EPA REGION 6
SURVEILLANCE SECTION
RCRA INSPECTION REPORT

Report Date:	January 23, 2012	
Inspection Date:	Nov 1st, 2011 through Nov 4th, 2011	
Type of Inspection:	CEI	
Company Name:	Clean Harbors El Dorado	
Mailing Address:	309 American Circle, El Dorado, Arkansas 71730	
Company Owner:	Clean Harbors El Dorado, LLC	
Location:	309 American Circle, El Dorado, AR 71730	
Type of Industry – NAICS/SIC	Hazardous Waste Treatment and Disposal NAICS: 562211 / SIC 4953	
Identification Number:	ARD069748192	
ADEQ Permit Number:	10H-RN1	
Date Put Into ICIS	November 28, 2011	
Enforcement Officer		Signature Date
EPA Inspector:	Roxanne King	Signature Date
Reviewed by:	Guy Tidmore	Signature Date

Table of Contents

EXECUTIVE SUMMARY 3

INTRODUCTION 4

BACKGROUND 4

RECORDS REVIEW – EPA RCRA INSPECTION (2009) 5

ONSITE 6

CORRECTIONS 6
WASTE RECEIVING 7
FEED SCHEDULING AND WASTE STORAGE 7
INCINERATION 8
LABORATORY 9
RESIDUE MANAGEMENT BUILDING 9
HAZARDOUS WASTE TANK FARM 10
WASTE WATER TREATMENT PLANT 11
ON-SITE GENERATED WASTES 11
TRAINING 11
RECORDS AND PLAN REVIEW 11
RECLAMATION, RE-USE AND RECYCLING 12
BRINE UNIT 13
SALE OF SCRUBBER LIQUIDS 13

AREAS OF CONCERN 14

APPENDICES 14

EXECUTIVE SUMMARY

In November 2011, I, Roxanne King conducted a follow-up Resource Conservation and Recovery Act (RCRA) inspection at Clean Harbors in El Dorado (CHEL), Arkansas. Mr. David Robertson of US EPA Region VI conducted a RCRA inspection in 2009 where he noted multiple concerns with facility standards and operations concerning a unit referred to as the "Brine Unit" (Appendix 1).

Two separate major concerns exist with current operations at CHEL. The first is the operation of the Brine Unit under a recycling exemption. This unit does not conduct a recycling activity in accordance with RCRA defined recycling or re-use activities that qualify for exemptions. CHEL scrubber water is sludge by definition and therefore a solid waste because the commercial use of the liquid is considered "use constituting disposal." Further, the waste has to be manipulated through a series of processes, meeting the definition of reclamation, prior to storage of the final liquid for sale. A detailed analysis of reclamation, re-use and recycling are discussed in detail in this report.

The second major concern is the sale of reclaimed sludge liquids as Brine to the oil and gas (O&G) industry for use in exploration activities. The liquid component produced from the incineration scrubber activities is defined as hazardous waste sludge in addition to classification based on the "contained in policy" and "derived from rules[1]". Use or re-use as a commercial substitute applies in situations without reclamation activities and brine (Calcium Chloride) is not a chemical listed in 261.33. Therefore "*ordinary manner of use,*" placement on the land, does not apply (§261.2(c)(1)(ii)). Further, review of scientific data shows that this waste stream commonly contains hazardous waste constituents from the incineration process[2].

An auxiliary concern is the sale of this waste specifically for use in O&G exploration. While the Brine unit could potentially be upgraded to a RCRA unit, it does not address the final disposition of the liquid wastes. RCRA regulations are clear in relation to land disposal restrictions: wastes shall not be placed in or on the land or used to produce products placed in or on the land as part of any disposal, recycling or re-use activity. The sale of this waste for exploration activities is clearly "use constituting disposal" in accordance with RCRA regulations.

The operation of the Brine Unit as a recycling unit and subsequent sale of liquid wastes has occurred for approximately fifteen years. CHEL has had the option to pursue delisting of this waste, as other companies have successfully accomplished, but have not yet elected this option. CHEL has stipulated that their scrubber water, when processed, does not contain hazardous constituents not found in commercially purchased brine. The delisting process is available and intended to review this distinction through scientific data analysis and is critical to allow for public comment and input from the scientific and industrial community. However, review of the Federal Register for delisted scrubber waters from other incineration facilities were authorized with the intent of treatment through waste water plants meeting clean water act standards prior to discharge; not for sale as a product.

