California Regional Water Quality Control Board, Colorado River Basin
Prosecution Team Evidence
on the matter of
Administrative Civil Liability Complaint R7-2014-0041
Exhibit 37

Wylie, Doug@Waterboards

From: Bud Ludwig <Bud.Ludwig@nationalbeef.com>
Sent: Wednesday, December 19, 2012 1:09 PM
To: Wylie, Doug@Waterboards
Subject: Response to RWQCB - For Review (first of 2 messages)
Attachments: DRAFT Ltr to RWQCB 12 19 12.pdf

Good Afternoon Doug:

In response to the November 27, 2012 letter requesting additional information, and as described in Dave Kalscheur's voice mail to you earlier today, this is the first of two e-mails I will send you to transmit the additional information for you to review. The draft document attached to this e-mail constitutes the majority of the response, including:

1. The Addendum to the Report of Waste Discharge (ROWD) submitted on June 28, 2011
2. Inventory of all chemicals used in the facility
3. Pond 3C sludge characterization and QAPP

The document includes several attachments:

- Attachment 1 is the actual text of the Addendum to the ROWD as prepared by HR Green Inc. in conjunction with Carollo Engineering.
- Attachment 2 is an inventory list of all chemicals used at the plant. The Material Data Sheets (MSDS) are not included at this time due to the difficulty in transmitting such a large file electronically.
- Attachment 3 will be the "Biosolids Characterization Report" for the sludge in Pond 3C. Due to the large size of the electronic file, the actual Report will be transmitted in the next e-mail I send you.
- Attachment 4 is the Project Schedule that includes the schedule for dredging Pond 3C.
- Attachment 5 is the set of pictures showing the Pond 3C dredging operation. A more detailed description of the dredging operation is included in the body of the attached document.

Please review this response and let me know if you have any comments regarding the information. If the documents satisfactorily provide the additional information requested in the November 27 letter, then a hard copy will be prepared and sent to the attention of Mr. Jose Angel. The hard copy will include each MSDS contained in the Attachment 2 inventory list. Additional hard copies will also be provided if needed. Please contact me at either my office [(816) 713-8552] or cell phone [(620) 482-2554] if you would like to discuss this further. Thank you very much.

Sincerely,

Bud Ludwig
National Beef

NBC_ACLC_PT-001401

Wylie, Doug@Waterboards

From: Bud Ludwig <Bud.Ludwig@nationalbeef.com>
Sent: Wednesday, December 19, 2012 1:12 PM
To: Wylie, Doug@Waterboards
Subject: Response to RWQCB - For Review (second of 2 messages)
Attachments: Sludge Report - Attachment 3.pdf

Good Afternoon Doug:

As mentioned in my previous e-mail, the attached document is the "Biosolids Characterization Report" which is referenced as Attachment 3 in the document I transmitted to you a short time ago. The attached is being transmitted in a separate e-mail due to the large size of the electronic file.

Please review the response in its entirety and let me know if you have any additional comments. Thank you for reviewing this information. I look forward to hearing from you either by phone or via e-mail.

Sincerely,

Bud Ludwig
National Beef

December 19, 2012

Jose Angel, P.E.
Assistant Executive Officer
Colorado River Basin
Regional Water Quality Control Board
73-720 Fred Waring Drive, Suite 100
Palm Desert, CA 92260

RE: Additional Information Request
Wastewater Treatment Facility
National Beef California, LP
Brawley, California

Dear Mr. Angel:

In response to your letter of November 27, 2012 the following additional information was requested regarding the wastewater treatment system at the National Beef California, LP plant in Brawley, California:

1. Addendum to the Report of Waste Discharge (ROWD) submitted on June 28, 2011
2. Inventory of all chemicals used in the facility, including Material Safety Data Sheets (MSDS)
3. Pond 3C sludge characterization and Quality Assurance Project Plan (QAPP)

The following information is therefore being submitted in response to the above-referenced request:

Addendum to the ROWD Submitted on June 28, 2011

Included in Attachment 1 is a report prepared by HR Green Inc., in conjunction with Carollo Engineering, that provides the addendum to the ROWD. The addendum addresses plant upgrades and further scheduled modifications to the wastewater treatment facility since the ROWD was submitted. A revised Process Flow Diagram (PFD) is also included in Attachment 1.

Inventory of all Chemicals Used in the Facility, including MSDS

Included in Attachment 2 is an inventory list of all chemicals used in the facility. A copy of the corresponding Material Safety Data Sheet (MSDS) for each chemical is also provided in Attachment 2. The chemical inventory list includes the area of the plant in which the chemical is used, the pathway into the plant wastewater system, and the average and maximum quantity of

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each chemical maintained on site. The chemicals included in the list are representative of the chemicals that are on site as of this date. Chemicals may change periodically depending on supply and process changes within the plant.

Pond 3C Sludge Characterization and QAPP

Included in Attachment 3 is a report prepared by Dave Rickard on behalf of Heron Innovators in May 2011. The RWQCB asked National Beef to determine whether or not the sludge in Pond 3C meets the requirements of a Class B sludge under the provisions of 40CFR Part 503. This is the same sludge that was recently dredged from Pond 3C.

The "Biosolids Characterization Report" in Attachment 3C was prepared in accordance with direction provided by the RWQCB, including proper Quality Assurance procedures. The solids material in Pond 3C was sampled, tested, and characterized. The report includes the sampling plan as well as the raw data from the analysis. This report has been submitted previously to the RWQCB. It is believed that this report accurately characterizes the sludge in Pond 3C as well as the sludge that is currently generated by the belt press operation at the plant.

Included in Attachment 4 is a Project Schedule that was provided to the Regional Water Quality Control Board (RWQCB) during our meeting on September 25, 2012. Item 6.1d in the Project Schedule shows the timeline that was planned for dredging Pond 3C. As outlined in the Schedule, the Pond 3C dredging project has been completed. The sludge that was removed from Pond 3C in now held in "Bio-Tubes" and allowed to dewater on site. Plans are to dispose of the material out of state as previously reported. The discussion below and the eight pictures in Attachment 5 are intended to provide a more detailed description of the Pond 3C dredging operation.

In order to estimate the magnitude of the dredging operation, "sludge-judge" measurements were made in Pond 3C during August 2012. From these measurements it was determined that sludge had accumulated to a depth of approximately nine feet over the years in Pond 3C. Based on the size of Pond 3C and the approximate concentration of the sludge, it was estimated that over 2,000 dry tons of solids were present in Pond 3C. AWS Dredge was the contractor that performed the sludge judge measurements, and the contractor that ultimately performed the dredging operation.

The approach to the removal of solids from Pond 3C was to utilize a dredge and transfer the solids into a series of semi-permeable containers called "Bio-Tubes." The Bio-Tubes were placed within a lined earthen pad located on the west side of Pond 3C. A berm was constructed around the lined pad. Clear water that drained from the Bio-Tubes collected in a protected sump area and was pumped back into Pond 3C. Construction of the lined earthen pad began in late August 2012.

Actual dredging operations commenced in mid-October 2012 and were completed during the week of December 3, 2012. On December 7, 2012 a representative from AWS Dredge again conducted "sludge-judge" measurements throughout Pond 3C. Twelve locations in Pond 3C were tested. Most of the results showed only a 2-inch depth of sludge remaining in the pond; one result showed a 6-inch depth of sludge; most of the middle of Pond 3C showed a 1-inch or less depth of sludge. The results were actually better than originally anticipated by AWS Dredge.

During that time period, a total of 12 Bio-Tubes were filled with solids from Pond 3C. Six of the Bio-Tubes measure 200 feet long by 60 feet in circumference. The other six Bio-Tubes measure 100 feet long by 60 feet in circumference. The filled Bio-Tubes are currently draining to minimize the moisture content of the sludge. At a time that is yet to be determined, the Bio-Tubes will be opened and the solids will be removed. An average moisture content of the solids will be measured by laboratory analysis in order to determine the total quantity of dry tons of solids removed from Pond 3C. Laboratory analyses will also be conducted to determine the chemical composition of the sludge, which is planned for land application in Arizona.

In general the dredging operation was well-managed and was well controlled. There was some concern about the possibility of odors being generated by the removal process; however few if any odors were detected. Odor control equipment is being maintained on site as a precaution and will be utilized if necessary when the Bio-Tubes are opened.

It is National Beef's hope that the additional information provided above, and in the following attachments, provides a satisfactory response to your letter of November 27, 2012. If you have any questions or need additional information, please call me at (760) 351-2700.

Sincerely,

NATIONAL BEEF CALIFORNIA, LP

Brian Webb
General Manager

cc: Carey Hoskinson, National Beef
David Kalscheur, National Beef
Donnie Shaw, National Beef
Bud Ludwig, National Beef
Bret Wilson, National Beef

Attachment 1

HRGreen

December 18, 2012

Mr. Mike Fleeman
National Beef
PO Box 539
Dodge City, KS 67801

Re: National Beef Report of Waste Discharge Update

Dear Mr. Fleeman:

Purpose and Objective

The purpose of this letter is to provide an update of improvements to the National Beef Pretreatment Plant beyond what was reported in the following documents:

1. Interim Progress Report dated June 2011 prepared by Heron Innovators
2. The letter dated May 29, 2012 prepared by Heron Innovators with the subject "National Beef California, LP. Report of Waste Discharge Response to RWQCB request for additional information dated January 26, 2012"
3. The letter dated September 10, 2012 prepared by Rickard Engineering with the subject "National Beef Brawley Pond 2 Oxygen Demand"

Three modifications have been implemented at the National Beef Plant since the last correspondence in May 2012. The modifications are shown on Figure 1 and described below.

Modification #1 – Stream Segregation

Effluent from the dissolved air flotation (DAF) units discharges to a manhole that receives wastestreams from multiple other sources. The flow from these streams is not monitored. See table 4 of the document no. 2 (list above) for a list of the contributing streams. A new composite sample station and flowmeter are being installed downstream of the existing manhole to account for the flow entering the pretreatment plant after the DAF units.

Four of the streams noted in table 4 of document No. 2 are being separated from the pretreatment stream, as they do not contribute significant load and reduce hydraulic capacity of the pretreatment plant. The four streams include: cooling water, boiler blowdown, R.O.brine, and hot water tank overflow. Hot water tank overflow will be routed to a 250,000 gallon storage tank, currently being constructed, and the other streams to a recycle tank for non-potable reuse within the facility. Re-use areas will be yards, cattle

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Court International Building, 2550 University Avenue West
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pens, hide house, and inedible rendering, all of which drain back to the wastewater pretreatment plant.

Modification #2 – Dissolved Air Floatation

A new DAF was installed between Pond 1 and Pond 2. All effluent from Pond 1 flows through the DAF prior to traveling to Pond 2. The DAF was installed to collect grease that may be in the Pond 1 effluent. Float from the DAF is sent to a belt filter press (BFP).

The DAF installed was on loan from another National Beef facility. A new "permanent" DAF has been purchased and should be installed in February 2013. Based on initial operation of the loaner DAF, polymer addition has been incorporated and will continue with the new DAF operation. The permanent unit is a World Water Works unit with the following design parameters:

- Dimensions – approximately 12' W x 30' L
- Flow Capacity is 1500GPM average, 2000GPM Peak
- Influent TSS 1400 mg/l
- Influent FOG 1000 mg/l

HR Green will further evaluate the DAF operation and determine if additional grease collection measures (such as a grease trap) are necessary.

Modification #3 – Pond 2 Aeration

Pond 2 aeration is supplied by 13 surface aerators, 8 at 40 hp each and 5 at 75 hp each totaling 695 hp. The surface aerators provide 312 lbs/hour actual oxygen transfer rate (AOTR). Per the Pond 2 Oxygen Demand letter (document #3 listed above) stated that Pond 2 was deficient 339 lbs/hour of oxygen. To achieve additional aeration, four aeration laterals were installed in Pond 2 during the fall of 2012.

The supplemental aeration system is Oxiworks fine bubble diffuser manufactured by Bioworks. The diffusers are submerged and supply air through tubular membranes. Four floating laterals have been installed with 10 diffusers on each lateral. Two new 1,400 scfm blowers provide air to the floating laterals. Total supply for all diffusers is 350 lbs/hour. Therefore, the total oxygen supply including both the surface aerators and new diffusers is 662 lbs/hour AOTR.

National beef will continue to monitor DO concentration in Pond 2 and HR Green will assist in analyzing the treatment enhancements of the additional aeration. Moreover, as part of the overall WWTP evaluation, HR Green will determine if other Pond 2 augmentations (such as baffling) will provide additional treatment enhancement.

Future Modifications

HR Green is currently performing an overall evaluation of the Brawley WWTP. As part of the evaluation, additional modifications will be recommended. Depending on forthcoming discharge limits potential future modification may include:

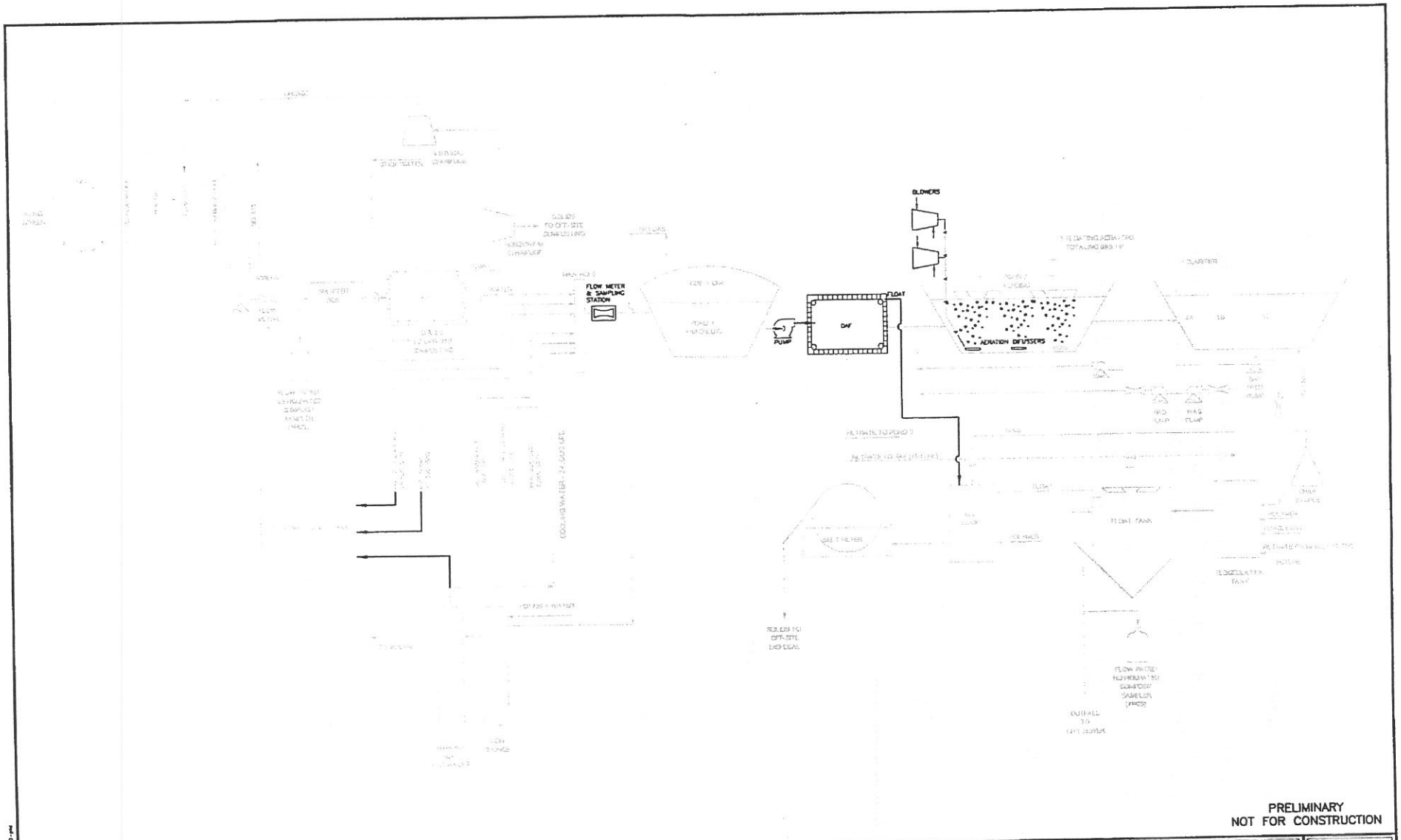
- Optimization of anaerobic process
- Utilizing Pond 3C as equalization or additional aerobic basin

Sincerely,

HR GREEN, INC.

Alison Sumption
Project Manager

cc: Bud Ludwig, National Beef
Andrew Marsh, HR Green



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HRGreen

WASTEWATER TREATMENT PLANT IMPROVEMENTS
NATIONAL BEEF
BRAWLEY, CALIFORNIA

PROCESS
FIGURE 1 – PROCESS FLOW DIAGRAM

SHEET NO
P001

Attachment 2

CHEMICAL INVENTORY LIST

National Beef California, LP, Brawley, CA

As of 12/19/2012

CHEMICAL NAME	USED BY DEPARTMENT	PATHWAY INTO WASTEWATER	STORAGE LOCATION	MATERIAL TYPE	PHYSICAL STATE	FED HAZARD CATEGORIES	AVERAGE DAILY AMOUNT	MAXIMUM DAILY AMOUNT	UNITS	STORAGE CONTAINER
ACETYLENE	MAINT	None	CABINET OUTSIDE KF MAINT SHOP	PURE	GAS	FIRE, PRESSURE RELEASE, ACUTE HEALTH	585	1,430	CU FT	CYLINDER
ACID 40 ACTIVATOR (DELAVAL)	KILL AREA 1	Process Drains	WEST STORAGE AREA	MIXTURE	LIQUID	ACUTE HEALTH	55	110	GAL	PLASTIC/NONMETALLIC DRUM
ANTIFOAM 100	RENDERING	Process Drains	WEST STORAGE AREA	MIXTURE	LIQUID	ACUTE HEALTH	55	110	GAL	PLASTIC/NONMETALLIC DRUM
ANYHYDROUS AMMONIA	REFRIGERATION	None	REFRIGERATION AMMONIA	PURE	LIQUID	FIRE, PRESSURE RELEASE, ACUTE HEALTH	70,000	70,000	LBS	RECEIVERS
ARGON	MAINTENANCE	None	CABINET OUTSIDE KF MAINT SHOP	PURE	GAS	PRESSURE RELEASE & ACUTE HEALTH	1,400	2,800	CU FT	CYLINDER
ARMOR SEAL 33 EPOXY	MAINTENANCE	None	WEST STORAGE AREA	MIXTURE	LIQUID	ACUTE HEALTH	110	220	GAL	PLASTIC BOTTLE
BATTERY FORKLIFT	ALL	None	FORKLIFTS	MIXTURE	LIQUID	FIRE, REACTIVE, ACUTE HEALTH	52	105	GAL	BATTERY ACID
BEEF BLOOD MEAL	RENDERING	None	EAST SIDE TANK	PURE	LIQUID	ACUTE HEALTH	26,100	52,200	GAL	ABOVEGROUND TANK
BEEF TALLOW	RENDERING	None	EAST SIDE TANK	PURE	LIQUID	ACUTE HEALTH	20,250	40,500	GAL	ABOVEGROUND TANK
BIG RED	FAB & KILL	Process Drains	KILL FLOOR BASEMENT	MIXTURE	LIQUID	ACUTE HEALTH	110	220	GAL	PLASTIC/NONMETALLIC DRUM
BIG RED	FAB & KILL	Process Drains	WEST STORAGE AREA	MIXTURE	LIQUID	ACUTE HEALTH	165	330	GAL	PLASTIC/NONMETALLIC DRUM
BIO PLUS BA2920	Wastewater	Wastewater Addition	WEST STORAGE AREA	MIXTURE	powder	ACUTE HEALTH	5	10	ILBS	TOTE/BUCKET
BIRK-OX	BOILERS AND REFRIGERATION	Process Drains	WEST STORAGE AREA	MIXTURE	LIQUID	FIRE,REACTIVE, ACUTE HEALTH	55	110	GAL	TOTE/BIN
BLEACH (LIQUID)	KILL FLOOR	Process Drains	WEST STORAGE AREA	MIXTURE	LIQUID	FIRE, REACTIVE, ACUTE HEALTH, CHRONIC HEALTH	3,000	6,000	GAL	PLASTIC/NONMETALLIC DRUM
BOILERCARE 1011	BOILERS AND REFRIGERATION	Boiler Blowdown	WEST STORAGE AREA	MIXTURE	LIQUID	ACUTE HEALTH	0	0	GAL	PLASTIC/NONMETALLIC DRUM
BOILERCARE 1011	BOILERS AND REFRIGERATION	Boiler Blowdown	BOILER ROOM	MIXTURE	LIQUID	ACUTE HEALTH	0	0	GAL	PLASTIC/NONMETALLIC DRUM
BOILER CARE 1225	BOILERS AND REFRIGERATION	Boiler Blowdown	BOILER ROOM	MIXTURE	LIQUID	ACUTE HEALTH	0	0	GAL	PLASTIC/NONMETALLIC DRUM
BOILER CARE 1250	BOILERS AND REFRIGERATION	Boiler Blowdown	BOILER ROOM	MIXTURE	LIQUID	ACUTE HEALTH	0	0	GAL	PLASTIC/NONMETALLIC DRUM
BOILERCARE 1845	BOILERS AND REFRIGERATION	Boiler Blowdown	BOILER ROOM	MIXTURE	LIQUID	ACUTE HEALTH	0	0	GAL	PLASTIC/NONMETALLIC DRUM
BOILERCARE 1845	BOILERS AND REFRIGERATION	Boiler Blowdown	WEST STORAGE AREA	MIXTURE	LIQUID	ACUTE HEALTH	0	0	GAL	PLASTIC/NONMETALLIC DRUM
BRILLO	KILL FLOOR	Process Drains	WEST STORAGE AREA	MIXTURE	LIQUID	ACUTE HEALTH	800	1,600	GAL	PLASTIC/NONMETALLIC DRUM
BRILLO	KILL FLOOR	Process Drains	KILL FLOOR BASEMENT	MIXTURE	LIQUID	ACUTE HEALTH	110	220	GAL	PLASTIC/NONMETALLIC DRUM
BRUTE 4S	KILL FLOOR	Process Drains	WEST STORAGE AREA	MIXTURE	LIQUID	ACUTE HEALTH	825	1,650	GAL	TOTE BIN
BRUTE 4S	KILL FLOOR	Process Drains	KILL FLOOR BASEMENT	MIXTURE	LIQUID	ACUTE HEALTH	250	500	GAL	TOTE BIN
CALCIUM HYPOCHLORITE	HIDES	Process Drains	WEST STORAGE AREA	MIXTURE	SOLID	ACUTE HEALTH	400	1,200	LBS	PLASTIC BOTTLE
CARBON DIOXIDE	Ground beef	None	WEST EXTERIOR TANK	PURE	LIQUID / GAS	PRESSURE RELEASE & ACUTE HEALTH	2,000	2,500	LBS	ABOVEGROUND TANK
CARBON DIOXIDE	production	None	SOUTH EXTERIOR TANK	PURE	LIQUID / GAS	PRESSURE RELEASE & ACUTE HEALTH	30,000	69,000	LBS	ABOVEGROUND TANK
CHEMTREAT BL1258	REFRIGERATION	Boiler Blowdown	BOILER ROOM	PURE	LIQUID	ACUTE HEALTH	1.25	3	GAL	PLASTIN NON METALLIC DRUM
CHEMTREAT BL1344	REFRIGERATION	Boiler Blowdown	BOILER ROOM	PURE	LIQUID	ACUTE HEALTH	2.25	3	GAL	PLASTIN NON METALLIC DRUM
CHEM TREAT CL242 DEFOAMER	Wastewater	Wastewater Addition	Wastewater Ponds	PURE	LIQUID	ACUTE HEALTH	50	100	GAL	PLASTIN NON METALLIC DRUM
CIRTEC SP	KILL FLOOR	Process Drains	WEST STORAGE AREA	MIXTURE	SOLID	REACTIVE & ACUTE HEALTH	500	1,000	LBS	PLASTIC/NONMETALLIC DRUM
CIRTEC SP	KILL FLOOR	Process Drains	KILL FLOOR BASEMENT	MIXTURE	SOLID	REACTIVE & ACUTE HEALTH	150	275	LBS	PLASTIC/NONMETALLIC DRUM
CL 1491	WASTE WATER	Process Drains	BOILER ROOM	MIXTURE	LIQUID	ACUTE HEALTH	5	10	GAL	PLASTIC/NONMETALLIC DRUM
COOLING CARE 8141 (ECOLAB)	REFRIGERATION	Cooling Water Blowdown	WEST STORAGE AREA	MIXTURE	LIQUID	ACUTE HEALTH	0	0	GAL	PLASTIC/NONMETALLIC DRUM
COOLING CARE 8141 (ECOLAB)	REFRIGERATION	Cooling Water Blowdown	OUTSIDE COMPRESSOR ROOM	MIXTURE	LIQUID	ACUTE HEALTH	0	0	GAL	PLASTIC/NONMETALLIC DRUM
CSS-5 BLEACH SODIUM HYPOCHLORITE 2-6%	PSSI	Process Drains	WEST STORAGE AREA	liquid	LIQUID	ACUTE HEALTH	40	60	gal	PLASTIC/NONMETALLIC DRUM
CORA VOL 941	REFRIGERATION AND BOILERS	Process Drains	WEST STORAGE AREA	MIXTURE	LIQUID	ACUTE HEALTH	110	220	GAL	PLASTIC/NONMETALLIC DRUM
CORA VOL 941	REFRIGERATION AND BOILERS	Process Drains	BOILER ROOM	MIXTURE	LIQUID	ACUTE HEALTH	30	55	GAL	PLASTIC/NONMETALLIC DRUM
CRYOVAC CHAIN OIL	MAINT	None	SOUTH WEST STORAGE AREA	MIXTURE	LIQUID	FIRE & ACUTE HEALTH	55	110	GAL	STEEL DRUM
CRYOVAC ROTARY VALVE OIL	MAINT	None	SOUTH WEST STORAGE AREA	MIXTURE	LIQUID	FIRE & ACUTE HEALTH	55	110	GAL	STEEL DRUM
CYGNUS HYDRAULIC OIL W-32 (TEXACO)	MAINT	None	SOUTH WEST STORAGE AREA	MIXTURE	LIQUID	FIRE & ACUTE HEALTH	55	110	GAL	STEEL DRUM
CYGNUS HYDRAULIC OIL W-46 (TEXACO)	MAINT	None	SOUTH WEST STORAGE AREA	MIXTURE	LIQUID	FIRE & ACUTE HEALTH	80	165	GAL	STEEL DRUM
CYGNUS HYDRAULIC OIL W-46 (TEXACO)	MAINT	None	KILL FLOOR MAINTENANCE	MIXTURE	LIQUID	FIRE & ACUTE HEALTH	25	55	GAL	STEEL DRUM
DELASAN (MFG DELAVAL)	FAB FLOOR	Process Drains	WEST STORAGE AREA	MIXTURE	LIQUID	ACUTE HEALTH & REACTIVE	55	660 (increase 250)	GAL	PLASTIC/NONMETALLIC DRUM

