CA-IR-148

Ref: T-5, Page 4, Lines 1-3

Please provide complete copies of the analysis and all workpapers related to the derivation of the second order equations for AES and Kalaeloa.

HECO Response:

The information is voluminous. One copy (pages 2 to 72) will be provided to the Consumer Advocate and the Public Utilities Commission under separate transmittal.

GENPP 31
YB/G

INTEROFFICE CORRESPONDENCE

Hawaiian Electric Company

November 15, 1999

To: T. C. Simmons
R. K. S. Y. Young

From: R. B. Munger

Subject: AES-Hawaii ABC Coefficients

At the request of the Power Purchase Division, we have developed updated ABC coefficients which are verifiable and reproducible. The coefficients, which include the variable O&M cost component given in the AES-Hawaii Power Purchase Agreement, are given in the attached document, titled "Modeling of the AES-Hawaii Power Purchase Agreement in PMONTH and EMS." We recommend use of these coefficients in production simulation modeling and in unit dispatch in EMS.

If you have any questions, please call Ross Sakuda at extension 4450.

RHS
Attachment

cc w/ attach: D. Schwartz
M. Fukuji
D. Ching/D. Higashi
C. Shigeta
T. Battisto
K. Abenoja
T. Kwok

Modeling of the AES-Hawaii Power Purchase Agreement in PMONTH and EMS

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Power Supply Planning and Engineering Department
Generation Planning Division

October 14, 1999

1.0 Objective

The objective of this paper is to establish the specific A, B and C coefficients in a second degree polynomial to approximate the contract pricing of the 180 MW AES Hawaii, Inc. (AES-Hawaii) coal unit for economic dispatch and production cost modeling purposes. Values in the formula will be used in System Operation's Energy Management System (EMS) for economic dispatch of the unit and in Generation Planning Division's production simulation model, PMONTH, for long-term planning purposes. The formula needs to be documented and reproducible.

2.0 Background

2.1 Mathematical Basis for Economic Dispatch and Production Simulation

Economic dispatch of generating units on the Oahu system is performed by the HECO Energy Management System (EMS) in the System Operation Department. The EMS requires that the performance of each unit be described mathematically by a second degree polynomial which expresses fuel consumption (in MBtu/hr) as a function of load (in MW). For each HECO unit, this second degree polynomial is of the form:

$F = A + BL + CL^2$, where [Equation 2.1-1]

F = unit fuel consumption rate in MBtu/hour;

A, B and C = constants determined by a least-squares curve-fit method applied to test data; and

L = load on the unit in MW.

The cost rate for fuel, Q, in \$/hour, is the fuel consumption rate, F, multiplied by the fuel price, P, in \$/MBtu. That is,

Q (\$/hr) = F (MBtu/hr) x P (\$/MBtu), or

$Q = (A + BL + CL^2) \times P$ [Equation 2.1-2]

The formula for the marginal fuel cost is determined by taking the derivative of Equation 2.1-2.

$MC = \frac{dQ}{dL} = P \times (B + 2CL)$, where [Equation 2.1-3]

MC = marginal cost, \$/MWh.

For a given system load, the point at which the system can be operated at minimum fuel cost is that point where the marginal costs of all units are equal and the sum of the individual unit loads is equal to the system demand.

In order to forecast future system fuel costs, the production costing computer model, PMONTH, is used. PMONTH simulates the economic dispatch of the system by emulating the function of the EMS. While PMONTH is able to utilize polynomials up to the fourth degree to describe the fuel consumption versus load relationship, the standard practice is to use a second degree polynomial in order to most accurately simulate EMS operation.

2.2 AES-Hawaii Power Purchase Agreement

HECO purchases capacity and energy from AES-Hawaii, which owns and operates a 180 MW coal unit that commenced commercial operation in September 1992. Actual payments to AES-Hawaii for fuel and variable O&M costs are calculated in accordance with a pricing formula given in the Power Purchase Agreement (PPA) between HECO and AES-Hawaii. The pricing formula is a third degree polynomial as specified in Section 3.1 below.

For actual operating dispatch, a second degree approximation of the third degree pricing formula is used in EMS[1]. For production simulation, a second degree approximation is also used. The second degree polynomial approximation is of the form given in Equation 2.1-2.

In 1991, the Generation Planning Division established the A, B and C constants (ABC constants) for the second degree polynomial approximation of the AES-Hawaii PPA to be[2]:

A = 260.2	(superseded)
B = 14.41	(superseded)
C = 0.005483	(superseded)

based on Section 18 of Amendment No. 1, dated August 28, 1989, of the PPA. These constants reflected only fuel consumption and did not include variable O&M costs.

[1] EMS can utilize an economic dispatch polynomial up to the fourth order, provided the derivative of the polyonimial is an increasing function. The AES-Hawaii PPA formula does not meet this criterion. Therefore, a second order polynomial is used to approximate the PPA formula. It was shown in "Evaluation of the Use of Third Degree Polynomials for Production Cost Modeling and Economic Dispatch," prepared by the Power Supply

In 1993, a change was made to the AES-Hawaii ABC constants. In addition, the variable O&M cost, escalated to take into account GNPIPD, was applied separately in EMS. The 1993 AES-Hawaii PPA ABC constants, which were in use in EMS as of this writing, were determined to be:

A = 269.707	(to be superseded by coefficient proposed in this document)
B = 14.344	(to be superseded by coefficient proposed in this document)
C = 0.0057854.	(to be superseded by coefficient proposed in this document)

Unfortunately, these 1993 constants are not verifiable or reproducible because of the lack of documentation of the methodology and data utilized to develop those constants.

Given this, the Power Purchase Division requested assistance from the Generation Planning Division to establish an updated set of documented, verifiable and reproducible ABC constants.

3.0 Development of Formula to Represent AES-Hawaii PPA Pricing

3.1 AES-Hawaii PPA

Section 18 of Amendment No. 1 of the AES-Hawaii PPA provides that the monthly energy charge shall be calculated as follows:

Monthly Energy Charge in July 1987 dollars = Fuel Cost + Variable O&M Cost

+ Fixed O&M Cost

Since economic dispatch of the AES-Hawaii unit is based only upon fuel and variable O&M costs, then for dispatch purposes in EMS and modeling purposes in PMONTH:

Monthly Energy Charge (used for dispatch) in July 1987 dollars =

Fuel Cost + Variable O&M Cost.

The specific formulas given in the PPA for fuel and variable O&M costs in July 1987 dollars are as follows:

$$\text{Fuel cost} = \sum_{i=1}^{i=H} [(0.000016803L_i^2 - 0.0056145L_i + 2.15619) \times (E_i/100)] ,$$

where:

Fuel cost = total dollars for the month

L_i = integrated hourly load of the Facility in megawatts (rounded to the third decimal place) for each hour of the month being invoiced;

E_i = kilowatthours purchased during each specific hour of the month being invoiced;

H = the total number of hours in the month being invoiced; and

i = i*th* hour.

(It should be noted that the letters in this equation were changed from the actual letters used in the PPA to avoid confusion with the ABC constants in the energy pricing and marginal cost formulas.)

Variable O&M cost = ($0.0005/kWh) x (Total kilowatthours purchased in the month being invoiced)

The formula for the monthly energy charge for EMS dispatch and for PMONTH modeling purposes, which includes fuel and variable O&M costs but excludes fixed O&M costs, may thus be written as follows:

Monthly Fuel + Variable O&M Cost in July 1987 dollars

$$= \{ \sum_{i=1}^{i=H} [(0.000016803L_i^2 - 0.0056145L_i + 2.15619) \times (E_i/100)] \} +$$

$$[0.0005 \times (\text{Total kWh purchased})]$$

Total kWh purchased can also be represented by $\sum_{i=1}^{i=H} E_i$.

For each hour *i*, E_i (kWh) = L_i (MW) x 1,000 $\frac{kW}{MW}$ x 1 hour. Therefore, substituting for E_i and Total kWh purchased, the fuel and variable O&M cost for hour *i* in July 1987 dollars

$$= [(0.000016803L_i^2 - 0.0056145L_i + 2.15619) \times (1000\ L_i/100)] +$$

$$[0.0005 \times 1000\ L_i].$$

$$= [(0.000016803L_i^2 - 0.0056145L_i + 2.15619) \times (10\ L_i)]$$

$$+ (0.5\ L_i)$$

$$= 0.00016803\ L_i^3 - 0.056145\ L_i^2 + (21.5619 + 0.5)\ L_i \qquad \text{[Equation 3.1-1]}$$

Next, an allowance for changes in the Gross National Product Implicit Price Deflator (GNPIPD) needs to be incorporated. The last paragraph of Section 5.1A of the original PPA, dated March 25, 1988, states:

> "The total Energy Charge (including reactive power charges) shall be adjusted every six months (on January 1 and July 1) at one-hundred (100) percent of the change in the Gross National Product Implicit Price Deflator ("GNPIPD") as illustrated in Exhibit 5."

To incorporate this provision, let $Q_{AES\ 1987}$ (hour$_i$) = AES fuel and variable O&M cost in hour *i* in July 1987.

$$Q_{AES\ 1987}\ (\text{hour}_i)\ (\$/\text{hr}) = 0.00016803\ L_i^3 - 0.056145\ L_i^2 + (21.5619 + 0.5)\ L_i$$

In accordance with the PPA, AES fuel and variable O&M cost in hour *i* in year *k*:

$Q_{AES\ k}$ (hour$_i$) = $Q_{AES\ 1987}$ (hour$_i$) x G_k , where:

G_k = GNPIPD adjustment factor

= $GNPIPD_c$ / $GNPIPD_{1987}$ (rounded to four places after the decimal point, per letter from HECO to AES-Hawaii dated May 27, 1992), where:

$GNPIPD_c$ = GNPIPD value for current period (specifically, the previous year's Third Quarter final GNPIPD (for a January 1 adjustment) or the current year's First Quarter final GNPIPD (for a July 1 adjustment)) and

$GNPIPD_{1987}$ = GNPIPD value for the base year of 1987 (specifically, the final First Quarter 1987 GNPIPD).

Therefore,

$$Q_{AES\ k}\ (\text{hour}_i) = G_k \times [0.00016803\ L_i^3 - 0.056145\ L_i^2 + (21.5619 + 0.5)\ L_i]$$

[Equation 3.1-2]

3.2 Determination of ABC Constants for Second Order Approximation

In order for the relationship in Equation 3.1-2 to be used in EMS and PMONTH, the bracketed portion of the equation, which is a third degree polynomial, must be approximated by a second degree polynomial. In other words,

$$Q_{AES\ 1987}\ (hour_i)\ (\$/hr) = 0.00016803\ L_i^{\ 3} - 0.056145\ L_i^{\ 2} + (21.5619 + 0.5)\ L_i$$

[Equation 3.2-1]

must be approximated by an equation of the form:

$$Q_{AES\ 1987}\ (hour_i)\ (\$/hr) \cong C_{AES}\ L_i^{\ 2} + B_{AES}\ L_i + A_{AES}\ ,$$ [Equation 3.2-2]

similar to Equation 2.1-2.

It must be noted that because Equation 3.2-1 includes the variable O&M cost adder, Equation 3.2-2 implicitly includes variable O&M costs.

The ABC constants which provide a good approximation of Equation 3.2-1 by Equation 3.2-2 were derived through a least-squares curve-fit methodology. An explanation of the least-squares curve-fit methodology used can be found in Attachment 5.

First, data points were generated by determining values for $Q_{AES\ 1987}$ ($hour_i$) as a function of L_i using Equation 3.2-1. These data points are shown in Attachment 1. Next, using the least-squares curve-fit methodology, a second order polynomial was derived such that Equation 3.2-2, with appropriate ABC constants, approximated Equation 3.2-1.

Attachment 2, Section 1, shows the calculation of the ABC constants for Case 1 in which a range of data points between the 63 to 180 MW operating range of AES was used. A comparison of the heat rates derived from the PPA formula and the ABC constants is shown in tabular form and graphically in Sections 2 and 3, respectively, of Attachment 2. By definition, this is the "best fit" in which the sum of the squares of

It was observed that the curve generated by the ABC constants in Case 1 matched the PPA curve quite nicely between 70 to 180 MW where the deviation was less than ±75 Btu/kWh (< 0.5% at 19,000 Btu/kWh). However, the deviation was more noticeable between 63 to 69 MW, where the variance was up to about 200 Btu/kWh (about 1% at 19,400 Btu/kWh).

In order to check whether or not the variance could be reduced within the 63 to 69 MW range without significantly affecting the variance within the rest of the 70 to 180 MW operating range, additional data points were added from 50 to 62 MW in an attempt to bias the ABC curve toward the PPA curve within this range. The results are shown in Attachment 3. It can be seen that although the error has been minimized within the 63 to 69 MW range, the deviation has increased in the 70 to 90 MW range. Also, the range over which the significant deviation occurs had widened. Furthermore, the sum of the squares of the errors over the 63 to 180 MW operating range had increased. This indicates that the Case 2 curve provides a "poorer fit" compared to Case 1 on an overall basis.

Other data sets were tested but none provided a better overall fit than Case 1. It was therefore concluded that the ABC constants derived in Case 1 should be used for dispatch and modeling purposes.

Implicit in the use of ABC constants derived in Case 1 for the dispatch of AES is the possibility of a small "dispatch error" in the 63 to 69 MW range for AES. In other words, use of the polynomial equation may result in the appearance that AES is more expensive than it actually is in the 63 to 69 MW range. The magnitude of this error was estimated in the study, titled "Modeling of the AES-Hawaii Power Purchase Agreement Using a Third Degree versus a Second Degree Polynomial," dated July 22, 1999, and prepared by the Power Supply Planning and Engineering Department. The study concluded that the error is extremely small. It is therefore recommended that the following ABC constants be used in the AES-Hawaii second order approximation of the PPA:

$A_{AES} = 258.7479$
$B_{AES} = 14.9713$
$C_{AES} = 0.0051019$

4.0 Application in PMONTH and EMS

4.1 PMONTH Production Simulation Model

4.1.1 Input Data

The following data must be input to PMONTH:

a) ABC constants for each generating unit;
b) Year-by-year forecasted fuel prices, in cents/MBtu, for each fuel type; and
c) Heat content, in MBtu/bbl for oil and MBtu/ton for coal, for each fuel type.

4.1.2 Output Data

PMONTH will generate the following output data:

a) Total fuel consumed, in bbls (oil) or tons (coal) and in MBtu; and
b) Fuel cost, in total $, $/MWh, and cents/MBtu.

4.1.3 PMONTH Calculations

For a given system demand, the fuel consumption rate, in MBtu/hr, in each hour for each unit is calculated using Equation 2.1-1, the ABC constants for each unit, and the load at which each unit is operating. The cost of the fuel consumed by each unit in that hour is calculated by multiplying the fuel consumption rate for each unit by the cost of the fuel, in $/MBtu, consumed by that unit as given in Equation 2.1-2.

To calculate the total quantity of fuel consumed in a particular hour, in barrels of oil or tons of coal, the fuel consumption rate for that hour, in MBtu/hr, is multiplied by 1 hour and divided by the heat content of the fuel, in MBtu/bbl or MBtu/ton.

4.1.4 Modeling of AES-Hawaii PPA in PMONTH

As noted in Section 3.1 above, AES-Hawaii's cost of fuel and variable O&M

billable to HECO in year *k* based on the integrated hourly load L in hour *i* is described by the formula:

$$Q_{AES\ k}\,(hour_i) = G_k \times [0.00016803\ L_i^{\,3} - 0.056145\ L_i^{\,2}$$

in order to be modeled in PMONTH.

As noted in Section 4.1.3, PMONTH calculates the hourly cost of fuel for a given unit operating at a given load by applying the formulas:

Q ($/hr) = F (MBtu/hr) x P ($/MBtu), or

$Q = P \times (A + BL + CL^2)$, where [Equation 2.1-2]

A, B, C and P are inputs to PMONTH as noted in Section 4.1.1.

Since Equation 4.1-1 is similar in form to Equation 2.1-2, Equation 4.1-1 can be modeled in PMONTH if the year-by-year fuel prices, 100 P, are assigned the values of 100 G_k. The factor of 100 is needed to convert P, and therefore G_k, from $/MBtu to the PMONTH input of cents/MBtu.

Equation 3.1-2 defines the amount payable by HECO to AES-Hawaii for fuel and variable O&M in each hour based on the load, L_i, at which AES-Hawaii is dispatched in that hour. The equation is purely a pricing formula for AES-Hawaii's fuel and variable O&M expenses. The amount calculated by the equation is not necessarily tied to the actual quantity of coal burned by AES-Hawaii since the equation is only one portion of a contractual arrangement by which AES-Hawaii recovers its fixed, variable and fuel costs. Since the actual quantity of fuel burned cannot be calculated, the input value for heat content is not needed. However, since PMONTH requires an entry for that parameter, a value of 1 MBtu/bbl is entered as a placeholder. The resulting fuel consumption calculation made by PMONTH using this value is not meaningful.

4.2 Dispatch of AES-Hawaii in EMS

In EMS, the total production cost for a particular unit in a particular hour is determined from the equation:

T = (P x F) + Maintenance Cost, where:

T = Production cost, $/hour

P = Fuel cost, $/MBtu

F = Fuel consumption rate, MBtu/hr, where

$F = A + BL + CL^2$ [Equation 2.1-1]

Maintenance Cost = VOM x L , where

VOM = variable O&M cost ($/MWh)

L = Load, MW

The equation then becomes

$$T = [P \times (A + BL + CL^2)] + (VOM \times L) \qquad \text{[Equation 4.2-1]}$$

It must be noted that <u>Equation 4.2-1 has an explicit adder for variable O&M costs</u>. This is in contrast to <u>Equation 3.2-2</u> which <u>implicitly includes variable O&M costs</u>.

In the case for AES-Hawaii, let the fuel-only portion of the total energy charge be approximated by an equation of the form:

$$Q_{AES\ 1987\ FUEL\ ONLY}(hour_i) = A' + B'L_i + C'L_i^2 . \qquad \text{[Equation 4.2-2]}$$

Equation 4.2-1 can be rewritten as:

$$T_{AES\ 1987} = (A' + B'L_i + C'L_i^2) + (VOM_{1987} \times L_i)$$

$$= A' + (B'L_i + VOM_{1987} \times L_i) + C'L_i^2$$

$$= A' + (B' + VOM_{1987})\,L_i + C'L_i^2 \qquad \text{[Equation 4.2-3]}$$

The AES-Hawaii pricing formula (Equation 3.2-1) can be approximated by either Equation 4.1-1 or Equation 4.2-3, provided an adjustment is made for pricing escalation in accordance with the PPA. In other words, the pricing can be represented by:

$$Q_{AES\ k}(hour_i) \cong G_k \times [C_{AES}L_i^2 + B_{AES}L_i + A_{AES}], \qquad \text{[Equation 4.1-1]}$$

or

$$T_{AES\ 1987}(hour\ i) = A' + (B' + VOM_{1987})\,L_i + C'L_i^2 \qquad \text{[Equation 4.2-3]}$$

Since $T_{AES\ 1987}$ (hour *i*) is in 1987 dollars, it needs to be adjusted by G_k, the GNPIPD adjustment factor.

In the AES-Hawaii PPA, the variable O&M component must also be escalated by the GNPIPD factor. Also, in EMS as in PMONTH, the fuel prices must be escalated by

the GNPIPD factor, i.e., the 1987 base price must be multiplied by G_k, where *k* is the year for which the factor applies. Therefore, Equation 4.2-3 may be rewritten as:

$$Q_{AES\,k}\,(\text{hour } i) = G_k \times [\,A' + (B' + VOM)(L_i) + C'L_i^2\,]$$

$$= G_k \times [\,A' + (B' + 0.5)(L_i) + C'L_i^2\,] \qquad \text{[Equation 4.2-4]}$$

since the variable O&M component is $0.5 per MWh as noted in Section 3.1.

The [illegible]

$A_{AES} = A'$
$B_{AES} = (B' + 0.5)$
$C_{AES} = C'$

From Section 3.2:

$A_{AES} = 258.7479$
$B_{AES} = 14.9713$
$C_{AES} = 0.0051019$

If a curve is fit to the equation:

$$Q_{AES\,k}\,(\text{hour } i) = G_k \times [\,A' + (B')(L_i) + C'L_i^2\,]$$

the resulting coefficients are shown in Attachment 4 and are as follows:

$A' = 258.7479$
$B' = 14.4713$

$A_{AES} = 258.7479$
$B_{AES} = 14.9713$
$C_{AES} = 0.0051019$

These coefficients may be used in both PMONTH and EMS.

The equation to describe the cost of fuel and variable O&M would be:

$$Q_{AES\ k}(hour_i) = G_k \times [0.0051019\ L_i^2 + 14.9713\ L_i + 258.7479],$$ where

G_k = GNPIPD adjustment factor as described in Section 3.1.

6.2 Future Updates

The PPA requires that the total Energy Charge be adjusted every six months (on January 1 and July 1) at one-hundred (100) percent of the change in the GNPIPD. In Equation 4.1-1, the term G_k would capture this change every six months. Therefore, the ABC constants need not be changed in future updates once they are established and approved. Only G_k needs to be updated.

7.0 Recommendation

From the above analysis, it is recommended that the following second order polynomial from Case 1 be used to represent the PPA formula for fuel and variable O&M costs for economic dispatch in EMS and for production costing modeling in PMONTH:

$$\mathbf{Q_{AES\ k}(hour_i)\ (\$/hr) = G_k \times (C_{AES}\ L_i^2 + B_{AES}\ L_i + A_{AES})}$$

$\mathbf{A_{AES} = 258.7479}$
$\mathbf{B_{AES} = 14.9713}$
$\mathbf{C_{AES} = 0.0051019}$

G_k = GNPIPD adjustment factor
= $GNPIPD_c$ / $GNPIPD_{1987}$ (rounded to four places after the decimal point), where:

$GNPIPD_c$ = GNPIPD value for current period (specifically, the previous year's Third Quarter final GNPIPD (for a January 1 adjustment) or the current year's First Quarter final GNPIPD (for a July 1 adjustment)) and

$GNPIPD_{1987}$ = GNPIPD value for the base year of 1987 (specifically, the final First Quarter 1987 GNPIPD).

In PMONTH, the following should be entered into the database:

Heat content = 1 MBtu/bbl
Fuel cost in cents/MBtu for the appropriate six month period k = 100 G_k.

In the EMS, the following should be entered into the database:

Fuel cost in \$/MBtu = P = G_k

Variable O&M cost in \$/MWh = VOM = 0, since the variable O&M is already accounted for in the ABC constants, where:

A_{AES} = 258.7479
B_{AES} = 14.9713
C_{AES} = 0.0051019

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ATTACHMENT 1

Data Points Generated from PPA Formula for Fuel and Variable O and M Costs

AES-Hawaii PPA Formula for Fuel and Variable O&M Costs

Fuel and Variable O&M Cost for One Hour in 1987 ($/hour) =

$0.00016803L^3 - 0.056145L^2 + (21.5619 + 0.5)L$, where

L = Load in MW for that hour

Load, MW	Fuel and Variable O&M Cost, $/hour	Load, MW	Fuel and Variable O&M Cost, $/hour	Load, MW	Fuel and Variable O&M Cost, $/hour	Load, MW	Fuel and Variable O&M Cost, $/hour	Load, MW	Fuel and Variable O&M Cost, $/hour
20	420.1	60	1,157.9	100	1,812.8	140	2,449.3	180	3,132.0
21	440.1	61	1,175.0	101	1,828.6	141	2,465.5	181	3,150.2
22	460.0	62	1,192.1	102	1,844.5	142	2,481.8	182	3,168.5
23	479.8	63	1,209.1	103	1,860.3	143	2,498.1	183	3,186.9
24	499.5	64	1,226.0	104	1,876.2	144	2,514.4	184	3,205.3
25	519.1	65	1,243.0	105	1,892.0	145	2,530.8	185	3,223.8
26	538.6	66	1,259.8	106	1,907.8	146	2,547.2	186	3,242.4
27	558.0	67	1,276.6	107	1,923.7	147	2,563.6	187	3,261.0
28	577.4	68	1,293.4	108	1,939.5	148	2,580.1	188	3,279.8
29	596.7	69	1,310.2	109	1,955.3	149	2,596.6	189	3,298.6
30	615.9	70	1,326.9	110	1,971.1	150	2,613.1	190	3,317.4
31	635.0	71	1,343.5	111	1,986.9	151	2,629.7	191	3,336.4
32	654.0	72	1,360.1	112	2,002.7	152	2,646.3	192	3,355.5
33	672.9	73	1,376.7	113	2,018.5	153	2,663.0	193	3,374.6
34	691.8	74	1,393.2	114	2,034.3	154	2,679.7	194	3,393.8
35	710.6	75	1,409.7	115	2,050.2	155	2,696.4	195	3,413.1
36	729.3	76	1,426.2	116	2,066.0	156	2,713.2	196	3,432.5
37	747.9	77	1,442.6	117	2,081.8	157	2,730.1	197	3,451.9
38	766.5	78	1,459.0	118	2,097.6	158	2,746.9	198	3,471.5
39	785.0	79	1,475.3	119	2,113.5	159	2,763.9	199	3,491.1
40	803.4	80	1,491.7	120	2,129.3	160	2,780.8	200	3,510.8
41	821.7	81	1,507.9	121	2,145.1	161	2,797.9	201	3,530.6
42	840.0	82	1,524.2	122	2,161.0	162	2,814.9	202	3,550.5
43	858.2	83	1,540.4	123	2,176.9	163	2,832.1	203	3,570.5
44	876.3	84	1,556.6	124	2,192.8	164	2,849.2	204	3,590.6
45	894.4	85	1,572.8	125	2,208.7	165	2,866.5	205	3,610.8
46	912.4	86	1,589.0	126	2,224.6	166	2,883.8	206	3,631.1
47	930.3	87	1,605.1	127	2,240.5	167	2,901.1	207	3,651.4
48	948.2	88	1,621.2	128	2,256.4	168	2,918.5	208	3,671.9
49	966.0	89	1,637.2	129	2,272.4	169	2,936.0	209	3,692.5
50	983.7	90	1,653.3	130	2,288.4	170	2,953.5	210	3,713.1
51	1,001.4	91	1,669.3	131	2,304.4	171	2,971.0	211	3,733.9
52	1,019.0	92	1,685.3	132	2,320.4	172	2,988.7	212	3,754.8
53	1,036.6	93	1,701.3	133	2,336.4	173	3,006.4	213	3,775.7
54	1,054.1	94	1,717.3	134	2,352.5	174	3,024.1	214	3,796.8
55	1,071.5	95	1,733.2	135	2,368.5	175	3,041.9	215	3,818.0
56	1,088.9	96	1,749.2	136	2,384.6	176	3,059.8	216	3,839.2
57	1,106.2	97	1,765.1	137	2,400.8	177	3,077.8	217	3,860.6
58	1,123.5	98	1,781.0	138	2,416.9	178	3,095.8	218	3,882.1
59	1,140.7	99	1,796.9	139	2,433.1	179	3,113.8	219	3,903.7

Notes:

(1) Spreadsheet originally prepared by Debbie Higashi, 1/20/94. Modified by R. Sakuda, 3/3/99.

(2) Load in MW is net delivered to the system.

ATTACHMENT 2

Calculation of ABC Constants and Comparison of Hourly Cost Rates
Case 1 - 63 to 180 MW Data Range

Section 1 - Calculation of ABC Constants

Data Point No.	Load, MW (x)	Fuel and Variable O&M Component, $/hr (y)	x^2	x^3	x^4	xy	x^2y		
1	63.00	1,209.08	3,969	250,047	15,752,961	76,172	4,798,821	No. of Data Points	
2	64.00	1,226.04	4,096	262,144	16,777,216	78,467	5,021,859	=	118
3	65.00	1,242.06	4,225	274,625	17,850,625	80,792	5,251,490		118

ATTACHMENT 2

Calculation of ABC Constants and Comparison of Hourly Cost Rates
Case 1 - 63 to 180 MW Data Range

Section 1 - Calculation of ABC Constants

Data Point No.	Load, MW (x)	Fuel and Variable O&M Component, $/hr (y)	x^2	x^3	x^4	xy	x^2y
52	114.00	2,034.34	12,996	1,481,544	168,896,016	231,915	26,438,283
53	115.00	2,050.15	13,225	1,520,875	174,900,625	235,768	27,113,280
54	116.00	2,065.97	13,456	1,560,896	181,063,936	239,653	27,799,701
55	117.00	2,081.79	13,689	1,601,613	187,388,721	243,570	28,497,657
56	118.00	2,097.62	13,924	1,643,032	193,877,776	247,519	29,207,259
57	119.00	2,113.45	14,161	1,685,159	200,533,921	251,501	29,928,622
58	120.00	2,129.30	14,400	1,728,000	207,360,000	255,516	30,661,860
59	121.00	2,145.15	14,641	1,771,561	214,358,881	259,563	31,407,088
60	122.00	2,161.01	14,884	1,815,848	221,533,456	263,643	32,164,422
61	123.00	2,176.88	15,129	1,860,867	228,886,641	267,756	32,933,979
62	124.00	2,192.76	15,376	1,906,624	236,421,376	271,902	33,715,879
63	125.00	2,208.66	15,625	1,953,125	244,140,625	276,082	34,510,242
64	126.00	2,224.56	15,876	2,000,376	252,047,376	280,295	35,317,187
65	127.00	2,240.49	16,129	2,048,383	260,144,641	284,542	36,136,837
66	128.00	2,256.43	16,384	2,097,152	268,435,456	288,823	36,969,316
67	129.00	2,272.38	16,641	2,146,689	276,922,881	293,138	37,814,747
68	130.00	2,288.36	16,900	2,197,000	285,610,000	297,487	38,673,257
69	131.00	2,304.35	17,161	2,248,091	294,499,921	301,870	39,544,972
70	132.00	2,320.36	17,424	2,299,968	303,595,776	306,288	40,430,021
71	133.00	2,336.40	17,689	2,352,637	312,900,721	310,741	41,328,533
72	134.00	2,352.45	17,956	2,406,104	322,417,936	315,229	42,240,640
73	135.00	2,368.53	18,225	2,460,375	332,150,625	319,752	43,166,472
74	136.00	2,384.63	18,496	2,515,456	342,102,016	324,310	44,106,164
75	137.00	2,400.76	18,769	2,571,353	352,275,361	328,904	45,059,850
76	138.00	2,416.91	19,044	2,628,072	362,673,936	333,534	46,027,668
77	139.00	2,433.09	19,321	2,685,619	373,301,041	338,200	47,009,753
78	140.00	2,449.30	19,600	2,744,000	384,160,000	342,902	48,006,247
79	141.00	2,465.53	19,881	2,803,221	395,254,161	347,640	49,017,289
80	142.00	2,481.80	20,164	2,863,288	406,586,896	352,416	50,043,021
81	143.00	2,498.10	20,449	2,924,207	418,161,601	357,228	51,083,588
82	144.00	2,514.43	20,736	2,985,984	429,981,696	362,077	52,139,133
83	145.00	2,530.79	21,025	3,048,625	442,050,625	366,964	53,209,804
84	146.00	2,547.18	21,316	3,112,136	454,371,856	371,889	54,295,748
85	147.00	2,563.61	21,609	3,176,523	466,948,881	376,851	55,397,117
86	148.00	2,580.08	21,904	3,241,792	479,785,216	381,852	56,514,060
87	149.00	2,596.58	22,201	3,307,949	492,884,401	386,891	57,646,731
88	150.00	2,613.12	22,500	3,375,000	506,250,000	391,969	58,795,284
89	151.00	2,629.70	22,801	3,442,951	519,885,601	397,085	59,959,877
90	152.00	2,646.32	23,104	3,511,808	533,794,816	402,241	61,140,665
91	153.00	2,662.98	23,409	3,581,577	547,981,281	407,437	62,337,811
92	154.00	2,679.69	23,716	3,652,264	562,448,656	412,672	63,551,473
93	155.00	2,696.43	24,025	3,723,875	577,200,625	417,947	64,781,817
94	156.00	2,713.22	24,336	3,796,416	592,240,896	423,263	66,029,006
95	157.00	2,730.06	24,649	3,869,893	607,573,201	428,619	67,293,207
96	158.00	2,746.94	24,964	3,944,312	623,201,296	434,016	68,574,589
97	159.00	2,763.87	25,281	4,019,679	639,128,961	439,455	69,873,322
98	160.00	2,780.84	25,600	4,096,000	655,360,000	444,935	71,189,578
99	161.00	2,797.87	25,921	4,173,281	671,898,241	450,457	72,523,530
100	162.00	2,814.94	26,244	4,251,528	688,747,536	456,021	73,875,355
101	163.00	2,832.07	26,569	4,330,747	705,911,761	461,627	75,245,231
102	164.00	2,849.25	26,896	4,410,944	723,394,816	467,276	76,633,337

ATTACHMENT 2

Calculation of ABC Constants and Comparison of Hourly Cost Rates
Case 1 - 63 to 180 MW Data Range

Section 1 - Calculation of ABC Constants

Data Point No.	Load, MW (x)	Fuel and Variable O&M Component, $/hr (y)	x^2	x^3	x^4	xy	x^2y
103	165.00	2,866.48	27,225	4,492,125	741,200,625	472,969	78,039,854
104	166.00	2,883.76	27,556	4,574,296	759,333,136	478,705	79,464,966
105	167.00	2,901.10	27,889	4,657,463	777,796,321	484,484	80,908,859

ATTACHMENT 2

Calculation of ABC Constants and Comparison of Hourly Cost Rates
Case 1 - 63 to 180 MW Data Range

Section 2 - Comparison of Heat Rates from PPA Formula and ABC Constants

		By PPA Formula		By ABC Constants			
Data Point No.	Load, MW (x)	Fuel and Variable O&M Component, $/hr	Cost Rate, $/MWh	Fuel and Variable O&M Component, $/hr	Cost Rate, $/MWh	Difference in Cost Rates ABC - PPA	Difference^2
1	63.00	1,209.1	$19.192	1,222.2	$19.400	$0.208	0.04332
2	64.00	1,226.0	$19.157	1,237.8	$19.341	$0.184	0.03381
3	65.00	1,243.0	$19.122	1,253.4	$19.284	$0.161	0.02600
4	66.00	1,259.8	$19.088	1,269.1	$19.228	$0.140	0.01965
5	67.00	1,276.6	$19.054	1,284.7	$19.175	$0.121	0.01453
6	68.00	1,293.4	$19.021	1,300.4	$19.123	$0.102	0.01047
7	69.00	1,310.2	$18.988	1,316.1	$19.073	$0.085	0.00729
8	70.00	1,326.9	$18.955	1,331.7	$19.025	$0.070	0.00486
9	71.00	1,343.5	$18.923	1,347.4	$18.978	$0.055	0.00305
10	72.00	1,360.1	$18.891	1,363.1	$18.932	$0.042	0.00175
11	73.00	1,376.7	$18.859	1,378.8	$18.888	$0.029	0.00087
12	74.00	1,393.2	$18.827	1,394.6	$18.845	$0.018	0.00033
13	75.00	1,409.7	$18.796	1,410.3	$18.804	$0.008	0.00006
14	76.00	1,426.2	$18.765	1,426.0	$18.764	-$0.002	0.00000
15	77.00	1,442.6	$18.735	1,441.8	$18.724	-$0.010	0.00011
16	78.00	1,459.0	$18.705	1,457.5	$18.687	-$0.018	0.00034
17	79.00	1,475.3	$18.675	1,473.3	$18.650	-$0.025	0.00065
18	80.00	1,491.7	$18.646	1,489.1	$18.614	-$0.032	0.00102
19	81.00	1,507.9	$18.617	1,504.9	$18.579	-$0.038	0.00142
20	82.00	1,524.2	$18.588	1,520.7	$18.545	-$0.043	0.00183
21	83.00	1,540.4	$18.559	1,536.5	$18.512	-$0.047	0.00223
22	84.00	1,556.6	$18.531	1,552.3	$18.480	-$0.051	0.00262
23	85.00	1,572.8	$18.504	1,568.2	$18.449	-$0.055	0.00298
24	86.00	1,589.0	$18.476	1,584.0	$18.419	-$0.057	0.00330
25	87.00	1,605.1	$18.449	1,599.9	$18.389	-$0.060	0.00358
26	88.00	1,621.2	$18.422	1,615.7	$18.361	-$0.062	0.00382
27	89.00	1,637.2	$18.396	1,631.6	$18.333	-$0.063	0.00401
28	90.00	1,653.3	$18.370	1,647.5	$18.305	-$0.064	0.00415
29	91.00	1,669.3	$18.344	1,663.4	$18.279	-$0.065	0.00425
30	92.00	1,685.3	$18.319	1,679.3	$18.253	-$0.066	0.00431
31	93.00	1,701.3	$18.294	1,695.2	$18.228	-$0.066	0.00432
32	94.00	1,717.3	$18.269	1,711.1	$18.204	-$0.065	0.00429
33	95.00	1,733.2	$18.245	1,727.1	$18.180	-$0.065	0.00422
34	96.00	1,749.2	$18.221	1,743.0	$18.156	-$0.064	0.00412
35	97.00	1,765.1	$18.197	1,759.0	$18.134	-$0.063	0.00399
36	98.00	1,781.0	$18.173	1,774.9	$18.112	-$0.062	0.00383
37	99.00	1,796.9	$18.150	1,790.9	$18.090	-$0.060	0.00365
38	100.00	1,812.8	$18.128	1,806.9	$18.069	-$0.059	0.00345
39	101.00	1,828.6	$18.105	1,822.9	$18.048	-$0.057	0.00324
40	102.00	1,844.5	$18.083	1,838.9	$18.028	-$0.055	0.00301

