ENVIRONMENTAL FGL AGRICULTURAL
Analytical Chemists

February 1, 2016

City of Hanford
Attn: April Engen-Garza
900 S.10th Ave.
Hanford, CA 93230

VI 1640096:1 **COLIFORM BACTERIA ANALYSIS**
Customer ID : 4-15877

System Number :
Project Name : Sludge Monitoring

Sample Handling Information

ID	Sample Number	Sample Description	Sample Type/Reason	Sampled By	Employed By	Sampled	Started	Finished
1	VI 1640096-001	Sludge Stockpile	Waste-Other	Jacob & Neil	FGL Environmental	01/12/2016 15:10	01/13/2016 12:26 LM	01/16/2016 LM

Analytical Results

ID	Sample Description	Chlorine Total/Free	Temp °C	Method	Units	Total	Fecal	E. Coli	Person Notified ‡	Date ‡ Notified	Time ‡ Notified	Foot Note
1	Sludge Stockpile	---	---	SM 9221B	MPN/g	3710	131	---	N/R			

N/R Not Required. MPN Most Probable Number A/P Absence/Presence Results in Dry Weight Basis. ‡ Client Notification details.

Analyses were performed using Standard Methods 22nd edition. If you have any questions regarding your results, please call.

RRH:GMA

Reviewed and Approved By **Raquel R. Harvey** Digitally signed by Raquel R. Harvey
Title: Tech Director Microbiology
Date: 2016-02-01

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February 10, 2016

City of Hanford
Attn: April Engen-Garza
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Hanford, CA 93230

Lab ID : VI 1640096
Customer : 4-15877

Laboratory Report

Introduction: This report package contains total of 9 pages divided into 3 sections:

Case Narrative	(3 pages)	: An overview of the work performed at FGL.
Sample Results	(1 page)	: Results for each sample submitted.
Quality Control	(5 pages)	: Supporting Quality Control (QC) results.

Case Narrative

This Case Narrative pertains to the following samples:

Sample Description	Date Sampled	Date Received	FGL Lab ID #	Matrix
Sludge Stockpile	01/12/2016	01/12/2016	VI 1640096-001	Slg

Sampling and Receipt Information: The sample was performed by FGL using the following methods (where applicable):

Bacteriological Sampling	- SOP:200900141
Grab sampling for liquids	- SOP:200900137
Composite sampling for liquids	- SOP:200900139
Grab sampling for solids	- SOP:200900142
Composite sampling for solids	- SOP:200900143

All samples were received, prepared and analyzed within the method specified holding times. All samples arrived on ice. All samples were checked for pH if acid or base preservation is required (except for VOAs). For details of sample receipt information, please see the attached Chain of Custody and Condition Upon Receipt Form.

Quality Control: All samples were prepared and analyzed according to the following tables:

Inorganic - Metals QC

200.7	01/27/2016:201201 All analysis quality controls are within established criteria.
	01/28/2016:201285 All analysis quality controls are within established criteria.
	02/03/2016:201530 All analysis quality controls are within established criteria.
245.1	01/18/2016:200699 All analysis quality controls are within established criteria.

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February 10, 2016 | Lab ID : VI 1640096
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Inorganic - Metals QC

3050	01/27/2016:201015 All preparation quality controls are within established criteria, except: The following note applies to Barium, Thallium, Zinc: 435 Sample matrix may be affecting this analyte. Data was accepted based on the LCS or CCV recovery. The following note applies to Barium: 435 Sample matrix may be affecting this analyte. Data was accepted based on the LCS or CCV recovery. The following note applies to Barium, Thallium, Zinc: 430 Post Digestion Spike (PDS) not within Acceptance Range (AR) because of matrix interferences affecting this analyte. Data was accepted based on the LCS recovery.
7471	01/18/2016:200599 All preparation quality controls are within established criteria, except: The following note applies to Mercury: 435 Sample matrix may be affecting this analyte. Data was accepted based on the LCS or CCV recovery.