CHEMICAL INVENTORY LIST

National Beef California, LP, Brawley, CA

As of 12/19/2012

CHEMICAL NAME	USED BY DEPARTMENT	PATHWAY INTO WASTEWATER	STORAGE LOCATION	MATERIAL TYPE	PHYSICAL STATE	FED HAZARD CATEGORIES	AVERAGE DAILY AMOUNT	MAXIMUM DAILY AMOUNT	UNITS	STORAGE CONTAINER
DELASAN (MFG DELAVAL)	FAB FLOOR	Process Drains	FAB CHEM STORAGE	MIXTURE	LIQUID	ACUTE HEALTH & REACTIVE	55	110	GAL	PLASTIC/NONMETALLIC DRUM
DENATURAND G	KILL FLOOR	Process Drains	KILL FLOOR BASEMENT	MIXTURE	LIQUID	ACUTE HEALTH	55	110	GAL	PLASTIC/NONMETALLIC DRUM
DENATURAND G	KILL FLOOR	Process Drains	WEST STORAGE AREA	MIXTURE	LIQUID	ACUTE HEALTH	165	440	GAL	PLASTIC/NONMETALLIC DRUM
DIESEL FUEL	PLANT WIDE	None	SOUTH EAST SIDE	PURE	LIQUID	FIRE & ACUTE HEALTH	250	550	GAL	ABOVEGROUND TANK
DG-110 DEFOAMER	Wastewater	Wastewater Addition	Wastewater Ponds	PURE	LIQUID	ACUTE HEALTH	50	100	GAL	PLASTIC/NONMETALLIC DRUM
DIESEL	National Carriers	Process Drains	south from shipping dock area	PURE	LIQUID	ACUTE HEALTH	600	800	GAl	large metal tank above ground
DRYTEC GRANULAR CALCIUM HYPOCHLORITE	HIDES (SUBSTITUDE FOR FREESTYLE)	Process Drains	SOUTH WEST STORAGE AREA	MIXTURE	LIQUID	ACUTE HEALTH	400	1,600	LBS	FIBER DRUMS
EPA 2000	KILL MAINT	Process Drains	KILL FLOOR KNIFE ROOM	MIXTURE	LIQUID	FIRE & ACUTE HEALTH	35	75	GAL	PLASTIC/NONMETALLIC DRUM
FILTRAPURE ACID CLEANER	REFRIGERATION AND BOILERS	Process Drains	BOILER ROOM	PURE	LIQUID	ACUTE HEALTH	0	0	GAL	PLASTIC/NONMETALLIC DRUM
FILTRAPURE TF MSDS	REFRIGERATION AND BOILERS	Process Drains	BOILER ROOM	PURE	LIQUID	ACUTE HEALTH	0	0	GAL	PLASTIC/NONMETALLIC DRUM
FRICK OIL #3	Refrigeration	None	SOUTH WEST STORAGE AREA	PURE	LIQUID	FIRE & ACUTE HEALTH	25	55	GAL	PLASTIC/NONMETALLIC DRUM
GLYCERIN	Lab	Drains	Lab	Pure	Liquid	ACUTE HEALTH	0	0	Liters	Glass Bottles
GASOLINE		None	SOUTH EAST SIDE	PURE	LIQUID	FIRE & ACUTE HEALTH	140	280	GAL	ABOVEGROUND TANK
HI CAP 771	HIDES	Process Drains	WEST STORAGE AREA	MIXTURE	LIQUID	ACUTE HEALTH	55	110	GAL	PLASTIC/NONMETALLIC DRUM
HI CAP 771	HIDES	Process Drains	HIDES ROOM	MIXTURE	LIQUID	ACUTE HEALTH	55	110	GAL	PLASTIC/NONMETALLIC DRUM
HOCW EDGE (DELAVAL MFG) SODIUM HYDROXIDE	KILL AREA 1	Process Drains	OUTSIDE OF KILL FLOOR	MIXTURE	LIQUID	ACUTE HEALTH	1,000	4,000	GAL	PLASTIC TOTE
HYDROCHLORIC ACID 10-20%	Lab	Drains	Lab	PURE	Liquid	ACUTE HEALTH	0	0	Liter	Glass Bottle
HYDROCHLORIC ACID 20	Lab	Drains	Lab	PURE	Liquid	ACUTE HEALTH	0	0	Liter	Glass Bottle
HYDROCHLORIC ACID SOLUTION N2	Lab	Drains	Lab	PURE	Liquid	ACUTE HEALTH	0	0	Liter	Glass Bottle/Plastic Bottle
HYDROCHLORIC ACID 10-30 %	Lab	Drains	Lab	PURE	Liquid	ACUTE HEALTH	0	0	Liter	Glass Bottle/ Plastic Bottle
HYDRAULIC OIL W-68	MAINT	None	SOUTH WEST STORAGE AREA	PURE	LIQUID	FIRE, ACUTE HEALTH, CHRONIC HEALTH	55	110	GAL	PLASTIC/NONMETALLIC DRUM
HYDRAULIC OIL W-68	RENDERING MAINT	None	OUTSIDE RENDERING	PURE	LIQUID	FIRE, ACUTE HEALTH, CHRONIC HEALTH	55	110	GAL	PLASTIC/NONMETALLIC DRUM
HYDRAULIC OIL W-68	KILL MAINT	None	KILL FLOOR BASEMENT	PURE	LIQUID	FIRE, ACUTE HEALTH, CHRONIC HEALTH	55	110	GAL	PLASTIC/NONMETALLIC DRUM
INDICATOR ALCOHOL	Lab	Drains	Lab	Mixture	Liquid	FIRE, ACUTE HEALTH,	0	0	Ml	Plastic Bottle
ISO-OCTANE	Lab	Drains	Lab	Pure	Liquid	FIRE, ACUTE HEALTH,	0	0	Liters	Plastic Bottle
ISOPROPYL ALCOHOL	Lab	Drains	Lab	Pure	Liquid	FIRE, ACUTE HEALTH,	0	0	Liters	Plastic Bottle
KC 261	PSSI	Process Drains	KILL FLOOR BASEMENT	MIXTURE	SOLID	ACUTE HEALTH	500	1,000	LBS	FIBER DRUM
KC 262	PSSI	Process Drains	KILL FLOOR BASEMENT	MIXTURE	LIQUID	FIRE, PRESSURE RELEASE, ACUTE HEALTH	110	220	GAL	PLASTIC/NONMETALLIC DRUM
KC 262	PSSI	Process Drains	WEST STORAGE AREA	MIXTURE	LIQUID	FIRE, PRESSURE RELEASE, ACUTE HEALTH	440	1,100	GAL	PLASTIC/NONMETALLIC DRUM
KC 400	PSSI	Process Drains	KILL FLOOR BASEMENT	MIXTURE	LIQUID	ACUTE HEALTH	55	220	GAL	PLASTIC/NONMETALLIC DRUM
KC 400	PSSI	Process Drains	WEST STORAGE AREA	MIXTURE	LIQUID	ACUTE HEALTH	770	1,320	GAL	PLASTIC/NONMETALLIC DRUM
KC 531	PSSI	Process Drains	KILL FLOOR BASEMENT	MIXTURE	LIQUID	FIRE, ACUTE HEALTH	55	220	GAL	PLASTIC/NONMETALLIC DRUM
KC 531	PSSI	Process Drains	WEST STORAGE AREA	MIXTURE	LIQUID	FIRE, ACUTE HEALTH	440	660	GAL	PLASTIC/NONMETALLIC DRUM
KC 564	PSSI	Process Drains	KILL FLOOR BASEMENT	MIXTURE	LIQUID	ACUTE HEALTH	110	220	GAL	PLASTIC/NONMETALLIC DRUM
KC 564	PSSI	Process Drains	WEST STORAGE AREA	MIXTURE	LIQUID	ACUTE HEALTH	770	1,320	GAL	PLASTIC/NONMETALLIC DRUM
KC 610	PSSI	Process Drains	CONTAINMENT AREA	MIXTURE	LIQUID	PRESSURE RELEASE, ACUTE HEALTH	220	660	GAL	PLASTIC/NONMETALLIC DRUM
KC 634	PSSI	Process Drains	KILL FLOOR BASEMENT	MIXTURE	LIQUID	FIRE, PRESSURE RELEASE, ACUTE HEALTH	110	220	GAL	PLASTIC/NONMETALLIC DRUM
KC 634	PSSI	Process Drains	WEST STORAGE AREA	MIXTURE	LIQUID	FIRE, PRESSURE RELEASE, ACUTE HEALTH	770	1,320	GAL	PLASTIC/NONMETALLIC DRUM
KC 635 HF	PSSI	Process Drains	WEST STORAGE AREA	MIXTURE	LIQUID		7	12	gal	PLASTIC/NONMETALLIC DRUM
KEROSENE	Lab	Drains	Lab	Pure	Liquid	FIRE, PRESSURE RELEASE, ACUTE	0	0	Liters	Metal Cans
LACTIC ACID (88%)	KILL FLOOR	Process Drains	WEST STORAGE AREA	MIXTURE	LIQUID	ACUTE HEALTH	630	1,260	GAL	PLASTIC/NONMETALLIC DRUM
LACTIC ACID (88%)	KILL FLOOR	Process Drains	GRADING AREA	MIXTURE	LIQUID	ACUTE HEALTH	55	110	GAL	PLASTIC/NONMETALLIC DRUM
LACTIC ACID (88%)	KILL FLOOR	Process Drains	BASEMENT	MIXTURE	LIQUID	ACUTE HEALTH	110	220	GAL	PLASTIC/NONMETALLIC DRUM
LIQUID SMOKEHOUSE CLEANER	RENDERING	Process Drains	WEST STORAGE AREA	MIXTURE	LIQUID	ACUTE HEALTH	55	110	GAL	PLASTIC/NONMETALLIC DRUM

CHEMICAL INVENTORY LIST

National Beef California, LP, Brawley, CA

As of 12/19/2012

CHEMICAL NAME	USED BY DEPARTMENT	PATHWAY INTO WASTEWATER	STORAGE LOCATION	MATERIAL TYPE	PHYSICAL STATE	FED HAZARD CATEGORIES	AVERAGE DAILY AMOUNT	MAXIMUM DAILY AMOUNT	UNITS	STORAGE CONTAINER
LIQUID SMOKEHOUSE CLEANER	RENDERING	Process Drains	RENDERING	MIXTURE	LIQUID	ACUTE HEALTH	55	110	GAL	PLASTIC/NONMETALLIC DRUM
LIQUIK 2 CS	FABRICATION	Process Drains	WEST STORAGE AREA	MIXTURE	LIQUID	ACUTE HEALTH	165	330	GAL	PLASTIC/NONMETALLIC DRUM
LIQUIK 2 CS	FABRICATION	Process Drains	FAB STORAGE	MIXTURE	LIQUID	ACUTE HEALTH	30	55	GAL	PLASTIC/NONMETALLIC DRUM
LIQUIK 2 CS	FABRICATION	Process Drains	KILL FLOOR BASEMENT	MIXTURE	LIQUID	ACUTE HEALTH	30	55	GAL	PLASTIC/NONMETALLIC DRUM
LIQUIK BLEACH (BIRKO)	KILL FLOOR	Process Drains	WEST STORAGE AREA	MIXTURE	LIQUID	REACTIVE & ACUTE HEALTH	750	1,500	GAL	TOTE BIN
LIQUIK BLEACH (BIRKO)	KILL FLOOR	Process Drains	KILL FLOOR BASEMENT	MIXTURE	LIQUID	REACTIVE & ACUTE HEALTH	250	500	GAL	TOTE BIN
MEMBRANE ACID 100	HOCW (CLEANING SYSTEM)	Process Drains	WEST STORAGE AREA	MIXTURE	LIQUID	REACTIVE & ACUTE HEALTH	250	550	GAL	TOTE BIN
META TECH 2C		Process Drains	WEST STORAGE AREA	MIXTURE	SOLID	ACUTE HEALTH	800	1,600	LBS	FIBER DRUM
META TECH 2C	KILL MAINT	Process Drains	KILL FLOOR BASEMENT	MIXTURE	SOLID	ACUTE HEALTH	200	400	LBS	FIBER DRUM
METHANE	REFRIGERATION AND BOILERS	None	SOUTH (BIO GAS SYSTEM)	PURE	GAS	FIRE, PRESSURE RELEASE, ACUTE HEALTH	10,000	20,000	LBS	OTHER
METHANOL	Lab	Drains	Lab	Pure	Liquid	FIRE, PRESSURE RELEASE, ACUTE HEALTH	0	0	Liters	Metal Cans
METHYL ORANGE SOLUTIONS	Lab	Drains	Lab	pure	Liquid	ACUTE HEALTH	0	0	Liters	Plastic Bottles
MOBIL SHC 629	MAINT	Process Drains	SOUTH WEST STORAGE AREA	PURE	LIQUID	FIRE & ACUTE HEALTH	55	110	GAL	STEEL DRUM
MOBIL SHC 636	MAINT	Process Drains	SOUTH WEST STORAGE AREA	PURE	LIQUID	FIRE & ACUTE HEALTH	55	110	GAL	STEEL DRUM
MURAIATIC ACID (15%)	RENDERING	Process Drains	WEST STORAGE AREA	MIXTURE	LIQUID	REACTIVE & ACUTE HEALTH	330	660	GAL	PLASTIC/NONMETALLIC DRUM
MURATIC ACID (15%)	RENDERING	Process Drains	RENDERING	MIXTURE	LIQUID	REACTIVE & ACUTE HEALTH	55	110	GAL	PLASTIC/NONMETALLIC DRUM
NO-PELO	KILL FLOOR	Process Drains	WEST STORAGE AREA	MIXTURE	LIQUID	ACUTE HEALTH	165	330	GAL	PLASTIC/NONMETALLIC DRUM
NO-PELO	KILL FLOOR	Process Drains	KILL FLOOR BASEMENT	MIXTURE	LIQUID	ACUTE HEALTH	55	110	GAL	PLASTIC/NONMETALLIC DRUM
OX BILE	RENDERING	Process Drains	KILL FLOOR BASEMENT	PURE	LIQUID	ACUTE HEALTH	1,200	2,750	GAL	TOTE BIN
OXYGEN	NURSING	Process Drains	CABINET OUTSIDE KF MAINT SHOP	PURE	GAS	PRESSURE RELEASE & ACUTE HEALTH	11,300	22,600	CU FT	CYLINDER
NO-PELO	KILL FLOOR	Process Drains	FOOT ROOM	Pure	Liquid	ACUTE HEALTH	0	0	GAL	PLASTIC/NONMETALLIC DRUM
PETROLEUM ETHER	Lab	Drains	Lab	Pure	Liquid	FIRE & ACUTE HEALTH	0	0	Milliliters	Metal Cans
PH. ELECTRODE	Lab	Drains	Lab	Mixture	Liquid	ACUTE HEALTH	0	0	Milliliters	Plastic Bottle
PHENOLPHTHALEIN	Lab	Drains	Lab	Pure	Liquid	ACUTE HEALTH	0	0	Milliliters	Plastic Bottle
PINNACLE 460 (TEXACO)		None	FAB MAINT SHOP	PURE	LIQUID	FIRE & ACUTE HEALTH	25	55	GAL	STEEL DRUM
POTASSIUM HYDROXIDE	Lab	Drains	Lab	MIXTURE	Solid	FIRE & ACUTE HEALTH	0	0	Liters	Plastic Tub
POTASSIUM IODIDE	Lab	Drains	Lab	MIXTURE	Solid	FIRE & ACUTE HEALTH	0	0	Liters	Plastic Tub
POW QUAT	FABRICATION	Process Drains	WEST STORAGE AREA	MIXTURE	SOLID	ACUTE HEALTH	20,000	40,000	LBS	FIBER DRUM
POW QUAT	FABRICATION	Process Drains	FABRICATION	MIXTURE	SOLID	ACUTE HEALTH	800	1,600	LBS	FIBER DRUM
PRECISION PLUS 239 (ECOLAB)	BOILER	Process Drains	BOILER ROOM	MIXTURE	LIQUID	ACUTE HEALTH	55	110	GAL	PLASTIC/NONMETALLIC DRUM
PROCESS NPD	KAISER	Process Drains	WEST STORAGE AREA	MIXTURE	LIQUID	ACUTE HEALTH	20	130	GAL	PLASTIC BOTTLE
PROPANE	SHIPPING	None	NEAR BIO GAS	PURE	LIQUID	FIRE, PRESSURE RELEASE, ACUTE HEALTH	875	1,750	GAL	OTHER
PROPYLENE GLYCOL	GROUND BEEF	Process Drains	WESTSIDE OF GROUND BEEF BUILDING	MIXTURE	LIQUID	FIRE, PRESSURE RELEASE, ACUTE HEALTH	2,000	3,000	GAL	ABOVEGROUND TANK
REAGENT ALCOHOL	Lab?	Drains	Lab	Pure	Liquid	FIRE,, ACUTE HEALTH	0	0	Liters	Plastic Bottle
RL1224	REFRIGERATION AND BOILERS	Process Drains	BOILER ROOM	MIXTURE	LIQUID	ACUTE HEALTH	3	5	GAL	PLASTIC/NONMETALLIC DRUM
RL 1600	REFRIGERATION AND BOILERS	Process Drains	BOILER ROOM	MIXTURE	LIQUID	ACUTE HEALTH	3	5	GAL	PLASTIC/NONMETALLIC DRUM
RL 2016	REFRIGERATION AND BOILERS	Process Drains	BOILER ROOM	MIXTURE	LIQUID	ACUTE HEALTH	3	5	GAL	PLASTIC/NONMETALLIC DRUM
RL 9004	REFRIGERATION AND BOILERS	Process Drains	BOILER ROOM	MIXTURE	LIQUID	ACUTE HEALTH	3	5	GAL	PLASTIC/NONMETALLIC DRUM
RYDLYME - REDLIME	REFRIGERATION AND BOILERS	Process Drains	WEST STORAGE AREA	MIXTURE	LIQUID	ACUTE HEALTH	165	330	GAL	PLASTIC/NONMETALLIC DRUM
SALT	HIDES	Process Drains	OUTSIDE HIDES (EASTSIDE)	PURE	SOLID	ACUTE HEALTH	50,000	100,000	LBS	OUTSIDE BULK
SALT	HIDES	Process Drains	OUTSIDE NEAR DAF	MIXTURE	SOLID	ACUTE HEALTH	25,000	50,000	LBS	BAG
SANOVA BASE (25%)	KILL FLOOR	Process Drains	WEST STORAGE AREA	MIXTURE	LIQUID	ACUTE HEALTH	500	1,000	GAL	TOTE BIN
SANOVA BASE (25%)	KILL FLOOR	Process Drains	KILL FLOOR BASEMENT	MIXTURE	LIQUID	ACUTE HEALTH	250	500	GAL	TOTE BIN

CHEMICAL INVENTORY LIST

National Beef California, LP, Brawley, CA

As of 12/19/2012

CHEMICAL NAME	USED BY DEPARTMENT	PATHWAY INTO WASTEWATER	STORAGE LOCATION	MATERIAL TYPE	PHYSICAL STATE	FED HAZARD CATEGORIES	AVERAGE DAILY AMOUNT	MAXIMUM DAILY AMOUNT	UNITS	STORAGE CONTAINER
SANOVA SAS ACTIVATOR 20%	KILL FLOOR	Process Drains	WEST STORAGE AREA	MIXTURE	LIQUID	ACUTE HEALTH	500	1,000	GAL	TOTE BIN
SANOVA SAS ACTIVATOR 20%	KILL FLOOR	Process Drains	KILL FLOOR BASEMENT	MIXTURE	LIQUID	ACUTE HEALTH	250	500	GAL	TOTE BIN
SODIUM HYDROXIDE 10%	Lab	Drains	Lab	MIXTURE	Liquid	ACUTE HEALTH	0	0	Liters	Glass Bottles/Plastic BOttles
SODIUM HYDROXIDE 50%	Lab	Drains	Lab	MIXTURE	Liquid	ACUTE HEALTH	0	0	Liters	Glass Bottles/Plastic BOttles
SODIUM HYPOCHLORITE (12.5%)	Rendering	Process Drains	WEST STORAGE AREA	MIXTURE	LIQUID	ACUTE HEALTH	750	1,500	GAL	TOTE BIN
SODIUM HYDROXIDE N10	Lab?	Drains	Lab	Mixture	Liquid	Fire, ACUTE HEALTH	0	0	Liters	Glass Bottles/Plastic Bottles
SODIUM HYPOCHLORITE (12.5%)	rendering	Process Drains	RENDERING	MIXTURE	LIQUID	ACUTE HEALTH	2,500	5,000	GAL	ABOVEGROUND TANK
SODIUM NITRATE SOLUTION 46%	Wastewater	Wastewater Addition	Wastewater Ponds	MIXTURE	LIQUID	FIRE & ACUTE HEALTH	50	100	GAL	PLASTIC/NONMETALLIC DRUM
SODIUM THIOSULFATE SOULTION N10	Lab	Drains	Lab	Mixture	Solid	ACUTE HEALTH	0	0	Milliliters	Plastic Bottles
STARCH INDICATOR	Lab	Drains	Lab	Mixture	Liquid	ACUTE HEALTH	0	0	Milliliters	Plastic Bottles
SULFURIC ACID (10-20%)	Lab	Drains	Lab	Mixture	Liquid	ACUTE HEALTH	0	0	Liters	Glass Bottles/Plastic Bottles
SULFURIC ACID (93%)	Refrigeration	Cooling Water Blowdown	OUTSIDE ENGINE ROOM	MIXTURE	LIQUID	PRESSURE RELEASE & ACUTE HEALTH	7,000	15,000	LBS	ABOVEGROUND TANK
SYNCHLOROZENE	HIDES	Process Drains	WEST STORAGE AREA	MIXTURE	SOLID	ACUTE HEALTH	2,000	4,000	LBS	FIBER DRUM
SYNCHLOROZENE	HIDES	Process Drains	HIDES ROOM	MIXTURE	SOLID	ACUTE HEALTH	300	750	LBS	FIBER DRUM
SYNTHETIC LUBRICANT W56-RAC-6500 (MOBIL)		None	SOUTH WEST STORAGE AREA	MIXTURE	LIQUID	FIRE & ACUTE HEALTH	55	165	GAL	PLASTIC/NONMETALLIC DRUM
TETRACHLORIDE ETHYLENE	Lab	Drains	Lab	Pure	Liquid	ACUTE HEALTH	0	0	Liters	Glass Bottles/Plastic Bottles
TIGRE	KILL MAINT	Process Drains	WEST STORAGE AREA	MIXTURE	LIQUID	ACUTE HEALTH	55	165	GAL	PLASTIC/NONMETALLIC DRUM
TIGRE	KILL MAINT	Process Drains	KILL FLOOR BASEMENT	MIXTURE	LIQUID	ACUTE HEALTH	55	110	GAL	PLASTIC/NONMETALLIC DRUM
TORO	KILL MAINT	Process Drains	KILL FLOOR BASEMENT	MIXTURE	LIQUID	ACUTE HEALTH	55	110	GAL	PLASTIC/NONMETALLIC DRUM
TORO	KILL MAINT	Process Drains	WEST STORAGE AREA	MIXTURE	LIQUID	ACUTE HEALTH	55	165	GAL	PLASTIC/NONMETALLIC DRUM
TROLLEZE	KILL MAINT	None	WEST STORAGE AREA	MIXTURE	LIQUID	ACUTE HEALTH	55	220	GAL	PLASTIC/NONMETALLIC DRUM
TROLLEZE	KILL MAINT	None	KILL FLOOR BASEMENT	MIXTURE	LIQUID	ACUTE HEALTH	55	110	GAL	PLASTIC/NONMETALLIC DRUM
ULTRA QUAT	PRODUCTION	Process Drains	WEST STORAGE AREA	MIXTURE	LIQUID	ACUTE HEALTH	25	55	GAL	PLASTIC BOTTLE
GASOLINE	WASTE WATER	None	WHAREHOUSE	PURE	LIQUID	ACUTE HEALTH	5	10	GAL	GAS TANK
USED OIL	MAINT	None	SOUTH WEST STORAGE AREA	WASTE	LIQUID	FIRE & ACUTE HEALTH	250	500	GAL	ABOVEGROUND TANK
VERTEX CSS-5 BLEACH	JANITORS	Process Drains	KILL FLOOR BASEMENT	MIXTURE	LIQUID	ACUTE HEALTH	30	75	GAL	PLASTIC BOTTLE
WCS 7556 P	REFRIGERATION AND BOILERS	Process Drains	WEST STORAGE AREA	MIXTURE	LIQUID	ACUTE HEALTH	55	110	GAL	PLASTIC/NONMETALLIC DRUM
WCS 7556 P	REFRIGERATION AND BOILERS	Process Drains	ENGINE ROOM	MIXTURE	LIQUID	ACUTE HEALTH	30	55	GAL	PLASTIC/NONMETALLIC DRUM
WHITE OIL USP 67 (TEXACO)	MAINT	None	WEST STORAGE AREA	MIXTURE	LIQUID	ACUTE HEALTH	550	1,100	GAL	PLASTIC/NONMETALLIC DRUM
WHITE OIL USP 67 (TEXACO)	KILL MAINT	None	KILL FLOOR MAINTENANCE	MIXTURE	LIQUID	ACUTE HEALTH	30	55	GAL	PLASTIC/NONMETALLIC DRUM
WHITE OIL USP 67 (TEXACO)	FAB MAINT	None	FABRICATION MAINTENANCE	MIXTURE	LIQUID	ACUTE HEALTH	30	55	GAL	PLASTIC/NONMETALLIC DRUM
XLERATOR	HIDES	Process Drains	WEST STORAGE AREA	MIXTURE	LIQUID	ACUTE HEALTH	55	110	GAL	PLASTIC/NONMETALLIC DRUM
XLERATOR	HIDES	Process Drains	HIDES	MIXTURE	LIQUID	ACUTE HEALTH	30	55	GAL	PLASTIC/NONMETALLIC DRUM
ZEP-A-LUME-E	JANITORS	Process Drains	WEST STORAGE AREA	MIXTURE	LIQUID	ACUTE HEALTH	55	110	GAL	PLASTIC/NONMETALLIC DRUM
ZEPOSECTOR S	JANITORS	Process Drains	SOUTH WEST STORAGE AREA	MIXTURE	LIQUID	ACUTE HEALTH	55	220	GAL	PLASTIC/NONMETALLIC DRUM