RHS
3/3/99

ATTACHMENT 2

Calculation of ABC Constants and Comparison of Hourly Cost Rates
Case 1 - 63 to 180 MW Data Range

Section 2 - Comparison of Heat Rates from PPA Formula and ABC Constants

		By PPA Formula		By ABC Constants			
Data Point No.	Load, MW (x)	Fuel and Variable O&M Component, $/hr	Cost Rate, $/MWh	Fuel and Variable O&M Component, $/hr	Cost Rate, $/MWh	Difference in Cost Rates ABC - PPA	Difference^2
41	103.00	1,860.3	$18.062	1,854.9	$18.009	-$0.053	0.00278
42	104.00	1,876.2	$18.040	1,870.9	$17.990	-$0.050	0.00254
43	105.00	1,892.0	$18.019	1,887.0	$17.971	-$0.048	0.00230
44	106.00	1,907.8	$17.999	1,903.0	$17.953	-$0.045	0.00206
45	107.00	1,923.7	$17.978	1,919.1	$17.935	-$0.043	0.00183
46	108.00	1,939.5	$17.958	1,935.2	$17.918	-$0.040	0.00160
47	109.00	1,955.3	$17.938	1,951.2	$17.901	-$0.037	0.00139
48	110.00	1,971.1	$17.919	1,967.3	$17.885	-$0.034	0.00118
49	111.00	1,986.9	$17.900	1,983.4	$17.869	-$0.031	0.00099
50	112.00	2,002.7	$17.881	1,999.5	$17.853	-$0.028	0.00081
51	113.00	2,018.5	$17.863	2,015.6	$17.838	-$0.025	0.00065
52	114.00	2,034.3	$17.845	2,031.8	$17.823	-$0.022	0.00050
53	115.00	2,050.2	$17.827	2,047.9	$17.808	-$0.019	0.00038
54	116.00	2,066.0	$17.810	2,064.1	$17.794	-$0.016	0.00027
55	117.00	2,081.8	$17.793	2,080.2	$17.780	-$0.013	0.00018
56	118.00	2,097.6	$17.776	2,096.4	$17.766	-$0.010	0.00011
57	119.00	2,113.5	$17.760	2,112.6	$17.753	-$0.007	0.00005
58	120.00	2,129.3	$17.744	2,128.8	$17.740	-$0.004	0.00002
59	121.00	2,145.1	$17.728	2,145.0	$17.727	-$0.001	0.00000
60	122.00	2,161.0	$17.713	2,161.2	$17.715	$0.001	0.00000
61	123.00	2,176.9	$17.698	2,177.4	$17.702	$0.004	0.00002
62	124.00	2,192.8	$17.684	2,193.6	$17.691	$0.007	0.00005
63	125.00	2,208.7	$17.669	2,209.9	$17.679	$0.010	0.00010
64	126.00	2,224.6	$17.655	2,226.1	$17.668	$0.012	0.00015
65	127.00	2,240.5	$17.642	2,242.4	$17.657	$0.015	0.00022
66	128.00	2,256.4	$17.628	2,258.7	$17.646	$0.017	0.00030
67	129.00	2,272.4	$17.615	2,274.9	$17.635	$0.020	0.00039
68	130.00	2,288.4	$17.603	2,291.2	$17.625	$0.022	0.00049
69	131.00	2,304.4	$17.590	2,307.5	$17.615	$0.024	0.00059
70	132.00	2,320.4	$17.579	2,323.9	$17.605	$0.026	0.00070
71	133.00	2,336.4	$17.567	2,340.2	$17.595	$0.028	0.00081
72	134.00	2,352.5	$17.556	2,356.5	$17.586	$0.030	0.00092
73	135.00	2,368.5	$17.545	2,372.9	$17.577	$0.032	0.00103
74	136.00	2,384.6	$17.534	2,389.2	$17.568	$0.034	0.00113
75	137.00	2,400.8	$17.524	2,405.6	$17.559	$0.035	0.00123
76	138.00	2,416.9	$17.514	2,421.9	$17.550	$0.036	0.00133
77	139.00	2,433.1	$17.504	2,438.3	$17.542	$0.038	0.00142
78	140.00	2,449.3	$17.495	2,454.7	$17.534	$0.039	0.00150
79	141.00	2,465.5	$17.486	2,471.1	$17.526	$0.040	0.00158
80	142.00	2,481.8	$17.477	2,487.5	$17.518	$0.040	0.00164

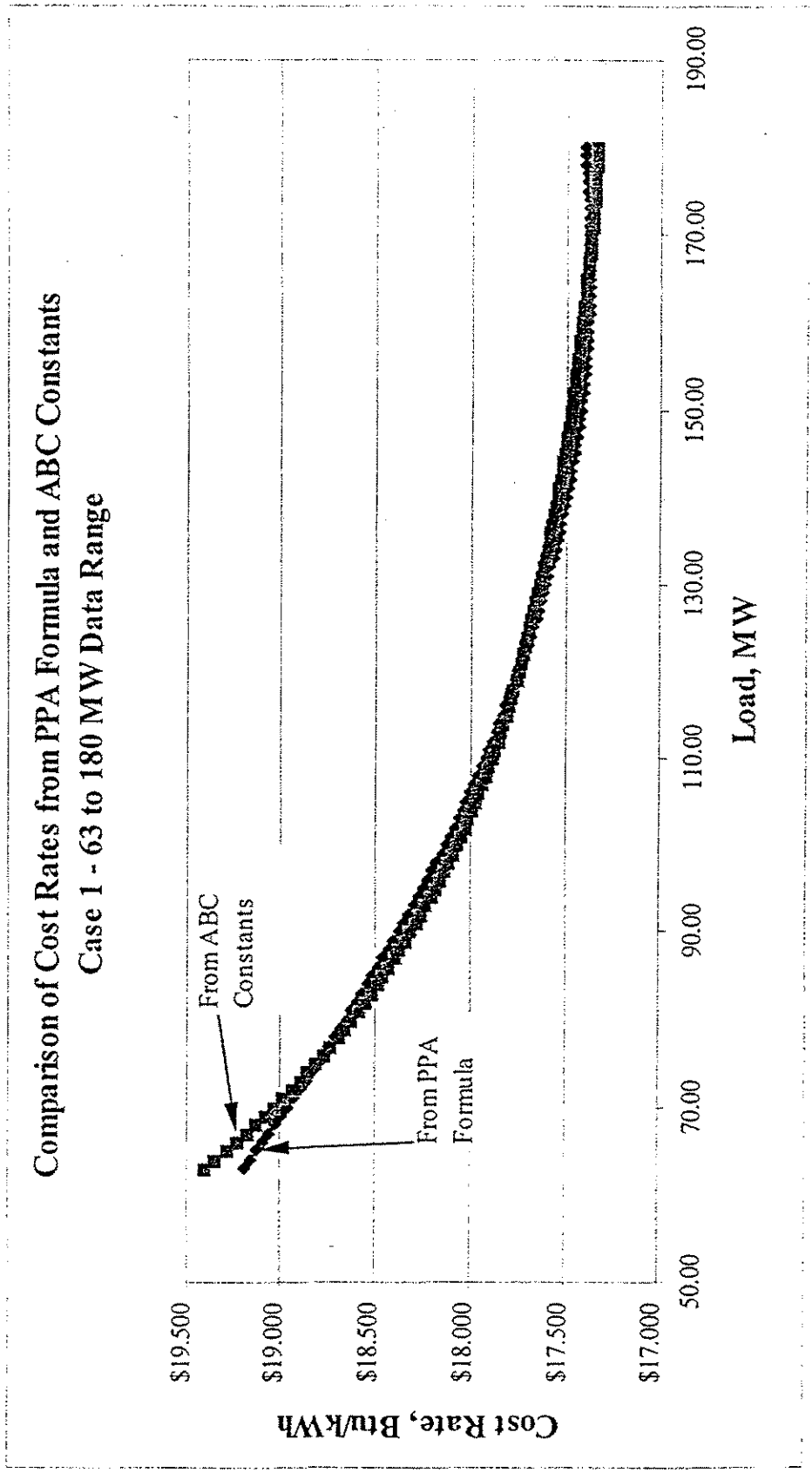
ATTACHMENT 2

Calculation of ABC Constants and Comparison of Hourly Cost Rates
Case 1 - 63 to 180 MW Data Range

Section 2 - Comparison of Heat Rates from PPA Formula and ABC Constants

		By PPA Formula		By ABC Constants			
Data Point No.	Load, MW (x)	Fuel and Variable O&M Component, $/hr	Cost Rate, $/MWh	Fuel and Variable O&M Component, $/hr	Cost Rate, $/MWh	Difference in Cost Rates ABC - PPA	Difference^2
81	143.00	2,498.1	$17.469	2,504.0	$17.510	$0.041	0.00169
82	144.00	2,514.4	$17.461	2,520.4	$17.503	$0.042	0.00173
83	145.00	2,530.8	$17.454	2,536.9	$17.496	$0.042	0.00175
84	146.00	2,547.2	$17.446	2,553.3	$17.488	$0.042	0.00176
85	147.00	2,563.6	$17.440	2,569.8	$17.481	$0.042	0.00176
86	148.00	2,580.1	$17.433	2,586.3	$17.475	$0.042	0.00174
87	149.00	2,596.6	$17.427	2,602.7	$17.468	$0.041	0.00171
88	150.00	2,613.1	$17.421	2,619.2	$17.462	$0.041	0.00166
89	151.00	2,629.7	$17.415	2,635.7	$17.455	$0.040	0.00160
90	152.00	2,646.3	$17.410	2,652.3	$17.449	$0.039	0.00152
91	153.00	2,663.0	$17.405	2,668.8	$17.443	$0.038	0.00144
92	154.00	2,679.7	$17.401	2,685.3	$17.437	$0.037	0.00134
93	155.00	2,696.4	$17.396	2,701.9	$17.431	$0.035	0.00123

ATTACHMENT 2
Section 3



ATTACHMENT 3

Calculation of ABC Constants and Comparison of Hourly Cost Rates
Case 2 - 50 to 180 MW Data Range

Section 1 - Calculation of ABC Constants

Data Point No.	Load, MW (x)	Fuel and Variable O&M Component, $/hr (y)	x^2	x^3	x^4	xy	x^2y
1	50.00	983.74	2,500	125,000	6,250,000	49,187	2,459,341
2	51.00	1,001.41	2,601	132,651	6,765,201	51,072	2,604,675
3	52.00	1,019.03	2,704	140,608	7,311,616	52,990	2,755,455
4	53.00	1,036.59	2,809	148,877	7,890,481	54,939	2,911,768
5	54.00	1,054.08	2,916	157,464	8,503,056	56,920	3,073,704
6	55.00	1,071.52	3,025	166,375	9,150,625	58,934	3,241,354
7	56.00	1,088.90	3,136	175,616	9,834,496	60,979	3,414,804
8	57.00	1,106.23	3,249	185,193	10,556,001	63,055	3,594,145
9	58.00	1,123.50	3,364	195,112	11,316,496	65,163	3,779,464
10	59.00	1,140.72	3,481	205,379	12,117,361	67,303	3,970,850
11	60.00	1,157.89	3,600	216,000	12,960,000	69,473	4,168,391
12	61.00	1,175.00	3,721	226,981	13,845,841	71,675	4,372,175
13	62.00	1,192.06	3,844	238,328	14,776,336	73,908	4,582,289
14	63.00	1,209.08	3,969	250,047	15,752,961	76,172	4,798,821
15	64.00	1,226.04	4,096	262,144	16,777,216	78,467	5,021,859
16	65.00	1,242.96	4,225	274,625	17,850,625	80,792	5,251,490
17	66.00	1,259.83	4,356	287,496	18,974,736	83,148	5,487,801
18	67.00	1,276.65	4,489	300,763	20,151,121	85,536	5,730,880
19	68.00	1,293.43	4,624	314,432	21,381,376	87,953	5,980,814
20	69.00	1,310.16	4,761	328,509	22,667,121	90,401	6,237,691
21	70.00	1,326.86	4,900	343,000	24,010,000	92,880	6,501,598
22	71.00	1,343.51	5,041	357,911	25,411,681	95,389	6,772,623
23	72.00	1,360.12	5,184	373,248	26,873,856	97,928	7,050,852
24	73.00	1,376.69	5,329	389,017	28,398,241	100,498	7,336,373
25	74.00	1,393.22	5,476	405,224	29,986,576	103,098	7,629,275
26	75.00	1,409.71	5,625	421,875	31,640,625	105,729	7,929,644
27	76.00	1,426.17	5,776	438,976	33,362,176	108,389	8,237,570
28	77.00	1,442.59	5,929	456,533	35,153,041	111,080	8,553,139
29	78.00	1,458.98	6,084	474,552	37,015,056	113,801	8,876,440
30	79.00	1,475.33	6,241	493,039	38,950,081	116,551	9,207,563
31	80.00	1,491.66	6,400	512,000	40,960,000	119,332	9,546,594
32	81.00	1,507.94	6,561	531,441	43,046,721	122,144	9,893,624
33	82.00	1,524.20	6,724	551,368	45,212,176	124,985	10,248,742
34	83.00	1,540.43	6,889	571,787	47,458,321	127,856	10,612,037
35	84.00	1,556.63	7,056	592,704	49,787,136	130,757	10,983,599
36	85.00	1,572.81	7,225	614,125	52,200,625	133,688	11,363,518
37	86.00	1,588.95	7,396	636,056	54,700,816	136,650	11,751,885
38	87.00	1,605.07	7,569	658,503	57,289,761	139,641	12,148,790
39	88.00	1,621.17	7,744	681,472	59,969,536	142,663	12,554,325
40	89.00	1,637.24	7,921	704,969	62,742,241	145,714	12,968,582
41	90.00	1,653.29	8,100	729,000	65,610,000	148,796	13,391,652
42	91.00	1,669.32	8,281	753,571	68,574,961	151,908	13,823,628
43	92.00	1,685.33	8,464	778,688	71,639,296	155,050	14,264,603
44	93.00	1,701.31	8,649	804,357	74,805,201	158,222	14,714,671
45	94.00	1,717.28	8,836	830,584	78,074,896	161,425	15,173,925
46	95.00	1,733.24	9,025	857,375	81,450,625	164,657	15,642,460
47	96.00	1,749.17	9,216	884,736	84,934,656	167,921	16,120,372
48	97.00	1,765.09	9,409	912,673	88,529,281	171,214	16,607,755
49	98.00	1,781.00	9,604	941,192	92,236,816	174,538	17,104,706
50	99.00	1,796.89	9,801	970,299	96,059,601	177,892	17,611,322

No. of Data Points =	131
	131
det =	5.25819E+15
	Adjusted
A =	205.8179
B =	15.8278
C =	0.0018

RHS
3/3/99

ATTACHMENT 3

Calculation of ABC Constants and Comparison of Hourly Cost Rates
Case 2 - 50 to 180 MW Data Range

Section 1 - Calculation of ABC Constants

Data Point No.	Load, MW (x)	Fuel and Variable O&M Component, $/hr (y)	x^2	x^3	x^4	xy	x^2y
51	100.00	1,812.77	10,000	1,000,000	100,000,000	181,277	18,127,700
52	101.00	1,828.64	10,201	1,030,301	104,060,401	184,692	18,653,939
53	102.00	1,844.50	10,404	1,061,208	108,243,216	188,139	19,190,136
54	103.00	1,860.34	10,609	1,092,727	112,550,881	191,615	19,736,393
55	104.00	1,876.18	10,816	1,124,864	116,985,856	195,123	20,292,808
56	105.00	1,892.02	11,025	1,157,625	121,550,625	198,662	20,859,483
57	106.00	1,907.84	11,236	1,191,016	126,247,696	202,231	21,436,519
58	107.00	1,923.66	11,449	1,225,043	131,079,601	205,832	22,024,020
59	108.00	1,939.48	11,664	1,259,712	136,048,896	209,464	22,622,087
60	109.00	1,955.29	11,881	1,295,029	141,158,161	213,127	23,230,825
61	110.00	1,971.10	12,100	1,331,000	146,410,000	216,821	23,850,339
62	111.00	1,986.91	12,321	1,367,631	151,807,041	220,547	24,480,735
63	112.00	2,002.72	12,544	1,404,928	157,351,936	224,305	25,122,119
64	113.00	2,018.53	12,769	1,442,897	163,047,361	228,094	25,774,599
65	114.00	2,034.34	12,996	1,481,544	168,896,016	231,915	26,438,283
66	115.00	2,050.15	13,225	1,520,875	174,900,625	235,768	27,113,280
67	116.00	2,065.97	13,456	1,560,896	181,063,936	239,653	27,799,701
68	117.00	2,081.79	13,689	1,601,613	187,388,721	243,570	28,497,657
69	118.00	2,097.62	13,924	1,643,032	193,877,776	247,519	29,207,259
70	119.00	2,113.45	14,161	1,685,159	200,533,921	251,501	29,928,622
71	120.00	2,129.30	14,400	1,728,000	207,360,000	255,516	30,661,860
72	121.00	2,145.15	14,641	1,771,561	214,358,881	259,563	31,407,088
73	122.00	2,161.01	14,884	1,815,848	221,533,456	263,643	32,164,422
74	123.00	2,176.88	15,129	1,860,867	228,886,641	267,756	32,933,979
75	124.00	2,192.76	15,376	1,906,624	236,421,376	271,902	33,715,879
76	125.00	2,208.66	15,625	1,953,125	244,140,625	276,082	34,510,242
77	126.00	2,224.56	15,876	2,000,376	252,047,376	280,295	35,317,187
78	127.00	2,240.49	16,129	2,048,383	260,144,641	284,542	36,136,837
79	128.00	2,256.43	16,384	2,097,152	268,435,456	288,823	36,969,316
80	129.00	2,272.38	16,641	2,146,689	276,922,881	293,138	37,814,747
81	130.00	2,288.36	16,900	2,197,000	285,610,000	297,487	38,673,257
82	131.00	2,304.35	17,161	2,248,091	294,499,921	301,870	39,544,972
83	132.00	2,320.36	17,424	2,299,968	303,595,776	306,288	40,430,021
84	133.00	2,336.40	17,689	2,352,637	312,900,721	310,741	41,328,533
85	134.00	2,352.45	17,956	2,406,104	322,417,936	315,229	42,240,640
86	135.00	2,368.53	18,225	2,460,375	332,150,625	319,752	43,166,472
87	136.00	2,384.63	18,496	2,515,456	342,102,016	324,310	44,106,164
88	137.00	2,400.76	18,769	2,571,353	352,275,361	328,904	45,059,850
89	138.00	2,416.91	19,044	2,628,072	362,673,936	333,534	46,027,668
90	139.00	2,433.09	19,321	2,685,619	373,301,041	338,200	47,009,753
91	140.00	2,449.30	19,600	2,744,000	384,160,000	342,902	48,006,247
92	141.00	2,465.53	19,881	2,803,221	395,254,161	347,640	49,017,289
93	142.00	2,481.80	20,164	2,863,288	406,586,896	352,416	50,043,021
94	143.00	2,498.10	20,449	2,924,207	418,161,601	357,228	51,083,588
95	144.00	2,514.43	20,736	2,985,984	429,981,696	362,077	52,139,133
96	145.00	2,530.79	21,025	3,048,625	442,050,625	366,964	53,209,804
97	146.00	2,547.18	21,316	3,112,136	454,371,856	371,889	54,295,748
98	147.00	2,563.61	21,609	3,176,523	466,948,881	376,851	55,397,117
99	148.00	2,580.08	21,904	3,241,792	479,785,216	381,852	56,514,060
100	149.00	2,596.58	22,201	3,307,949	492,884,401	386,891	57,646,731

ATTACHMENT 3

Calculation of ABC Constants and Comparison of Hourly Cost Rates
Case 2 - 50 to 180 MW Data Range

Section I - Calculation of ABC Constants

Data Point No.	Load, MW (x)	Fuel and Variable O&M Component, $/hr (y)	x^2	x^3	x^4	xy	x^2y
101	150.00	2,613.12	22,500	3,375,000	506,250,000	391,969	58,795,284
102	151.00	2,629.70	22,801	3,442,951	519,885,601	397,085	59,959,877
103	152.00	2,646.32	23,104	3,511,808	533,794,816	402,241	61,140,665
104	153.00	2,662.98	23,409	3,581,577	547,981,281	407,437	62,337,811
105	154.00	2,679.69	23,716	3,652,264	562,448,656	412,672	63,551,473
106	155.00	2,696.43	24,025	3,723,875	577,200,625	417,947	64,781,817
107	156.00	2,713.22	24,336	3,796,416	592,240,896	423,263	66,029,006
108	157.00	2,730.06	24,649	3,869,893	607,573,201	428,619	67,293,207
109	158.00	2,746.94	24,964	3,944,312	623,201,296	434,016	68,574,589
110	159.00	2,763.87	25,281	4,019,679	639,128,961	439,455	69,873,322

ATTACHMENT 3

Calculation of ABC Constants and Comparison of Hourly Cost Rates
Case 2 - 50 to 180 MW Data Range

Section 2 - Comparison of Heat Rates from PPA Formula and ABC Constants

		By PPA Formula		By ABC Constants			
Data Point No.	Load, MW (x)	Fuel and Variable O&M Component, $/hr	Cost Rate, $/MWh	Fuel and Variable O&M Component, $/hr	Cost Rate, $/MWh	Difference in Cost Rates ABC - PPA	Difference^2
1	50.00	983.7	$19.675	1,001.8	$20.035	$0.361	
2	51.00	1,001.4	$19.636	1,017.8	$19.957	$0.321	
3	52.00	1,019.0	$19.597	1,033.8	$19.881	$0.284	
4	53.00	1,036.6	$19.558	1,049.8	$19.808	$0.250	
5	54.00	1,054.1	$19.520	1,065.8	$19.738	$0.218	
6	55.00	1,071.5	$19.482	1,081.9	$19.670	$0.188	
7	56.00	1,088.9	$19.445	1,097.9	$19.605	$0.161	
8	57.00	1,106.2	$19.408	1,113.9	$19.543	$0.135	
9	58.00	1,123.5	$19.371	1,130.0	$19.482	$0.111	
10	59.00	1,140.7	$19.334	1,146.0	$19.424	$0.090	
11	60.00	1,157.9	$19.298	1,162.1	$19.368	$0.069	
12	61.00	1,175.0	$19.262	1,178.1	$19.313	$0.051	
13	62.00	1,192.1	$19.227	1,194.2	$19.261	$0.034	
14	63.00	1,209.1	$19.192	1,210.2	$19.210	$0.018	0.00033
15	64.00	1,226.0	$19.157	1,226.3	$19.161	$0.004	0.00001
16	65.00	1,243.0	$19.122	1,242.3	$19.113	-$0.010	0.00009
17	66.00	1,259.8	$19.088	1,258.4	$19.067	-$0.022	0.00046
18	67.00	1,276.6	$19.054	1,274.5	$19.022	-$0.032	0.00105
19	68.00	1,293.4	$19.021	1,290.5	$18.979	-$0.042	0.00179
20	69.00	1,310.2	$18.988	1,306.6	$18.937	-$0.051	0.00263
21	70.00	1,326.9	$18.955	1,322.7	$18.896	-$0.059	0.00351
22	71.00	1,343.5	$18.923	1,338.8	$18.856	-$0.066	0.00441
23	72.00	1,360.1	$18.891	1,354.9	$18.818	-$0.073	0.00529
24	73.00	1,376.7	$18.859	1,371.0	$18.780	-$0.078	0.00613
25	74.00	1,393.2	$18.827	1,387.1	$18.744	-$0.083	0.00691
26	75.00	1,409.7	$18.796	1,403.2	$18.709	-$0.087	0.00762
27	76.00	1,426.2	$18.765	1,419.3	$18.675	-$0.091	0.00824
28	77.00	1,442.6	$18.735	1,435.4	$18.641	-$0.094	0.00878
29	78.00	1,459.0	$18.705	1,451.5	$18.609	-$0.096	0.00922
30	79.00	1,475.3	$18.675	1,467.6	$18.577	-$0.098	0.00957
31	80.00	1,491.7	$18.646	1,483.7	$18.547	-$0.099	0.00983
32	81.00	1,507.9	$18.617	1,499.8	$18.517	-$0.100	0.01000
33	82.00	1,524.2	$18.588	1,516.0	$18.487	-$0.100	0.01008
34	83.00	1,540.4	$18.559	1,532.1	$18.459	-$0.100	0.01008
35	84.00	1,556.6	$18.531	1,548.2	$18.431	-$0.100	0.01000
36	85.00	1,572.8	$18.504	1,564.4	$18.404	-$0.099	0.00985
37	86.00	1,589.0	$18.476	1,580.5	$18.378	-$0.098	0.00964
38	87.00	1,605.1	$18.449	1,596.7	$18.352	-$0.097	0.00937
39	88.00	1,621.2	$18.422	1,612.8	$18.327	-$0.095	0.00905

ATTACHMENT 3

Calculation of ABC Constants and Comparison of Hourly Cost Rates
Case 2 - 50 to 180 MW Data Range

Section 2 - Comparison of Heat Rates from PPA Formula and ABC Constants

		By PPA Formula		By ABC Constants			
Data Point No.	Load, MW (x)	Fuel and Variable O&M Component, $/hr	Cost Rate, $/MWh	Fuel and Variable O&M Component, $/hr	Cost Rate, $/MWh	Difference in Cost Rates ABC - PPA	Difference^2
40	89.00	1,637.2	$18.396	1,628.9	$18.303	-$0.093	0.00868
41	90.00	1,653.3	$18.370	1,645.1	$18.279	-$0.091	0.00827
42	91.00	1,669.3	$18.344	1,661.3	$18.256	-$0.089	0.00784
43	92.00	1,685.3	$18.319	1,677.4	$18.233	-$0.086	0.00738
44	93.00	1,701.3	$18.294	1,693.6	$18.211	-$0.083	0.00690
45	94.00	1,717.3	$18.269	1,709.8	$18.189	-$0.080	0.00641
46	95.00	1,733.2	$18.245	1,725.9	$18.168	-$0.077	0.00591
47	96.00	1,749.2	$18.221	1,742.1	$18.147	-$0.074	0.00542
48	97.00	1,765.1	$18.197	1,758.3	$18.127	-$0.070	0.00492
49	98.00	1,781.0	$18.173	1,774.5	$18.107	-$0.067	0.00444
50	99.00	1,796.9	$18.150	1,790.7	$18.087	-$0.063	0.00396
51	100.00	1,812.8	$18.128	1,806.8	$18.068	-$0.059	0.00350
52	101.00	1,828.6	$18.105	1,823.0	$18.050	-$0.055	0.00307
53	102.00	1,844.5	$18.083	1,839.2	$18.032	-$0.052	0.00265
54	103.00	1,860.3	$18.062	1,855.4	$18.014	-$0.048	0.00226
55	104.00	1,876.2	$18.040	1,871.7	$17.997	-$0.044	0.00190
56	105.00	1,892.0	$18.019	1,887.9	$17.980	-$0.040	0.00157
57	106.00	1,907.8	$17.999	1,904.1	$17.963	-$0.036	0.00126
58	107.00	1,923.7	$17.978	1,920.3	$17.947	-$0.032	0.00099
59	108.00	1,939.5	$17.958	1,936.5	$17.931	-$0.027	0.00076
60	109.00	1,955.3	$17.938	1,952.7	$17.915	-$0.023	0.00055
61	110.00	1,971.1	$17.919	1,969.0	$17.900	-$0.019	0.00038
62	111.00	1,986.9	$17.900	1,985.2	$17.885	-$0.015	0.00024
63	112.00	2,002.7	$17.881	2,001.4	$17.870	-$0.012	0.00013
64	113.00	2,018.5	$17.863	2,017.7	$17.855	-$0.008	0.00006
65	114.00	2,034.3	$17.845	2,033.9	$17.841	-$0.004	0.00001
66	115.00	2,050.2	$17.827	2,050.2	$17.827	$0.000	0.00000
67	116.00	2,066.0	$17.810	2,066.4	$17.814	$0.004	0.00001
68	117.00	2,081.8	$17.793	2,082.7	$17.800	$0.007	0.00005

ATTACHMENT 3

Calculation of ABC Constants and Comparison of Hourly Cost Rates
Case 2 - 50 to 180 MW Data Range

Section 2 - Comparison of Heat Rates from PPA Formula and ABC Constants

		By PPA Formula		By ABC Constants			
Data Point No.	Load, MW (x)	Fuel and Variable O&M Component, $/hr	Cost Rate, $/MWh	Fuel and Variable O&M Component, $/hr	Cost Rate, $/MWh	Difference in Cost Rates ABC - PPA	Difference^2
79	128.00	2,256.4	$17.628	2,261.7	$17.669	$0.041	0.00168
80	129.00	2,272.4	$17.615	2,278.0	$17.659	$0.043	0.00188
81	130.00	2,288.4	$17.603	2,294.3	$17.648	$0.046	0.00207
82	131.00	2,304.4	$17.590	2,310.6	$17.638	$0.048	0.00226
83	132.00	2,320.4	$17.579	2,326.9	$17.628	$0.049	0.00244
84	133.00	2,336.4	$17.567	2,343.2	$17.618	$0.051	0.00262
85	134.00	2,352.5	$17.556	2,359.5	$17.608	$0.053	0.00278
86	135.00	2,368.5	$17.545	2,375.8	$17.599	$0.054	0.00293
87	136.00	2,384.6	$17.534	2,392.2	$17.589	$0.055	0.00306
88	137.00	2,400.8	$17.524	2,408.5	$17.580	$0.056	0.00318
89	138.00	2,416.9	$17.514	2,424.8	$17.571	$0.057	0.00328
90	139.00	2,433.1	$17.504	2,441.1	$17.562	$0.058	0.00336
91	140.00	2,449.3	$17.495	2,457.5	$17.553	$0.058	0.00342
92	141.00	2,465.5	$17.486	2,473.8	$17.545	$0.059	0.00346
93	142.00	2,481.8	$17.477	2,490.2	$17.536	$0.059	0.00347
94	143.00	2,498.1	$17.469	2,506.5	$17.528	$0.059	0.00347
95	144.00	2,514.4	$17.461	2,522.9	$17.520	$0.059	0.00344
96	145.00	2,530.8	$17.454	2,539.2	$17.512	$0.058	0.00339
97	146.00	2,547.2	$17.446	2,555.6	$17.504	$0.058	0.00331
98	147.00	2,563.6	$17.440	2,571.9	$17.496	$0.057	0.00321
99	148.00	2,580.1	$17.433	2,588.3	$17.489	$0.056	0.00309
100	149.00	2,596.6	$17.427	2,604.7	$17.481	$0.054	0.00296
101	150.00	2,613.1	$17.421	2,621.1	$17.474	$0.053	0.00280
102	151.00	2,629.7	$17.415	2,637.4	$17.466	$0.051	0.00262
103	152.00	2,646.3	$17.410	2,653.8	$17.459	$0.049	0.00243
104	153.00	2,663.0	$17.405	2,670.2	$17.452	$0.047	0.00222
105	154.00	2,679.7	$17.401	2,686.6	$17.445	$0.045	0.00201
106	155.00	2,696.4	$17.396	2,703.0	$17.439	$0.042	0.00178
107	156.00	2,713.2	$17.392	2,719.4	$17.432	$0.039	0.00155
108	157.00	2,730.1	$17.389	2,735.8	$17.425	$0.036	0.00133
109	158.00	2,746.9	$17.386	2,752.2	$17.419	$0.033	0.00110
110	159.00	2,763.9	$17.383	2,768.6	$17.412	$0.030	0.00088
111	160.00	2,780.8	$17.380	2,785.0	$17.406	$0.026	0.00067
112	161.00	2,797.9	$17.378	2,801.4	$17.400	$0.022	0.00048
113	162.00	2,814.9	$17.376	2,817.8	$17.394	$0.018	0.00032
114	163.00	2,832.1	$17.375	2,834.2	$17.388	$0.013	0.00018
115	164.00	2,849.2	$17.373	2,850.7	$17.382	$0.009	0.00008
116	165.00	2,866.5	$17.373	2,867.1	$17.376	$0.004	0.00001
117	166.00	2,883.8	$17.372	2,883.5	$17.371	-$0.001	0.00000

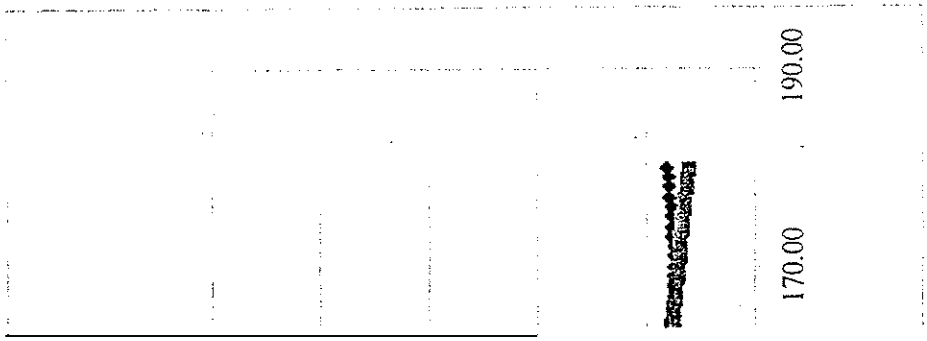
ATTACHMENT 3

Calculation of ABC Constants and Comparison of Hourly Cost Rates
Case 2 - 50 to 180 MW Data Range

Section 2 - Comparison of Heat Rates from PPA Formula and ABC Constants

		By PPA Formula		By ABC Constants			
Data Point No.	Load, MW (x)	Fuel and Variable O&M Component, $/hr	Cost Rate, $/MWh	Fuel and Variable O&M Component, $/hr	Cost Rate, $/MWh	Difference in Cost Rates ABC - PPA	Difference^2
118	167.00	2,901.1	$17.372	2,900.0	$17.365	-$0.007	0.00005
119	168.00	2,918.5	$17.372	2,916.4	$17.360	-$0.012	0.00016
120	169.00	2,936.0	$17.372	2,932.8	$17.354	-$0.018	0.00034
121	170.00	2,953.5	$17.373	2,949.3	$17.349	-$0.025	0.00060
122	171.00	2,971.0	$17.374	2,965.7	$17.344	-$0.031	0.00096
123	172.00	2,988.7	$17.376	2,982.2	$17.338	-$0.038	0.00141
124	173.00	3,006.4	$17.378	2,998.7	$17.333	-$0.045	0.00198
125	174.00	3,024.1	$17.380	3,015.1	$17.328	-$0.052	0.00267
126	175.00	3,041.9	$17.382	3,031.6	$17.323	-$0.059	0.00350
127	176.00	3,059.8	$17.385	3,048.1	$17.318	-$0.067	0.00446
128	177.00	3,077.8	$17.388	3,064.5	$17.314	-$0.075	0.00559
129	178.00	3,095.8	$17.392	3,081.0	$17.309	-$0.083	0.00688
130	179.00	3,113.8	$17.396	3,097.5	$17.304	-$0.091	0.00836
131	180.00	3,132.0	$17.400	3,114.0	$17.300	-$0.100	0.01004

Highlighted area indicates 63 to 180 MW range of AES operation.