[1] RCRA Online Document 11845
[2] A Comparison of Gasification and Incineration of Hazardous Wastes, U.S. Department of Energy, 2000

INTRODUCTION

On November 1st, 2011, I, Roxanne King met with Ms. Kathleen Shoemaker and Ms. Kelly Smith of Clean Harbors EL Dorado (CHEL) to conduct an opening conference. I presented my credentials to Ms. Shoemaker, and I explained that I was conducting a Resource Conservation and Recovery Act (RCRA) inspection. CHEL has an inspector from Arkansas Department of Environmental Quality (ADEQ) at their facility full time; however this person was unavailable during this inspection. The inspection was completed on November 4th, 2011 and a closing conference was held at 2:30pm with participants by phone (Appendix 2).

Table 1 provides a list of personnel that were primary participants in the inspection and closing conference.

Table 1 – Primary Inspection Participants

Name	Title	Telephone	Email
Roxanne King	EPA Enforcement Officer	214.665.7595	king.roxanne@epa.gov
Kathy Shoemaker	Clean Harbors Senior Compliance Manager	870.864.3711	shoemaker.kathleen@cleanharbors.com
Kelly Smith	Compliance Specialist	870.864.2282	smith.kelly1@cleanharbors.com
Cherie Wedgeworth	Compliance Administrative Assistant	870.864.2275	wedgeworth.amber@cleanharbors.com
Ron Hines	General Manager	870.864.2217	hines.ronald@cleanharbors.com
Dan Roblee	Facility Operations Manager	870.864.3692	roblee.daniel@cleanharbors.com
Steve Tollette	Facility Operations Manager II	870.864.3797	tollette.steve@cleanharbors.com
Treasa A. Evans	Facility Marketing Manager	870.864.3680	evans.treasa@cleanharbors.com
Russ Hargiss	Health & Safety Manager	870.864.3780	Hargiss.russell@cleanharbors.com
Don Matter*	Senior V.P. Incineration	281.930.2300	matter.donald@cleanharbors.com
Scott Kuhn*	V.P. Environmental Compliance - Incineration	802.631.3426	kuhn.john@cleanharbors.com

Attending Closing Conference by Phone

BACKGROUND

The Following information was obtained from the company Facility Audit Package (Appendix 3):

The CHEL facility is fully permitted to manage a wide variety of regulated materials including RCRA hazardous waste and non-regulated waste materials. This facility primarily handles containerized wastes for incineration.

Permits

- EPA ID No. ARD069748192
- RCRA Part B Permit No. 10H-M018
- NPDES Permit No. AR0037800
- ADEQ Operating Air Permit No. 1009-AOP-R1

Facility Description & General Information
Start-up Date: 1974
Facility Size: 370 total acres (50 Active)

Services Provided:

- Incineration of all types of wastes (solids, liquids, sludge and gas), drums, tankers and rail
- Storage prior to Incineration
- Management of a wide variety of cylinders, large C-Class
- Alternative and comparable fuels for reuse at waste fired boiler

Typical Customers: chemical facilities, pharmaceutical companies, manufacturers, R&D facilities, colleges and universities, government research facilities, state and municipal agencies, medical facilities.

Typical Waste Streams: contaminated process wastewaters, oils, spent flammable solvents, organic and inorganic laboratory chemicals, paint residues, debris from toxic or reactive chemical cleanups, off-spec commercial products, cylinders and labpacks.

Treatment, Storage and Disposal Capabilities

- RCRA Solids Containerized Storage Capacity: 1,390,400 gallons (25,200 55-gallon drums)
- RCRA Liquid Tank Storage Capacity: 1,197,542 gallons
- Total Incineration Capacity: 54,320 lbs./hour
    - 54,320 lbs./hour for the Secondary Combustion Chamber (SCC) and its associated equipment (kilns)
    - 3.980 lbs./hour for the Resource Recovery Boiler

Records Review – EPA RCRA Inspection (2009)

A RCRA inspection was conducted by Mr. David Robertson in May 18 – 21, 2009 and June 24 – 26, 2009. A majority of the staff at CHEL for this inspection were also participants in the 2009 inspection. I reviewed this report, in Appendix 1, and prepared an inspection plan according to the areas of concern noted by Mr. Robertson. Several sections of his report should be reviewed for consideration of environmental impact and regulatory applicability. Specifically, information on the contamination of groundwater related to former Brine storage and its current commercial use.

