropropene (Cis)	ND(1.0)	µg/L	1.0	1.0	7466/424
1,2-Dichlorobenzene	ND(1.0)	µg/L	1.0	1.0	7466/424
1,3-Dichlorobenzene	ND(1.0)	µg/L	1.0	1.0	7466/424
1,4-Dichlorobenzene	ND(1.0)	µg/L	1.0	1.0	7466/424

Analysis	Date/Time Prepared	Date/Time Analyzed	QC Batch	Inst. Batch	Analyst	Method(s)
GC/MS Priority Pollutant Vol	N/A	12/09/16 0318	1MS8343	2MS8343	GMA	624
Volatile Analysis Preparation Method						624

Conclusion of Lab Number: 16120493

Pace Analytical Services, Inc.
525 N. Eighth St. - Salina, KS 67401
785-827-1273 800-535-3076 Fax 785-823-7830

Sample Results

Client: City of Roswell
Attn: James Norton
Post Office Drawer 1838
Roswell, NM 88202

Date Reported: 12/20/2016
Date Received: 12/07/2016
Pace File No: 5626
Pace Order No: 137453

Lab Number: 16120732
Sample Description: Trip Blank

Date Sampled: 12/06/2016
Time Sampled: 0000

Analysis	Concentration	Units	Dilution Factor	LOQ	Book/Page
No Tests Assigned	on hold		1.0		7544/871

Analysis	Date/Time Prepared	Date/Time Analyzed	QC Batch	Inst. Batch	Analyst	Method(s)
No Tests Assigned	N/A	12/06/16	N/A	N/A		N/A

Conclusion of Lab Number: 16120732

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785-827-1273 800-535-3076 Fax 785-823-7830

Appendix

Client: City of Roswell
Attn: James Norton
Post Office Drawer 1838
Roswell, NM 88202

Date Reported: 12/20/2016
Date Received: 12/07/2016
Pace File No: 5626
Pace Order No: 137453

ND indicates not detected with the LOQ (Limit of Quantitation) in parentheses. The LOQ value has been adjusted for the dilution factor and percent solids, as applicable. Due to rounding of significant figures, the LOQ value may vary slightly from the reported concentration. The LOQ is the lowest concentration of the analytical standard that was used for calibrating the instrument. If an analytical standard is analyzed at the LOQ, an error of as much as +/- 50% can be expected. N/A, if present, indicates not applicable.

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

No analysis with a holding time of seventy-two hours or less was performed in this Pace order.

EZ - Acid preservation is not appropriate for the analysis of 2-Chloroethylvinyl ether. The stated reporting limit or concentration is an estimated value.

EV - Using the recommended analytical procedure, this analyte routinely yields low and/or variable recoveries. The stated reporting limit or concentration is an estimated value.

Accreditation Summary

Client: City of Roswell
James Norton
Post Office Drawer 1838
Roswell, NM 88202

Date Reported: 12/20/2016
Date Received: 12/07/2016
Pace File No: 5626
Pace Order No: 137453

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

Test	Analysis	Matrix-Regulatory Program	Method	Pace NELAP Accredited in Other Reg. Program
MS100	GC/MS Priority Pollutant Vol.	L-NPDES	624	
MS100	1,2-Dichloroethylene (Cis)	L-NPDES	624	Yes

Quality Control Report
Batch Summary

Client: City of Roswell
Attn: James Norton
Post Office Drawer 1838
Roswell, NM 88202

Date Reported: 12/20/2016
Date Received: 12/07/2016
Pace File No: 5626
Pace Order No: 137453

Test Code	Testname	QC Batch	Method Blank Date/Time Analyzed	LCS Date/Time Analyzed	MS Lab No. Date/Time Analyzed
MS100	GC/MS Priority Pollutant Vol.	1MS8343	BLK1MS8343 12/08/16 1523	LCS1MS8343 12/08/16 1411	
Lab numbers associated with this batch: 16120492 16120493					
GL100	No Tests Assigned		N/A	N/A	
Lab numbers associated with this batch: 16120732					

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Pace Analytical Services, Inc.
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Quality Control Report
Method Blank, LCS, MS/MSD Data

Client: City of Roswell
Attn: James Norton
Post Office Drawer 1838
Roswell, NM 88202

Date Reported: 12/20/2016
Date Received: 12/07/2016
Pace File No: 5626
Pace Order No: 137453