190.00
170.00

ATTACHMENT 4

Calculation of ABC Constants and Comparison of Heat Rates
Case Without Variable O and M Component

Section 1 - Calculation of ABC Constants Without Variable O&M Component

Data Point No.	Load, MW (x)	Fuel and Variable O&M Component, $/hr (y)	x^2	x^3	x^4	xy	x^2y
1	63.00	1,177.58	3,969	250,047	15,752,961	74,187	4,673,798
2	64.00	1,194.04	4,096	262,144	16,777,216	76,419	4,890,787
3	65.00	1,210.46	4,225	274,625	17,850,625	78,680	5,114,177
4	66.00	1,226.83	4,356	287,496	18,974,736	80,970	5,344,053
5	67.00	1,243.15	4,489	300,763	20,151,121	83,291	5,580,499
6	68.00	1,259.43	4,624	314,432	21,381,376	85,641	5,823,598
7	69.00	1,275.66	4,761	328,509	22,667,121	88,021	6,073,437
8	70.00	1,291.86	4,900	343,000	24,010,000	90,430	6,330,098
9	71.00	1,308.01	5,041	357,911	25,411,681	92,869	6,593,667
10	72.00	1,324.12	5,184	373,248	26,873,856	95,336	6,864,228
11	73.00	1,340.19	5,329	389,017	28,398,241	97,834	7,141,865
12	74.00	1,356.22	5,476	405,224	29,986,576	100,360	7,426,663
13	75.00	1,372.21	5,625	421,875	31,640,625	102,916	7,718,707
14	76.00	1,388.17	5,776	438,976	33,362,176	105,501	8,018,082
15	77.00	1,404.09	5,929	456,533	35,153,041	108,115	8,324,872
16	78.00	1,419.98	6,084	474,552	37,015,056	110,759	8,639,164
17	79.00	1,435.83	6,241	493,039	38,950,081	113,431	8,961,043
18	80.00	1,451.66	6,400	512,000	40,960,000	116,132	9,290,594
19	81.00	1,467.44	6,561	531,441	43,046,721	118,863	9,627,904
20	82.00	1,483.20	6,724	551,368	45,212,176	121,623	9,973,058
21	83.00	1,498.93	6,889	571,787	47,458,321	124,411	10,326,144
22	84.00	1,514.63	7,056	592,704	49,787,136	127,229	10,687,247
23	85.00	1,530.31	7,225	614,125	52,200,625	130,076	11,056,456
24	86.00	1,545.95	7,396	636,056	54,700,816	132,952	11,433,857
25	87.00	1,561.57	7,569	658,503	57,289,761	135,857	11,819,539
26	88.00	1,577.17	7,744	681,472	59,969,536	138,791	12,213,589
27	89.00	1,592.74	7,921	704,969	62,742,241	141,754	12,616,097
28	90.00	1,608.29	8,100	729,000	65,610,000	144,746	13,027,152
29	91.00	1,623.82	8,281	753,571	68,574,961	147,768	13,446,843
30	92.00	1,639.33	8,464	778,688	71,639,296	150,818	13,875,259
31	93.00	1,654.81	8,649	804,357	74,805,201	153,898	14,312,492
32	94.00	1,670.28	8,836	830,584	78,074,896	157,007	14,758,633
33	95.00	1,685.74	9,025	857,375	81,450,625	160,145	15,213,773
34	96.00	1,701.17	9,216	884,736	84,934,656	163,313	15,678,004
35	97.00	1,716.59	9,409	912,673	88,529,281	166,509	16,151,418
36	98.00	1,732.00	9,604	941,192	92,236,816	169,736	16,634,110
37	99.00	1,747.39	9,801	970,299	96,059,601	172,992	17,126,172
38	100.00	1,762.77	10,000	1,000,000	100,000,000	176,277	17,627,700
39	101.00	1,778.14	10,201	1,030,301	104,060,401	179,592	18,138,788
40	102.00	1,793.50	10,404	1,061,208	108,243,216	182,937	18,659,532
41	103.00	1,808.84	10,609	1,092,727	112,550,881	186,311	19,190,029
42	104.00	1,824.18	10,816	1,124,864	116,985,856	189,715	19,730,376
43	105.00	1,839.52	11,025	1,157,625	121,550,625	193,149	20,280,671
44	106.00	1,854.84	11,236	1,191,016	126,247,696	196,613	20,841,011
45	107.00	1,870.16	11,449	1,225,043	131,079,601	200,107	21,411,498
46	108.00	1,885.48	11,664	1,259,712	136,048,896	203,632	21,992,231
47	109.00	1,900.79	11,881	1,295,029	141,158,161	207,186	22,583,311
48	110.00	1,916.10	12,100	1,331,000	146,410,000	210,771	23,184,839
49	111.00	1,931.41	12,321	1,367,631	151,807,041	214,387	23,796,920
50	112.00	1,946.72	12,544	1,404,928	157,351,936	218,033	24,419,655
51	113.00	1,962.03	12,769	1,442,897	163,047,361	221,709	25,053,151

No. of Data Points	
=	118
	118
det =	2.05257E+15
	Adjusted
A =	258.7479
B =	14.4713
C =	0.0051019

RHS
10/8/99

ATTACHMENT 4

Calculation of ABC Constants and Comparison of Heat Rates
Case Without Variable O and M Component

Section 1 - Calculation of ABC Constants Without Variable O&M Component

Data Point No.	Load, MW (x)	Fuel and Variable O&M Component, $/hr (y)	x^2	x^3	x^4	xy	x^2y
52	114.00	1,977.34	12,996	1,481,544	168,896,016	225,417	25,697,511
53	115.00	1,992.65	13,225	1,520,875	174,900,625	229,155	26,352,843
54	116.00	2,007.97	13,456	1,560,896	181,063,936	232,925	27,019,253
55	117.00	2,023.29	13,689	1,601,613	187,388,721	236,725	27,696,850
56	118.00	2,038.62	13,924	1,643,032	193,877,776	240,557	28,385,743
57	119.00	2,053.95	14,161	1,685,159	200,533,921	244,421	29,086,043
58	120.00	2,069.30	14,400	1,728,000	207,360,000	248,316	29,797,860
59	121.00	2,084.65	14,641	1,771,561	214,358,881	252,242	30,521,307
60	122.00	2,100.01	14,884	1,815,848	221,533,456	256,201	31,256,498
61	123.00	2,115.38	15,129	1,860,867	228,886,641	260,191	32,003,546
62	124.00	2,130.76	15,376	1,906,624	236,421,376	264,214	32,762,567
63	125.00	2,146.16	15,625	1,953,125	244,140,625	268,269	33,533,679
64	126.00	2,161.56	15,876	2,000,376	252,047,376	272,357	34,316,999
65	127.00	2,176.99	16,129	2,048,383	260,144,641	276,478	35,112,646
66	128.00	2,192.43	16,384	2,097,152	268,435,456	280,631	35,920,740
67	129.00	2,207.88	16,641	2,146,689	276,922,881	284,817	36,741,403
68	130.00	2,223.36	16,900	2,197,000	285,610,000	289,037	37,574,757
69	131.00	2,238.85	17,161	2,248,091	294,499,921	293,290	38,420,927
70	132.00	2,254.36	17,424	2,299,968	303,595,776	297,576	39,280,037
71	133.00	2,269.90	17,689	2,352,637	312,900,721	301,896	40,152,215
72	134.00	2,285.45	17,956	2,406,104	322,417,936	306,251	41,037,588
73	135.00	2,301.03	18,225	2,460,375	332,150,625	310,639	41,936,284
74	136.00	2,316.63	18,496	2,515,456	342,102,016	315,062	42,848,436
75	137.00	2,332.26	18,769	2,571,353	352,275,361	319,520	43,774,174
76	138.00	2,347.91	19,044	2,628,072	362,673,936	324,012	44,713,632
77	139.00	2,363.59	19,321	2,685,619	373,301,041	328,539	45,666,944
78	140.00	2,379.30	19,600	2,744,000	384,160,000	333,102	46,634,247
79	141.00	2,395.03	19,881	2,803,221	395,254,161	337,700	47,615,679
80	142.00	2,410.80	20,164	2,863,288	406,586,896	342,334	48,611,377
81	143.00	2,426.60	20,449	2,924,207	418,161,601	347,003	49,621,484
82	144.00	2,442.43	20,736	2,985,984	429,981,696	351,709	50,646,141
83	145.00	2,458.29	21,025	3,048,625	442,050,625	356,452	51,685,491
84	146.00	2,474.18	21,316	3,112,136	454,371,856	361,231	52,739,680
85	147.00	2,490.11	21,609	3,176,523	466,948,881	366,047	53,808,855
86	148.00	2,506.08	21,904	3,241,792	479,785,216	370,900	54,893,164
87	149.00	2,522.08	22,201	3,307,949	492,884,401	375,790	55,992,756
88	150.00	2,538.12	22,500	3,375,000	506,250,000	380,719	57,107,784
89	151.00	2,554.20	22,801	3,442,951	519,885,601	385,685	58,238,401
90	152.00	2,570.32	23,104	3,511,808	533,794,816	390,689	59,384,761

ATTACHMENT 4

Calculation of ABC Constants and Comparison of Heat Rates
Case Without Variable O and M Component

Section 1 - Calculation of ABC Constants Without Variable O&M Component

Data Point No.	Load, MW (x)	Fuel and Variable O&M Component, $/hr (y)	x^2	x^3	x^4	xy	x^2y
103	165.00	2,783.98	27,225	4,492,125	741,200,625	459,356	75,793,791
104	166.00	2,800.76	27,556	4,574,296	759,333,136	464,927	77,177,818
105	167.00	2,817.60	27,889	4,657,463	777,796,321	470,540	78,580,127
106	168.00	2,834.50	28,224	4,741,632	796,594,176	476,196	80,000,904
107	169.00	2,851.45	28,561	4,826,809	815,730,721	481,895	81,440,334
108	170.00	2,868.46	28,900	4,913,000	835,210,000	487,639	82,898,606
109	171.00	2,885.53	29,241	5,000,211	855,036,081	493,426	84,375,912
110	172.00	2,902.67	29,584	5,088,448	875,213,056	499,258	85,872,442
111	173.00	2,919.86	29,929	5,177,717	895,745,041	505,135	87,388,394
112	174.00	2,937.11	30,276	5,268,024	916,636,176	511,057	88,923,962
113	175.00	2,954.43	30,625	5,359,375	937,890,625	517,025	90,479,347
114	176.00	2,971.81	30,976	5,451,776	959,512,576	523,038	92,054,749
115	177.00	2,989.26	31,329	5,545,233	981,506,241	529,098	93,650,373
116	178.00	3,006.77	31,684	5,639,752	1,003,875,856	535,205	95,266,423
117	179.00	3,024.35	32,041	5,735,339	1,026,625,681	541,358	96,903,108
118	180.00	3,041.99	32,400	5,832,000	1,049,760,000	547,559	98,560,637
	14,337.00	247,593	1,878,855	261,549,891	38,127,489,819	32,233,527	4,465,637,019

ATTACHMENT 4

Calculation of ABC Constants and Comparison of Heat Rates

[redacted]

Data Point	Load, MW	By PPA Formula		By ABC Constants		
		Fuel and Variable O&M Component,	Cost Rate,	Fuel and Variable O&M Component,	Cost Rate,	Difference in Cost Rates

ATTACHMENT 4

Calculation of ABC Constants and Comparison of Heat Rates
Case Without Variable O and M Component

Section 2 - Comparison of Heat Rates from PPA Formula and ABC Constants

		By PPA Formula		By ABC Constants			
Data Point No.	Load, MW (x)	Fuel and Variable O&M Component, $/hr	Cost Rate, $/MWh	Fuel and Variable O&M Component, $/hr	Cost Rate, $/MWh	Difference in Cost Rates ABC - PPA	Difference^2
41	103.00	1,808.8	$17.562	1,803.4	$17.509	-$0.053	0.00278
42	104.00	1,824.2	$17.540	1,818.9	$17.490	-$0.050	0.00254
43	105.00	1,839.5	$17.519	1,834.5	$17.471	-$0.048	0.00230
44	106.00	1,854.8	$17.499	1,850.0	$17.453	-$0.045	0.00206
45	107.00	1,870.2	$17.478	1,865.6	$17.435	-$0.043	0.00183
		[illegible]	[illegible]	[illegible]	$17.418	-$0.040	0.00160

ATTACHMENT 4

Calculation of ABC Constants and Comparison of Heat Rates
Case Without Variable O and M Component

Section 2 - Comparison of Heat Rates from PPA Formula and ABC Constants

		By PPA Formula		By ABC Constants			
Data Point No.	Load, MW (x)	Fuel and Variable O&M Component, $/hr	Cost Rate, $/MWh	Fuel and Variable O&M Component, $/hr	Cost Rate, $/MWh	Difference in Cost Rates ABC - PPA	Difference^2
81	143.00	2,426.6	$16.969	2,432.5	$17.010	$0.041	0.00169
82	144.00	2,442.4	$16.961	2,448.4	$17.003	$0.042	0.00173
83	145.00	2,458.3	$16.954	2,464.4	$16.996	$0.042	0.00175
84	146.00	2,474.2	$16.946	2,480.3	$16.988	$0.042	0.00176
85	147.00	2,490.1	$16.940	2,496.3	$16.981	$0.042	0.00176
86	148.00	2,506.1	$16.933	2,512.3	$16.975	$0.042	0.00174
87	149.00	2,522.1	$16.927	2,528.2	$16.968	$0.041	0.00171
88	150.00	2,538.1	$16.921	2,544.2	$16.962	$0.041	0.00166
89	151.00	2,554.2	$16.915	2,560.2	$16.955	$0.040	0.00160
90	152.00	2,570.3	$16.910	2,576.3	$16.949	$0.039	0.00152
91	153.00	2,586.5	$16.905	2,592.3	$16.943	$0.038	0.00144
92	154.00	2,602.7	$16.901	2,608.3	$16.937	$0.037	0.00134
93	155.00	2,618.9	$16.896	2,624.4	$16.931	$0.035	0.00123
94	156.00	2,635.2	$16.892	2,640.4	$16.926	$0.033	0.00111
95	157.00	2,651.6	$16.889	2,656.5	$16.920	$0.031	0.00099
96	158.00	2,667.9	$16.886	2,672.6	$16.915	$0.029	0.00086
97	159.00	2,684.4	$16.883	2,688.7	$16.910	$0.027	0.00073
98	160.00	2,700.8	$16.880	2,704.8	$16.905	$0.025	0.00060
99	161.00	2,717.4	$16.878	2,720.9	$16.900	$0.022	0.00047
100	162.00	2,733.9	$16.876	2,737.0	$16.895	$0.019	0.00035
101	163.00	2,750.6	$16.875	2,753.1	$16.890	$0.016	0.00025
102	164.00	2,767.2	$16.873	2,769.3	$16.886	$0.012	0.00015

ATTACHMENT 4

Data Points Generated from PPA Formula for Fuel Component Only

AES-Hawaii PPA Formula for Fuel Component, EXCLUDING Variable O&M Costs

Fuel Cost for One Hour in 1987 ($/hour) =

$0.00016803L^3 - 0.056145L^2 + (21.5619)L$, where

L = Load in MW

Load, MW	Fuel Component, $/hour	Load, MW	Fuel Component, $/hour	Load, MW	Fuel Component, $/hour	Load, MW	Fuel Component, $/hour	Load, MW	Fuel Component, $/hour
20	410.1	60	1,127.9	100	1,762.8	140	2,379.3	180	3,042.0
21	429.6	61	1,144.5	101	1,778.1	141	2,395.0	181	3,059.7
22	449.0	62	1,161.1	102	1,793.5	142	2,410.8	182	3,077.5
23	468.3	63	1,177.6	103	1,808.8	143	2,426.6	183	3,095.4
24	487.5	64	1,194.0	104	1,824.2	144	2,442.4	184	3,113.3
25	506.6	65	1,210.5	105	1,839.5	145	2,458.3	185	3,131.3
26	525.6	66	1,226.8	106	1,854.8	146	2,474.2	186	3,149.4
27	544.5	67	1,243.1	107	1,870.2	147	2,490.1	187	3,167.5
28	563.4	68	1,259.4	108	1,885.5	148	2,506.1	188	3,185.8
29	582.2	69	1,275.7	109	1,900.8	149	2,522.1	189	3,204.1
30	600.9	70	1,291.9	110	1,916.1	150	2,538.1	190	3,222.4
31	619.5	71	1,308.0	111	1,931.4	151	2,554.2	191	3,240.9
32	638.0	72	1,324.1	112	1,946.7	152	2,570.3	192	3,259.5
33	656.4	73	1,340.2	113	1,962.0	153	2,586.5	193	3,278.1
34	674.8	74	1,356.2	114	1,977.3	154	2,602.7	194	3,296.8
35	693.1	75	1,372.2	115	1,992.7	155	2,618.9	195	3,315.6
36	711.3	76	1,388.2	116	2,008.0	156	2,635.2	196	3,334.5
37	729.4	77	1,404.1	117	2,023.3	157	2,651.6	197	3,353.4
38	747.5	78	1,420.0	118	2,038.6	158	2,667.9	198	3,372.5
39	765.5	79	1,435.8	119	2,054.0	159	2,684.4	199	3,391.6
40	783.4	80	1,451.7	120	2,069.3	160	2,700.8	200	3,410.8
41	801.2	81	1,467.4	121	2,084.6	161	2,717.4	201	3,430.1
42	819.0	82	1,483.2	122	2,100.0	162	2,733.9	202	3,449.5
43	836.7	83	1,498.9	123	2,115.4	163	2,750.6	203	3,469.0
44	854.3	84	1,514.6	124	2,130.8	164	2,767.2	204	3,488.6
45	871.9	85	1,530.3	125	2,146.2	165	2,784.0	205	3,508.3
46	889.4	86	1,546.0	126	2,161.6	166	2,800.8	206	3,528.1
47	906.8	87	1,561.6	127	2,177.0	167	2,817.6	207	3,547.9
48	924.2	88	1,577.2	128	2,192.4	168	2,834.5	208	3,567.9
49	941.5	89	1,592.7	129	2,207.9	169	2,851.5	209	3,588.0
50	958.7	90	1,608.3	130	2,223.4	170	2,868.5	210	3,608.1
51	975.9	91	1,623.8	131	2,238.9	171	2,885.5	211	3,628.4
52	993.0	92	1,639.3	132	2,254.4	172	2,902.7	212	3,648.8
53	1,010.1	93	1,654.8	133	2,269.9	173	2,919.9	213	3,669.2
54	1,027.1	94	1,670.3	134	2,285.5	174	2,937.1	214	3,689.8
55	1,044.0	95	1,685.7	135	2,301.0	175	2,954.4	215	3,710.5
56	1,060.9	96	1,701.2	136	2,316.6	176	2,971.8	216	3,731.2
57	1,077.7	97	1,716.6	137	2,332.3	177	2,989.3	217	3,752.1
58	1,094.5	98	1,732.0	138	2,347.9	178	3,006.8	218	3,773.1
59	1,111.2	99	1,747.4	139	2,363.6	179	3,024.3	219	3,794.2

RHS
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Attachment 5

Methodology for Least-Squares Curve-Fit

This attachment describes the least-squares curve-fit method used to determine the ABC constants in the equation:

$$FCR = A + BL + CL^2, \qquad \text{[Equation 2]}$$

where: FCR = fuel consumption rate in MBtu/hour,
L = load in MW, and
A, B and C are coefficients determined from the least-squares curve-fit,

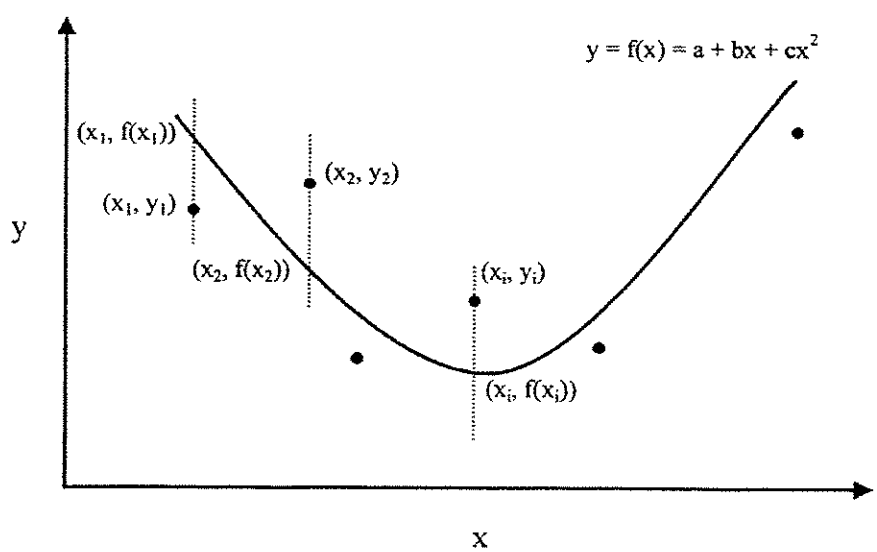
such that the curve defined by this formula closely approximates the PPA pricing formula for energy and variable O&M defined by the following equation:

$$f(L) = 0.00016803L^3 - 0.056145L^2 + [(21.5619 + 0.5) \times L],$$

where: f(L) = equivalent fuel consumption rate in MMBtu/hour, including energy and variable O&M, and
L = load in MW.

A least-squares curve-fit is determined by minimizing the sum of the squares of the differences between a set of data points and a curve "fitted" to the data points. For example, in Figure 1, consider the second order polynomial, f(x), being fitted onto the data points to represent a functional relationship between x and y.

Figure 1



At x_1, the distance between the data point and the curve is $f(x_1) - y_1$; at x_2, the distance is $f(x_2) - y_2$, and at x_i, the distance is $f(x_i) - y_i$. The method of least-squares consists of choosing the polynomial f(x) for which the sum of the squares of the distances is the least. If, taking *n* data points into account, D^2 is the sum of the squares of the distances, i.e.,:

$$D^2 = [f(x_1) - y_1]^2 + [f(x_2) - y_2]^2 + \ldots + [f(x_n) - y_n]^2 \text{ or}$$

$$D^2 = \sum_{i=1}^{n} [f(x_i) - y_i]^2 ,$$

then f(x) must be chosen such that D^2 is minimized. Since a second order polynomial has been selected to represent f(x), then:

$$D^2 = \sum_{i=1}^{n} [(a + bx_i + cx_i^2) - y_i]^2 .$$

Using techniques from calculus and linear algebra, the values for a, b and c can be determined such that D^2 is minimized. Refer to the attached material from the following references:

1. Agnew, Jeanne L., and Robert Knapp, Linear Algebra with Applications, Third Edition, © 1989, 1983, 1978, Brooks/Cole Publishing Company, Pacific Grove, CA.

2. Beyer, William H., CRC Standard Mathematical Tables, 26th Edition, © 1981, CRC Press, Boca Raton, FL.

Solving the three equations for the three unknowns using matrices:

$$\begin{bmatrix} n & \sum x_i & \sum x_i^2 \\ \sum x_i & \sum x_i^2 & \sum x_i^3 \\ \sum x_i^2 & \sum x_i^3 & \sum x_i^4 \end{bmatrix} \begin{bmatrix} a \\ b \\ c \end{bmatrix} = \begin{bmatrix} \sum y_i \\ \sum x_i y_i \\ \sum x_i^2 y_i \end{bmatrix}$$

The determinant, DET,

$$= \{n \bullet [\sum x_i^2 \sum x_i^4 - (\sum x_i^3)^2]\} - \{\sum x_i \bullet [\sum x_i \sum x_i^4 - \sum x_i^2 \sum x_i^3]\}$$

$$+ \{\sum x_i^2 \bullet [\sum x_i \sum x_i^3 - (\sum x_i^2)^2]\}$$

$$a = \frac{\begin{vmatrix} \sum y_i & \sum x_i & \sum x_i^2 \\ \sum x_i y_i & \sum x_i^2 & \sum x_i^3 \\ \sum x_i^2 y_i & \sum x_i^3 & \sum x_i^4 \end{vmatrix}}{\text{DET}}$$

$$= [\{\sum y_i \bullet [\sum x_i^2 \sum x_i^4 - (\sum x_i^3)^2]\} - \{\sum x_i y_i \bullet [\sum x_i \sum x_i^4 - \sum x_i^2 \sum x_i^3]\}$$

$$+ \{\sum x_i^2 y_i \bullet [\sum x_i \sum x_i^3 - (\sum x_i^2)^2]\}] / (\text{DET})$$

$$b = \frac{\begin{vmatrix} n & \sum y_i & \sum x_i^2 \\ \sum x_i & \sum x_i y_i & \sum x_i^3 \\ \sum x_i^2 & \sum x_i^2 y_i & \sum x_i^4 \end{vmatrix}}{\text{DET}}$$

$$= - [\{\sum y_i \cdot [\sum x_i \sum x_i^4 - \sum x_i^2 \sum x_i^3]\} - \{\sum x_i y_i \cdot [n \cdot \sum x_i^4 - (\sum x_i^2)^2]\}$$

$$+ \{\sum x_i^2 y_i \cdot [n \cdot \sum x_i^3 - \sum x_i \sum x_i^2]\}] / (DET)$$

Solve for c by substituting a and b into Equation 4-1:

$$n \cdot a + (\sum x_i) \cdot b + (\sum x_i^2) \cdot c = \sum y_i$$

$$c = \frac{\sum y_i - (n \cdot a) - (\sum x_i) \cdot b}{\sum x_i^2}$$

where a and b are solved above.[2]

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[2] Derivation provided by M. Fukuji.

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b. Write the matrix of each transformation used, and obtain the matrix of T.
c. Write the transformation T in matrix form.

34. Use the result of Problem 33 to write $T\left(\begin{bmatrix} 1 & 0 \\ 0 & 1 \end{bmatrix}\right)$. Verify that $T\left(\begin{bmatrix} 1 & 0 \\ 0 & 1 \end{bmatrix}\right)$ gives the coordinates of the matrix that is the inverse of $\begin{bmatrix} 2 & 5 \\ 1 & 1 \end{bmatrix}$.

35. Show that:
a. $(T_{i,j,k})^{-1} = T_{i,j,-k}$
b. $(R_{i,r})^{-1} = R_{i,1/r}$
c. $(S_{i,j})^{-1} = S_{i,j}$

5.4 *Applications: The Method of Least Squares, Differential Equations, Robotics, The Scrambler Transformation*

The Method of Least Squares

In Section 5.2 we illustrated the use of a transformation from P_n to R^m in finding a polynomial graph that passes through m distinct points. Whether such a graph exists depends on the relative size of m and n. If $m > n + 1$, it is possible that there is no polynomial of degree n with a graph that passes through all these points. It is still useful, however, to ask what polynomial of degree n comes nearest to passing through the m points. A method frequently used for deciding the "best" choice of the polynomial p is referred to as the *method of least squares*.

Let the m points be $(x_1, y_1), (x_2, y_2), \ldots, (x_m, y_m)$. Then $p(x_i) - y_i$ is the vertical distance from the point (x_i, y_i) to the graph of p. (See Figure 5.8.) The method of least squares consists of choosing the polynomial p for which the sum of the squares of these distances is the least. Let

$$D^2 = [p(x_1) - y_1]^2 + [p(x_2) - y_2]^2 + \cdots + [p(x_m) - y_m]^2$$

We want to choose p so that D^2 is a minimum.

Let T be the transformation from P_n to R^m defined by $T(p) = (p(x_1), p(x_2), \ldots, p(x_m))$, and let $\mathbf{y} = (y_1, y_2, \ldots, y_m)$. The number D^2 is the square of the length of the vector $T(p) - \mathbf{y}$. If $\mathbf{y}$ is not in the range of T, we have to find an element $T(p)$ in the range such that $\|T(p) - \mathbf{y}\|$ is a minimum. Example 19 illustrates how this can be done.

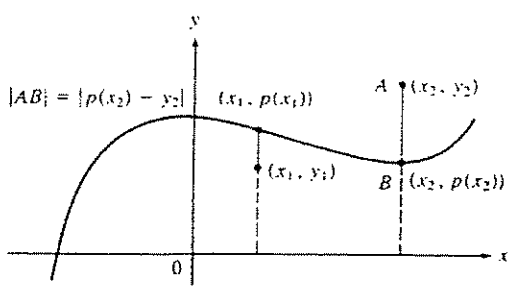

FIGURE 5.8

Example 19 Find the first-degree polynomial that is the best fit for the set of points (x_1, y_1), (x_2, y_2), (x_3, y_3), (x_4, y_4).

Solution The transformation T is from P_1 to R^4 in this case. Its matrix is

$$\mathbf{A} = \begin{bmatrix} 1 & x_1 \\ 1 & x_2 \\ 1 & x_3 \\ 1 & x_4 \end{bmatrix}$$

We want to choose p so that $\|T(p) - \mathbf{y}\|$ is a minimum. Now $T(p) = \mathbf{A}[p]$ and

$$\mathbf{A}[p] - [\mathbf{y}] = \mathbf{A}\begin{bmatrix} a_0 \\ a_1 \end{bmatrix} - [\mathbf{y}] = \begin{bmatrix} a_0 + a_1x_1 - y_1 \\ a_0 + a_1x_2 - y_2 \\ a_0 + a_1x_3 - y_3 \\ a_0 + a_1x_4 - y_4 \end{bmatrix}$$

so that

$$\begin{aligned} D^2 = {} & (a_0 + a_1x_1 - y_1)^2 + (a_0 + a_1x_2 - y_2)^2 \\ & + (a_0 + a_1x_3 - y_3)^2 + (a_0 + a_1x_4 - y_4)^2 \end{aligned}$$

From calculus, we know that the values of a_0 and a_1 that make D^2 a minimum can be found by setting the partial derivative of D^2 with respect to a_0 equal to zero and

nearly tangent to the x-axis), one may improve the grouped data approximation to the variance by adding Sheppard's correction $-\frac{c^2}{12}$. Thus

$$\text{corrected variance} = \text{grouped data variance} - \frac{c^2}{12}$$

Analogous corrections for grouped data sample moments

$$m'_r = \frac{1}{n}\sum_{i=1}^{k} f_i x_i^r \qquad \text{and} \qquad m_r = \frac{1}{n}\sum_{i=1}^{k} f_i (x_i - \bar{x})^r$$

yield improved estimates m'_{r_c} and m_{r_c} given by

$$m'_{1_c} = m'_1 \qquad m_{1_c} = m_1$$

$$m'_{2_c} = m'_2 - \frac{c^2}{12} \qquad m_{2_c} = m_2 - \frac{c^2}{12}$$

$$m'_{3_c} = m'_3 - \frac{c^2}{4} m'_1 \qquad m_{3_c} = m_3$$

$$m'_{4_c} = m'_4 - \frac{c^2}{2} m'_2 + \frac{7c^4}{240} \qquad m_{4_c} = m_4 - \frac{c^2}{2} m_2 + \frac{7c^4}{240}$$

Curve Fitting, Regression, and Correlation

The following formulas apply to a set of n ordered pairs $\{(x_i, y_i)\}$, $i = 1, 2, \ldots, n$. The assumptions of normal regression analysis are that the x's are fixed variables, and the y's are independent random variables having normal distributions with common variance σ^2. The assumptions of normal correlation analysis are that $\{(x_i, y_i)\}$ constitute a random sample from a bivariate normal population.

Curve Fitting

1. Polynomial Function

$$y = b_0 + b_1 x + b_2 x^2 + \cdots + b_m x^m$$

For a polynomial function fit by the method of least squares, the values of $b_0, b_1, \ldots, b_m$ are obtained by solving the system of $m + 1$ normal equations

$$\begin{aligned} nb_0 + b_1\Sigma x_i + b_2\Sigma x_i^2 + \cdots + b_m\Sigma x_i^m &= \Sigma y_i \\ b_0\Sigma x_i + b_1\Sigma x_i^2 + b_2\Sigma x_i^3 + \cdots + b_m\Sigma x_i^{m+1} &= \Sigma x_i y_i \\ \cdots\cdots\cdots\cdots\cdots\cdots\cdots\cdots \\ b_0\Sigma x_i^m + b_1\Sigma x_i^{m+1} + b_2\Sigma x_i^{m+2} + \cdots + b_m\Sigma x_i^{2m} &= \Sigma x_i^m y_i \end{aligned}$$

2. Straight Line

$$y = b_0 + b_1 x$$

[illegible] the values b_0 and b_1 are obtained

3. Exponential Curve

$$y = ab^x$$

or

$$\log y = \log a + (\log b)x$$

For an exponential curve fit by the method of least squares, the values $\log a$ and $\log b$ are obtained by fitting a straight line to the set of ordered pairs $\{(x_i, \log y_i)\}$.

4. Power Function

$$y = ax^b$$

or

$$\log y = \log a + b \log x$$

For a power function fit by the method of least squares, the values $\log a$ and b are obtained by fitting a straight line to the set of ordered pairs $\{(\log x_i, \log y_i)\}$.

Regression and Correlation

1. Simple Linear Regression.

For a regression of y on x

$$E(y/x) = b_0 + b_1 x,$$

where $E(y/x)$ is the mean of the distribution of y for a given x.

Standard Error of Estimate

$$s_e = \sqrt{\frac{\Sigma[y_i - (b_0 + b_1 x_i)]^2}{n-2}},$$

where b_0 and b_1 are given by

$$b_1 = \frac{n\Sigma x_i y_i - (\Sigma x_i)(\Sigma y_i)}{n\Sigma x_i^2 - (\Sigma x_i)^2}$$

$$b_0 = \frac{\Sigma y_i}{n} - b_1 \frac{\Sigma x_i}{n} = \bar{y} - b_1 \bar{x}$$

2. Correlation.

An estimate of the population correlation coefficient ρ is given by

$$r = \frac{\Sigma(x_i - \bar{x})(y_i - \bar{y})}{\sqrt{[\Sigma(x_i - \bar{x})^2][\Sigma(y_i - \bar{y})^2]}}$$

or by the computing formula

$$r = \frac{n\Sigma x_i y_i - (\Sigma x_i)(\Sigma y_i)}{\sqrt{[n\Sigma x_i^2 - (\Sigma x_i)^2][n\Sigma y_i^2 - (\Sigma y_i)^2]}}$$

For grouped data

$$r = \frac{n\Sigma f x_i y_i - (\Sigma f_x x_i)(\Sigma f_y y_i)}{\sqrt{[n\Sigma f_x x_i^2 - (\Sigma f_x x_i)^2][n\Sigma f_y y_i^2 - (\Sigma f_y y_i)^2]}}$$

where f_x and f_y denote the frequencies corresponding to the class marks x and y, and f denotes the frequency of the corresponding cell of the correlation table.

