

Updated Consulting Report  
Regarding  
Wharfage and Fuel Storage Study  
For  
Port Authority of Guam  
Piti, Guam  
June 2010



# CAPTAIN, HUTAPEA & ASSOCIATES

REAL ESTATE APPRAISAL & CONSULTING

June 24, 2010

Mr. Enrique J.S. Agustin  
General Manager  
Port Authority of Guam  
Jose D. Leon Guerrero Commercial Port  
1026 Cabras Highway, Suite 201  
Piti, Guam 96915

Dear Mr. Agustin:

Subject: Updated Consulting Report Regarding Certain Bunkering/Fuel  
Throughput and Storage Rate Structures For the Commercial Port  
of Guam, Piti, Island of Guam

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In response to your request, we have completed this Updated Consulting Report. By Summary Appraisal and Consulting Report dated November 2008, we completed industry and market analyses regarding certain bunkering/fuel throughput and wharfage rate structures for the Port Authority of Guam. Currently, you require updated analyses and conclusions regarding fuel/waste oil throughput and fuel storage fee estimates.

The Port Authority of Guam ("PAG") owns the fee simple interest in the Jose D. Leon Guerrero Commercial Port of Guam ("Commercial Port" or "Port") property located on Cabras Island, Municipality of Piti, Island of Guam. The Commercial Port provides the people of Guam with ocean commerce, shipping, recreational and commercial boating as well as sea vessel navigation. PAG provides a critical role with a reported 90 percent of the day-to-day goods and supplies consumed by Guam residents passing through the Port. The Commercial Port became operational in 1969 and requires a significant modernization. The proposed \$20± billion military build-up on Guam through this decade is expected to result in a massive increase in demand at the Commercial Port.

Most recently, an agreement between PAG and the U.S. Department of Transportation's Maritime Administration allows for federal assistance in the Port's efforts to upgrade and modernize the facilities. The Maritime Administration will be the lead agency following the Guam Legislative approval of the 2007 Port Modernization Master Plan. The Master Plan calls for a wide range of upgrades and a preliminary capital cost estimate of \$193± million.

The Port Authority of Guam recently retained Captain, Hutapea & Associates, Inc. to complete various consulting work as detailed herein. The consulting assignment includes industry/market analyses of certain bunkering/fuel throughput/waste oil fee structure and fuel storage rates. You represent PAG in these matters and require updated consulting services regarding recommended revisions, if any, to our November 2008 conclusions as detailed herein.

Our assignment was to prepare a Consulting Report including updated analyses and recommendations to revise certain throughput and fuel storage rates as noted herein. The function of this consulting report is to provide informed market based conclusions, in addition to relevant supporting data, upon which internal decisions may be based. The intended users of our report include the client, its authorized representatives and any auditors or regulators that may be involved with oversight. This report is subject to the Assumptions and Limiting Conditions contained in a following section. The effective date of this consulting assignment is June 23, 2010.

Based on our research and analyses completed, subject to the Assumptions and Limiting Conditions stated in this report, as of June 23, 2010, our conclusions are summarized below.

Fee Structure Item	November 2008 Recommended Rate (\$/bbl)	Updated June 2010 Recommended Rate (\$/bbl)
Bunkering/Fuel Throughput/ Waste Oil Fees		
• Import	\$0.40	\$0.50
• Export	\$0.19	\$0.24
• Bunkering	\$0.53	\$0.66
• From truck to vessel when serviced at port piers	\$0.40	\$0.50
• Direct to or from vessel through privately-owned pipelines located on port property	\$0.35	\$0.44
• Vessel to Vessel	\$0.40	\$0.50
• Storage	\$1.00	\$1.25

The current fee recommendations are higher than those contained in our November 2008 report. The conclusions are higher because industry comparables discussed herein reflected substantial increases in rates between 2008 and 2010. It is noted that fees in the CNMI increased by 90 percent within this timeframe.

The client benefits from a monopolistic position regarding the supply of non-military land adjacent to wharfs with protected deepwater and road access. From this perspective, the client could possibly extract higher prices (potentially significantly higher) and fees than that justified by our analysis of market data. However, there are other market-based factors considered by various Port Authorities, including volume discounts and long-term agreements that could justify prices lower than those concluded herein. It is likely that Guam Power Authority would receive the maximum discount as the sole power provider on Guam. Port related fee structure methodologies are discussed in detail in a following section of this report.

Future demand for certain port-related uses was previously projected to increase significantly (nearly 400 percent) between 2010 and 2013 as military expansion-related construction peaks, and then decline to normalized levels following the build-up. However, the build-up is now expected to begin later, and take much longer than initially forecast. A tenant's ability to pay throughput and wharfage rates will increase along with intensity of use. Provisions that adjust for use (including possible volume discounts) may or may not be considered as reasonable by the client. The reader's attention is directed to the Assumptions and Limiting Conditions included in a following section, particularly with respect to Methodology.

Details regarding our research and analyses are contained in the body of this report. An Executive Summary is contained in a following section. W. Nicholas Captain, MAI, CRE has completed numerous consulting reports regarding port and/or harbor front properties on Guam and Hawaii and has further experience with wharfage fee structures in the Republic of Palau. He is competent to complete this consulting report.

The undersigned hereby certifies that, to the best of my knowledge and belief:

- the statements of fact contained in this report are true and correct;
- the reported analyses, opinions, and conclusions are limited only by the reported assumptions and limiting conditions, and are our personal, impartial, and unbiased professional analyses, opinions, and conclusions;
- I have no present or prospective interest in the property that is the subject of this report, and no personal interest with respect to the parties involved;
- I have no bias with respect to the property that is the subject of this report or to the parties involved with this assignment our engagement in this assignment was not contingent upon developing or reporting predetermined results;
- We have provided prior consulting assistance to the client in our November 2008 report;

Mr. Enrique J.S. Agustin  
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- my compensation for completing this assignment is not contingent upon the development or reporting of a predetermined fee or a direction in fee that favors the cause of the client, the amount of the fee opinions, the attainment of stipulated results, or the occurrence of a subsequent event directly related to the intended use of this report;
- this report is subject to the Code of Professional Ethics of The Counselors of Real Estate;
- I made a prior personal inspection of the subject properties;
- no one provided real property consulting assistance to the person signing this report.

Thank you for the opportunity to complete this real estate consulting assignment for you.

Sincerely,

CAPTAIN, HUTAPEA & ASSOCIATES

A handwritten signature in blue ink, appearing to read 'W. Nicholas Captain', is written over the printed name.

W. Nicholas Captain, MAI, CRE  
President

WNC/nj

## **INTRODUCTION**

### **Assignment**

The Port Authority of Guam (“PAG”) owns the fee simple interest in the Jose D. Leon Guerrero Commercial Port of Guam (“Commercial Port” or “Port”) property located on Cabras Island, Municipality of Piti, Island of Guam. The Commercial Port provides the people of Guam with ocean commerce, shipping, recreational and commercial boating as well as sea vessel navigation. PAG provides a critical role with a reported 90 percent of the day-to-day goods and supplies consumed by Guam residents passing through the Port. The Commercial Port became operational in 1969 and requires a significant modernization. The proposed \$20± billion military build-up on Guam through this decade is expected to result in a massive increase in demand at the Commercial Port.

Most recently, an agreement between PAG and the U.S. Department of Transportation’s Maritime Administration allows for federal assistance in the Port’s efforts to upgrade and modernize the facilities. The Maritime Administration will be the lead agency following the Guam Legislative approval of the 2007 Port Modernization Master Plan. The Master Plan calls for a wide range of upgrades and a preliminary capital cost estimate of \$193± million.

The Port Authority of Guam recently retained Captain, Hutapea & Associates, Inc. to complete various consulting work as detailed herein. The consulting assignment includes industry/market analyses of certain bunkering/fuel throughput/waste oil fee structure and fuel storage rates. You represent PAG in these matters and require updated consulting services regarding recommended revisions, if any, to our November 2008 conclusions as detailed herein.

Our assignment was to prepare a Consulting Report including updated analyses and recommendations to revise certain throughput and fuel storage rates as noted herein. The function of this consulting report is to provide informed market based conclusions, in addition to relevant supporting data, upon which internal decisions may be based. The intended users of our report include the client, its authorized representatives and any auditors or regulators that may be involved with oversight. This report is subject to the Assumptions and Limiting Conditions contained in a following section. The effective date of this consulting assignment is June 23, 2010.

There are no widely accepted approaches to estimate commercial port charges and fees. Some ports operate in a manner that intentionally subsidizes tenants in order to promote economic growth or job creation in a certain area. Many newly constructed ports set fees based on a cost-recovery methodology, such as that utilized in Saipan. We are aware of academic literature discussing the difficulty in comparing port tariffs “...because of diversity in their systems and regulations, the existence of pricing by long-standing agreements and the influence of the exchange rate”.<sup>1</sup> Our analysis herein was completed based on an industry/market analysis and supported by alternate analyses including an inflationary index and a preliminary cost recovery model.

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<sup>1</sup> Comparative Analysis of Port Tariff Levels in ESCAP Region and Development of Port Tariff Setting Model, Dr. Jin-Haeng Jo, Korean Maritime Institute



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## **Executive Summary**

A summary of conclusions, based on our market research and analyses, inspection of the properties and their environs and other pertinent data, is provided as follows.

Guam Real Estate Market Update – After peaking in 2007, Guam's real estate market suffered from sharp declines in sales activity during 2008 and 2009. In 2008, the decline in overall sales activity reflected over 46 percent, and contraction in 2009 reflected an additional 32 percent. Compared to the \$687 million in sales activity during 2007, the 2009 annual figure of \$251 million reflects a decline of 63 percent. The 2009 figure was the lowest annual total since 2004. The most significant contributing factors affecting the shrinkage in sales activity since 2007 involve foreign investment, which plummeted along with the global financial crisis, and the widening gap between buyer and seller expectations. It is widely expected that foreign investment will increase significantly as Asia continues to recover and massive military build-up related contracts are awarded in 2010 or 2011.

During 2009, all sectors reflected sales volume contraction. The land sales sector reflected the sharpest sales volume decline of 57 percent down to \$45.6 million. Islandwide land sales volume is down almost 80 percent from the 2007 peak. In the housing sector, condominium sales activity reflected a decline of nearly 53 percent to \$21.7 million and single family house sales reflected a decline of over 16 percent to \$136.4 million. The commercial, industrial and multi-family residential market sectors reflected declines of 10 to 17 percent in 2009.

A closer look at quarterly real estate sales activity highlights the global financial boom and bust cycle's impact on Guam's market. While the world was awash in capital, Guam's Q4 2006 to Q3 2007 sales volume reflected between approximately \$150 to \$200 million. That figure plummeted to \$36 million during the first quarter of 2009, as risk and fear concerns wiped out foreign investment and high priced deals. However, the next three quarters of 2009 reflected sales growth of 55, 25, and 26 percent growth, respectively, with fourth quarter 2009 sales activity reflecting a robust \$88.6 million.