Analysis	Method Blank	LCS % Rec	LCS Limits	LCS Spike Level	Units	Spiked Sample (% Recovery) MS	MSD	MS/MSD Limits	MS/MSD Spike Level	Units	Spiked Sample Precision Data RPD	Limit
QC Batch: 1MS8343	For sample analyzed on: 12/08/2016					Spiked sample:						
						MN	MN					
GC/MS Priority Pollutant Vol.												
1,1,1-Trichloroethane	ND(1.0)	93.4	80.0-120	10.0	µg/L			83.0-121		µgL	**	9.8
1,1,2,2-Tetrachloroethane	ND(1.0)	96.1	78.5-120	10.0	µg/L			78.4-116		µgL	**	11.4
1,1,2-Trichloroethane	ND(1.0)	89.5	80.0-120	10.0	µg/L			81.3-117		µgL	**	12.6
1,1-Dichloroethane	ND(1.0)	92.2	76.3-122	10.0	µg/L			81.9-120		µgL	**	8.6
1,1-Dichloroethylene	ND(1.0)	94.0	80.0-121	10.0	µg/L			82.1-123		µgL	**	9.4
1,2-Dichloroethane	ND(1.0)	88.9	75.6-120	10.0	µg/L			77.5-122		µgL	**	9.5
1,2-Dichloroethylene (Trans	ND(1.0)	92.7	80.0-120	10.0	µg/L			81.5-121		µgL	**	8.9
1,2-Dichloropropane	ND(1.0)	86.9	79.5-120	10.0	µg/L			81.7-117		µgL	**	10.1
1,3-Dichloropropene (Trans)	ND(1.0)	99.4	77.8-120	10.0	µg/L			70.4-116		µgL	**	10.6
2-Chloroethylvinyl Ether	ND(5.0) EZ	93.8 EZ	0.10-265	20.0	µg/L			#		µgL	**	#
Acrolein	ND(25) EV	128 EV	47.3-135	40.0	µg/L			55.2-118		µgL	**	23.3
Acrylonitrile	ND(25)	94.8	67.4-122	40.0	µg/L			69.9-124		µgL	**	8.8
Benzene	ND(1.0)	92.1	80.0-120	10.0	µg/L			82.7-117		µgL	**	8.3
Bromodichloromethane	ND(1.0)	90.0	79.9-120	10.0	µg/L			80.9-116		µgL	**	9.2
Bromoform	ND(1.0)	97.1	66.2-126	10.0	µg/L			57.4-124		µgL	**	13.7
Bromomethane	ND(1.0)	91.4	73.9-123	10.0	µg/L			74.4-126		µgL	**	15.6
Carbon Tetrachloride	ND(1.0)	92.0	79.9-125	10.0	µg/L			79.0-125		µgL	**	13.6
Chlorobenzene	ND(1.0)	94.4	80.0-120	10.0	µg/L			82.1-117		µgL	**	7.0
Chloroethane	ND(1.0)	91.9	75.9-123	10.0	µg/L			75.4-126		µgL	**	14.8
Chloroform	ND(1.0)	86.4	79.6-120	10.0	µg/L			78.4-117		µgL	**	9.2
Chloromethane	ND(1.0)	89.7	70.2-127	10.0	µg/L			69.7-129		µgL	**	15.9
Dibromochloromethane	ND(1.0)	92.1	78.5-120	10.0	µg/L			73.1-121		µgL	**	10.3
Ethylbenzene	ND(1.0)	103	80.0-120	10.0	µg/L			84.5-119		µgL	**	7.6
Methylene Chloride	ND(1.0)	87.4	77.1-120	10.0	µg/L			76.3-119		µgL	**	9.6
Tetrachloroethylene	ND(1.0)	99.6	80.0-120	10.0	µg/L			82.0-121		µgL	**	11.3
Toluene	ND(1.0)	102	80.0-120	10.0	µg/L			86.9-116		µgL	**	7.8
Trichloroethylene	ND(1.0)	94.0	80.0-120	10.0	µg/L			79.3-120		µgL	**	13.7
Vinyl Chloride	ND(1.0)	99.3	76.2-128	10.0	µg/L			78.0-130		µgL	**	14.6
1,2-Dichloroethylene (Cis)	ND(1.0)	92.1	80.0-120	10.0	µg/L			83.2-116		µgL	**	10.4
1,3-Dichloropropene (Cis)	ND(1.0)	93.2	77.2-120	10.0	µg/L			74.7-113		µgL	**	9.3
1,2-Dichlorobenzene	ND(1.0)	97.5	80.0-120	10.0	µg/L			85.2-114		µgL	**	8.2
1,3-Dichlorobenzene	ND(1.0)	99.3	80.0-120	10.0	µg/L			84.8-114		µgL	**	7.6
1,4-Dichlorobenzene	ND(1.0)	96.7	80.0-120	10.0	µg/L			83.8-114		µgL	**	7.2
Surrogate Data:												
1,2-DICHLOROETHANE-d4	89.4	89.5	76.2-126	10.0	µg/L	MN	MN	76.2-126		µgL	**	
TOLUENE-d8	101	103	80.0-120	10.0	µg/L	MN	MN	80.0-120		µgL	**	
4-BFB(MS)	103	106	80.0-120	10.0	µg/L	MN	MN	80.0-120		µgL	**	

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

EZ - Acid preservation is not appropriate for the analysis of 2-Chloroethylvinyl ether. The stated reporting limit or concentration is an estimated value.

EV - Using the recommended analytical procedure, this analyte routinely yields low and/or variable recoveries. The stated reporting limit or concentration is an estimated value.

- Limits not applicable/not available for this analysis.

** - RPD calculation not applicable/not available for this analysis.

Pace Analytical Services, Inc.
525 N. Eighth St. - Salina, KS 67401
785-827-1273 800-535-3076 Fax 785-823-7830

Quality Control Report
Sample Surrogate Data

Client: City of Roswell
Attn: James Norton
Post Office Drawer 1838
Roswell, NM 88202

Date Reported: 12/20/2016
Date Received: 12/07/2016
Pace File No: 5626
Pace Order No: 137453

Surrogate	Date Prepared	Date Analyzed	Spike Level	Units	% Recovery	Acceptable % Limits
Lab Number: 16120492		**Sample Description:201-INF-16**				
GC/MS Priority Pollutant Vol.						
1,2-DICHLOROETHANE-d4		12/09/2016	10	µg/L	91.8	76.2-126
TOLUENE-d8		12/09/2016	10	µg/L	100.	80.0-120
4-BFB(MS)		12/09/2016	10	µg/L	102	80.0-120
Lab Number: 16120493		**Sample Description:202-EFF-16**				
GC/MS Priority Pollutant Vol.						
1,2-DICHLOROETHANE-d4		12/09/2016	10	µg/L	102	76.2-126
TOLUENE-d8		12/09/2016	10	µg/L	99.7	80.0-120
4-BFB(MS)		12/09/2016	10	µg/L	104	80.0-120

Pace Analytical®
Pace Analytical Services, Inc.
525 N. Eighth St. - Salina, KS 67401
785-827-1273 800-535-3076 Fax 785-823-7830

Quality Control Report
Continuing Calibration Report

Client: City of Roswell
Attn: James Norton
Post Office Drawer 1838
Roswell, NM 88202

Date Reported: 12/20/2016
Date Received: 12/07/2016
Pace File No: 5626
Pace Order No: 137453

Analysis	Date of Analysis	Instrument Batch ID	Amount in Standard	Amount Detected	Units	Percent Recovery
GC/MS Priority Pollutant Vol.	12/09/2016		CCV recovery acceptable except as qualified below.			
2-Chloroethylvinyl Ether	12/09/2016	2MS8343	20.0	18.0	µg/L	90.0 EZ
Acrolein	12/09/2016	2MS8343	40.0	66.0	µg/L	165 EV CH

Samples associated with this Continuing Calibration Verification:

Laboratory Number	Instrument Batch	Sample Description
16120492	2MS8343	201-INF-16
16120493	2MS8343	202-EFF-16

Analysis	Date of Analysis	Instrument Batch ID	Amount in Standard	Amount Detected	Units	Percent Recovery
GC/MS Priority Pollutant Vol.	12/09/2016		CCV recovery acceptable except as qualified below.			
2-Chloroethylvinyl Ether	12/09/2016	3MS8343	20.0	17.1	µg/L	85.7 EZ
Acrolein	12/09/2016	3MS8343	40.0	88.4	µg/L	221 EV CH

Samples associated with this Continuing Calibration Verification:

Laboratory Number	Instrument Batch	Sample Description
16120492	2MS8343	201-INF-16
16120493	2MS8343	202-EFF-16

Data Qualifiers:
EZ - Acid preservation is not appropriate for the analysis of 2-Chloroethylvinyl ether. The stated reporting limit or concentration is an estimated value.