Inorganic - Wet Chemistry QC

2540G	01/18/2016:200601 All preparation quality controls are within established criteria.
300	02/04/2016:201328 All preparation quality controls are within established criteria.
300.0	02/05/2016:201718 All analysis quality controls are within established criteria.
351.2	01/26/2016:200913 All preparation quality controls are within established criteria.
4500HB	01/19/2016:200776 All analysis quality controls are within established criteria.
4500NH3B	01/28/2016:201056 All preparation quality controls are within established criteria.
4500NH3G	02/01/2016:201321 All analysis quality controls are within established criteria.
9045C	01/19/2016:200654 All preparation quality controls are within established criteria.
EPA351.2	01/28/2016:201197 All analysis quality controls are within established criteria.

Discussion of Analytical Results: Case Narrative

Results reported on a dry weight basis.

February 10, 2016 Lab ID : VI 1640096
City of Hanford Customer : 4-15877

Certification:: I certify that this data package is in compliance with ELAP standards, both technically and for completeness, except for any conditions listed above. Release of the data contained in this data package is authorized by the Laboratory Director or his designee, as verified by the following electronic signature.

KD:DMB

Approved By **Kelly A. Dunnahoo, B.S.** Digitally signed by Kelly A. Dunnahoo, B.S.
Title: Laboratory Director
Date: 2016-02-10

February 10, 2016

Lab ID : VI 1640096-001
Customer ID : 4-15877

City of Hanford
Attn: April Engen-Garza
900 S.10th Ave.
Hanford, CA 93230

Sampled On : January 12, 2016-15:10
Sampled By : Jacob & Neil
Received On : January 12, 2016-17:30
Matrix : Sludge

Description : Sludge Stockpile
Project : Sludge Monitoring

Sample Result - Inorganic

Constituent	Result	PQL	Units	Note	Sample Preparation		Sample Analysis	
					Method	Date/ID	Method	Date/ID
Metals, Total[G:1]								
Antimony	ND	11*	mg/kg		3050	01/27/16:201015	200.7	02/03/16:201530
Arsenic	11.2	1.1	mg/kg		3050	01/27/16:201015	200.7	01/27/16:201201
Barium	332	2.2	mg/kg		3050	01/27/16:201015	200.7	01/27/16:201201
Beryllium	ND	0.66	mg/kg		3050	01/27/16:201015	200.7	01/27/16:201201
Cadmium	1.46	0.66	mg/kg		3050	01/27/16:201015	200.7	01/27/16:201201
Chromium	24.5	1.1	mg/kg		3050	01/27/16:201015	200.7	01/27/16:201201
Cobalt	5.82	1.1	mg/kg		3050	01/27/16:201015	200.7	01/27/16:201201
Copper	668	1.1	mg/kg		3050	01/27/16:201015	200.7	01/27/16:201201
Lead	28.3	4.4	mg/kg		3050	01/27/16:201015	200.7	01/27/16:201201
Mercury	0.51	0.03	mg/kg		7471	01/18/16:200599	245.1	01/18/16:200699
Molybdenum	11.5	2.2	mg/kg		3050	01/27/16:201015	200.7	01/27/16:201201
Nickel	23.8	1.1	mg/kg		3050	01/27/16:201015	200.7	01/27/16:201201
Selenium	9.36	1.1	mg/kg		3050	01/27/16:201015	200.7	01/27/16:201201
Silver	5.53	1.1	mg/kg		3050	01/27/16:201015	200.7	01/28/16:201285
Thallium	ND	1.1	mg/kg		3050	01/27/16:201015	200.7	01/27/16:201201
Vanadium	25.8	1.1	mg/kg		3050	01/27/16:201015	200.7	01/27/16:201201
Zinc	813	2.2	mg/kg		3050	01/27/16:201015	200.7	01/27/16:201201
Wet Chemistry[G:1]								
Nitrate Nitrogen	151	2.2	mg/kg		300	02/04/16:201328	300.0	02/05/16:201718
Nitrogen, Organic	16800	--	mg/kg		4500NH3B	01/28/16:201056	4500NH3G	02/01/16:201321
Ammonia Nitrogen	6080	690*	mg/kg		4500NH3B	01/28/16:201056	4500NH3G	02/01/16:201321
Kjeldahl Nitrogen	22900	1800*	mg/kg		351.2	01/26/16:200913	EPA351.2	01/28/16:201197
Nitrogen, Total as Nitrogen	23100	--	mg/kg		351.2	01/26/16:200913	EPA351.2	01/28/16:201197
Nitrate + Nitrite as N	151	2.2	mg/kg		300	02/04/16:201328	300.0	02/05/16:201718
Kjeldahl Nitrogen	22900	1800*	mg/kg		351.2	01/26/16:200913	EPA351.2	01/28/16:201197
pH	7.9	--	units		9045C	01/19/16:200654	4500HB	01/19/16:200776
% Solids	45.8	0.1	%		2540G	01/18/16:200601	2540B	01/19/16:200734