In addition to sales volume figures, another indicator of real estate market conditions involves transactions closed. In 2009, 1,187 real estate transactions closed on Guam, a drop of 20 percent from 2008. The 2009 total is the lowest since 2002, near the bottom of the recent cycle, and approximately one-third less than the peak year of 2007. The industrial and apartment markets reflected only 6 transactions closed in 2009, down from 35 sales in 2007. The single family residential market reflected 616 transactions closed in 2009, down 20 percent from 2007 and approximately the same figure reflected in 2004 and 2005. The 150 condominium transactions closed in 2009 reflects a drop of 38 percent from 2008 and 61 percent contraction from the 2007 peak.

Housing median prices appear to have stabilized, with modest contraction in 2009. Single family houses reflected the second highest median price on record at \$200,000. This figure is down 7 percent from 2008, but still 60 percent higher than five years ago. The median price of a condominium unit on Guam in 2009 was \$122,500, down over 12 percent from 2008, but still up by 36 percent compared to 2004. Prices in other sectors moved in different directions, with industrial land reflecting the strongest performance. The real estate market in 2009 was supported by strong loan activity. Our database reflects total real estate loans for 2009 at \$534.7 million, down just 11 percent from 2008. Real estate loan activity was dominated by First Hawaiian Bank (\$132.9 million) with nearly 25 percent of market share, followed closely by Bank of Guam (\$121.6 million) at 23 percent. The next most active real estate lending activity occurred at ANZ/Citizens (\$77 million), Coast 360 (\$64.3 million) and BankPacific (\$33.8 million). Recently ranked by Forbes Magazine as the No. 1 bank in the USA, Bank of Hawaii's Guam real estate lending activity dropped to only \$32.4 million, or just 6 percent of market share, down from over \$83 million in real estate lending in 2007 and nearly 20 percent market share in 2006. At the big US banks, Wells Fargo's Guam real estate lending dropped from \$27.1 million in 2006, to only \$4.6 million in 2009 while local Citibank real estate lending dropped from \$51.9 million in 2007 to just \$13.1 million in 2009.

Port Real Estate Markets – By design, port-related properties are somewhat insulated from the private sector real estate market. This insulation results from the specialized nature of many properties which require secured access. Commercial Port-located properties often benefit from wharf frontage and harbor access, security, design and use or other attributes which are only available at the Commercial Port. It is not uncommon for air and sea port landlords to ignore fundamental real estate market characteristics, and base lease rental decisions on legislative action, captured-market or cost-based approaches. Revenue bond ratio agreements may also drive tariff rates at port properties. Market based industry analyses allow for comparison of throughput and fee structures with similar ports within a given region and these analyses support our consulting conclusions herein. This report is based on a detailed industry/market analyses, with due consideration of historic Commercial Port and typical port leasing practices, in addition to the unique economic forces that affect properties and uses within the Commercial Port.

Neighborhood – The subject neighborhood involves the Commercial Port of Guam at Cabras Island in Piti, along the central portion of the west coast of Guam. The Commercial Port is located adjacent to Apra Harbor, Guam's commercial port center, and north of Naval Station, the primary Navy facility on Guam. The subject vicinity is primarily industrial in nature and includes the subject Commercial Port of Guam and its associated improvements and facilities, a major power plant and some vacant land. Limited open space and recreational facilities are also found nearby. Route 11 is the primary roadway on Cabras Island and provides access to the subject. Route 11 connects with Marine Corps Drive (Route 1), Guam's primary roadway. Surrounding

villages, including Piti, Asan, Agat and Santa Rita are primarily residential in character, but include commercial development along primary roadways. Cabras Island is located approximately five miles west of Hagåtña, the capital of Guam. The major population and employment centers of Tumon, Tamuning and Dededo/Yigo are located north of Hagåtña.

Subject Property Overview – The subject properties utilized for consulting analyses herein involve locations that allow for fuel and related throughput as well as fuel storage. The F-1 and Golf Piers are the only piers at the Commercial Port that allow for fuel throughput. Additional limited facilities are available for the transshipment of “other cargo”. Details regarding F-1 and Golf Piers as well as related port properties, are included in a following section of this report.

Regarding our recommended revisions to the Port’s present fee structure applied to throughput and “fuel storage” rates analyzed herein, we completed an industry analysis of prevailing rates in the region. Our industry analysis included consideration of Ports in the Pacific, as well as mainland, Australia and other ports that may compare reasonably with Guam. A market and industry based comparison analysis was completed in order to estimate recommended revisions to the fees under analysis herein. Due to the unique nature of this assignment, we completed alternate analyses which support our conclusions herein. Our alternate analyses include an inflationary indexing analysis as well as preliminary cost recovery analyses.

### Conclusions

Based on our research and analyses completed, subject to the Assumptions and Limiting Conditions stated in this report, as of June 23, 2010, our conclusions are summarized as follows.

Fee Structure Item	November 2008 Recommended Rate (\$/bbl)	Updated June 2010 Recommended Rate (\$/bbl)
Bunkering/Fuel Throughput/ Waste Oil Fees		
• Import	\$0.40	\$0.50
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• Vessel to Vessel	\$0.40	\$0.50
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The current fee recommendations are higher than those contained in our November 2008 report. The conclusions are higher because industry comparables discussed herein reflected substantial increases in rates between 2008 and 2010. It is noted that fees in the CNMI increased by 90 percent within this timeframe.

The client benefits from a monopolistic position regarding the supply of non-military land adjacent to wharfs with protected deepwater frontage and road access. From this perspective, the client could possibly extract higher fees than that justified by our analysis of market data. However, there are other market-based factors considered by various Port Authorities, including volume discounts and long-term agreements that could justify prices lower than those concluded herein. It is likely that Guam Power Authority would receive discounted rates due to volume and its business of providing electrical power islandwide. Port related fee structure methodologies are discussed in detail in a following section of this report.

Future demand for certain port-related uses was previously projected to increase significantly (nearly 400 percent) between 2010 and 2013 as military expansion-related construction peaks, and then decline to normalized levels following the build-up. However, the military build-up is now projected to commence later, and take longer, than originally proposed. A tenant's ability to pay throughput and wharfage fees will increase along with intensity of use. Provisions that adjust for use (including possible volume discounts) may or may not be considered as reasonable by the client. The reader's attention is directed to the Assumptions and Limiting Conditions included in a following section; particularly with respect to Methodology.

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**Consulting Development and Reporting Process**

In preparing this updated consulting report, the consultant:

- Considered prior inspections of pipelines, fuel/storage and other facilities.
- Considered prior inspection of the subject neighborhood.
- Reviewed subject property data including ownership, zoning, flood zone, natural and man-made constraints, lease agreement, historic usage and other pertinent documentation.
- Reviewed information and statistics regarding visitor arrival figures, unemployment, construction activity proposed increases in Port usage, military build-up plans and other macro-economic data.
- Considered PAG Draft Master Plan, PAG's enabling legislation and existing documentation including proposed upgrades and expansion, recent and temporary increase in fee rates, historic income, and operating expenses.
- Considered relevant existing and future market conditions.
- Considered recent literature regarding the development, operation and analysis of port-related facilities.
- Reviewed Port-related fee structure publications and related materials.
- Researched fee structures and relevant data at various commercial ports in region with particular emphasis on changes since 2008.
- Considered comments submitted by industry representatives at recent hearings regarding proposed increases in fees.
- Completed updated market/industry analysis of fee structures and rates at various ports in the region.
- Completed alternate analyses including preliminary cost recovery and inflationary index analyses.
- Concluded fair market analysis and recommended revisions to fee structures analyzed herein.
- Completed narrative updated consulting report.

This updated consulting report presents summary discussions of the data, reasoning, and analyses that were used to develop opinions of updated fee structures at the Port. Additional supporting documentation concerning the data, reasoning, and analyses utilized herein is retained in our files. The depth of discussion contained in this report is specific to the needs of the client and for the intended use stated herein. We are not responsible for any unauthorized use of this report.

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## **Definition of Terms and Concepts**

This report includes numerous appraisal-oriented terms and concepts. We included the following definitions in order to assist the reader in comprehending this esoteric vocabulary.

### **Throughput<sup>2</sup>**

A charge assessed for the movement of cargo from vessel storage to point of issue from the Port facilities or such other container storage facilities as authorized by the port General Manager, and return of the empty container from point of receipt to vessel storage or, in the case of export cargo, from the point of receipt at the Port to vessel storage.

### **Wharfage<sup>3</sup>**

A charge assessed against all cargo passing or conveyed over, onto or under any wharves or between vessels (to or from barge, lighter, or water) when berthed at a wharf or moored in any slip, channel, basin, or canal or made fast to another vessel which is made fast to a wharf or moored in any slip, channel, basin or canal. Wharfage is solely the charge for the use of the wharf, slip, channel, basin, and canal, and does not include charges for any other activity or service.

### **Market Analysis<sup>4</sup>**

A process for examining the demand for and supply of a property type and the geographic market area for that property type.

### **Market Equilibrium<sup>5</sup>**

The theoretical balance where demand and supply for a property, good, or service are equal. Over the long run, most markets move toward equilibrium, but a balance is seldom achieved for any period of time.

### **Dock<sup>6</sup>**

Any bulkhead structure, piling structure, pier, quay, landing, or wharf to which a vessel may make fast to, discharge or load cargo and/or passengers for any purpose.

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<sup>2</sup> PAG Terminal Tariff Schedule

<sup>3</sup> Ibid.

<sup>4</sup> Appraisal Institute, *The Dictionary of Real Estate*, 5<sup>th</sup> ed. (Illinois: Appraisal Institute, 2010): page 121.

<sup>5</sup> Ibid, page 121.

<sup>6</sup> PAG Terminal Tariff Schedule

Bunker<sup>7</sup>

The loading of fuel into a vessel's bunker for its own use. The meaning of the term is usually to the conveyance of the fuel over the ship's sides.

Special-Purpose Property<sup>8</sup>

A property with a unique physical design, special construction materials, or a layout that particularly adapts its utility to the use for which it was built.

Vessels<sup>9</sup>

Shall mean steamboats, motorboats, sailing vessels, motor vessels, barges, lighters, liners, pleasure craft or any structure(s) made to float on the water for navigation.

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<sup>7</sup> PAG Terminal Tariff Schedule

<sup>8</sup> Institute, *The Dictionary of Real Estate*, 5<sup>th</sup> ed. (Illinois: Appraisal Institute, 2010): page 184.

<sup>9</sup> PAG Terminal Tariff Schedule

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## Assumptions and Limiting Conditions

### Overview

As a matter of necessity, the conduct of any study is guided by, and its results influenced by, the scope and terms of the assignment as well as the assumptions forming the basic principles of the study. Extraordinary assumptions and limiting conditions (if any), if found to be false, could alter the appraiser/consultant's opinions or conclusions. Hypothetical conditions are contrary to what exists, but is supposed for the purpose of analysis. The following assumptions and conditions, together with those of lesser importance contained in the report, establish the structure of our analyses and conclusions.

### Special Assumptions and Limiting Conditions

- Methodology – There are no widely accepted approaches to estimate commercial port charges and fees. Some ports operate in a manner that intentionally subsidizes tenants in order to promote economic growth or job creation in a certain area. Many newly constructed ports set fees based on a cost-recovery methodology, such as that previously utilized in Saipan. Revenue bond agreements may also impact tariff structures. We are aware of academic literature discussing the difficulty in comparing port tariffs "...because of diversity in their systems and regulations, the existence of pricing by long-standing agreements and the influence of the exchange rate".<sup>10</sup> Our analysis herein was completed based on an industry/market analysis and supported by alternate analyses including an inflationary index and a preliminary cost recovery model as detailed herein. Our recommendations may or may not be subject to modification based on volume discounts, long-term agreements or other market-based approaches, depending on management, board or legislative decision-making.