EV - Using the recommended analytical procedure, this analyte routinely yields low and/or variable recoveries. The stated reporting limit or concentration is an estimated value.

CH - The continuing calibration verification (CCV) standard recovery for this analyte was above the method or SOP limit. The reported concentration for this analyte may be biased high.

Dom+Comm Sample

11/23/2016

City of Roswell
Attn: James Norton
Post Office Drawer 1838
Roswell, NM 88202

Date and Time Received: 11/03/2016 1020
Pace File No.: 5626
Pace Order No.: 136803

Dear Mr. Norton:

This laboratory report, containing the samples indicated below, includes 12 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.

PACE LAB ID #	SAMPLE DESCRIPTION	SAMPLE TYPE	DATE SAMPLED
16110364	163 DOS-16	Liquid	11/2/2016
16110365	164 DOS-16	Liquid	11/2/2016
16110366	165 DOS-16	Liquid	11/2/2016
16110367	166 DOS-16	Liquid	11/2/2016
16110368	167 DOS-16	Liquid	11/2/2016
16110369	168 DOS-16	Liquid	11/2/2016
16110370	TRIP BLANK	Liquid	

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 Pace is otherwise notified. Pace is accredited by the State of Kansas through the National Environmental Laboratory Accreditation Program (NELAP). The results contained in this report were obtained using Pace'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.

Thank you for choosing Pace for this project.

Gregory J. Groene

Gregory J. Groene
Project Manager
Gregory.Groene@pacelabs.com

Sample Results

Client: City of Roswell
Attn: James Norton
Post Office Drawer 1838
Roswell, NM 88202

Date Reported: 11/23/2016
Date Received: 11/03/2016
Pace File No: 5626
Pace Order No: 136803

Lab Number: 16110364
Sample Description: 163 DOS-16

Date Sampled: 11/02/2016
Time Sampled: 0000

Analysis	Concentration	Units	Dilution Factor	LOQ	Book/Page
BOD (5 Day)	220.	mg/L	1.0	5	7427/918
Solids, Total Suspended	204	mg/L	1.0	5	7518/677

Analysis	Date/Time Prepared	Date/Time Analyzed	QC Batch	Inst. Batch	Analyst	Method(s)
BOD (5 Day)	N/A	11/03/16 1630	161103-2	161103-5	ASK	SM 5210B-2001
Solids, Total Suspended	N/A	11/08/16 1416	161108-1	161108-1	BLA	SM 2540 (D)-1997

Conclusion of Lab Number: 16110364

Lab Number: 16110365
Sample Description: 164 DOS-16

Date Sampled: 11/02/2016
Time Sampled: 0500

Analysis	Concentration	Units	Dilution Factor	LOQ	Book/Page
Chloride	174	mg/L	10	10	7551/133

Analysis	Date/Time Prepared	Date/Time Analyzed	QC Batch	Inst. Batch	Analyst	Method(s)
Chloride	N/A	11/10/16 1819	1IC2315	3IC2315	MLL	300.0

Conclusion of Lab Number: 16110365

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Roswell, NM 88202

Date Reported: 11/23/2016
Date Received: 11/03/2016
Pace File No: 5626
Pace Order No: 136803

Lab Number: 16110366
Sample Description: 165 DOS-16

Date Sampled: 11/02/2016
Time Sampled: 0500

Analysis	Concentration	Units	Dilution Factor	LOQ	Book/Page
Arsenic, Tot. Rec., ICP-MS	ND(5)	µg/L	1.0	5	7202/931
Cadmium, Tot. Rec., ICP-MS	ND(1)	µg/L	1.0	1	7202/931
Chromium, Tot. Rec., ICP	ND(5)	µg/L	1.0	5	7443/800
Copper, Tot. Rec., ICP	39	µg/L	1.0	10	7443/800
Lead, Tot. Rec., ICP-MS	2	µg/L	1.0	1	7202/931
Mercury, Total	ND(0.2)	µg/L	1.0	0.2	7203/975
Molybdenum, Tot. Rec., ICP	ND(5)	µg/L	1.0	5	7443/800
Nickel, Tot. Rec., ICP	ND(5)	µg/L	1.0	5	7443/800
Selenium, Tot. Rec., ICP-MS	ND(5)	µg/L	1.0	5	7202/931
Zinc, Tot. Rec., ICP	84	µg/L	1.0	10	7443/800

Analysis	Date/Time Prepared	Date/Time Analyzed	QC Batch	Inst. Batch	Analyst	Method(s)
Arsenic, Tot. Rec., ICP-MS	11/04/16 1200	11/04/16 1612	161104-3	2IP3309	KMW	200.8 Rev. 5.4
Cadmium, Tot. Rec., ICP-MS	11/04/16 1200	11/04/16 1612	161104-3	2IP3309	KMW	200.8 Rev. 5.4
Chromium, Tot. Rec., ICP	11/04/16 1200	11/07/16 1439	161104-3	3IP4312	KMW	200.7 Rev. 4.4
Copper, Tot. Rec., ICP	11/04/16 1200	11/07/16 1439	161104-3	3IP4312	KMW	200.7 Rev. 4.4
Lead, Tot. Rec., ICP-MS	11/04/16 1200	11/04/16 1612	161104-3	2IP3309	KMW	200.8 Rev. 5.4
Mercury, Total	11/04/16 0903	11/10/16 1850	161104-2	8MA3315	JDL	SM 3112B-2009
Molybdenum, Tot. Rec., ICP	11/04/16 1200	11/07/16 1439	161104-3	3IP4312	KMW	200.7 Rev. 4.4
Nickel, Tot. Rec., ICP	11/04/16 1200	11/07/16 1439	161104-3	3IP4312	KMW	200.7 Rev. 4.4
Selenium, Tot. Rec., ICP-MS	11/04/16 1200	11/04/16 1612	161104-3	2IP3309	KMW	200.8 Rev. 5.4
Zinc, Tot. Rec., ICP	11/04/16 1200	11/07/16 1439	161104-3	3IP4312	KMW	200.7 Rev. 4.4
Mercury Total Preparation Method						SM 3112B-2009
Total Recoverable Metals Preparation Method						200.2/200.7/200.8