If the data is coded

$$r = \frac{n\Sigma f uv - (\Sigma f_u u)(\Sigma f_v v)}{\sqrt{[n\Sigma f_u u^2 - (\Sigma f_u u)^2][n\Sigma f_v v^2 - (\Sigma f_v v)^2]}}$$

where the u's and v's are coded class marks. The frequencies f_u and f_v are defined analogous to f_x and f_y.

WILLIAM H. BEYER, CRC Standard Mathematical Tables, 26th Edition (Boca Raton, Florida: CRC Press, 1981)

GENPP
KALAELOA
XA/R

Hawaiian Electric Company, Inc.

Economic Dispatch of Kalaeloa

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Economic Dispatch of Kalaeloa

Summary

This study recommends a dispatch model of the Kalaeloa units which represents conditions of the Kalaeloa contract within the GEPPS and EMS environments. The model characterizes Kalaeloa as two identical "half" combined cycle units, each with a dispatch curve representing half of the two gas turbine operation cost curve.

Since the dispatch coefficients for Kalaeloa will change whenever the GNPIPD, LSFO price, or PPI for magnesium ingot change, and whenever the minimum energy purchase amount is achieved, a computer program was developed to provide System Operations with a quick way to update the Kalaeloa dispatch coefficients in EMS.

Since GEPPS permits only one set of dispatch coefficients in each run, dispatch coefficients "averaged" over the forecasted GNPIPD, LSFO prices, and PPI will be used to model Kalaeloa in GEPPS. System Planning will further explore the possibility of modifying GEPPS to allow more than one set of dispatch coefficients in each run.

Introduction

The purpose of this study is to develop a model of the Kalaeloa units for use in both EMS and GEPPS. In EMS, the model will be used for economic dispatch. In GEPPS, the model will be used for economic dispatch, and also affects the calculation of risk and the scheduling of planned maintenance.

The contract conditions to be modeled are:

- There are two cost curves, one for one gas turbine operation, and another for two gas turbine operation. Since only one of these curves may be entered into GEPPS or EMS, the two gas turbine operation curve will be used since it represents the dominant mode of operation. Consideration will be given to modifying GEPPS to allow both dispatch curves to be entered

- The Kalaeloa unit consists of two gas turbine-generators (GTG), each exhausting to a Heat Recovery Steam Generator (HRSG), and a steam turbine-generator (STG) supplied by the two HRSG's. In order to tie the operation of the STG to that of the GTG's, Kalaeloa will be modeled as two "half" units, each composed of a GTG and "half" of the STG.

- The Kalaeloa cost curves are made up of various components which are escalated at different rates. Therefore the input-output curve for Kalaeloa will vary as a function of the escalation factors. This can be accomplished in EMS by changing the dispatch coefficients every time the escalation factors change, which is analogous to changing the fuel price values whenever fuel prices change. In GEPPS, an "averaged" set of dispatch coefficients, similar to the "averaged" dispatch coefficients used for existing utility units, will be used to model Kalaeloa.

- There is a floor price of 2.77 ¢/KWH on the fuel component of the cost curves.

- If HECO purchases less than a specified minimum energy amount, the non-fuel component (0.96 ¢/KWH) must be paid for

- If HECO purchases less than a specified minimum energy purchase amount, a penalty of 0.08 ¢/KWH must be paid for the energy not purchased. (Although it is unclear from the wording of the contract whether this penalty is escalated by any index, this analysis assumes that no escalation is intended since the penalty does not appear to be connected with any material component.) Since HECO can reduce this cost by deciding to take the energy, the penalty should be treated as a negative variable cost until the specified minimum energy purchase amount is achieved. Once HECO achieves the specified minimum energy purchase amount, the penalty disappears and should not be treated as a variable cost. For EMS, the dispatch coefficients will have to be changed after the specified minimum energy purchase amount has been achieved. For GEPPS, a "weighted average" dispatch curve will be used to model Kalaeloa.

The following section develops the mathematical derivation of the Kalaeloa dispatch coefficients.

Analysis

The method of economic dispatch used in GEPPS and EMS requires a dispatch curve, for each dispatched unit, which expresses the mathematical relationship between input and output:

$$INPUT = A + (B)(L) + (C)(L)^2 \qquad \text{(Eq. 1)}$$

where: INPUT = Unit input in MBTU/Hr
A, B, C = Derived coefficients
L = Unit output in MW

For HECO units, the equation coefficients (A, B, and C) are obtained by fitting a second-order polynomial curve to actual input-output values obtained by field testing. In the case of Kalaeloa, the input-output relationship can be derived from the contract. In order to develop a relationship that can be used for economic dispatch, the energy charge given in the Kalaeloa contract must first be converted to an hourly cost:

$$COST = (10)(L)(CHARGE) \qquad \text{(Eq. 2)}$$

where: COST = Unit cost in $/Hr
L = Unit load in MW
CHARGE = Energy charge in ¢/KWH

This hourly cost can then be converted to MBTU/Hr by noting that the contract is based on an LSFO price adjusted to a gross heating value of 6 MBTU/BBL:

$$INPUT = COST/(LFSO/6) = (6)(COST)/LSFO \qquad \text{(Eq. 3)}$$

where: INPUT = Unit input in MBTU/Hr
COST = Unit cost in $/Hr
LSFO = Current LSFO price in $/BBL @ 6 MBTU/BBL

Substituting Eq. 2 into Eq. 3 yields the following expression:

$$INPUT = (60)(L)(CHARGE)/LSFO \qquad \text{(Eq. 4)}$$

The energy charge is obtained from the Kalaeloa contract:

$$CHARGE = (F)(LSFO/LSFO\ BASE) + (NF)(GNPIPD/GNPIPD\ BASE) + (ADD)(PPIMG/PPIMG\ BASE) + PENALTY \qquad \text{(Eq. 5)}$$

where: CHARGE = Unit energy charge in ¢/KWH
F = Fuel component
LSFO = Current LSFO price in $/BBL @ 6 MBTU/BBL
LSFO BASE = Base LSFO price, 19.50 $/BBL @ 6 MBTU/BBL

NF	=	Non-fuel component, 0 ¢/KWH for energy <= min purchase 0.96 ¢/KWH for energy > min purchase
GNPIPD	=	Current GNPIPD
GNPIPD BASE	=	Base GNPIPD 1.214 on 01/01/88
ADD	=	Additive component, 0.144 ¢/KWH
PPIMG	=	Current PPI for Mg ingot
PPIMG BASE	=	Base PPI for Mg ingot, 114.2 on 01/01/88
PENALTY	=	Penalty for minimum energy purchase, -0.08 ¢/KWH for energy <= min purchase 0 ¢/KWH for energy > min purchase

This equation can be simplified:

$$\text{CHARGE} = (F)(\text{LSFO/LSFO BASE}) + G \qquad \text{(Eq. 6)}$$

where:

$$G = (\text{NF})(\text{GNPIPD/GNPIPD BASE}) + (\text{ADD})(\text{PPIMG/PPIMG BASE}) + \text{PENALTY} \qquad \text{(Eq. 7)}$$

By substituting Eq. 6 into Eq. 4, we obtain:

$$\text{INPUT} = (60)(L)((F/\text{LSFO BASE}) + (G/\text{LSFO})) \qquad \text{(Eq. 8)}$$

From the contract, the Fuel Component, F, is a function of only the unit load:

$$F = 7.308436 - (0.06425951)(L) + (0.0003206926)(L)^2 - (0.000000577144)(L)^3 \qquad \text{(Eq. 9)}$$

when two gas turbines are in operation.

$$F = 6.866031 - (0.07354662)(L) + (0.0003659949)(L)^2 \qquad \text{(Eq. 10)}$$

when one gas turbine is in operation.

Substitution of either Eq. 9 or Eq. 10 into Eq. 8 yields expressions for INPUT which are either third or fourth-order polynomial curves, instead of the second-order curve required by the dispatch algorithm in GEPPS and EMS. Therefore, neither expressions can be used directly in the GEPPS or EMS economic dispatch. In order to obtain the second-order curve, Eq. 1, required by the dispatch algorithms in GEPPS and EMS, Eq. 8, with

either Eq. 9 or Eq. 10 substituted, can be used to determine data points for fitting a second-order curve. The curve obtained for one gas turbine operation may be used directly for either "half" unit running alone. However, when dispatching for two gas turbine operation, the dispatch curve, Eq. 1, must be modifed to account for the fact that each "half" unit will be dispatched at only half

Discussion

Since the minimum energy purchase amount is based on the current-year annual availability of Kalaeloa, it will not be known until after the fact when HECO achieves the minimum energy purchase amount. Therefore, a continuously updated record of Kalaeloa year-to-date availability should be maintained by the Kalaeloa contract administrator. This record will enable the administrator to estimate when the minimum energy purchase is achieved. Each year, when the administrator estimates that the minimum energy purchase has been achieved, the administrator should inform System Operations that the dispatch coefficients should be changed.

Initially, the "weighted average" dispatch curve used in GEPPS will be based on the contract base of 85% Kalaeloa availability. Eventually, HECO will record enough historical data on Kalaeloa availability to develop a "weighted average" dispatch curve based

Recommendations

1. Model Kalaeloa as two half units based on two gas turbine operation fuel component energy charges.

2. System Operations should change the EMS dispatch coefficients for Kalaeloa whenever the escalation factors change or whenever the minimum energy purchase requirement is met. The dispatch coefficients can be calculated using the KALAELOA computer program in the Appendix.

3. Consider modifications to GEPPS that will permit the use of more than one dispatch curve for each unit.

Appendix

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C*********************************************************************
C**                                                                 **
C**   KALAELOA      KALAELOA DISPATCH CURVE COEFFICIENTS            **
C**                                                                 **
C*********************************************************************
C*********************************************************************
C**   VERSION 1                                A. TAM  09/1990      **
C*********************************************************************
C     I/O VARIABLES
      INTEGER LUOT, LUTER, LUOT2
C
C     KURFIT VARIABLES
      INTEGER NP
      REAL COEFF(11), RESIDS, RSQRD, STDERR, X(200), Y(200)
C
C     KALAELOA VARIABLES
      INTEGER HEADER(2), NGT
      INTEGER LMIN(2), LMAX(2)
      REAL LSFO, LSFOB
      REAL GNPIPD, GNPIPB
      REAL PPIMG, PPIMGB
      REAL ADD, F, NF(2), PENALT(2)
      REAL A(2), B(2), C(2), D(2)
C
C     I/O ASSIGNMENTS
      DATA LUOT, LUTER, LUOT2 / 3, 6, 8 /
C
C     BASE DATA
C     NOTE:  MAGNESIUM, PIG INGOT IS PPI COMMODITY CODE 1022 0151
      DATA LSFOB / 19.50 /, GNPIPB / 1.214 /, PPIMGB / 114.2 /
      DATA ADD / 0.144 /, NF / 0., 0.96 /, PENALT / -0.08, 0. /
      DATA HEADER / 'ONE', 'TWO' /
C
C     FUEL COMPONENT EQUATION COEFFICIENTS AND LOAD RANGE
      DATA A /  6.866031     ,  7.308436 /,
     &     B / -0.07354662   , -0.06425951 /,
     &     C /  0.0003659949,  0.0003206926 /,
     &     D /  0.           , -0.000000577144 /
      DATA LMIN / 65, 90 /, LMAX / 90, 180 /
C
C     INPUT CURRENT PRICE AND ESCALATION DATA
      CALL CLTERM
      WRITE (LUTER, 1000)
   10 WRITE (LUTER, 1010)
      READ (5, *, END=991, ERR=991) LSFO
   20 WRITE (LUTER, 1020)
      READ (5, *, END=992, ERR=992) GNPIPD
   30 WRITE (LUTER, 1030)
      READ (5, *, END=993, ERR=993) PPIMG
C
C     INPUT NUMBER OF GTS
   40 WRITE (LUTER, 1040)
      READ (5, *, END=994, ERR=994) NGT
      IF ((NGT .NE. 1) .AND. (NGT .NE. 2)) GO TO 994
      MIN = LMIN(NGT)
      MAX = LMAX(NGT)
C
C     START TERMINAL AND PRINTED OUTPUT
      CALL CLTERM
      WRITE (LUTER, 2010) HEADER(NGT),
     &                    LSFO, LSFOB, GNPIPD, GNPIPB, PPIMG, PPIMGB
      WRITE (LUOT,  2010) HEADER(NGT),
     &                    LSFO, LSFOB, GNPIPD, GNPIPB, PPIMG, PPIMGB
C
C     DO BEFORE & AFTER MEETING MINIMUM PURCHASE REQUIREMENT
```

```
      DO 100 I = 1, 2
```

```
      X(NP) = J                                                         KAL00760
      F = A(NGT) + B(NGT)*X(NP) + C(NGT)*X(NP)**2 + D(NGT)*X(NP)**3     KAL00770
      IF (F .LT. 2.77) F = 2.77                                         KAL00780
      Y(NP) = 60.*X(NP)*((F/LSFOB) + (G/LSFO))                          KAL00790
C     INCOST = LSFO*Y(NP)/(60.*X(NP))                                   KAL00800
      WRITE (LUOT2, 2502) X(NP), Y(NP)                                  KAL00810
  200 CONTINUE                                                          KAL00820
C     IF (I .EQ. 1) WRITE (LUOT2, 2503)                                 KAL00830
C     IF (I .EQ. 2) WRITE (LUOT2, 2504)                                 KAL00840
C                                                                       KAL00850
C     CALCULATE CURVEFIT COEFFICIENTS                                   KAL00860
      CALL KURFIT (NP, X, Y, COEFF, RESIDS, STDERR, RSQRD)              KAL00870
      IF (NGT .EQ. 2) COEFF(1) = COEFF(1)/2.                            KAL00880
      IF (NGT .EQ. 2) COEFF(3) = 2.*COEFF(3)                            KAL00890
C                                                                       KAL00900
C     TERMINAL OUTPUT                                                   KAL00910
      IF (I .EQ. 1) WRITE (LUTER, 2011)                                 KAL00920
      IF (I .EQ. 2) WRITE (LUTER, 2012)                                 KAL00930
      WRITE (LUTER, 2020) (COEFF(K), K = 1, 3)                          KAL00940
      WRITE (LUTER, 2603) RESIDS, STDERR                                KAL00950
      WRITE (LUTER, 2607) RSQRD                                         KAL00960
C     PRINTED OUTPUT                                                    KAL00970
      IF (I .EQ. 1) WRITE (LUOT, 2011)                                  KAL00980
      IF (I .EQ. 2) WRITE (LUOT, 2012)                                  KAL00990
      WRITE (LUOT, 2020) (COEFF(K), K = 1, 3)                           KAL01000
      WRITE (LUOT, 2603) RESIDS, STDERR                                 KAL01010
  100 WRITE (LUOT, 2607) RSQRD                                          KAL01020
      STOP                                                              KAL01030
C                                                                       KAL01040
C     HANDLE ERRORS ON INPUT                                            KAL01050
  991 REWIND 5                                                          KAL01060
      CALL CLTERM                                                       KAL01070
      WRITE (LUTER, 1000)                                               KAL01080
      GO TO 10                                                          KAL01090
  992 REWIND 5                                                          KAL01100
      CALL CLTERM                                                       KAL01110
      WRITE (LUTER, 1000)                                               KAL01120
      GO TO 20                                                          KAL01130
  993 REWIND 5                                                          KAL01140
      CALL CLTERM                                                       KAL01150
      WRITE (LUTER, 1000)                                               KAL01160
      GO TO 30                                                          KAL01170
  994 REWIND 5                                                          KAL01180
      CALL CLTERM                                                       KAL01190
      WRITE (LUTER, 1000)                                               KAL01200
      GO TO 40                                                          KAL01210
C                                                                       KAL01220
C     FORMAT STATEMENTS                                                 KAL01230
 1000 FORMAT ('0     KALAELOA DISPATCH CURVE PROGRAM'/)                 KAL01240
 1010 FORMAT (/' PLEASE ENTER THE CURRENT LSFO PRICE IN $/BBL')         KAL01250
 1020 FORMAT (/' PLEASE ENTER THE CURRENT GNPIPD')                      KAL01260
 1030 FORMAT (/' PLEASE ENTER THE CURRENT PPI FOR MAGNESIUM')           KAL01270
 1040 FORMAT (/' PLEASE ENTER THE NUMBER OF GAS TURBINES OPERATING - ', KAL01280
     &        '1 OR 2')                                                 KAL01290
 2010 FORMAT ('0       KALAELOA DISPATCH CURVE - ', A3,                 KAL01300
     &        ' GAS TURBINE OPERATION'//                                KAL01310
     &        '    LSFO $/BBL', T29, F8.3, 16X, '(BASE = ', F8.3, ')'/  KAL01320
     &        '    GNPIPD    ', T29, F8.3, 16X, '(BASE = ', F8.3, ')'/  KAL01330
     &        '    PPI FOR MG', T29, F8.1, 16X, '(BASE = ', F8.1, ')')  KAL01340
 2011 FORMAT (/' BEFORE MEETING MINIMUM PURCHASE REQUIREMENT')          KAL01350
 2012 FORMAT (/' AFTER MEETING MINIMUM PURCHASE REQUIREMENT')           KAL01360
 2020 FORMAT (/4X, 'A = ', F11.6,                                       KAL01370
     &        10X, 'B = ', F11.6,                                       KAL01380
     &        10X, 'C = ', F11.8)                                       KAL01390
 2500 FORMAT (A3, ' GAS TURBINE OPERATION BEFORE 1235 GWH'/             KAL01400
     &        '        0.        1.  0  1  2    2')                   KAL01410
 2501 FORMAT (A3, ' GAS TURBINE OPERATION AFTER 1235 GWH'/              KAL01420
     &        '        0.        1.  0  1  2    2')                   KAL01430
 2502 FORMAT (2F10.5)                                                   KAL01440
 2503 FORMAT ('                    1')                                  KAL01450
 2504 FORMAT ('                    1'/)                                 KAL01460
 2603 FORMAT(/'    RESID S OF S',F20.6/'    STD ERR',F25.6)             KAL01470
 2607 FORMAT('    R SQUARED',F15.2,' PERCENT')                          KAL01480
      END                                                               KAL01490
C*********************************************************************** KAL01500
```

```
C*********************************************************************
C**                                                                 **
C**   CURVEFIT      POLYNOMIAL CURVE FIT                            **
C**                                                                 **
C*********************************************************************
C*********************************************************************
C** IBM 1800 PROGRAM EM200              R. BELT, G. WILD  4/1970    **
C*********************************************************************
C** CONVERTED TO VM/CMS FORTRAN G                R. BELT 11/1980    **
C*********************************************************************
C** CONVERTED TO SUBROUTINE                      A. TAM  09/1990    **
C*********************************************************************
      SUBROUTINE KURFIT (NP, DATX, DATY, COEFF, YSQ, Q, RSQRD)
C
      DIMENSION A(11,12),ITITL(40),COEFF(11),IDVAL(10),DATX(200),DATY(20
     10),NORD(11)
C
      DATA IBLNK,IDBL/' ','0'/
      DATA LUIN,LUOT,LUTER/1,3,6/
C
C     DEFAULT VALUES
      DATA ITITL / 'KA', 'LA', 'EL', 'OA', ' D', 'IS', 'PA', 'TC', 'H ',
     &             'CU', 'RV', 'E ', ' C', 'OE', 'FF', 'IC', 'EN', 'TS',
     &             22*'  ' /
      DATA XMN, XRA / 0., 1. /
      DATA MIND, INC, MAXD / 0, 1, 2 /
      DATA ILN / ' ' /
      DATA IDVAL / 10*0 /
      DATA XPMIN, XPINC, XPMAX / 3*0. /
C
C     PROGRAM STARTS, TELL THE USER
C     WRITE (LUTER,9010)
C
C     READ TITLE CARD, GET OUT IF BLANK OR END OF FILE
C  10 READ (LUIN,500,END=14,ERR=750) ITITL
C     DO 13 I=1,40
C     IF(ITITL(I)-IBLNK)15,13,15
C  13 CONTINUE
C  14 GO TO 9000
C
C     READ CONTROL
C  15 READ(LUIN,501,END=700,ERR=750) XMN,XRA,MIND,INC,MAXD,ILN,IDVAL,
C    1XPMIN,XPINC,XPMAX
      INDPX=0
C
C     CHECK IF PREDICTIONS WERE REQUESTED
      IF(XPINC)16,19,17
   16 IF(XPMIN-XPMAX)19,18,18
   17 IF(XPMIN-XPMAX)18,18,19
   18 INDPX=1
   19 JV=12
      LEFT=46
      ARX=1.0/XRA
      IF(MIND)20,21,21
   20 MIND=0
   21 MAXI=MAXD+1
      IF(JV-MAXI)23,23,24
   23 MAXI=JV-1
   24 KMIN=MIND+1
      IF(INC)26,26,30
   26 INC=1
C
C     CLEAR TOTAL BOXES
   30 A(1,JV)=0.0
      YSQ=0.0
C     NP=0
      YTOTL=0.0
      DO 34 J=2,MAXI
      A(J,JV)=0.0
      M=J-1
      DO 34 I=M,J
   34 A(I,J)=0.0
C
C     READ DATA AND ACCUMULATE SUMS OF POWERS
C  37 READ (LUIN,502,END=700,ERR=750) P,Q,J
```

```
C       IF(J)62,39,62                                          KAL02260
C    39 NP=NP+1                                                KAL02270
        IF(NP-200)43,43,41                                     KAL02280
     41 WRITE (LUOT,900)                                       KAL02290
        WRITE (LUTER,900)                                      KAL02300
        GO TO 9000                                             KAL02310
     43 DO 58 NPT = 1, NP                                      KAL02320
        IF(ILN-IBLNK)44,45,44                                  KAL02330
     44 DATY(NPT)=ALOG(DATY(NPT))                              KAL02340
     45 P=DATX(NPT)                                            KAL02350
        Q=DATY(NPT)                                            KAL02360
        S=(P-XMN)*ARX                                          KAL02370
        YTOTL=YTOTL+Q                                          KAL02380
        YSQ=YSQ+Q*Q                                            KAL02390
        T=1.0                                                  KAL02400
        K=1                                                    KAL02410
        DO 58 J=2,MAXI                                         KAL02420
        M=J-1                                                  KAL02430
        DO 58 I=M,J                                            KAL02440
        IF(K-MAXI)55,55,57                                     KAL02450
     55 A(K,JV)=A(K,JV)+T*Q                                    KAL02460
        K=K+1                                                  KAL02470
     57 T=T*S                                                  KAL02480
     58 A(I,J)=A(I,J)+T                                        KAL02490
C       GO TO 37                                               KAL02500
C                                                              KAL02510
C       OUTPUT TITLES AND HEADER                               KAL02520
C                                                              KAL02530
C       CALCULATE TOTAL VARIANCE                               KAL02540
     62 TVARN=0.0                                              KAL02550
        YTOTL=YTOTL/FLOAT(NP)                                  KAL02560
        DO 63 I=1,NP                                           KAL02570
     63 TVARN=TVARN+(YTOTL-DATY(I))**2                         KAL02580
C       WRITE (LUOT,600) ITITL,XMN,XRA,MIND,INC                KAL02590
        IF(ILN-IBLNK)64,65,64                                  KAL02600
     64 CONTINUE                                               KAL02610
C    64 WRITE (LUOT,601)                                       KAL02620
        LEFT=LEFT-2                                            KAL02630
     65 D=NP                                                   KAL02640
        A(1,1)=D                                               KAL02650
        N=(MAXI-KMIN)/INC                                      KAL02660
        IF(NP-N)69,69,70                                       KAL02670
     69 N=NP-1                                                 KAL02680
     70 MAXD=N*INC+MIND                                        KAL02690
        MAXI=MAXD+1                                            KAL02700
C                                                              KAL02710
C       SPREAD TOTALS THROUGHTOUT TOP HALF OF MATRIX           KAL02720
        M1=MAXI-2                                              KAL02730
        DO 82 I=KMIN,M1,INC                                    KAL02740
        DO 82 J=I,MAXI,INC                                     KAL02750
        IF(J-I-2)82,78,78                                      KAL02760
     78 L=I+J                                                  KAL02770
        K=L/2                                                  KAL02780
        L=L-K                                                  KAL02790
        A(I,J)=A(K,L)                                          KAL02800
     82 CONTINUE                                               KAL02810
C       WRITE (LUOT,602) MAXD,NP,YSQ                           KAL02820
C                                                              KAL02830
C       SET UP TO SOLVE EQUATIONS                              KAL02840
        DO 191 K=KMIN,MAXI,INC                                 KAL02850
        P=1.0/A(K,K)                                           KAL02860
        A(K,K)=A(K,JV)*P                                       KAL02870
C                                                              KAL02880
C       SOLVE FOR RESIDUALS                                    KAL02890
        YSQ=YSQ-A(K,K)*A(K,JV)                                 KAL02900
        D=D-1.0                                                KAL02910
        IF(D)94,94,96                                          KAL02920
     94 Q=0.9999E35                                            KAL02930
        GO TO 100                                              KAL02940
     96 IF(YSQ)97,97,99                                        KAL02950
     97 Q=0.0                                                  KAL02960
        GO TO 100                                              KAL02970
     99 Q=SQRT(YSQ/D)                                          KAL02980
    100 J=K-1                                                  KAL02990
        IPRC=IDBL                                              KAL03000
```

```
      LEFT=LEFT-4                                                       KAL03010
      IF(J)1002,1002,1001                                               KAL03020
 1001 LEFT=LEFT-1                                                       KAL03030
 1002 IF(LEFT)101,102,102                                               KAL03040
  101 IPRC=IDBL                                                         KAL03050
      LEFT=53                                                           KAL03060
C     WRITE(LUOT,611)ITITL                                              KAL03070
  102 CONTINUE                                                          KAL03080
C 102 WRITE (LUOT,603) IPRC ,J,YSQ,Q                                    KAL03090
      IF(J)106,106,103                                                  KAL03100
  103 RSQRD=1.0-YSQ/TVARN                                               KAL03110
      IF(RSQRD)1103,1104,1104                                           KAL03120
 1103 RSQRD=0.0                                                         KAL03130
 1104 IF(RSQRD-1.0)105,105,104                                          KAL03140
  104 RSQRD=1.0                                                         KAL03150
  105 RSQRD=RSQRD*100.0+0.005                                           KAL03160
C     WRITE (LUOT,607) RSQRD                                            KAL03170
C                                                                       KAL03180
C     SOLVE FOR COEFFICIENTS                                            KAL03190
```

```
  106 M1=K+INC                                                          KAL03200
      M=MAXI-M1                                                         KAL03210
      IF(M)110,107,107                                                  KAL03220
  107 DO 109 J=M1,MAXI,INC                                              KAL03230
      A(J,K)=A(K,J)                                                     KAL03240
  109 A(K,J)=A(K,J)*P                                                   KAL03250
  110 L=1                                                               KAL03260
      N=KMIN                                                            KAL03270
      T=1.0                                                             KAL03280
      DO 111 I=1,11                                                     KAL03290
  111 NORD(I)=0                                                         KAL03300
      DO 132 I=1,MAXI                                                   KAL03310
      IF(N-I)9000,116,131                                               KAL03320
  116 N=N+INC                                                           KAL03330
      IF(I-K)119,125,118                                                KAL03340
  118 M1=I                                                              KAL03350
  119 P=A(I,K)                                                          KAL03360
      IF(M)123,121,121                                                  KAL03370
  121 DO 122 J=M1,MAXI,INC                                              KAL03380
  122 A(I,J)=A(I,J)-A(K,J)*P                                            KAL03390
  123 A(I,K)=A(I,JV)-A(K,K)*P                                           KAL03400
      GO TO (126,132),L                                                 KAL03410
  125 L=2                                                               KAL03420
  126 J=I-1                                                             KAL03430
      R=A(I,K)*T                                                        KAL03440
      IPRC=IBLNK                                                        KAL03450
      LEFT=LEFT-1                                                       KAL03460
      IF(LEFT)127,128,128                                               KAL03470
  127 IPRC=IDBL                                                         KAL03480
      LEFT=55                                                           KAL03490
C     WRITE(LUOT,611)ITITL                                              KAL03500
  128 IF(J-10)129,1290,1290                                             KAL03510
  129 CONTINUE                                                          KAL03520
C 129 WRITE (LUOT,604) IPRC,J,R                                         KAL03530
      GO TO 130                                                         KAL03540
 1290 CONTINUE                                                          KAL03550
C1290 WRITE (LUOT,6040) IPRC,J,R                                        KAL03560
  130 NORD(J+1)=1                                                       KAL03570
      COEFF(J+1)=R                                                      KAL03580
  131 T=T*ARX                                                           KAL03590
  132 CONTINUE                                                          KAL03600
C                                                                       KAL03610
C     IS EVALUATION REQUIRED FOR THIS POLYNOMIAL                        KAL03620
```

```
      NPOL=K-1                                                          KAL03630
      IF(NPOL)191,191,137                                               KAL03640
  137 DO 138 IX=1,10                                                    KAL03650
      IF(IDVAL(IX).EQ.NPOL) GO TO 139                                   KAL03660
  138 CONTINUE                                                          KAL03670
      GO TO 191                                                         KAL03680
  139 IPRC=IDBL                                                         KAL03690
```

```
      RESID=0.0                                                         KAL03760
      DO 150 IX=1,NP                                                    KAL03770
      XVAL=DATX(IX)-XMN                                                 KAL03780
      YVAL=0.0                                                          KAL03790
      DO 146 IY=1,11                                                    KAL03800
      IF(NORD(IY))146,146,145                                           KAL03810
```

[redacted]

```
  146 CONTINUE                                                          KAL03830
      YACT=DATY(IX)                                                     KAL03840
      IF(ILN-IBLNK)148,149,148                                          KAL03850
  148 YVAL=EXP(YVAL)                                                    KAL03860
      YACT=EXP(YACT)                                                    KAL03870
  149 DIFF=YVAL-YACT                                                    KAL03880
      RESID=RESID+DIFF*DIFF                                             KAL03890
      LEFT=LEFT-1                                                       KAL03900
      IF(LEFT)1490,150,150                                              KAL03910
 1490 WRITE(LUOT,611)ITITL                                              KAL03920
      WRITE(LUOT,605)IDBL                                               KAL03930
      LEFT=54                                                           KAL03940
  150 WRITE (LUOT,606) XVAL,YACT,YVAL,DIFF                              KAL03950
      WRITE(LUOT,608)RESID                                              KAL03960
      LEFT=LEFT-1                                                       KAL03970
C                                                                       KAL03980
C     CHECK IF PREDICTIONS WERE REQUESTED                               KAL03990
      IF(INDPX)191,191,151                                              KAL04000
  151 IF(LEFT-3)152,154,154                                             KAL04010
  152 WRITE(LUOT,611)ITITL                                              KAL04020
      WRITE(LUOT,609)IDBL                                               KAL04030
      LEFT=55                                                           KAL04040
      GO TO 155                                                         KAL04050
  154 WRITE(LUOT,609)IDBL                                               KAL04060
      LEFT=LEFT-2                                                       KAL04070
  155 XPRED=XPMIN                                                       KAL04080
 1555 XVAL=XPRED-XMN                                                    KAL04090
      YVAL=0.0                                                          KAL04100
      DO 159 IY=1,11                                                    KAL04110
      IF(NORD(IY))159,159,156                                           KAL04120
  156 YVAL=YVAL+COEFF(IY)*XVAL**(IY-1)                                  KAL04130
  159 CONTINUE                                                          KAL04140
      IF(ILN-IBLNK)162,1162,162                                         KAL04150
  162 YVAL=EXP(YVAL)                                                    KAL04160
 1162 IF(LEFT)163,163,165                                               KAL04170
  163 WRITE(LUOT,611)ITITL                                              KAL04180
      WRITE(LUOT,609)IDBL                                               KAL04190
      LEFT=55                                                           KAL04200
  165 WRITE( LUOT,610)XPRED,YVAL                                        KAL04210
      LEFT=LEFT-1                                                       KAL04220
      XPRED=XPRED+XPINC                                                 KAL04230
      IF(XPINC)167,167,169                                              KAL04240
  167 IF(XPRED-XPMAX)191,1555,1555                                      KAL04250
  169 IF(XPRED-XPMAX)1555,1555,191                                      KAL04260
  191 JV=K                                                              KAL04270
C     GO TO 10                                                          KAL04280
C                                                                       KAL04290
C     END OF FILE ERROR                                                 KAL04300
C 700 WRITE(LUTER,710)                                                  KAL04310
C     GO TO 9000                                                        KAL04320
C                                                                       KAL04330
C     INPUT FORMAT ERROR                                                KAL04340
C 750 WRITE(LUTER,760)                                                  KAL04350
C     GO TO 9000                                                        KAL04360
```