Attachment 3

HERON INNOVATORS
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NATIONAL BEEF LLP
BRAWLEY, CA

INDUSTRIAL WASTE TREATMENT PLANT
BIOSOLIDS CHARACTERIZATION REPORT

August 2011

Prepared by: Dave Rickard PE; Barry Biersbach PE

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Appendix A Nitrogen and Phosphorus Content of National Beef Biological Solids

NBC_ACLC_PT-001420

Introduction

National Beef Brawley (NBB) owns and operates a meat packing facility at 57 East Shank Road in Brawley, California that processes approximately 2,400 head of cattle per day. That plant discharges approximately 1.5 million gallons a day of wastewater from its beef processing and livestock operations (It's important to note that the industrial operations wastewater discharge is isolated from all sanitary sewage that maybe generated in the plant). The industrial wastewater is treated in the following manner before being discharged to the Brawley municipal plant:

- Two 12 X 53 foot dissolved air flotation (DAF) units that receive raw waste and provide removal of fats, grease and suspended solids.
- A 9.5 million gallon, covered anaerobic pond where fats and proteins are hydrolyzed to simpler organic materials with production of methane and carbon dioxide, designated as Pond 1.
- A 2.9 million gallon aerobic pond where the organic material is removed by oxidation and conversion to microbial cell mass and oxidation of ammonia to nitrate, designated as Pond 2.
- A clarifier, set into a third 6.2 million gallon pond at its inlet; designated, Pond 3.
- Pond 3, water is treated through a SAF™ Flotation Cell removing solids before discharge to the sanitary sewer. Skimmed solids are pumped over to a belt press for thickening
- Waste activated sludge (WAS) is pumped to a belt press were solids are thickened to ~20% solids

After treatment in the above system the wastewater flows to the sewerage system owned and operated by the City of Brawley for additional treatment prior to discharge.

Return activated sludge (RAS) is pumped from the clarifier in Pond 3 back to the head of Pond 2 at a rate of approximately 0.25 MGD to provide the microbial population for conversion of the organic material and oxidation of ammonia and to provide mixing.

The belt press recently commissioned (4/11) has provided the site with a vehicle for removing solids from the treatment system; a problem that had plagued the plant over the last few years. The solids that have accumulated/stored in pond 3 over the years along with the thickened secondary solids (WAS) are the subject of this report.

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Earlier investigations of the sludge produced at National Beef (See Appendix A) indicated that the material, high in both nitrogen and phosphorus, had a potential use as a soil amendment/conditioner in crops not produced for direct human consumption.

For this reason, Heron Innovators Inc. (HII) was retained by NBB to review requirements needed to facilitate solids disposal locally via land application. HII then approached Imperial County Regulators who deferred the matter to the Regional Water Quality Control Board (RWQCB). The Regional Board has asked NBB to assess if the sludge meets the requirements of a Class B sludge under the provisions of Title 40 of the Code of Federal Regulations (CFR) Part 503, often referred to only as Part 503.

This Report encompasses the result of that investigation for solids generated both as part of the treatment process as waste activated sludge (WAS) and those that have been previously stored in pond 3.

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II Regulatory Requirements

As a technical matter the solids generated at NBB are better suited for regulation under 40 CFR part 57, however, the Board has elected to have the material reviewed for compliance under part 503; a more stringent rule normally applied to solids generated from municipal sewage treatment plants. California has adopted General Order No. 2004-0012-DWQ in response to the Federal Rule 503. This standard, like Rule 503, is normally applied to municipal/domestic solids and as a result is more stringent. It is this requirement that is used as a basis for evaluating NBB solids in this report.

Federal Rule 503, establishes maximum concentrations for 10 heavy metals, which may be present in solids deposited on agricultural land. The comparable State requirements list the same concentrations for nine of these metals eliminating chromium for the list. For the purposes of this evaluation, the Federal limits will be used; as they represent the more stringent requirement. Table 1, lists the maximum concentrations of heavy metals allowable in biosolids applied on land where access to the public is limited.

Metal	Maximum Concentration mg/kg	Metal	Maximum Concentration mg/kg
Arsenic	75	Mercury	57
Cadmium	85	Molybdenum	75
Chromium	3000	Nickle	420
Copper	4300	Selenium	100
Lead	840	Zinc	7500

Table 1
Maximum Permissible Concentrations
Of Heavy Metals for Land Disposal

From a biological standpoint, the sludge must show a most probable number (MPN) of fecal coliforms of less than 2 million per gram of volatile solids.

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III Test Methodology and Results

Sludge samples were collected during the period from April 20 through April 26, 2011, and again during the period from May 9 through May 12, 2011. Samples of the contents of Pond 3 were collected from a boat at random locations in the pond using a "sludge judge". The sampler was lowered in the pond to a depth of approximately 3 - 4 feet and allowed to fill with material. This was then transferred to a bucket that was taken to shore and the samples transferred to new, clean, prelabeled 8 oz jars.

The solids collected from the belt press were scoop sampled directly into new, clean pre-labeled 8 oz jars.

All samples were placed on ice immediately after being collected; no special sterile protocols were followed.

Analyses were performed on all of the April samples for the 5 metals previously mentioned, total suspended solids (TSS), volatile suspended solids (VSS) and fecal coliform.

The samples collected in May were analyzed for the remaining metals considered to be of importance in evaluation of solids for land disposal.

Solids Determination

Tables 2 and 3 show the results of the analyses for total and volatile suspended solids. Mass units are in milligrams/kilogram of sample.

Date	Time	TSS	VSS	% Volatiles
4/20/11	10:30	180,000	120,000	66.7
4/22/11	10:30	200,000	150,000	75.0
4/22/11	14:30	170,000	120,000	70.6
4/25/11	10:30	180,000	130,000	72.2
4/25/11	14:30	180,000	130,000	72.2
4/26/11	9:30	190,000	140,000	73.7
4/26/11	11:30	210,000	160,000	76.2
Mean Values		187,143	135,714	72.4

Table 2
Suspended and Volatile Suspended Solids
Belt Press

NBC_ACLC_PT-001424

Date	Time	TSS	VSS	% Volatiles
4/20/11	10:00	6,900	4,700	68.1
4/22/11	10:00	16,000	11,000	68.8
4/22/11	14:00	19,000	14,000	73.7
4/25/11	10:00	17,000	11,000	64.7
4/25/11	14:00	14,000	9,500	67.9
4/26/11	9:00	15,000	11,000	73.3
4/26/11	11:30	15,000	9,700	64.7
Mean Values		14,700	10,129	68.7

Table 3
Total and Volatile Suspended Solids
Pond 3

Based on these results, the belt press produced a cake having a solids content of almost 19% and a volatile content over 72%.

The solids level of the material in Pond 3 averaged 1.5% solids of which 69% were volatile.

Fecal Coliform

All the samples taken were analyzed for fecal coliform by the multiple tube fermentation method. The results are shown in Table 4 and 5.

Date	Time	MPN
4/20/11	10:30	>16,000
4/22/11	10:30	>16,000
4/22/11	14:30	900,000
4/25/11	10:30	<200,000
4/25/11	14:30	1,300,000
4/26/11	9:30	300,000
4/26/11	11:30	500,000

Table 4
Most Probable Number of
Fecal Coliform in
Belt Press Solids

NBC_ACLC_PT-001425

Date	Time	MPN
4/20/11	10:00	16,000
4/22/11	10:00	>16,000
4/22/11	14:00	16,000
4/25/11	10:00	30,000
4/25/11	14:00	14,000
4/26/11	9:00	13,000
4/26/11	11:30	24,000

Table 5
Most Probable Number of
Fecal Coliform
In Pond 3 Material

Explanation of Coliform Results - Multiple Tube Fermentation Analyses

The laboratory when encountering a new, never analyzed before sample will have to first make a guess regarding the concentration of the organisms they might first expect to find. Samples are serial diluted and placed in fermentation tubes. The tubes are then incubated for 48 hours and those showing the presence of gas (carbon dioxide) are scored positive and those without gas are scored negative (fermentation resulting in gas production indicates that the tube received at least one viable bacteria). The most probable number of organisms present is then determined from statistical tables based on a Poisson distribution. A positive result in all tubes, implies that the original estimate was too low, reporting the value as greater than the minimum number that statistically could have given that result.

If none of the tubes shows positive for carbon dioxide then the original estimate was too high and only the maximum number which could account for that result can be reported. As shown in Tables 4 and 5, the analyst guessed low on the some of the early samples. Since the actual MPN could be anything higher than the number shown the results must be ignored and not used in analysis. On the other hand, where the guess was too high as was the case in the belt press sample taken in the morning of April 25, the number shown represents the maximum number that could have been present and can be used in a conservative evaluation of the data.

Because the results of MPN analyses do not follow a normal statistical distribution, arithmetic averaging cannot be used to determine a valid mean for multiple samples. Rather a geometric or logarithmic mean is representative of results obtained from these analyses. In determining the geometric mean of the values shown in Tables 6 and 7, all values showing as greater than a given number were deleted before the mean was calculated. Where the value is reported as less than a given number that number was used in the calculation of the mean. Calculations performed in this manner gave an MPN for the belt press solids of 511,754 MPN per kilogram of sample. Dividing this by the volatile suspended solids and multiplying by 1,000 then gives the MPN per gram of volatile solids. For the belt press solids this calculation yielded a value of 3,763 MPN/gm VSS.

NBC_ACLC_PT-001426

The same calculation was performed on the samples taken from Pond 3 (log mean MPN = 17,959) and a value of 1,773 resulted. Pond 3 solids will be dewatered. This is taken into account and an absolute maximum value for fecal coliform in the dewatered solids may be determined, by calculating the ratio of the TSS after dewatering to that observed before dewatering and multiplying that ratio by the MPN per gram of volatile suspended solids before dewatering. Assuming that the belt press will yield the same cake when operated on Pond 3 material, as it does on WAS, a multiplier of 12.73 yields an MPN/gm VSS in the solids being disposed less than 22,570 MPN per gram of VSS. As this number exceeds that observed in the dewatered sludge from the Pond 3 clarifier, it is considered to be a valid maximum value.

Metals Results

Tables 6 and 7 shows the results of the metals analyses performed on the samples collected in April. Values again are given in mg/kg of sample.

Date	Time	Hg	Cd	Cr	PB	AG	Zn
4/20/11	10:30	ND	ND	4.0	ND	ND	87
4/22/11	10:30	ND	ND	5.1	ND	ND	83
4/22/11	14:30	ND	ND	4.8	ND	ND	82
4/25/11	10:30	ND	ND	4.4	ND	ND	89
4/25/11	14:30	NA	NA	NA	NA	NA	NA
4/26/11	9:30	ND	ND	3.8	ND	ND	83
4/26/11	11:30	NA	NA	NA	NA	NA	NA

Table 6
Concentration of Selected Metals
In Belt Press Cake

Date	Time	Hg	Cd	Cr	PB	AG	Zn
4/20/11	10:00	ND	ND	ND	ND	ND	ND
4/22/11	10:00	ND	ND	ND	ND	ND	11
4/22/11	14:00	ND	ND	ND	ND	ND	16
4/25/11	10:00	ND	ND	ND	ND	ND	ND
4/25/11	14:00	NA	NA	NA	NA	NA	NA
4/26/11	9:00	ND	ND	ND	ND	ND	ND
4/26/11	11:30	NA	NA	NA	NA	NA	NA

Table 7
Concentration of Selected Metals
In Pond 3

Tables 8 and 9 show the additional metal analyses performed on the samples collected in May.

Date	As	Cu	Mo	Ni	SE
5/10/11	ND	17.50	ND	ND	ND
5/11/11	ND	16.90	ND	ND	ND
5/12/11	ND	17.2	ND	ND	ND

Table 8
Additional Metal Concentrations
In Filter Cake Press

Date	As	Cu	Mo	Ni	SE
5/10/11	ND	0.60	ND	ND	ND
5/11/11	ND	0.89	ND	0.21	ND
5/12/11	As	0.49	ND	ND	ND

Table 9
Additional Metal Concentrations
In Pond 3

Small amounts of chromium, zinc and copper were the only heavy metals detected. Although a trace of nickel, above the detection limit of 0.2 mg/kg, was observed in one sample from Pond 3, this is considered an anomaly because nickel was not observed to be present in any of the samples from the belt filter press.

Table 10 shows the average concentration of the three metals, chromium, zinc and copper that were present in a sufficient number of the samples taken to permit the calculation of an average value.

Value	Metal		
	Cr	Zn	Cu
Mean Value	4.4	84.8	17.2
Conc. Mg/gm TSS	0.024	0.453	0.092
Max. Allowable	3000	7500	4300

Table 10
Metal Concentrations Present
And Maximum Allowable Concentrations

Of the metals found in Pond 3 only copper was present at a concentration to permit computation of an average value; which was 0.66 mg/kg of sample. Converting this to the concentration per gm of TSS and applying the same dewatering concentration factor as before, a value of 0.57 mg/kg results.

NBC_ACLC_PT-001428

IV Conclusions

Analysis of samples of solids cake from a belt press being used to dewater activated sludge (WAS) at the National Beef Facility in Brawley California shows that only the metals chromium and zinc are present. These are at a concentration far below that considered a maximum value for land disposal and should not pose a threat to the Public Health or Safety. This material may be disposed of locally by land application to crops not produced for direct human consumption. Analysis of an additional 3 samples for additional metals showed that only copper was present at detectable levels and well below the maximum allowable levels.

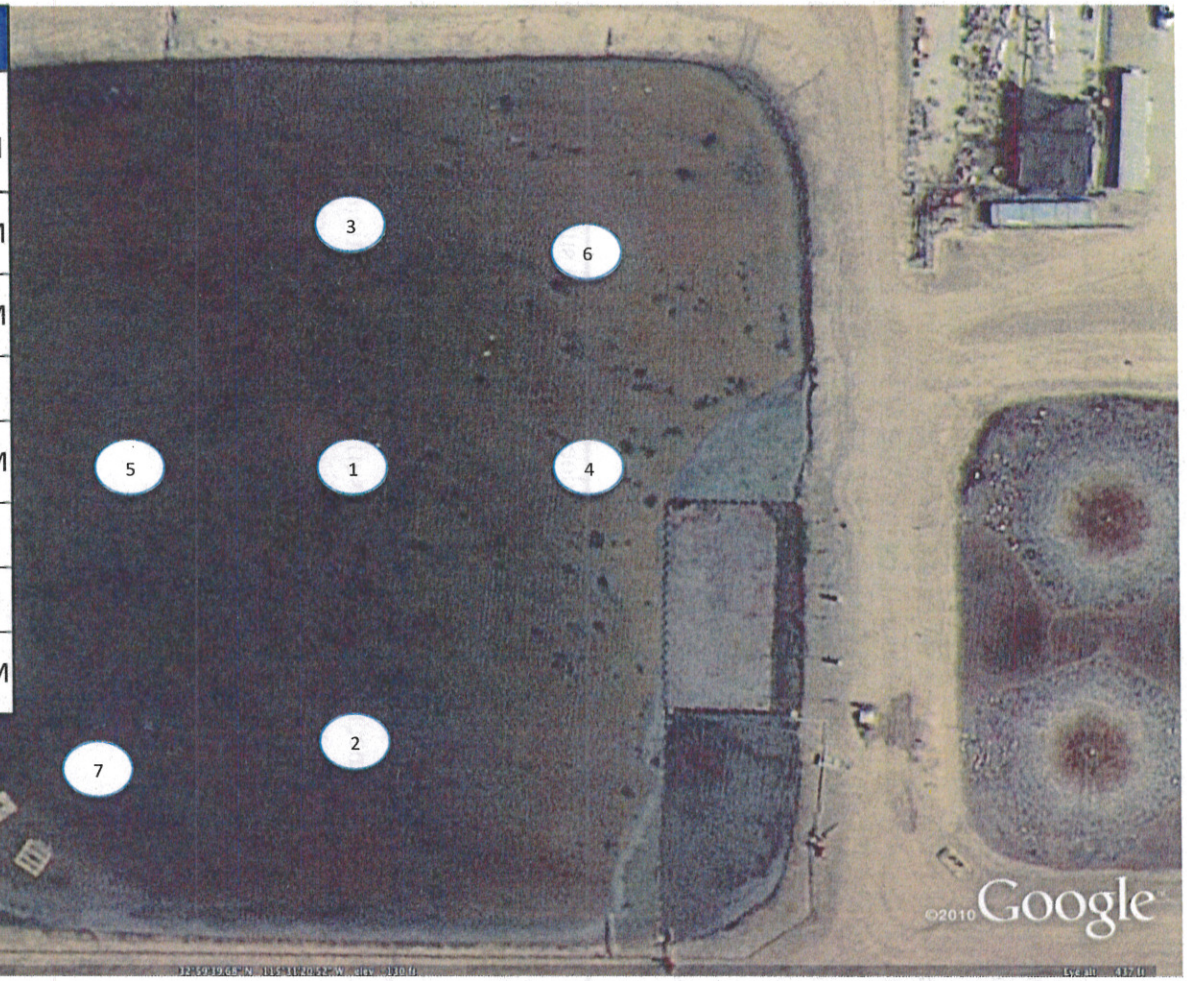
The fecal coliform density of some 4,000 MPN/gm of Volatile Suspended Solids is much lower than the 2×10^6 per gram Total Volatile solids allowed by EPA regulations to for Class B biosolids.

The material currently contained in Pond 3 does not contain a sufficient concentration of chromium, copper or zinc to represent a threat to Human Health or Safety if disposed on by application to local agricultural land.

After dewatering Pond 3 solids will contain a maximum of some 23,000 MPN per gram of Volatile Suspended Solids and easily meet the requirements for classification as a Class B sludge. No metals were present in sufficient concentrations to be of concern for the application of the material after dewatering to local agricultural land.

Pond 3 - Sediment Sampling Key
National Beef, Brawley

Pond 3 Sediment Sampling Key			
Pond Sample Location	Lab ID	Date Collected	Time Collected
1	2076-04	4/20/11	10:30 AM
2	2441-03	4/22/11	10:30 AM
3	2441-04	4/22/11	2:00 PM
4	2452-05	4/25/11	10:00 AM
5	2452-06	4/25/11	2:00 PM
6	2452-07	4/26/11	9:00 AM
7	2452-08	4/26/11	11:30 AM



APPENDIX A

NITROGEN AND PHOSPHORUS CONTENT
OF
NATIONAL BEEF BIOLOGICAL SLUDGES

NBC_ACLC_PT-001431

NBC_ACLC_PT-001432

HERON INNOVATORS
The Clear Advantage

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NATIONAL BEEF LLP
BRAWLEY, CA

INDUSTRIAL WASTE TREATMENT PLANT BIOSOLIDS CHARACTERIZATION REPORT

August 2011

Prepared by: Dave Rickard PE; Barry Biersbach PE

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Appendix A Nitrogen and Phosphorus Content of National Beef Biological Solids

NBC_ACLC_PT-001434

Introduction

National Beef Brawley (NBB) owns and operates a meat packing facility at 57 East Shank Road in Brawley, California that processes approximately 2,400 head of cattle per day. That plant discharges approximately 1.5 million gallons a day of wastewater from its beef processing and livestock operations (It's important to note that the industrial operations wastewater discharge is isolated from all sanitary sewage that maybe generated in the plant). The industrial wastewater is treated in the following manner before being discharged to the Brawley municipal plant:

- Two 12 X 53 foot dissolved air flotation (DAF) units that receive raw waste and provide removal of fats, grease and suspended solids.
- A 9.5 million gallon, covered anaerobic pond where fats and proteins are hydrolyzed to simpler organic materials with production of methane and carbon dioxide, designated as Pond 1.
- A 2.9 million gallon aerobic pond where the organic material is removed by oxidation and conversion to microbial cell mass and oxidation of ammonia to nitrate, designated as Pond 2.
- A clarifier, set into a third 6.2 million gallon pond at its inlet; designated, Pond 3.
- Pond 3, water is treated through a SAF™ Flotation Cell removing solids before discharge to the sanitary sewer. Skimmed solids are pumped over to a belt press for thickening
- Waste activated sludge (WAS) is pumped to a belt press were solids are thickened to ~20% solids

After treatment in the above system the wastewater flows to the sewerage system owned and operated by the City of Brawley for additional treatment prior to discharge.

Return activated sludge (RAS) is pumped from the clarifier in Pond 3 back to the head of Pond 2 at a rate of approximately 0.25 MGD to provide the microbial population for conversion of the organic material and oxidation of ammonia and to provide mixing.

The belt press recently commissioned (4/11) has provided the site with a vehicle for removing solids from the treatment system; a problem that had plagued the plant over the last few years. The solids that have accumulated/stored in pond 3 over the years along with the thickened secondary solids (WAS) are the subject of this report.

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Earlier investigations of the sludge produced at National Beef (See Appendix A) indicated that the material, high in both nitrogen and phosphorus, had a potential use as a soil amendment/conditioner in crops not produced for direct human consumption.

For this reason, Heron Innovators Inc. (HII) was retained by NBB to review requirements needed to facilitate solids disposal locally via land application. HII then approached Imperial County Regulators who deferred the matter to the Regional Water Quality Control Board (RWQCB). The Regional Board has asked NBB to assess if the sludge meets the requirements of a Class B sludge under the provisions of Title 40 of the Code of Federal Regulations (CFR) Part 503, often referred to only as Part 503.

This Report encompasses the result of that investigation for solids generated both as part of the treatment process as waste activated sludge (WAS) and those that have been previously stored in pond 3.

NBC_ACLC_PT-001436

II Regulatory Requirements

As a technical matter the solids generated at NBB are better suited for regulation under 40 CFR part 57, however, the Board has elected to have the material reviewed for compliance under part 503; a more stringent rule normally applied to solids generated from municipal sewage treatment plants. California has adopted General Order No. 2004-0012-DWQ in response to the Federal Rule 503. This standard, like Rule 503, is normally applied to municipal/domestic solids and as a result is more stringent. It is this requirement that is used as a basis for evaluating NBB solids in this report.