ND=Non-Detected. PQL=Practical Quantitation Limit. Containers: (G) Glass Jar Preservatives: N/A ‡Surrogate. * PQL adjusted for dilution.

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February 10, 2016 Lab ID : VI 1640096
City of Hanford Customer : 4-15877

Quality Control - Inorganic

Constituent	Method	Date/ID	Type	Units	Conc.	QC Data	DQO	Note
Metals								
Antimony	200.7	02/03/16:201530AC	CCV	ppm	1.000	96.2 %	90-110	
			CCB	ppm		0.0032	0.01	
			CCV	ppm	1.000	96.3 %	90-110	
			CCB	ppm		0.0006	0.01	
Arsenic	200.7	01/27/16:201201AC	CCV	ppm	1.000	97.5 %	90-110	
			CCB	ppm		-0.0019	0.01	
			CCV	ppm	1.000	96.5 %	90-110	
			CCB	ppm		0.0012	0.01	
Barium	200.7	01/27/16:201201AC	CCV	ppm	1.000	103 %	90-110	
			CCB	ppm		-.000007	0.03	
			CCV	ppm	1.000	102 %	90-110	
			CCB	ppm		0.00002	0.03	
Beryllium	200.7	01/27/16:201201AC	CCV	ppm	1.000	99.2 %	90-110	
			CCB	ppm		0.00001	0.005	
			CCV	ppm	1.000	98.6 %	90-110	
			CCB	ppm		0.000009	0.005	
Cadmium	200.7	01/27/16:201201AC	CCV	ppm	1.000	98.1 %	90-110	
			CCB	ppm		0.00004	0.005	
			CCV	ppm	1.000	97.7 %	90-110	
			CCB	ppm		-0.00021	0.005	
Chromium	200.7	01/27/16:201201AC	CCV	ppm	1.000	98.5 %	90-110	
			CCB	ppm		0.0007	0.01	
			CCV	ppm	1.000	98.2 %	90-110	
			CCB	ppm		0.00004	0.01	
Cobalt	200.7	01/27/16:201201AC	CCV	ppm	1.000	99.7 %	90-110	
			CCB	ppm		-0.0017	0.01	
			CCV	ppm	1.000	99.0 %	90-110	
			CCB	ppm		0.0001	0.01	
Copper	200.7	01/27/16:201201AC	CCV	ppm	1.000	98.8 %	90-110	
			CCB	ppm		0.00003	0.01	
			CCV	ppm	1.000	97.5 %	90-110	
			CCB	ppm		-0.0003	0.01	
Lead	200.7	01/27/16:201201AC	CCV	ppm	1.000	99.0 %	90-110	
			CCB	ppm		-0.0013	0.01	
			CCV	ppm	1.000	98.3 %	90-110	
			CCB	ppm		0.0008	0.01	
Molybdenum	200.7	01/27/16:201201AC	CCV	ppm	1.000	92.9 %	90-110	
			CCB	ppm		-0.0018	0.01	
			CCV	ppm	1.000	92.5 %	90-110	
			CCB	ppm		-0.0021	0.01	
Nickel	200.7	01/27/16:201201AC	CCV	ppm	1.000	100 %	90-110	
			CCB	ppm		-0.0002	0.01	
			CCV	ppm	1.000	99.4 %	90-110	
			CCB	ppm		0.0004	0.01	
Selenium	200.7	01/27/16:201201AC	CCV	ppm	1.000	96.7 %	90-110	
			CCB	ppm		0.00007	0.01	
			CCV	ppm	1.000	96.0 %	90-110	
			CCB	ppm		0.0011	0.01	
Silver	200.7	01/28/16:201285AC	CCV	ppm	1.000	103 %	90-110	
			CCB	ppm		-0.0007	0.01	
			CCV	ppm	1.000	100 %	90-110	
			CCB	ppm		-0.0002	0.01	
Thallium	200.7	01/27/16:201201AC	CCV	ppm	1.000	99.0 %	90-110	
			CCB	ppm		-0.00007	0.01	
			CCV	ppm	1.000	98.7 %	90-110	