Conclusion of Lab Number: 16110366

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Client: City of Roswell
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Roswell, NM 88202

Date Reported: 11/23/2016
Date Received: 11/03/2016
Pace File No: 5626
Pace Order No: 136803

Lab Number: 16110367
Sample Description: 166 DOS-16

Date Sampled: 11/02/2016
Time Sampled: 0500

Analysis	Concentration	Units	Dilution Factor	LOQ	Book/Page
Phosphorus, Total, as P	4.68	mg/L	1.0	0.05	7515/420

Analysis	Date/Time Prepared	Date/Time Analyzed	QC Batch	Inst. Batch	Analyst	Method(s)
Phosphorus, Total, as P	11/10/16 0845	11/10/16 1246	161110-1	161110-2	MLL	4500-P(B&G)-2011

Conclusion of Lab Number: 16110367

Lab Number: 16110368
Sample Description: 167 DOS-16

Date Sampled: 11/02/2016
Time Sampled: 0000

Analysis	Concentration	Units	Dilution Factor	LOQ	Book/Page
Tetrachloroethylene	ND(0.5)	µg/L	1.0	0.5	7466/410
Trichloroethene	ND(0.5)	µg/L	1.0	0.5	7466/410

Analysis	Date/Time Prepared	Date/Time Analyzed	QC Batch	Inst. Batch	Analyst	Method(s)
Tetrachloroethylene	N/A	11/04/16 2009	1MS8309	2MS8309	GMA	624
Trichloroethene	N/A	11/04/16 2009	1MS8309	2MS8309	GMA	624
Volatile Analysis Preparation Method						624

Conclusion of Lab Number: 16110368

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Roswell, NM 88202

Date Reported: 11/23/2016
Date Received: 11/03/2016
Pace File No: 5626
Pace Order No: 136803

Lab Number: 16110369
Sample Description: 168 DOS-16

Date Sampled: 11/02/2016
Time Sampled: 0500

Analysis	Concentration	Units	Dilution Factor	LOQ	Book/Page
Bis(2-Ethylhexyl)phthalate	24.8 MQ	µg/L	2.0	10	7470/366

Analysis	Date/Time Prepared	Date/Time Analyzed	QC Batch	Inst. Batch	Analyst	Method(s)
Bis(2-Ethylhexyl)phthalate	11/04/16 1045	11/09/16 1651	161104-3	1MS7314	JMM	625
Acid Preparation Method						625/3510C

Conclusion of Lab Number: 16110369

Lab Number: 16110370
Sample Description: TRIP BLANK

Date Sampled:
Time Sampled:

Analysis	Concentration	Units	Dilution Factor	LOQ	Book/Page
No Tests Assigned	on hold		1.0		7544/728

Analysis	Date/Time Prepared	Date/Time Analyzed	QC Batch	Inst. Batch	Analyst	Method(s)
No Tests Assigned	N/A	11/02/16	N/A	N/A		N/A

Conclusion of Lab Number: 16110370

Appendix

Client: City of Roswell
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Roswell, NM 88202

Date Reported: 11/23/2016
Date Received: 11/03/2016
Pace File No: 5626
Pace Order No: 136803

ND indicates not detected with the LOQ (Limit of Quantitation) in parentheses. The LOQ value has been adjusted for the dilution factor and percent solids, as applicable. Due to rounding of significant figures, the LOQ value may vary slightly from the reported concentration. The LOQ is the lowest concentration of the analytical standard that was used for calibrating the instrument. If an analytical standard is analyzed at the LOQ, an error of as much as +/- 50% can be expected. N/A, if present, indicates not applicable.

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.

PACE LAB ID #	ANALYSIS	DATE/TIME SAMPLED	DATE/TIME ANALYZED	ELAPSED HRS:MIN
16110364	BOD (5 Day)	11/02/2016 0000	11/03/2016 1630	40:30

Due to the absence of sampling date and/or time information, the holding time for preparation and/or analysis may not have been qualified correctly for applicable samples within this order number. The data may or may not be useable for compliance purposes.

MQ - Sample analysis performed at dilution due to historical matrix interferences.

Accreditation Summary

Client: City of Roswell
James Norton
Post Office Drawer 1838
Roswell, NM 88202

Date Reported: 11/23/2016
Date Received: 11/03/2016
Pace File No: 5626
Pace Order No: 136803

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

Test	Analysis	Matrix-Regulatory Program	Method	Pace NELAP Accredited in Other Reg. Program

Pace is accredited for all analytes.

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Quality Control Report
Batch Summary

Client: City of Roswell
Attn: James Norton
Post Office Drawer 1838
Roswell, NM 88202

Date Reported: 11/23/2016
Date Received: 11/03/2016
Pace File No: 5626
Pace Order No: 136803

