

GULF COAST WASTE DISPOSAL AUTHORITY

ANNUAL REPORT
2010



COVER PHOTO:

The grandeur of nature surrounds the San Jacinto Monument with the waves of the Houston Ship Channel in the foreground. Gulf Coast Waste Disposal Authority, local industries and municipalities have worked tirelessly since the late 1960's to clean up the water discharged into the Ship Channel. The effort has been rewarded with a massive improvement of the quality of the water in this major commercial waterway.

(Photo by Chris Kuhlman)

LEADERSHIP IN TRANSITION

The normal deadline for information to be included in the Gulf Coast Waste Disposal Authority Annual Report is the end of the calendar year. An exception is being made because a major change in the Authority's management was announced in January. That change is discussed on the following pages.



J.M. "Mark" Schultz
Chairman of the Board,
Chambers County

In January, 2011, the Board of Directors of Gulf Coast Waste Disposal Authority (GCA) accepted the decision of long-time General Manager Charles "Charlie" Ganze to retire and selected Assistant General Manager Ricky Clifton to assume that position.

Board Chairman Mark Schultz said of Ganze, "It is impossible to convey to you the esteem and affection we have for Charlie and Ruth Ganze. Charlie Ganze is dependable, practical, an expert in his field and a respected leader. How often is the chief officer of a good-sized organization also this well liked by his employees, his peers and his associates."

Schultz also welcomed Ricky Clifton to the General Manager's post. "We on the Board have been working with Ricky very closely, especially over the last two years or so that he has held the position of Assistant General Manager. His technical expertise is unquestioned and he has proved himself an able leader as we have faced the challenges of the constantly changing environmental management business."

Schultz added that he has been pleased at the process of working toward this change and that GCA customers, professional consultants, vendors and employees will see a smooth transition.



GANZE RETIRES AS GM

Charles "Charlie" Ganze retired as General Manager of Gulf Coast Waste Disposal Authority as of January 15, 2011. The move was not a surprise, as Ganze had been discussing his plans with the Board of Directors for about a year. Ganze had spent more than 10 years as General Manager, and with more than 38 years at GCA was the longest serving Authority employee.

Board Chairman Mark Schultz referred to "the deep esteem and affection that we have in Charlie Ganze and his wife, Ruth." Schultz also noted that Ganze is well liked by employees, peers and associates of the Authority.

At a reception in his honor, Ganze offered his thanks to the employees who make GCA work every day, to the Board for its support, to the area managers and, especially, to his wife and family. Charlie and Ruth Ganze have a son Keith, a daughter, Karen, and three grandchildren.

Gulf Coast Waste Disposal Authority was created by an Act of the Texas Legislature in 1969 and really got organized in 1970. Ganze was working for Union Carbide at the time and was a team member in charge of the construction of one of GCA's first regional treatment facilities, the 40-Acre Industrial Wastewater Treatment Facility. That was back in 1973, and before the site was completed Ganze decided he would like to join this new organization and stay with the new plant.

He did become Facility Manager of 40-Acre, which at that time treated wastewater for Union Carbide and Monsanto Company. He was also Facility Manager for the American Facility which treated wastewater for the Amoco Refinery. Over the next 38 years he would hold a number of titles. He took over responsibility for all industrial operations and also served for a time as Assistant General Manager.

"When I look back I remember too many people to mention them all," Ganze said. "But I have to mention a few. Jack Davis was the first General Manager, and GCA would not exist today without him. I'm not going to say how many years I have worked with Chairman Mark Schultz, but it has been a great and productive experience."

"It wasn't easy in those early days," according to Ganze. "A number of experts were convinced that industrial wastewaters from several different companies could not be mixed together and successfully treated. We, on the other hand, were firmly convinced that joint treatment made sense scientifically and economically."