Federal Rule 503, establishes maximum concentrations for 10 heavy metals, which may be present in solids deposited on agricultural land. The comparable State requirements list the same concentrations for nine of these metals eliminating chromium for the list. For the purposes of this evaluation, the Federal limits will be used; as they represent the more stringent requirement. Table 1, lists the maximum concentrations of heavy metals allowable in biosolids applied on land where access to the public is limited.

Metal	Maximum Concentration mg/kg	Metal	Maximum Concentration mg/kg
Arsenic	75	Mercury	57
Cadmium	85	Molybdenum	75
Chromium	3000	Nickle	420
Copper	4300	Selenium	100
Lead	840	Zinc	7500

Table 1
Maximum Permissible Concentrations
Of Heavy Metals for Land Disposal

From a biological standpoint, the sludge must show a most probable number (MPN) of fecal coliforms of less than 2 million per gram of volatile solids.

NBC_ACLC_PT-001437

III Test Methodology and Results

Sludge samples were collected during the period from April 20 through April 26, 2011, and again during the period from May 9 through May 12, 2011. Samples of the contents of Pond 3 were collected from a boat at random locations in the pond using a "sludge judge". The sampler was lowered in the pond to a depth of approximately 3 - 4 feet and allowed to fill with material. This was then transferred to a bucket that was taken to shore and the samples transferred to new, clean, prelabeled 8 oz jars.

The solids collected from the belt press were scoop sampled directly into new, clean pre-labeled 8 oz jars.

All samples were placed on ice immediately after being collected; no special sterile protocols were followed.

Analyses were performed on all of the April samples for the 5 metals previously mentioned, total suspended solids (TSS), volatile suspended solids (VSS) and fecal coliform.

The samples collected in May were analyzed for the remaining metals considered to be of importance in evaluation of solids for land disposal.

Solids Determination

Tables 2 and 3 show the results of the analyses for total and volatile suspended solids. Mass units are in milligrams/kilogram of sample.

Date	Time	TSS	VSS	% Volatiles
4/20/11	10:30	180,000	120,000	66.7
4/22/11	10:30	200,000	150,000	75.0
4/22/11	14:30	170,000	120,000	70.6
4/25/11	10:30	180,000	130,000	72.2
4/25/11	14:30	180,000	130,000	72.2
4/26/11	9:30	190,000	140,000	73.7
4/26/11	11:30	210,000	160,000	76.2
Mean Values		187,143	135,714	72.4

Table 2
Suspended and Volatile Suspended Solids
Belt Press

NBC_ACLC_PT-001438

Date	Time	TSS	VSS	% Volatiles
4/20/11	10:00	6,900	4,700	68.1
4/22/11	10:00	16,000	11,000	68.8
4/22/11	14:00	19,000	14,000	73.7
4/25/11	10:00	17,000	11,000	64.7
4/25/11	14:00	14,000	9,500	67.9
4/26/11	9:00	15,000	11,000	73.3
4/26/11	11:30	15,000	9,700	64.7
Mean Values		14,700	10,129	68.7

Table 3
Total and Volatile Suspended Solids
Pond 3

Based on these results, the belt press produced a cake having a solids content of almost 19% and a volatile content over 72%.

The solids level of the material in Pond 3 averaged 1.5% solids of which 69% were volatile.

Fecal Coliform

All the samples taken were analyzed for fecal coliform by the multiple tube fermentation method. The results are shown in Table 4 and 5.

Date	Time	MPN
4/20/11	10:30	>16,000
4/22/11	10:30	>16,000
4/22/11	14:30	900,000
4/25/11	10:30	<200,000
4/25/11	14:30	1,300,000
4/26/11	9:30	300,000
4/26/11	11:30	500,000

Table 4
Most Probable Number of
Fecal Coliform in
Belt Press Solids

NBC_ACLC_PT-001439

Date	Time	MPN
4/20/11	10:00	16,000
4/22/11	10:00	>16,000
4/22/11	14:00	16,000
4/25/11	10:00	30,000
4/25/11	14:00	14,000
4/26/11	9:00	13,000
4/26/11	11:30	24,000

Table 5
Most Probable Number of
Fecal Coliform
In Pond 3 Material

Explanation of Coliform Results - Multiple Tube Fermentation Analyses

The laboratory when encountering a new, never analyzed before sample will have to first make a guess regarding the concentration of the organisms they might first expect to find. Samples are serial diluted and placed in fermentation tubes. The tubes are then incubated for 48 hours and those showing the presence of gas (carbon dioxide) are scored positive and those without gas are scored negative (fermentation resulting in gas production indicates that the tube received at least one viable bacteria). The most probable number of organisms present is then determined from statistical tables based on a Poisson distribution. A positive result in all tubes, implies that the original estimate was too low, reporting the value as greater than the minimum number that statistically could have given that result.

If none of the tubes shows positive for carbon dioxide then the original estimate was too high and only the maximum number which could account for that result can be reported. As shown in Tables 4 and 5, the analyst guessed low on the some of the early samples. Since the actual MPN could be anything higher than the number shown the results must be ignored and not used in analysis. On the other hand, where the guess was too high as was the case in the belt press sample taken in the morning of April 25, the number shown represents the maximum number that could have been present and can be used in a conservative evaluation of the data.

Because the results of MPN analyses do not follow a normal statistical distribution, arithmetic averaging cannot be used to determine a valid mean for multiple samples. Rather a geometric or logarithmic mean is representative of results obtained from these analyses. In determining the geometric mean of the values shown in Tables 6 and 7, all values showing as greater than a given number were deleted before the mean was calculated. Where the value is reported as less than a given number that number was used in the calculation of the mean. Calculations performed in this manner gave an MPN for the belt press solids of 511,754 MPN per kilogram of sample. Dividing this by the volatile suspended solids and multiplying by 1,000 then gives the MPN per gram of volatile solids. For the belt press solids this calculation yielded a value of 3,763 MPN/gm VSS.

NBC_ACLC_PT-001440

The same calculation was performed on the samples taken from Pond 3 (log mean MPN = 17,959) and a value of 1,773 resulted. Pond 3 solids will be dewatered. This is taken into account and an absolute maximum value for fecal coliform in the dewatered solids may be determined, by calculating the ratio of the TSS after dewatering to that observed before dewatering and multiplying that ratio by the MPN per gram of volatile suspended solids before dewatering. Assuming that the belt press will yield the same cake when operated on Pond 3 material, as it does on WAS, a multiplier of 12.73 yields an MPN/gm VSS in the solids being disposed less than 22,570 MPN per gram of VSS. As this number exceeds that observed in the dewatered sludge from the Pond 3 clarifier, it is considered to be a valid maximum value.

Metals Results

Tables 6 and 7 shows the results of the metals analyses performed on the samples collected in April. Values again are given in mg/kg of sample.

Date	Time	Hg	Cd	Cr	PB	AG	Zn
4/20/11	10:30	ND	ND	4.0	ND	ND	87
4/22/11	10:30	ND	ND	5.1	ND	ND	83
4/22/11	14:30	ND	ND	4.8	ND	ND	82
4/25/11	10:30	ND	ND	4.4	ND	ND	89
4/25/11	14:30	NA	NA	NA	NA	NA	NA
4/26/11	9:30	ND	ND	3.8	ND	ND	83
4/26/11	11:30	NA	NA	NA	NA	NA	NA

Table 6
Concentration of Selected Metals
In Belt Press Cake

Date	Time	Hg	Cd	Cr	PB	AG	Zn
4/20/11	10:00	ND	ND	ND	ND	ND	ND
4/22/11	10:00	ND	ND	ND	ND	ND	11
4/22/11	14:00	ND	ND	ND	ND	ND	16
4/25/11	10:00	ND	ND	ND	ND	ND	ND
4/25/11	14:00	NA	NA	NA	NA	NA	NA
4/26/11	9:00	ND	ND	ND	ND	ND	ND
4/26/11	11:30	NA	NA	NA	NA	NA	NA

Table 7
Concentration of Selected Metals
In Pond 3

Tables 8 and 9 show the additional metal analyses performed on the samples collected in May.

Date	As	Cu	Mo	Ni	SE
5/10/11	ND	17.50	ND	ND	ND
5/11/11	ND	16.90	ND	ND	ND
5/12/11	ND	17.2	ND	ND	ND

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Table 8
Additional Metal Concentrations
In Filter Cake Press

Date	As	Cu	Mo	Ni	SE
5/10/11	ND	0.60	ND	ND	ND
5/11/11	ND	0.89	ND	0.21	ND
5/12/11	As	0.49	ND	ND	ND

Table 9
Additional Metal Concentrations
In Pond 3

Small amounts of chromium, zinc and copper were the only heavy metals detected. Although a trace of nickel, above the detection limit of 0.2 mg/kg, was observed in one sample from Pond 3, this is considered an anomaly because nickel was not observed to be present in any of the samples from the belt filter press.

Table 10 shows the average concentration of the three metals, chromium, zinc and copper that were present in a sufficient number of the samples taken to permit the calculation of an average value.

Value	Metal		
	Cr	Zn	Cu
Mean Value	4.4	84.8	17.2
Conc. Mg/gm TSS	0.024	0.453	0.092
Max. Allowable	3000	7500	4300

Table 10
Metal Concentrations Present
And Maximum Allowable Concentrations

Of the metals found in Pond 3 only copper was present at a concentration to permit computation of an average value; which was 0.66 mg/kg of sample. Converting this to the concentration per gm of TSS and applying the same dewatering concentration factor as before, a value of 0.57 mg/kg results.

NBC_ACLC_PT-001442

IV Conclusions

Analysis of samples of solids cake from a belt press being used to dewater activated sludge (WAS) at the National Beef Facility in Brawley California shows that only the metals chromium and zinc are present. These are at a concentration far below that considered a maximum value for land disposal and should not pose a threat to the Public Health or Safety. This material may be disposed of locally by land application to crops not produced for direct human consumption. Analysis of an additional 3 samples for additional metals showed that only copper was present at detectable levels and well below the maximum allowable levels.

The fecal coliform density of some 4,000 MPN/gm of Volatile Suspended Solids is much lower than the 2×10^6 per gram Total Volatile solids allowed by EPA regulations to for Class B biosolids.

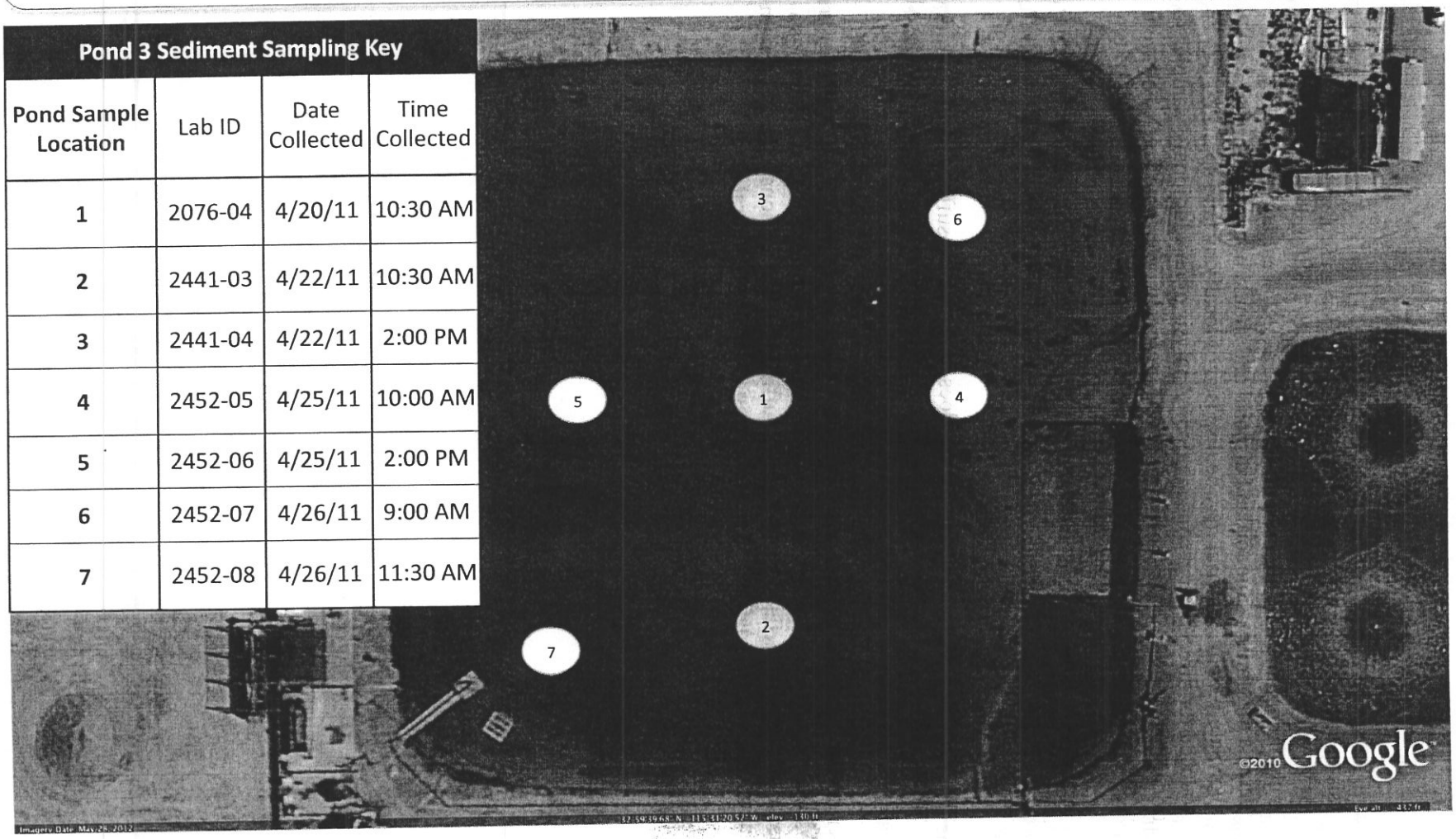
The material currently contained in Pond 3 does not contain a sufficient concentration of chromium, copper or zinc to represent a threat to Human Health or Safety if disposed on by application to local agricultural land.

After dewatering Pond 3 solids will contain a maximum of some 23,000 MPN per gram of Volatile Suspended Solids and easily meet the requirements for classification as a Class B sludge. No metals were present in sufficient concentrations to be of concern for the application of the material after dewatering to local agricultural land.

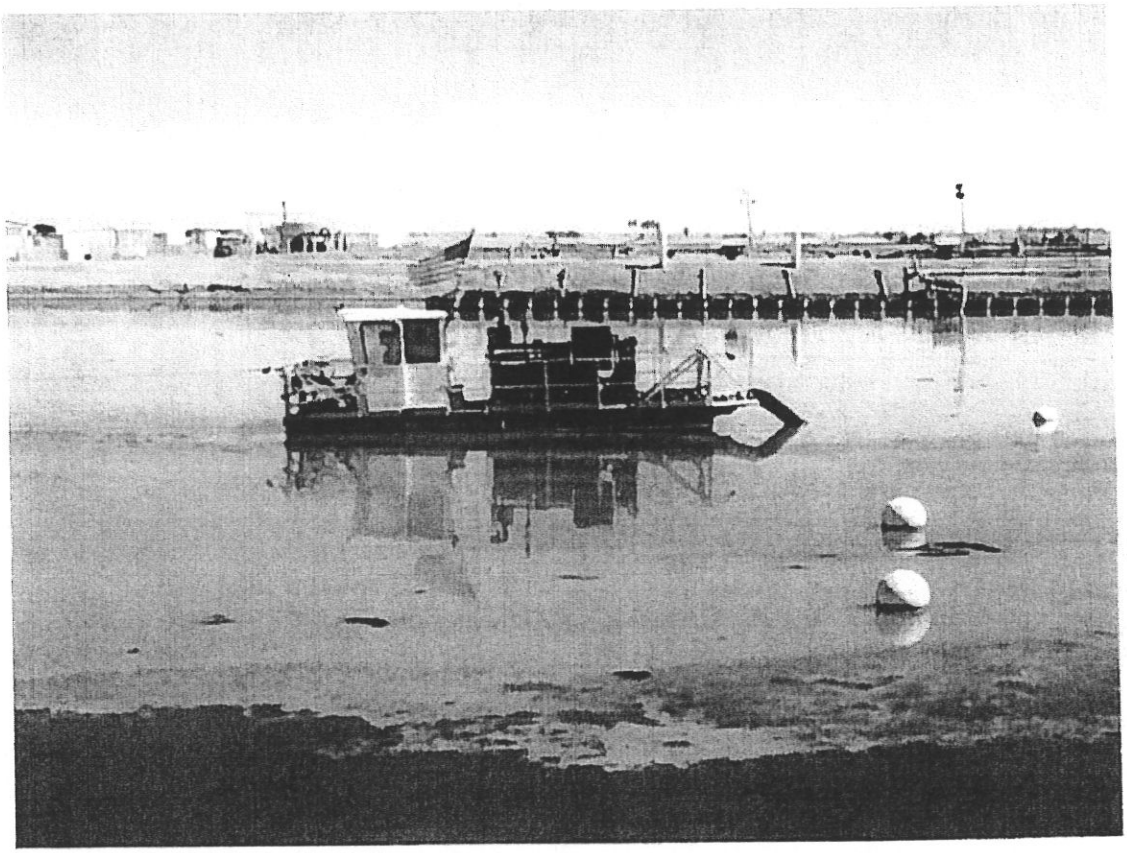
NBC_ACLC_PT-001443

Pond 3 - Sediment Sampling Key
National Beef, Brawley

Pond 3 Sediment Sampling Key			
Pond Sample Location	Lab ID	Date Collected	Time Collected
1	2076-04	4/20/11	10:30 AM
2	2441-03	4/22/11	10:30 AM
3	2441-04	4/22/11	2:00 PM
4	2452-05	4/25/11	10:00 AM
5	2452-06	4/25/11	2:00 PM
6	2452-07	4/26/11	9:00 AM
7	2452-08	4/26/11	11:30 AM

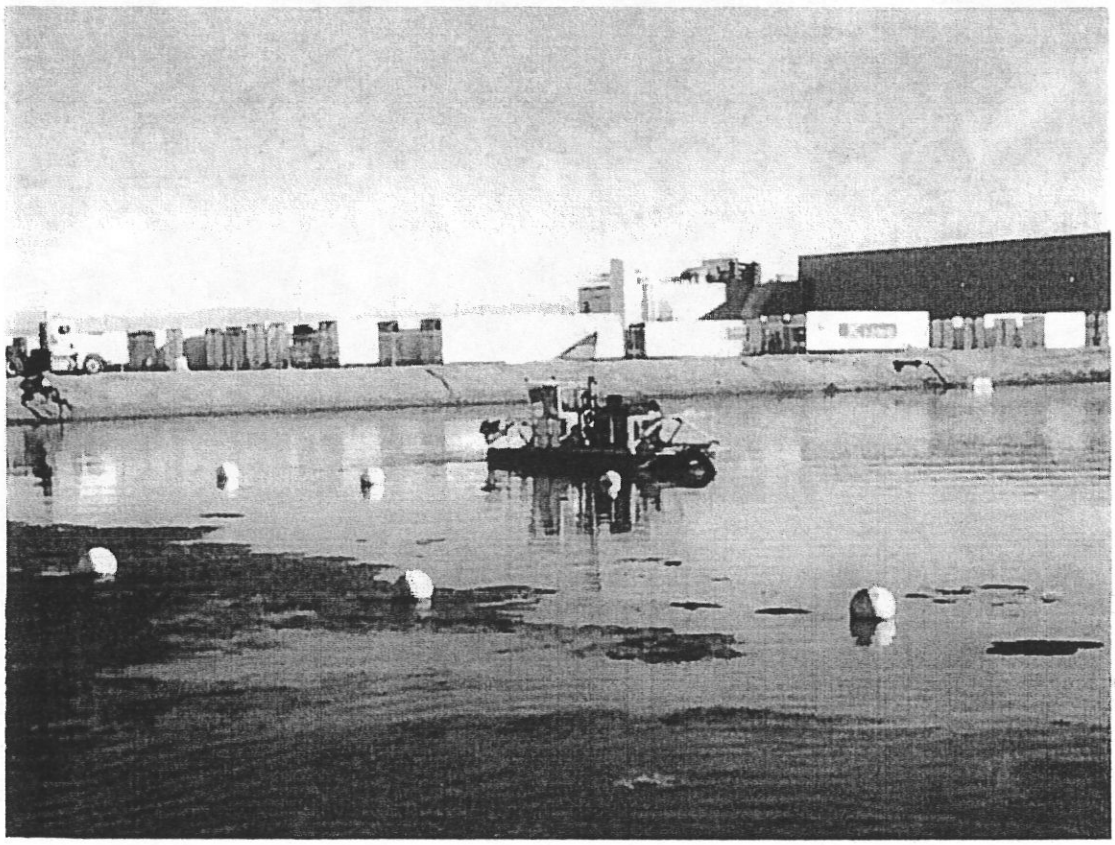


Photograph 1 – Dredge



Attachment 5

Photograph 2 – Dredge



Photograph 3 – Return Sump

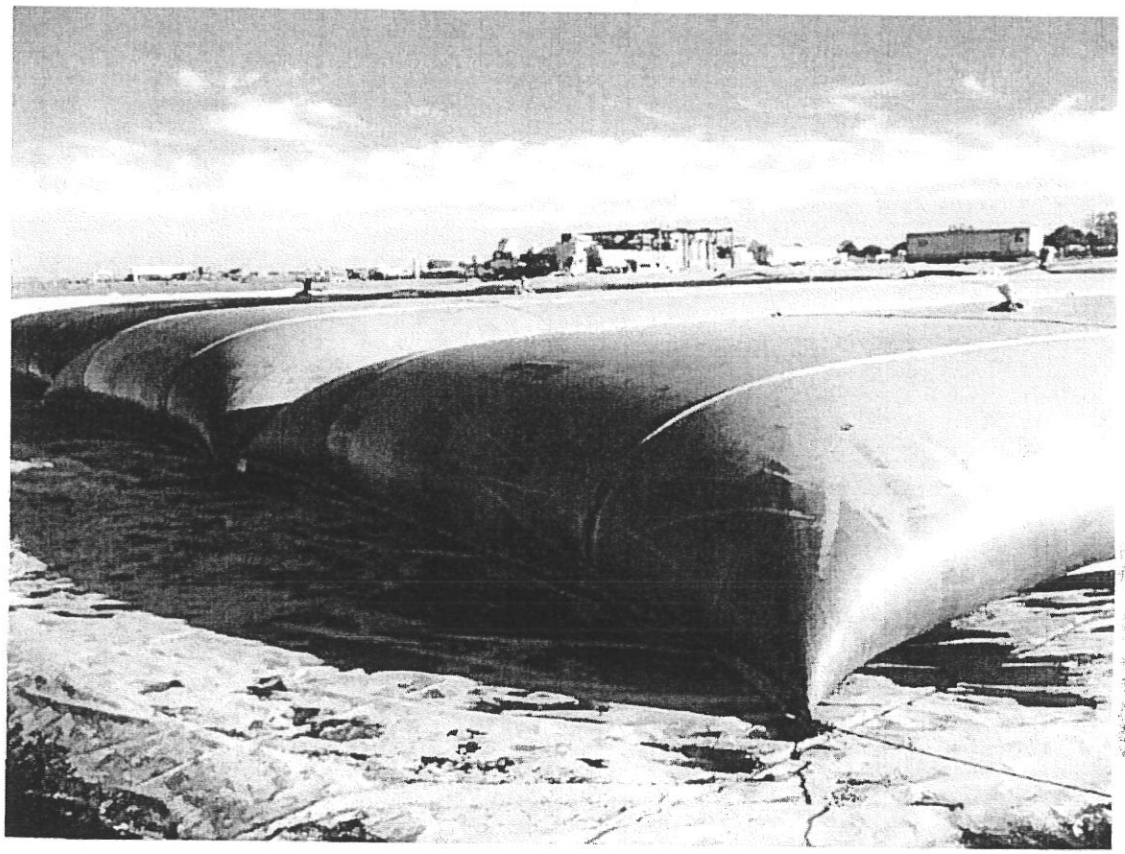
Photograph 4 – Bio-Tubes

Photograph 5 – Bio-Tubes

Photograph 6 – Bio-Tubes

Photograph 7 – Bio-Tubes

Photograph 8 – Bio-Tubes



APPENDIX A

NITROGEN AND PHOSPHORUS CONTENT
OF
NATIONAL BEEF BIOLOGICAL SLUDGES

NBC_ACLC_PT-001455

NBC_ACLC_PT-001456

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
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LABORATORY REPORT

Prepared For: Heron Industries
700 Sunrise Ave Suite H
Roseville, CA 95661
Attention: Heron Industries

Project: sludge
NBS 02

Sampled: 04/20/11-04/21/11
Received: 04/21/11
Issued: 05/02/11 17:03

NELAP #01108CA California ELAP#2706 CSDLAC #10256 AZ #AZ0671 NV #CA01531

The results listed within this Laboratory Report pertain only to the samples tested in the laboratory. The analyses contained in this report were performed in accordance with the applicable certifications as noted. All soil samples are reported on a wet weight basis unless otherwise noted in the report. This Laboratory Report is confidential and is intended for the sole use of TestAmerica and its client. This report shall not be reproduced, except in full, without written permission from TestAmerica. The Chain of Custody, 1 page, is included and is an integral part of this report.
This entire report was reviewed and approved for release.