Test Code	Testname	QC Batch	Method Blank Date/Time Analyzed	LCS Date/Time Analyzed	MS Lab No. Date/Time Analyzed
MS131	Tetrachloroethylene	1MS8309	BLK1MS8309 11/04/16 0925	LCS1MS8309 11/04/16 0814	
	Lab numbers associated with this batch: 16110368				
MS133	Trichloroethene	1MS8309	BLK1MS8309 11/04/16 0925	LCS1MS8309 11/04/16 0814	
	Lab numbers associated with this batch: 16110368				
MS289	Bis(2-Ethylhexyl)phthalate	161104-3	161104BLK3 11/09/16 1523	161104LCS3 11/09/16 1607	16110369MS 11/09/16 1735
	Lab numbers associated with this batch: 16110369				
SL333	Mercury, Total	161104-2	161104BLK2 11/10/16 1741	161104LCS2 11/10/16 1746	16110188MS 11/10/16 1816
	Lab numbers associated with this batch: 16110366				
SL002	Arsenic, Tot. Rec., ICP-MS	161104-3	161104BLK3 11/04/16 1602	161104LCS3 11/04/16 1607	
	Lab numbers associated with this batch: 16110366				
SL006	Cadmium, Tot. Rec., ICP-MS	161104-3	161104BLK3 11/04/16 1602	161104LCS3 11/04/16 1607	
	Lab numbers associated with this batch: 16110366				
SL011	Lead, Tot. Rec., ICP-MS	161104-3	161104BLK3 11/04/16 1602	161104LCS3 11/04/16 1607	
	Lab numbers associated with this batch: 16110366				
SL023	Selenium, Tot. Rec., ICP-MS	161104-3	161104BLK3 11/04/16 1602	161104LCS3 11/04/16 1607	
	Lab numbers associated with this batch: 16110366				
SL608	Chromium, Tot. Rec., ICP	161104-3	161104BLK3 11/07/16 1320	161104LCS3 11/07/16 1324	
	Lab numbers associated with this batch: 16110366				
SL613	Copper, Tot. Rec., ICP	161104-3	161104BLK3 11/07/16 1320	161104LCS3 11/07/16 1324	16110331MS 11/07/16 1410
	Lab numbers associated with this batch: 16110366				

Quality Control Report
Batch Summary

Client: City of Roswell
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Roswell, NM 88202

Date Reported: 11/23/2016
Date Received: 11/03/2016
Pace File No: 5626
Pace Order No: 136803

Test Code	Testname	QC Batch	Method Blank Date/Time Analyzed	LCS Date/Time Analyzed	MS Lab No. Date/Time Analyzed
SL634	Molybdenum, Tot. Rec., ICP	161104-3	161104BLK3 11/07/16 1320	161104LCS3 11/07/16 1324	
	Lab numbers associated with this batch: 16110366				
SL636	Nickel, Tot. Rec., ICP	161104-3	161104BLK3 11/07/16 1320	161104LCS3 11/07/16 1324	
	Lab numbers associated with this batch: 16110366				
SL669	Zinc, Tot. Rec., ICP	161104-3	161104BLK3 11/07/16 1320	161104LCS3 11/07/16 1324	
	Lab numbers associated with this batch: 16110366				
GL123	BOD (5 Day)	161103-2	161103BLK2 11/03/16 1630	161103LCS2 11/03/16 1630	16110256MS 11/03/16 1630
	Lab numbers associated with this batch: 16110364				
GL502	Chloride	1IC2315	BLK1IC2315 11/10/16 1222	LCS1IC2315 11/10/16 1234	16110447MS 11/10/16 1730
	Lab numbers associated with this batch: 16110365				
GL100	No Tests Assigned		N/A	N/A	
	Lab numbers associated with this batch: 16110370				
GL218	Phosphorus, Total, as P	161110-1	161110BLK1 11/10/16 1231	161110LCS1 11/10/16 1232	16110331MS 11/10/16 1243
	Lab numbers associated with this batch: 16110367				
GL243	Solids, Total Suspended	161108-1	161108BLK1 11/08/16 1412	N/A	16110277MS 11/08/16 1413
	Lab numbers associated with this batch: 16110364				

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

Client: City of Roswell
Attn: James Norton
Post Office Drawer 1838
Roswell, NM 88202

Date Reported: 11/23/2016
Date Received: 11/03/2016
Pace File No: 5626
Pace Order No: 136803

Analysis	Method Blank	LCS % Rec	LCS Limits	LCS Spike Level	Units	Spiked Sample (% Recovery) MS	MSD	MS/MSD Limits	MS/MSD Spike Level	Units	Spiked Sample Precision Data RPD	Limit
QC Batch: 161103-2	**For sample analyzed on: 11/03/2016**					**Spiked sample: 16110256**						
BOD (5 Day)	ND(5)	103	84.6-115	198	mg/L	MN	MN	#	N/A	mg/L	**	16.3
QC Batch: 161104-2	**For samples prepared on: 11/04/2016 0903**					**Spiked sample: 16110188**						
Mercury, Total	ND(0.2)	106	80.0-120	5.0	µg/L	MN	MN	80.0-120	5.0	µg/L	**	20.0
QC Batch: 161104-3	**For samples prepared on: 11/04/2016 1200**					**Spiked sample:**						
Arsenic, Tot. Rec., ICP-MS	ND(5)	102	85.0-115	500	µg/L	MN	MN	80.0-120		µg/L	**	20.0
Cadmium, Tot. Rec., ICP-MS	ND(1)	104	85.0-115	500	µg/L	MN	MN	80.0-120		µg/L	**	20.0
Chromium, Tot. Rec., ICP	ND(5)	103	85.0-115	500	µg/L	MN	MN	80.0-120		µg/L	**	20.0
Lead, Tot. Rec., ICP-MS	ND(1)	106	85.0-115	500	µg/L	MN	MN	80.0-120		µg/L	**	20.0
Molybdenum, Tot. Rec., ICP	ND(5)	103	85.0-115	500	µg/L	MN	MN	80.0-120		µg/L	**	20.0
Nickel, Tot. Rec., ICP	ND(5)	101	85.0-115	500	µg/L	MN	MN	80.0-120		µg/L	**	20.0
Selenium, Tot. Rec., ICP-MS	ND(5)	110.	85.0-115	500	µg/L	MN	MN	80.0-120		µg/L	**	20.0
Zinc, Tot. Rec., ICP	ND(10)	103	85.0-115	500	µg/L	MN	MN	80.0-120		µg/L	**	20.0
QC Batch: 161104-3	**For samples prepared on: 11/04/2016 1200**					**Spiked sample: 16110331**						
Copper, Tot. Rec., ICP	ND(10)	105	85.0-115	500	µg/L	MN	MN	80.0-120	500	µg/L	**	20.0
QC Batch: 161104-3	**For samples prepared on: 11/04/2016 1045**					**Spiked sample: 16110369**						
Bis(2-Ethylhexyl)phthalate	ND(5.0)	112	67.0-168	25.0	µg/L	117	F	79.6-126	25.0	µg/L	**	1.9
Surrogate Data:												
TERPHENYL-d14	160. SH	130.	67.5-149	100	µg/L	112		67.5-149	100	µg/L	**	
QC Batch: 161108-1	**For sample analyzed on: 11/08/2016**					**Spiked sample: 16110277**						
Solids, Total Suspended	ND(5)	N/A	#	N/A	mg/L	MN	MN	#	N/A	mg/L	**	31.0
QC Batch: 161110-1	**For samples prepared on: 11/10/2016 0845**					**Spiked sample: 16110331**						
Phosphorus, Total, as P	ND(0.05)	95.0	90.0-116	2.0	mg/L	MN	MN	84.3-124	2.0	mg/L	**	9.8
QC Batch: IIC2315	**For sample analyzed on: 11/10/2016**					**Spiked sample: 16110447**						
Chloride	ND(1.0)	96.7	90.0-110	4.0	mg/L	MN	MN	68.4-120	40.0	mg/L	**	21.6
QC Batch: 1MS8309	**For sample analyzed on: 11/04/2016**					**Spiked sample:**						
Tetrachloroethylene	ND(0.5)	116	80.0-120	10.0	µg/L	MN	MN	82.0-121		µg/L	**	11.3
Surrogate Data:												
TOLUENE-d8	101	105	80.0-120	10.0	µg/L	MN	MN	80.0-120		µg/L	**	
QC Batch: 1MS8309	**For sample analyzed on: 11/04/2016**					**Spiked sample:**						
Trichloroethene	ND(0.5)	94.5	80.0-120	10.0	µg/L	MN	MN	79.3-120		µg/L	**	13.7
Surrogate Data:												
1,2-DICHLOROETHANE-d4	91.5	89.3	76.2-126	10.0	µg/L	MN	MN	76.2-126		µg/L	**	