The Residue Management building was not operated in a manner to contain hazardous wastes (HW) as required and these issues were noted on both visits. HW tanks were found to be out of BB and CC air compliance regulations including a lack of carbon canister change out meeting the breakthrough time calculation requirements. Mr. Robertson found multiple non-RCRA exempt valves without secondary containment, tanks with unfilled P-traps and other open ended line issues creating significant fugitive emissions at CHEL.

ONSITE

I met with facility environmental staff and discussed initial questions compiled prior to entry. I asked Ms. Shoemaker if CHELs position on The Brine Unit operation remained the same as stated in the previous inspection. The position of CHEL is that the Brine Unit is a recycling unit and that the liquids sold are a commercial chemical substitute. Ms. Shoemaker stated that she had to speak with her management at Headquarters Clean Harbors for the official position. After speaking with Mr. Scott Kuhn, the Clean Harbors Vice President of Environmental Compliance, she stated that their official position remained the same. Review of Appendix 3, a Facility Audit Package presented to potential clients, further confirms this position.

A full site tour was conducted, to include interviews with staff members at each location in regards to individual operations. CHEL handles a significant number and variety of listed and characteristic hazardous wastes except medical wastes. This Clean Harbors location specializes in highly hazardous wastes requiring the use of level B sampling and re-packaging activities. Separate facilities and air systems are incorporated to allow for routine operations without interruption. Employees who handle these wastes receive extra training and utilize the required personal protective equipment (PPE). During the inspection several employees were observed in protective equipment conducting sampling activities, no concerns were noted.

Corrections

A number of changes were made at CHEL following the previous inspection conducted by Mr. David Robertson. The following is a list of changes made by CHEL after the previous inspection to improve their facility operations.

- Non-RCRA exempt values without secondary containment have been replaced with RCRA exempt values.
- P-Traps creating fugitive emissions have been removed from most tanks
- The Residue Building has had major repairs to patch holes and fix the doors. CHEL stated that a procedure for tire cleaning and floor sweeping was also instituted to reduce the potential for “drag out” (Photos 30, 32).
- Grinders noted in the previous inspection have been removed (Photo 14).
- Warehouse activities have been improved and a level B sampling facility has been added.
- All piping and valves have been clearly marked for air compliance monitoring (Photo 15).
- Specially constructed secondary containment pans are utilized to capture maintenance oil from auxiliary equipment (Photo 19).
- Tank 501 has been condemned by failure of engineering standards and removed from service (Photo 27). CHEL is in the process of removing this tank from their RCRA Permit.
- A properly labeled 55 gallon drum is used to collect bag house dust at the residue building (Photo 31). This was formerly a 250 gallon, unmarked tote.
- Mr. Michael Karp stated that CHEL evaluated how it uses secondary containment after Mr. Robertsons inspection. This evaluation led to the re-routing of quench water line to a

sump box and the addition of a splash guard (Photo 33). These two changes have improved the collection and management of sludges from the process.
- Tank 545 has been removed (Photo 48).
- Tanks 575 and 576 have been removed (Photo 34).

Waste Receiving

An inspection of the warehouse was conducted with Ms. Shoemaker and Mr. Roblee. The Warehouse was reviewed for compliance with container management, handling practices, sampling activities and tracking. The facility receives containerized waste in solids, liquids, and gaseous forms. Wastes are received via truck and tanker in various sized containers. Aspiration is conducted within the warehouse (Photo 3) where liquids are removed from small containers into tanker trucks depending on composition. These tanker trucks are then offloaded directly for incineration.

Sampling was conducted in the Warehouse during the inspection and a 10-foot distance was required in accordance with their industrial hygiene assessment for safety. Containers were only open during the sampling process and employees were utilizing level C respiratory protection. Level B sampling was conducted in a separated room designed for this activity (Photo 2). Samples are taken at receiving, referred to as fingerprinting, to verify generator provided information about waste characteristics.

Employees wearing appropriate PPE in a separate facility, known as Special Handling, repackage highly hazardous wastes (Photos 25-26). According to employees, the composition and constituents determine size and quantity for re-packaging. No concerns were noted inside the warehouse or at Special Handling during this inspection (Photos 1-3). Stack heights were properly maintained, no containers were observed leaking or open and labels could be observed on visible containers.