```
  603 FORMAT(A1,'POLY DEG',I3/' RESID S OF S',E20.6/' STD ERR',E25.6)   KAL04510
  604 FORMAT(A1,6X,'COEFF  A(',I1,')',E20.6)                            KAL04520
 6040 FORMAT(A1,6X,'COEFF A(',I2,')',E20.6)                             KAL04530
  605 FORMAT(A1,7X,'X ACTUAL',7X,'Y ACTUAL',9X,'Y CALC',11X,'DIFF')     KAL04540
  606 FORMAT(' ',4E15.6)                                                KAL04550
  607 FORMAT(' R SQUARED',F15.2,' PERCENT')                             KAL04560
  608 FORMAT(20X,'SUM OF DIFFERENCES SQUARED',E15.6)                    KAL04570
  609 FORMAT(A1,5X,'X EXTENDED',24X,'Y CALC')                           KAL04580
  610 FORMAT(' ',E15.6,15X,E15.6)                                       KAL04590
  900 FORMAT('0TOO MANY OBSERVATIONS ENTERED')                          KAL04600
  611 FORMAT('1',40A2)                                                  KAL04610
  710 FORMAT(' END OF INPUT FILE ENCOUNTERED IN WRONG PLACE'/           KAL04620
     1' PROGRAM ABORT')                                                 KAL04630
  760 FORMAT(' ERROR IN READING INPUT FILE'/' PROGRAM ABORT')           KAL04640
 9010 FORMAT(' CURVEFIT EXECUTION BEGINS')                              KAL04650
 9020 FORMAT(' CURVEFIT EXECUTION ENDS')                                KAL04660
      END                                                               KAL04670
```

Modeling of Kalaeloa Partners, LP's Capacity Above 180 MW

Craig Shigeta
May 3, 2004

Background: Kalaeloa Partners, LP (KPLP) fuel component of the energy charge from 65 MW to 180 MW is covered by the following equation from the Second Amendment regarding Section 5.1 (a):

"1. When two (2) gas turbines are in operation: Fuel Component (2 GT) in cents/KWH =

$$7.308436 - 6.425951 \times 10^{-2} L + 3.206926 \times 10^{-4} L^2 - 5.77144 \times 10^{-7} L^3$$

Where L is load in megawatts dispatched by HECO with two gas turbines in operation, provided however, the Fuel Component (2 GT) in no event shall be less than 2.77 cents/KWH."

Also included in the equation is the Additive Component of 0.144 cents/kWh adjusted by the ratio of the current and base Magnesium Producer Price Indicies.

This third order equation is curvefitted using a second order equation to provide inputs into HECO's Energy Management System (EMS) using the following format:

$$Y = A + B L + C L^2$$

Modeling Procedure for the first 180 MW is to use model KPLP as two 90 MW units using Power Purchased Divisions spreadsheet "kalmwv2.xls."

Example: The ABC Coefficients for KPLP using the April 2004 data is as follows:

LSFO Price	$38.008 / barrel
GNPIPD	106.24 (base = 73.94)
Mg PPI	101.3 (base = 114.2)

A = 299.025832257
B = 4.430942828
C = 0.009308462

This is for each of the two combustion turbines, before meeting the minimum purchase requirement.

Opinion: Although these two equations diverge at the lower end (i.e., 65 – 100 MW) and at the very top (i.e., 170 – 180 MW), the equation follows very closely on most of the band. Therefore, we will continue to use the second order equation to model the dispatching of KPLP, as it is done in the EMS system. However, the additional capacity above 180 MW will be modeled separately.

Proposed Model for Additional Capacity: The additional capacity will be modeled as a separate unit. Therefore, KPLP will be modeled as three (3) units. Two units, each at 90 MW, will model the first 180 MW. The third unit will model the additional capacity.

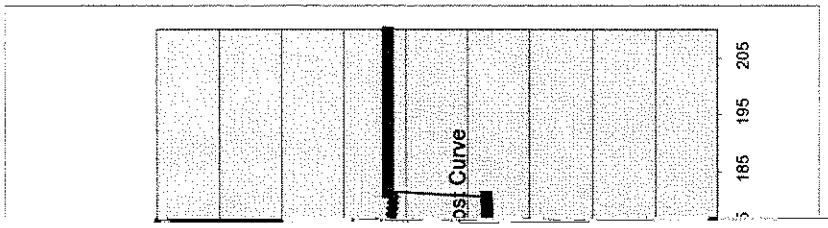
Modeling above 180 MW will use the following coefficients, using the same data as listed above, before meeting the minimum purchase requirement:

A = 0.00001
B = 8.725
C = 0.00001

This higher B coefficient, in comparision to simply extending the existing ABC coefficients that are used in EMS, will affect KPLP by delaying any dispatch above 180 MW. The system lambda will have to be appreciably higher before it is dispatched. Therefore, KPLP's total MWh generated will probably be lower with this new B coefficient.

The values for the A and C coefficient represent values that should theoretically be zero, however, in order for PMONTH to work properly, we need to have a positive number that is close to zero.

The excel spreadsheet named "KPLP B Coefficient for Addtnl Cap.xls" will calculate the appropriate B Coefficient for modeling purposes.


205
195
185
Curve

132	$ 57.99	$ 34.28
133	$ 57.82	$ 34.34
134	$ 57.64	$ 34.40
135	$ 57.47	$ 34.45
136	$ 57.30	$ 34.51
137	$ 57.13	$ 34.57
138	$ 56.97	$ 34.62
139	$ 56.81	$ 34.68
140	$ 56.65	$ 34.74
141	$ 56.50	$ 34.79
142	$ 56.34	$ 34.85
143	$ 56.19	$ 34.90
144	$ 56.05	$ 34.96
145	$ 55.90	$ 35.02
146	$ 55.76	$ 35.07
147	$ 55.62	$ 35.13
148	$ 55.48	$ 35.19
149	$ 55.34	$ 35.24
150	$ 55.21	$ 35.30
151	$ 55.08	$ 35.36
152	$ 54.95	$ 35.41
153	$ 54.82	$ 35.47
154	$ 54.70	$ 35.52
155	$ 54.57	$ 35.58
156	$ 54.45	$ 35.64
157	$ 54.33	$ 35.69
158	$ 54.21	$ 35.75
159	$ 54.10	$ 35.81
160	$ 53.98	$ 35.86
161	$ 53.87	$ 35.92
162	$ 53.76	$ 35.98
163	$ 53.65	$ 36.03
164	$ 53.54	$ 36.09
165	$ 53.44	$ 36.14
166	$ 53.33	$ 36.20
167	$ 53.23	$ 36.26
168	$ 53.13	$ 36.31
169	$ 53.03	$ 36.37
170	$ 52.93	$ 36.43
171	$ 52.84	$ 36.48
172	$ 52.74	$ 36.54
173	$ 52.65	$ 36.60
174	$ 52.56	$ 36.65
175	$ 52.47	$ 36.71
176	$ 52.38	$ 36.76
177	$ 52.29	$ 36.82
178	$ 52.20	$ 36.88

179	$ 52.12	$ 36.93
180	$ 52.03	$ 36.99
181		$ 52.88
182		$ 52.88
183		$ 52.88
184		$ 52.88
185		$ 52.88
186		$ 52.88
187		$ 52.88
188		$ 52.88
189		$ 52.88
190		$ 52.88
191		$ 52.88
192		$ 52.88
193		$ 52.88
194		$ 52.88
195		$ 52.88
196		$ 52.88
197		$ 52.88
198		$ 52.88
199		$ 52.88
200		$ 52.88
201		$ 52.88
202		$ 52.88
203		$ 52.88
204		$ 52.88
205		$ 52.88
206		$ 52.88
207		$ 52.88
208		$ 52.88
209		$ 52.88

CA-IR-156

Ref: HECO T-2, Page 11, Line 11 and HECO-203.

According to the testimony, "[t]he estimate of total commercial sales was based on sector analysis."

a. Please provide a complete copy of this "sector analysis," as well as all available updates to such "analysis" that have been prepared by, or for HECO.

b. Please provide data files on diskette. Included in the data files, please include detailed historical data shown in Appendix O, page 27 to 28 and commercial allocation of sectors in Appendix I of February 2004 forecast [illegible]

metered projects in the forecast. When final details are available for projects that indicate the units will be individually metered, the forecasted common area use will remain in the housing commercial sector while individual units' usage will be included in the residential forecast.

d. The following table provides the projected number of units available for the large housing projects included in the June 2004 sales update:

Name	# of Units
Windsor (Hobron) conversion	181
Lanikea at Waikiki (A&B)	100
Kahala Nui Sr Living	270
Hokua Condo	365
Luana Koa at Kapolei	247
Koolani	372
Kulana Hale II	106
Moana Pacific	706
Emerald Tower	230

pJun04exh.xls
6/3/2004

EXHIBIT 16

Hawaiian Electric Company, Inc.

BILLED GWHS BY BUILDING TYPE
WEATHER NORMALIZED WITH ACQUIRED DSM

	Weather Norm Billed			June 2004 Sales Update		
Building Type	2001	2002	2003	2004	2005	2006
Offices	782.9	785.4	783.3	792.3	798.9	807.1
Restaurant	235.5	238.0	241.4	246.8	251.8	257.0
Retail (Non Food)	465.8	466.2	470.7	481.9	506.3	521.4
Grocery (Retail - Food)	202.7	204.1	201.2	204.2	208.3	211.6
Warehouse	126.1	124.9	125.2	134.1	144.9	146.9
Education	342.9	362.2	377.2	394.0	427.0	446.2
Health	204.0	211.8	217.3	223.3	228.9	234.6
Lodging (Hotels)	408.7	407.6	411.6	419.5	423.0	429.9
Housing (Apt/Condo)	430.5	430.8	432.7	440.8	448.6	458.0
Service/Amusement	353.4	360.8	367.2	374.7	382.5	385.6
Air Facilities	122.1	120.3	118.5	121.1	122.8	124.8
Manufacturing	104.1	104.2	102.5	110.2	115.6	119.7
Pumping (incl BWS)	207.2	198.8	204.0	216.1	246.3	261.4
Military/Base	1,162.6	1,155.1	1,156.6	1,196.7	1,235.8	1,347.4
Food Processing	79.7	77.5	74.1	72.1	73.6	75.1
Others	76.7	77.0	79.1	80.5	83.4	85.5
Grand Total	5,304.9	5,324.7	5,362.6	5,508.3	5,697.7	5,912.2

Building Type	2002	2003	2004	2005	2006
Offices	0.3%	-0.3%	1.1%	0.8%	1.0%
Restaurant	1.1%	1.4%	2.2%	2.0%	2.1%
Retail (Non Food)	0.1%	1.0%	2.4%	5.1%	3.0%
Grocery (Retail - Food)	0.7%	-1.4%	1.5%	2.0%	1.6%
Warehouse	-1.0%	0.2%	7.1%	8.1%	1.4%
Education	5.6%	4.1%	4.5%	8.4%	4.5%
Health	3.8%	2.6%	2.8%	2.5%	2.5%
Lodging (Hotels)	-0.3%	1.0%	1.9%	0.8%	1.6%
Housing (Apt/Condo)	0.1%	0.4%	1.9%	1.8%	2.1%
Service/Amusement	2.1%	1.8%	2.0%	2.1%	0.8%
Air Facilities	-1.5%	-1.5%	2.2%	1.4%	1.6%
Manufacturing	0.1%	-1.6%	7.5%	4.9%	3.5%
Pumping (incl BWS)	-4.1%	2.6%	5.9%	14.0%	6.1%
Military/Base	-0.6%	0.1%	3.5%	3.3%	9.0%
Food Processing	-2.8%	-4.4%	-2.7%	2.1%	2.0%
Others	0.4%	2.7%	1.8%	3.6%	2.5%
Grand Total	0.4%	0.7%	2.7%	3.4%	3.8%

Hawaiian Electric Company, Inc.
Mar 2004 BUSINESS SECTOR SALES FORECAST
OFFICES

2004

2003 Wx Norm, No DSM		783.3	GWh
Addback: DSM		26.6	
- Large New Projects		(6.1)	
Base 2003		803.8	
Growth in existing customers, wx norm	0.7%	5.6	
2004 Existing		809.4	
Other New/Terminations	0.3%	2.4	
Large Projects 2004			
New:	2.2		
Carryover:	7.7		
	0.1		
	(2.5)		
	0.4		
Subtotal Large Projects		7.9	
Total 2004 Wx Norm, No DSM		819.7	GWh
Less: Acquired DSM		(27.4)	
2004 Wx Norm, No Future DSM		792.3	
Actual 2003, Wx Norm, No Future DSM		783.3	GWh
% Change		1.1%	

Hawaiian Electric Company, Inc.
Mar 2004 BUSINESS SECTOR SALES FORECAST
OFFICES

2005

2004 Wx Norm, No DSM		819.7	GWh
- Large New Projects		(7.9)	
Base 2004		811.8	
Growth in existing customers, wx norm	0.5%	4.1	
2005 Existing		815.9	
Other New/Terminations	0.3%	2.4	
Large Projects 2005			
New:	0.0		
Carryover:	7.7		
	0.1		
	(2.5)		
	2.2		
	0.4		
Subtotal Large Projects		7.9	
Total 2005 Wx Norm, No DSM		826.2	GWh
Less: Acquired DSM		(27.3)	
2005 Wx Norm, No Future DSM		798.9	
Forecasted 2004, Wx Norm, No Future DSM		792.3	GWh
% Change		0.8%	

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5/12/04

Hawaiian Electric Company, Inc.
MAY 2004 BUSINESS SECTOR SALES UPDATE
RESTAURANTS

2004

2003 Wx Norm Billed Sales		241.4	GWh
Add: 1996-03 Acquired DSM		1.4	
Less:		(0.3)	
		(1.4)	
Base 2003		241.1	
Growth in existing customers, wx norm	2.0%	4.8	
Other New/Terminations	0.0%	0.0	
Large Projects 2004			
	0.5		
	1.5		
	0.2		
	0.2		
Subtotal Large Projects		2.4	
Total 2004 Wx Norm, No DSM		248.3	GWh
Less: Acquired DSM		(1.5)	
2004 Wx Norm, No Future DSM		246.8	
Billed 2003, Wx Norm, No Future DSM		241.4	GWh
% Change		2.2%	

	1Q 04 vs 03 *		2003 vs 2002 *	
	Billed	Wx Norm	Billed	Wx Norm
Billed Growth	2.3%	0.8%	2.2%	1.4%
Existing Growth	2.1%	0.8%		
New Growth	0.1%	0.0%		

* Existing and new growth adjusted for large projects and assumed in same proportions for weather normalized growth as billed.

pMay04chbsc.xls
5/12/04

Hawaiian Electric Company, Inc.
MAY 2004 BUSINESS SECTOR SALES UPDATE
RESTAURANTS

2005

2004 Wx Norm, No DSM		248.3	GWh
- Large New Projects		(2.4)	
Base 2004		245.9	
Growth in existing customers, wx norm	1.0%	2.5	
Other New/Terminations	0.5%	1.2	
Large Projects 2005			
	0.5		
	1.5		
	0.2		
	0.9		
	0.6		
Subtotal Large Projects		3.7	
Total 2005 Wx Norm, No DSM		253.3	GWh
Less: Acquired DSM		(1.5)	
2005 Wx Norm, No Future DSM		251.8	
2004, Wx Norm, No Future DSM		246.8	GWh
% Change		2.0%	

pMay04chbsc.xls
5/12/04

Hawaiian Electric Company, Inc.
MAY 2004 BUSINESS SECTOR SALES UPDATE
RESTAURANTS

NOTES

Jun 03 - Mar 04 average = 41 MWh/mo.
2004-06 = 41 x 12 = 492 MWh/yr.

2003 = 1,367 MWh total for restaurants
Carryover from new customers added during 2003 = 168 MWh/yr
2004-06 = 1,367 + 168 = 1,535 MWh/yr.

Jan-Mar 04 average = 20 MWh/mo.
2004-06 = 20 x 12 = 240 MWh/yr.

(11/04)
Assume 1/3 load of old average
average = 2,844 ÷ 12 = 237 MWh/mo.
2004 = (237 ÷ 3) x 2 = 79 x 2 = 158 MWh
2004-06 = (237 ÷ 3) x 12 = 79 x 12 = 948 MWh/yr.

Assume same load as average between Waipio and Hawaii Kai restaurants
2003 = 50 MWh/mo.
2005-06 = 600 MWh/yr.

pMay04chbsc.xls
5/13/04

Hawaiian Electric Company, Inc.
MAY 2004 BUSINESS SECTOR SALES UPDATE
RETAIL (NON-FOOD)

2004

2003 Wx Norm Billed Sales		470.7
Add: 1996-03 Acquired DSM		8.7
Less:	(0.3)	
	(4.2)	
	(0.5)	
	(14.5)	
Subtotal Large Projects		(19.5)
Base 2003		459.9
Growth in existing customers, wx norm	1.5%	6.9
2004 Existing		466.8
Other New/Terminations	-0.3%	(1.4)
Large Projects 2004		
	0.4	
	4.8	
	0.6	
	15.6	
	0.5	
	1.6	
	2.2	
Subtotal Large Projects		25.7
Total 2004 Wx Norm, No DSM		491.1 GWh
Less: Acquired DSM		(9.2)
2004 Wx Norm, No Future DSM		481.9
Billed 2003, Wx Norm, No Future DSM		470.7 GWh
% Change		2.4%

	1Q 04 vs 03 *		2003 vs 2002 *	
	Billed	Wx Norm	Billed	Wx Norm
Billed Growth	1.1%	0.1%	1.8%	1.0%
Existing Growth	1.4%	0.5%		
New Growth	-0.3%	-0.4%		

* Existing and new growth adjusted for large projects and assumed in same proportions for weather normalized growth as billed.

pMay04chbsc.xls
5/13/04

Hawaiian Electric Company, Inc.
MAY 2004 BUSINESS SECTOR SALES UPDATE
RETAIL (NON-FOOD)

2005

2004 Wx Norm, No DSM		491.1	GWh
- Large New Projects		(25.7)	
Base 2004		465.4	
Growth in existing customers, wx norm	2.0%	9.3	
2005 Existing		474.7	
Other New/Terminations	0.0%	0.0	
Large Projects 2005			
	0.4		
	5.2		
	0.7		
	15.6		
	4.6		
	9.4		
	2.6		
	0.3		
	3.6		
	0.4		
	(2.1)		
	0.1		
Subtotal Large Projects		40.8	
Total 2005 Wx Norm, No DSM		515.5	GWh
Less: Acquired DSM		(9.2)	
2005 Wx Norm, No Future DSM		506.3	
2004, Wx Norm, No Future DSM		481.9	GWh
% Change		5.1%	

pMay04chbsc.xls
5/13/04

Hawaiian Electric Company, Inc.
MAY 2004 BUSINESS SECTOR SALES UPDATE
RETAIL (NON-FOOD)

NOTES

2003 = 336 MWh total for retail
Carryover from new customers added during 2003 = 80 MWh/yr
2004-06 = 336 + 80 = 416 MWh/yr.

6 stores open, to open , 2 more vacancies (7/04?)
Nov 2002 - Oct 2003 avg = 635 + 3,424 = 4,059 ÷ 12 = 338 MWh/mo.
Nov 2003 - Apr 2004 avg = 2,218 ÷ 6 = 370 MWh/mo.
Incremental difference = 370 - 338 = 32 MWh/mo. for an additional store?
2004 = 1,495 MWh + 370 x 2 + 434 x 6 = 4,839 MWh
2005-06 = 434 x 12 = 5,208 MWh/yr.

Added Current vacancy rate 40% with renovations and new tenants to be completed by Dec 2005. Current use about 70% of previous high (2003: 14,458 MWh vs 1997: 20,801 MWh). Assume with changes use will increase to 87% of previous (higher occupancy offset by energy efficiencies). 2004-05 assumes only increase from with completed renovations and full occupancy in Jan 06.
Average incremental YOY growth from Dec 03 - Apr 04 = 92 MWh/mo.
2004-05 = 14,458 + (376 + 92 x 8) = 14,458 + 1,112 = 15,570 MWh/yr.
2006 = 18,000 MWh/yr.

2,844 (237/mo.) MWh 2,753 (229/mo.) MWh
Assume restaurants so load with be 2/3 of
2004 = (229 + 237 x 2/3) x 2 = 545 MWh
2005-06 = (229 + 158) x 12 = 387 x 12 = 4,644 MWh/yr.

Jun 03 - Mar 04 = 57 MWh/mo.
2004 = 136 + 57 x 9 = 649 MWh
2005-06 = 57 x 12 = 684 MWh

= 5,501 + 3,928 MWh / yr = 9,429 MWh
2004 = 9,400 x 2/12 = 1,567 MWh
2005-06 = 9,400 MWh

pMay04chbsc.xls
5/13/04

Hawaiian Electric Company, Inc.
MAY 2004 BUSINESS SECTOR SALES UPDATE
RETAIL (NON-FOOD)

NOTES

Mar-Apr 04 average = 220 MWh/mo.
2004 = 220 x 10 = 2,200 MWh
2005-06 = 220 x 12 = 2,640 Mwh

Estimated 65,000 sf. Used (195,000 sf) estimate
of 416 MWh/yr. X 65/195 = 139 MWh/yr.
2005 = 416 x 0.5 x 6/12 + 416 x 0.75 x 3/12 + 416 x 3/12 = 286 MWh
2006 = 416 MWh/yr.

2002 avg = 400 MWh/mo.
2005 = 400 x 9 = 3,600 MWh
2006 = 400 x 12 = 4,800 MWh

2002 = 1,740 MWh
2005 = 1,740 x 3/12 = 435 MWh
2006 = 1,740 MWh

Demolish existing & rebuild (Summer 2005 - Winter 2007). Assume 2003 use
for all BSC = 4,649 MWh less load of 360 MWh/yr. = 4,289 MWh/yr.
Full load = 4,300 x 230,000/180,000 = 5,494 say 5,500 MWh/yr.
2005 = 4,289 x 6/12 + 0 x 6/12 = 2,145 MWh
2006-07 = 0 MWh/yr.
2008-on = 5,500 MWh/yr.

Add 10 stores on
Use Apr 03 - Mar 04 average of 4 stores added to
2005 = 5 x 10 = 50 MWh
2006 = 5 x 10 x 12 = 600 MWh

Use 337,300 sf, 2002 use = 4,133 MWh/yr.
Avg kWh/sf = 12.25 / yr.
Assume 40,000 sf/floor x 3 floors = 120,000 sf
Annual use = 120,000 x 12.25 = 1,470 MWh/yr.
2006 = 1,470 x 6/12 = 735 MWh

pMay04chbsc.xls
5/12/04

Hawaiian Electric Company, Inc.
MAY 2004 BUSINESS SECTOR SALES UPDATE
GROCERY

2004

2003 Wx Norm Billed Sales		201.2	
Add: 1996-03 Acquired DSM		3.0	
Base 2003		204.2	
Growth in existing customers, wx norm	1.5%	3.1	
Other New/Terminations	0.0%	0.0	
Total 2004 Wx Norm, No DSM		207.3	GWh
Less: Acquired DSM		(3.1)	
2004 Wx Norm, No Future DSM		204.2	
Billed 2003, Wx Norm, No Future DSM		201.2	GWh
% Change		1.5%	

	1Q 04 vs 03 *		2003 vs 2002 *	
	Billed	Wx Norm	Billed	Wx Norm
Billed Growth	1.9%	0.5%	-0.6%	-1.4%
Existing Growth	1.6%	0.3%		
New Growth	0.3%	0.2%		

* Existing and new growth adjusted for large projects and assumed in same proportions for weather normalized growth as billed.

pMay04chbsc.xls
5/12/04

Hawaiian Electric Company, Inc.
MAY 2004 BUSINESS SECTOR SALES UPDATE
GROCERY

2005

2004 Wx Norm, No DSM		207.3	GWh
Growth in existing customers, wx norm	1.5%	3.1	
Other New/Terminations	0.5%	1.0	
Total 2005 Wx Norm, No DSM		211.4	GWh
Less: Acquired DSM		(3.1)	
2005 Wx Norm, No Future DSM		208.3	
2004, Wx Norm, No Future DSM		204.2	GWh
% Change		2.0%	

pMay04chbsc.xls
5/13/04

Hawaiian Electric Company, Inc.
MAY 2004 BUSINESS SECTOR SALES UPDATE
WAREHOUSE

2004

2003 Wx Norm Billed Sales		125.2
Add: 1996-03 Acquired DSM		1.1
Less:		(0.3)
		(1.7)
		(0.2)
Base 2003		124.1
Growth in existing customers, wx norm	4.0%	5.0
2004 Existing		129.1
Other New/Terminations	-0.5%	(0.6)
Large Proiects 2004		
	1.7	
	1.7	
	1.9	
	1.1	
	0.4	
Subtotal Large Projects		6.8
Total 2004 Wx Norm, No DSM		135.3 GWh
Less: Acquired DSM		(1.2)
2004 Wx Norm, No Future DSM		134.1
Billed 2003, Wx Norm, No Future DSM		125.2 GWh
% Change		7.1%

	1Q 04 vs 03 *		2003 vs 2002 *	
	Billed	Wx Norm	Billed	Wx Norm
Billed Growth	4.7%	3.4%	1.0%	0.2%
Existing Growth	5.7%	4.5%		
New Growth	-1.0%	-1.1%		

* Existing and new growth assume same proportions for weather normalized growth as billed.

pMay04chbsc.xls
5/13/04

Hawaiian Electric Company, Inc.
MAY 2004 BUSINESS SECTOR SALES UPDATE
WAREHOUSE

2005

2004 Wx Norm, No DSM		135.3	GWh
- Large New Projects		(6.8)	
Base 2004		128.5	
Growth in existing customers, wx norm	3.0%	3.9	
2005 Existing		132.4	
Other New/Terminations	0.0%	0.0	
Large Projects 2005			
	5.0		
	1.7		
	3.9		
	2.3		
	0.8		
Subtotal Large Projects		13.7	
Total 2005 Wx Norm, No DSM		146.1	GWh
Less: Acquired DSM		(1.2)	
2005 Wx Norm, No Future DSM		144.9	
2004, Wx Norm, No Future DSM		134.1	GWh
% Change		8.1%	

pMay04chbsc.xls
5/13/04

Hawaiian Electric Company, Inc.
MAY 2004 BUSINESS SECTOR SALES UPDATE
EDUCATION

2004

2003 Wx Norm Billed Sales		377.2
Add: 1996-03 Acquired DSM		9.2
Less:	(129.3)	
	(3.7)	
	(5.4)	
	(1.4)	
	(0.2)	
Subtotal Large Projects		(140.0)
Base 2003		246.4
Growth in existing customers, wx norm	2.5%	6.2
2004 Existing		252.6
Other New/Terminations	0.5%	1.2
Large Projects 2004		
	130.4	
	3.9	
	6.0	
	0.1	
	2.2	
	1.9	
	4.3	
	0.7	
	0.6	
	0.2	
	0.3	
	0.3	
	(0.8)	
Subtotal Large Projects		150.1
Total 2004 Wx Norm, No DSM		403.9 GWh
Less: Acquired DSM		(9.9)
2004 Wx Norm, No Future DSM		394.0
Billed 2003, Wx Norm, No Future DSM		377.2 GWh
% Change		4.5%

	1Q 04 vs 03 *		2003 vs 2002 *	
	Billed	Wx Norm	Billed	Wx Norm
Billed Growth	2.5%	0.3%	5.0%	4.1%
Existing Growth	2.3%	0.2%		
New Growth	0.2%	0.2%		

* Existing and new growth adjusted for large projects and assumed in same proportions for weather normalized growth as billed.

pMay04chbsc.xls
5/13/04

Hawaiian Electric Company, Inc.
MAY 2004 BUSINESS SECTOR SALES UPDATE
EDUCATION

2005

2004 Wx Norm, No DSM		403.9	GWh
- Large New Projects		(150.1)	
Base 2004		253.8	
Growth in existing customers, wx norm	2.5%	6.3	
2005 Existing		260.1	
Other New/Terminations	0.5%	1.3	
Large Projects 2005			
	133.6		
	3.9		
	6.0		
	0.2		
	2.2		
	2.8		
	23.5		
	0.9		
	1.3		
	0.8		
	0.7		
	0.6		
	(1.0)		
Subtotal Large Projects		175.5	
Total 2005 Wx Norm, No DSM		436.9	GWh
Less: Acquired DSM		(9.9)	
2005 Wx Norm, No Future DSM		427.0	
2004, Wx Norm, No Future DSM		394.0	GWh
% Change		8.4%	

pMay04chbsc.xls
5/13/04

Hawaiian Electric Company, Inc.
MAY 2004 BUSINESS SECTOR SALES UPDATE
WAREHOUSE

NOTES

bldg completed, est. begin occupying
Monthly = = 417 MWh (CID Request)
2003 avg = 251 ÷ 12 = 21 MWh/mo.
2004 = 21 x 6 + (417 x 0.5) x 3 + (417 x 0.75) x 3 = 1,690 MWh
2005-06 = 417 x 12 = 5,004 MWh

Moved due to Kakaako redevelopment
4/03 - 3/04 = 1,714 MWh, avg. = 143 MWh/mo.
2004-06 = 1,714 MWh/yr.

CID Service Request
Monthly = = 322 MWh/mo.
2004 = 322 x 6 = 1,932 MWh
2005-06 = 322 x 12 = 3,864 MWh/yr.

Monthly = = 188 MWh (CID Request)
2004 = 1,128 MWh
2005-06 = 2,256 MWh/yr.

CID Service Request =
Monthly = = 69 MWh/mo.
2004 = 69 x 6 = 414 MWh
2005-06 = 69 x 12 = 828 MWh/yr.

pMay04chbsc.xls
5/13/04

Hawaiian Electric Company, Inc.
MAY 2004 BUSINESS SECTOR SALES UPDATE
EDUCATION

NOTES

Mar 2002 (for new projects, newer info unavailable)
2003 = 130,381 MWh/yr.
2004 = 130,381 MWh/yr.
2005 = 130,381 + 2,190 + 1,050 = 133,621 MWh
2006 = 133,621 + 1,050 = 134,671 MWh

2003 started assume 6 mos. carryover
Jul-Dec 2003 was 50 MWh/mo. over 2002
5/03 - 4/04 = 3,790 MWh
2004 = 3,790 + 50 x 2 = 3,890 MWh
2005-06 = 3,890 MWh

Jan-Mar 2004 growth = 11.3%
2002 = 4,254 MWh
2003 = 5,411 MWh/yr.
2004-06 = 5,411 x 1.10 = 5,952 MWh

Assuming add = 14 MWh/mo.
2004 = 14 x 4 = 56 MWh
2005-06 = 14 x 12 = 168 MWh

Jul-Dec 2003 = 1,092 MWh, mo. Avg = 1,092 ÷ 6 = 182 MWh/mo.
2003 = 1,398 MWh/yr.
2004-06 = 182 x 12 = 2,184 MWh

full load = 2,753 MWh/yr.
2003 = 221 MWh
2004 = 2,753 x .7 = 1,927 MWh
2005-06 = 2,753 MWh

2004 = 3,894 + 45 + 320 = 4,259 MWh
2005 = 12,580 + 420 + 2,960 + 7,576 = 23,536 MWh
2006 = 14,377 + 544 + 3,840 + 14,545 = 33,308 MWh

pMay04chbsc.xls
5/13/04

Hawaiian Electric Company, Inc.
MAY 2004 BUSINESS SECTOR SALES UPDATE
EDUCATION

NOTES

full load = 879 MWh/yr. or 73 MWh/mo.
Phase I (1/04), added 9/04
2004 = 157 + 50 x 3 + 73 x 6 = 745 MWh
2005-06 = 879 MWh

Per service request Old school = 334 MWh/yr.
Assume old school overlap
Full load = = 1,598 MWh/yr. or 133 MWh/mo.
Apr YTD 2004 = 172 MWh (average 47 MWh/mo.)
2004 = 172 + 47 x 4 + 133 x 4 - (334 x 4/12) = 609 MWh
2005-06 = 1,598 - 334 = 1,264 MWh

Per service request
Full load = = 780 MWh/yr.
2004 = 780 x 0.5 x 6/12 = 195 MWh
2005-06 = 780 MWh/yr.

Service request = 58 MWh/mo.
2004 = 58 x 6 = 348 MWh
2005-06 = 58 x 12 = 696 MWh

Full load = = 54 MWh/mo./building
2004 = 54 x 5 = 270 MWh
2005 = 54 x 12 = 648 MWh
2006 = 54 x 6 + (54 x 2) x 6 = 972 MWh
2007-thereafter = 54 x 2 x 12 = 1,296 MWh/yr.

Expect implementation of energy efficiency projects (including co-gen and renewables) to decrease load

5/14/2004
healthanlys xls

HECO
Health Sector Sales (gwh)

	1997	1998	1999	2000	2001	2002	2003	YTD 3/03	YTD 3/04	2004	2005	2006	2007	2008	2009
Billed	191.4	190.6	194.4	202.1	205.5	212.4	219.7	51.2	52.6	223.3	228.9	234.6	238.2	241.8	245.5
Adjustment	0.3	-1.4	0.0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
	191.7	189.2	194.4	202.1	205.5	212.4	219.7	51.2	52.6	223.3	228.9	234.6	238.2	241.8	245.5
	1.3%	-1.3%	2.7%	4.0%	1.7%	3.4%	6.9%		2.7%	1.6%	2.5%	2.5%	1.5%	1.5%	1.5%
Wx Impact	-0.4	1.6	2.3	0.1	-1.5	-0.6	-2.4	-0.2	-0.9	0.0	0.0	0.0	0.0	0.0	0.0
	191.3	190.8	196.7	202.2	204.0	211.8	217.3	51.0	51.7	223.3	228.9	234.6	238.2	241.8	245.5
	1.1%	-0.3%	3.1%	2.8%	0.9%	3.8%	6.5%		1.4%	2.8%	2.5%	2.5%	1.5%	1.5%	1.5%
DSM	1.5	2.0	2.6	2.9	4.2	5.7	6.3	1.6	1.7	6.3	6.3	6.3	6.3	6.3	6.3
Wx Norm No DSM	192.8	192.8	199.3	205.1	208.2	217.5	223.6	52.6	53.4	229.6	235.2	240.9	244.5	248.1	251.8
	1.7%	0.0%	3.4%	2.9%	1.5%	4.5%	7.4%		1.5%	2.7%	2.5%	2.4%	1.5%	1.5%	1.5%

5 yr avg = 3.0%

Explanation of Adjustments:
1997&1998: 97 in 98 billings (-0.3)
1998: 98 billings (-1.1) j to p adjust from Mar 1997

New Accounts considered in forecast:

2.2	4.4	4.4	4.4	4.4

HECO
Hotel Sector Sales (gwh)

	Actual					Actual		Forecast					
	1999	2000	2001	2002	2003	YTD 3/03	YTD 3/04	2004	2005	2006	2007	2008	2009
1	405.6	416.5	411.6	408.8	416.1	97.8	100.8	419.5	423.0	429.9	450.7	460.0	464.3
1	0	2.1	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0	0.0
0	405.6	418.6	411.6	408.8	416.1	97.8	100.8	419.5	423.0	429.9	450.7	460.0	464.3
%	-1.6%	3.2%	-1.7%	-0.7%	1.8%		3.1%	0.8%	0.8%	1.6%	4.8%	2.1%	0.9%
6	4.7	0.2	-2.9	-1.2	-4.5	-0.4	-1.7	0.0	0.0	0.0	0.0	0.0	0.0
6	410.3	418.8	408.7	407.6	411.6	97.4	99.1	419.5	423.0	429.9	450.7	460.0	464.3
%	-1.3%	2.1%	-2.4%	-0.3%	1.0%		1.7%	1.9%	0.8%	1.6%	4.8%	2.1%	0.9%
5	5.7	7.1	10.3	13.3	14.0	3.5	3.6	14.0	14.0	14.0	14.0	14.0	14.0
1	416.0	425.9	419.0	420.9	425.6	100.9	102.7	433.5	437.0	443.9	464.7	474.0	478.3
%	-0.7%	2.4%	-1.6%	0.5%	1.1%		1.8%	1.9%	0.8%	1.6%	4.7%	2.0%	0.9%

2.1)
)

-0.3	-0.4	-0.3	-0.3	-0.3
		1.0	2.0	2.0
			2.0	4.0
	4.0	4.0	4.0	4.0
			4.0	4.0
		17.0	17.0	17.0

Hawaiian Electric Company, Inc.
Mar 2004 BUSINESS SECTOR SALES FORECAST
HOUSING

2004

2003 Wx Norm, No DSM		432.7	GWh
Add: DSM		8.5	
Base 2003		441.2	
Growth in existing customers, wx norm	**1.0%**	4.4	
2004 Existing		445.6	
Other New/Terminations	**0.3%**	1.3	
Large Projects 2004			
New:	(1.6)		
	0.1		
	0.1		
	0.9		
	3.3		
Carryover:			
Subtotal Large Projects		2.8	
Total 2004 Wx Norm, No DSM		449.7	GWh
Less: Acquired DSM		(8.9)	
2004 Wx Norm, No Future DSM		440.8	
Billed 2003, Wx Norm, No Future DSM		432.4	GWh
% Change		2.0%	

Hawaiian Electric Company, Inc.
Mar 2004 BUSINESS SECTOR SALES FORECAST
HOUSING

2005

2004 Wx Norm, No DSM			449.7 GWh
	- Large New Projects		(2.8)
	Base 2004		446.9
Growth in existing customers, wx norm		1.0%	4.5
	2005 Existing		451.4
Other New/Terminations		0.3%	1.3
Large Projects 2005			
New:		0.5	
		0.7	
		2.2	
Carryover:		(4.1)	
		0.1	
		0.2	
		1.2	
		4.0	
	Subtotal Large Projects		4.8
Total 2005 Wx Norm, No DSM			457.5 GWh
Less:	Acquired DSM		(8.9)
2005 Wx Norm, No Future DSM			448.6
Forecasted 2004, Wx Norm, No Future DSM			440.8 GWh
% Change			1.8%

svcs amsmt fc May 04.xls
5/14/2004

Hawaiian Electric Company, Inc.
BUSINESS SECTOR FORECAST
2004

SERVICES AND AMUSEMENT

2003 Wx Norm, no DSM			370.7	
Less:	2)	0.2		
	)	(0.5)		
2003 New Large Projects			(0.3)	
Base 2003			370.4	
Existing customer growth, wx norm			4.8	1.3%
New customer growth, wx norm			3.7	1.0%
Base 2004			378.9	
Large Projects 2004				
Carryover:				
		0.2		
		(1.0)		
New:				
		0.1		
Subtotal Large Projects			(0.7)	0.0%
Total 2004 Wx Norm, No DSM			378.2	GWh
Less: 1996-2003 DSM			3.5	
Total 2004 Wx Norm, Reduced by DSM			374.7	
Estimated 2003, Wx Norm, reduced by DSM			367.3	GWh
% Change			2.0%	

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5/14/2004

Hawaiian Electric Company, Inc.
BUSINESS SECTOR FORECAST
2005

SERVICES AND AMUSEMENT

2004 Wx Norm, no DSM		378.2		
Less:	0.2			
	(1.0)			
	0.1			
2004 New Large Projects		0.7		
Base 2004		378.9		
Existing customer growth, wx norm		3.8		1.0%
New customer growth, wx norm		1.9		0.5%
Base 2005		384.6		
Large Projects 2005				
Carryover:				
	0.2			
	(1.0)			
	0.1			
New:				
	1.9			
	0.2			
Subtotal Large Projects		1.4	0.0%	
Total 2005 Wx Norm, No DSM		386.0	GWh	
Less: 1996-2003 DSM		3.5		
Total 2005 Wx Norm, Reduced by DSM		382.5		
Estimated 2004, Wx Norm, reduced by DSM		374.7	GWh	
% Change		2.1%		

pMay04chbsc.xls
5/12/04

Hawaiian Electric Company, Inc.
MAY 2004 BUSINESS SECTOR SALES UPDATE
AIR FACILITIES

2004

2003 Wx Norm Billed Sales		118.5	
Add: 1996-03 Acquired DSM		2.4	
Base 2003		120.9	
Growth in existing customers, wx norm	2.0%	2.4	
2004 Existing		123.3	
Other New/Terminations	0.2%	0.2	
Total 2004 Wx Norm, No DSM		123.5	GWh
Less: Acquired DSM		(2.4)	
2004 Wx Norm, No Future DSM		121.1	
Billed 2003, Wx Norm, No Future DSM		118.5	GWh
% Change		2.2%	

	1Q 04 vs 03 *		2003 vs 2002 *	
	Billed	Wx Norm	Billed	Wx Norm
Billed Growth	2.8%	1.4%	-0.7%	-1.5%
Existing Growth	2.6%	1.3%		
New Growth	0.2%	0.1%		

* Existing and new growth assume same proportions for weather normalized growth as billed.