Ganze pointed out that GCA now operates three large regional treatment facilities for industrial wastewater in the greater Houston Area, and one in Odessa, Texas. The Authority also worked with the City of Friendswood to establish the Blackhawk Regional Wastewater Treatment Facility. "I think we proved that regional treatment does work," Ganze concluded.

"I can't deny that it's a strange feeling to be entering this next phase. I'm not quite sure what retirement means yet. Just let me say that I'm proud to have been associated with the people who made all of this possible and proved that Gulf Coast Authority could make a real contribution to environmental management in Texas."



BOARD NAMES CLIFTON TO TOP SPOT

GCA's Board of Directors has named Ricky Clifton as new General Manager of GCWDA, replacing the retiring Charles "Charlie" Ganze. Clifton is another long-time employee of the Authority. He actually worked at the Bayport Industrial Wastewater Treatment Plant before it was purchased by the Authority from Friendswood Development Company in 1974.

It is absolutely accurate to say that Clifton has worked his way up from entry-level operator trainee through virtually every level of employment in the organization. A real turning point came in 1980 when Clifton earned his Bachelor of Science degree with a concentration in Environmental Science from the University of Houston-Clear Lake.

In 1994 he became Facility Manager at the Campbell Bayou Industrial Solid Waste Facility. In 2000, his oversight was extended to include management of the nearby 40-Acre Facility. In 2005 Clifton moved back to Bayport Facility, this time as Facility Manager.

"I was especially gratified to be named Assistant General Manager in 2009," Clifton said.

Chairman Schultz noted that the Board has been aware of Clifton's growth, both personally and professionally, as he continually added new responsibilities. "I believe we have made a wise choice and have selected someone who sees the big picture, someone who has lived the history of the Authority and who, more importantly, has a vision of the future for GCA," said Schultz.

Clifton has been directly involved with projects to improve data management, to establish shared resources among operating entities, and to formalize and continue to improve on GCA's excellent safety record. He has also worked on a select committee guided by outside management consultants to design projects to maximize efficiency and achieve reliable budgets. This select committee developed what is called the Process Work Management Program in cooperation with GCA's Technical Services Group. The Work Management Program has brought a higher level of early engineering work to our projects with more check points on how we are doing on a particular project along the way, Clifton said. "This system also closely mirrors the processes our industrial customers use in managing their own projects," he said

"Of course we can't lose sight of our primary goal of doing a good job of waste management. This means meeting our permit requirements and maintaining good working relationships with environmental regulators and with our participating industries, municipalities and districts."

Clifton has also been involved with the planning and completion of a number of plant expansions and process improvement projects. He maintains membership in a number of professional organizations and has served as president and vice president of the Texas Association of Clean Water Agencies. He currently serves on the Board of the Instrument Testing Association, the National Association of Clean Water Agencies (NACWA) and Texas Water Conservation Association (TWCA).

Clifton and his wife, Vicki, have two sons, Michael and Jason and daughter, Kristen.

"I am very appreciative that the GCA Board has given me this opportunity to serve as General Manager of GCA," Clifton said. "I also have to give a lot of credit to Mr. Charlie Ganze, who has served as my friend and my mentor in helping me to prepare for this position."

BAYPORT



The dredge in the foreground is removing built-up solids from Pond 7 at proper capacity in those basins. Behind Pond 7 are the four First



The Bayport Industrial Wastewater Treatment Facility is a prime example of the success of regional waste management. Located in the Bayport Industrial District in Pasadena, Texas, Bayport Facility treats the wastewater from more than 60 industries and two municipalities in a state of the art plant operated by highly experienced employees.

Facility Manager Jack Wahlstrom emphasized that staff is constantly focused on planning at the Facility and is well underway with a long-term effort to improve hydraulics, literally the flow of wastewater through the plant. “As an on-going effort, this improvement project got a major boost with the addition of new capacity in the Belt Press Operation more than a year ago,” Wahlstrom said. “The added capacity in our belt press dewatering allowed us to add a new dredge to remove solids which build up over time in our treatment ponds.”