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Quality Control - Inorganic

Constituent	Method	Date/ID	Type	Units	Conc.	QC Data	DQO	Note
Metals								
Thallium	200.7	01/27/16:201201AC	CCB	ppm		0.0002	0.01	
Vanadium	200.7	01/27/16:201201AC	CCV	ppm	1.000	98.7 %	90-110	
			CCB	ppm		0.00002	0.01	
			CCV	ppm	1.000	98.3 %	90-110	
			CCB	ppm		0.0001	0.01	
Zinc	200.7	01/27/16:201201AC	CCV	ppm	1.000	99.0 %	90-110	
			CCB	ppm		-0.0001	0.02	
			CCV	ppm	1.000	98.2 %	90-110	
			CCB	ppm		-0.0008	0.02	
Mercury	245.1	01/18/16:200699AC	ICV	ppb	4.000	101 %	90-110	
			ICB	ppb		-0.04	20	
			CCV	ppb	4.000	98.5 %	90-110	
			CCB	ppb		-0.04	20	
Antimony	3050	01/27/16:201015AC	Blank	mg/kg		ND	<0.5	
			LCS	mg/kg	24.00	101 %	85-115	
			MS	mg/kg	24.00	82.8 %	75-125	
		(STK1630901-001)	MSD	mg/kg	24.00	86.9 %	75-125	
			MSRPD	mg/kg	40.00	4.9%	≤20	
			PDS	mg/kg	24.00	90.2 %	75-125	
Arsenic	3050	01/27/16:201015AC	Blank	mg/kg		ND	<0.5	
			LCS	mg/kg	40.00	92.5 %	85-115	
			MS	mg/kg	40.00	88.7 %	75-125	
		(STK1630901-001)	MSD	mg/kg	40.00	87.9 %	75-125	
			MSRPD	mg/kg	40.00	0.9%	≤20	
			PDS	mg/kg	40.00	87.0 %	75-125	
Barium	3050	01/27/16:201015AC	Blank	mg/kg		ND	<1	
			LCS	mg/kg	40.00	101 %	85-115	
			MS	mg/kg	40.00	126 %	75-125	435
		(STK1630901-001)	MSD	mg/kg	40.00	210 %	75-125	435
			MSRPD	mg/kg	40.00	22.2%	≤20	435
			PDS	mg/kg	40.00	205 %	75-125	430
Beryllium	3050	01/27/16:201015AC	Blank	mg/kg		ND	<0.3	
			LCS	mg/kg	40.00	96.9 %	85-115	
			MS	mg/kg	40.00	85.1 %	75-125	
		(STK1630901-001)	MSD	mg/kg	40.00	83.4 %	75-125	
			MSRPD	mg/kg	40.00	2.0%	≤20	
			PDS	mg/kg	40.00	83.0 %	75-125	
Cadmium	3050	01/27/16:201015AC	Blank	mg/kg		ND	<0.3	
			LCS	mg/kg	40.00	93.5 %	85-115	
			MS	mg/kg	40.00	86.7 %	75-125	
		(STK1630901-001)	MSD	mg/kg	40.00	85.4 %	75-125	
			MSRPD	mg/kg	40.00	1.5%	≤20	
			PDS	mg/kg	40.00	85.4 %	75-125	
Chromium	3050	01/27/16:201015AC	Blank	mg/kg		ND	<0.5	
			LCS	mg/kg	40.00	96.2 %	85-115	
			MS	mg/kg	40.00	101 %	75-125	
		(STK1630901-001)	MSD	mg/kg	40.00	113 %	75-125	
			MSRPD	mg/kg	40.00	7.6%	≤20	
			PDS	mg/kg	40.00	119 %	75-125	
Cobalt	3050	01/27/16:201015AC	Blank	mg/kg		ND	<0.5	
			LCS	mg/kg	40.00	96.2 %	85-115	
			MS	mg/kg	40.00	83.1 %	75-125	
		(STK1630901-001)	MSD	mg/kg	40.00	84.2 %	75-125	
			MSRPD	mg/kg	40.00	1.1%	≤20	