### Standard Assumptions and Limiting Conditions

- Legal Considerations and Title – We assume no responsibility for matters of a legal nature that may affect the property nor for the legal description which is assumed to be accurate. We have not rendered any opinion as to the status of title which is assumed to be good and marketable unless otherwise stated herein. It is assumed that the property complies with all zoning, setback, access, permitting, building code (if applicable) and other legal requirements, except as specifically identified herein.

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<sup>10</sup> Comparative Analysis of Port Tariff Levels in ESCAP Region and Development of Port Tariff Setting Model, Dr. Jin-Haeng Jo, Korean Maritime Institute



- Government Records and Utilities – We researched government records regarding zoning, ownership history, property taxes, and other matters to the extent practicable. We are not responsible for errors, omissions or inaccuracies contained in government records. We were not provided with an engineering report regarding utilities. Accurate utilities data from government sources is typically not available in a timely manner. We assume that existing utilities are adequate to support maximum potential development of the subject property unless otherwise noted herein.
- Encumbrances – It is assumed that ownership of the subject property is free and clear of any and all encumbrances and liens unless otherwise stated herein.
- Soil Conditions – We assume that soil conditions are adequate to support appropriate existing and/or future development of the subject property unless otherwise described in this report. We are not responsible for engineering studies which may be required to discover potential soil inadequacies.
- Maps – All maps, sketches, renderings and floor plans that may be included in this report are intended to assist the reader in visualizing the property. We have not completed a property survey and we are not responsible for architectural, cartographic or other related errors.
- Reliable Sources – During the course of our investigations, we typically rely upon information, estimates and/or opinions provided by knowledgeable market participants such as brokers, developers, architects, engineers, property owners and others. It is assumed that this market data is reliable and correct, unless stronger evidence discounts such voluntary contributions. We cannot be held responsible for misleading or inaccurate contributions.
- Litigation Support – Unless prior arrangements have been made with the persons signing this report, we are not required to provide testimony or appear in court solely based on completion of this assignment.
- Publication – This report, nor any portion of this report, shall not be published in any manner without the written consent of Captain, Hutapea & Associates.
- Hazardous Materials and Mold – Unless otherwise stated in this report, we assume that hazardous materials, which may or may not be present, do not affect the subject property. We have no knowledge of the existence of such materials on or in the property. However, we are not qualified to detect such substances. The presence of substances such as asbestos,

urea-formaldehyde foam insulation, used petroleum products, mustard gas, mold or other potentially hazardous materials may affect the value of the property. This report assumes that no such condition would cause a loss in property value. No responsibility is assumed for any such conditions or for any expertise or engineering knowledge required to discover them. All clients are typically recommended to retain an expert in this field, if desired.

### **GUAM BACKGROUND DATA**

Considering the client's familiarity with Guam background data, substantial detailed information is not included within this report. Background information regarding Guam's geography and climate, history, demographics, economic factors, housing and real estate laws was previously provided to the client and is available for review upon request. An island of Guam map locating the subject properties is included on the following page.



### **NEIGHBORHOOD DESCRIPTION**

The subject properties are located within the Commercial Port of Guam at Cabras Island, along the central portion of the west coast of the Island of Guam. A map of the area is shown on the following page. Cabras Island is bordered to the east by the Municipality of Piti. Apra Harbor borders Cabras Island to the south. The Philippine Sea borders Cabras Island to the north and west. The long, narrow, harbor-protecting “glass breakwater” extends off Cabras Island to the west. The capital of Guam, Hagåtña, is located approximately five miles east of Cabras Island.

Cabras Island is primarily industrial in character and is the location of Guam’s commercial port, operated by the Port Authority of Guam. The Commercial Port of Guam includes land with improvements including docks, warehouses, administrative buildings and other port-related facilities. The eastern portion of the island, was previously proposed for development with Cabras Island Industrial Park. The Guam Power Authority’s Cabras Island Plant is located at the southeastern end of Cabras Island. The Navy’s Piti Plant is located adjacent to the Cabras Island Plant. The western portion of Cabras Island includes fuel facilities, cement import, seaplane-ramp, Golf Pier, glass breakwater, Hotel Wharf, and Pier Dog.

Cabras Island is served by Route 11, which connects Cabras Island to Marine Drive (Route 1), approximately 2 miles east of the subject. This major two-lane roadway provides for traffic flow in east-west directions. Marine Drive (Route 1) is Guam’s primary roadway and connects the subject vicinity with northerly points including the capital of Hagåtña and the major tourist/commercial areas of Tumon/Tamuning as well as other points to the south.

Apra Harbor is one of the largest deep-draft harbors in the Pacific. All major port facilities for the island are located in Apra Harbor. In addition to serving the Commercial Port of Guam, Apra Harbor serves The Naval Station (located to the south), Guam’s primary naval military installation. The former 98 acre Ship Repair Facility (SRF) including wharf, industrial buildings and open yard areas recently increased the supply of industrial land and buildings in the vicinity. SRF was recently leased to the Government of Guam and subleased to a private company for ship repair and related industrial activities.





In 1992, the Guam Legislature passed Bill No. 475 (Public Law No. 21-124). The Bill authorized the Port Authority of Guam to lease to the Cabras Island Developers an area adjacent to the port to be developed as the Cabras Island Industrial Park. The area includes 42± acres of land area. The proposed industrial park was not developed due to economic and industrial real estate market conditions during the downturn and ownership reverted to PAG.

Central Piti, located in close proximity east of Cabras Island, is primarily residential in character although substantial commercial development exists along the east side of Marine Drive. Through Piti, Marine Drive runs along or near the ocean. Central Piti is characterized by single-family residential subdivisions, large tracts of sloping land and typically older commercial improvements along Marine Drive including gas stations, bars, restaurants, supermarkets, video stores, convenience stores, etc. The village of Asan is located between Piti and Hagåtña, the capital of Guam. Asan is generally similar to Piti in character. A large portion of Asan includes The War in the Pacific National Historical Park which includes approximately 2,000 acres of land. Hagåtña and Tumon/Tamuning, located further east, are the primary centers of business, tourism, commercial and industrial-related activities.

A significant portion of the land south of Cabras Island, including southern Piti and northern Agat, is agricultural/rural in character with some industrial and commercial uses. Much of this land includes wetlands. In recent years, various federal excess lands were returned to the local government or private individuals. GEDCA has recently leased out its 44± acre Polaris Point property with 30± acres recently leased by Matson. A substantial amount of land in the former GORCO refinery area was “spot-zoned” for industrial use. The spot-zoned land is located approximately three miles south of Cabras Island. Approximately 70 acres were spot-zoned light industrial and 475 acres were spot-zoned heavy industrial. Originally, only two landowners were involved with the spot-zoned land. The Shell Agat Terminal, including more than 20 petroleum storage tanks, comprises much of the heavy industrial-zoned land. Over the last few years, some of the industrial land in this area was sold and developed with industrial-related improvements. Portions of the land remain available for sale. A satellite image of the subject vicinity is included on the following page.

Further south are the villages of Agat and Santa Rita. These villages are typically residential in character and include commercial development along major roadways. A 150-slip protected marina (owned by PAG) was completed in 1990 and is located in southern Agat. The villages of Agat, Santa Rita, Piti and Asan are served by various elementary, middle and high schools, fire and police stations, public libraries, community centers, commissioners’ offices, numerous parks, churches and ball fields.

The subject properties are located within the Commercial Port of Guam at Cabras Island in Piti, along the central portion of the west coast of Guam. The Commercial Port is located adjacent to Apra Harbor, Guam’s commercial port center, and north of Naval Station, the primary Navy facility on Guam. The subject vicinity is primarily





industrial in nature and includes the subject Commercial Port of Guam and its associated improvements and facilities, a major power plant and some vacant land. Limited open space and recreational facilities are also found nearby. Route 11 is the primary roadway on Cabras Island and provides access to the subject. Route 11 connects with Marine Corps Drive (Route 1), Guam's primary roadway. Surrounding villages, including Piti, Asan, Agat and Santa Rita are primarily residential in character, but include commercial development along primary roadways. Former federal excess land, including GEDCA's 44± acre Polaris Point property, is located along Marine Drive. A substantial amount of industrial-zoned land, including wetlands and the Shell Agat Terminal (former GORCO facility), is located about three miles south of the subject property. Much of this land is undeveloped and portions are available for sale. Limited private sector improved commercial and industrial space is located in the subject vicinity. Cabras Island is located approximately five miles west of Hagåtña, the capital of Guam. The major population and employment centers of Tumon, Tamuning and Dededo/Yigo are located north of Hagåtña.

### **COMMERCIAL PORT OF GUAM**

Substantial details regarding the Commercial Port of Guam were included in our November 2008 report.

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## **PREVAILING MARKET CONDITIONS**

### **General Market Conditions**

Substantial details regarding Guam's real estate market were included in our November 2008 report. An update is included in the following paragraphs.

### **2009 and 2010 Update**

After peaking in 2007, Guam's real estate market suffered from sharp declines in sales activity during 2008 and 2009. In 2008, the decline in overall sales activity reflected over 46 percent, and contraction in 2009 reflected an additional 32 percent. Compared to the \$687 million in sales activity during 2007, the 2009 annual figure of \$251 million reflects a decline of 63 percent. The 2009 figure was the lowest annual total since 2004. The most significant contributing factors affecting the shrinkage in sales activity since 2007 involve foreign investment, which plummeted along with the global financial crisis, and the widening gap between buyer and seller expectations. It is widely expected that foreign investment will increase significantly as Asia continues to recover and massive military build-up related contracts are awarded in 2010 or 2011.