The continuing hydraulics engineering study also contains preliminary work which will result in the addition of a new clarifier. This clarifier No. 7 will allow the flexibility to shut down existing clarifiers one at a time for regular maintenance while maintaining effective treatment. Another major project is an upgrade on the Biosan pipeline in the near future. Most of the users of the Bayport Facility connect directly to this 2.5 mile long pipeline which flows under Bay Area Boulevard and into the lift station for delivery to the facility’s treatment system. More flow in the collection line also means that the lift station (or pumping station) may also see an upgrade.

“Our efforts to expand our capabilities allows the Bayport customers, largely petro-chemical industries, to expand their own businesses,” Wahlstrom said.

It is well worth repeating that the Bayport Facility was the 2009 recipient of the Industrial Wastewater Treatment Plant of the Year Award from the Water Environment Association of Texas.

Bayport Facility. The dredge is moved from treatment pond to treatment pond as needed to maintain Step Treatment Tanks where some 80 percent of incoming organic compounds are removed.



BLACKHAWK FACILITY

The Blackhawk Regional Wastewater Treatment Facility is located within the City of Friendswood, Texas. All of Friendswood's sewage is treated at the Facility, and the City is the major holder of treatment capacity in the plant. While GCA's other facilities treat mostly industrial wastewater, Blackhawk is a prize winning example of regional treatment of municipal wastewater. Four other entities also send sewage to Blackhawk. All contributors transport their wastewater by pipeline.

For many years Blackhawk has used a computer system to monitor flow from the various users. During 2010 the Facility replaced the older system with a more up-to-date installation that also monitors several flow points within the plant as well as the activity of the belt press dewatering system. Belt presses process sludge generated by all biological treatment systems. The presses remove most of the water from the non-hazardous material. Dewatered (and thus much lighter) sludge cake is then transported by truck to permitted landfills. The new monitoring system will



All over the Blackhawk Facility water rushes and surges and bubbles as part of the activated sludge treatment process. In clarifiers, everything slows down. This allows remaining solids to settle in the almost still water. The solids are dewatering in the belt press dewatering system. Clear water flows over the edges of the basin



allow additional points of computer monitoring of plant operations as budget considerations allow. The long-term goal is to continue to add to the efficiency of plant operations.

In May another goal was achieved as Baybrook Municipal Utility District No. 1 completed and began using its own lift (pumping) station. Baybrook MUD 1 had been sharing a lift station with the City of Houston.



One part of the process is almost serene. When water reaches the removed from the bottom of the clarifier for recycling into the process or for and continues on to filtration and ultraviolet light disinfection.

WASHBURN TUNNEL FACILITY

The Washburn Tunnel Industrial Wastewater Treatment Facility (WTF) was acquired by Gulf Coast Waste Disposal Authority (GCWDA) from Champion Paper Co. in 1973 with plant improvements and modifications beginning almost immediately. It was the first facility actually operated by GCWDA, an entity which had been created by the Texas Legislature in 1969.

Seen from its inception as an opportunity to demonstrate the viability of regional wastewater treatment, WTF has indeed joined other GCA regional operations as a long-term example of successfully combining wastewater flows from multiple sources for treatment in a



Bottom photo: Maintenance is a never-ending chore at any wastewater treatment facility. The Washburn Tunnel Facility chose 2010 to work over one of its clarifiers. Such projects require a major overhaul for five years. Top photo: A large tank at the facility.



er treatment facility. Abrasion and corrosion eventually require the various systems to be shut down and repaired. Sandblasting and parts replacement prepared the clarifier for repainting. It is now back in service and probably won't er truck loads liquid sludge which will be used to re-seed another treatment plant with the bacteria necessary to break down organic material.

single, large treatment plant. Today WTF receives water for treatment from nine industrial facilities, GCA's own Vince Bayou Receiving Station and one municipality, all via pipeline. One industry contributes its wastewater by barge.