February 10, 2016 Lab ID : VI 1640096
City of Hanford Customer : 4-15877

Quality Control - Inorganic

Constituent	Method	Date/ID	Type	Units	Conc.	QC Data	DQO	Note
Metals								
Cobalt	3050	01/27/16:201015AC	PDS	mg/kg	40.00	84.1 %	75-125	
Copper	3050	01/27/16:201015AC	Blank	mg/kg		ND	<0.5	
			LCS	mg/kg	40.00	97.3 %	85-115	
			MS	mg/kg	40.00	100 %	75-125	
		(STK1630901-001)	MSD	mg/kg	40.00	116 %	75-125	
			MSRPD	mg/kg	40.00	10.1%	≤20	
			PDS	mg/kg	40.00	118 %	75-125	
Lead	3050	01/27/16:201015AC	Blank	mg/kg		ND	<2	
			LCS	mg/kg	40.00	95.3 %	85-115	
			MS	mg/kg	40.00	83.9 %	75-125	
		(STK1630901-001)	MSD	mg/kg	40.00	87.1 %	75-125	
			MSRPD	mg/kg	40.00	3.1%	≤20	
			PDS	mg/kg	40.00	86.7 %	75-125	
Molybdenum	3050	01/27/16:201015AC	Blank	mg/kg		ND	<1	
			LCS	mg/kg	24.00	99.2 %	85-115	
			MS	mg/kg	24.00	85.4 %	75-125	
		(STK1630901-001)	MSD	mg/kg	24.00	85.4 %	75-125	
			MSRPD	mg/kg	40.00	0.04%	≤20	
			PDS	mg/kg	24.00	85.1 %	75-125	
Nickel	3050	01/27/16:201015AC	Blank	mg/kg		ND	<0.5	
			LCS	mg/kg	40.00	96.9 %	85-115	
			MS	mg/kg	40.00	88.2 %	75-125	
		(STK1630901-001)	MSD	mg/kg	40.00	98.8 %	75-125	
			MSRPD	mg/kg	40.00	9.2%	≤20	
			PDS	mg/kg	40.00	101 %	75-125	
Selenium	3050	01/27/16:201015AC	Blank	mg/kg		ND	<0.5	
			LCS	mg/kg	40.00	91.2 %	85-115	
			MS	mg/kg	40.00	85.4 %	75-125	
		(STK1630901-001)	MSD	mg/kg	40.00	86.6 %	75-125	
			MSRPD	mg/kg	40.00	1.4%	≤20	
			PDS	mg/kg	40.00	86.5 %	75-125	
Silver	3050	01/27/16:201015AC	Blank	mg/kg		ND	<0.5	
			LCS	mg/kg	40.00	111 %	85-115	
			MS	mg/kg	40.00	112 %	75-125	
		(STK1630901-001)	MSD	mg/kg	40.00	114 %	75-125	
			MSRPD	mg/kg	40.00	1.4%	≤20	
			PDS	mg/kg	40.00	117 %	75-125	
Thallium	3050	01/27/16:201015AC	Blank	mg/kg		ND	<0.5	
			LCS	mg/kg	40.00	92.4 %	85-115	
			MS	mg/kg	40.00	74.0 %	75-125	435
		(STK1630901-001)	MSD	mg/kg	40.00	71.5 %	75-125	435
			MSRPD	mg/kg	40.00	3.4%	≤20	
			PDS	mg/kg	40.00	71.3 %	75-125	430
Vanadium	3050	01/27/16:201015AC	Blank	mg/kg		ND	<0.5	
			LCS	mg/kg	40.00	97.0 %	85-115	
			MS	mg/kg	40.00	96.9 %	75-125	
		(STK1630901-001)	MSD	mg/kg	40.00	124 %	75-125	
			MSRPD	mg/kg	40.00	14.7%	≤20	
			PDS	mg/kg	40.00	124 %	75-125	
Zinc	3050	01/27/16:201015AC	Blank	mg/kg		ND	<1	
			LCS	mg/kg	40.00	93.0 %	85-115	
			MS	mg/kg	40.00	93.4 %	75-125	
		(STK1630901-001)	MSD	mg/kg	40.00	128 %	75-125	435
			MSRPD	mg/kg	40.00	15.0%	≤20	