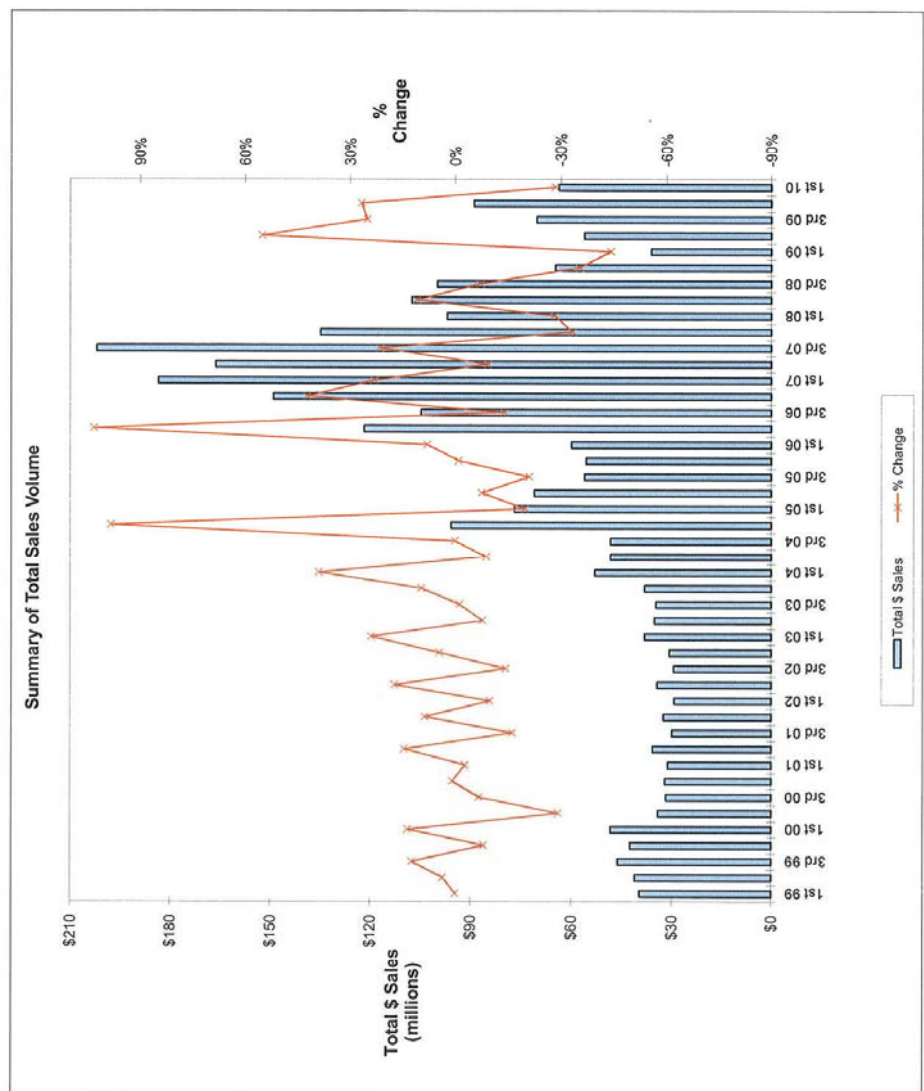
During 2009, all sectors reflected sales volume contraction. The land sales sector reflected the sharpest sales volume decline of 57 percent down to \$45.6 million. Islandwide land sales volume is down almost 80 percent from the 2007 peak. In the housing sector, condominium sales activity reflected a decline of nearly 53 percent to \$21.7 million and single family house sales reflected a decline of over 16 percent to \$136.4 million. The commercial, industrial and multi-family residential market sectors reflected declines of 10 to 17 percent in 2009.

A closer look at quarterly real estate sales activity highlights the global financial boom and bust cycle's impact on Guam's market. While the world was awash in capital, Guam's Q4 2006 to Q3 2007 sales volume reflected between approximately \$150 to \$200 million. That figure plummeted to \$36 million during the first quarter of 2009, as risk and fear concerns wiped out foreign investment and high priced deals. However, the next three quarters of 2009 reflected sales growth of 55, 25, and 26 percent growth, respectively, with fourth quarter 2009 sales activity reflecting a robust \$88.6 million.

In addition to sales volume figures, another indicator of real estate market conditions involves transactions closed. In 2009, 1,187 real estate transactions closed on Guam, a drop of 20 percent from 2008. The 2009 total is the lowest since 2002, near the bottom of the recent cycle, and approximately one-third less than the peak year of 2007. The industrial and apartment markets reflected only 6 transactions closed in 2009, down from 35 sales in 2007. The single family residential market reflected 616 transactions closed in 2009, down 20 percent from 2007 and approximately the same figure reflected in 2004 and 2005. The 150 condominium transactions closed in 2009 reflects a drop of 38 percent from 2008 and 61 percent contraction from the 2007 peak.

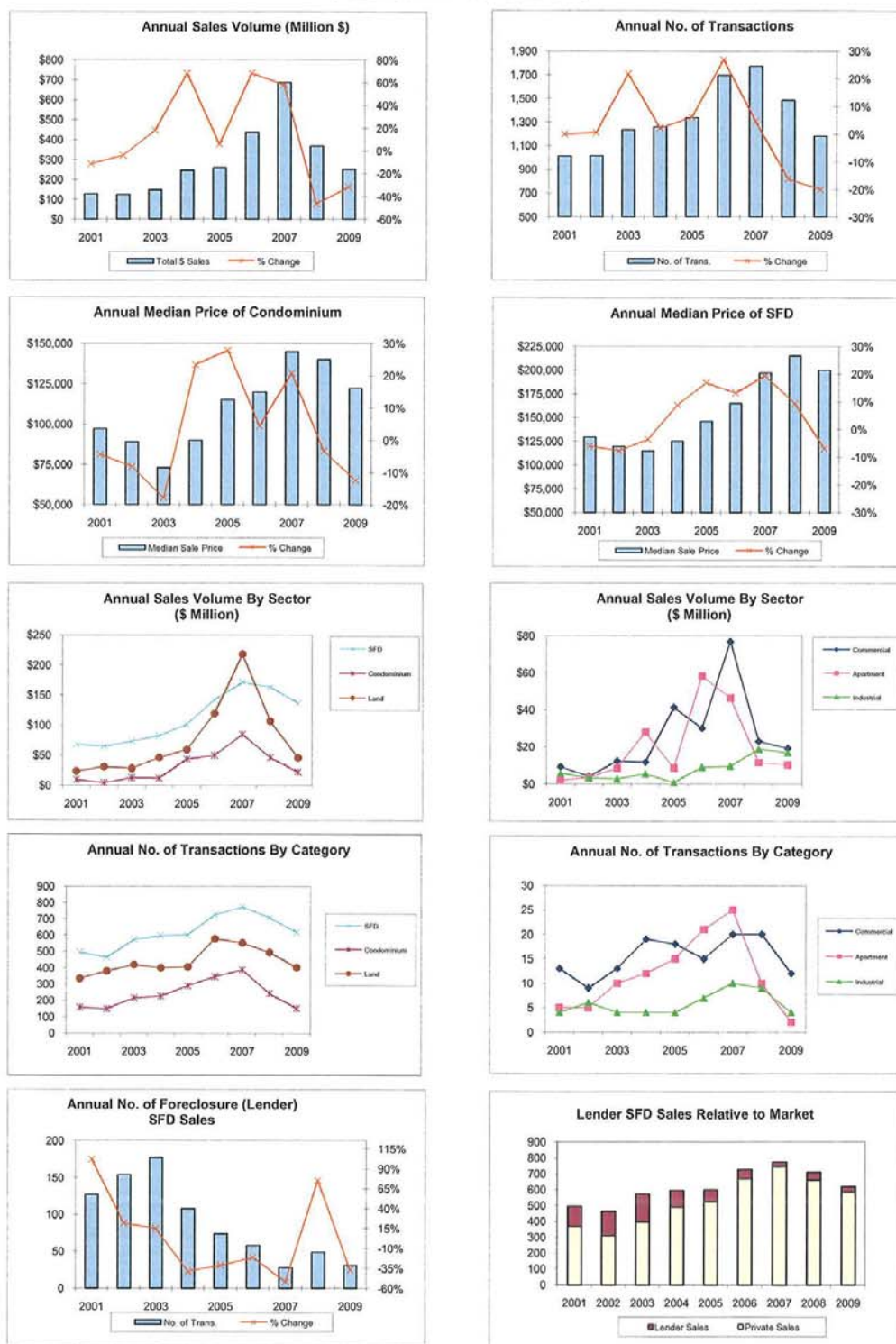
Housing median prices appear to have stabilized, with modest contraction in 2009. Single family houses reflected the second highest median price on record at \$200,000. This figure is down 7 percent from 2008, but still 60 percent higher than five years ago. The median price of a condominium unit on Guam in 2009 was \$122,500, down over 12 percent from 2008, but still up by 36 percent compared to 2004. Prices in other sectors moved in different directions, with industrial land reflecting the strongest performance. The real estate market in 2009 was supported by strong loan activity. Our database reflects total real estate loans for 2009 at \$534.7 million, down just 11 percent from 2008. Real estate loan activity was dominated by First Hawaiian Bank (\$132.9 million) with nearly 25 percent of market share, followed closely by Bank of Guam (\$121.6 million) at 23 percent. The next most active real estate lending activity occurred at ANZ/Citizens (\$77 million), Coast 360 (\$64.3 million) and BankPacific (\$33.8 million). Recently ranked by Forbes Magazine as the No. 1 bank in the USA, Bank of Hawaii's Guam real estate lending activity dropped to only \$32.4 million, or just 6 percent of market share, down from over \$83 million in real estate lending in 2007 and nearly 20 percent market share in 2006. At the big US banks, Wells Fargo's Guam real estate lending dropped from \$27.1 million in 2006, to only \$4.6 million in 2009 while local Citibank real estate lending dropped from \$51.9 million in 2007 to just \$13.1 million in 2009. Updated charts regarding Guam's real estate market are included on following pages.

CAPTAIN REAL ESTATE GROUP'S  
SUMMARY OF GENERAL REAL ESTATE MARKET ACTIVITY  
1999 to Present, Island of Guam



Source: All transactions recorded at Department of Land Management. Captain Real Estate Group. All Rights Reserved. Unauthorized use not permitted.

**CAPTAIN REAL ESTATE GROUP'S  
REAL ESTATE MARKET STATISTICS  
Island of Guam, 2001 - 2009**



Source: Captain Real Estate Group. All Rights Reserved. Unauthorized use not permitted.

### **INDUSTRIAL MARKET OVERVIEW**

A detailed industrial market overview was included in our November 2008 report. Since November 2008, the industrial market has generally improved with land prices and warehouse rents increasing. The improvement in this sector is due to military build-up activity. Worker housing is now only permitted in the M1, Light Industrial Zone. Demand for construction lay down yards has increased. Most recently, Matson leased 30± acres at Polaris Point from GEDCA. Also Cementon leased a prime site next to Golf Pier within the Port complex. As demand continues to grow, market conditions are expected to improve.

## **PROPERTY DATA – TARIFF CONSULTING**

### **Overview**

This assignment involves the completion of updated industry/market analyses to determine recommendations to rate structures for certain throughput rates at PAG. Specifically, the items under analysis include bunkering/fuel throughput/waste oil fees. A summary of the recent and present day fee structure for the subject items under review are shown below.

<u>Fee Structure Item</u>	<u>Prior Rate (\$/bbl)</u>	<u>Temporary 2010 Rate (\$/bbl)</u>
Bunkering/Fuel Throughput/ Waste Oil Fees		
• Import	\$0.16	\$0.40
• Export	\$0.075	\$0.19
• Bunkering	\$0.21	\$0.53
• From truck to vessel when serviced at port piers	\$0.16	\$0.40
• Direct to or from vessel through privately-owned pipelines located on port property	\$0.14	\$0.35
• Vessel to Vessel	\$0.16	\$0.40
• Storage	\$0.40	\$1.00

### **Properties Utilized**

Generally, the subject fees are incurred by certain vessels berthed at PAG. According to the Master Plan, the Port has nine berths including F-1 to F-6, Hotel Wharf, Golf Pier and a floating barge utilized for cement unloading. F-1 berth is 550 feet long and the depth is 54 feet. This berth is located in the Marine Industrial Facilities Area and is utilized for liquid bulk (fuel/oil) and LP gas. This property is operated under a separate agreement with Shell Guam Inc. F-2 berth is 670 feet long and the depth is 26 feet. This berth is located in the Marine Industrial Facilities Area and is utilized for fishing fleet repair. This property is leased to CASAMAR. F-3 berth is 750 feet long and the depth is 26 feet. This berth is located in the Cargo Terminal area and is utilized for general cargo, passenger vessels and fishing vessels. F-4 berth is 660 feet long and the depth is 34 feet. This berth is located in the Cargo Terminal area and is utilized as a container and for general cargo. F-5 berth is 660 feet long and the depth is 34 feet. This berth is located in the Cargo Terminal area and is utilized as a container and for general cargo. F-6 berth is 660 feet long and the depth is 34 feet. This berth is located in the Cargo Terminal area and is utilized as a container and for general cargo.