Feed Scheduling and Waste Storage

A walkthrough of Feed Scheduling, process areas and the Kiln Dock was conducted to observe staging related storage in various sections of the facility. Mr. Steve Tollette was available to explain the method of staging and incineration. CHEL creates a “job” for feed to the kiln based on a selected pH range of 7. All wastes in the “job” are within 7 pH levels of each other and the final waste fed must be within range of the next “job” to be loaded. Multiple staging areas were observed;

- Bulk Processing (Photo 5)
- J-Liquids within Bulk Processing (Photo 6)
- Kiln Doc (Photos 7-8)
- Special Handling (Photos 25-26)

Ms. Shoemaker stated that these wastes are removed from each location within the 24 hour period of each daily operation.

During the inspection of the Kiln Dock, there was an unknown liquid in the secondary containment (Photo 9). Staff stated that it was wash down water, however, this could not be verified during the period of inspection. After touring the physical portion of the incineration unit, we went to the control room to observe operations and discuss process. Screens of all on-going operations were available for viewing within the control room (Photos 11-12).

CHEL purchased and located fire containment buildings to handle the segregation of highly hazardous wastes at Special Handling. No incompatible storage concerns were observed in these units during this inspection. Ms. Shoemaker stated that a previous fire related incident had occurred at CHEL in which one of these units burned to the ground. The specialized building contained the fire, as designed, from spreading to other units. The incident was reported to the state as required.

Incineration

The facility has two permitted Rotary Kiln incineration units, a secondary combustion chamber (SCC) and a waste fired boiler unit. The following table, from Appendix 3, details unit process information.

Unit Process	Operation Temperature	Average Retention Time
Rotary Kiln #1	1,200-2,150F	0.75-1.5 Hour(solids)
Rotary Kiln #2	1,205-2,050F	0.5-2.0 Hours(solids)
SCC	1,800-2,300F	2 seconds
Waste Fired Boiler	1,800-2,400F	2 Seconds

The process description directly from The Facility Audit Package in Appendix 3:
RCRA liquids are fed into the rotary kilns and the SCC, depending on the specific characteristics of the waste. RCRA solids and sludges may be received from the customer, packaged for ram feed into the rotary kilns, repacked by Clean Harbors El Dorado personnel for ram feed or fed directly into the kilns through an automated shredder auger machine. This system enables Clean Harbors El Dorado to accept waste that is packaged in any size Department of Transportation (D.O.T.) approved container.

Liquid waste, natural gas and combustion air are fed into the rotary kilns to initiate and maintain temperature. Two rotary kilns are utilized for treatment of solids and sludges. Shredded solids enter the incinerators via the screw-type auger systems, or they may be repackaged for ram feed. The kilns' off gases are passed through individual vertical cyclones where additional ash is removed. Exiting ash from the kilns and vertical cyclones are collected and stabilized in an enclosed building. Each batch of ash is tested to ensure that organic treatment standards have been met. Ash will then be taken to a fully permitted hazardous waste landfill for disposal. After exiting the cyclone, the gases travel through a duct to the SCC. Additional liquid wastes are injected in the SCC to maintain temperature and react all of the remaining organics with oxygen to produce water vapor, carbon dioxide and acid gases.

The Resource Recovery Boiler is a single zone combustion chamber, which is fitted with boiler tubes that produce steam. The SCC and Resource Recovery Boiler exit gas streams are continuously sampled and monitored for oxygen and carbon monoxide. The flue gases from the SCC and Resource Recovery Boiler combine and enter the saturator. Within the saturator, the gas stream is cooled to below 200 degrees Fahrenheit and acid gases are neutralized with lime slurry. The resulting calcium chloride and ash solution are purged from the saturator and sent to the Calcium Chloride Recovery Unit. From this brine liquor, Clean Harbors El Dorado produces a clean calcium chloride solution, which is a beneficial and marketable product. The gases exiting the saturator enter two condenser columns whose function is to condition the particulate matter for easier removal downstream. From the condenser columns the gases pass through a high-energy scrubber on the way to the fabric filter (baghouse). Powdered lime and carbon are fed into the fabric filter to react and remove any remaining pollutants in the gas stream. The high energy scrubber and fabric filter ensure that the final flue gas exiting through the stack meet all of the emissions standards promulgated by RCRA and the Clean Air Act. Vacuum is maintained on the entire incineration and air pollution control system by an induction fan which discharges the final clean gases into the 195-foot tall stack.