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

F - MS and/or MSD sample data are not available due to insufficient sample volume.

SH - One or more surrogate recoveries for this analysis was above the method or laboratory control limits. The reported sample concentration may be biased high.

- Limits not applicable/not available for this analysis.

** - RPD calculation not applicable/not available for this analysis.

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Quality Control Report
Sample Surrogate Data

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Attn: James Norton
Post Office Drawer 1838
Roswell, NM 88202

Date Reported: 11/23/2016
Date Received: 11/03/2016
Pace File No: 5626
Pace Order No: 136803

Surrogate	Date Prepared	Date Analyzed	Spike Level	Units	% Recovery	Acceptable % Limits
Lab Number: 16110368		**Sample Description: 167 DOS-16**				
Volatile Analysis						
TOLUENE-d8		11/04/2016	10	µg/L	106	80.0-120
Volatile Analysis						
1,2-DICHLOROETHANE-d4		11/04/2016	10	µg/L	87.7	76.2-126
Lab Number: 16110369		**Sample Description: 168 DOS-16**				
Acid						
TERPHENYL-d14	11/04/2016	11/09/2016	100	µg/L	113	67.5-149

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Quality Control Report
Continuing Calibration Report

Client: City of Roswell
Attn: James Norton
Post Office Drawer 1838
Roswell, NM 88202

Date Reported: 11/23/2016
Date Received: 11/03/2016
Pace File No: 5626
Pace Order No: 136803

Analysis	Date of Analysis	Instrument Batch ID	Amount in Standard	Amount Detected	Units	Percent Recovery
BOD (5 Day)	11/03/2016	161103-5	CCV recovery acceptable for this Instrument Batch.			
BOD (5 Day)	11/03/2016	161103-6	CCV recovery acceptable for this Instrument Batch.			
Phosphorus, Total, as P	11/10/2016	161110-2	CCV recovery acceptable for this Instrument Batch.			
Phosphorus, Total, as P	11/10/2016	161110-3	CCV recovery acceptable for this Instrument Batch.			
Chloride	11/10/2016	3IC2315	CCV recovery acceptable for this Instrument Batch.			
Chloride	11/10/2016	4IC2315	CCV recovery acceptable for this Instrument Batch.			
Tetrachloroethylene	11/04/2016	2MS8309	CCV recovery acceptable for this Instrument Batch.			
Tetrachloroethylene	11/04/2016	3MS8309	CCV recovery acceptable for this Instrument Batch.			
Trichloroethene	11/04/2016	2MS8309	CCV recovery acceptable for this Instrument Batch.			
Trichloroethene	11/04/2016	3MS8309	CCV recovery acceptable for this Instrument Batch.			
Bis(2-Ethylhexyl)phthalate	11/09/2016	1MS7314	CCV recovery acceptable for this Instrument Batch.			
Bis(2-Ethylhexyl)phthalate	11/09/2016	2MS7314	CCV recovery acceptable for this Instrument Batch.			
Arsenic, Tot. Rec., ICP-MS	11/04/2016	2IP3309	CCV recovery acceptable for this Instrument Batch.			
Arsenic, Tot. Rec., ICP-MS	11/04/2016	3IP3309	CCV recovery acceptable for this Instrument Batch.			
Cadmium, Tot. Rec., ICP-MS	11/04/2016	2IP3309	CCV recovery acceptable for this Instrument Batch.			
Cadmium, Tot. Rec., ICP-MS	11/04/2016	3IP3309	CCV recovery acceptable for this Instrument Batch.			
Lead, Tot. Rec., ICP-MS	11/04/2016	2IP3309	CCV recovery acceptable for this Instrument Batch.			
Lead, Tot. Rec., ICP-MS	11/04/2016	3IP3309	CCV recovery acceptable for this Instrument Batch.			
Selenium, Tot. Rec., ICP-MS	11/04/2016	2IP3309	CCV recovery acceptable for this Instrument Batch.			
Selenium, Tot. Rec., ICP-MS	11/04/2016	3IP3309	CCV recovery acceptable for this Instrument Batch.			
Mercury, Total	11/10/2016	8MA3315	CCV recovery acceptable for this Instrument Batch.			
Mercury, Total	11/10/2016	9MA3315	CCV recovery acceptable for this Instrument Batch.			
Chromium, Tot. Rec., ICP	11/07/2016	3IP4312	CCV recovery acceptable for this Instrument Batch.			
Chromium, Tot. Rec., ICP	11/07/2016	4IP4312	CCV recovery acceptable for this Instrument Batch.			
Copper, Tot. Rec., ICP	11/07/2016	3IP4312	CCV recovery acceptable for this Instrument Batch.			
Copper, Tot. Rec., ICP	11/07/2016	4IP4312	CCV recovery acceptable for this Instrument Batch.			
Molybdenum, Tot. Rec., ICP	11/07/2016	3IP4312	CCV recovery acceptable for this Instrument Batch.			
Molybdenum, Tot. Rec., ICP	11/07/2016	4IP4312	CCV recovery acceptable for this Instrument Batch.			
Nickel, Tot. Rec., ICP	11/07/2016	3IP4312	CCV recovery acceptable for this Instrument Batch.			
Nickel, Tot. Rec., ICP	11/07/2016	4IP4312	CCV recovery acceptable for this Instrument Batch.			
Zinc, Tot. Rec., ICP	11/07/2016	3IP4312	CCV recovery acceptable for this Instrument Batch.			
Zinc, Tot. Rec., ICP	11/07/2016	4IP4312	CCV recovery acceptable for this Instrument Batch.			