February 10, 2016 Lab ID : VI 1640096
City of Hanford Customer : 4-15877

Quality Control - Inorganic

Constituent	Method	Date/ID	Type	Units	Conc.	QC Data	DQO	Note
Metals								
Zinc	3050	01/27/16:201015AC	PDS	mg/kg	40.00	132 %	75-125	430
Mercury	7471	01/18/16:200599ac	Blank	mg/kg		ND	<0.03	
			LCS	mg/kg	0.2500	93.6 %	85-115	
			MS	mg/kg	0.2500	73.1 %	75-125	435
		(CC 1680184-001)	MSD	mg/kg	0.2500	82.1 %	75-125	
			MSRPD	mg/kg	0.2500	9.2%	≤20	
Wet Chem								
% Solids	2540G	01/18/16:200601jmg	Blank	%		ND	<0.1	
		(VI 1640096-001)	Dup	%		0.9%	23.9	
Nitrate	300	02/04/16:201328MCA	Blank	mg/kg		ND	<4	
			LCS	mg/kg	200.0	101 %	85-115	
			MS	mg/kg	398.4	106 %	19-212	
		(VI 1640096-001)	MSD	mg/kg	394.5	89.7 %	19-212	
			MSRPD	mg/kg	493.1	9.8%	≤33	
	300.0	02/05/16:201718MCA	CCB	ppm		0.162	0.5	
			CCV	ppm	20.00	98.8 %	90-110	
			CCB	ppm		0.154	0.5	
			CCV	ppm	20.00	96.4 %	90-110	
Nitrogen, Total Kjeldahl	351.2	01/26/16:200913jmg	Blank	mg/kg		ND	<50	
			LCS	mg/kg	600.0	78.4 %	31-149	
			MS	mg/kg	500.0	417 %	<¼	
		(VI 1640096-001)	MSD	mg/kg	500.0	369 %	<¼	
			MSRPD	mg/kg	500.0	1.9%	≤80	
pH	4500HB	01/19/16:200776JBA	CCV	units	8.000	101 %	95-105	
			CCV	units	8.000	100 %	95-105	
Ammonia Nitrogen	4500NH3B	01/28/16:201056CJJ	Blank	mg/kg		ND	<7.41	
			LCS	mg/kg	150.0	91.0 %	75-127	
			MS	mg/kg	147.1	49.7 %	<¼	
		(VI 1640096-001)	MSD	mg/kg	142.9	350 %	<¼	
			MSRPD	mg/kg	142.9	13.9%	≤26.5	
	4500NH3G	02/01/16:201321AMB	CCB	mg/L		-0.109	0.2	
			CCV	mg/L	2.000	105 %	90-110	
			CCB	mg/L		-0.142	0.2	
			CCV	mg/L	2.000	99.7 %	90-110	
pH	9045C	(VI 1640096-001)	Dup	units		0.1%	5.84	
Nitrogen, Total Kjeldahl	EPA351.2	01/28/16:201197AMB	CCB	mg/L		-0.014	0.5	
			CCV	mg/L	5.000	109 %	90-110	
			CCB	mg/L		-0.080	0.5	
			CCV	mg/L	5.000	90.4 %	90-110	