Laboratory

An inspection of the laboratory was conducted with the Analytical Supervisor, Mr. Brent Waters, to review handling of hazardous waste sample storage, VOC testing procedures, disposal of laboratory wastes and post testing sample storage practices. At the time of inspection I was able to view tracking procedures that appeared easy to understand with automated bar code labels. Samples in this laboratory qualify for the label exemption because they are tested specifically for characteristics (§261.4(d)).

During the inspection of the vent hoods, one open container was noted and one waste container without a label. Both of these concerns were corrected on the spot (Photos 21-22). Satellite accumulation points within the vent hoods were properly marked and removed to the 90 day storage are required. The storage shed utilized for samples in “hold” status was mostly empty with a few boxes of samples from a recent performance test (Photo 24). This shed is also utilized as the less than 90 day storage for discarded samples that CHEL stores in lab packs (Photo 23). The outside of this building did not have any markings designating it as a 90 day storage area.

Residue Management Building

The residue management building is not a permitted enclosure or RCRA containment building. Multiple facility standard concerns were noted with this facility during the previous inspection. During this inspection the structure was intact and the doors appeared to be fully closed and functioning. Mr. Robertson previously noted a concern with “drag out” from the tires on vehicles on the facility. According to Mr. Michael Karp, CHEL has instituted procedures to reduce the potential for this to occur; however, during this inspection tire marks from vehicles are lightly visible on the ground (Photos 32). During the inspection I observed the floor sweeper inside the building; it is not clear what is creating the tire marks outside or if it is hazardous waste.

Hazardous Waste Tank Farm

An inspection of the HW tank farm was conducted to review facility standards, condition of containers, AA, BB and CC compliance. CHEL provided a Photo Ionization Detector (PID) for use during the inspection; operated by Mr. James Peddington. The covered tank farm is permitted to store a large number of listed and characteristic HW; this list can be found in the facilities permit (Appendix 4). These tanks are currently connected to carbon canisters to comply with CC regulations. The PID was utilized to check all canisters during the inspection (Photo 13); none were found to be over the action level at that time.

I climbed the tanks, with CHEL employees, to observe the hatches and auxiliary equipment for compliance with CC and LDAR regulations. Visible leaking was noted (Photos 16, 18) and outdated three repair tags were not removed as required (Photo 17). Review of documents associated with repairs presented concerns about delay of repair and the amount of time the repair was not completed (Appendix 5). For example, Tanks 15 and 608 have been reporting leak issues since November 2010. I requested a copy of waste codes stored in the HW tanks during the previous year period for comparison with the permit allowances. The information presented twenty (20) instances of unauthorized wastes stored in the tanks in accordance with permit conditions (Appendix 6).

Ms. Shoemaker and Ms. Treasa Evans explained that an employee, using the PID, conducts CC compliance for the canisters each morning. If the canister is over the action level, a work order is put into the system for change out. The canister is not actually changed until the following day and no date and time information existed at the time of inspection for review. In accordance with §264.1090 and the facility Permit Section R(2) any exceedance of a 24-hour period must be reported as non-compliance. When asked for information to verify that changes were conducted within 24 hours, no documentation was available. Further, Ms. Shoemaker was unaware of the requirement to report and adamant that this was not required. After further discussion, and the presentation of the permit requirement, Ms. Shoemaker stated that a procedure would be created and implemented to correct this concern.

A spreadsheet that tracks carbon canister failures was provided during the inspection covering a period of one year and ten months (Appendix 7). This spreadsheet has a large number of failures (F) listed for several tanks, some span several weeks in a row. Without information to confirm canister changes occurred within 24 hours, these are all potential CC concerns for non-reported exceedances. Additionally, multiple failures in a row would potentially require an increase in monitoring for compliance. In accordance with§264.1033 (h)(1), carbon canisters should be monitored daily or at least 20% of the time required for total breakthrough. When reviewing the provided spreadsheet, Tanks 12, 13, 14 and 15 have had multiple failures for weeks in a row. It does not appear that these repeated failures prompted CHEL to increase their monitoring protocol at any time during these periods.

According to Ms. Shoemaker, CHEL has a capital improvement project planned for routing all emission related piping from the tank farm to the SCC. Routing these pipes to the SCC will remove the need for carbon canisters at this facility and alleviate the concerns associated with

carbon canister CC compliance monitoring and reporting. CHEL is also in the process of submitting a RCRA permit update for this operational change.