136803

☞	CHAIN OF CUSTODY	☜

ROSWELL PRETREATMENT PROGRAM

Sample Number:	Time Sample Taken	Date Sample Taken:
163-DOS-16	6:00 am 12pm 6pm 12am	11/1-2/16 ~~10/26-27/16~~

Industrial User	Preservative and Type of Container:
Domestic Sewage Samples	1 x 500 ml plastic container Cool to 4°C
Collected by: James Norton	Sample Matrix: Wastewater

Remarks: Four (4) 1000ml samples were collected and composited. One (1)500 ml. sample is enclosed for analysis.

pH -

Sample Method	IU File Number	IU Phone # and Representative
Grab	122-Q	Daniel Mendiola 622-1449

ANALYSIS REQUIRED (mg/l)

BOD,TSS ..... ✓			

I hereby certify that I received this sample and it's in the condition noted below.

RECEIPT OF SAMPLES

Received From	Date Received	Time Received
Fed Ex	11-3-16	1020
Condition of Sample Cool	Signature [signature]	

I hereby certify that I obtained this sample and dispatched it as noted below.

DISPATCH OF SAMPLES

Date Obtained	Time Obtained	Source	Date Dispatched
As Noted Above	As Noted Above	domestic sewage manhole	~~10/27/16~~ JN 11/2/16
Time Dispatched	**Method of Shipment**	**Sent To**	**Samplers Signature**
14:00	FedEx	Pace	James Norton

136803

CHAIN OF CUSTODY

ROSWELL PRETREATMENT PROGRAM

Sample Number:	Time Sample Taken	Date Sample Taken:
164-DOS-16	6Am -5 Am	~~10/26-27~~ 11/1-2/16

Industrial User	Preservative and Type of Container:
Local Limits DOS	1 x 500ml plastic bottle Discrepancies Ref. @4°C See C/S RF No Preservative 11-3-16
Collected by: James Norton	Sample Matrix: Wastewater

Remarks: Ph.

Sample Method	IU File Number	IU Phone # and Representative
24 hr Time Composite	122-Q	Daniel Mendiola 622-1449

ANALYSIS REQUIRED (mg/l)

	Chloride ..... ✔		
Total Dissolved Solids ..... ✔			

I hereby certify that I received this sample and it's in the condition noted below.

RECEIPT OF SAMPLES

Received From	Date Received	Time Received
Fed Ex	11-3-16	1020
Condition of Sample Good	Signature	

I hereby certify that I obtained this sample and dispatched it as noted below.

DISPATCH OF SAMPLES

Date Obtained	Time Obtained	Source	Date Dispatched
~~10/26-27~~ 11/1-2/16	6-5am	domestic manhole	~~10/27/16~~ 11-2-16
Time Dispatched	Method of Shipment & Attach Receipt from Shipper. FedEx	Sent To Pace	Samplers Signature James Norton

136803

CHAIN OF CUSTODY

ROSWELL PRETREATMENT PROGRAM

Sample Number:	Time Sample Taken	Date Sample Taken:
165-DOS-16	6:00 AM - 5:00 AM	~~10/26-27~~ 11/1-2/16

Industrial UserLOCAL LIMITS	Preservative and Type of Container:
DOS	1 x 250 ml Plastic Bottle HNO_3 pH < 2.0
Collected by: James Norton	Sample Matrix: Wastewater

Remarks: pH -

Sample Method	IU File Number	IU Phone # and Representative
24 hr Time Composite	122-Q	Daniel Mendiola 622-1449

ANALYSIS REQUIRED (mg/l)

	Copper ..... ✔		Nickel ..... ✔
	Lead ..... ✔		Selenium. ..... ✔
Arsenic .. ✔			Silver ..... ✔
Cadmium . ✔		Mercury ..... ✔	
Chromium ✔		Molybdenum ..... ✔	Zinc ..... ✔

I hereby certify that I received this sample and it's in the condition noted below.

RECEIPT OF SAMPLES

Received From	Date Received	Time Received
Fed Ex	11-3-16	1020
Condition of Sample	Signature	
Good		

I hereby certify that I obtained this sample and dispatched it as noted below.

DISPATCH OF SAMPLES

Date Obtained	Time Obtained	Source	Date Dispatched
~~10/26-27~~ 11-1-2/16	~~8-7Am~~ 6-5 AM	domestic sewage manhole	~~10/27/16~~ 11/2/16
Time Dispatched	Method of Shipment : FedEx	Sent To Pace	Samplers Signature James Norton

136303

☞	CHAIN OF CUSTODY	☜

ROSWELL PRETREATMENT PROGRAM

Sample Number:	Time Sample Taken	Date Sample Take:
166-DOS-16	6Am - 5AM	~~10/26-27/~~16 11/1-2/16

Industrial User Local Limits DOS	Preservative and Type of Container: none 250ml Plastic bottle
Collected by: James Norton	Sample Matrix: Wastewater Discrepancies See C/S RF 11-3-16

Remarks: pH -

Sample Method	IU File Number	IU Phone # and Representative
24 hr Time Composite	122-Q	Daniel Mendiola 622-14449

ANALYSIS REQUIRED (mg/l)

Phosphorus. . . . . ;✔			

I hereby certify that I received this sample and it's in the condition noted below.