pMay04chbsc.xls
5/12/04

Hawaiian Electric Company, Inc.
MAY 2004 BUSINESS SECTOR SALES UPDATE
AIR FACILITIES

2005

2004 Wx Norm, No DSM		123.5	GWh
Growth in existing customers, wx norm	1.0%	1.2	
2005 Existing		124.7	
Other New/Terminations	0.4%	0.5	
Total 2005 Wx Norm, No DSM		125.2	GWh
Less: Acquired DSM		(2.4)	
2005 Wx Norm, No Future DSM		122.8	
2004, Wx Norm, No Future DSM		121.1	GWh
% Change		1.4%	

pMay04chbsc.xls
5/13/04

Hawaiian Electric Company, Inc.
MAY 2004 BUSINESS SECTOR SALES UPDATE
MANUFACTURING

2004

2003 Wx Norm Billed Sales		102.5
Less:		(3.5)
		(0.4)
		(0.3)
Add: 1996-03 Acquired DSM		0.3
Base 2003		98.6
Growth in existing customers, wx norm	1.0%	1.0
2004 Existing		99.6
Other New/Terminations	0.5%	0.5
Large Projects 2004		
	(1.5)	
	0.2	
	(2.0)	
	5.2	
	5.0	
	3.6	
Subtotal Large Projects		10.5
Total 2004 Wx Norm, No DSM		110.6 GWh
Less: Acquired DSM		(0.4)
2004 Wx Norm, No Future DSM		110.2
Billed 2003, Wx Norm, No Future DSM		102.5 GWh
% Change		7.5%

	1Q 04 vs 03 *		2003 vs 2002 *	
	Billed	Wx Norm	Billed	Wx Norm
Billed Growth	-7.5%	-9.5%	-0.9%	-1.6%
Existing Growth	-6.8%	-8.7%		
New Growth	-0.7%	-0.7%		

* Existing and new growth adjusted for large projects and assumed in same proportions for weather normalized growth as billed.

pMay04chbsc.xls
5/13/04

Hawaiian Electric Company, Inc.
MAY 2004 BUSINESS SECTOR SALES UPDATE
MANUFACTURING

2005

2004 Wx Norm, No DSM		110.6	GWh
- Large New Projects		(10.5)	
Base 2004		100.1	
Growth in existing customers, wx norm	2.0%	2.0	
2005 Existing		102.1	
Other New/Terminations	1.0%	1.0	
Large Projects 2005			
	0.2		
	(5.9)		
	7.8		
	6.0		
	4.8		
Subtotal Large Projects		12.9	
Total 2005 Wx Norm, No DSM		116.9	GWh

Less: Acquired DSM		(0.4)
2005 Wx Norm, No Future DSM		115.6
2004, Wx Norm, No Future DSM		110.6 GWh
% Change		4.5%

pMay04chbsc.xls
5/13/04

Hawaiian Electric Company, Inc.
MAY 2004 BUSINESS SECTOR SALES UPDATE
MANUFACTURING

NOTES

strike
Use for the two companies was down by 1,497 MWh for Jan-Apr 2004.

2004 = = 191 MWh
2005 = = 208 MWh

Forecast full load = 7,776 MWh/yr. or 648 MWh/mo.
Apr YTD 2004 = 896 MWh or 224 MWh/mo.
2004 = 896 + 224 x 2 + 648 x 6 = 5,232 MWh
2005-06 = 7,776 MWh

Nov 03 YTD avg = 7,218 ÷ 11 = 656 MWh/mo.
2004 = 656 x 8 + (656 x .25) x 4 - (656 x 12) = (1,968) MWh
2005 = (656 x .25) x 12 - (656 x 12) = (5,904) MWh

1/03 - 12/03 avg load = total sales = 3,475 MWh (290 MWh/mo.)
= 6,000 MWh/yr. (500 MWh/mo.)
2004 = 290 x 5 + 500 x 7 = 4,950 MWh
2005-06 = 6,000 MWh

assume load will be the same as last full year.
2000 = 4,763 MWh/yr. or 397 MWh/mo.
2004 = 421 MWh + 397 x 8 = 3,597 MWh
2005-06 = 4,763 MWh

pMay04chbsc.xls
5/13/04

Hawaiian Electric Company, Inc.
MAY 2004 BUSINESS SECTOR SALES UPDATE
PUMPING

2004

2003 Wx Norm Billed Sales		204.0	
Add: 1996-03 Acquired DSM		0.5	
Base 2003		204.5	
Growth in existing customers, wx norm	3.0%	6.1	
2004 Existing		210.6	
Other New/Terminations	-1.0%	(2.0)	
Large Projects 2004			
	8.0		
Subtotal Large Projects		8.0	
Total 2004 Wx Norm, No DSM		216.6	GWh
Less: Acquired DSM		(0.5)	
2004 Wx Norm, No Future DSM		216.1	
Billed 2003, Wx Norm, No Future DSM		204.0	GWh
% Change		5.9%	

	1Q 04 vs 03 *		2003 vs 2002 *	
	Billed	Wx Norm	Billed	Wx Norm
Billed Growth	-4.6%	-6.3%	3.4%	2.6%
Existing Growth	-3.2%	-5.0%		
New Growth	-1.4%	-1.4%		

* Existing and new growth adjusted for large projects and assumed in same proportions for weather normalized growth as billed.

pMay04chbsc.xls
5/13/04

Hawaiian Electric Company, Inc.
MAY 2004 BUSINESS SECTOR SALES UPDATE
PUMPING

2005

2004 Wx Norm, No DSM		216.6	GWh
- Large New Projects		(8.0)	
Base 2004		208.6	
Growth in existing customers, wx norm	3.0%	6.3	
2005 Existing		214.9	
Other New/Terminations	0.0%	0.0	
Large Projects 2005			
	31.9		
Subtotal Large Projects		31.9	
Total 2005 Wx Norm, No DSM		246.8	GWh
Less: Acquired DSM		(0.5)	
2005 Wx Norm, No Future DSM		246.3	
2004, Wx Norm, No Future DSM		216.1	GWh
% Change		14.0%	

pMay04chbsc.xls
5/13/04

Hawaiian Electric Company, Inc.
MAY 2004 BUSINESS SECTOR SALES UPDATE
PUMPING

NOTES

Assumes Phase I operational date delayed to 10/04 based on Honolulu Advertiser 5/8/03 article (no change from Feb 04 forecast).
Phase II delayed to 2/07.

Full load = 3,254 MWh/mo. or 39,503 MWh/yr.
2006 = 6,509 MWh

042Qsectorfcst 05-12-04.xls

Hawaiian Electric Company, Inc.

Energy Consumption Forecast for Selected Military Accounts

May 2004 Forecast - Carrier Homeport July 2009

Cycle	Acct No	Customer	2002A	2003A	2004F	2005F	2006F	2003	2004	2005	2006
			15.4	15.7	16.0	16.3	16.5	0.3	0.3	0.2	0.2
			50.1	49.4	50.4	51.4	52.4	-0.7	1.0	1.0	1.0
			3.5	8.8	8.9	9.0	9.1	5.3	0.1	0.1	0.1
			9.4	17.3	20.8	20.8	20.8	7.9	3.5	0.0	0.0
			22.0	22.5	22.7	23.0	23.2	0.5	0.2	0.2	0.2
			15.4	20.7	21.7	22.0	22.2	5.3	1.0	0.2	0.2
			149.3	150.3	151.4	156.0	203.3	1.0	1.1	4.6	47.2
			357.5	343.2	382.4	373.2	397.8	-14.3	39.2	-9.2	24.6
			23.3	22.2	23.3	24.3	25.3	-1.1	1.1	1.0	1.0
			34.2	35.5	36.9	37.3	39.4	1.3	1.4	0.4	2.1
			22.3	16.9	11.7	14.4	17.1	-5.4	-5.2	2.7	2.7
			44.4	44.6	42.6	42.6	42.6	0.2	-2.0	0.0	0.0
			42.3	45.0	45.5	45.9	46.9	2.7	0.5	0.5	1.0
			22.5	26.4	29.4	29.7	30.0	3.9	3.0	0.3	0.3
			112.6	113.3	91.3	116.1	141.4	0.7	-22.0	24.7	25.3
			118.7	121.1	125.8	131.0	134.3	2.4	4.7	5.2	3.3
			37.3	36.9	37.6	38.4	40.1	-0.4	0.7	0.8	1.7
Commercial Sector Billed to Recorded Difference#					0.0	0.0	0.0	0.0	0.0	0.0	0.0
Large Customer Total (incl acq/future DSM)			1,080.2	1,089.8	1,118.5	1,151.2	1,262.3	9.6	28.7	32.7	111.0
Percent growth			-1.25%	0.89%	2.63%	2.93%	9.64%				
Less: Weath Impact (fcst dev using Mar ytd weather)			3.4	12.5	4.8	4.8	4.8				
Large Cust Tot (incl acq/future DSM) weath norm			1,076.8	1,077.3	1,113.7	1,146.4	1,257.5				
Add: Acquired DSM (96-03 measures)			27.6	33.3	36.9	36.9	36.7				
Add: Future DSM (2003 & thereafter) incl in fcst*					2.9	8.5	14.2				
Weather normalized sales, not red by DSM			1,104.4	1,110.6	1,153.5	1,191.8	1,308.4				
Percent grwth			-0.36%	0.56%	3.87%	3.32%	9.78%				
Total Military actual billed sales weath norm**			1,155.1	1,156.6							
Percent growth			-0.65%	0.13%							
Other Military sales weather norm***			78.3	79.3	80.1	80.9	75.7				
Percent growth			1.3%	1.3%	1.0%	1.0%	-6.4%				
Total Military sales wx norm, not red by DSM			1,182.7	1,189.9	1,233.6	1,272.7	1,384.1				
			-0.25%	0.61%	3.67%	3.17%	8.75%				
Less: Acquired DSM (96-03 measures)			27.6	33.3	36.9	36.9	36.7				
Weather normalized sales, red by acq DSM			1,155.1	1,156.6	1,196.7	1,235.8	1,347.4				
Percent growth			-0.65%	0.13%	3.47%	3.27%	9.03%				
Less: Future DSM (2003 & thereafter)			0.0	0.0	2.9	8.5	14.2				
Weather normalized sales, red by all DSM ****			1,155.1	1,156.6	1,193.8	1,227.3	1,333.2				
Percent growth			-0.65%	0.13%	3.21%	2.81%	8.62%				
Non weather normalized thru 2002, red by DSM			1,158.5	1,169.1	1,193.8	1,227.3	1,333.2				
			-0.35%	0.91%	2.11%	2.81%	8.62%				

Total 2004 Apr ytd commercial billed sales growth is 2.9% vs. recorded comm sales growth of 2.9%, a -0.0% difference.

* See workpapers, pacqbscdsmFeb04.xls, Military share of acq DSM (2000-2003) = 26%.

** 2003 non-weath norm billed sales less weather impact (1169.1 -12.5 = 1156.6).

*** Includes -6.0 gwh for

**** Includes commercial sector billed to recorded sales adjustment.

summary
5/13/04

Port

[illegible]	In Port	Carryover	Ann Sls (gwh)	Start Date	Annual Sales 2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
[illegible]50	0.25	0.1	1.3	Jul-09	0.0	0.0	0.0	0.0	0.0	0.7	2.6	2.6	2.6	2.6	2.6	2.6
[illegible]50	1	0.1	7.6	Jul-09	0.0	0.0	0.0	0.0	0.0	3.9	7.8	7.8	7.8	7.8	7.8	7.8
[illegible]20	0.5	0.1	38.0	Jul-09	0.0	0.0	0.0	0.0	0.0	19.0	38.0	38.0	38.0	38.0	38.0	38.0
[illegible]20	0.5	0.1	15.0	Jan-10	0.0	0.0	0.0	0.0	0.0	0.0	15.0	15.0	15.0	15.0	15.0	15.0
[illegible]50	0.5	0.1	1.2	Jan-10	0.0	0.0	0.0	0.0	0.0	0.0	1.2	1.2	1.2	1.2	1.2	1.2
[illegible]50	1	0.1	3.6	Jan-10	0.0	0.0	0.0	0.0	0.0	0.0	3.6	3.6	3.6	3.6	3.6	3.6
					0.0	0.0	0.0	0.0	0.0	23.6	68.2	68.2	68.2	68.2	68.2	68.2
[illegible]00	0.5	0.1	6.9	Jan-10	0.0	0.0	0.0	0.0	0.0	0.0	6.9	6.9	6.9	6.9	6.9	6.9
[illegible]50	0.5	0.1	1.9	Jan-10	0.0	0.0	0.0	0.0	0.0	0.0	1.9	1.9	1.9	1.9	1.9	1.9
[illegible]50	1	0.1	5.6	Jan-10	0.0	0.0	0.0	0.0	0.0	0.0	5.6	5.6	5.6	5.6	5.6	5.6
[illegible]00	0.5	0.1	9.2	Jan-11	0.0	0.0	0.0	0.0	0.0	0.0	0.0	9.2	9.2	9.2	9.2	9.2
[illegible]00	0.5	0.1	6.9	Jan-12	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.9	6.9	6.9	6.9
					0.0	0.0	0.0	0.0	0.0	0.0	14.4	23.6	30.5	30.5	30.5	30.5
					0.0	0.0	0.0	0.0	0.0	23.6	82.6	91.8	98.7	98.7	98.7	98.7

per family, 1.5 kw per family.

C-17 5-12-04.xls

C-17 Milcon projects

Base Scenario

	Load (kw)	No	Diversity	MW Peak Demand	Ld Factor (hrs/mo)	Carryover	Ann Sls (gwh)	Start Date	Annual Sales 2004	2005	2006	2007	2008	2009
FY04														
	1000	1	0.7	0.7	450	0.1	**4.2**	Jul-05	**0.0**	**2.1**	**4.2**	**4.2**	**4.2**	**4.2**
	500	1	0.7	0.4	500	0.1	**2.3**	Jul-05	**0.0**	**1.2**	**2.3**	**2.3**	**2.3**	**2.3**
	4075	1	0.7	2.9	450	0.1	**16.9**	Feb-06	**0.0**	**0.0**	**15.5**	**16.9**	**16.9**	**16.9**
	500	1	0.7	0.4	600	0.1	**2.8**	Jul-05	**0.0**	**1.4**	**2.8**	**2.8**	**2.8**	**2.8**
	0.5	500	0.7	0.2	350	0.1	**0.8**	Feb-06	**0.0**	**0.0**	**0.7**	**0.8**	**0.8**	**0.8**
	0.5	1000	0.7	0.4	350	0.1	**1.6**	Jun-06	**0.0**	**0.0**	**0.9**	**1.6**	**1.6**	**1.6**
FY05														
	4000	1	0.7	2.8	500	0.1	**18.5**	Jan-06	**0.0**	**0.0**	**18.5**	**18.5**	**18.5**	**18.5**
	500	1	0.7	0.4	350	0.1	**1.6**	Apr-06	**0.0**	**0.0**	**1.2**	**1.6**	**1.6**	**1.6**
	1000	1	0.7	0.7	550	0.1	**5.1**	Jul-06	**0.0**	**0.0**	**2.6**	**5.1**	**5.1**	**5.1**
FY06-FY08														
	0	1	0.7	0.0	550	0.1	**0.0**	Apr-07	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
	500	1	0.7	0.4	650	0.1	**3.0**	Apr-08	**0.0**	**0.0**	**0.0**	**0.0**	**2.3**	**3.0**
	50	1	0.7	0.0	350	0.1	**0.2**	Apr-09	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.2**
Total C-17 Load									**0.0**	**4.7**	**48.7**	**53.8**	**56.1**	**57.0**

* Load estimate based on 2 kw per unit with two crew per unit.
** Net addition to crew. 2.0 dependents per family, 1.5 kw per family.

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d Factor (hrs/mo)	Carryover	Ann Sls (gwh)	Start Date	Sales 2004	2005	2006	2007	2008	2009
350	0.1	0.8	May-05	0.0	0.5	0.8	0.8	0.8	0.8
245	0.1	7.2	Jun-05	0.0	4.2	7.2	7.2	7.2	7.2
660	0.1	5.2	Jun-05	0.0	3.0	5.2	5.2	5.2	5.2
350	0.1	2.6	Nov-05	0.0	0.4	2.6	2.6	2.6	2.6
500	0.1	1.9	Jun-07	0.0	0.0	0.0	1.1	1.9	1.9
525	0.1	5.3	Apr-06	0.0	0.0	4.0	5.3	5.3	5.3
240	0.1	1.1	Jul-09	0.0	0.0	0.0	0.0	0.0	0.6
				0.0	8.2	19.8	22.2	23.0	23.6

ford is sales proj 12-29-03.xls

Ford Island (12-29-03)

Year	Month	Hsg Units	demand (kw)	load fact	annualzd gwh sales	description*	1st yr gwh Sales	Cumultv gwh sales	Incremntl gwh sales
2003	Oct		441	550	2.9		0.7	0.7	0.7
2004	Jun	140	784	350	2.8		1.6	4.5	3.8
2005								5.7	1.2
2006	Feb	357	2714	350	11.4		10.5		
	Feb		315	317	1.2		1.1		
	Jul		1500	472	8.5		4.3		
	Dec		75	74	0.1		0.0		
							15.8	21.5	15.8
2007	Feb	73	524	350	2.2		2.0		
	Feb		40	310	0.1		0.1		
	Jul		300	450	1.8		0.8		
							3.0	29.8	8.3
2008								30.8	1.0
2009	Jul	300	2667	350	11.2		5.6	36.4	5.6
2010								42.0	5.6
2011	Jan		525	450	2.8		2.8	44.8	2.8
2012	Jan	500	1750	350	7.4		7.4	52.2	7.4
2013	Jan		931	400	4.5		4.5	56.7	4.5
			12,566		56.7				56.7

*

DOD Hsg Pvt 12-29-03.xls

DOD Housing Privatization (12-29-03)

None of the Privatization efforts will increase the number of homes. "New" refers to complete replacement.
Assume that homes take one year to complete.

Project	Developer	New	Renov	Total	Begin	End	Remarks
Ford Island		(See Ford Island projections)					
		1656	292	1948	Jan-05	Dec-08	
		6900	1218	8118	Dec-04	Dec-19	
		638	718	1356	Apr-04	Feb-09	
		4549	803	5352	Jul-08	Jun-18	
Totals		13743	3031	16774	2004	2019	

	Number of Homes Removed				Sales	
Year				Total **	Incremental Load Lost (gwh)*	Cumulative Load Lost (gwh)
2003	487	541	203	1231		
2004				0	0.0	0.0
2005			271	271	-5.7	-5.7

DOD Hsg Pvt 12-29-03.xls

Sales Impact of Housing Privatization By Service
(Gwh)

Year					Total	Cumulative
2004	0.0	0.0	0.0	0.0	0.0	0.0
2005	0.0	0.0	-1.0	0.0	-1.0	-1.0
2006	1.0	1.1	0.6	0.0	2.7	1.7
2007	1.0	1.1	0.6	0.0	2.7	4.5
2008	1.0	1.1	0.6	-5.6	-2.9	1.6
2009	11.2	1.1	4.8	-5.0	12.2	13.7
2010	0.0	1.1	1.6	1.1	3.9	17.6
2011	0.0	1.1	0.0	1.1	2.3	19.8
2012	0.0	1.1	0.0	1.1	2.3	22.1
2013	0.0	1.1	0.0	1.1	2.3	24.3
2014	0.0	1.1	0.0	1.1	2.3	26.6
2015	0.0	1.1	0.0	1.1	2.3	28.9
2016	0.0	1.1	0.0	1.1	2.3	31.1
2017	0.0	1.1	0.0	1.1	2.3	33.4
2018	0.0	1.1	0.0	6.7	7.8	41.2
2019	0.0	1.1	0.0	6.2	7.3	48.5
2020	0.0	12.6	0.0	0.0	12.6	61.1
Total	14.3	28.4	7.1	11.2	61.1	

042Qsectorfcst 05-12-04.xls

Hawaiian Electric Company, Inc.
Sales Forecast for Selected Military Sector Customers
2nd Quarter 2004

	gwh	2002	2003	2004	2005	2006
		15.4	15.7	16.0	16.3	16.5
Growth pattern follows economic forecast of U.S. visitor arrivals:		0.7%	1.9%	2.0%	1.5%	1.5%
2004 vis growth 4%, sales growth 2%						
2005 vis growth 3%, sales growth 1.5%						
2006 vis growth 3%, sales growth 1.5%						
		50.1	49.4	50.4	51.4	52.4
2004 new grow 2% (historical)		-1.0%	-1.4%	2.0%	2.0%	2.0%
2005 grow 2% (historical)						
2006 grow 2% (historical)						
		3.5	8.8	8.9	9.0	9.1
2004 Apr ytd growth neg, but make small positive			151.4%	1.0%	1.0%	1.0%
2005 3% growth						
2006 1% growth						
		9.4	17.3	20.8	20.8	20.8
2004 Annualize 4th qtr 2003 sales		-42.3%	84.0%	20.2%	0.0%	0.0%
2005 flat, sales highly variable						
2006 flat, sales highly variable						
		22.0	22.5	22.7	23.0	23.2
direction of annual growth typically determined during 1st qtr		0.5%	2.3%	1.0%	1.0%	1.0%
2004 1% growth						
2005 1% growth						
2006 1% growth						
		15.4	20.7	21.7	22.0	22.2
2004 May ytd growth = 10% is high for full year. Say 5%		20.2%	34.4%	5.0%	1.0%	1.0%
2005 Base load growth of 1%						
2006 Base load growth of 1%						

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Hawaiian Electric Company, Inc.
Sales Forecast for Selected Military Sector Customers
2nd Quarter 2004

		gwh	2002	2003	2004	2005	2006
			149.3	150.3	151.4	156.0	203.3
2004	May ytd growth 2% less hsg	0.0	-1.1%	0.7%	0.7%	3.1%	30.3%
	Demolish hsg units	-1.9					
		-1.9					
2005	projects	4.7					
	hsg units	1.0					
	hsg units	1.0					
		-2.0					
		4.6					
2006	projects	44.0					
	carryover hsg units	1.9					
	Replace	0.8					
		0.5					
		47.2					
			357.5	343.2	382.4	373.2	397.8
2004		2.0	-2.7%	-4.0%	11.4%	-2.4%	6.6%
		0.3					
		1.2					
		0.3					
		0.1					
		0.7					
		0.9					
		3.8					
		0.0					
		30.0					
		39.2					
2005		-2.0					
		0.1					
		0.8					
		0.3					
		0.7					
		-0.3					
		1.2					
		-10.0					
		-9.2					

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Hawaiian Electric Company, Inc.
Sales Forecast for Selected Military Sector Customers
2nd Quarter 2004

		gwh	2002	2003	2004	2005	2006
2006		2.0					
		0.4					
		0.4					
		15.8					
		6.0					
		0.0					
		24.6					
2004	Apr ytd = 20%, but poor 1st half 2003, say 5% annual		23.3	22.2	23.3	24.3	25.3
			-12.4%	-4.7%	5.0%	4.3%	4.1%
		0.5					
		0.0					
		0.5					
2005		1.0					
		0.0					
		1.0					
2006		1.0					
		0.0					
		1.0					
2004	Apr ytd 4.5%		34.2	35.5	36.9	37.3	39.4
2005	1% growth		4.0%	3.8%	4.0%	1.0%	5.6%
2006		2.1					
2004	Extend apr ytd to annual		22.3	16.9	11.7	14.4	17.1
			-17.7%	-24.2%	-30.8%	23.1%	18.8%
2005		1.3					
2006		2.7					
		2.7					
2004	Demolish		44.4	44.6	42.6	42.6	42.6
	Apr ytd = -2.7%	-2.0	-0.2%	0.5%	-4.5%	0.0%	0.0%
2005	stable consumption						
2006	stable consumption						

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Hawaiian Electric Company, Inc.
Sales Forecast for Selected Military Sector Customers
2nd Quarter 2004

		gwh	2002	2003	2004	2005	2006
			42.3	45.0	45.5	45.9	46.9
2004	Apr ytd = 0.8%		6.3%	6.4%	1.0%	1.0%	2.2%
2005	1% growth						
2006		1.0					
			22.5	26.4	29.4	29.7	30.0
2004		11.5	9.8%	17.3%	11.4%	1.0%	1.0%
2005	1% growth						
2006	1% growth						
			112.6	113.3	91.3	116.1	141.4
2004	Apr ytd = 1.4%, but		0.6%	0.6%	-19.4%	27.1%	21.8%
		1.4					
		0.2					
		0.0					
		0.2					
		0.5					
		-24.3 (32.4 gwh x 3.4)					
		0.0					
		-22.0					
2005		0.4					
		0.1					
		0.3					
		1.6					
		0.0					
		0.0					
		8.2					
		16.2 (-32.4 gwh x 1/4 + 32.4 gwh x 3/4)					
		-2.0					
		24.7					

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042Qsectorfcst 05-12-04.xls

Hawaiian Electric Company, Inc.
Sales Forecast for Selected Military Sector Customers
2nd Quarter 2004

		gwh	2002	2003	2004	2005	2006
2006		2.0					
		0.4					
		1.8					
		0.2					
		0.1					
		1.1					
		8.1					
		11.6					
		25.3					
			118.7	121.1	125.8	131.0	134.3
2004	May ytd = 3.3%, say 2.5%		2.6%	2.0%	3.9%	4.2%	2.5%
		1.7					
2005		1.7					
		3.2					
		0.4					
		5.2					
2006		1.1					
		0.7					
		1.5					
		3.3					
			37.3	36.9	37.6	38.4	40.1
2004	Apr ytd = 3.7%, say 2%		-5.3%	-1.1%	2.0%	2.0%	4.4%
2005		0.8					
2006		0.0					
		1.7					
		1.7					
Selected Customers Total			**1,080.2**	**1,089.8**	**1,118.5**	**1,151.2**	**1,262.3**
			-1.2%	0.9%	2.6%	2.9%	9.6%

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pMay04chbsc.xls
5/13/04

Hawaiian Electric Company, Inc.
MAY 2004 BUSINESS SECTOR SALES UPDATE
FOOD PROCESSING

2004

2003 Wx Norm Billed Sales		74.1
Add: 1996-03 Acquired DSM		1.2
Less:	(0.7)	
	(1.4)	
	(1.3)	
Subtotal Large Projects		(3.4)
Base 2003		71.9
Growth in existing customers, wx norm	1.5%	1.1
Other New/Terminations	0.5%	0.4
Large Projects 2004		
	0.0	
	0.0	
	0.0	
Subtotal Large Projects		0.0
Total 2004 Wx Norm, No DSM		73.4 GWh

pMay04chbsc.xls
5/13/04

Hawaiian Electric Company, Inc.
MAY 2004 BUSINESS SECTOR SALES UPDATE
FOOD PROCESSING

2005

2004 Wx Norm, No DSM		73.4	GWh
Growth in existing customers, wx norm	1.5%	1.1	
Other New/Terminations	0.5%	0.4	
Total 2005 Wx Norm, No DSM		74.9	GWh
Less: Acquired DSM		(1.3)	
2005 Wx Norm, No Future DSM		73.6	
2004, Wx Norm, No Future DSM		72.1	GWh
% Change		2.1%	

pMay04chbsc.xls
5/13/04

Hawaiian Electric Company, Inc.
MAY 2004 BUSINESS SECTOR SALES UPDATE
FOOD PROCESSING

NOTES

Closed 8/1/03
2002 = 2,138 MWh
2003 = 708 MWh
2004-06 = 0 MWh

Stopped operations 6/03
2002 = 3,047 MWh
2003 = 1,416 MWh
2004-06 = 0 MWh

Closed 10/03
2003 = 1,287 MWh

pMay04chbsc.xls
5/12/04

Hawaiian Electric Company, Inc.
MAY 2004 BUSINESS SECTOR SALES UPDATE
OTHER

2004

2003 Wx Norm Billed Sales		79.1	
Add: 1996-03 Acquired DSM		2.8	
Base 2003		81.9	
Growth in existing customers, wx norm	0.5%	0.4	
Other New/Terminations	2.5%	2.0	
Total 2004 Wx Norm, No DSM		84.3	GWh
Less: Acquired DSM		(3.8)	
2004 Wx Norm, No Future DSM		80.5	
Billed 2003, Wx Norm, No Future DSM		79.1	GWh
% Change		1.8%	

	1Q 04 vs 03 *		2003 vs 2002 *	
	Billed	Wx Norm	Billed	Wx Norm
Billed Growth	3.7%	-4.5%	3.6%	2.7%
Existing Growth	2.5%	-4.7%		
New Growth	1.2%	0.2%		

* Existing and new growth assume same proportions for weather normalized growth as billed.

pMay04chbsc.xls
5/12/04

Hawaiian Electric Company, Inc.
MAY 2004 BUSINESS SECTOR SALES UPDATE
OTHER

2005

2004 Wx Norm, No DSM		84.3	GWh
Growth in existing customers, wx norm	0.5%	0.4	
Other New/Terminations	3.0%	2.5	
Total 2005 Wx Norm, No DSM		87.2	GWh
Less: Acquired DSM		(3.8)	
2005 Wx Norm, No Future DSM		83.4	
2004, Wx Norm, No Future DSM		80.5	GWh
% Change		3.6%	

CA-IR-182

Ref: HECO Response to CA-IR-2, HECO T-6, Attachment 3A Power Supply Non-Labor Expense Estimates.

Please explain the basis for each of the following estimated non-labor test year estimated production expense amounts and provide complete copies of all invoices, quantity times price calculations, workpapers and other supporting documentation for such amounts, as well as comparable actual incurred expenses for each of the past three years:

a.	RA=PIB Training Costs	$258,600
b.	RA=PIK City Water	$228,000
c.	RA=PIK Wastewater Chem	$ 81,600
d.	RA=PIK Demin/Evap. Chemicals	$300,000
e.	RA=PIK Condenser Chemicals	$238,800
f.	RA=PIK Boiler Water Treatment	$ 25,200
g.	RA=PIL K1/6 Structural Painting	$200,000
h.	RA=PIL Basin Struct Repairs	$150,000
i.	RA=PIL [illegible]	$150,000

s. RA=PIW Cond. Chemicals $ 79,800

t. RA=PIX Asbestos abate/remov $100,000

u. RA=PIX Paint Corrosion Control $400,000

[redacted]

v. RA=PIX Travel Screen OH $150,000

w. RA=PIX Sludge Bed Drying Cell $100,000

HECO Response:

Pages 3 and 4 are provided for each item noted above indicating the historical cost for years 2002-2004, an explanation of the basis and the reference page showing the details of the historical transactions. The details of the historical transactions are provided per the Work Order Detail Reports. Only those pages from the Work Order Detail Reports that include the above transactions are being provided on pages 6 - 215. Since the copies of these pages are voluminous, one set of copies will be provided to the Commission, Consumer Advocate and the Department of Defense under separate transmittal. Note that handwritten summations are included on the report to reflect the historical amounts. A narrative on how to read the report is provided on page 5.

Hav ı Electric Company, Inc.
Rate Case - Test Year 2005
Non-Labor Expenses - Select Items

	Budget Item	RA Desc	2002	2003	2004	2005	Basis/Comments See Code Expl Below	Reference Pages
a.	RA=PIB Training Costs	PS O&M Admin	0	0	0	258,600	NC	None
b.	RA=PIK City Water	Kahe Oper	233,650	156,174	161,522	228,000	HE and SE	pg. 6 - 8
c.	RA=PIK Wastewater Chem	Kahe Oper	85,493	28,618	54,930	81,600	HE and SE	pg. 9-15
d.	RA=PIK Demin/Evap. Chem	Kahe Oper	296,458	391,968	433,819	300,000	HE and SE	pg. 16 - 27
e.	RA=PIK Condenser Chem	Kahe Oper	239,221	234,886	135,015	238,800	HE and SE	pg. 28 - 41
f.	RA=PIK Boiler Water Trmt	Kahe Oper	35,332	39,411	52,836	25,200	HE and SE	pg. 42 - 63
g.	RA=PIL K1/6 Struct Paint	Kahe Maint	0	0	535,200	200,000	Non-Recurring	pg. 64
h.	RA=PIL Basin Struct Repairs	Kahe Maint	0	46,600	146,800	150,000	HE and SE	pg. 65
i.	RA=PIL Cathodic Protection	Kahe Maint	8,000	0	0	150,000	TA	None
j.	RA=PIL BFP OH	Kahe Maint	392,444	641,344	72,711	150,000	HE and SE	pg. 66 - 83 See pg.4 for incl of unit OH with BFP work
k.	RA=PIL Kahe Fuel Tank	Kahe Maint	0	0	0	210,000	Non-Recurring	None
l.	RA=PIN Cathodic Protection	Hono Maint	0	0	0	150,000	TA	None
m.	RA=PIN BFP OH	Hono Maint	93,600	160,920	158,137	150,000	HE and SE	pg. 84 - 88 See pg.4 for incl of unit OH with BFP work
n.	RA=PIN H9 Blr Chem Clean	Hono Maint	0	0	0	400,000	Non-Recurring	See pg.4 for incl of unit OH with Blr Cln work
o.	RA=PIO Clean Island Council	Planning	139,000	139,000	139,000	139,000	HE and SE	pg. 89 - 97
p.	RA=PIO Hono Harbor Fees	Planning	145,658	(145,658)	0	145,600	Hono Cln Up	None
q.	RA=PIW Waste Water Treat	Waiau Oper	112,763	83,030	55,577	82,000	HE and SE	pg. 98 - 104
r.	RA=PIW Demin/Evap Chem	Waiau Oper	89,134	115,432	17,394	120,000	HE and SE	pg. 105 - 113
s.	RA=PIW Cond. Chemicals	Waiau Oper	95,233	78,380	68,826	79,800	HE and SE	pg. 114 - 120
t.	RA=PIX Asbestos abate/rem	Waiau Maint	99,562	17,736	41,172	100,000	HE and SE	pg. 121 - 127
u.	RA=PIX Paint Corr Control	Waiau Maint	0	0	680,100	400,000	Non-Recurring	pg. 128
v.	RA=PIX Travel Screen OH	Waiau Maint	131,552	(285,189)	0	150,000	HE and SE	pg. 129 - 153
w.	RA=PIX Sludge Bed Dry Cell	Waiau Maint	105,168	59,893	46,008	100,000	HE and SE	pg. 154 - 159

Explanations -

NC - Cost expense element is "NC". Cost is cleared and is not an O&M expense item.

HE and SE - Estimate based on Historical Expenditures and Staff Experience. For the travel screen overhaul prior to 2003, scope of work had changed such that replacement of the travel screen became capital work.

Non-Recurring - The nature of these type of "significant" projects is based on department prioritization, condition review and financial considerations. Mix of these projects happens cyclically within the plant site or among the various plant sites. The estimate is based on staff experience, historical indicators and verbal estimates from contractors.

TA - Technical Assessment of the Company's various cathodic protection systems is on-going. 2005 estimate is based on staff experience.

Hono Cln-Up - In years 2002-2004 actual cost were related to the Honolulu Clean-Up Fees which was accrued in 2001, and therefore net expense for years 2002-2004 was zero. 2005 reflects other Honolulu Harbor cost that would not be covered by the amount that was accrued back in 2001.

Hawaiian Electric Company, Inc.
Rate Case - Test Year 2005
Non-Labor Expenses - Select Items

(Include Overhaul Project Cost for Select Items)

Item/Ref	RA Desc	2002	2003	2004	2005	Basis/Comments See Code Expl on pg 3	Ref Pages
j. RA=PIL BFP OH	Kahe Maint	392,444	641,344	72,711	150,000	HE and SE	pg. 66 - 83
m. RA=PIN BFP OH	Hono Maint	93,600	160,920	158,137	150,000	HE and SE	pg. 84 - 88
Kahe OH Project - BFP		109,112	228,362	2,134		Part of OH scope of work	pg.160 - 170
Waiau OH Project - BFP		1,133	0	1,125		Part of OH scope of work	pg.171 - 176
Total BFP Work		596,289	1,030,626	234,107	300,000		
n. RA=PIN H9 Blr Chem Clean	Hono Maint	0	0	0	400,000	Non-Recurring.	None
Kahe OH Project - Blr Cln		0	0	147,759	125,000	Part of OH scope of work	pg.177 - 189
Waiau OH Project - Blr Cln		163,235	0	165,560		Part of OH scope of work	pg.190 - 215
Total Blr Chem Clean		163,235	0	313,319	525,000		

Hawaiian Electric Company, Inc.
Rate Case – Test Year 2005
Work Order Detail Report - Narrative
Report No. 1652

Parameters:

- Selected one work order per report
- Printed entire report, but only kept those pages where there were non-labor transactions.

Data represented is transaction data.

- Primary sort is by code block with similar transactions grouped together.
- Secondary sort within each group is the date chronologically ascending by transaction date.
- The dept. RA and Expense element is included in the code block for each transaction.
- A subtotal is provided for each group of transaction.
- For material purchases and outside service transactions, additional data provided such as supplier no., invoice no., invoice item no., invoice item description, voucher/journal entry no., voucher/journal entry description, stock code, stock description, purchase order no., unit of purchase and quantity.

the voluminous nature of the information, one copy (pages 6 – 215) provided to the Consumer Advocate, Department of Defense and the Utilities Commission under separate transmittal.

: 200212 *Show Emp Info:* No

	Contract No	*Portion No*	*Element No*	*Tran Amt*
05/				12723.22
05/				9969.04
06/				11998.80
06/				9780.94
06/				10739.26
06/				12568.78
1/5				9693.82
1/5				11954.98
7				10141.30
7				12931.12
5				6003.10
5				10404.64
/9				11861.92
/9				9301.78
7				8012.80
7				8456.32
/6				11275.84
/6				8171.20
0/				7309.90
8/				10812.52
2/				9365.14
2/				5767.48
0/				4892.32
0/				9513.64
xpense Element:	501		Subtotal:	233649.86
			Total:	233649.86 ✓

1652 Work Order Detail / Summarized Labor Report

Report Parameters

District: P *Parent WO:* * *WO Number:* HP000736 *From Date:* 200301 *To Date:* 200312 *Show Emp Info:* No

Company: **HECO**

Parent WO:

Work Order: **HP000736** **City Water $$ for Kahe Station**

Invoice Transactions

(C&C of Hono)

Tran Dte	Acct Code	Cat No	Supplier No	Inv No	Inv Item No	Inv Item Desc	Contract No	Portion No	Element No	Tran Amt
Expense Element: 501	**Outside Svcs-General**									
02/03/2003	PIK242KSTNENPIZZZZZ501		002049	1028529-	001	MTER 3746626,841884				12267.82
02/03/2003	PIK242KSTNENPIZZZZZ501		002049	1028530-	001	METER 79129009 12/1				4528.00
02/21/2003	PIK242KSTNENPIZZZZZ501		002049	1028529-	001	WATER 01/10/03-02/11/				10941.22
02/26/2003	PIK242KSTNENPIZZZZZ501		002049	1028530-	001	WATER 01/10/03-02/11/				4137.94
03/27/2003	PIK242KSTNENPIZZZZZ501		002049	1028529-	001	WATER 02/11/03-03/13/				6490.18