The cement berth depth is 24 feet. This berth is located in the Marine Industrial Facilities Area and is utilized as a floating barge for cement unloading. Hotel berth is 500 feet long and the depth is 26 feet. This berth is located in the Glass Breakwater area and is utilized for fishing vessels and dinner cruises. Golf Pier berth is 370 feet long and the depth is 40 feet. This berth is located in the Glass Breakwater area and is utilized for liquid bulk tankers. This property is operated under a separate agreement with Mobil Oil, Guam. Cementon will use Golf Pier in conjunction with its proposed cement storage and distribution center. Cementon will add new pipelines for this use.

According to the Master Plan, Berth F-3 is used primarily for fishing vessels and tenants performing fishing operations while Berths F-4 to F-6 accommodate containerships, general cargo vessels, and passenger ships. Each of these four berths can service container vessels with a maximum beam of 107 feet. In addition, the Port has two berths (Pier F-1 and Golf Pier) for fuel tankers and Hotel Wharf, all managed by the private sector. Bulk Cement is currently handled by Hanson Permanente using a floating barge at a seawall location North of F-1.

Further details regarding the Commercial Port of Guam, including the proposed upgrades, were included in our November 2008 report. Photographs of selected subject properties utilized for throughput are reprinted on following pages.



Northwesterly view at access road to Pier F-1.



Fingertip portion of Cabras Island known as F-1 Pier.



Southwesterly view along eastern boundary of F-1 Pier. Note the fuel storage tanks located at the background.



Southwesterly view along western boundary of F-1 Pier.





View along access road that connects Golf Pier and Hotel Wharf to main PAG compound. Note the fuel pipelines to the left. The gated access to the pier is to the right.



Gated access to Golf Pier. Note the fuel pipelines.



Southwesterly view at Golf Pier.



Southerly view at throughput pipelines connecting to Golf Pier.





View along F-6, F-5 and F-4 piers.



View along main road that serves PAG facilities and connects with Marine Drive.

## METHODOLOGY AND SOURCES

The consulting portion of this assignment involves our updated recommendations to rate structures for certain throughput rates at PAG. We based on updated recommendations on a market or industry analysis and other data herein. A market analysis involves the identification and study of a market for a particular economic good or service: in this case certain throughput services taking place at the Commercial Port of Guam. A market analysis also involves a study of market conditions for a specific type of property. Under ideal circumstances, a market area in which alternative, similar properties effectively compete for the service in the minds of users, is defined.

The analysis of Port tariff structures is difficult because of diversity in operational systems and regulations, potential for long-standing agreements, the influence of exchange rates (if comparisons involve international analyses) and other factors. Most countries in the region reportedly adopt the principal of cost-based pricing for commercial ports. However, some countries place more emphasis on market-based pricing including examples of performance-based pricing based on market size and competition.

Cost-recovery based tariff structures vary widely as some ports do not completely recover costs and intentionally subsidize certain users in order to promote job and economic growth. Some ports utilize a combination of cost, performance and value-based approaches to set tariffs. Revenue bond agreements could further impact Port fees. Port tariffs may vary widely due to economies of scale, costs and many other factors.

Generally, ports are required to be financially viable and sustainable. However, tariff rate revisions typically require government approval, which can involve negotiations with users and other deal-making that could impact fee structures. Frequently, the updating or revision of tariff rates is politically untenable. For example, the port tariff in Malaysia has not been adjusted since 1963. As a result, the revision of port tariffs can be infrequent, and result in substantial price increases.

A partial list of sources researched as part of this and our prior studies is shown as follows.

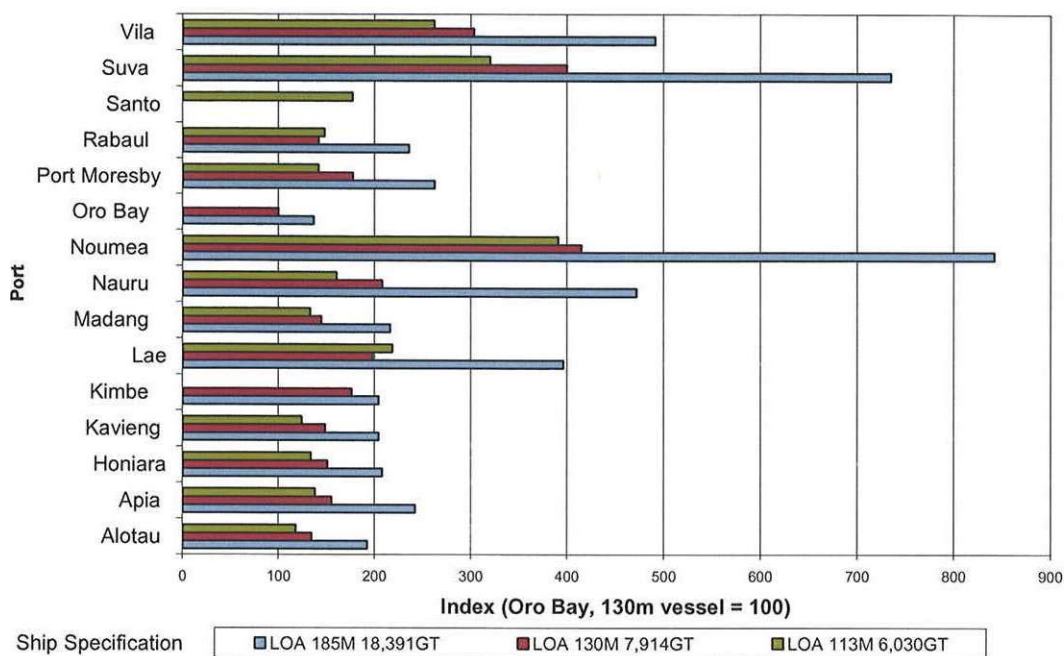
1. Meyrick and Associates, For Asian Development Bank (2007). *ADB TA-6166 (REG): Pacific Regional Transport Analysis*. Retrieved from <http://www.adb.org/Documents/Reports/Consultant/36661-REG/36661-REG-TACR.pdf>
2. Port Authority of Guam (1993, 2005, 2006, 2007). *Annual Report*. Additional data retrieved from <http://www.portofguam.com>
3. Energy Policy and Planning Office, Ministry of Energy, Royal Thai Government (n.d.). *Oil Industry Conversions*. Retrieved from <http://www.eppo.go.th/ref/UNIT-OIL.html>

4. Rao, Gyaneshwar (2004). *Fuel Pricing in Fiji*. Retrieved from <http://www.fijianstudies.org/dload/vol3no1/covervol3no1.pdf>
5. Shipping China (2008). *Port Charges*. Retrieved from <http://en.shippingchina.com/portcharges/index/index.html>
6. Camacho, Tony, Port Supervisor and Santos, Remi, Statistician, Personal communication. Additional port data retrieved from <http://www.cpa.gov.mp>.
7. Simms, Mark, Flinder's Port Cargo Manager (2010). Personal communication. Additional port data retrieved from [www.flindersports.com.au](http://www.flindersports.com.au).
8. Lines, Tracey, Townsville Port Business Development Manager (2010). Personal communication. Additional port data retrieved from <http://www.townsville-port.com.au>.
9. Dyer, Mark, Darwin Port Finance Manager (2010). Personal communication. Additional port data retrieved from [www.nt.gov.au/dpa](http://www.nt.gov.au/dpa).
10. Paaga, Daisy, Port of Pago Pago Staff Accountant (2010). Personal communication. Additional port data retrieved from <http://www.asbar.org/Newcode/Title%202020.htm>
11. Munroe, Colin, Gladstone and Alma Port Operator (2010). Personal communication. Additional port data retrieved from [www.gpcl.com.au](http://www.gpcl.com.au).
12. Hawaii Administrative Rules, Department of Transportation (2008). *Subchapter 6, Wharfage*. Retrieved from <http://www6.hawaii.gov/dot/harbors/adminrules/hs-44-61.htm>
13. Dr. Jo, Jin-Haeng, Associate Research Fellow, Korea Maritime Institute (n.d.). *Comparative Analysis of Port Tariff Levels in ESCAP Region And Development of Port Tariff Setting Model*.
14. Orski, Ken, Innovation Briefs (2008). *Ports Infrastructure – A New Frontier For Public-Private Ventures?* Retrieved from [http://www.reason.org/outofcontrol/archives/2008/01/ports\\_infrastru.html](http://www.reason.org/outofcontrol/archives/2008/01/ports_infrastru.html)
15. Dowd, Thomas J (n.d.). *Container Terminal Leasing/Pricing Methods and Their Economic Effects*. Retrieved from <http://texas-sea-grant.tamu.edu/pubs/ports/Washington/ContainerTerminalLeasing.pdf>
16. Stillwater Associates for The Department of Business, Economic Development and Tourism (2003). *Study of Fuel Prices and Legislative Initiatives For The State of Hawaii*.
17. Port of Brisbane (2008). *Port Charges*. Retrieved from <http://www.portbris.com.au>.



For purposes of this study, we relied on a market-based approach with additional consideration allowed for an inflationary index along with preliminary cost-based factors. Regarding the market based approach, we focused on the most similar port in the Pacific, Saipan, and expanded our research to include various ports in Australia and American Samoa, the only other US territory in the Pacific. We considered additional ports including Hawaii, Fiji, Philippines, Korea, Japan and others, but the ports were considered less comparable to Guam.

In a study completed for the Asian Development Bank, Meyrick and Associates presented comparative port tariff charges at various locations in the Pacific. The analysis, which highlights the wide range of fees at various locations, is shown as follows. Selected port data used for this Meyrick and Associates study is included on the following page.