Definition

PDS	: PDS failed, matrix - Post Digestion Spike (PDS) not within Acceptance Range (AR) because of matrix interferences affecting this analyte. Data was accepted based on the LCS recovery.
ICV	: Initial Calibration Verification - Analyzed to verify the instrument calibration is within criteria.
ICB	: Initial Calibration Blank - Analyzed to verify the instrument baseline is within criteria.
CCV	: Continuing Calibration Verification - Analyzed to verify the instrument calibration is within criteria.
CCB	: Continuing Calibration Blank - Analyzed to verify the instrument baseline is within criteria.
Blank	: Method Blank - Prepared to verify that the preparation process is not contributing contamination to the samples.
LCS	: Laboratory Control Standard/Sample - Prepared to verify that the preparation process is not affecting analyte recovery.
MS	: Matrix Spikes - A random sample is spiked with a known amount of analyte. The recoveries are an indication of how that sample matrix affects analyte recovery.
MSD	: Matrix Spike Duplicate of MS/MSD pair - A random sample duplicate is spiked with a known amount of analyted. The recoveries are an indication of how that sample matrix affects analyte recovery.
Dup	: Duplicate Sample - A random sample with each batch is prepared and analyzed in duplicate. The relative percent difference is an indication of precision for the preparation and analysis.

Quality Control - Inorganic

Definition	
MSRPD	: MS/MSD Relative Percent Difference (RPD) - The MS relative percent difference is an indication of precision for the preparation and analysis.
ND	: Non-detect - Result was below the DQO listed for the analyte.
<¼	: High Sample Background - Spike concentration was less than one forth of the sample concentration.
DQO	: Data Quality Objective - This is the criteria against which the quality control data is compared.
Explanation	
430	: Post Digestion Spike (PDS) not within Acceptance Range (AR) because of matrix interferences affecting this analyte. Data was accepted based on the LCS recovery.
435	: Sample matrix may be affecting this analyte. Data was accepted based on the LCS or CCV recovery.

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Laboratory Copy (1 of 3)

40524:01/11/2016

TEST DESCRIPTION - See Reverse side for Container, Preservative and Sampling information

Client: City of Hanford - Wastewater Treatment
Address: City of Hanford
Attn: April Engen-Garza
900 S.10th Ave.
Hanford, CA 93230
Phone: (559)585-2576 Fax: (559)584-8633
Contact Person: April Engen-Garza
Project Name: **Sludge Monitoring**
Purchase Order Number:
Quote Number: VI20071009_01
Sampler(s) JS / NG
Sampling Fee: $30.00 Pickup Fee: ____
Compositor Setup Date: __/__/__ Time: __/__
Lab Number: VI 4-15877

Samp Num	Location Description	Date Sampled	Time Sampled	Method of Sampling: Composite(C) Grab(G)	Type of Sample **SEE REVERSE SIDE**	Potable(P) Non-Potable(NP) Ag Water(AgW)	Bacti Type: Other(O) System(SYS) Source(SR) Waste(W)	Bacti Reason: Routine(ROUT) Repeat(RPT) Replace(RPL) Other(O) Special(SPL)	Coliform LTB-Series 35 Tube MPN/gm ***24 hour H/T***	NOTE: Please notify SP Bacti Lab prior to sampling 8oz(G)	Metals, Total-Sb,As,Ba,Be,Cd,Cr,Co,Cu,Pb,Hg,Mo,Ni,Se,Ag,Tl,V,Zn 8oz(G)	Wet Chemistry-NH3-N,NO3-N,N-Organic,Total N,pH 8oz(G)	Sampling Fee - See Quote	Wet Chemistry-% Solids 8oz(G)
1	Sludge Stockpile	1/12/16	1510	G	Slg	NP			1	1	1	1	X	1