03/27/2003	PIK242KSTNENPIZZZZZ501		002049	1028530-	001	WATER 02/11/03-03/17/				2587.60
04/28/2003	PIK242KSTNENPIZZZZZ501		002049	1028530-	001	WATER 03/17/03-04/11/				2064.88
04/28/2003	PIK242KSTNENPIZZZZZ501		002049	1028529-	001	WATER 03/13/03-04/11/				7369.30
05/29/2003	PIK242KSTNENPIZZZZZ501		002049	1028529-	001	WATER 04/11/03-05/13/				11865.88
05/30/2003	PIK242KSTNENPIZZZZZ501		002049	1028530-	001	WATER 04/11/03-05/13/				284.60
06/25/2003	PIK242KSTNENPIZZZZZ501		002049	1028530-	001	WATER 05/13/03-06/11/				1916.38
06/25/2003	PIK242KSTNENPIZZZZZ501		002049	1028529-	001	WATER 05/13/03-06/11/				11570.86
07/30/2003	PIK242KSTNENPIZZZZZ501		002049	1028530-	001	WATER 06/11/03-07/14/				1674.82
07/30/2003	PIK242KSTNENPIZZZZZ501		002049	1028529-	001	WATER 06/11/03-07/14/				10978.84
09/09/2003	PIK242KSTNENPIZZZZZ501		002049	1028529-	001	WATER 07/14/03-08/13/				10681.84
09/09/2003	PIK242KSTNENPIZZZZZ501		002049	1028530-	001	WATER 07/14/03-08/13/				1076.86
09/30/2003	PIK242KSTNENPIZZZZZ501		002049	1028530-	001	SVC PERIOD 8/13/03-9				1055.08
09/30/2003	PIK242KSTNENPIZZZZZ501		002049	1028529-	001	SVC PERIOD 8/13/03-9				12042.10
10/28/2003	PIK242KSTNENPIZZZZZ501		002049	1028529-	001	SVC PERIOD 9/15/03-1				12172.78
12/09/2003	PIK242KSTNENPIZZZZZ501		002049	1028530-	001	SVCS 10/28-11/19/03				1934.20
12/09/2003	PIK242KSTNENPIZZZZZ501		002049	1028529-	001	WATER SVCS 10/16-11				13899.34
12/31/2003	PIK242KSTNENPIZZZZZ501		002049	1028530-	001	SV C PERIOD 11/19/03				3237.04
12/31/2003	PIK242KSTNENPIZZZZZ501		002049	1028529-	001	SVC PERIOD 11/19/03-				11396.62
									Expense Element: 501 Subtotal:	156174.18
									Total:	156174.18 ✓
									Work Order Total:	156174.18

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1652 Work Order Detail / Summarized Labor Report

Report Parameters

District: P *Parent WO:* * *WO Number:* HP000736 *From Date:* 200401 *To Date:* 200412 *Show Emp Info:* No

Company: HECO

Parent WO:

Work Order: HP000736 City Water $$ for Kahe Station

Invoice Transactions (C&C of Hono)

Tran Dte	Acct Code	Cat No	Supplier No	Inv No	Inv Item No	Inv Item Desc	Contract No	Portion No	Element No	Tran Amt
Expense Element: 501	**Outside Svcs-General**									
01/13/2004	PIK242KSTNENPIZZZZZ501		002049	1028530-	001	SVC PERIOD 9/15/03-1				779.86
02/02/2004	PIK242KSTNENPIZZZZZ501		002049	1028529-	001	SVC PERIOD 12/20/03-				12766.78
02/04/2004	PIK242KSTNENPIZZZZZ501		002049	1028530-	001	SVC PERIOD 12/20/03-				2722.24
03/16/2004	PIK242KSTNENPIZZZZZ501		002049	1028529-	001	SVC PERIOD 1/23/04-3				18439.48
03/16/2004	PIK242KSTNENPIZZZZZ501		002049	1028530-	001	SVC PERIOD 1/23/04-2				2456.92
04/21/2004	PIK242KSTNENPIZZZZZ501		002049	1028530-	001	METER 79129009 2/25-				1072.90
04/21/2004	PIK242KSTNENPIZZZZZ501		002049	1028529-	001	02219056,84188403 3/1				11456.02
05/21/2004	PIK242KSTNENPIZZZZZ501		002049	1028529-	001	SVC PERIOD: 03/30/04				13125.16
05/21/2004	PIK242KSTNENPIZZZZZ501		002049	1028530-	001	SERVICE PERIOD: 03/				568.00
06/10/2004	PIK242KSTNENPIZZZZZ501		002049	1028530-	001	SVC: 04/30/04 - 05/27/0				356.14
06/10/2004	PIK242KSTNENPIZZZZZ501		002049	1028529-	001	SVC: 04/27/04 - 05/27/0				14952.70
07/08/2004	PIK242KSTNENPIZZZZZ501		002049	1028529-	001	SVC: 05/27/04 - 06/28/0				16990.12
07/15/2004	PIK242KSTNENPIZZZZZ501		002049	1028530-	001	SVC: 05/27/04 - 06/28/0				853.12
08/06/2004	PIK242KSTNENPIZZZZZ501		002049	1028529-	001	BILLING PD: 06/28/04 -				15996.16
08/09/2004	PIK242KSTNENPIZZZZZ501		002049	1028530-	001	BILLING PD: 06/28/04 -				655.12
09/07/2004	PIK242KSTNENPIZZZZZ501		002049	1028529-	001	SVC PD: 07/29/04 - 08/				12958.84
09/07/2004	PIK242KSTNENPIZZZZZ501		002049	1028530-	001	SVC PD: 07/29/04 - 08/				480.88
09/27/2004	PIK242KSTNENPIZZZZZ501		002049	1165291-	001	SVC PD: 06/10/04 - 08/				3.70
10/07/2004	PIK242KSTNENPIZZZZZ501		002049	1028529-	001	SVC PD: 08/26/04 - 09/				13366.72
10/07/2004	PIK242KSTNENPIZZZZZ501		002049	1028530-	001	SVC PD: 08/26/04- 09/2				371.98
11/08/2004	PIK242KSTNENPIZZZZZ501		002049	1028530-	001	SVC PD: 09/27/04 - 10/				516.52
12/01/2004	PIK242KSTNENPIZZZZZ501		002049	1165291-	001	SVC PD: 08/26/04 - 11/				3.70
12/09/2004	PIK242KSTNENPIZZZZZ501		002049	1028529-	001	SVC PD: 10/26/04 - 11/				10345.24
12/10/2004	PIK242KSTNENPIZZZZZ501		002049	1028529-	001	SVC PD: 09/27/04 - 10/				10283.86
									Expense Element: 501 Subtotal:	161522.16
									Total:	161522.16 ✓

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1652 Work Order Detail / Summarized Labor Report

Report Parameters

District: P *Parent WO:* * *WO Number:* HP000183 *From Date:* 200201 *To Date:* 200212 *Show Emp Info:* No

Company: HECO

Parent WO: HP000016

Work Order: HP000183 Wastewater Trmt Chemical Costs-Kahe Stn

Invoice Transactions

Tran Dte	Acct Code	Cat No	Supplier No	Inv No	Inv Item No	Inv Item Desc	Contract No	Portion No	Element No	Tran Amt
Expense Element: 501	**Outside Svcs-General**									
02/26/2002	PIK248KSTNENPIZZZZZ501		006491	119190	001	REPAIR/REPLACE K5/				3779.90
									Expense Element: 501 Subtotal:	3779.90
									Total:	3779.90

Manual Journal Vouchers

Tran Dte	Acct Code	Voucher No	Description	Accountant Code	Qty Amt	Tran Amt
Expense Element: 201	**Matl-Issues/Purchases**					
01/11/2002	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 044810/001	HWB900	0	218.84
01/21/2002	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 044633/001	HWB900	0	84.75
02/27/2002	PIK248KSTNENPIZZZZZ201	P000014403	ON COST CHG TO: 046796/001	HWB900	0	1650.58
03/05/2002	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 046906/001	HWB900	0	260.59
03/08/2002	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 046765/001	HWB900	0	97.54
05/09/2002	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 048850/001	HWB900	0	1057.19
05/14/2002	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 049674/001	HWB900	0	93.26
06/27/2002	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 051309/001	HWB900	0	2103.79
07/09/2002	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 051913/001	HWB900	0	275.56
07/26/2002	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 052171/001	HWB900	0	101.60
08/21/2002	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 053765/001	HWB900	0	1217.48
10/02/2002	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 055791/001	HWB900	0	549.15
10/02/2002	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 055791/002	HWB900	0	1026.30
10/09/2002	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 055791/002	HWB900	0	6.72
10/22/2002	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 056081/001	HWB900	0	101.60
11/19/2002	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 057313/001	HWB900	0	101.44
12/06/2002	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 058534/001	HWB900	0	1212.75
					Expense Element: 201 Subtotal:	10159.14
					Total:	10159.14 (1)

HP000183 - EE201 Σ(1) 85,492.73 ✓

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1652 Work Order Detail / Summarized Labor Report

Report Parameters

District: P *Parent WO:* * *WO Number:* HP000183 *From Date:* 200201 *To Date:* 200212 *Show Emp Info:* No

Company: **HECO**

Purchase Requisition Order Receipts

Tran Dte	Acct Code	PO No	PO Item No	Supplier No	Unit of Purch	Qty	Net Price	Tran Amt
Expense Element: 201	**Matl-Issues/Purchases**							
01/09/2002	PIK248KSTNENPIZZZZZ201	P34387	002	001761	EA	4.15	365.00	1577.76
01/11/2002	PIK248KSTNENPIZZZZZ201	P34295	001	004629	DR	1	587.50	611.00
02/25/2002	PIK248KSTNENPIZZZZZ201	P34386	007	001761	GT	10.52	945.00	10354.96
02/27/2002	PIK248KSTNENPIZZZZZ201	P34388	002	001761	GT	4.3	365.00	1634.79
03/06/2002	PIK248KSTNENPIZZZZZ201	P36174	001	004629	DR	1	587.50	611.94
04/11/2002	PIK248KSTNENPIZZZZZ201	P34386	011	001761	GT	11.23	945.00	6632.29
05/08/2002	PIK248KSTNENPIZZZZZ201	P38393	001	004629	DR	1	562.60	585.10
06/05/2002	PIK248KSTNENPIZZZZZ201	P34386	015	001761	GT	12.8	910.00	12132.56
06/27/2002	PIK248KSTNENPIZZZZZ201	P34388	003	001761	NT	4.18	365.00	1589.17
07/24/2002	PIK248KSTNENPIZZZZZ201	P40409	001	004629	DR	1	562.50	585.90
08/12/2002	PIK248KSTNENPIZZZZZ201	P34386	020	001761	NT	7.66	880.00	7021.22
09/26/2002	PIK248KSTNENPIZZZZZ201	P34386	025	001761	GT	6.11	930.00	5918.68
09/26/2002	PIK248KSTNENPIZZZZZ201	P34388	004	001761	GT	8.33	365.00	3166.93
10/09/2002	PIK248KSTNENPIZZZZZ201	P34386	025	001761	GT	0.04	930.00	38.75
10/22/2002	PIK248KSTNENPIZZZZZ201	P43406	001	004629	DR	1	562.50	585.90
11/18/2002	PIK248KSTNENPIZZZZZ201	P44522	001	004629	DR	1	562.50	585.00
12/03/2002	PIK248KSTNENPIZZZZZ201	P34386	030	001761	GT	7.22	930.00	6993.93
						Expense Element: 201	**Subtotal:**	60625.88
							Total:	60625.88 (1)

Purchase Requisition Price Adjustments

Tran Dte	Acct Code	PO No	PO Item No	Supplier No	Price Adjusted	Qty Adj	Unit of Purchase	Tran Amt
Expense Element: 201	**Matl-Issues/Purchases**							
02/06/2002	PIK248KSTNENPIZZZZZ201	P34295	001	004629	-24.10	0	DR	-25.06
04/15/2002	PIK248KSTNENPIZZZZZ201	P36174	001	004629	-25.00	0	DR	-26.04
						Expense Element: 201	**Subtotal:**	-51.10
							Total:	-51.10 (1)

Stock Material Transactions

Tran Dte	Acct Code	Stock Code	Qty	Unit of Issue	Item Name	Description	Tran Amt
Expense Element: 201	**Matl-Issues/Purchases**						

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1652 Work Order Detail / Summarized Labor Report

Report Parameters

District: P Parent WO: * WO Number: HP000183 From Date: 200201 To Date: 200212 Show Emp Info: No

Company: **HECO**

Stock Material Transactions

Tran Dte	Acct Code	Stock Code	Qty	Unit of Issue	Item Name	Description	Tran Amt
03/04/2002	PIK248KSTNENPIZZZZZ201	000268425	1	BG	FLOCCULANT,	FOR WASTEWATER TREATMENT.	753.61
03/04/2002	PIK248KSTNENPIZZZZZ201	000268706	10	DR	SOLUTION, OR	SIZE: 450# DRUM (ORGANIC CHELANT)	12479.78
04/15/2002	PIK248KSTNENPIZZZZZ201	000268268	0	DR	NALCOLYTE, C	(OBSOLETE - USE CODE 268425)	0.00
07/24/2002	PIK248KSTNENPIZZZZZ201	000268425	2	BG	FLOCCULANT,	FOR WASTEWATER TREATMENT.	1525.42
10/07/2002	PIK248KSTNENPIZZZZZ201	000268268	0	DR	NALCOLYTE, C	(OBSOLETE - USE CODE 268425)	0.00
10/22/2002	PIK248KSTNENPIZZZZZ201	000268268	0	DR	NALCOLYTE, C	(OBSOLETE - USE CODE 268425)	0.00

Expense Element: 201 **Subtotal:** 14758.81

Total: 14758.81 (1)

Work Order Total: 89272.63

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DOCKET NO. 04-0113
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1652 Work Order Detail / Summarized Labor Report

Report Parameters

District: P *Parent WO:* * *WO Number:* HP000183 *From Date:* 200301 *To Date:* 200312 *Show Emp Info:* No

Company: **HECO**

Parent WO: **HP000016**

Work Order: **HP000183** **Wastewater Trmt Chemical Costs-Kahe Stn**

Manual Journal Vouchers

Tran Dte	Acct Code	Voucher No	Description	Accountant Code	Qty Amt	Tran Amt
Expense Element: 201	**Matl-Issues/Purchases**					
01/10/2003	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 059867/001	HWB900	0	1225.26
01/24/2003	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 060234/001	HWB900	0	151.40
03/11/2003	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 062103/001	HWB900	0	4.67
03/11/2003	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 062103/002	HWB900	0	4.67
03/13/2003	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 061668/001	HWB900	0	13.59
03/19/2003	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 062356/001	HWB900	0	128.47
04/23/2003	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 064167/001	HWB900	0	1127.18
04/23/2003	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 064164/001	HWB900	0	101.58
				Expense Element: 201	**Subtotal:**	2756.82
					Total:	2756.82

Purchase Requisition Order Receipts

Tran Dte	Acct Code	PO No	PO Item No	Supplier No	Unit of Purch	Qty	Net Price	Tran Amt
Expense Element: 201	**Matl-Issues/Purchases**							
01/04/2003	PIK248KSTNENPIZZZZZ201	P46146	003	001761	GT	9.79	930.00	9483.46
01/24/2003	PIK248KSTNENPIZZZZZ201	P46896	001	004629	DR	2	562.50	1171.80
02/28/2003	PIK248KSTNENPIZZZZZ201	P46146	008	001761	GT	0.93	930.00	900.88
03/08/2003	PIK248KSTNENPIZZZZZ201	P48347	002	002110	EA	3	10.50	32.76
03/08/2003	PIK248KSTNENPIZZZZZ201	P48347	001	002110	EA	3	10.50	32.76
03/13/2003	PIK248KSTNENPIZZZZZ201	P48141	001	005164	PK	1	91.50	95.31
04/23/2003	PIK248KSTNENPIZZZZZ201	P46146	013	001761	GT	8.16	930.00	7904.49
04/23/2003	PIK248KSTNENPIZZZZZ201	P46147	006	001761	GT	16.68	410.00	712.33
					Expense Element: 201		**Subtotal:**	20333.79
							Total:	20333.79

Stock Material Transactions

Tran Dte	Acct Code	Stock Code	Qty	Unit of Issue	Item Name	Description	Tran Amt
Expense Element: 201	**Matl-Issues/Purchases**						
01/29/2003	PIK248KSTNENPIZZZZZ201	000268425	1	BG	FLOCCULANT,	FOR WASTEWATER TREATMENT.	762.71

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Report Parameters

District: P *Parent WO:* * *WO Number:* HP000183 *From Date:* 200301 *To Date:* 200312 *Show Emp Info:* No

Company: **HECO**

Stock Material Transactions

Tran Dte	Acct Code	Stock Code	Qty	Unit of Issue	Item Name	Description	Tran Amt
05/29/2003	PIK248KSTNENPIZZZZZ201	000618280	1	DR	POLYMER, LIQ	55 gals. per drum	668.42
07/14/2003	PIK248KSTNENPIZZZZZ201	000268425	1	BG	FLOCCULANT,	FOR WASTEWATER TREATMENT.	742.69
07/14/2003	PIK248KSTNENPIZZZZZ201	000268425	1	BG	FLOCCULANT,	FOR WASTEWATER TREATMENT.	742.69
10/31/2003	PIK248KSTNENPIZZZZZ201	000268425	2	BG	FLOCCULANT,	FOR WASTEWATER TREATMENT.	1485.38
12/15/2003	PIK248KSTNENPIZZZZZ201	000614619	1	RK	GAS, COMPRE	18 CYLINDERS PER RACK (RK)	1125.53
						Expense Element: 201 Subtotal:	5527.42
						Total:	5527.42

Work Order Total: 28618.03 ✓

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1652 Work Order Detail / Summarized Labor Report

Report Parameters

District: P *Parent WO:* * *WO Number:* HP000183 *From Date:* 200401 *To Date:* 200412 *Show Emp Info:* No

Company: **HECO**

Parent WO: **HP000016**

Work Order: **HP000183** **Wastewater Trmt Chemical Costs-Kahe Stn**

Manual Journal Vouchers

Tran Dte	Acct Code	Voucher No	Description	Accountant Code	Qty Amt	Tran Amt
Expense Element: 201	**Matl-Issues/Purchases**					
04/15/2004	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 078027/001	HWB900	0	44.29
05/05/2004	PIK248KSTNENPIZZZZZ201	P000028633	ON COST CHG TO: 078588/001	HWB900	0	819.87
07/29/2004	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 082346/001	HWB900	0	1031.87
09/03/2004	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 082345/001	HWB900	0	1067.64
09/03/2004	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 083507/001	HWB900	0	9.72
09/14/2004	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 084528/001	HWB900	0	908.15
09/17/2004	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 084898/001	HWB900	0	640.58
09/28/2004	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 084898/001	HWB900	0	9.08
				Expense Element: 201	**Subtotal:**	4531.20
					Total:	4531.20

Purchase Requisition Order Receipts

Tran Dte	Acct Code	PO No	PO Item No	Supplier No	Unit of Purch	Qty	Net Price	Tran Amt
Expense Element: 201	**Matl-Issues/Purchases**							
04/13/2004	PIK248KSTNENPIZZZZZ201	P61476	001	004208	EA	1	398.00	413.92
04/21/2004	PIK248KSTNENPIZZZZZ201	P57944	012	001761	GT	7.91	930.00	7662.32
05/27/2004	PIK248KSTNENPIZZZZZ201	P57945	014	001761	GT	20	410.00	8541.12
07/07/2004	PIK248KSTNENPIZZZZZ201	P57945	011	001761	GT	19.33	410.00	8254.99
08/31/2004	PIK248KSTNENPIZZZZZ201	P57945	015	001761	GT	12	410.00	5124.67
08/31/2004	PIK248KSTNENPIZZZZZ201	P66605	001	023121	EA	5	14.96	77.79
09/01/2004	PIK248KSTNENPIZZZZZ201	P57944	026	001761	GT	7.5	930.00	7265.16
09/28/2004	PIK248KSTNENPIZZZZZ201	P57945	015	001761	GT	0.17	410.00	72.60
					Expense Element: 201		**Subtotal:**	37412.57
							Total:	37412.57

Stock Material Transactions

Tran Dte	Acct Code	Stock Code	Qty	Unit of Issue	Item Name	Description	Tran Amt
Expense Element: 201	**Matl-Issues/Purchases**						
01/22/2004	PIK248KSTNENPIZZZZZ201	000618280	1	DR	POLYMER, LIQ	55 gals. per drum	658.42

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		Tran Amt
um		647.60
VATER TREATMENT.		1439.10
um		647.60
um		0.00
um		647.60
VATER TREATMENT.		719.55
um		647.60
VATER TREATMENT.		1462.50
um		658.13
um		658.13
um		658.13
um		658.13
VATER TREATMENT.		737.17
VATER TREATMENT.		737.17
um		664.47
um		0.00
um		672.44
um		672.44
xpense Element: 201	**Subtotal:**	12986.18
	Total:	12986.18

Work Order Total: 54929.95 ✓

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1652 Work Order Detail / Summarized Labor Report

Report Parameters

District: P *Parent WO:* * *WO Number:* HP000184 *From Date:* 200201 *To Date:* 200212 *Show Emp Info:* No

Company: **HECO**

Parent WO: **HP000017**

Work Order: **HP000184** **Demineralizer Chem Costs-Kahe Station**

Manual Journal Vouchers

Tran Dte	*Acct Code*	*Voucher No*	*Description*	*Accountant Code*	*Qty Amt*	*Tran Amt*
Expense Element: 201	**Matl-Issues/Purchases**					
01/14/2002	PIK248KSTNENPIZZZZZ201	P000013924	ON COST CHG TO: 044619/001	HWB900	0	1471.41
01/22/2002	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 045250/001	HWB900	0	961.97
01/28/2002	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 045505/001	HWB900	0	976.06
02/01/2002	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 045744/001	HWB900	0	251.49
02/08/2002	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 046068/001	HWB900	0	1017.22
02/14/2002	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 046253/001	HWB900	0	817.70
02/21/2002	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 046561/001	HWB900	0	1256.76
02/21/2002	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 046555/001	HWB900	0	896.90
03/08/2002	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 047126/001	HWB900	0	1139.09
03/13/2002	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 047338/001	HWB900	0	1126.58
04/05/2002	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 048305/001	HWB900	0	1413.66
04/09/2002	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 048122/001	HWB900	0	1049.66
04/09/2002	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 048456/001	HWB900	0	992.04
05/09/2002	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 049612/001	HWB900	0	1182.33
05/09/2002	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 049488/001	HWB900	0	1219.11
05/09/2002	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 048850/001	HWB900	0	704.79
05/29/2002	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 050379/001	HWB900	0	1260.08
06/21/2002	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 051452/001	HWB900	0	984.24
06/21/2002	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 051312/001	HWB900	0	838.23
07/09/2002	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 051914/001	HWB900	0	1212.71
07/22/2002	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 052467/001	HWB900	0	1077.20
07/23/2002	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 052438/001	HWB900	0	880.53
08/02/2002	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 053177/001	HWB900	0	1160.26
08/21/2002	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 053851/001	HWB900	0	1786.48
08/21/2002	PIK248KSTNENPIZZZZZ201	P000017387	ON COST CHG TO: 053763/001	HWB900	0	1388.36
09/10/2002	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 054621/001	HWB900	0	1169.80
09/17/2002	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 054761/001	HWB900	0	1210.36
09/20/2002	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 055156/001	HWB900	0	1311.85
10/02/2002	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 055707/001	HWB900	0	1402.55

1652 Work Order Detail / Summarized Labor Report

Report Parameters

District: P *Parent WO:* * *WO Number:* HP000184 *From Date:* 200201 *To Date:* 200212 *Show Emp Info:* No

Company: **HECO**

Manual Journal Vouchers

Tran Dte	Acct Code	Voucher No	Description	Accountant Code	Qty Amt	Tran Amt
10/02/2002	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 055793/001	HWB900	0	555.08
10/31/2002	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 057094/001	HWB900	0	1150.60
11/04/2002	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 056852/001	HWB900	0	1130.44
11/04/2002	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 056851/001	HWB900	0	1189.27
11/13/2002	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 057377/001	HWB900	0	1197.63
11/20/2002	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 057822/001	HWB900	0	1171.47
11/26/2002	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 058067/001	HWB900	0	1313.53
12/06/2002	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 058539/001	HWB900	0	879.42
12/26/2002	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 059373/001	HWB900	0	1263.14
				Expense Element: 201	**Subtotal:**	42010.00
					Total:	42010.00

Purchase Requisition Order Receipts

Tran Dte	Acct Code	PO No	PO Item No	Supplier No	Unit of Purch	Qty	Net Price	Tran Amt
Expense Element: 201	**Matl-Issues/Purchases**							
01/03/2002	PIK248KSTNENPIZZZZZ201	P34386	002	001761	GT	10.34	985.00	10608.59
01/09/2002	PIK248KSTNENPIZZZZZ201	P34387	004	001761	GT	4.15	365.00	1577.76
01/18/2002	PIK248KSTNENPIZZZZZ201	P34386	003	001761	GT	6.76	985.00	6935.60
01/24/2002	PIK248KSTNENPIZZZZZ201	P34387	003	001761	GT	18.51	365.00	7037.21
02/04/2002	PIK248KSTNENPIZZZZZ201	P34386	004	001761	GT	6.22	985.00	6381.57
02/08/2002	PIK248KSTNENPIZZZZZ201	P34386	005	001761	GT	5	985.00	5129.88
02/19/2002	PIK248KSTNENPIZZZZZ201	P34387	005	001761	GT	14.8	365.00	5626.72
02/19/2002	PIK248KSTNENPIZZZZZ201	P34386	006	001761	GT	8.01	945.00	7884.34
02/27/2002	PIK248KSTNENPIZZZZZ201	P34386	008	001761	GT	7.26	945.00	7146.11
03/12/2002	PIK248KSTNENPIZZZZZ201	P34386	010	001761	GT	6.69	945.00	6585.05
03/13/2002	PIK248KSTNENPIZZZZZ201	P34387	006	001761	GT	18.59	365.00	7067.62
03/28/2002	PIK248KSTNENPIZZZZZ201	P34386	009	001761	GT	9.01	945.00	8868.65
04/03/2002	PIK248KSTNENPIZZZZZ201	P34387	007	001761	GT	16.37	365.00	6223.61
04/11/2002	PIK248KSTNENPIZZZZZ201	P34386	011	001761	GT	11.23	945.00	4421.53
04/26/2002	PIK248KSTNENPIZZZZZ201	P34386	012	001761	GT	7.77	945.00	7648.10
05/02/2002	PIK248KSTNENPIZZZZZ201	P34387	008	001761	GT	19.51	365.00	7417.39
05/20/2002	PIK248KSTNENPIZZZZZ201	P34386	013	001761	GT	8.34	910.00	7905.12
06/06/2002	PIK248KSTNENPIZZZZZ201	P34386	016	001761	GT	5.1	910.00	4834.07

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1652 Work Order Detail / Summarized Labor Report

Report Parameters

District: P *Parent WO:* * *WO Number:* HP000184 *From Date:* 200201 *To Date:* 200212 *Show Emp Info:* No

Company: **HECO**

Purchase Requisition Order Receipts

Tran Dte	Acct Code	PO No	PO Item No	Supplier No	Unit of Purch	Qty	Net Price	Tran Amt
06/14/2002	PIK248KSTNENPIZZZZZ201	P34387	009	001761	GT	14.93	365.00	5676.15
06/26/2002	PIK248KSTNENPIZZZZZ201	P34386	017	001761	NT	7.63	880.00	6993.72
07/10/2002	PIK248KSTNENPIZZZZZ201	P34387	010	001761	GT	16.34	365.00	6212.21
07/10/2002	PIK248KSTNENPIZZZZZ201	P34386	018	001761	GT	5.54	880.00	5078.01
07/30/2002	PIK248KSTNENPIZZZZZ201	P34386	019	001761	GT	7.3	880.00	6691.24
08/12/2002	PIK248KSTNENPIZZZZZ201	P34387	011	001761	NT	21.06	365.00	8006.68
08/13/2002	PIK248KSTNENPIZZZZZ201	P34386	021	001761	GT	11.24	880.00	10302.67
08/29/2002	PIK248KSTNENPIZZZZZ201	P34386	022	001761	GT	7.36	880.00	6746.23
09/06/2002	PIK248KSTNENPIZZZZZ201	P34387	012	001761	GT	18.36	365.00	6980.18
09/09/2002	PIK248KSTNENPIZZZZZ201	P34386	023	001761	NT	7.81	930.00	7565.45
09/24/2002	PIK248KSTNENPIZZZZZ201	P34386	024	001761	GT	8.35	930.00	8088.54
09/26/2002	PIK248KSTNENPIZZZZZ201	P34387	013	001761	GT	8.42	365.00	3201.15
10/21/2002	PIK248KSTNENPIZZZZZ201	P34387	014	001761	GT	18.04	365.00	6858.52
10/22/2002	PIK248KSTNENPIZZZZZ201	P34386	026	001761	GT	6.73	930.00	6519.27
10/31/2002	PIK248KSTNENPIZZZZZ201	P34386	027	001761	GT	6.85	930.00	6635.51
11/05/2002	PIK248KSTNENPIZZZZZ201	P34386	028	001761	GT	7.13	930.00	6906.75
11/15/2002	PIK248KSTNENPIZZZZZ201	P34387	015	001761	GT	17.77	365.00	6755.87
11/20/2002	PIK248KSTNENPIZZZZZ201	P34386	029	001761	GT	7.82	930.00	7575.14
12/04/2002	PIK248KSTNENPIZZZZZ201	P34387	016	001761	GT	13.34	365.00	5071.65
12/18/2002	PIK248KSTNENPIZZZZZ201	P34386	031	001761	GT	7.52	930.00	7284.53
						Expense Element: 201	**Subtotal:**	254448.39
							Total:	254448.39
							Work Order Total:	296458.39

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1652 Work Order Detail / Summarized Labor Report

Report Parameters

District: P *Parent WO:* * *WO Number:* HP000184 *From Date:* 200301 *To Date:* 200312 *Show Emp Info:* No

Company: **HECO**

Parent WO: **HP000017**

Work Order: **HP000184** **Demineralizer Chem Costs-Kahe Station**

Invoice Transactions

Tran Dte	Acct Code	Cat No	Supplier No	Inv No	Inv Item No	Inv Item Desc	Contract No	Portion No	Element No	Tran Amt
Expense Element: 201	**Matl-Issues/Purchases**									
09/10/2003	PIK248KSTNENPIZZZZZ201		001761	6400593	001	EMERGENCY DELIVE				208.33
									Expense Element: 201 Subtotal:	208.33
									Total:	208.33

Manual Journal Vouchers

Tran Dte	Acct Code	Voucher No	Description	Accountant Code	Qty Amt	Tran Amt
Expense Element: 201	**Matl-Issues/Purchases**					
01/07/2003	PIK248KSTNENPIZZZZZ201	P000019903	ON COST CHG TO: 059614/001	HWB900	0	917.56
01/08/2003	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 059674/001	HWB900	0	1023.76
01/10/2003	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 059674/001	HWB900	0	-1023.76
01/14/2003	PIK248KSTNENPIZZZZZ201	P000019917	ON COST CHG TO: 059674/001	HWB900	0	1022.51
01/27/2003	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 060552/001	HWB900	0	745.64
01/27/2003	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 060482/001	HWB900	0	842.29
01/29/2003	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 060657/001	HWB900	0	1006.24
02/11/2003	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 061231/001	HWB900	0	978.00
02/11/2003	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 061231/002	HWB900	0	913.51
02/27/2003	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 061802/001	HWB900	0	915.83
02/28/2003	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 061890/001	HWB900	0	183.24
03/19/2003	PIK248KSTNENPIZZZZZ201	P000020922	ON COST CHG TO: 062393/001	HWB900	0	863.34
03/19/2003	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 062715/001	HWB900	0	728.64
03/26/2003	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 062942/001	HWB900	0	801.18
04/01/2003	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 063197/001	HWB900	0	1107.74
04/03/2003	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 063321/001	HWB900	0	1001.48
04/17/2003	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 063985/001	HWB900	0	1223.88
04/23/2003	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 064164/001	HWB900	0	914.20
05/01/2003	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 064505/001	HWB900	0	937.94
05/13/2003	PIK248KSTNENPIZZZZZ201	P000021942	ON COST CHG TO: 064896/001	HWB900	0	702.16
05/14/2003	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 065109/001	HWB900	0	986.28
05/28/2003	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 065638/001	HWB900	0	1164.98

1652 Work Order Detail / Summarized Labor Report

Report Parameters

District: P *Parent WO:* * *WO Number:* HP000184 *From Date:* 200301 *To Date:* 200312 *Show Emp Info:* No

Company: **HECO**

Manual Journal Vouchers

Tran Dte	*Acct Code*	*Voucher No*	*Description*	*Accountant Code*	*Qty Amt*	*Tran Amt*
05/28/2003	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 065637/001	HWB900	0	1023.58
06/12/2003	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 066187/001	HWB900	0	917.22
06/30/2003	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 066854/001	HWB900	0	803.94
06/30/2003	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 066555/002	HWB900	0	980.76