In the most simplified explanation, wastewater flows into a collection system, then into primary treatment. The water may have nutrients added before it moves to secondary treatment. The treated water is sent through a disinfection process and then to a system which provides solids removal. Each of these systems is complex, and the plant system is monitored by highly trained operators who measure and control the various components and reactions at the plant. Treatment results in the removal of from 91 to 97 percent of biochemical oxygen demand present in the raw water.

WTF also provides another service. Plant staff reports that each year requests are received from operators of other treatment plants in the Greater Houston Area. These plants have had some sort of upset which affected the microscopic organisms within the plant. It is the micro-organisms, or "bugs," which consume organic contaminants in wastewater. WTF is able to contribute biosolids upon request to re-seed these plants with the necessary bugs to get the plant up and running again. This service is offered to both industries and to municipal treatment plants in the area.



TOP PHOTO: This is one of the hundreds of trucks per month that visit VBRS to safely to companies handling waste portable toilets. The water is held in tanks until

BOTTOM PHOTO: As at the Washburn Tunnel Facility, the Odessa South Industrial of scheduled maintenance allows us to deal with a short-term loss of the clarifier so that it

VINCE BAYOU RECEIVING STATION

Vince Bayou Receiving Station (VBRS) receives trucked in wastewater which is sent by pipeline to the nearby Washburn Tunnel Industrial Wastewater Treatment Facility (WTF) for final treatment. Both of these operations are located in the Pasadena Ship Channel Area. In 2009, VBRS recovered from severe hurricane damage and still managed to increase wastewater received from 1.2 million gallons per month (mgpm) to 1.6 mgpm. For 2010 the receiving station managed to maintain that 1.6 mgpm, even in a generally down economy.

The largest tank truck discharging to VBRS carries 6,000 gallons of wastewater, and the smallest truck carries just under 500 gallons. Staff at the station handle more than 700 deliveries per month. All wastewater received is non-hazardous and is batch sampled to assure acceptability before being piped to WTF for treatment.

ODESSA SOUTH FACILITY

At just over 2.3 million gallons per day, the Odessa South Industrial Wastewater Treatment Facility isn't the largest plant system of all GCA's operations. It does, however, play a very important role in handling domestic and industrial wastewater treatment for its region.

Customers at Odessa South are the City of Odessa, Flint Hills Resources, Odessa-Ector Power Partners (OEPP), Navasota Odessa Energy Partners, LP-Quail Run Energy Center, REXTac LLC., and a number of smaller customers. Odessa South exists because of GCA's unique ability to combine municipal sewage and industrial wastewater for treatment in a specialized regional plant. The presence of the Facility has allowed industries in the City's industrial park to continue to operate.

A complete shut-down and rehabilitation of one clarifier was a significant event at Odessa South during 2010. The entire unit was sandblasted and special coatings were applied to extend the life of all components. Another improvement at the plant was the addition of an 80 kilowatt diesel generator to provide backup power when loss of line voltage occurs.

The new generator is started and exercised on a regular schedule and takes over automatically in the case of a power outage.

discharge non-hazardous wastewater. Vince Bayou was originally established to provide just such service tests can be run to insure its suitability for treatment at the nearby Washburn Tunnel Facility. Treatment Facility conducted a planned shut-down of one of its clarifiers during 2010. "A good plan can be reconditioned in order to avoid an emergency outage later," said Laverne Pedersen, Facility Manager.