Remarks:
NOTE: Please notify SP Bacti Lab prior to sampling

Relinquished	Date:	Time:	Relinquished	Date:	Time:	Relinquished	Date:	Time:
Neil Gessup	1/12/16	1730	[illegible]					
Received By:	**Date:**	**Time:**	**Received By:**	**Date:**	**Time:**	**Received By:**	**Date:**	**Time:**
Ontrac	1/12/16	1730	[illegible]	1/13/16	1020			

Corporate Offices & Laboratory
853 Corporation Street
Santa Paula, CA 93060
Phone: (805) 392-2000
Env Fax: (805) 525-4172 / Ag Fax: (805) 392-2063

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Stockton, CA 95215
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563 E. Lindo
Chico, CA 95926
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Fax: (805) 783-2912

Office & Laboratory
9415 W. Goshen Avenue
Visalia, CA 93291
Phone: (559) 734-9473
Fax: (559) 734-8435

Inter-Laboratory Condition Upon Receipt (Attach to COC)

Sample Receipt at: STK CC CH (VI)

1. Number of ice chests/packages received: 1 Shipping tracking # FS
2. Were samples received in a chilled condition? Temps: 10°C / ____ / ____ / ____ / ____
   Surface water SWTR bact samples: A sample that has a temperature upon receipt of >10° C, whether iced or not should be flagged unless the time since sample collection has been less than two hours.

3. Do the number of bottles received agree with the COC?	(Yes)	No	N/A
4. Were samples received intact? (i.e. no broken bottles, leaks etc.)	(Yes)	No	
5. VOAs checked for Headspace?	Yes	No	(N/A)
6. Were sample custody seals intact?	Yes	No	(N/A)
7. If required, was sample split for pH analysis?	Yes	No	(N/A)
8. Were all analyses within holding times at time of receipt?	(Yes)	No	
9. Verify sample date, time and sampler name	(Yes)	No	

Sign and date the COC, place in a ziplock and put in the same ice chest as the samples.
Sample Receipt Review completed by (initials): ny 3 3

Sample Receipt at SP:

1. Were samples received in a chilled condition? Temps: ____ / ____ / ____ / ____ / ____
   Acceptable is above freezing to 6° C. If many packages are received at one time check for tests/H.T.'s/rushes/
2. Shipping tracking numbers:
   D1001 0581 4296 873 / 7219

3. Do the number of bottles received agree with the COC?	(Yes)	No	N/A
4. Were samples received intact? (i.e. no broken bottles, leaks etc.)	(Yes)	No	
5. Were sample custody seals intact?	Yes	No	(N/A)

Sign and date the COC, obtain LIMS sample numbers, select methods/tests and print labels.

Sample Verification, Labeling and Distribution:

1. Were all requested analyses understood and acceptable?	(Yes)	No	
2. Did bottle labels correspond with the client's ID's?	(Yes)	No	
3. Were all bottles requiring sample preservation properly preserved? [Exception: Oil & Grease, VOA and CrVI verified in lab]	Yes	No	(N/A)
4. VOAs checked for Headspace?	Yes	No	(N/A)
5. Have rush or project due dates been checked and accepted?	Yes	No	(N/A)
6. Were all analyses within holding times at time of receipt?	(Yes)	No	

Attach labels to the containers and include a copy of the COC for lab delivery.
Sample Receipt, Login and Verification completed by (initials): _____

Discrepancy Documentation:

Any items above which are "No" or do not meet specifications (i.e. temps) must be resolved.

1. Person Contacted: _____ Phone Number: _____
   Initiated By: _____ Date: _____
   Problem:
   Resolution:

2. Person Contacted: _____ Phone Number: _____
   Initiated By: _____ Date: 10/10/10
   Problem:
   Resolution:

Hanford WWTP

(Please use the back of this sheet for additional comments or contacts)

Attach label with lab nu

Sludge Monitoring