SAMPLE CROSS REFERENCE

LABORATORY ID	CLIENT ID	MATRIX
IUD2076-01	A42011MF	Sludge
IUD2076-02	B42011MF	Water
IUD2076-03	A42011MS	Sludge
IUD2076-04	B42011MS	Sludge

Reviewed By:

Debby Wilson

TestAmerica Irvine

Debby Wilson
Project Manager

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Heron Industries
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Roseville, CA 95661
Attention: Heron Industries

Project ID: sludge
NBS 02
Report Number: IUD2076

Sampled: 04/20/11-04/21/11
Received: 04/21/11

METALS

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IUD2076-03 (A42011MS - Sludge)				**Sampled: 04/21/11**				
Reporting Units: mg/kg								
Mercury	EPA 7471A	11D3255	0.020	ND	1.02	4/26/2011	4/28/2011	
Cadmium	EPA 6010B	11D3442	0.50	ND	0.99	4/27/2011	4/28/2011	
Chromium	EPA 6010B	11D3442	0.99	**4.0**	0.99	4/27/2011	4/28/2011	
Lead	EPA 6010B	11D3442	2.0	ND	0.99	4/27/2011	4/28/2011	
Silver	EPA 6010B	11D3442	0.99	ND	0.99	4/27/2011	4/28/2011	
Zinc	EPA 6010B	11D3442	5.0	**87**	0.99	4/27/2011	4/28/2011	
Sample ID: IUD2076-04 (B42011MS - Sludge)				**Sampled: 04/21/11**				
Reporting Units: mg/kg								
Mercury	EPA 7471A	11D3255	0.020	ND	1.02	4/26/2011	4/28/2011	
Cadmium	EPA 6010B	11D3442	0.50	ND	0.995	4/27/2011	4/28/2011	
Chromium	EPA 6010B	11D3442	1.0	ND	0.995	4/27/2011	4/28/2011	
Lead	EPA 6010B	11D3442	2.0	ND	0.995	4/27/2011	4/28/2011	
Silver	EPA 6010B	11D3442	1.0	ND	0.995	4/27/2011	4/28/2011	
Zinc	EPA 6010B	11D3442	5.0	ND	0.995	4/27/2011	4/28/2011	

TestAmerica Irvine

Debby Wilson
Project Manager

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THE LEADER IN ENVIRONMENTAL TESTING

17461 Derian Avenue. Suite 100, Irvine, CA 92614 (949) 261-1022 Fax:(949) 260-3297

Heron Industries
700 Sunrise Ave Suite H
Roseville, CA 95661
Attention: Heron Industries

Project ID: sludge
NBS 02
Report Number: IUD2076

Sampled: 04/20/11-04/21/11
Received: 04/21/11

INORGANICS

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IUD2076-03 (A42011MS - Sludge)					**Sampled: 04/21/11**			
Reporting Units: mg/kg								
Total Suspended Solids	SM 2540D MOD.	11D3513	1000	**180000**	1	4/27/2011	4/27/2011	
Volatile Suspended Solids	EPA 160.4 MOD	11D3514	1000	**120000**	1	4/27/2011	4/27/2011	
Sample ID: IUD2076-04 (B42011MS - Sludge)					**Sampled: 04/21/11**			
Reporting Units: mg/l								
Total Suspended Solids	SM 2540D	11D3122	200	**6900**	1	4/25/2011	4/26/2011	
Volatile Suspended Solids	EPA 160.4	11D3123	200	**4700**	1	4/25/2011	4/25/2011	

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700 Sunrise Ave Suite H
Roseville, CA 95661
Attention: Heron Industries

Project ID: sludge
NBS 02
Report Number: IUD2076

Sampled: 04/20/11-04/21/11
Received: 04/21/11

COLIFORMS BY MULTIPLE TUBE FERMENTATION - MPN (SM9221/40 CFR 141.21(f)(6)(i))

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IUD2076-01 (A42011MF - Sludge)				**Sampled: 04/20/11**				**H3**
Reporting Units: MPN/g								
Fecal Coliform	SM9221 A,B,C,E	11D2756	200	**>=16000**	1	4/21/2011	4/23/2011	
Sample ID: IUD2076-02 (B42011MF - Water)				**Sampled: 04/20/11**				**H3**
Reporting Units: MPN/100 ml								
Fecal Coliform	SM9221 A,B,C,E	11D2757	20.0	**16000**	10	4/21/2011	4/24/2011	

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Attention: Heron Industries

Project ID: sludge
NBS 02
Report Number: IUD2076

Sampled: 04/20/11-04/21/11
Received: 04/21/11

SHORT HOLD TIME DETAIL REPORT

	Hold Time (in days)	Date/Time Sampled	Date/Time Received	Date/Time Extracted	Date/Time Analyzed
Sample ID: A42011MF (IUD2076-01) - Sludge					
SM9221 A,B,C,E	0	04/20/2011 11:30	04/21/2011 10:35	04/21/2011 12:26	04/23/2011 12:17
Sample ID: B42011MF (IUD2076-02) - Water					
SM9221 A,B,C,E	0	04/20/2011 11:30	04/21/2011 10:35	04/21/2011 12:06	04/24/2011 11:30

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Attention: Heron Industries

Project ID: sludge
NBS 02
Report Number: IUD2076

Sampled: 04/20/11-04/21/11
Received: 04/21/11

METHOD BLANK/QC DATA

METALS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 11D3255 Extracted: 04/26/11										
Blank Analyzed: 04/28/2011 (11D3255-BLK1)										
Mercury	ND	0.0020	mg/kg							
LCS Analyzed: 04/28/2011 (11D3255-BS1)										
Mercury	0.0827	0.0020	mg/kg	0.0800		103	80-120			
Matrix Spike Analyzed: 04/28/2011 (11D3255-MS1)					**Source: IUD2076-03**					
Mercury	0.749	0.020	mg/kg	0.800	ND	94	70-130			
Matrix Spike Dup Analyzed: 04/28/2011 (11D3255-MSD1)					**Source: IUD2076-03**					
Mercury	0.755	0.020	mg/kg	0.800	ND	94	70-130	0.8	20	
Batch: 11D3442 Extracted: 04/27/11										
Blank Analyzed: 04/28/2011 (11D3442-BLK1)										
Cadmium	ND	0.50	mg/kg							
Chromium	ND	1.0	mg/kg							
Lead	ND	2.0	mg/kg							
Silver	ND	1.0	mg/kg							
Zinc	ND	5.0	mg/kg							
LCS Analyzed: 04/28/2011 (11D3442-BS1)										
Cadmium	47.1	0.50	mg/kg	49.8		95	80-120			
Chromium	48.7	1.0	mg/kg	49.8		98	80-120			
Lead	47.5	2.0	mg/kg	49.8		96	80-120			
Silver	23.3	1.0	mg/kg	24.9		94	80-120			
Zinc	45.1	5.0	mg/kg	49.8		91	80-120			

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Heron Industries
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Roseville, CA 95661
Attention: Heron Industries

Project ID: sludge
NBS 02
Report Number: IUD2076

Sampled: 04/20/11-04/21/11
Received: 04/21/11

METHOD BLANK/QC DATA

METALS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 11D3442 Extracted: 04/27/11										
Matrix Spike Analyzed: 04/28/2011 (11D3442-MS1)					**Source: IUD2329-24**					
Cadmium	46.0	0.50	mg/kg	49.5	ND	93	75-125			
Chromium	66.5	0.99	mg/kg	49.5	15.7	103	75-125			
Lead	78.9	2.0	mg/kg	49.5	16.6	126	75-125			*MI*
Silver	22.6	0.99	mg/kg	24.8	ND	91	75-125			
Zinc	84.8	5.0	mg/kg	49.5	39.5	91	75-125			
Matrix Spike Dup Analyzed: 04/28/2011 (11D3442-MSD1)					**Source: IUD2329-24**					
Cadmium	46.4	0.49	mg/kg	49.3	ND	94	75-125	0.7	20	
Chromium	65.0	0.99	mg/kg	49.3	15.7	100	75-125	2	20	
Lead	74.2	2.0	mg/kg	49.3	16.6	117	75-125	6	20	
Silver	22.5	0.99	mg/kg	24.6	ND	91	75-125	0.4	20	
Zinc	83.4	4.9	mg/kg	49.3	39.5	89	75-125	2	20	

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Attention: Heron Industries

Project ID: sludge
NBS 02
Report Number: IUD2076

Sampled: 04/20/11-04/21/11
Received: 04/21/11

METHOD BLANK/QC DATA

INORGANICS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 11D3122 Extracted: 04/25/11										
Blank Analyzed: 04/26/2011 (11D3122-BLK1)										
Total Suspended Solids	ND	10	mg/l							
LCS Analyzed: 04/26/2011 (11D3122-BS1)										
Total Suspended Solids	989	10	mg/l	1000		99	85-115			
Duplicate Analyzed: 04/26/2011 (11D3122-DUP1)					**Source: IUD2321-01**					
Total Suspended Solids	6.00	10	mg/l		6.00			0	10	
Batch: 11D3123 Extracted: 04/25/11										
Blank Analyzed: 04/25/2011 (11D3123-BLK1)										
Volatile Suspended Solids	ND	10	mg/l							
Duplicate Analyzed: 04/25/2011 (11D3123-DUP1)					**Source: IUD2321-01**					
Volatile Suspended Solids	ND	10	mg/l		ND				20	
Batch: 11D3513 Extracted: 04/27/11										
Blank Analyzed: 04/27/2011 (11D3513-BLK1)										
Total Suspended Solids	ND	1000	mg/kg							
LCS Analyzed: 04/27/2011 (11D3513-BS1)										
Total Suspended Solids	1000	1000	mg/kg	1000		100	85-115			
Duplicate Analyzed: 04/27/2011 (11D3513-DUP1)					**Source: IUD2076-03**					
Total Suspended Solids	173000	1000	mg/kg		176000			2	10	

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Attention: Heron Industries

Project ID: sludge
NBS 02
Report Number: IUD2076

Sampled: 04/20/11-04/21/11
Received: 04/21/11

METHOD BLANK/QC DATA

INORGANICS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 11D3514 Extracted: 04/27/11										
Blank Analyzed: 04/27/2011 (11D3514-BLK1)										
Volatile Suspended Solids	ND	1000	mg/kg							
Duplicate Analyzed: 04/27/2011 (11D3514-DUP1)					**Source: IUD2076-03**					
Volatile Suspended Solids	126000	1000	mg/kg		125000			0.9	20	

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Project ID: sludge
NBS 02
Report Number: IUD2076

Sampled: 04/20/11-04/21/11
Received: 04/21/11

DATA QUALIFIERS AND DEFINITIONS

H3	Sample was received and analyzed past holding time.
M1	The MS and/or MSD were above the acceptance limits due to sample matrix interference. See Blank Spike (LCS).
ND	Analyte NOT DETECTED at or above the reporting limit or MDL, if MDL is specified.
RPD	Relative Percent Difference

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Roseville, CA 95661
Attention: Heron Industries

Project ID: sludge
NBS 02
Report Number: IUD2076

Sampled: 04/20/11-04/21/11
Received: 04/21/11

Certification Summary

TestAmerica Irvine

Method	Matrix	Nelac	California
EPA 160.4 MOD	Sludge	N/A	X
EPA 160.4	Sludge		
EPA 6010B	Sludge	X	X
EPA 7471A	Sludge	X	X
SM 2540D MOD.	Sludge		
SM 2540D	Sludge		
SM9221 A,B,C,E	Sludge		
SM9221 A,B,C,E	Water		

Nevada and NELAP provide analyte specific accreditations. Analyte specific information for TestAmerica may be obtained by contacting the laboratory or visiting our website at www.testamericainc.com

TestAmerica Irvine

Debby Wilson
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THE LEADER IN ENVIRONMENTAL TESTING

CHAIN OF CUSTODY FORM

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1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046
9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

EUD2076

TAL-0013(1007)

Client Name/Address: HERON ~~ENI~~ INNOVATORS

Project/PO Number: NBS Ø2

Project Manager: M. David Rickard

Phone Number: (909) 425-0480

Sampler: MR

Fax Number: (909) 425-9948

Analysis Required

Sample Description	Sample Matrix	Container Type	# of Cont.	Sampling Date	Sampling Time	Preservatives	Fecal Coliform	Total Suspended Solids	Volatile Suspended Solids	Heavy Metals						Special Instructions
A42011MF	W	SB	1	4/20	11:30		X									
B42011MF	W	LB	1	"	"		X									
A42011MS								X	X	X						
B42011MS								X	X	X						

NS
4/22/11
9:50

Relinquished By:	Date/Time:	Received By:	Date/Time:	Turnaround Time: (Check)
[signature]	4/21/11 10:35 ~~12:00~~			same day ____ 72 hours ____
Relinquished By:	Date/Time:	Received By:	Date/Time:	24 hours ____ 5 days ____
				48 hours ____ normal ____
Relinquished By:	Date/Time:	Received in Lab By: [signature]	Date/Time: 04/22/11 10:35	Sample Integrity: (Check) intact X on ice 11.4°C

Note: By relinquishing samples to TestAmerica, client agrees to pay for the services requested on this chain of custody form and any additional analyses performed on this project. Payment for services is due within 30 days from the date of invoice. Sample(s) will be disposed of after 30 days.

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LABORATORY REPORT

Prepared For: Heron Industries
700 Sunrise Ave Suite H
Roseville, CA 95661
Attention: Dave Rickard

Project: sludge
sludge

Sampled: 04/22/11
Received: 04/22/11
Issued: 05/03/11 16:55

NELAP #01108CA California ELAP#2706 CSDLAC #10256 AZ #AZ0671 NV #CA01531

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This entire report was reviewed and approved for release.

SAMPLE CROSS REFERENCE

LABORATORY ID	CLIENT ID	MATRIX
IUD2441-01	A42211MS	Sludge
IUD2441-02	A42211PS	Sludge
IUD2441-03	B42211MS	Sludge
IUD2441-04	B42211PS	Sludge
IUD2441-05	B42211MF	Water
IUD2441-06	B42211PF	Water

Reviewed By:

Heather Clark

TestAmerica Irvine

Heather Clark For Debby Wilson
Project Manager

NBC_ACLC_PT-001469

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Heron Industries
700 Sunrise Ave Suite H
Roseville, CA 95661
Attention: Dave Rickard

Project ID: sludge
sludge
Report Number: IUD2441

Sampled: 04/22/11
Received: 04/22/11

METALS

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IUD2441-01 (A42211MS - Sludge)								
Reporting Units: mg/kg								
Mercury	EPA 7471A	11D3861	0.020	ND	1	4/29/2011	5/2/2011	
Cadmium	EPA 6010B	11D3699	0.49	ND	0.985	4/28/2011	5/2/2011	
Chromium	EPA 6010B	11D3699	0.99	**5.1**	0.985	4/28/2011	5/2/2011	
Lead	EPA 6010B	11D3699	2.0	ND	0.985	4/28/2011	5/2/2011	
Zinc	EPA 6010B	11D3699	4.9	**83**	0.985	4/28/2011	5/2/2011	
Sample ID: IUD2441-02 (A42211PS - Sludge)								
Reporting Units: mg/kg								
Mercury	EPA 7471A	11D3861	0.020	ND	0.98	4/29/2011	5/2/2011	
Cadmium	EPA 6010B	11D3699	0.49	ND	0.98	4/28/2011	5/2/2011	
Chromium	EPA 6010B	11D3699	0.98	**4.8**	0.98	4/28/2011	5/2/2011	
Lead	EPA 6010B	11D3699	2.0	ND	0.98	4/28/2011	5/2/2011	
Zinc	EPA 6010B	11D3699	4.9	**82**	0.98	4/28/2011	5/2/2011	
Sample ID: IUD2441-03 (B42211MS - Sludge)								
Reporting Units: mg/kg								
Mercury	EPA 7471A	11D3861	0.020	ND	1.02	4/29/2011	5/2/2011	
Cadmium	EPA 6010B	11D3699	0.50	ND	0.995	4/28/2011	5/2/2011	
Chromium	EPA 6010B	11D3699	1.0	ND	0.995	4/28/2011	5/2/2011	
Lead	EPA 6010B	11D3699	2.0	ND	0.995	4/28/2011	5/2/2011	
Zinc	EPA 6010B	11D3699	5.0	**11**	0.995	4/28/2011	5/2/2011	
Sample ID: IUD2441-04 (B42211PS - Sludge)								
Reporting Units: mg/kg								
Mercury	EPA 7471A	11D3861	0.020	ND	0.98	4/29/2011	5/2/2011	
Cadmium	EPA 6010B	11D3699	0.50	ND	0.995	4/28/2011	5/2/2011	
Chromium	EPA 6010B	11D3699	1.0	ND	0.995	4/28/2011	5/2/2011	
Lead	EPA 6010B	11D3699	2.0	ND	0.995	4/28/2011	5/2/2011	
Zinc	EPA 6010B	11D3699	5.0	**16**	0.995	4/28/2011	5/2/2011	

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Heather Clark For Debby Wilson
Project Manager

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Roseville, CA 95661
Attention: Dave Rickard

Project ID: sludge
sludge
Report Number: IUD2441

Sampled: 04/22/11
Received: 04/22/11

INORGANICS

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IUD2441-01 (A42211MS - Sludge)								
Reporting Units: mg/kg								
Total Suspended Solids	SM 2540D MOD.	11D3513	1000	**200000**	1	4/27/2011	4/27/2011	
Volatile Suspended Solids	EPA 160.4 MOD	11D3514	1000	**150000**	1	4/27/2011	4/27/2011	
Sample ID: IUD2441-02 (A42211PS - Sludge)								
Reporting Units: mg/kg								
Total Suspended Solids	SM 2540D MOD.	11D3513	1000	**170000**	1	4/27/2011	4/27/2011	
Volatile Suspended Solids	EPA 160.4 MOD	11D3514	1000	**120000**	1	4/27/2011	4/27/2011	
Sample ID: IUD2441-03 (B42211MS - Sludge)								
Reporting Units: mg/l								
Total Suspended Solids	SM 2540D	11D3293	400	**16000**	1	4/26/2011	4/26/2011	
Volatile Suspended Solids	EPA 160.4	11D3316	400	**11000**	1	4/26/2011	4/26/2011	
Sample ID: IUD2441-04 (B42211PS - Sludge)								
Reporting Units: mg/l								
Total Suspended Solids	SM 2540D	11D3293	400	**19000**	1	4/26/2011	4/26/2011	
Volatile Suspended Solids	EPA 160.4	11D3316	400	**14000**	1	4/26/2011	4/26/2011	

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Attention: Dave Rickard

Project ID: sludge
sludge
Report Number: IUD2441

Sampled: 04/22/11
Received: 04/22/11

COLIFORMS BY MULTIPLE TUBE FERMENTATION - MPN (SM9221/40 CFR 141.21(f)(6)(i))

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IUD2441-01 (A42211MS - Sludge)								**H3**
Reporting Units: MPN/g								
Fecal Coliform	SM9221 A,B,C,E	11D3274	20000	**>=1600000**	100	4/22/2011	4/25/2011	
Sample ID: IUD2441-02 (A42211PS - Sludge)								
Reporting Units: MPN/g								
Fecal Coliform	SM9221 A,B,C,E	11D3274	20000	**900000**	100	4/22/2011	4/25/2011	
Sample ID: IUD2441-05 (B42211MF - Water)								**H3**
Reporting Units: MPN/100 ml								
Fecal Coliform	SM9221 A,B,C,E	11D3276	200	**>=160000**	100	4/22/2011	4/25/2011	
Sample ID: IUD2441-06 (B42211PF - Water)								
Reporting Units: MPN/100 ml								
Fecal Coliform	SM9221 A,B,C,E	11D3276	200	**160000**	100	4/22/2011	4/25/2011	

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Attention: Dave Rickard

Project ID: sludge
sludge
Report Number: IUD2441

Sampled: 04/22/11
Received: 04/22/11

SHORT HOLD TIME DETAIL REPORT

	Hold Time (in days)	Date/Time Sampled	Date/Time Received	Date/Time Extracted	Date/Time Analyzed
Sample ID: A42211MS (IUD2441-01) - Sludge					
SM9221 A,B,C,E	0	04/22/2011 10:30	04/22/2011 18:30	04/22/2011 19:55	04/25/2011 15:27
Sample ID: A42211PS (IUD2441-02) - Sludge					
SM9221 A,B,C,E	0	04/22/2011 14:00	04/22/2011 18:30	04/22/2011 19:55	04/25/2011 15:27
Sample ID: B42211MF (IUD2441-05) - Water					
SM9221 A,B,C,E	0	04/22/2011 10:30	04/22/2011 18:30	04/22/2011 19:40	04/25/2011 16:00
Sample ID: B42211PF (IUD2441-06) - Water					
SM9221 A,B,C,E	0	04/22/2011 14:00	04/22/2011 18:30	04/22/2011 19:40	04/25/2011 16:00

TestAmerica Irvine

Heather Clark For Debby Wilson
Project Manager

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THE LEADER IN ENVIRONMENTAL TESTING
17461 Derian Avenue. Suite 100, Irvine, CA 92614 (949) 261-1022 Fax:(949) 260-3297

Heron Industries
700 Sunrise Ave Suite H
Roseville, CA 95661
Attention: Dave Rickard

Project ID: sludge
sludge
Report Number: IUD2441

Sampled: 04/22/11
Received: 04/22/11

METHOD BLANK/QC DATA

METALS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 11D3699 Extracted: 04/28/11										
Blank Analyzed: 05/02/2011 (11D3699-BLK1)										
Cadmium	ND	0.50	mg/kg							
Chromium	ND	1.0	mg/kg							
Lead	ND	2.0	mg/kg							
Zinc	ND	5.0	mg/kg							
LCS Analyzed: 05/02/2011 (11D3699-BS1)										
Cadmium	47.1	0.50	mg/kg	49.8		95	80-120			
Chromium	50.5	1.0	mg/kg	49.8		102	80-120			
Lead	48.1	2.0	mg/kg	49.8		97	80-120			
Zinc	45.2	5.0	mg/kg	49.8		91	80-120			
Matrix Spike Analyzed: 05/02/2011 (11D3699-MS1)					**Source: IUD2346-01**					
Cadmium	46.1	1.0	mg/kg	49.8	ND	93	75-125			
Chromium	135	2.0	mg/kg	49.8	78.5	113	75-125			
Lead	67.3	4.0	mg/kg	49.8	21.2	93	75-125			
Zinc	119	10	mg/kg	49.8	71.7	95	75-125			
Matrix Spike Dup Analyzed: 05/02/2011 (11D3699-MSD1)					**Source: IUD2346-01**					
Cadmium	46.3	0.99	mg/kg	49.5	ND	93	75-125	0.4	20	
Chromium	132	2.0	mg/kg	49.5	78.5	108	75-125	2	20	
Lead	68.7	4.0	mg/kg	49.5	21.2	96	75-125	2	20	
Zinc	119	9.9	mg/kg	49.5	71.7	96	75-125	0.4	20	
Batch: 11D3861 Extracted: 04/29/11										
Blank Analyzed: 05/02/2011 (11D3861-BLK1)										
Mercury	ND	0.0020	mg/kg							

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Attention: Dave Rickard

Project ID: sludge
sludge
Report Number: IUD2441

Sampled: 04/22/11
Received: 04/22/11

METHOD BLANK/QC DATA

METALS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 11D3861 Extracted: 04/29/11										
LCS Analyzed: 05/02/2011 (11D3861-BS1)										
Mercury	0.0842	0.0020	mg/kg	0.0800		105	80-120			
Matrix Spike Analyzed: 05/02/2011 (11D3861-MS1)					**Source: IUD2441-01**					
Mercury	0.745	0.020	mg/kg	0.800	ND	93	70-130			
Matrix Spike Dup Analyzed: 05/02/2011 (11D3861-MSD1)					**Source: IUD2441-01**					
Mercury	0.748	0.020	mg/kg	0.800	ND	93	70-130	0.4	20	

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Attention: Dave Rickard

Project ID: sludge
sludge
Report Number: IUD2441

Sampled: 04/22/11
Received: 04/22/11

METHOD BLANK/QC DATA

INORGANICS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 11D3293 Extracted: 04/26/11										
Blank Analyzed: 04/26/2011 (11D3293-BLK1)										
Total Suspended Solids	ND	10	mg/l							
LCS Analyzed: 04/26/2011 (11D3293-BS1)										
Total Suspended Solids	992	10	mg/l	1000		99	85-115			
Duplicate Analyzed: 04/26/2011 (11D3293-DUP1)					**Source: IUD2343-01**					
Total Suspended Solids	32.0	10	mg/l		33.0			3	10	
Batch: 11D3316 Extracted: 04/26/11										
Blank Analyzed: 04/26/2011 (11D3316-BLK1)										
Volatile Suspended Solids	ND	10	mg/l							
Duplicate Analyzed: 04/26/2011 (11D3316-DUP1)					**Source: IUD2441-03**					
Volatile Suspended Solids	11100	400	mg/l		11200			0.4	20	
Batch: 11D3513 Extracted: 04/27/11										
Blank Analyzed: 04/27/2011 (11D3513-BLK1)										
Total Suspended Solids	ND	1000	mg/kg							
LCS Analyzed: 04/27/2011 (11D3513-BS1)										
Total Suspended Solids	1000	1000	mg/kg	1000		100	85-115			
Duplicate Analyzed: 04/27/2011 (11D3513-DUP1)					**Source: IUD2076-03**					
Total Suspended Solids	173000	1000	mg/kg		176000			2	10	