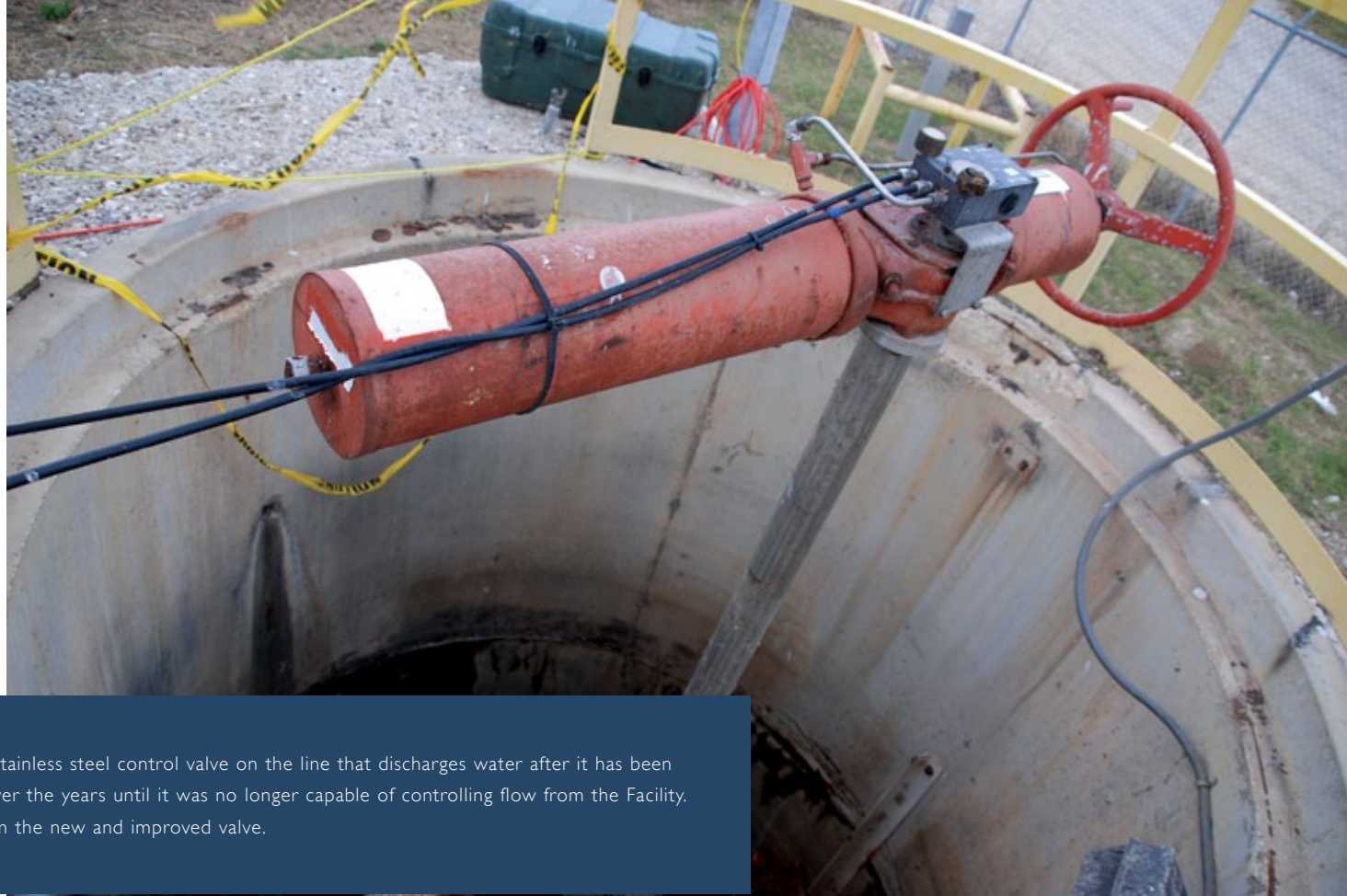


40-ACRE FACILITY

The 40-Acre Industrial Wastewater Treatment Facility continued to provide a major environmental service to petrochemical plants in the Texas City area. The Facility sees a monthly flow of industrial wastewater that ranges from 200 million gallons per month to about 250 million gallons per month. The plant qualified for a Platinum 8 award from the National Association of Clean Water Agencies. The award recognizes eight consecutive years of perfect compliance with operating permits.