Country	Population (July 2006)	Land Area sq km	Populated Islands/ Number of Islands	Maritime Area / EEZ sq km	GDP per/capita USD	Imports (2005)	Exports (2005)	Main Trading Partners	Main Ports
Cook Islands	21,388	236.7 sq km	15	2 million sq km	9,100	\$81.04 million	\$5,222 million	Australia, New Zealand, Fiji, USA, Japan	Avatiu
Fiji Islands	840,000	18,300 sq km	100/332	1.3 million sq km	5,900	\$1,462 billion c.i.f.	\$719.6 million f.o.b.	Singapore, USA, Australia, UK, New Zealand, Samoa	Labasa, Lautoka, Levuka, Savusavu Bay, Suva
Kiribati	105,432	811 sq km	23/33	3.5 million sq km	1,900 (2004)	\$62 million c.i.f.	\$17 million f.o.b.	Australia, Fiji, Japan, New Zealand, USA, Belgium, Samoa, Malaysia, Taiwan, Denmark	Betio
Marshall Islands	60,422	11,854.3 sq km	21/1,152	1.2 million sq km	2,900	\$54.7 million f.o.b. (2000)	\$9.1 million f.o.b. (2000)	USA, Japan, Australia, New Zealand, Singapore, Fiji, Peoples Republic of China, Philippines	Majuro Atoll
Federated States of Micronesia	108,004	702 sq km	? /607	1 million sq miles	2,300	\$132.7 million f.o.b. (2004)	\$14 million f.o.b. (2004)	USA, Japan, Guam, Hong Kong	Chu'uk, Pohnpei, Yap
Nauru	13,287	21 sq km	1/1	.	5,000	\$20 million c.i.f.	\$64,000 f.o.b.	South Korea, Australia, USA, Germany, South Africa, South Korea, Canada	Nauru
Palau	20,579	458 sq km	9/300		7,600	\$107.3 million f.o.b. (2004)	\$5,882 million f.o.b. (2004)	USA, Singapore, Japan, South Korea	Koror
Papua New Guinea	5,670,544	462,840 sq km			2,600	\$1,651 billion f.o.b.	\$2,833 billion f.o.b.	Australia, Japan, Singapore, China, Malaysia	Alotau, Kavieng, Kieta, Kimbe, Lae, Lorengau, Madang, Oro Bay, Port Moresby, Rabaul, Wewak
Samoa	180,900	2,944 sq km	10/10		1,832	\$285 million f.o.b. (2004)	\$94 million f.o.b. (2004)	Australia, New Zealand, USA, Japan, Fiji, China, American Samoa	Apia
Solomon Islands	520,000	24,450 sq km	347/992	1.35 million sq km	600	\$159 million f.o.b. (2004)	\$171 million f.o.b. (2004)	Peoples Republic of China, Korea, Thailand, Australia, Singapore, Fiji, Papua New Guinea	Aola Bay, Dakolae Anchorage, Gizo, Honiara, Noro, Tulagi, Viru Harbour, Yandina
Timor-Leste	1,062,777	15,007 sq km			800	\$202 million (2004)	\$10 million (excludes oil)	Indonesia, Australia, Singapore, Japan	Dili
Tonga	101,800	748 sq km			2,200	\$122 million f.o.b. (2004)	\$34 million f.o.b. (2004)	New Zealand, Fiji, Australia, Japan, USA	Nukualofa
Tuvalu	11,810	26 sq km			1,600 (2002)	\$9,186 million c.i.f. (2004)	\$1 million f.o.b. (2004)	Fiji, Japan, Peoples Republic of China, Australia, New Zealand, Germany, Italy	Funafuti
Vanuatu	213,300	12,200 sq km	65 / 83		1,530 (2005)	\$117.1 million c.i.f. (2004)	\$34.11 million f.o.b. (2004)	Australia, Japan, Singapore, Poland, New Zealand, Fiji, Thailand, India, Turkey	Port Vila, Santo

Sources: Asian Development Bank website, <http://www.adb.org>, Lloyd's List Ports of the World, CIA World Fact Book online, <https://www.cia.gov/cia/publications/factbook/>

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## UPDATED MARKET ANALYSIS

In completing our updated market analysis of certain throughput and wharfage tariff rates, we researched various ports in the Pacific as noted, along with various port literature, available studies, industry and corporate reports and other data. The port most similar to Guam involves nearby Saipan, CNMI.

According to their website, The Port of Saipan consists of 2,600 linear feet of berthing space and a 22-acre container yard with water lines (along with an underground sewage removal system) and an underground fuel line protected by a concrete vault. There are dockside lights for nighttime operation and the Port is currently upgrading the electrical system to better accommodate refrigerated containers. The channel, turning basin, and berthing areas have been widened and deepened to a uniform 40 feet in order to comfortably welcome medium to deep draft vessels into the Port. There are two fuel storage facilities at the Saipan seaport and one bulk cement company. Three freight forwarding companies and three shipping agents, including Sunset cruises, prior daily ferry services to the island of Tinian (currently suspended) and other tenants that offer various services. The Port has been equipped with a recently constructed state-of-the-art fire-fighting system using seawater as its source of water as well as improved navigational aids and repositioned harbor buoys to mark the safest route into port with the assistance from the U.S. Coast Guard. Additionally, two car rental companies are available at the seaport for inter-island travelers.

Due to recent upgrades and other factors, the Commonwealth Ports Authority has implemented a series of increases in bunker fee and throughput rates since 1999. A summary of recent changes in these rates is included on the following page. As shown, the fuel throughput rate reflects \$1.16 per barrel, significantly higher than the \$0.40 per barrel rate temporary rate on Guam and even more extreme compared with the Port's prior rate of \$0.16 per barrel.

It is noted that a 90 percent increase in fees took place effective January 2009. The Commonwealth Ports Authority implemented an increase that allows for sufficient overall revenues to maintain a required 1.25 percent revenue to bond payment ratio at all times for the duration of the bond.

**SUMMARY OF RECENT CHANGES  
IN CNMI BUNKER FEE AND FUEL THROUGHPUT RATES <sup>[1]</sup>**  
Commonwealth Ports Authority, CNMI

Period	Bunker Fees		Fuel Throughput
	Residual Oil	Diesel Oil	
Prior to July 1999	\$0.18	\$0.32	NA
July 1999 to September 2001	\$0.25	\$0.40	NA
October 2001 to September 2002	\$0.40	\$0.60	NA
October 2002 to September 2007	\$0.40	\$0.70	NA
October 2007 to September 2012 <sup>[2]</sup>	\$0.45	\$0.75	\$0.61
January 2009 to Current	\$0.86	\$1.43	\$1.16

[1] Per 42 American (US) gallon barrel.

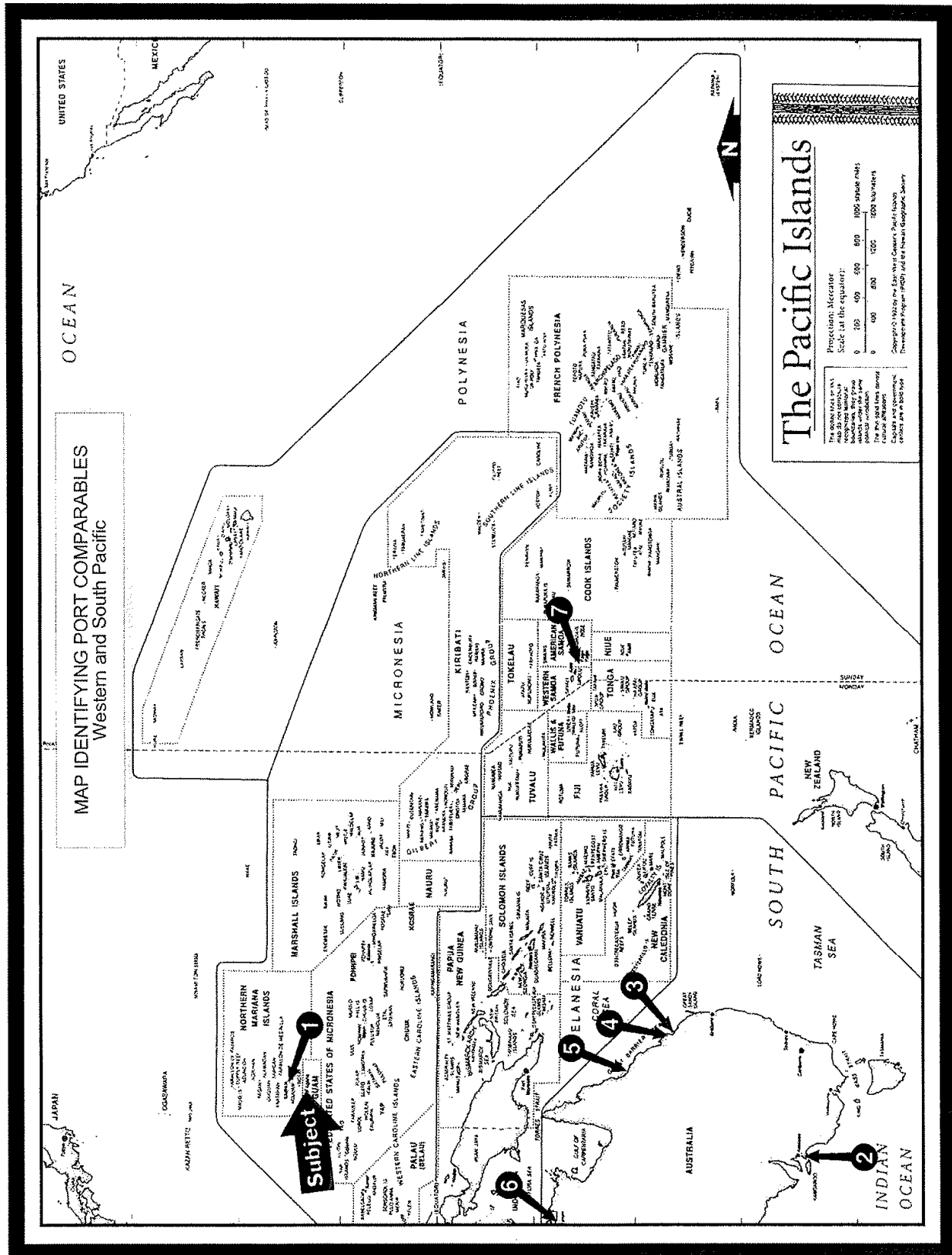
[2] Proposed through September 2012; actual fees changed in 2009 due to revenue bond requirements.

Source: Commonwealth Port's Authority

In addition to Saipan, we considered additional ports in the region. A summary of ports reviewed is shown on a following page along with a location map.

The seven ports reviewed and updated serve populations ranging from 31,000 (Gladstone Port, Queensland, Australia) to 1,600,000 (Flinders Port, Australia). The comparable ports include from only one, to 48 berths with lengths ranging from 529 to 9,246 feet. The types of cargo handled varies widely as expected and includes general cargo, agricultural products, raw materials, livestock, petroleum and other items. The comparable ports are summarized in detail with updates since 2008 as shown on following pages.

The general trend in tariffs since 2008 involves substantial increases. The CNMI implemented a 90 percent increase as noted in January 2009. The Australia ports have reflected increases of approximately 25 percent since 2008. Only American Samoa reflected no tariff price changes since 2008.