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Attention: Dave Rickard

Project ID: sludge
sludge
Report Number: IUD2441

Sampled: 04/22/11
Received: 04/22/11

METHOD BLANK/QC DATA

INORGANICS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 11D3514 Extracted: 04/27/11										
Blank Analyzed: 04/27/2011 (11D3514-BLK1)										
Volatile Suspended Solids	ND	1000	mg/kg							
Duplicate Analyzed: 04/27/2011 (11D3514-DUP1)					**Source: IUD2076-03**					
Volatile Suspended Solids	126000	1000	mg/kg		125000			0.9	20	

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17461 Derian Avenue. Suite 100, Irvine, CA 92614 (949) 261-1022 Fax:(949) 260-3297

Heron Industries 700 Sunrise Ave Suite H Roseville, CA 95661 Attention: Dave Rickard	Project ID: sludge sludge Report Number: IUD2441	Sampled: 04/22/11 Received: 04/22/11

DATA QUALIFIERS AND DEFINITIONS

H3	Sample was received and analyzed past holding time.
ND	Analyte NOT DETECTED at or above the reporting limit or MDL, if MDL is specified.
RPD	Relative Percent Difference

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Heron Industries
700 Sunrise Ave Suite H
Roseville, CA 95661
Attention: Dave Rickard

Project ID: sludge
sludge
Report Number: IUD2441

Sampled: 04/22/11
Received: 04/22/11

Certification Summary

TestAmerica Irvine

Method	Matrix	Nelac	California
EPA 160.4 MOD	Sludge	N/A	X
EPA 160.4	Sludge		
EPA 6010B	Sludge	X	X
EPA 7471A	Sludge	X	X
SM 2540D MOD.	Sludge		
SM 2540D	Sludge		
SM9221 A,B,C,E	Sludge		
SM9221 A,B,C,E	Water		

Nevada and NELAP provide analyte specific accreditations. Analyte specific information for TestAmerica may be obtained by contacting the laboratory or visiting our website at www.testamericainc.com

TestAmerica Irvine

Heather Clark For Debby Wilson
Project Manager

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THE LEADER IN ENVIRONMENTAL TESTING

CHAIN OF CUSTODY FORM

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1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046
9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

EUD2441

Page _____ of _____

TAL-0013(1007)

Client Name/Address: HERRON INNOVATORS

Project/PO Number:

Project Manager: M DAVID Rickard

Phone Number: (909) 425-0480

Sampler:

Fax Number: (909) 425-9948

Analysis Required

Sample Description	Sample Matrix	Container Type	# of Cont.	Sampling Date	Sampling Time	Preservatives	T.S.S.	V.S.S.	Fecal Coliform	Heavy Metals						Special Instructions
A42211MS	SL	G		4/22	10:30		✓	✓	✓	✓						
A42211PS	"	"		"	~~4/22~~ 1400		✓	✓	✓	✓						
B42211~~PS~~NMS				"	"	10:30 ~~1400~~	✓	✓		✓						
B42211~~M~~S					"	1400	✓	✓		✓						
B42211MF					"	10:3	—		✓							17:25 4/26/11 MP
B42211PF					"	1400			✓							

Relinquished By:	Date/Time:	Received By:	Date/Time:	Turnaround Time: (Check)
MP	18:30 4/22/11			same day _____ 72 hours _____
Relinquished By:	Date/Time:	Received By:	Date/Time:	24 hours _____ 5 days _____
				48 hours _____ normal _____
Relinquished By:	Date/Time:	Received in Lab By:	Date/Time: 04/22/11 1830	Sample Integrity: (Check) intact X on ice 7-4C

NBC_ACLC_RT-0014(0)

Note: By relinquishing samples to TestAmerica, client agrees to pay for the services requested on this chain of custody form and any additional analyses performed on this project. Payment for services is due within 30 days from the date of invoice. Sample(s) will be disposed of after 30 days.

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LABORATORY REPORT

Prepared For: Heron Industries
700 Sunrise Ave Suite H
Roseville, CA 95661
Attention: Dave Rickard

Project: sludge
No Bo

Sampled: 04/25/11-04/26/11
Received: 04/26/11
Issued: 05/05/11 17:00

NELAP #01108CA California ELAP#2706 CSDLAC #10256 AZ #AZ0671 NV #CA01531

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This entire report was reviewed and approved for release.

SAMPLE CROSS REFERENCE

LABORATORY ID	CLIENT ID	MATRIX
IUD2452-01	A42511M	Sludge
IUD2452-02	A42511P	Sludge
IUD2452-03	A42611M	Sludge
IUD2452-04	A42611P	Sludge
IUD2452-05	B42511M	Water
IUD2452-06	B42511P	Water
IUD2452-07	B42611M	Water
IUD2452-08	B42611P	Water

Reviewed By:

Debby Wilson

TestAmerica Irvine

Debby Wilson
Project Manager

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Heron Industries
700 Sunrise Ave Suite H
Roseville, CA 95661
Attention: Dave Rickard

Project ID: sludge
No Bo
Report Number: IUD2452

Sampled: 04/25/11-04/26/11
Received: 04/26/11

METALS

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IUD2452-01 (A42511M - Sludge)				**Sampled: 04/25/11**				
Reporting Units: mg/kg								
Mercury	EPA 7471A	11D3863	0.020	ND	1.02	4/29/2011	5/3/2011	
Cadmium	EPA 6010B	11E0115	0.49	ND	0.98	5/2/2011	5/2/2011	
Chromium	EPA 6010B	11E0115	0.98	**4.4**	0.98	5/2/2011	5/2/2011	
Lead	EPA 6010B	11E0115	2.0	ND	0.98	5/2/2011	5/2/2011	
Zinc	EPA 6010B	11E0115	4.9	**89**	0.98	5/2/2011	5/2/2011	
Sample ID: IUD2452-03 (A42611M - Sludge)				**Sampled: 04/25/11**				
Reporting Units: mg/kg								
Mercury	EPA 7471A	11D3863	0.020	ND	0.98	4/29/2011	5/3/2011	
Cadmium	EPA 6010B	11E0115	0.50	ND	0.995	5/2/2011	5/2/2011	
Chromium	EPA 6010B	11E0115	1.0	**3.8**	0.995	5/2/2011	5/2/2011	
Lead	EPA 6010B	11E0115	2.0	ND	0.995	5/2/2011	5/2/2011	
Zinc	EPA 6010B	11E0115	5.0	**83**	0.995	5/2/2011	5/2/2011	

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Project Manager

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Attention: Dave Rickard

Project ID: sludge
No Bo
Report Number: IUD2452

Sampled: 04/25/11-04/26/11
Received: 04/26/11

INORGANICS

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IUD2452-01 (A42511M - Sludge)					**Sampled: 04/25/11**			
Reporting Units: mg/kg								
Total Suspended Solids	SM 2540D MOD.	11D3513	1000	**180000**	1	4/27/2011	4/27/2011	
Volatile Suspended Solids	EPA 160.4 MOD	11D3514	1000	**130000**	1	4/27/2011	4/27/2011	
Sample ID: IUD2452-02 (A42511P - Sludge)					**Sampled: 04/25/11**			
Reporting Units: mg/kg								
Total Suspended Solids	SM 2540D MOD.	11D3513	1000	**180000**	1	4/27/2011	4/27/2011	
Volatile Suspended Solids	EPA 160.4 MOD	11D3514	1000	**130000**	1	4/27/2011	4/27/2011	
Sample ID: IUD2452-03 (A42611M - Sludge)					**Sampled: 04/25/11**			
Reporting Units: mg/kg								
Total Suspended Solids	SM 2540D MOD.	11D3513	1000	**190000**	1	4/27/2011	4/27/2011	
Volatile Suspended Solids	EPA 160.4 MOD	11D3514	1000	**140000**	1	4/27/2011	4/27/2011	
Sample ID: IUD2452-04 (A42611P - Sludge)					**Sampled: 04/25/11**			
Reporting Units: mg/kg								
Total Suspended Solids	SM 2540D MOD.	11D3513	1000	**210000**	1	4/27/2011	4/27/2011	
Volatile Suspended Solids	EPA 160.4 MOD	11D3514	1000	**160000**	1	4/27/2011	4/27/2011	
Sample ID: IUD2452-05 (B42511M - Water)					**Sampled: 04/26/11**			
Reporting Units: mg/l								
Total Suspended Solids	SM 2540D	11D3293	400	**17000**	1	4/26/2011	4/26/2011	
Volatile Suspended Solids	EPA 160.4	11D3316	400	**11000**	1	4/26/2011	4/26/2011	
Sample ID: IUD2452-06 (B42511P - Water)					**Sampled: 04/26/11**			
Reporting Units: mg/l								
Total Suspended Solids	SM 2540D	11D3293	400	**14000**	1	4/26/2011	4/26/2011	
Volatile Suspended Solids	EPA 160.4	11D3316	400	**9500**	1	4/26/2011	4/26/2011	
Sample ID: IUD2452-07 (B42611M - Water)					**Sampled: 04/26/11**			
Reporting Units: mg/l								
Total Suspended Solids	SM 2540D	11D3293	400	**15000**	1	4/26/2011	4/26/2011	
Volatile Suspended Solids	EPA 160.4	11D3316	400	**11000**	1	4/26/2011	4/26/2011	
Sample ID: IUD2452-08 (B42611P - Water)					**Sampled: 04/26/11**			
Reporting Units: mg/l								
Total Suspended Solids	SM 2540D	11D3293	400	**15000**	1	4/26/2011	4/26/2011	
Volatile Suspended Solids	EPA 160.4	11D3316	400	**9700**	1	4/26/2011	4/26/2011	

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Attention: Dave Rickard

Project ID: sludge
No Bo
Report Number: IUD2452

Sampled: 04/25/11-04/26/11
Received: 04/26/11

COLIFORMS BY MULTIPLE TUBE FERMENTATION - MPN (SM9221/40 CFR 141.21(f)(6)(i))

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IUD2452-01 (A42511M - Sludge)				**Sampled: 04/25/11**				**H3**
Reporting Units: MPN/g								
Fecal Coliform	SM9221 A,B,C,E	11D3323	200000	ND	1000	4/26/2011	4/29/2011	
Sample ID: IUD2452-02 (A42511P - Sludge)				**Sampled: 04/25/11**				**H3**
Reporting Units: MPN/g								
Fecal Coliform	SM9221 A,B,C,E	11D3323	200000	**1300000**	1000	4/26/2011	4/29/2011	
Sample ID: IUD2452-03 (A42611M - Sludge)				**Sampled: 04/25/11**				**H3**
Reporting Units: MPN/g								
Fecal Coliform	SM9221 A,B,C,E	11D3323	200000	**300000**	1000	4/26/2011	4/29/2011	
Sample ID: IUD2452-04 (A42611P - Sludge)				**Sampled: 04/25/11**				**H3**
Reporting Units: MPN/g								
Fecal Coliform	SM9221 A,B,C,E	11D3323	200000	**500000**	1000	4/26/2011	4/29/2011	
Sample ID: IUD2452-05 (B42511M - Water)				**Sampled: 04/26/11**				**H3**
Reporting Units: MPN/100 ml								
Fecal Coliform	SM9221 A,B,C,E	11D3322	200	**30000**	100	4/26/2011	4/29/2011	
Sample ID: IUD2452-06 (B42511P - Water)				**Sampled: 04/26/11**				**H3**
Reporting Units: MPN/100 ml								
Fecal Coliform	SM9221 A,B,C,E	11D3322	200	**14000**	100	4/26/2011	4/29/2011	
Sample ID: IUD2452-07 (B42611M - Water)				**Sampled: 04/26/11**				
Reporting Units: MPN/100 ml								
Fecal Coliform	SM9221 A,B,C,E	11D3322	200	**13000**	100	4/26/2011	4/29/2011	
Sample ID: IUD2452-08 (B42611P - Water)				**Sampled: 04/26/11**				
Reporting Units: MPN/100 ml								
Fecal Coliform	SM9221 A,B,C,E	11D3322	200	**24000**	100	4/26/2011	4/29/2011	

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Attention: Dave Rickard

Project ID: sludge
No Bo
Report Number: IUD2452

Sampled: 04/25/11-04/26/11
Received: 04/26/11

SHORT HOLD TIME DETAIL REPORT

	Hold Time (in days)	Date/Time Sampled	Date/Time Received	Date/Time Extracted	Date/Time Analyzed
Sample ID: A42511M (IUD2452-01) - Sludge					
SM9221 A,B,C,E	0	04/25/2011 10:30	04/26/2011 14:15	04/26/2011 15:56	04/29/2011 11:43
Sample ID: A42511P (IUD2452-02) - Sludge					
SM9221 A,B,C,E	0	04/25/2011 14:00	04/26/2011 14:15	04/26/2011 15:56	04/29/2011 11:43
Sample ID: A42611M (IUD2452-03) - Sludge					
SM9221 A,B,C,E	0	04/25/2011 10:30	04/26/2011 14:15	04/26/2011 15:56	04/29/2011 11:43
Sample ID: A42611P (IUD2452-04) - Sludge					
SM9221 A,B,C,E	0	04/25/2011 13:00	04/26/2011 14:15	04/26/2011 15:56	04/29/2011 11:43
Sample ID: B42511M (IUD2452-05) - Water					
SM9221 A,B,C,E	0	04/26/2011 09:00	04/26/2011 14:15	04/26/2011 15:23	04/29/2011 11:16
Sample ID: B42511P (IUD2452-06) - Water					
SM9221 A,B,C,E	0	04/26/2011 09:00	04/26/2011 14:15	04/26/2011 15:23	04/29/2011 11:16
Sample ID: B42611M (IUD2452-07) - Water					
SM9221 A,B,C,E	0	04/26/2011 11:00	04/26/2011 14:15	04/26/2011 15:23	04/29/2011 11:16
Sample ID: B42611P (IUD2452-08) - Water					
SM9221 A,B,C,E	0	04/26/2011 11:00	04/26/2011 14:15	04/26/2011 15:23	04/29/2011 11:16

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Attention: Dave Rickard

Project ID: sludge
No Bo
Report Number: IUD2452

Sampled: 04/25/11-04/26/11
Received: 04/26/11

METHOD BLANK/QC DATA

METALS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 11D3863 Extracted: 04/29/11										
Blank Analyzed: 05/03/2011 (11D3863-BLK1)										
Mercury	ND	0.0020	mg/kg							
LCS Analyzed: 05/03/2011 (11D3863-BS1)										
Mercury	0.0839	0.0020	mg/kg	0.0800		105	80-120			
Matrix Spike Analyzed: 05/03/2011 (11D3863-MS1)					**Source: IUD2452-01**					
Mercury	0.758	0.020	mg/kg	0.800	ND	95	70-130			
Matrix Spike Dup Analyzed: 05/03/2011 (11D3863-MSD1)					**Source: IUD2452-01**					
Mercury	0.760	0.020	mg/kg	0.800	ND	95	70-130	0.3	20	
Batch: 11E0115 Extracted: 05/02/11										
Blank Analyzed: 05/02/2011 (11E0115-BLK1)										
Cadmium	ND	0.50	mg/kg							
Chromium	ND	1.0	mg/kg							
Lead	ND	2.0	mg/kg							
Zinc	ND	5.0	mg/kg							
LCS Analyzed: 05/02/2011 (11E0115-BS1)										
Cadmium	43.5	0.50	mg/kg	49.5		88	80-120			
Chromium	45.9	0.99	mg/kg	49.5		93	80-120			
Lead	45.1	2.0	mg/kg	49.5		91	80-120			
Zinc	42.3	5.0	mg/kg	49.5		85	80-120			
Matrix Spike Analyzed: 05/02/2011 (11E0115-MS1)					**Source: IUD2205-07**					
Cadmium	46.6	0.49	mg/kg	49.0	ND	95	75-125			
Chromium	60.6	0.98	mg/kg	49.0	6.95	110	75-125			
Lead	60.3	2.0	mg/kg	49.0	11.9	99	75-125			
Zinc	74.2	4.9	mg/kg	49.0	22.7	105	75-125			

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Project Manager

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Heron Industries
700 Sunrise Ave Suite H
Roseville, CA 95661
Attention: Dave Rickard

Project ID: sludge
No Bo
Report Number: IUD2452

Sampled: 04/25/11-04/26/11
Received: 04/26/11

METHOD BLANK/QC DATA

METALS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 11E0115 Extracted: 05/02/11										
Matrix Spike Dup Analyzed: 05/02/2011 (11E0115-MSD1)					**Source: IUD2205-07**					
Cadmium	46.7	0.50	mg/kg	49.5	ND	94	75-125	0.1	20	
Chromium	61.1	0.99	mg/kg	49.5	6.95	109	75-125	0.8	20	
Lead	60.0	2.0	mg/kg	49.5	11.9	97	75-125	0.6	20	
Zinc	75.4	5.0	mg/kg	49.5	22.7	106	75-125	2	20	

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Project ID: sludge
No Bo
Report Number: IUD2452

Sampled: 04/25/11-04/26/11
Received: 04/26/11

METHOD BLANK/QC DATA

INORGANICS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 11D3293 Extracted: 04/26/11										
Blank Analyzed: 04/26/2011 (11D3293-BLK1)										
Total Suspended Solids	ND	10	mg/l							
LCS Analyzed: 04/26/2011 (11D3293-BS1)										
Total Suspended Solids	992	10	mg/l	1000		99	85-115			
Duplicate Analyzed: 04/26/2011 (11D3293-DUP1)					**Source: IUD2343-01**					
Total Suspended Solids	32.0	10	mg/l		33.0			3	10	
Batch: 11D3316 Extracted: 04/26/11										
Blank Analyzed: 04/26/2011 (11D3316-BLK1)										
Volatile Suspended Solids	ND	10	mg/l							
Duplicate Analyzed: 04/26/2011 (11D3316-DUP1)					**Source: IUD2441-03**					
Volatile Suspended Solids	11100	400	mg/l		11200			0.4	20	
Batch: 11D3513 Extracted: 04/27/11										
Blank Analyzed: 04/27/2011 (11D3513-BLK1)										
Total Suspended Solids	ND	1000	mg/kg							
LCS Analyzed: 04/27/2011 (11D3513-BS1)										
Total Suspended Solids	1000	1000	mg/kg	1000		100	85-115			
Duplicate Analyzed: 04/27/2011 (11D3513-DUP1)					**Source: IUD2076-03**					
Total Suspended Solids	173000	1000	mg/kg		176000			2	10	

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700 Sunrise Ave Suite H
Roseville, CA 95661
Attention: Dave Rickard

Project ID: sludge
No Bo
Report Number: IUD2452

Sampled: 04/25/11-04/26/11
Received: 04/26/11

METHOD BLANK/QC DATA

INORGANICS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 11D3514 Extracted: 04/27/11										
Blank Analyzed: 04/27/2011 (11D3514-BLK1)										
Volatile Suspended Solids	ND	1000	mg/kg							
Duplicate Analyzed: 04/27/2011 (11D3514-DUP1)					**Source: IUD2076-03**					
Volatile Suspended Solids	126000	1000	mg/kg		125000			0.9	20	

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Roseville, CA 95661
Attention: Dave Rickard

Project ID: sludge
No Bo
Report Number: IUD2452

Sampled: 04/25/11-04/26/11
Received: 04/26/11

DATA QUALIFIERS AND DEFINITIONS

H3	Sample was received and analyzed past holding time.
ND	Analyte NOT DETECTED at or above the reporting limit or MDL, if MDL is specified.
RPD	Relative Percent Difference

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Attention: Dave Rickard

Project ID: sludge
No Bo
Report Number: IUD2452

Sampled: 04/25/11-04/26/11
Received: 04/26/11

Certification Summary

TestAmerica Irvine

Method	Matrix	Nelac	California
EPA 160.4 MOD	Sludge	N/A	X
EPA 160.4	Water	N/A	X
EPA 6010B	Sludge	X	X
EPA 7471A	Sludge	X	X
SM 2540D MOD.	Sludge		
SM 2540D	Water	X	X
SM9221 A,B,C,E	Sludge		
SM9221 A,B,C,E	Water		

Nevada and NELAP provide analyte specific accreditations. Analyte specific information for TestAmerica may be obtained by contacting the laboratory or visiting our website at www.testamericainc.com

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CHAIN OF CUSTODY FORM

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1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046
9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

TAL-0013(1007)

I0102452

Page _____ of _____

Client Name/Address: Heron Innovators

Project/PO Number: No B

Project Manager: Mr David Rickard

Phone Number: (909) 425-0480

Sampler:

Fax Number:

Analysis Required

Sample Description	Sample Matrix	Container Type	# of Cont.	Sampling Date	Sampling Time	Preservatives	TSS	VSS	Fecal Coliform	Zn Cd Cr Hg Pb						Special Instructions
A 42511 M	SL		1	4/25	10:30		✓	✓	✓	✓						
A 42511 P				4/25	14:00		✓	✓	✓							
A 42611 M				4/25	10:30		✓	✓	✓	✓						
A 42611 P				4/25	13:00		✓	✓	✓							
B 42511 M				4/26	9:00		✓	✓	✓							
B 42511 P				4/26	9:00		✓	✓	✓							
B 42611 M				4/26	11:00		✓	✓	✓							
B 42611 P				4/26	11:00		✓	✓	✓							

17:00
4/26/11
MV

Relinquished By:	Date/Time:	Received By:	Date/Time:	Turnaround Time: (Check)
[signature]	4/26/11 14:15			same day ____ 72 hours ____
Relinquished By:	Date/Time:	Received By:	Date/Time:	24 hours ____ 5 days ____
				48 hours ____ normal ____
Relinquished By:	Date/Time:	Received in Lab By: [signature]	Date/Time: 04/26/11 1415	Sample Integrity: (Check) intact X on ice X 3.8°C

Note: By relinquishing samples to TestAmerica, client agrees to pay for the services requested on this chain of custody form and any additional analyses performed on this project. Payment for services is due within 30 days from the date of invoice. Sample(s) will be disposed of after 30 days.

~~KH 4-26-11~~
~~1630~~

NBC_ACCT-001482

National Beef

PROJECT SCHEDULE

DATE 7-25-2012 Updated 9-24-12

PROJECT Brawley WW Action Plan Schedule

Legend: Original / Updated

completed 2012

~~2013~~

Week Beginning Date

	Item	WK of 7/23	WK of 7/30	WK of 8/6	WK of 8/13	WK of 8/20	WK of 8/27	WK of 9/3	WK of 9/10	WK of 9/17	WK of 9/24	WK of 10/1	WK of 10/8	WK of 10/15	WK of 10/22	WK of 10/29	WK of 11/5	WK of 11/12	WK of 11/19	WK of 11/26	WK of 12/3	WK of 12/10	WK of 12/17	WK of 12/24	WK of 12/31
1.0	PLANT CONSERVATION																								
1.1	Daily Conservation Evaluation																								
1.2	Post Production Curtailment Procedures																								
1.3	Weekend Curtailment Procedures																								
1.4	Dedicated Resource on Brawley WasteWater Systems (Corp. Engrs.)																								
1.5	Friday Project/Planning Review Meeting																								
2.0	DAF																								
2.1	Westphalia #2 Grease Profile				Complete																				
2.2	ChemTreat Stick Water Testing				Complete																				
2.3	Monitoring in/out (COD, FOG, BOD)																								
2.4	Paunch/Grit in DAF																								
2.5	Grease Cap Monitoring (new Sludge Judge)																								
2.6	Install Additional Composite Sampler on DAF Effluent																								
3.0	Pond #1 - Anerobic																								
3.1	Pond 1 -2 Sampling (COD, FOG,BOD)																								
3.2	Pond 1 Outfall MH Design																								
3.3	Pond 1 Effluent Piping Modification (New Pipe on South Side w/Pump)								Anticipated Steady State >>>>>>>>>>																
3.4	Pond 1 DAF Installation (Remove Grease Prior to Pond 2)																								
3.5	Pond 1 Level Monitoring																								
3.6	BioGas Burn Control (Boiler/Flare Simultaneously)	Complete																							
3.7	Turret Sampling Installed in Composite Samplers																								
4.0	POND #2 - Aerobic																								
4.1	Recirculation Mixing/Air Injection	Complete																							
4.2	Bottom Air Injection Phase 1 (2 Diffusers)	Anticipated Steady State >>>>>>>>>>																							
4.3	Bottom Air Injection Phase 2 (2 Diffusers)																								
4.4	Chemical Aeration Test (NaNi injection)																								
4.5	Pond 2 Level Control																								
4.6	Continous Flow Management - RAS/WAS Pump Curve																								
4.7	Pond 2 Grease Cap Skimming (Track Hoe)																								
5.0	POND 3A & 3B																								
5.1	Level Sensor (Commission)																								
5.2	Back up Pump Piping Mods	Complete																							
6.0	POND 3C & POND 4																								
6.1	Split/Clean 3C (Configure for Polishing Pond)								Evaluation determined that Split is not in the design parameters...Dredging to be completed Initially																
6.1a	Plan/Evaluation/Design								Evaluation determined that Split is not in the design parameters...Dredging to be completed Initially																
6.1b	Installation								Evaluation determined that Split is not in the design parameters...Dredging to be completed Initially																
6.1c	Commission								Evaluation determined that Split is not in the design parameters...Dredging to be completed Initially																
6.1d	3C Dredge																								
6.2	Build Pond 4 (Pond & System Equipment) Feasibility																								
6.3	Plan/Evaluation/Design								Evaluation is in Progress																
6.4	Enlist Design/Engineering Firm																								
7.0	SAF																								
7.1	Sludge Pumps (2 pumps test for 4 weeks)																								
7.2	Dynamic Treatment Control (Poly Trace System, Sensor/Probes)																								
7.2a	Plan/Install																								
7.2b	Commission																								
7.3	Polymer Aging Upgrade																								
7.4	Retrofit or Upgrade																								
7.5	Jar Testing on Coagulant/Polymer (Short Term Emerg Response Plan)																								
7.6	Inline Monitoring																								
7.6a	TOC (COD), TSS, NH3, DO																								
8.0	CONTRACT WASTEWATER OVERSIGHT REVIEW																								
8.1	Develop Scope for continued Monitoring Processes																								
8.2	Data Review (Outside Consultant/Engineers)																								
8.3	Odor Control																								

NBC_ACLC_PT-001493

NBC_ACLC_PT-001494

Attachment 4

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

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LABORATORY REPORT

Prepared For: Heron Industries
700 Sunrise Ave Suite H
Roseville, CA 95661
Attention: Heron Industries

Project: sludge
NBS 02

Sampled: 04/20/11-04/21/11
Received: 04/21/11
Issued: 05/02/11 17:03

NELAP #01108CA California ELAP#2706 CSDLAC #10256 AZ #AZ0671 NV #CA01531

The results listed within this Laboratory Report pertain only to the samples tested in the laboratory. The analyses contained in this report were performed in accordance with the applicable certifications as noted. All soil samples are reported on a wet weight basis unless otherwise noted in the report. This Laboratory Report is confidential and is intended for the sole use of TestAmerica and its client. This report shall not be reproduced, except in full, without written permission from TestAmerica. The Chain of Custody, 1 page, is included and is an integral part of this report.