The 40-Acre Industrial Wastewater Treatment Facility in Texas City has fully treated in the plant. The old valve was made of carbon steel and Plant maintenance staff expects





installed a new stainless steel control valve on the line that discharges water after it has been had corroded over the years until it was no longer capable of controlling flow from the Facility. long service from the new and improved valve.

The year 2010 was one of smaller project years that amounted to on-going maintenance. A single project which stands out was the de-bottlenecking of the pipeline leading from 40-Acre's major customer, Union Carbide. The staff reports that over the years the line had developed a serious build-up of solids that had narrowed the free space inside the pipe and limited flow. With an expenditure of roughly \$80,000, not counting staff time, the line was scoured clean and new valves installed. This should insure an unimpeded flow for years to come.

Companies contributing flow to 40-Acre Facility are:

- Union Carbide, a Subsidiary of the Dow Chemical Co., USA
- Sterling Chemicals Inc.
- Oiltanking Texas City L.L.P.

CENTRAL LABORATORY

Central Laboratory is an important part of the operations of Gulf Coast Authority. The thousands of tests run in the Lab every year serve to keep operators and technical specialists aware of exactly how the various treatment processes are working. The Lab also generates regulatory compliance data for GCA's local operations.

None of this work would mean anything unless it was rigorously performed to achieve accuracy, comply with process procedures and meet quality assurance and quality control standards. Each sample must be tracked from the moment it is picked up from an operating facility and received by the laboratory and actually analyzed and those results officially recorded. This "chain of custody" must not be broken.

A key tool in handling the complexity of this task is the Laboratory Information Management System. For some time the Lab's IT Department has been implementing a new program known as WinLIMS v7.0. As effective as this program is, custom features were required to meet the needs of Central Lab. During 2010 substantial progress was made in creating the "custom code" for those special Central Lab business and analytical processes.

The Lab incorporates label printers, hand-held scanners and hand-held PC's to improve efficiency. Lab IT member Darnell Grantham visited various facilities to observe the sample collecting process. Work then began on an application designed to allow operators to print bar codes and apply them to sample bottles. The effort began with Blackhawk Facility. The newly printed bar codes and chain of custody forms arrive at Central Lab and are scanned to begin the tracking process.





Chemist Silvana Bedini scans bar coded labels on samples received from GCA's Blackhawk Regional Sewage Treatment Facility. The recently implemented system associates the code with hard copy paperwork and allows the sample to be tracked through the entire Lab system to final analysis and results. The code reading capability makes it simpler to coordinate the all-important "chain of custody" that must be maintained from the field operator to the Lab analyst.

Blackhawk is serving as the model through which each GCA operating facility will obtain label making equipment and begin using the new process. Labeling and scanning is just one example of the improvements brought to Central Lab under the new WinLIMS program.

CAMPBELL BAYOU FACILITY

About a mile south of 40-Acre Facility is the Campbell Bayou Industrial Solid Waste Facility. Non-hazardous solid waste, such as construction debris, is accepted from industries which contract for capacity at the Facility.

Campbell Bayou received about 1500 tons for disposal in 2010.

The Facility also received a new and updated operating permit during 2010. As a result, six new monitoring wells were added around the location. These join existing wells. The wells are sampled periodically as an extra step to be sure that nothing placed in disposal cells is getting through the elaborate containment system and into the groundwater.

Companies currently contributing waste to Campbell Bayou are:

- Union Carbide Corporation A Subsidiary of The Dow Chemical Company
- Sterling Chemicals, Inc.

Campbell Bayou Facility accepts non-hazardous solid waste from contracted industrial participants on a daily basis. Trucks from the participants weigh in prior to discharging into the disposal cell. Operators then distribute and pack the debris.



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GULF COAST WASTE
DISPOSAL AUTHORITY
910 BAY AREA BLVD.
HOUSTON, TEXAS 77058

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