RECEIPT OF SAMPLES

Received ~~From~~	Date Received	Time Received
Fed Ex	11-3-16	1020
Condition ~~of Sample~~ Good	Signature	

I hereby certify that I obtained this sample and dispatched it as noted below.

DISPATCH OF SAMPLES

Date Obtained	Time Obtained	Source	Date Dispatched
~~10/26-27/16~~ 11/1-2/16	6-5am	domestic manhole	~~10/27/16~~ 11/2/16
Time Dispatched	**Method of Shipment**	**Sent To Pace**	**Samplers Signature**
1410	FedEx		James Norton

136303

CHAIN OF CUSTODY

ROSWELL PRETREATMENT PROGRAM

Sample Number:	Time Sample Taken	Date Sample Taken:
167-DOS-16	6:00 Am 12:00Pm 6:00Pm 12:00am	10/26-27/16

Industrial User Domestic Sewage Samples	Preservative and Type of Container: 3 x 40ml Septum vials/HCL Ref. @4°C
Collected by: James Norton	Sample Matrix: Wastewater

Remarks: 3 x 40 ml. vials for each grab sample taken. A total of 12 is enclosed.

Trip Blank Seal Marked Trip Blank

Sample Method	IU File Number	IU Phone # and Representative
Grab	122-Q	Daniel Mendiola 622-1449

ANALYSIS REQUIRED (mg/l)

TCE/PCE.....✓			

I hereby certify that I received this sample and it's in the condition noted below.

RECEIPT OF SAMPLES

Received From	Date Received	Time Received
Fed Ex	11-3-16	1020
Condition of Sample Good	Signature	

I hereby certify that I obtained this sample and dispatched it as noted below.

DISPATCH OF SAMPLES

Date Obtained	Time Obtained	Source	Date Dispatched
11/1-2/16 ~~10/26-27/16~~	6,12,6,12	domestic manhole	~~10/27/16~~ 11/2/16
Time Dispatched	**Method of Shipment**	**Sent To**	**Samplers Signature**
p.m. 14:00	FedEx	Pace	James Norton

136302

	CHAIN OF CUSTODY	

ROSWELL PRETREATMENT PROGRAM

Sample Number: 168-DOS-16	Time Sample Taken: 6AM-5 AM	Date Sample Taken: ~~10/26-27/16~~ 11/1-2/16
Industrial User Local Limits DOS		Preservative and Type of Container: 2x1000ml Amber Glass None REF.4 ◦ C
Collected by: James Norton		Sample Matrix: Waste Water
Remarks: pH.		
Sample Method: 24 hour discrete sampler composite	IU File Number: 122	IU Phone # and Representative: (505)622-1449-Daniel Mendiola

ANALYSIS REQUIRED (mg/l) ✔ - Indicates Analysis requested

bis 2 (ethylhexyl)phthalate . ✔			

I hereby certify that I received this sample and it's in the condition noted below.

RECEIPT OF SAMPLES

Received From: Fed Ex	Date Received: 11-3-16	Time Received: 1020
Condition of Sample: Cool	Signature: Lucy Robs	

I hereby certify that I obtained this sample and dispatched it as noted below.

DISPATCH OF SAMPLES

Date Obtained: 11/1-2/16 ~~10/26-27/16~~	Time Obtained: AS NOTED ABOVE	Source: domestic manhole	Date Dispatched: ~~10/27/16~~ 11/2/16
Time Dispatched: 14:00	Method of Shipment: FEDEX	Sent To: Pace Lab	Samplers Signature: James Norton

ORDER NO: 136303

11/2/2016
Mr. Greg Groene
PACE Analytical Services, Inc.
1804 Glendale Road
Salina, KS 67401

Dear Mr. Groene,

Please analyze the enclosed samples as follows:

163-DOS-16 To be analyzed for BOD,TSS

164-DOS-16 To be analyzed for Chloride, and Total Dissolved Solids.

165-DOS-16 To be analyzed for Arsenic, Cadmium, Chromium, Copper, Lead, Mercury, Nickel, Selenium, Silver, Zinc, and Molybdenum.

166-DOS-16 To be analyzed for Phosphorus

167-DOS-16 To be analyzed for PCE/TCE

168-DOS-16 To be analyzed for bis 2 ethylhexyl phthalate.

If you have any questions, please call me at (575) 622-1449.

Sincerely,

James Norton

James Norton
Industrial Pretreatment Coordinator/ Technician

Tracy Robson 11-3-16 1020

Pace Analytical Services, Inc. **Pace Order No.:** 136262

Cooler/Sample Receipt Form (C/S RF)

Client Name: Roswell Pretreatment Program **Pace File No.:** 5626

Sample ID's in cooler: See COC

Cooler 1 **of** 1 **for this Pace Order No.**

Cooler Identification: Pace Cooler #: 3035 / Client's Cooler / Box / Letter / Hand-delivered
Other: _____

Date/Time Cooler Received: 11/3/16 10:20

Delivered By: UPS / FedEx / AB Express / Field Svcs / Mail / Walk-In / Other: _____

Custody Seal: Present: Intact / Broken Absent: _____ Seal No: 3035
Seal Name: JN Seal Date: 11-2-16
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) 5.1 Corrected Reading (°C) 5.0
Temperature. By: Temperature Blank Surface Temperature
Thermo. ID No.: 585 Thermo. Correction Factor (°C): -0.1

☐ Evidence of Cooling and date received = date sampled

T

Sample Receipt Discrepancies: ☐ No ☑ Yes **(See below for discrepancies.)**

Note: If discrepancies are present, Pace will proceed with analyses until/unless directed otherwise by the client.

- ☐ Chain of Custody not present - information taken from: Cover Letter ☐ Container ☐ PO ☐ Pace 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 identification 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:

164-DOS-16 - COC Reads 1-500mL - Recd - 120mLP.

166-DOS-16 - COC Reads 1-250mL - NONE - Recd 1-250mL 1L SOP.

Completed by: SKA **Date Completed:** 11-3-16

Legal review and technical Review by: City of Roswell, NM

Prepared by:

CWA Consulting Services, LLC.
P.O. Box 620848
Littleton, CO 80162
www.POTW.com

Curt McCormick
(303) 904-6049
Fax: (720) 836-4209
Curt@POTW.com