This entire report was reviewed and approved for release.

SAMPLE CROSS REFERENCE

LABORATORY ID	CLIENT ID	MATRIX
IUD2076-01	A42011MF	Sludge
IUD2076-02	B42011MF	Water
IUD2076-03	A42011MS	Sludge
IUD2076-04	B42011MS	Sludge

Reviewed By:

Debby Wilson

TestAmerica Irvine

Debby Wilson
Project Manager

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Heron Industries
700 Sunrise Ave Suite H
Roseville, CA 95661
Attention: Heron Industries

Project ID: sludge
NBS 02
Report Number: IUD2076

Sampled: 04/20/11-04/21/11
Received: 04/21/11

METALS

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IUD2076-03 (A42011MS - Sludge)				**Sampled: 04/21/11**				
Reporting Units: mg/kg								
Mercury	EPA 7471A	11D3255	0.020	ND	1.02	4/26/2011	4/28/2011	
Cadmium	EPA 6010B	11D3442	0.50	ND	0.99	4/27/2011	4/28/2011	
Chromium	EPA 6010B	11D3442	0.99	**4.0**	0.99	4/27/2011	4/28/2011	
Lead	EPA 6010B	11D3442	2.0	ND	0.99	4/27/2011	4/28/2011	
Silver	EPA 6010B	11D3442	0.99	ND	0.99	4/27/2011	4/28/2011	
Zinc	EPA 6010B	11D3442	5.0	**87**	0.99	4/27/2011	4/28/2011	
Sample ID: IUD2076-04 (B42011MS - Sludge)				**Sampled: 04/21/11**				
Reporting Units: mg/kg								
Mercury	EPA 7471A	11D3255	0.020	ND	1.02	4/26/2011	4/28/2011	
Cadmium	EPA 6010B	11D3442	0.50	ND	0.995	4/27/2011	4/28/2011	
Chromium	EPA 6010B	11D3442	1.0	ND	0.995	4/27/2011	4/28/2011	
Lead	EPA 6010B	11D3442	2.0	ND	0.995	4/27/2011	4/28/2011	
Silver	EPA 6010B	11D3442	1.0	ND	0.995	4/27/2011	4/28/2011	
Zinc	EPA 6010B	11D3442	5.0	ND	0.995	4/27/2011	4/28/2011	

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Attention: Heron Industries

Project ID: sludge
NBS 02
Report Number: IUD2076

Sampled: 04/20/11-04/21/11
Received: 04/21/11

INORGANICS

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IUD2076-03 (A42011MS - Sludge)					**Sampled: 04/21/11**			
Reporting Units: mg/kg								
Total Suspended Solids	SM 2540D MOD.	11D3513	1000	**180000**	1	4/27/2011	4/27/2011	
Volatile Suspended Solids	EPA 160.4 MOD	11D3514	1000	**120000**	1	4/27/2011	4/27/2011	
Sample ID: IUD2076-04 (B42011MS - Sludge)					**Sampled: 04/21/11**			
Reporting Units: mg/l								
Total Suspended Solids	SM 2540D	11D3122	200	**6900**	1	4/25/2011	4/26/2011	
Volatile Suspended Solids	EPA 160.4	11D3123	200	**4700**	1	4/25/2011	4/25/2011	

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NBS 02
Report Number: IUD2076

Sampled: 04/20/11-04/21/11
Received: 04/21/11

COLIFORMS BY MULTIPLE TUBE FERMENTATION - MPN (SM9221/40 CFR 141.21(f)(6)(i))

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IUD2076-01 (A42011MF - Sludge)					**Sampled: 04/20/11**			**H3**
Reporting Units: MPN/g								
Fecal Coliform	SM9221 A,B,C,E	11D2756	200	**>=16000**	1	4/21/2011	4/23/2011	
Sample ID: IUD2076-02 (B42011MF - Water)					**Sampled: 04/20/11**			**H3**
Reporting Units: MPN/100 ml								
Fecal Coliform	SM9221 A,B,C,E	11D2757	20.0	**16000**	10	4/21/2011	4/24/2011	

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Roseville, CA 95661
Attention: Heron Industries

Project ID: sludge
NBS 02
Report Number: IUD2076

Sampled: 04/20/11-04/21/11
Received: 04/21/11

SHORT HOLD TIME DETAIL REPORT

	Hold Time (in days)	Date/Time Sampled	Date/Time Received	Date/Time Extracted	Date/Time Analyzed
Sample ID: A42011MF (IUD2076-01) - Sludge					
SM9221 A,B,C,E	0	04/20/2011 11:30	04/21/2011 10:35	04/21/2011 12:26	04/23/2011 12:17
Sample ID: B42011MF (IUD2076-02) - Water					
SM9221 A,B,C,E	0	04/20/2011 11:30	04/21/2011 10:35	04/21/2011 12:06	04/24/2011 11:30

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Roseville, CA 95661
Attention: Heron Industries

Project ID: sludge
NBS 02
Report Number: IUD2076

Sampled: 04/20/11-04/21/11
Received: 04/21/11

METHOD BLANK/QC DATA

METALS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 11D3255 Extracted: 04/26/11										
Blank Analyzed: 04/28/2011 (11D3255-BLK1)										
Mercury	ND	0.0020	mg/kg							
LCS Analyzed: 04/28/2011 (11D3255-BS1)										
Mercury	0.0827	0.0020	mg/kg	0.0800		103	80-120			
Matrix Spike Analyzed: 04/28/2011 (11D3255-MS1)					**Source: IUD2076-03**					
Mercury	0.749	0.020	mg/kg	0.800	ND	94	70-130			
Matrix Spike Dup Analyzed: 04/28/2011 (11D3255-MSD1)					**Source: IUD2076-03**					
Mercury	0.755	0.020	mg/kg	0.800	ND	94	70-130	0.8	20	
Batch: 11D3442 Extracted: 04/27/11										
Blank Analyzed: 04/28/2011 (11D3442-BLK1)										
Cadmium	ND	0.50	mg/kg							
Chromium	ND	1.0	mg/kg							
Lead	ND	2.0	mg/kg							
Silver	ND	1.0	mg/kg							
Zinc	ND	5.0	mg/kg							
LCS Analyzed: 04/28/2011 (11D3442-BS1)										
Cadmium	47.1	0.50	mg/kg	49.8		95	80-120			
Chromium	48.7	1.0	mg/kg	49.8		98	80-120			
Lead	47.5	2.0	mg/kg	49.8		96	80-120			
Silver	23.3	1.0	mg/kg	24.9		94	80-120			
Zinc	45.1	5.0	mg/kg	49.8		91	80-120			

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Roseville, CA 95661
Attention: Heron Industries

Project ID: sludge
NBS 02
Report Number: IUD2076

Sampled: 04/20/11-04/21/11
Received: 04/21/11

METHOD BLANK/QC DATA

METALS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 11D3442 Extracted: 04/27/11										
Matrix Spike Analyzed: 04/28/2011 (11D3442-MS1)					**Source: IUD2329-24**					
Cadmium	46.0	0.50	mg/kg	49.5	ND	93	75-125			
Chromium	66.5	0.99	mg/kg	49.5	15.7	103	75-125			
Lead	78.9	2.0	mg/kg	49.5	16.6	126	75-125			*M1*
Silver	22.6	0.99	mg/kg	24.8	ND	91	75-125			
Zinc	84.8	5.0	mg/kg	49.5	39.5	91	75-125			
Matrix Spike Dup Analyzed: 04/28/2011 (11D3442-MSD1)					**Source: IUD2329-24**					
Cadmium	46.4	0.49	mg/kg	49.3	ND	94	75-125	0.7	20	
Chromium	65.0	0.99	mg/kg	49.3	15.7	100	75-125	2	20	
Lead	74.2	2.0	mg/kg	49.3	16.6	117	75-125	6	20	
Silver	22.5	0.99	mg/kg	24.6	ND	91	75-125	0.4	20	
Zinc	83.4	4.9	mg/kg	49.3	39.5	89	75-125	2	20	

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Project Manager

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Heron Industries
700 Sunrise Ave Suite H
Roseville, CA 95661
Attention: Heron Industries

Project ID: sludge
NBS 02
Report Number: IUD2076

Sampled: 04/20/11-04/21/11
Received: 04/21/11

METHOD BLANK/QC DATA

INORGANICS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 11D3122 Extracted: 04/25/11										
Blank Analyzed: 04/26/2011 (11D3122-BLK1)										
Total Suspended Solids	ND	10	mg/l							
LCS Analyzed: 04/26/2011 (11D3122-BS1)										
Total Suspended Solids	989	10	mg/l	1000		99	85-115			
Duplicate Analyzed: 04/26/2011 (11D3122-DUP1)					**Source: IUD2321-01**					
Total Suspended Solids	6.00	10	mg/l		6.00			0	10	
Batch: 11D3123 Extracted: 04/25/11										
Blank Analyzed: 04/25/2011 (11D3123-BLK1)										
Volatile Suspended Solids	ND	10	mg/l							
Duplicate Analyzed: 04/25/2011 (11D3123-DUP1)					**Source: IUD2321-01**					
Volatile Suspended Solids	ND	10	mg/l		ND				20	
Batch: 11D3513 Extracted: 04/27/11										
Blank Analyzed: 04/27/2011 (11D3513-BLK1)										
Total Suspended Solids	ND	1000	mg/kg							
LCS Analyzed: 04/27/2011 (11D3513-BS1)										
Total Suspended Solids	1000	1000	mg/kg	1000		100	85-115			
Duplicate Analyzed: 04/27/2011 (11D3513-DUP1)					**Source: IUD2076-03**					
Total Suspended Solids	173000	1000	mg/kg		176000			2	10	

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Attention: Heron Industries

Project ID: sludge
NBS 02
Report Number: IUD2076

Sampled: 04/20/11-04/21/11
Received: 04/21/11

METHOD BLANK/QC DATA

INORGANICS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 11D3514 Extracted: 04/27/11										
Blank Analyzed: 04/27/2011 (11D3514-BLK1)										
Volatile Suspended Solids	ND	1000	mg/kg							
Duplicate Analyzed: 04/27/2011 (11D3514-DUP1)					**Source: IUD2076-03**					
Volatile Suspended Solids	126000	1000	mg/kg		125000			0.9	20	

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Heron Industries 700 Sunrise Ave Suite H Roseville, CA 95661 Attention: Heron Industries	Project ID: sludge NBS 02 Report Number: IUD2076	Sampled: 04/20/11-04/21/11 Received: 04/21/11

DATA QUALIFIERS AND DEFINITIONS

H3	Sample was received and analyzed past holding time.
M1	The MS and/or MSD were above the acceptance limits due to sample matrix interference. See Blank Spike (LCS).
ND	Analyte NOT DETECTED at or above the reporting limit or MDL, if MDL is specified.
RPD	Relative Percent Difference

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Heron Industries
700 Sunrise Ave Suite H
Roseville, CA 95661
Attention: Heron Industries

Project ID: sludge
NBS 02
Report Number: IUD2076

Sampled: 04/20/11-04/21/11
Received: 04/21/11

Certification Summary

TestAmerica Irvine

Method	Matrix	Nelac	California
EPA 160.4 MOD	Sludge	N/A	X
EPA 160.4	Sludge		
EPA 6010B	Sludge	X	X
EPA 7471A	Sludge	X	X
SM 2540D MOD.	Sludge		
SM 2540D	Sludge		
SM9221 A,B,C,E	Sludge		
SM9221 A,B,C,E	Water		

Nevada and NELAP provide analyte specific accreditations. Analyte specific information for TestAmerica may be obtained by contacting the laboratory or visiting our website at www.testamericainc.com

TestAmerica Irvine

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CHAIN OF CUSTODY FORM

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1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046
9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

TAL-0013(1007)

IVD2076

Page 1 of 1

Client Name/Address: HERON ~~EH~~ INNOVATORS

Project/PO Number: NBS Ø2

Project Manager: M. David Rickard

Phone Number: (909) 425-0480

Sampler: MDR

Fax Number: (909) 425-9948

Analysis Required

Sample Description	Sample Matrix	Container Type	# of Cont.	Sampling Date	Sampling Time	Preservatives	Fecal Coliform	Total Suspended Solids	Volatile Suspended Solids	Heavy Metals						Special Instructions
A42011MF	W	SB	1	4/20	11:30		X									
B42011MF	W	LB	1	"	"		X									
A42011MS								X	X	X						
B42011MS								X	X	X						

MS 4/22/11 9:50

Relinquished By:	Date/Time:	Received By:	Date/Time:	Turnaround Time: (Check)
[signature]	4/21/11 10:35 ~~12:00~~			same day ____ 72 hours ____
Relinquished By:	Date/Time:	Received By:	Date/Time:	24 hours ____ 5 days ____
				48 hours ____ normal ____
Relinquished By:	Date/Time:	Received in Lab By: [signature]	Date/Time: 04/21/11 10:35	Sample Integrity: (Check) intact X on ice 11.4°C

NBS Ø2 PT-0506

Note: By relinquishing samples to TestAmerica, client agrees to pay for the services requested on this chain of custody form and any additional analyses performed on this project. Payment for services is due within 30 days from the date of invoice. Sample(s) will be disposed of after 30 days.

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LABORATORY REPORT

Prepared For: Heron Industries
700 Sunrise Ave Suite H
Roseville, CA 95661
Attention: Dave Rickard

Project: sludge
sludge

Sampled: 04/22/11
Received: 04/22/11
Issued: 05/03/11 16:55

NELAP #01108CA California ELAP#2706 CSDLAC #10256 AZ #AZ0671 NV #CA01531

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This entire report was reviewed and approved for release.

SAMPLE CROSS REFERENCE

LABORATORY ID	CLIENT ID	MATRIX
IUD2441-01	A42211MS	Sludge
IUD2441-02	A42211PS	Sludge
IUD2441-03	B42211MS	Sludge
IUD2441-04	B42211PS	Sludge
IUD2441-05	B42211MF	Water
IUD2441-06	B42211PF	Water

Reviewed By:

Heather Clark

TestAmerica Irvine

Heather Clark For Debby Wilson
Project Manager

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THE LEADER IN ENVIRONMENTAL TESTING
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Heron Industries
700 Sunrise Ave Suite H
Roseville, CA 95661
Attention: Dave Rickard

Project ID: sludge
sludge
Report Number: IUD2441

Sampled: 04/22/11
Received: 04/22/11

METALS

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IUD2441-01 (A42211MS - Sludge)								
Reporting Units: mg/kg								
Mercury	EPA 7471A	11D3861	0.020	ND	1	4/29/2011	5/2/2011	
Cadmium	EPA 6010B	11D3699	0.49	ND	0.985	4/28/2011	5/2/2011	
Chromium	EPA 6010B	11D3699	0.99	**5.1**	0.985	4/28/2011	5/2/2011	
Lead	EPA 6010B	11D3699	2.0	ND	0.985	4/28/2011	5/2/2011	
Zinc	EPA 6010B	11D3699	4.9	**83**	0.985	4/28/2011	5/2/2011	
Sample ID: IUD2441-02 (A42211PS - Sludge)								
Reporting Units: mg/kg								
Mercury	EPA 7471A	11D3861	0.020	ND	0.98	4/29/2011	5/2/2011	
Cadmium	EPA 6010B	11D3699	0.49	ND	0.98	4/28/2011	5/2/2011	
Chromium	EPA 6010B	11D3699	0.98	**4.8**	0.98	4/28/2011	5/2/2011	
Lead	EPA 6010B	11D3699	2.0	ND	0.98	4/28/2011	5/2/2011	
Zinc	EPA 6010B	11D3699	4.9	**82**	0.98	4/28/2011	5/2/2011	
Sample ID: IUD2441-03 (B42211MS - Sludge)								
Reporting Units: mg/kg								
Mercury	EPA 7471A	11D3861	0.020	ND	1.02	4/29/2011	5/2/2011	
Cadmium	EPA 6010B	11D3699	0.50	ND	0.995	4/28/2011	5/2/2011	
Chromium	EPA 6010B	11D3699	1.0	ND	0.995	4/28/2011	5/2/2011	
Lead	EPA 6010B	11D3699	2.0	ND	0.995	4/28/2011	5/2/2011	
Zinc	EPA 6010B	11D3699	5.0	**11**	0.995	4/28/2011	5/2/2011	
Sample ID: IUD2441-04 (B42211PS - Sludge)								
Reporting Units: mg/kg								
Mercury	EPA 7471A	11D3861	0.020	ND	0.98	4/29/2011	5/2/2011	
Cadmium	EPA 6010B	11D3699	0.50	ND	0.995	4/28/2011	5/2/2011	
Chromium	EPA 6010B	11D3699	1.0	ND	0.995	4/28/2011	5/2/2011	
Lead	EPA 6010B	11D3699	2.0	ND	0.995	4/28/2011	5/2/2011	
Zinc	EPA 6010B	11D3699	5.0	**16**	0.995	4/28/2011	5/2/2011	

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Heather Clark For Debby Wilson
Project Manager

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Heron Industries
700 Sunrise Ave Suite H
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Attention: Dave Rickard

Project ID: sludge
sludge
Report Number: IUD2441

Sampled: 04/22/11
Received: 04/22/11

INORGANICS

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IUD2441-01 (A42211MS - Sludge)								
Reporting Units: mg/kg								
Total Suspended Solids	SM 2540D MOD.	11D3513	1000	**200000**	1	4/27/2011	4/27/2011	
Volatile Suspended Solids	EPA 160.4 MOD	11D3514	1000	**150000**	1	4/27/2011	4/27/2011	
Sample ID: IUD2441-02 (A42211PS - Sludge)								
Reporting Units: mg/kg								
Total Suspended Solids	SM 2540D MOD.	11D3513	1000	**170000**	1	4/27/2011	4/27/2011	
Volatile Suspended Solids	EPA 160.4 MOD	11D3514	1000	**120000**	1	4/27/2011	4/27/2011	
Sample ID: IUD2441-03 (B42211MS - Sludge)								
Reporting Units: mg/l								
Total Suspended Solids	SM 2540D	11D3293	400	**16000**	1	4/26/2011	4/26/2011	
Volatile Suspended Solids	EPA 160.4	11D3316	400	**11000**	1	4/26/2011	4/26/2011	
Sample ID: IUD2441-04 (B42211PS - Sludge)								
Reporting Units: mg/l								
Total Suspended Solids	SM 2540D	11D3293	400	**19000**	1	4/26/2011	4/26/2011	
Volatile Suspended Solids	EPA 160.4	11D3316	400	**14000**	1	4/26/2011	4/26/2011	

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Attention: Dave Rickard

Project ID: sludge
sludge
Report Number: IUD2441

Sampled: 04/22/11
Received: 04/22/11

COLIFORMS BY MULTIPLE TUBE FERMENTATION - MPN (SM9221/40 CFR 141.21(f)(6)(i))

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IUD2441-01 (A42211MS - Sludge)								**H3**
Reporting Units: MPN/g								
Fecal Coliform	SM9221 A,B,C,E	11D3274	20000	**>=1600000**	100	4/22/2011	4/25/2011	
Sample ID: IUD2441-02 (A42211PS - Sludge)								
Reporting Units: MPN/g								
Fecal Coliform	SM9221 A,B,C,E	11D3274	20000	**900000**	100	4/22/2011	4/25/2011	
Sample ID: IUD2441-05 (B42211MF - Water)								**H3**
Reporting Units: MPN/100 ml								
Fecal Coliform	SM9221 A,B,C,E	11D3276	200	**>=160000**	100	4/22/2011	4/25/2011	
Sample ID: IUD2441-06 (B42211PF - Water)								
Reporting Units: MPN/100 ml								
Fecal Coliform	SM9221 A,B,C,E	11D3276	200	**160000**	100	4/22/2011	4/25/2011	

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Attention: Dave Rickard

Project ID: sludge
sludge
Report Number: IUD2441

Sampled: 04/22/11
Received: 04/22/11

SHORT HOLD TIME DETAIL REPORT

	Hold Time (in days)	Date/Time Sampled	Date/Time Received	Date/Time Extracted	Date/Time Analyzed
Sample ID: A42211MS (IUD2441-01) - Sludge					
SM9221 A,B,C,E	0	04/22/2011 10:30	04/22/2011 18:30	04/22/2011 19:55	04/25/2011 15:27
Sample ID: A42211PS (IUD2441-02) - Sludge					
SM9221 A,B,C,E	0	04/22/2011 14:00	04/22/2011 18:30	04/22/2011 19:55	04/25/2011 15:27
Sample ID: B42211MF (IUD2441-05) - Water					
SM9221 A,B,C,E	0	04/22/2011 10:30	04/22/2011 18:30	04/22/2011 19:40	04/25/2011 16:00
Sample ID: B42211PF (IUD2441-06) - Water					
SM9221 A,B,C,E	0	04/22/2011 14:00	04/22/2011 18:30	04/22/2011 19:40	04/25/2011 16:00

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Attention: Dave Rickard

Project ID: sludge
sludge
Report Number: IUD2441

Sampled: 04/22/11
Received: 04/22/11

METHOD BLANK/QC DATA

METALS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 11D3699 Extracted: 04/28/11										
Blank Analyzed: 05/02/2011 (11D3699-BLK1)										
Cadmium	ND	0.50	mg/kg							
Chromium	ND	1.0	mg/kg							
Lead	ND	2.0	mg/kg							
Zinc	ND	5.0	mg/kg							
LCS Analyzed: 05/02/2011 (11D3699-BS1)										
Cadmium	47.1	0.50	mg/kg	49.8		95	80-120			
Chromium	50.5	1.0	mg/kg	49.8		102	80-120			
Lead	48.1	2.0	mg/kg	49.8		97	80-120			
Zinc	45.2	5.0	mg/kg	49.8		91	80-120			
Matrix Spike Analyzed: 05/02/2011 (11D3699-MS1)					**Source: IUD2346-01**					
Cadmium	46.1	1.0	mg/kg	49.8	ND	93	75-125			
Chromium	135	2.0	mg/kg	49.8	78.5	113	75-125			
Lead	67.3	4.0	mg/kg	49.8	21.2	93	75-125			
Zinc	119	10	mg/kg	49.8	71.7	95	75-125			
Matrix Spike Dup Analyzed: 05/02/2011 (11D3699-MSD1)					**Source: IUD2346-01**					
Cadmium	46.3	0.99	mg/kg	49.5	ND	93	75-125	0.4	20	
Chromium	132	2.0	mg/kg	49.5	78.5	108	75-125	2	20	
Lead	68.7	4.0	mg/kg	49.5	21.2	96	75-125	2	20	
Zinc	119	9.9	mg/kg	49.5	71.7	96	75-125	0.4	20	
Batch: 11D3861 Extracted: 04/29/11										
Blank Analyzed: 05/02/2011 (11D3861-BLK1)										
Mercury	ND	0.0020	mg/kg							