Waste Water Treatment Plant

The Waste Water Treatment Plant (WWTP) at CHEL is currently not being utilized to process any waters from the facility. The plant was previously used to process waters associated with an ongoing corrective action at this facility. CHEL has access to a Clean Water Act (CWA) permitted outfall for past and potential future discharges at this facility. More information about the groundwater contamination, associated with storing brine in a surface impoundment, can be found in Mr. Robertsons report (Appendix 1).

On-Site Generated Wastes

CHEL generates HW filter cake, corrective action related liquids, incineration related ash, scrubber water, laboratory wastes and empty containers. Filter cake and ash are routinely sent to the Clean Harbors landfill in Lone Mountain, OK. Corrective action related liquids were previously handled at the on-site WWTP. During this inspection, Ms. Shoemaker stated that corrective action related pumping activities have been postponed at this time.

Empty containers are shred and incinerated as applicable and laboratory wastes are handled in accordance with permit conditions and incineration applicability. The handling of scrubber water (sludge) is discussed in detail in sections related to The Brine Unit.

Training

The CHEL RCRA permit states that staff at the facility must comply with §40 CFR 264.16. CHEL uses §40 CFR 1910.120 to satisfy this requirement; a review of training records was conducted to assess compliance with this standard. CHEL meets this requirement by providing 24-hours of initial training followed by 8-hours of annual refresher training per year in the basics of hazardous waste operations. Additional training is provided beyond the 8-hour refresher for all staff conducting additionally hazardous or sampling related staff.

Mr. Russ Hargis, the site safety manager for CHEL provided a training discrepancy report for all training during the period of inspection (Appendix 8). Review of courses on this document allowed for the exclusion of employees who were new hires or out on medical leave. Detailed analysis of the training showed that the 8-hour requirement had been met for all employees at CHEL. However, due to a recent change in procedure for fit-testing, 11% of staff were out of compliance with the annual fit testing requirement. The new procedure for fit testing, which will be conducted at the same time as medical monitoring, will alleviate this concern for CHEL in the future.

Records and Plan Review

A review of outgoing manifests was conducted to assess compliance with Land Disposal Restrictions (LDR) and HW transport related regulations (Appendix 9). CHEL forward ships specific types of wastes not authorized for incineration to reclamation or recovery facility and landfills. Treatment codes (Box 19) and Wastes codes (Box 13) were missing from a number of

outgoing manifests. The review of approximately 63 manifests revealed a 33% discrepancy rate. Incoming manifests were not reviewed during this inspection.

A review of the contingency plan presented concerns with wording about staff training and PPE availability. CHEL was advised to correct language related to different staff at the facility and their duties. As is, the plan states "all" employees and this is an inaccurate statement. CHEL has a couple of newer temporary personnel in training that do not have the training or equipment listed within the contingency plan.

Reclamation, Re-Use and Recycling

The waste that comes from an air pollution control device is considered a sludge by RCRA definition; CHEL sludge contains listings from §261.31 and §261.32. EPA interprets sludge from the air pollution control devices at a HW incinerator to meet the "derived from rule" and "contained in policy[1]. This sludge is currently transferred via pipe to the Brine Unit where a reclamation process begins. This activity is defined as reclamation which *includes such activities as dewatering, ion exchange, distillation, and smelting*[2]. Wastes undergoing reclamation are subject to all RCRA regulations prior to use[2].

When a reclamation activity is conducted, the material does not meet the definition of use or re-use as provided in the US EPA Introduction to: Definition of Solid Waste and Hazardous Waste Recycling. This publication states: *The direct use or re-use of a secondary material* ***without*** *prior reclamation is also a form of recycling.*

When comparing the activity at CHEL to the Guidance Manual On the RCRA Regulation of Recycled Hazardous Wastes, published in 1986, the reclamation and sale of this waste does not qualify as a recycling activity or qualify for any specific exemption. Further:

> *"all hazardous secondary materials are considered solid wastes when applied to the land in these ways, except for listed commercial chemical products whose ordinary use involves application to the land (40 CFR 261.2(c)(1)). Therefore, hazardous waste generator (40 CFR Part 262), transporter (40 CFR Part 263), and storage requirements (40 CFR Parts 264 and 265, Subparts A through L) apply prior to use, and applicable land disposal requirements under 40 CFR 264 and 265, Subparts M and N, apply to the activity itself."*

Summarizing the available guidance and regulatory information:

- If a waste must first undergo reclamation it cannot qualify for recycling as exemption under use or re-use. Use and re-use must go directly from point of generation to point of insertion as substitute.
- The sludge, undergoing reclamation in this case, would be a solid waste at the point of generation and a hazardous waste. This would require that all piping, tanks and handling equipment be in compliance with RCRA regulations.