SUMMARY OF COMPARABLE PORTS  
Western and Southern Pacific

Port No.	Port Location	Approximate Population Served	No. of Ports Rates Apply	Wharf Detail			Comments
				No. of Berths	Total Berth Length (m)	Types of Cargo Handled	
Subject	Jose D. Leon Guerrero Port, Guam, USA	180,865	1	7	1,262	General cargo, tuna, petroleum products, etc.	Handled 2.1 million tons of cargo in 2007. Largest U.S. deepwater port in the Western Pacific. The Port Authority owns and operates 5 cargo handling piers and also owns two fuel piers, three marinas and a harbor of refuge.
1	Port of Saipan, CNMI	48,317	3	1	792	Goods, wares, materials, merchandise or any other object of commerce.	Rates also apply to Commonwealth Ports Authority Ports in Rota and Tinian. Recently upgraded. Seabound inbound and outbound cargo dropped by 15 and 13 percent in FY2007 due to closure of several garment facilities.
2	Flinders Port, South Australia, Australia	1,629,500	7	48	9,246	Grains and seeds, limestone, petroleum products, motor vehicles, containers, metals, cement, fertilisers, break-bulk and general cargoes, etc.	Includes Port Adelaide (20 berths), Port Lincoln (10 berths), Port Pirie (9 berths), Wallaroo (6 berths), Thevenard, Port Giles and Klein Point. Thevenard, Giles and Klein Point only handle limestone, grains and seeds, gypsum and salt with at one berth each.
3	Gladstone Port, Queensland, Australia	31,028	1	15	3,526	Port facilities cater to the import of raw material and export of finished products associated with major industries in the region.	Handles more than 50 million tonnes of cargo a year. Fourth largest port in Australia. Wharves stretch over 30 km of coastline. Queensland Government has earmarked the port as Australia's future major industrial center for the 21st century.
4	Alma Port, Queensland, Australia	59,755	1	3	529	Explosives, livestock, meatworks products, salt, petroleum products, etc.	Ocean Port for the city of Rockhampton, the largest urban center in Central Queensland. Handles over 150,000 tonnes of cargo per year.
5	Townsville Port, North Queensland, Australia	175,542	1	9	2,114	Cement (imported from Gladstone), minerals, motor vehicles, petroleum, livestock, general cargo, etc.	Approximately 10 million tonnes of cargo transported annually. Queensland's third largest commercial port.
6	Darwin Port, Northern Territory, Australia	124,800	1	9	2,155	Regional offshore oil and gas industry cargo, iron ore, manganese, live cattle, bulk minerals, bulk liquids, etc.	The Port of Darwin is recognized as a major regional support and service center for the offshore oil and gas industry. Transport hub that links Australia with its trading partners in Asia as the northern terminus of the AustralAsia railway.
7	Port of Pago Pago, American Samoa	66,432	1	5	694	General cargo, tuna, petroleum products, etc.	Located nearly equidistant between major Pacific ports in Australia, Shanghai, South America and North America. Recent upgrades offer shipping industry an efficient and economical link between global ports. Handles approximately 1 million tonnes of cargo per year.

Port information source: Port brochures.

Population source: CIA World Factbook ([www.cia.gov/library/publications/the-world-factbook](http://www.cia.gov/library/publications/the-world-factbook)) and Australian Bureau of Statistics ([www.abs.gov.au](http://www.abs.gov.au)).



## **SUMMARY OF PORT COMPARABLE NUMBER 1**

### **Port of Saipan, CNMI**

The Port of Saipan consists of 2,600 linear feet of berthing space and a 22-acre container yard with water lines (along with an underground sewage removal system) and an underground fuel line protected by a concrete vault. There are dockside lights for nighttime operation and the Port is currently upgrading the electrical system to better accommodate refrigerated containers.

The channel, turning basin, and berthing areas have been widened and deepened to a uniform 40 feet in order to comfortably welcome medium to deep draft vessels into the Port.

There are two fuel storage facilities at the Saipan seaport and one bulk cement company. Three freight forwarding companies and three shipping agents, including Sunset cruises, frequent daily ferry services to the island of Tinian and other tenants that offer various services.

The Port has been equipped with a recently constructed state-of-the-art fire-fighting system using seawater as its source of water as well as improved navigational aids and repositioned harbor buoys to mark the safest route into port with the assistance from the U.S. Coast Guard. Additionally, two car rental companies are available at the seaport for inter-island travelers.

Inbound and outbound cargo dropped by 16 and 13 percent respectively in FY 2007 due to closure of several garment factories. Additionally, since October 2008, an analysis of the most recent seaport financial condition required a 90 percent increase in the terminal tariff to meet requirements of bond indenture which became effective in January of 2009.



Source: Port of Saipan website ([www.portofsaipan.com](http://www.portofsaipan.com)).



## **SUMMARY OF PORT COMPARABLE NUMBER 2**

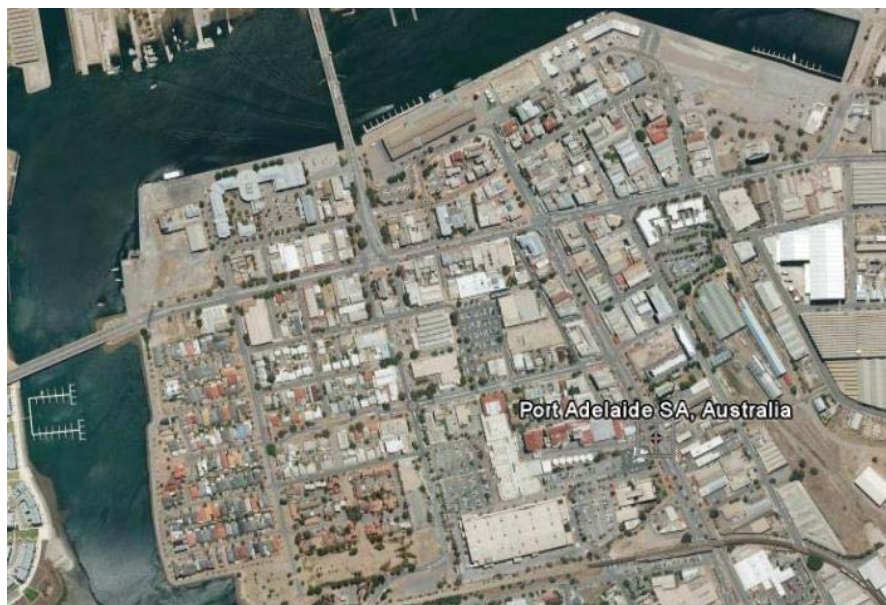
### **Flinders Port, Port Adelaide, Australia**

Flinders Ports operates seven ports across South Australia: Port Adelaide, Port Lincoln, Port Pirie, Klein Point, Port Giles, Thevenard and Wallaroo.

Port Adelaide continues to be the main service point for shipping in the State. Positioned at the center of Australia's southern coast, the port provides South Australia with a gateway to the world as the State continues to enjoy a significant increase in export activity with booms in the shipment of grains, wine, motor vehicles and automotive components, ores and concentrates. The Port of Adelaide consists of an Inner and Outer Harbor, complete with over 20 wharves including the DP World Adelaide container port.

During 2006/2007, 10.094 million tonnes of cargo was moved through the Port of Adelaide, with 5.585 million tonnes imported/exported to overseas markets. Petroleum imports of 2.189 million tonnes were 3.7% higher than the levels recorded in 2005/2006. Primary Export destinations include the Middle East, North Asia and South East Asia. Primary Import origins include the US, North Asia and South East Asia. Port Adelaide can provide flexibility with regard to infrastructure development, as well as facilitating cost-effective cargo movements with fewer delays. The port is recognized for its excellent track record of container terminal efficiency and continues to maintain good working relationships with port service providers.

Since October 2008 rates have increased approximately 23 percent in accordance with regular CPI adjustments.



Source: Flinders Port website ([www.flindersports.com.au](http://www.flindersports.com.au)).

### **SUMMARY OF PORT COMPARABLE NUMBER 3**

#### **Port of Gladstone, Australia**

The Port of Gladstone is located 525 kilometers north of Brisbane and is home to six wharf centers comprising thirteen berths. It is operated by the Central Queensland Ports Authority, which is a Government Owned Corporation.

The Port is a convenient point for the worldwide distribution of the wealth of Central Queensland. Rail links to the rich hinterland to the west of the city provide access to the coal mining, agricultural and pastoral areas of the Callide/Dawson Valleys, Central Highlands and Bowen Basin. The port also serves important regional mineral and timber resources. The Port's facilities cater for the import of raw material and the export of finished product associated with major industries in the region. Multi-user facilities cater for the export of the region's coal, mineral and agricultural resources.

Handling more than 50 millions tones of cargo per year, Gladstone's wharves stretch out over 30 kilometers of coast line. With 13 berths totaling approximately 3,217 meters in length, the Queensland government has earmarked the port as Australia's future major industrial center for the 21<sup>st</sup> century.

Since October 2008, rates have increased roughly 24 percent in accordance with regular CPI adjustments.



Source: Port of Gladstone website ([www.gpcl.com.au](http://www.gpcl.com.au)).

## **SUMMARY OF PORT COMPARABLE NUMBER 4**

### **Port Alma, Australia**

Port Alma is the Deep Sea Port of Rockhampton and is located on the Southern Tip of the Fitzroy River Delta, close to the mouth of Raglan Creek. Port Alma is operated by the Central Queensland Ports Authority, which is a Government Owned Corporation.

It is the ocean Port for the city of Rockhampton (from which is approximately 62 km by road) and provides import and export facilities. It is a natural deep water harbor offering security and shelter. It can accommodate vessels of up to 180 meters in length and is a gazette first port of entry for overseas vessels.

The Port currently imports ammonium nitrate, explosives and general cargo. Exports include salt, frozen band tallow, explosives, scrap metal and general cargo. The Port has 3 berths and two container yards. Currently the Port handles over 250,000 tonnes of cargo per year.

Since October 2008, rates have increased roughly 24 percent in accordance with regular CPI adjustments.



Source: Port Alma website ([www.cqpa.com.au](http://www.cqpa.com.au)).



## **SUMMARY OF PORT COMPARABLE NUMBER 5**

### **Townsville Port, Australia**

The Port of Townsville is Queensland's third largest commercial port and plays a vital role in the regional economy. It continues to be one of the state's fastest growing ports.

The port is situated in the heart of tropical North Queensland (1,359 kilometers north of Brisbane, Queensland's capital city), and is unique in that its sea jurisdiction encompasses the World Heritage area adjacent to the Great Barrier Reef Marine Park.

Approximately ten million tonnes of cargo pass over its wharves every year. It is one of the world's leading exporters of base metals. The Port of Townsville moves more than \$3.5 billion worth of exports each year, which amounts to approximately 12 percent of Queensland's export cargo by value. Townsville Port Authority generates almost \$30 million of revenue annually and represents more than ten per cent of north Queensland's gross regional product. Port activity and industries utilizing the port are responsible for over 8,000 regional jobs.

Since October 2008, the port has been transitioning from a government entity to a private corporation. Sustained periods of no increase in rates have resulted in greater increases within the past few years.



Source: Townsville Port website ([www.townsville-port.com.au](http://www.townsville-port.com.au)).

## **SUMMARY OF PORT COMPARABLE NUMBER 6**

### **Port of Darwin, Australia**

Darwin, capital of Australia's Northern Territory, is positioned to play a pivotal role in the nation's future industrial growth and in the ongoing expansion of the entire AustralAsian region. Darwin has long been Australia's pre-eminent port for the export of live cattle and is now becoming the region's primary service and supply base for offshore and onshore oil and gas projects.

The significant growth in exploration, mining and oil & gas projects in the region, including activity in the Timor Sea, presents an immediate opportunity for Darwin to further develop its logistical support capacity. The port holds the world record for having loaded 22,184 head of cattle on one vessel in October 2007 for export.