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Attention: Dave Rickard

Project ID: sludge
sludge
Report Number: IUD2441

Sampled: 04/22/11
Received: 04/22/11

METHOD BLANK/QC DATA

METALS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 11D3861 Extracted: 04/29/11										
LCS Analyzed: 05/02/2011 (11D3861-BS1)										
Mercury	0.0842	0.0020	mg/kg	0.0800		105	80-120			
Matrix Spike Analyzed: 05/02/2011 (11D3861-MS1)					**Source: IUD2441-01**					
Mercury	0.745	0.020	mg/kg	0.800	ND	93	70-130			
Matrix Spike Dup Analyzed: 05/02/2011 (11D3861-MSD1)					**Source: IUD2441-01**					
Mercury	0.748	0.020	mg/kg	0.800	ND	93	70-130	0.4	20	

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Roseville, CA 95661
Attention: Dave Rickard

Project ID: sludge
sludge
Report Number: IUD2441

Sampled: 04/22/11
Received: 04/22/11

METHOD BLANK/QC DATA

INORGANICS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 11D3293 Extracted: 04/26/11										
Blank Analyzed: 04/26/2011 (11D3293-BLK1)										
Total Suspended Solids	ND	10	mg/l							
LCS Analyzed: 04/26/2011 (11D3293-BS1)										
Total Suspended Solids	992	10	mg/l	1000		99	85-115			
Duplicate Analyzed: 04/26/2011 (11D3293-DUP1)					**Source: IUD2343-01**					
Total Suspended Solids	32.0	10	mg/l		33.0			3	10	
Batch: 11D3316 Extracted: 04/26/11										
Blank Analyzed: 04/26/2011 (11D3316-BLK1)										
Volatile Suspended Solids	ND	10	mg/l							
Duplicate Analyzed: 04/26/2011 (11D3316-DUP1)					**Source: IUD2441-03**					
Volatile Suspended Solids	11100	400	mg/l		11200			0.4	20	
Batch: 11D3513 Extracted: 04/27/11										
Blank Analyzed: 04/27/2011 (11D3513-BLK1)										
Total Suspended Solids	ND	1000	mg/kg							
LCS Analyzed: 04/27/2011 (11D3513-BS1)										
Total Suspended Solids	1000	1000	mg/kg	1000		100	85-115			
Duplicate Analyzed: 04/27/2011 (11D3513-DUP1)					**Source: IUD2076-03**					
Total Suspended Solids	173000	1000	mg/kg		176000			2	10	

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TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
17461 Derian Avenue. Suite 100, Irvine, CA 92614 (949) 261-1022 Fax:(949) 260-3297

Heron Industries	Project ID: sludge		
700 Sunrise Ave Suite H	sludge	Sampled:	04/22/11
Roseville, CA 95661	Report Number: IUD2441	Received:	04/22/11
Attention: Dave Rickard			

METHOD BLANK/QC DATA

INORGANICS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 11D3514 Extracted: 04/27/11										
Blank Analyzed: 04/27/2011 (11D3514-BLK1)										
Volatile Suspended Solids	ND	1000	mg/kg							
Duplicate Analyzed: 04/27/2011 (11D3514-DUP1)					**Source: IUD2076-03**					
Volatile Suspended Solids	126000	1000	mg/kg		125000			0.9	20	

TestAmerica Irvine

Heather Clark For Debby Wilson
Project Manager

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Heron Industries 700 Sunrise Ave Suite H Roseville, CA 95661 Attention: Dave Rickard	Project ID: sludge sludge Report Number: IUD2441	Sampled: 04/22/11 Received: 04/22/11

DATA QUALIFIERS AND DEFINITIONS

H3	Sample was received and analyzed past holding time.
ND	Analyte NOT DETECTED at or above the reporting limit or MDL, if MDL is specified.
RPD	Relative Percent Difference

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Heron Industries
700 Sunrise Ave Suite H
Roseville, CA 95661
Attention: Dave Rickard

Project ID: sludge
sludge
Report Number: IUD2441

Sampled: 04/22/11
Received: 04/22/11

Certification Summary

TestAmerica Irvine

Method	Matrix	Nelac	California
EPA 160.4 MOD	Sludge	N/A	X
EPA 160.4	Sludge		
EPA 6010B	Sludge	X	X
EPA 7471A	Sludge	X	X
SM 2540D MOD.	Sludge		
SM 2540D	Sludge		
SM9221 A,B,C,E	Sludge		
SM9221 A,B,C,E	Water		

Nevada and NELAP provide analyte specific accreditations. Analyte specific information for TestAmerica may be obtained by contacting the laboratory or visiting our website at www.testamericainc.com

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THE LEADER IN ENVIRONMENTAL TESTING

CHAIN OF CUSTODY FORM

17461 Derian Ave., #100, Irvine, CA 92614 (949) 261-1022 FAX (949) 260-3297
1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046
9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

TAL-0013(1007)

EUD2441

Page _____ of _____

Client Name/Address: HERRON INNOVATORS

Project/PO Number:

Project Manager: M DAVID Rickard

Phone Number: 909) 425-0480

Sampler:

Fax Number: (909) 425-9948

Analysis Required

Sample Description	Sample Matrix	Container Type	# of Cont.	Sampling Date	Sampling Time	Preservatives	T.S.S.	V.S.S.	Fecal Coliform	Heavy Metals						Special Instructions
A42211MS	SL	G		4/22	10:30		✓	✓	✓	✓						
A42211PS	"	"		"	~~[illegible]~~ 1400		✓	✓	✓	✓						
B42211~~[illegible]~~MS				"	"	10:30 ~~1400~~	✓	✓		✓						
B42211~~[illegible]~~S					"	1400	✓	✓		✓						
B42211MF					"	10:3	✓		✓							17:35 4/26/11 M
B42211PF					"	1400			✓							

Relinquished By:	Date/Time:	Received By:	Date/Time:	Turnaround Time: (Check)
	18:30 4/22/11			same day _____ 72 hours _____
Relinquished By:	Date/Time:	Received By:	Date/Time:	24 hours _____ 5 days _____
				48 hours _____ normal _____
Relinquished By:	Date/Time:	Received in Lab By:	Date/Time:	Sample Integrity: (Check) 7.4C
			04/22/11 1830	intact ✓ on ice _____

NBC ACCEPT-001518

Note: By relinquishing samples to TestAmerica, client agrees to pay for the services requested on this chain of custody form and any additional analyses performed on this project. Payment for services is due within 30 days from the date of invoice. Sample(s) will be disposed of after 30 days.

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LABORATORY REPORT

Prepared For: Heron Industries
700 Sunrise Ave Suite H
Roseville, CA 95661
Attention: Dave Rickard

Project: sludge
No Bo

Sampled: 04/25/11-04/26/11
Received: 04/26/11
Issued: 05/05/11 17:00

NELAP #01108CA California ELAP#2706 CSDLAC #10256 AZ #AZ0671 NV #CA01531

The results listed within this Laboratory Report pertain only to the samples tested in the laboratory. The analyses contained in this report were performed in accordance with the applicable certifications as noted. All soil samples are reported on a wet weight basis unless otherwise noted in the report. This Laboratory Report is confidential and is intended for the sole use of TestAmerica and its client. This report shall not be reproduced, except in full, without written permission from TestAmerica. The Chain of Custody, 1 page, is included and is an integral part of this report.
This entire report was reviewed and approved for release.

SAMPLE CROSS REFERENCE

LABORATORY ID	CLIENT ID	MATRIX
IUD2452-01	A42511M	Sludge
IUD2452-02	A42511P	Sludge
IUD2452-03	A42611M	Sludge
IUD2452-04	A42611P	Sludge
IUD2452-05	B42511M	Water
IUD2452-06	B42511P	Water
IUD2452-07	B42611M	Water
IUD2452-08	B42611P	Water

Reviewed By:

Debby Wilson

TestAmerica Irvine

Debby Wilson
Project Manager

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Heron Industries
700 Sunrise Ave Suite H
Roseville, CA 95661
Attention: Dave Rickard

Project ID: sludge
No Bo
Report Number: IUD2452

Sampled: 04/25/11-04/26/11
Received: 04/26/11

METALS

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IUD2452-01 (A42511M - Sludge)				**Sampled: 04/25/11**				
Reporting Units: mg/kg								
Mercury	EPA 7471A	11D3863	0.020	ND	1.02	4/29/2011	5/3/2011	
Cadmium	EPA 6010B	11E0115	0.49	ND	0.98	5/2/2011	5/2/2011	
Chromium	EPA 6010B	11E0115	0.98	**4.4**	0.98	5/2/2011	5/2/2011	
Lead	EPA 6010B	11E0115	2.0	ND	0.98	5/2/2011	5/2/2011	
Zinc	EPA 6010B	11E0115	4.9	**89**	0.98	5/2/2011	5/2/2011	
Sample ID: IUD2452-03 (A42611M - Sludge)				**Sampled: 04/25/11**				
Reporting Units: mg/kg								
Mercury	EPA 7471A	11D3863	0.020	ND	0.98	4/29/2011	5/3/2011	
Cadmium	EPA 6010B	11E0115	0.50	ND	0.995	5/2/2011	5/2/2011	
Chromium	EPA 6010B	11E0115	1.0	**3.8**	0.995	5/2/2011	5/2/2011	
Lead	EPA 6010B	11E0115	2.0	ND	0.995	5/2/2011	5/2/2011	
Zinc	EPA 6010B	11E0115	5.0	**83**	0.995	5/2/2011	5/2/2011	

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Roseville, CA 95661
Attention: Dave Rickard

Project ID: sludge
No Bo
Report Number: IUD2452

Sampled: 04/25/11-04/26/11
Received: 04/26/11

INORGANICS

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IUD2452-01 (A42511M - Sludge)					**Sampled: 04/25/11**			
Reporting Units: mg/kg								
Total Suspended Solids	SM 2540D MOD.	11D3513	1000	**180000**	1	4/27/2011	4/27/2011	
Volatile Suspended Solids	EPA 160.4 MOD	11D3514	1000	**130000**	1	4/27/2011	4/27/2011	
Sample ID: IUD2452-02 (A42511P - Sludge)					**Sampled: 04/25/11**			
Reporting Units: mg/kg								
Total Suspended Solids	SM 2540D MOD.	11D3513	1000	**180000**	1	4/27/2011	4/27/2011	
Volatile Suspended Solids	EPA 160.4 MOD	11D3514	1000	**130000**	1	4/27/2011	4/27/2011	
Sample ID: IUD2452-03 (A42611M - Sludge)					**Sampled: 04/25/11**			
Reporting Units: mg/kg								
Total Suspended Solids	SM 2540D MOD.	11D3513	1000	**190000**	1	4/27/2011	4/27/2011	
Volatile Suspended Solids	EPA 160.4 MOD	11D3514	1000	**140000**	1	4/27/2011	4/27/2011	
Sample ID: IUD2452-04 (A42611P - Sludge)					**Sampled: 04/25/11**			
Reporting Units: mg/kg								
Total Suspended Solids	SM 2540D MOD.	11D3513	1000	**210000**	1	4/27/2011	4/27/2011	
Volatile Suspended Solids	EPA 160.4 MOD	11D3514	1000	**160000**	1	4/27/2011	4/27/2011	
Sample ID: IUD2452-05 (B42511M - Water)					**Sampled: 04/26/11**			
Reporting Units: mg/l								
Total Suspended Solids	SM 2540D	11D3293	400	**17000**	1	4/26/2011	4/26/2011	
Volatile Suspended Solids	EPA 160.4	11D3316	400	**11000**	1	4/26/2011	4/26/2011	
Sample ID: IUD2452-06 (B42511P - Water)					**Sampled: 04/26/11**			
Reporting Units: mg/l								
Total Suspended Solids	SM 2540D	11D3293	400	**14000**	1	4/26/2011	4/26/2011	
Volatile Suspended Solids	EPA 160.4	11D3316	400	**9500**	1	4/26/2011	4/26/2011	
Sample ID: IUD2452-07 (B42611M - Water)					**Sampled: 04/26/11**			
Reporting Units: mg/l								
Total Suspended Solids	SM 2540D	11D3293	400	**15000**	1	4/26/2011	4/26/2011	
Volatile Suspended Solids	EPA 160.4	11D3316	400	**11000**	1	4/26/2011	4/26/2011	
Sample ID: IUD2452-08 (B42611P - Water)					**Sampled: 04/26/11**			
Reporting Units: mg/l								
Total Suspended Solids	SM 2540D	11D3293	400	**15000**	1	4/26/2011	4/26/2011	
Volatile Suspended Solids	EPA 160.4	11D3316	400	**9700**	1	4/26/2011	4/26/2011	

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Attention: Dave Rickard

Project ID: sludge
No Bo
Report Number: IUD2452

Sampled: 04/25/11-04/26/11
Received: 04/26/11

COLIFORMS BY MULTIPLE TUBE FERMENTATION - MPN (SM9221/40 CFR 141.21(f)(6)(i))

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IUD2452-01 (A42511M - Sludge)					**Sampled: 04/25/11**			**H3**
Reporting Units: MPN/g								
Fecal Coliform	SM9221 A,B,C,E	11D3323	200000	ND	1000	4/26/2011	4/29/2011	
Sample ID: IUD2452-02 (A42511P - Sludge)					**Sampled: 04/25/11**			**H3**
Reporting Units: MPN/g								
Fecal Coliform	SM9221 A,B,C,E	11D3323	200000	**1300000**	1000	4/26/2011	4/29/2011	
Sample ID: IUD2452-03 (A42611M - Sludge)					**Sampled: 04/25/11**			**H3**
Reporting Units: MPN/g								
Fecal Coliform	SM9221 A,B,C,E	11D3323	200000	**300000**	1000	4/26/2011	4/29/2011	
Sample ID: IUD2452-04 (A42611P - Sludge)					**Sampled: 04/25/11**			**H3**
Reporting Units: MPN/g								
Fecal Coliform	SM9221 A,B,C,E	11D3323	200000	**500000**	1000	4/26/2011	4/29/2011	
Sample ID: IUD2452-05 (B42511M - Water)					**Sampled: 04/26/11**			**H3**
Reporting Units: MPN/100 ml								
Fecal Coliform	SM9221 A,B,C,E	11D3322	200	**30000**	100	4/26/2011	4/29/2011	
Sample ID: IUD2452-06 (B42511P - Water)					**Sampled: 04/26/11**			**H3**
Reporting Units: MPN/100 ml								
Fecal Coliform	SM9221 A,B,C,E	11D3322	200	**14000**	100	4/26/2011	4/29/2011	
Sample ID: IUD2452-07 (B42611M - Water)					**Sampled: 04/26/11**			
Reporting Units: MPN/100 ml								
Fecal Coliform	SM9221 A,B,C,E	11D3322	200	**13000**	100	4/26/2011	4/29/2011	
Sample ID: IUD2452-08 (B42611P - Water)					**Sampled: 04/26/11**			
Reporting Units: MPN/100 ml								
Fecal Coliform	SM9221 A,B,C,E	11D3322	200	**24000**	100	4/26/2011	4/29/2011	

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Heron Industries
700 Sunrise Ave Suite H
Roseville, CA 95661
Attention: Dave Rickard

Project ID: sludge
No Bo
Report Number: IUD2452

Sampled: 04/25/11-04/26/11
Received: 04/26/11

SHORT HOLD TIME DETAIL REPORT

	Hold Time (in days)	Date/Time Sampled	Date/Time Received	Date/Time Extracted	Date/Time Analyzed
Sample ID: A42511M (IUD2452-01) - Sludge					
SM9221 A,B,C,E	0	04/25/2011 10:30	04/26/2011 14:15	04/26/2011 15:56	04/29/2011 11:43
Sample ID: A42511P (IUD2452-02) - Sludge					
SM9221 A,B,C,E	0	04/25/2011 14:00	04/26/2011 14:15	04/26/2011 15:56	04/29/2011 11:43
Sample ID: A42611M (IUD2452-03) - Sludge					
SM9221 A,B,C,E	0	04/25/2011 10:30	04/26/2011 14:15	04/26/2011 15:56	04/29/2011 11:43
Sample ID: A42611P (IUD2452-04) - Sludge					
SM9221 A,B,C,E	0	04/25/2011 13:00	04/26/2011 14:15	04/26/2011 15:56	04/29/2011 11:43
Sample ID: B42511M (IUD2452-05) - Water					
SM9221 A,B,C,E	0	04/26/2011 09:00	04/26/2011 14:15	04/26/2011 15:23	04/29/2011 11:16
Sample ID: B42511P (IUD2452-06) - Water					
SM9221 A,B,C,E	0	04/26/2011 09:00	04/26/2011 14:15	04/26/2011 15:23	04/29/2011 11:16
Sample ID: B42611M (IUD2452-07) - Water					
SM9221 A,B,C,E	0	04/26/2011 11:00	04/26/2011 14:15	04/26/2011 15:23	04/29/2011 11:16
Sample ID: B42611P (IUD2452-08) - Water					
SM9221 A,B,C,E	0	04/26/2011 11:00	04/26/2011 14:15	04/26/2011 15:23	04/29/2011 11:16

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Received: 04/26/11

METHOD BLANK/QC DATA

METALS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 11D3863 Extracted: 04/29/11										
Blank Analyzed: 05/03/2011 (11D3863-BLK1)										
Mercury	ND	0.0020	mg/kg							
LCS Analyzed: 05/03/2011 (11D3863-BS1)										
Mercury	0.0839	0.0020	mg/kg	0.0800		105	80-120			
Matrix Spike Analyzed: 05/03/2011 (11D3863-MS1)					**Source: IUD2452-01**					
Mercury	0.758	0.020	mg/kg	0.800	ND	95	70-130			
Matrix Spike Dup Analyzed: 05/03/2011 (11D3863-MSD1)					**Source: IUD2452-01**					
Mercury	0.760	0.020	mg/kg	0.800	ND	95	70-130	0.3	20	
Batch: 11E0115 Extracted: 05/02/11										
Blank Analyzed: 05/02/2011 (11E0115-BLK1)										
Cadmium	ND	0.50	mg/kg							
Chromium	ND	1.0	mg/kg							
Lead	ND	2.0	mg/kg							
Zinc	ND	5.0	mg/kg							
LCS Analyzed: 05/02/2011 (11E0115-BS1)										
Cadmium	43.5	0.50	mg/kg	49.5		88	80-120			
Chromium	45.9	0.99	mg/kg	49.5		93	80-120			
Lead	45.1	2.0	mg/kg	49.5		91	80-120			
Zinc	42.3	5.0	mg/kg	49.5		85	80-120			
Matrix Spike Analyzed: 05/02/2011 (11E0115-MS1)					**Source: IUD2205-07**					
Cadmium	46.6	0.49	mg/kg	49.0	ND	95	75-125			
Chromium	60.6	0.98	mg/kg	49.0	6.95	110	75-125			
Lead	60.3	2.0	mg/kg	49.0	11.9	99	75-125			
Zinc	74.2	4.9	mg/kg	49.0	22.7	105	75-125			

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Received: 04/26/11

METHOD BLANK/QC DATA

METALS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 11E0115 Extracted: 05/02/11										
Matrix Spike Dup Analyzed: 05/02/2011 (11E0115-MSD1)					**Source: IUD2205-07**					
Cadmium	46.7	0.50	mg/kg	49.5	ND	94	75-125	0.1	20	
Chromium	61.1	0.99	mg/kg	49.5	6.95	109	75-125	0.8	20	
Lead	60.0	2.0	mg/kg	49.5	11.9	97	75-125	0.6	20	
Zinc	75.4	5.0	mg/kg	49.5	22.7	106	75-125	2	20	

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Received: 04/26/11

METHOD BLANK/QC DATA

INORGANICS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 11D3293 Extracted: 04/26/11										
Blank Analyzed: 04/26/2011 (11D3293-BLK1)										
Total Suspended Solids	ND	10	mg/l							
LCS Analyzed: 04/26/2011 (11D3293-BS1)										
Total Suspended Solids	992	10	mg/l	1000		99	85-115			
Duplicate Analyzed: 04/26/2011 (11D3293-DUP1)					**Source: IUD2343-01**					
Total Suspended Solids	32.0	10	mg/l		33.0			3	10	
Batch: 11D3316 Extracted: 04/26/11										
Blank Analyzed: 04/26/2011 (11D3316-BLK1)										
Volatile Suspended Solids	ND	10	mg/l							
Duplicate Analyzed: 04/26/2011 (11D3316-DUP1)					**Source: IUD2441-03**					
Volatile Suspended Solids	11100	400	mg/l		11200			0.4	20	
Batch: 11D3513 Extracted: 04/27/11										
Blank Analyzed: 04/27/2011 (11D3513-BLK1)										
Total Suspended Solids	ND	1000	mg/kg							
LCS Analyzed: 04/27/2011 (11D3513-BS1)										
Total Suspended Solids	1000	1000	mg/kg	1000		100	85-115			
Duplicate Analyzed: 04/27/2011 (11D3513-DUP1)					**Source: IUD2076-03**					
Total Suspended Solids	173000	1000	mg/kg		176000			2	10	

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Project ID: sludge
No Bo
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Sampled: 04/25/11-04/26/11
Received: 04/26/11

METHOD BLANK/QC DATA

INORGANICS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 11D3514 Extracted: 04/27/11										
Blank Analyzed: 04/27/2011 (11D3514-BLK1)										
Volatile Suspended Solids	ND	1000	mg/kg							
Duplicate Analyzed: 04/27/2011 (11D3514-DUP1)					**Source: IUD2076-03**					
Volatile Suspended Solids	126000	1000	mg/kg		125000			0.9	20	

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THE LEADER IN ENVIRONMENTAL TESTING
17461 Derian Avenue. Suite 100, Irvine, CA 92614 (949) 261-1022 Fax:(949) 260-3297

Heron Industries 700 Sunrise Ave Suite H Roseville, CA 95661 Attention: Dave Rickard	Project ID: sludge No Bo Report Number: IUD2452	Sampled: 04/25/11-04/26/11 Received: 04/26/11

DATA QUALIFIERS AND DEFINITIONS

H3	Sample was received and analyzed past holding time.
ND	Analyte NOT DETECTED at or above the reporting limit or MDL, if MDL is specified.
RPD	Relative Percent Difference

TestAmerica Irvine

Debby Wilson
Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from TestAmerica.

TestAmerica
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Heron Industries
700 Sunrise Ave Suite H
Roseville, CA 95661
Attention: Dave Rickard

Project ID: sludge
No Bo
Report Number: IUD2452

Sampled: 04/25/11-04/26/11
Received: 04/26/11

Certification Summary

TestAmerica Irvine

Method	Matrix	Nelac	California
EPA 160.4 MOD	Sludge	N/A	X
EPA 160.4	Water	N/A	X
EPA 6010B	Sludge	X	X
EPA 7471A	Sludge	X	X
SM 2540D MOD.	Sludge		
SM 2540D	Water	X	X
SM9221 A,B,C,E	Sludge		
SM9221 A,B,C,E	Water		

Nevada and NELAP provide analyte specific accreditations. Analyte specific information for TestAmerica may be obtained by contacting the laboratory or visiting our website at www.testamericainc.com

TestAmerica Irvine

Debby Wilson
Project Manager

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TestAmerica

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CHAIN OF CUSTODY FORM

17461 Derian Ave., #100, Irvine, CA 92614 (949) 261-1022 FAX (949) 260-3297
1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (909) 370-1046
9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

TAL-0013(1007)

I 0102452

Page _____ of _____

Client Name/Address: Heron Innovators

Project/PO Number: No B

Project Manager: Mr David Rickard

Phone Number: (909) 425-0480

Sampler:

Fax Number:

Analysis Required

Sample Description	Sample Matrix	Container Type	# of Cont.	Sampling Date	Sampling Time	Preservatives	TSS	VSS	Fecal Coliform	Zn Cd Cr Hg Pb					Special Instructions
A 4251 M	SL		1	4/25	10:30		✓	✓	✓	✓					
A 4251 P				4/25	14:00		✓	✓	✓						
A 4261 M				4/25	10:30		✓	✓	✓	✓					
A 4261 P				4/25	13:00		✓	✓	✓						
B 4 2511 M				4/26	9:00		✓	✓	✓						
B 4 2511 P				4/26	9:00		✓	✓	✓						
B 4261 M				4/26	11:00		✓	✓	✓						
B 4261 P				4/26	11:00		✓	✓	✓						

17:20
4/26/11
MV

Relinquished By:	Date/Time:	Received By:	Date/Time:	Turnaround Time: (Check)
[signature]	4/26/11 15			same day ____ 72 hours ____
Relinquished By:	Date/Time:	Received By:	Date/Time:	24 hours ____ 5 days ____
				48 hours ____ normal ____
Relinquished By:	Date/Time:	Received in Lab By: [signature]	Date/Time: 04/26/11 1415	Sample Integrity: (Check) intact X on ice X 3.8°C

NBC ACCEPT-001530

Note: By relinquishing samples to TestAmerica, client agrees to pay for the services requested on this chain of custody form and any additional analyses performed on this project. Payment for services is due within 30 days from the date of invoice. Sample(s) will be disposed of after 30 days.

~~4-26-11~~
~~1630~~