[1] RO 11845
[2] Guidance Manual On the RCRA Regulation of Recycled Hazardous Wastes, published in 1986

- If a waste or portion of a waste is used as a commercial substitute, it may not be placed on the land unless it is a commercial chemical product listed directly in §261.33 and the manner of ordinary use is such. Substitutes based solely on characteristics are not included in the regulation §261.2(c)(1)(B)(ii).

Brine Unit

A tour of the unit was conducted with Mr. Michael Karp, Mr. Larry Epperly and Ms. Shoemaker. This unit consists of several tanks and filter press related equipment: see *Chlorine Recycling Program in Appendix 3*. This unit is not operated as a RCRA unit due to previous communication and agreements with ADEQ in regards to recycling activities. However, in accordance with RCRA regulations, as discussed above, this waste should be handled as a solid waste during any handling or treatment prior to disposal (Photos 39-47). Therefore, this unit should be operating in compliance with all RCRA regulations and be included in their permit as a process unit. Liquids handled by this unit contain corrosive salts. Photos 40-42 and 45-47 show the affects of the corrosivity on the metal components of the Brine Unit. Photo 47 of an open top tank called the "Hot Well" receives blow down containing non-contact water, steam from the waste fired boiler and condensate driven off from the brine solution. This condensate is a HW and is currently held in an open top tank that forms foam blowing in the wind.

Sale of Scrubber Liquids

Studies of the incineration process have shown varying constituents of concern from facility to facility. However, results from a ten-incinerator test program indicated the presence of 9 volatile and 5 semi-volatile organic compounds in the scrubber water. Semi-volatiles ranged from 0 to 100 μg/L while volatile compounds were generally found at much higher concentrations (0 to 32 mg/L) (23)[1]. Individual facilities have conducted studies of their specific scrubber related wastes for de-listing and obtained specific exemptions with conditions. Testing must be conducted in a scientific manner that satisfies the de-listing process for evaluation. When de-listed, the agreement frequently stipulates alternative treatment requirements and considers quantity, final disposition and potential for harm to the public.

CHEL has maintained the position that the sale of this liquid is a commercial chemical substitute. The composition of the liquid is salt saturated, with an undetermined number of potential additional constituents, and is being used by O&G for exploration activities. While it is true that brine is commercially purchased by the O&G industry, CHEL reclaimed brine is a substitute based on characteristics but is not listed as a commercial chemical product in §261.33. Only commercial chemical products listed within this section are authorized for use to produce products that are used on the land or as a substitute to be placed directly on the land in accordance with §261.2(c)(B)(ii). The exception for placement on the land is not available in this case, therefore its current sale and placement on the land is "use constituting disposal."

[1] A Comparison of Gasification and Incineration of Hazardous Wastes, U.S. Department of Energy, 2000

AREAS OF CONCERN

The following areas of concern were noted during the inspection.

- HW Tanks stored wastes unauthorized by permit
- Liquid in secondary containment at Kiln Dock
- Laboratory; one open container, one missing label
- Laboratory sample storage, no markings for storage on building (90 Day)
- Tire Marks at Residue Building
- Visible leaks at Tank Farm
- Delay of Repair concerns
- Repair tags not removed
- CC exceedance reporting concerns
- CC Monitoring frequency concerns
- Fit testing failure rate of 11%
- Manifest discrepancy rate of 33%
- Contingency Plan discrepancy in wording and practice
- Operation of Brine unit out of RCRA Compliance
- Use Constituting Disposal – Sale of product for placement on the land
- Unauthorized treatment of scrubber water (outside of permit)
- Hot Well storing HW – not meeting RCRA Compliance
- RCRA Closure of Tank 564 not completed
- Facility walkthrough – one unlabeled drum from performance testing

APPENDICES

APPENDIX	Description
1	2010 RCRA Inspection Report
2	Closing Conference Sign In Sheet
3	Clean Harbors El Dorado Audit Package
4	Facility Permit (e-copy)
5	BB and CC Delay of Repair Documents
6	Tank Storage Spreadsheet (Sorted Page 1)
7	CC Compliance Spreadsheet (Carbon Canisters) (e-Copy)
8	Training Deficiency Report
9	Manifests