The Port has 13 berths totaling a length of 1,863 meters capable of handling a diverse range of vessel types and cargoes. Regional breakbulk cargoes are handled by a number of shipping lines. Iron ore and manganese are being both stockpiled and shipped with export capacities expected to rise substantially in the future. Bulk liquids are handled at a dedicated berth connected to the state of the art Darwin Industry fuel Terminal. The Port is recognized as a major regional support and service center for the offshore oil and gas industry. Vessels up to 246m LOA and 12.83m draft have been accepted in the Port.

In August of 2009 the port went through a drastic rate pricing project. Adjustments to rates will now be made based upon CPI. Previous to this, the port subsidized private companies, which accounted for historically higher import rates and extremely low export rates.



Source: Port of Darwin website ([www.nt.gov.au/dpa](http://www.nt.gov.au/dpa)).

## **SUMMARY OF PORT COMPARABLE NUMBER 7**

### **Port of Pago Pago, American Samoa**

Pago Pago is located nearly equidistant between major Pacific ports such as Sydney, Auckland, Inchon, Shanghai, Long Beach, Panama and South America. Many major developments have been completed for the seaport and many more are in design and construction. Located on the south cost of Tutuila Island and the principle port of American Samoa, the Port can handle vessels up to 179 meters.

Approximately one million tonnes of cargo are handled annually. The depth at the entrance to Pago Pago Harbor is between 55 meters and 73 meters. Two tugs are readily available and anchorage is allowed anywhere in the inner harbor with depths ranging from 11 meters to 45.5 meters. The Port has 5 berths totaling 694 meters. Tuna canning is the primary industry in Pago Pago.

Since October 2008, no new rates have come in to effect for the port.



Source: Port of Pago Pago brochure.

The subject was compared with the ports summarized in order to analyze the tariff structure for pertinent throughput rates including, if available, import, export, bunkering and other rates. A summary of our research is shown on the following page. The seven ports reviewed reflect throughput import rates ranging from \$0.41 (American Samoa) to \$1.16 (Saipan, CNMI) per barrel. Excluding the high and low indicators, the comparables reflect a range of \$0.56 to \$0.79 per barrel. The most similar comparable by population involves Townsville, Australia which reflects \$0.67 per barrel. The prior Guam port rate of \$0.16 per barrel is extremely low on this comparative basis. The temporarily increased Guam figure of \$0.40 per barrel is also low considering recent regional fee increases implemented since 2008.

The average rate for the seven comparables reflects \$0.71 per barrel, up 22 percent from the \$0.58 per barrel average reflected in our 2008 report. Considering the recently upgraded Saipan port reflects a unit rate of \$1.16 per barrel, the indicated average rate appears to be justified for Guam. Our updated analysis indicates that an approximately 50 percent discount off of the Saipan rate would be reasonable for Guam, indicating an import throughput fee of \$0.60 per barrel. However, considering the Guam port condition, economies of scale (which forced Saipan rates up 90 percent) and other factors, a concluded rate of \$0.50 per barrel is fair and reasonable. Further details regarding our analysis are included in our files.

Considering that the prior fee structure for Guam was established in 1991 (reportedly a \$0.04 per barrel reduction was implemented that year), it is likely that a significant increase is appropriate. The fee increase, if market based, would apply for inflationary purposes and other factors. The inflationary index analysis was previously discussed in detail in our prior report. An updated summary of CPI inflationary rates since 1991 is included on a following page. The data indicates that an increase of 57 percent is applicable since 1991. The data reflects U.S. averages and Guam inflation is generally regarded as higher than in the U.S. Further, the fuel index for Guam reflects higher inflation. A more likely inflation rate approximates 75 percent.

However, considering the substantial increases in fees at ports throughout the region since 2008, a more significant increase is applicable. Overall, a recommended increase to \$0.50 per barrel is justified by our market research and analysis.



SUMMARY OF PORT BUNKERING/FUEL THROUGHPUT WHARFAGE RATES  
Western and South Pacific

Port No.	Port Location	Approximate Population [1]	Fees Effective Date	Wharfage Rate (\$/42-US gallon barrel) [2] [3]			Comments
				Import	Export	% change since 10/08	
Subject	Jose D. Leon Guerrero Port, Guam, USA	180,865	2010	\$0.40	\$0.19	150% (import) 153% (export)	Rates reflect temporary increase in 2010. Other rates reflect truck to vessel, direct to vessel throughput pipelines and vessel to vessel. Storage fee of \$1.00 per bbl.
1	Port of Saipan, CNMI	48,317	2009	\$1.16	\$1.16	90%	Bunker fees reflect \$0.86 for residual oil and \$1.43 for diesel oil. All fuel storage is privately owned.
2	Flinders Port, South Australia, Australia	1,629,500	2010	\$0.76	\$0.76	23%	Reflects bulk cargo rate on liquids. No throughput or storage fees as pipelines and storage tanks are privately owned. Bunker fees privately handled.
3	Gladstone Port, Queensland, Australia	31,028	2010	\$0.61	\$0.61	24%	Handles more than 50 million tonnes of cargo per year. Queensland's largest port. Bunkering and storage handled privately.
4	Alma Port, Queensland, Australia	59,755	2010	\$0.56	\$0.56	24%	Ocean Port for the city of Rockhampton, the largest urban center in Central Queensland. Bunkering and storage handled privately.
5	Townsville Port, North Queensland, Australia	175,542	2010	\$0.67	\$0.67	46%	Approximately ten million tonnes of cargo transported annually. Bunkering and storage handled privately. Former Government entity transitioning to private company, rates increasing faster due to historical trend of no price increase.
6	Darwin Port, Northern Territory, Australia	124,800	2010	\$0.79 (see comments)	\$1.04	-22% (import) 845% (export)	Australia's most northerly capital city port. In 08/09 went through a rate pricing project throughout the port. Adjustments now based on CPI. Prior to this, port subsidized private companies.
7	Port of Pago Pago, American Samoa	66,432	1987	\$0.41	\$0.41	0%	Wharfage charge for each ton of cargo loaded or unloaded is \$3.00. Bunker, throughput and storage fees handled privately.
Averages (excluding Guam):				\$0.71	\$0.75		

[1] Population source: CIA World Factbook ([www.cia.gov/library/publications/the-world-factbook](http://www.cia.gov/library/publications/the-world-factbook)) and Australian Bureau of Statistics ([www.abs.gov.au](http://www.abs.gov.au)).[2] Currency source: *Yahoo! Finance* (One AUD equals approximately \$0.87 USD). Australian GST included in rates levied at 10%.[3] Oil industry conversions from the Energy and Planning Office, Ministry of Energy, Thailand.  
Sources: Various Port Authorities and interviews.



**SUMMARY OF HISTORICAL CHANGES IN CONSUMER PRICE INDEX [1]**  
**Year 1991-2009**

<b>Year</b>	<b>Annual CPI (as of December)</b>	<b>Annual % Change</b>	<b>Total % Change</b>
1991	137.9	3.1%	
1992	141.9	2.9%	
1993	145.8	2.7%	
1994	149.7	2.7%	
1995	153.5	2.5%	
1996	158.6	3.3%	
1997	161.3	1.7%	
1998	163.9	1.6%	
1999	168.3	2.7%	
2000	174.0	3.4%	
2001	176.7	1.6%	
2002	180.9	2.4%	
2003	184.3	1.9%	
2004	190.3	3.3%	
2005	196.8	3.4%	
2006	201.8	2.5%	
2007	210.0	4.1%	
2008	210.2	0.1%	
2009	215.9	2.7%	
<i>Average Annual Percentage Change</i>		<u>3.0%</u>	
<i>Total Percentage Change Since 1991</i>			<u>56.6%</u>

**Source: U.S. Department of Labor, Bureau of Labor Statistics**  
 (Data available as of June 2010).

[1] All Urban Consumers - (CPI-U), U.S. City Average, All Items

The application of an assumed 75 percent inflationary index to the prior rate reflects an adjusted rate of \$0.28 per barrel. However, this figure remains significantly below the average of the seven comparables which reflects \$0.71 per barrel. The average of the inflationary adjusted rate, and the average of the seven comparables, reflects \$0.50 per barrel. This figure appears reasonable in light of Saipan rates, comparable market data herein, rate history of PAG and other factors.

The Commercial Port of Guam has proposed a required \$193 million in capital expenditures in order to accommodate the anticipated increase in activity. Although a detailed cost-based analysis is beyond the scope of this assignment, the recovery of this investment will be critical for sustainable operations at the port. Assuming a 12 percent rate of return, Port revenues would require an increase of over \$23 million, or nearly double the recent average revenue. However, this is likely understated because port demand will fall once the military build-up is complete. A 100 percent increase to the prevailing rate under analysis reflects \$0.32 per barrel. This rate appears low based on prevailing rates in the region. Overall, on a preliminary cost recovery basis, the \$0.50 per barrel rate appears reasonable.

Overall, our analysis tends to support a revised tariff rate for the importation of bunkering/fuel throughput/waste oil fees from our previously concluded \$0.40 to \$0.50 per barrel. The increase reflects over 200 percent from the 1991 rate and allows for a rate that remains well below Saipan and below other comparable ports in the region. This conclusion is supported by the industry/market analysis and inflationary considerations detailed herein. The increase in this rate should be applied evenly to the additional rates under analysis for this study. We are not aware of any rationale that would require separate percentage rate increases for the fee structure items analyzed herein. The 25 percent increase rate above our November 2008 conclusions recommended herein, was applied to the related fees and is summarized as follows.

Fee Structure Item	November 2008 Recommended Rate (\$/bbl)	Updated June 2010 Recommended Rate (\$/bbl)
Bunkering/Fuel Throughput/ Waste Oil Fees		
• Import	\$0.40	\$0.50
• Export	\$0.19	\$0.24
• Bunkering	\$0.53	\$0.66
• From truck to vessel when serviced at port piers	\$0.40	\$0.50
• Direct to or from vessel through privately-owned pipelines located on port property	\$0.35	\$0.44
• Vessel to Vessel	\$0.40	\$0.50
• Storage	\$1.00	\$1.25

SUMMARY OF CONCLUSIONS

Our assignment involved consulting services regarding recommended revisions to certain bunkering/fuel throughput/waste oil as detailed herein. Based on our research and analyses, subject to the Assumptions and Limiting Conditions herein, as of June 23, 2010, we conclude recommended revisions to certain Port throughput rates as follows.

Fee Structure Item	November 2008 Recommended Rate (\$/bbl)	Updated June 2010 Recommended Rate (\$/bbl)
Bunkering/Fuel Throughput/ Waste Oil Fees		
• Import	\$0.40	\$0.50
• Export	\$0.19	\$0.24
• Bunkering	\$0.53	\$0.66
• From truck to vessel when serviced at port piers	\$0.40	\$0.50
• Direct to or from vessel through privately-owned pipelines located on port property	\$0.35	\$0.44
• Vessel to Vessel	\$0.40	\$0.50
• Storage	\$1.00	\$1.25

Further details regarding the nature of port tariffs, as well as possible volume or long-term agreement discounts and other factors are detailed herein. Our conclusions are subject to the Assumptions and Limiting Conditions included herein; particularly with respect to Methodology.