06/30/2003	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 066555/001	HWB900	0	1141.84
07/17/2003	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 067448/002	HWB900	0	36.95
07/17/2003	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 067448/003	HWB900	0	455.13
07/17/2003	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 067448/001	HWB900	0	392.08
07/18/2003	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 067688/001	HWB900	0	39.37
08/04/2003	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 067903/001	HWB900	0	1770.89
08/07/2003	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 068348/001	HWB900	0	890.97
08/12/2003	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 068429/001	HWB900	0	1294.70
08/22/2003	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 068733/001	HWB900	0	1026.22
08/26/2003	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 068921/001	HWB900	0	899.26
09/09/2003	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 069228/001	HWB900	0	906.16
09/10/2003	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 069226/001	HWB900	0	1794.37
09/30/2003	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 070192/001	HWB900	0	1676.96
09/30/2003	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 070217/001	HWB900	0	1167.42
10/21/2003	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 071122/001	HWB900	0	1073.64
10/27/2003	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 071426/001	HWB900	0	1085.74
10/30/2003	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 071414/001	HWB900	0	918.60
11/14/2003	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 071868/001	HWB900	0	1094.03
11/18/2003	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 072155/001	HWB900	0	1320.88
11/21/2003	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 070810/001	HWB900	0	1697.68
11/21/2003	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 072409/001	HWB900	0	1105.08
12/03/2003	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 072772/001	HWB900	0	841.24
12/11/2003	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 073006/001	HWB900	0	1046.84
12/17/2003	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 072966/001	HWB900	0	1560.92
12/26/2003	PIK248KSTNENPIZZZZZ201	P000026299	ON COST CHG TO: 073530/001	HWB900	0	722.45
12/30/2003	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 072966/001	HWB900	0	24.86
12/30/2003	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 072966/001	HWB900	0	-38.68
				Expense Element: 201	**Subtotal:**	47627.74

1652 Work Order Detail / Summarized Labor Report

Report Parameters

District: P *Parent WO:* * *WO Number:* HP000184 *From Date:* 200301 *To Date:* 200312 *Show Emp Info:* No

Company: **HECO**

Total: 47627.74

Purchase Requisition Order Receipts

Tran Dte	*Acct Code*	*PO No*	*PO Item No*	*Supplier No*	*Unit of Purch*	*Qty*	*Net Price*	*Tran Amt*
Expense Element: 201	**Matl-Issues/Purchases**							
12/27/2002	PIK248KSTNENPIZZZZZ201	P34387	017	001761	GT	18.68	365.00	7101.84
01/08/2003	PIK248KSTNENPIZZZZZ201	P34164	022	001761	GT	8.18	930.00	7923.87
01/10/2003	PIK248KSTNENPIZZZZZ201	P34164	022	001761	GT	-8.18	930.00	-7923.87
01/10/2003	PIK248KSTNENPIZZZZZ201	P46146	004	001761	GT	6.73	930.00	6519.27
01/13/2003	PIK248KSTNENPIZZZZZ201	P34386	032	001761	GT	8.17	930.00	7914.18
01/15/2003	PIK248KSTNENPIZZZZZ201	P46147	002	001761	GT	15.18	365.00	5771.19
01/29/2003	PIK248KSTNENPIZZZZZ201	P46146	005	001761	GT	8.04	930.00	7788.25
02/06/2003	PIK248KSTNENPIZZZZZ201	P46147	003	001761	GT	16.85	365.00	6406.10
02/11/2003	PIK248KSTNENPIZZZZZ201	P46146	006	001761	GT	7.08	930.00	6858.31
02/20/2003	PIK248KSTNENPIZZZZZ201	P46146	007	001761	GT	6.63	930.00	6422.40
02/21/2003	PIK248KSTNENPIZZZZZ201	P46148	002	001761	GT	3.38	365.00	1285.02
03/07/2003	PIK248KSTNENPIZZZZZ201	P46147	004	001761	GT	13.44	365.00	5109.67
03/07/2003	PIK248KSTNENPIZZZZZ201	P46146	009	001761	GT	6.25	930.00	6054.30
03/17/2003	PIK248KSTNENPIZZZZZ201	P46146	010	001761	GT	5.8	930.00	5618.39
03/25/2003	PIK248KSTNENPIZZZZZ201	P46147	005	001761	GT	18.19	410.00	7768.15
03/31/2003	PIK248KSTNENPIZZZZZ201	P46146	011	001761	GT	7.25	930.00	7022.99
04/14/2003	PIK248KSTNENPIZZZZZ201	P46146	012	001761	GT	8.86	930.00	8582.58
04/23/2003	PIK248KSTNENPIZZZZZ201	P46147	006	001761	GT	16.68	410.00	6410.96
04/25/2003	PIK248KSTNENPIZZZZZ201	P46146	014	001761	GT	6.79	930.00	6577.39
05/05/2003	PIK248KSTNENPIZZZZZ201	P46147	007	001761	GT	11.53	410.00	4923.96
05/13/2003	PIK248KSTNENPIZZZZZ201	P46146	015	001761	GT	7.14	930.00	6916.43
05/21/2003	PIK248KSTNENPIZZZZZ201	P46147	008	001761	GT	19.13	410.00	8169.58
05/28/2003	PIK248KSTNENPIZZZZZ201	P46146	016	001761	GT	7.41	930.00	7177.98
06/12/2003	PIK248KSTNENPIZZZZZ201	P46146	017	001761	GT	6.64	930.00	6432.09
06/16/2003	PIK248KSTNENPIZZZZZ201	P46146	018	001761	GT	7.1	930.00	6877.68
06/17/2003	PIK248KSTNENPIZZZZZ201	P46147	009	001761	GT	18.75	410.00	8007.30
06/26/2003	PIK248KSTNENPIZZZZZ201	P46146	019	001761	GT	5.82	930.00	5637.76
07/08/2003	PIK248KSTNENPIZZZZZ201	P46149	017	001761	GL	605	11.42	3191.66
07/09/2003	PIK248KSTNENPIZZZZZ201	P46146	020	001761	GT	6.4	930.00	2749.52
07/10/2003	PIK248KSTNENPIZZZZZ201	P46152	012	001761	GL	330	1.70	259.15

11p

1652 Work Order Detail / Summarized Labor Report

Report Parameters

District: P *Parent WO:* * *WO Number:* HP000184 *From Date:* 200301 *To Date:* 200312 *Show Emp Info:* No

Company: **HECO**

Purchase Requisition Order Receipts

Tran Dte	Acct Code	PO No	PO Item No	Supplier No	Unit of Purch	Qty	Net Price	Tran Amt
07/10/2003	PIK248KSTNENPIZZZZZ201	P46147	010	001761	GT	16.28	16.28	276.07
07/23/2003	PIK248KSTNENPIZZZZZ201	P46146	021	001761	GT	12.82	930.00	12418.58
08/04/2003	PIK248KSTNENPIZZZZZ201	P46146	022	001761	GT	6.45	930.00	6248.04
08/05/2003	PIK248KSTNENPIZZZZZ201	P46147	011	001761	GT	21.26	410.00	9079.21
08/18/2003	PIK248KSTNENPIZZZZZ201	P46149	018	001761	GL	605	11.42	7196.52
08/22/2003	PIK248KSTNENPIZZZZZ201	P46146	023	001761	GT	6.51	930.00	6306.16
08/30/2003	PIK248KSTNENPIZZZZZ201	P46147	012	001761	GT	14.88	410.00	6354.59
08/30/2003	PIK248KSTNENPIZZZZZ201	P46146	024	001761	GT	12.99	930.00	12583.26
09/15/2003	PIK248KSTNENPIZZZZZ201	P46146	025	001761	GT	12.14	930.00	11759.87
09/24/2003	PIK248KSTNENPIZZZZZ201	P46147	013	001761	GT	19.17	410.00	8186.66
09/29/2003	PIK248KSTNENPIZZZZZ201	P46146	026	001761	GT	7.86	930.00	7613.89
10/09/2003	PIK248KSTNENPIZZZZZ201	P46146	029	001761	GT	12.29	930.00	11905.18
10/21/2003	PIK248KSTNENPIZZZZZ201	P46147	014	001761	GT	17.63	410.00	7529.00
10/29/2003	PIK248KSTNENPIZZZZZ201	P46146	027	001761	GT	6.65	930.00	6441.78
11/13/2003	PIK248KSTNENPIZZZZZ201	P46147	015	001761	GT	21.69	410.00	9262.84
11/14/2003	PIK248KSTNENPIZZZZZ201	P46146	028	001761	NT	7.92	930.00	7672.01
11/18/2003	PIK248KSTNENPIZZZZZ201	P46146	030	001761	GT	8	930.00	7749.50
11/26/2003	PIK248KSTNENPIZZZZZ201	P46146	031	001761	GT	6.09	930.00	5899.31
12/04/2003	PIK248KSTNENPIZZZZZ201	P46147	016	001761	NT	17.19	410.00	7341.09
12/17/2003	PIK248KSTNENPIZZZZZ201	P46146	032	001761	GT	11.3	930.00	10946.17
12/26/2003	PIK248KSTNENPIZZZZZ201	P46146	033	001761	GT	5.23	930.00	5066.24
12/30/2003	PIK248KSTNENPIZZZZZ201	P46146	032	001761	GT	0.18	930.00	174.36
12/30/2003	PIK248KSTNENPIZZZZZ201	P46146	032	001761	GT	-0.28	930.00	-271.23
							Expense Element: 201 Subtotal:	337293.20
							Total:	337293.20

Purchase Requisition Price Adjustments

Tran Dte	Acct Code	PO No	PO Item No	Supplier No	Price Adjusted	Qty Adj	Unit of Purchase	Tran Amt
Expense Element: 201	**Matl-Issues/Purchases**							
07/31/2003	PIK248KSTNENPIZZZZZ201	P46147	010	001761	393.72	0	GT	6676.40
							Expense Element: 201 Subtotal:	6676.40
							Total:	6676.40

1652 Work Order Detail / Summarized Labor Report

Report Parameters

District: P *Parent WO:* * *WO Number:* HP000184 *From Date:* 200301 *To Date:* 200312 *Show Emp Info:* No

Company: **HECO**

Stock Material Transactions

Tran Dte	*Acct Code*	*Stock Code*	*Qty*	*Unit of Issue*	*Item Name*	*Description*	*Tran Amt*
Expense Element: 201	**Matl-Issues/Purchases**						
08/14/2003	PIK248KSTNENPIZZZZZ201	000268284	10	BG	ASH, SODA, T	FOR BOILER WATER TREATMENT	162.45
						Expense Element: 201 Subtotal:	162.45
						Total:	162.45
						Work Order Total:	391968.12 ✓

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1652 Work Order Detail / Summarized Labor Report

Report Parameters

District: P *Parent WO:* * *WO Number:* HP000184 *From Date:* 200401 *To Date:* 200412 *Show Emp Info:* No

Company: **HECO**

Manual Journal Vouchers

Tran Dte	Acct Code	Voucher No	Description	Accountant Code	Qty Amt	Tran Amt
Expense Element: 201	**Matl-Issues/Purchases**					
01/05/2004	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 073956/001	HWB900	0	640.68
01/05/2004	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 073968/001	HWB900	0	973.83
01/13/2004	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 072409/001	HWB900	0	1.22
01/15/2004	PIK248KSTNENPIZZZZZ201	P000026838	ON COST CHG TO: 074374/001	HWB900	0	981.07
01/30/2004	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 075015/001	HWB900	0	956.68
01/30/2004	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 075011/001	HWB900	0	680.79
02/04/2004	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 075226/001	HWB900	0	6.45
02/17/2004	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 075761/001	HWB900	0	377.44
02/25/2004	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 075760/001	HWB900	0	1317.39
02/26/2004	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 076201/001	HWB900	0	697.56
02/27/2004	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 076261/001	HWB900	0	30.49
03/10/2004	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 076682/001	HWB900	0	548.31
03/23/2004	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 077283/001	HWB900	0	4.75
03/23/2004	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 077284/001	HWB900	0	932.63
04/02/2004	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 077721/001	HWB900	0	635.37
04/15/2004	PIK248KSTNENPIZZZZZ201	P000028585	ON COST CHG TO: 078055/001	HWB900	0	670.61
05/04/2004	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 078944/001	HWB900	0	773.23
05/05/2004	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 078530/001	HWB900	0	659.21
05/05/2004	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 078692/001	HWB900	0	586.72
05/18/2004	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 079340/001	HWB900	0	735.91
05/27/2004	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 079898/001	HWB900	0	724.85
05/27/2004	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 079896/001	HWB900	0	560.80
05/27/2004	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 079895/001	HWB900	0	904.76
06/02/2004	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 080195/001	HWB900	0	693.94
06/07/2004	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 080462/001	HWB900	0	783.67
06/09/2004	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 080428/001	HWB900	0	521.46
06/29/2004	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 081002/001	HWB900	0	836.68
06/30/2004	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 080998/001	HWB900	0	1482.69
06/30/2004	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 081362/001	HWB900	0	552.73
07/12/2004	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 081840/002	HWB900	0	2277.67
07/12/2004	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 081840/001	HWB900	0	604.28
07/28/2004	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 082386/001	HWB900	0	716.41

HP000184 - EE201 - E1(1) = $433,819 ✓

1652 Work Order Detail / Summarized Labor Report

Report Parameters

District: P *Parent WO:* * *WO Number:* HP000184 *From Date:* 200401 *To Date:* 200412 *Show Emp Info:* No

Company: **HECO**

Manual Journal Vouchers

Tran Dte	Acct Code	Voucher No	Description	Accountant Code	Qty Amt	Tran Amt
07/28/2004	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 082638/001	HWB900	0	881.87
07/29/2004	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 082566/001	HWB900	0	532.60
08/09/2004	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 083072/001	HWB900	0	926.31
08/25/2004	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 083793/001	HWB900	0	724.93
08/25/2004	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 083794/001	HWB900	0	761.63
08/31/2004	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 083956/001	HWB900	0	750.73
09/22/2004	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 085080/001	HWB900	0	896.04
09/22/2004	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 085143/001	HWB900	0	655.53
09/30/2004	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 085512/001	HWB900	0	1647.98
10/08/2004	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 085855/001	HWB900	0	997.64
10/21/2004	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 086294/001	HWB900	0	946.98
10/26/2004	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 086520/001	HWB900	0	1166.55
11/04/2004	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 087051/001	HWB900	0	1036.61
11/15/2004	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 087228/001	HWB900	0	314.98
11/16/2004	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 087650/001	HWB900	0	853.45
11/16/2004	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 087227/001	HWB900	0	732.64
11/24/2004	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 087705/001	HWB900	0	1239.28
11/26/2004	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 088087/001	HWB900	0	723.55
11/26/2004	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 088259/001	HWB900	0	332.55
12/09/2004	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 088828/001	HWB900	0	897.97
12/28/2004	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 089302/001	HWB900	0	727.45
12/28/2004	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 089195/001	HWB900	0	849.55
12/28/2004	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 089194/001	HWB900	0	897.97
12/30/2004	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 089728/001	HWB900	0	1032.71
12/30/2004	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 089727/001	HWB900	0	1145.36
				Expense Element: 201	**Subtotal:**	44543.14
					Total:	44543.14 (1)

Purchase Requisition Order Receipts

Tran Dte	Acct Code	PO No	PO Item No	Supplier No	Unit of Purch	Qty	Net Price	Tran Amt
Expense Element: 201	**Matl-Issues/Purchases**							
01/05/2004	PIK248KSTNENPIZZZZZ201	P46146	034	001761	GT	5.27	930.00	5104.99
01/05/2004	PIK248KSTNENPIZZZZZ201	P46147	017	001761	GT	18.17	410.00	7759.61

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1652 Work Order Detail / Summarized Labor Report

Report Parameters

District: P *Parent WO:* * *WO Number:* HP000184 *From Date:* 200401 *To Date:* 200412 *Show Emp Info:* No

Company: **HECO**

Purchase Requisition Order Receipts

Tran Dte	Acct Code	PO No	PO Item No	Supplier No	Unit of Purch	Qty	Net Price	Tran Amt
01/13/2004	PIK248KSTNENPIZZZZZ201	P46146	030	001761	GT	0.01	930.00	9.69
01/15/2004	PIK248KSTNENPIZZZZZ201	P57944	002	001761	GT	8.07	930.00	7817.31
01/30/2004	PIK248KSTNENPIZZZZZ201	P57944	003	001761	GT	5.6	930.00	5424.65
01/30/2004	PIK248KSTNENPIZZZZZ201	P57945	002	001761	GT	17.85	410.00	7622.95
02/04/2004	PIK248KSTNENPIZZZZZ201	P57944	004	001761	GT	7.61	7.61	60.32
02/13/2004	PIK248KSTNENPIZZZZZ201	P57945	003	001761	GT	16.54	16.54	284.95
02/17/2004	PIK248KSTNENPIZZZZZ201	P58036	002	001761	GT	8.26	410.00	3527.48
02/25/2004	PIK248KSTNENPIZZZZZ201	P57944	005	001761	GT	12.71	930.00	12312.02
02/26/2004	PIK248KSTNENPIZZZZZ201	P57944	006	001761	GT	6.73	930.00	6519.27
03/05/2004	PIK248KSTNENPIZZZZZ201	P57944	007	001761	GT	5.29	930.00	5124.36
03/09/2004	PIK248KSTNENPIZZZZZ201	P57945	004	001761	GT	20.41	410.00	8716.21
03/16/2004	PIK248KSTNENPIZZZZZ201	P57944	008	001761	GT	6.53	6.53	44.41
03/29/2004	PIK248KSTNENPIZZZZZ201	P57944	009	001761	GT	6.13	930.00	5938.06
04/15/2004	PIK248KSTNENPIZZZZZ201	P57944	010	001761	GT	6.47	930.00	6267.41
04/19/2004	PIK248KSTNENPIZZZZZ201	P57944	011	001761	GT	6.36	930.00	6160.86
04/30/2004	PIK248KSTNENPIZZZZZ201	P57944	013	001761	GT	7.46	930.00	7226.41
05/05/2004	PIK248KSTNENPIZZZZZ201	P57945	006	001761	GT	12.84	410.00	5483.40
05/10/2004	PIK248KSTNENPIZZZZZ201	P57944	014	001761	GT	7.1	930.00	6877.68
05/11/2004	PIK248KSTNENPIZZZZZ201	P57945	007	001761	NT	19.8	410.00	8455.71
05/18/2004	PIK248KSTNENPIZZZZZ201	P57944	015	001761	NT	5.56	905.00	5241.12
05/27/2004	PIK248KSTNENPIZZZZZ201	P57941	004	001761	GL	605	10.75	6774.31
05/27/2004	PIK248KSTNENPIZZZZZ201	P57945	008	001761	GT	17.15	410.00	7324.01
05/27/2004	PIK248KSTNENPIZZZZZ201	P57944	016	001761	GT	6.88	905.00	6485.42
06/04/2004	PIK248KSTNENPIZZZZZ201	P57944	017	001761	GT	5.17	905.00	4873.49
06/15/2004	PIK248KSTNENPIZZZZZ201	P57944	018	001761	GT	14.7	905.00	13856.93
06/17/2004	PIK248KSTNENPIZZZZZ201	P57945	009	001761	GT	18.31	410.00	7819.40
06/24/2004	PIK248KSTNENPIZZZZZ201	P57944	019	001761	GT	5.48	905.00	5165.71
07/06/2004	PIK248KSTNENPIZZZZZ201	P57944	020	001761	GT	19.33	905.00	18221.39
07/07/2004	PIK248KSTNENPIZZZZZ201	P57945	010	001761	GT	11.32	410.00	4834.27
07/15/2004	PIK248KSTNENPIZZZZZ201	P57944	021	001761	GT	6.08	905.00	5731.30
07/23/2004	PIK248KSTNENPIZZZZZ201	P57944	022	001761	GT	4.52	905.00	4260.77
07/26/2004	PIK248KSTNENPIZZZZZ201	P57945	012	001761	GT	16.52	410.00	7054.97
08/03/2004	PIK248KSTNENPIZZZZZ201	P57944	023	001761	GT	7.65	930.00	7410.46

1652 Work Order Detail / Summarized Labor Report

Report Parameters

District: P *Parent WO:* * *WO Number:* HP000184 *From Date:* 200401 *To Date:* 200412 *Show Emp Info:* No

Company: **HECO**

Purchase Requisition Order Receipts

Tran Dte	Acct Code	PO No	PO Item No	Supplier No	Unit of Purch	Qty	Net Price	Tran Amt
08/13/2004	PIK248KSTNENPIZZZZZ201	P57944	024	001761	GT	6.29	930.00	6093.05
08/16/2004	PIK248KSTNENPIZZZZZ201	P57945	013	001761	GT	13.58	410.00	5799.42
08/23/2004	PIK248KSTNENPIZZZZZ201	P57944	025	001761	GT	6.2	930.00	6005.87
09/14/2004	PIK248KSTNENPIZZZZZ201	P57944	027	001761	GT	7.4	930.00	7168.29
09/15/2004	PIK248KSTNENPIZZZZZ201	P57945	016	001761	GT	12.28	410.00	5244.25
09/30/2004	PIK248KSTNENPIZZZZZ201	P57944	028	001761	GT	13.61	930.00	13183.84
10/01/2004	PIK248KSTNENPIZZZZZ201	P57944	029	001761	GT	7.68	930.00	7439.52
10/14/2004	PIK248KSTNENPIZZZZZ201	P57944	030	001761	GT	7.29	930.00	7061.74
10/15/2004	PIK248KSTNENPIZZZZZ201	P57945	018	001761	GT	20.37	410.00	8699.13
10/26/2004	PIK248KSTNENPIZZZZZ201	P57944	031	001761	GT	7.98	930.00	7730.13
11/02/2004	PIK248KSTNENPIZZZZZ201	P57944	032	001761	NT	5.64	930.00	5463.40
11/04/2004	PIK248KSTNENPIZZZZZ201	P57945	019	001761	NT	5.5	410.00	2348.81
11/11/2004	PIK248KSTNENPIZZZZZ201	P57945	020	001761	GT	21.64	410.00	9241.49
11/11/2004	PIK248KSTNENPIZZZZZ201	P57944	033	001761	GT	6.57	930.00	6364.28
11/19/2004	PIK248KSTNENPIZZZZZ201	P57944	034	001761	GT	5.57	930.00	5395.59
11/23/2004	PIK248KSTNENPIZZZZZ201	P57944	035	001761	GT	2.56	930.00	2479.84
11/30/2004	PIK248KSTNENPIZZZZZ201	P57945	022	001761	NT	15.68	410.00	6696.24
11/30/2004	PIK248KSTNENPIZZZZZ201	P57945	021	001761	GT	15.68	410.00	6696.24
12/01/2004	PIK248KSTNENPIZZZZZ201	P57944	036	001761	NT	6.54	930.00	6335.22
12/09/2004	PIK248KSTNENPIZZZZZ201	P57944	037	001761	GT	5.6	930.00	5424.65
12/16/2004	PIK248KSTNENPIZZZZZ201	P57945	023	001761	GT	20	410.00	8541.12
12/20/2004	PIK248KSTNENPIZZZZZ201	P57944	038	001761	GT	7.95	930.00	7701.07
							Expense Element: 201 Subtotal:	368904.49
							Total:	368904.49 (1)

Purchase Requisition Price Adjustments

Tran Dte	Acct Code	PO No	PO Item No	Supplier No	Price Adjusted	Qty Adj	Unit of Purchase	Tran Amt
Expense Element: 201	**Matl-Issues/Purchases**							
02/17/2004	PIK248KSTNENPIZZZZZ201	P57944	004	001761	922.39	0	GT	7311.40
03/08/2004	PIK248KSTNENPIZZZZZ201	P57945	003	001761	393.46	0	GT	6778.56
03/29/2004	PIK248KSTNENPIZZZZZ201	P57944	008	001761	923.47	0	GT	6281.12
							Expense Element: 201 Subtotal:	20371.08 (1)

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1652 Work Order Detail / Summarized Labor Report

Report Parameters

District: P *Parent WO:* * *WO Number:* HP000185 *From Date:* 200201 *To Date:* 200212 *Show Emp Info:* No

Company: **HECO**

Parent WO: **HP000018**

Work Order: **HP000185** **Condenser Chemical Costs-Kahe Station**

Manual Journal Vouchers

Tran Dte	*Acct Code*	*Voucher No*	*Description*	*Accountant Code*	*Qty Amt*	*Tran Amt*
Expense Element: 201	**Matl-Issues/Purchases**					
01/14/2002	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 044904/001	HWB900	0	998.16
01/17/2002	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 045078/001	HWB900	0	81.05
01/31/2002	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 045655/001	HWB900	0	106.55
02/06/2002	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 045887/001	HWB900	0	1147.13
02/08/2002	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 045960/001	HWB900	0	1147.13
02/12/2002	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 045887/001	HWB900	0	-1147.13
02/13/2002	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 045887/001	HWB900	0	1147.13
02/20/2002	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 046415/001	HWB900	0	290.06
02/20/2002	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 046535/001	HWB900	0	93.14
03/11/2002	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 047129/001	HWB900	0	2294.25
03/13/2002	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 047337/002	HWB900	0	93.14
03/13/2002	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 047337/001	HWB900	0	120.19
03/22/2002	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 047832/001	HWB900	0	1147.13
04/15/2002	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 048624/001	HWB900	0	1147.13
04/15/2002	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 048624/002	HWB900	0	1147.13
04/29/2002	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 049392/001	HWB900	0	291.92
05/02/2002	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 049459/001	HWB900	0	1147.13
05/21/2002	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 050305/001	HWB900	0	1147.13
06/19/2002	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 051235/001	HWB900	0	1247.88
06/21/2002	PIK248KSTNENPIZZZZZ201	P000016364	ON COST CHG TO: 051506/001	HWB900	0	101.32
06/21/2002	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 051453/001	HWB900	0	303.19
06/21/2002	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 051507/001	HWB900	0	169.44
06/27/2002	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 050671/001	HWB900	0	101.32
06/27/2002	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 050670/001	HWB900	0	142.27
06/27/2002	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 050669/001	HWB900	0	101.32
07/09/2002	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 052132/001	HWB900	0	1247.88
07/09/2002	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 051912/001	HWB900	0	1247.88
07/09/2002	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 052137/001	HWB900	0	48.82
07/22/2002	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 052581/001	HWB900	0	101.32

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Description	*Accountant Code*	*Qty Amt*	*Tran Amt*
ON COST CHG TO: 052996/001	HWB900	0	101.32
ON COST CHG TO: 052997/001	HWB900	0	307.97
ON COST CHG TO: 053692/001	HWB900	0	1247.88
ON COST CHG TO: 053741/001	HWB900	0	1247.88
ON COST CHG TO: 053740/001	HWB900	0	1247.88
ON COST CHG TO: 052439/001	HWB900	0	-1247.88
ON COST CHG TO: 052439/001	HWB900	0	1247.88
ON COST CHG TO: 052439/001	HWB900	0	1247.88
ON COST CHG TO: 053742/001	HWB900	0	133.74
ON COST CHG TO: 053980/001	HWB900	0	101.32
ON COST CHG TO: 054249/001	HWB900	0	101.32
ON COST CHG TO: 054622/001	HWB900	0	1070.49
ON COST CHG TO: 055037/002	HWB900	0	101.32
ON COST CHG TO: 055037/001	HWB900	0	888.98
ON COST CHG TO: 055649/001	HWB900	0	1212.81
ON COST CHG TO: 055792/001	HWB900	0	167.84
ON COST CHG TO: 055949/001	HWB900	0	101.32
ON COST CHG TO: 055949/002	HWB900	0	309.57
ON COST CHG TO: 056349/001	HWB900	0	101.32
ON COST CHG TO: 056562/001	HWB900	0	1212.81
ON COST CHG TO: 056562/002	HWB900	0	101.32
ON COST CHG TO: 057143/001	HWB900	0	1247.88
ON COST CHG TO: 056843/001	HWB900	0	163.69
ON COST CHG TO: 057142/001	HWB900	0	6.93
ON COST CHG TO: 057376/001	HWB900	0	101.32
ON COST CHG TO: 057852/001	HWB900	0	1247.88
ON COST CHG TO: 058125/001	HWB900	0	309.04
ON COST CHG TO: 058125/002	HWB900	0	1247.88
ON COST CHG TO: 058176/001	HWB900	0	101.32
ON COST CHG TO: 058483/001	HWB900	0	101.32
ON COST CHG TO: 058306/001	HWB900	0	164.11
ON COST CHG TO: 058950/001	HWB900	0	1247.88
ON COST CHG TO: 059263/001	HWB900	0	101.32

1652 Work Order Detail / Summarized Labor Report

Report Parameters

District: P *Parent WO:* * *WO Number:* HP000185 *From Date:* 200201 *To Date:* 200212 *Show Emp Info:* No

Company: **HECO**

Manual Journal Vouchers

Tran Dte	*Acct Code*	*Voucher No*	*Description*	*Accountant Code*	*Qty Amt*	*Tran Amt*
				Expense Element: 201	**Subtotal:**	34256.55
					Total:	34256.55

Purchase Requisition Order Receipts

Tran Dte	*Acct Code*	*PO No*	*PO Item No*	*Supplier No*	*Unit of Purch*	*Qty*	*Net Price*	*Tran Amt*
Expense Element: 201	**Matl-Issues/Purchases**							
01/11/2002	PIK248KSTNENPIZZZZZ201	P34390	002	001761	GL	605	11.42	7196.52
01/14/2002	PIK248KSTNENPIZZZZZ201	P34395	002	001761	GL	330	1.70	584.34
01/28/2002	PIK248KSTNENPIZZZZZ201	P34395	003	001761	GL	605	11.42	7196.52
01/28/2002	PIK248KSTNENPIZZZZZ201	P34390	004	001761	GL	605	11.42	7196.52
01/28/2002	PIK248KSTNENPIZZZZZ201	P34395	003	001761	GL	-605	11.42	-7196.52
01/30/2002	PIK248KSTNENPIZZZZZ201	P34396	002	001761	GL	258.78	2.85	768.20
02/04/2002	PIK248KSTNENPIZZZZZ201	P34390	003	001761	GL	605	11.42	7196.52
02/12/2002	PIK248KSTNENPIZZZZZ201	P34396	003	001761	GL	613	2.85	1819.73
02/19/2002	PIK248KSTNENPIZZZZZ201	P34395	004	001761	GL	330	1.70	584.34
03/11/2002	PIK248KSTNENPIZZZZZ201	P34390	005	001761	GL	1210	11.42	14393.04
03/11/2002	PIK248KSTNENPIZZZZZ201	P34395	005	001761	GL	330	1.70	584.34
03/11/2002	PIK248KSTNENPIZZZZZ201	P34396	004	001761	GL	254	2.85	754.01
03/20/2002	PIK248KSTNENPIZZZZZ201	P34390	006	001761	GL	605	11.42	7196.52
04/09/2002	PIK248KSTNENPIZZZZZ201	P34390	007	001761	GL	605	11.42	7196.52
04/09/2002	PIK248KSTNENPIZZZZZ201	P34390	008	001761	GL	605	11.42	7196.52
04/16/2002	PIK248KSTNENPIZZZZZ201	P34395	006	001761	GL	330	1.70	584.34
04/16/2002	PIK248KSTNENPIZZZZZ201	P34396	006	001761	GL	276.38	2.85	820.45
04/26/2002	PIK248KSTNENPIZZZZZ201	P34396	005	001761	GL	616.93	2.85	1831.39
04/29/2002	PIK248KSTNENPIZZZZZ201	P34390	009	001761	GL	605	11.42	7196.52
05/15/2002	PIK248KSTNENPIZZZZZ201	P34390	010	001761	GL	605	11.42	7196.52
05/16/2002	PIK248KSTNENPIZZZZZ201	P34395	007	001761	GL	330	1.70	584.34
05/16/2002	PIK248KSTNENPIZZZZZ201	P34390	016	001761	GL	605	11.42	7196.52
06/11/2002	PIK248KSTNENPIZZZZZ201	P34390	011	001761	GL	605	11.42	7196.52
06/13/2002	PIK248KSTNENPIZZZZZ201	P34396	007	001761	GL	589	2.85	1748.48
06/19/2002	PIK248KSTNENPIZZZZZ201	P34395	008	001761	GL	330	1.70	584.34
06/21/2002	PIK248KSTNENPIZZZZZ201	P34396	008	001761	GL	329.17	2.85	977.16
06/27/2002	PIK248KSTNENPIZZZZZ201	P34390	012	001761	GL	605	11.42	7196.52

1652 Work Order Detail / Summarized Labor Report

Report Parameters

District: P *Parent WO:* * *WO Number:* HP000185 *From Date:* 200201 *To Date:* 200212 *Show Emp Info:* No

Company: **HECO**

Purchase Requisition Order Receipts

Tran Dte	Acct Code	PO No	PO Item No	Supplier No	Unit of Purch	Qty	Net Price	Tran Amt
06/28/2002	PIK248KSTNENPIZZZZZ201	P34395	009	001761	DR	3	90.10	281.54
07/05/2002	PIK248KSTNENPIZZZZZ201	P34390	013	001761	GL	605	11.42	7196.52
07/18/2002	PIK248KSTNENPIZZZZZ201	P34395	010	001761	GL	330	1.70	584.34
07/25/2002	PIK248KSTNENPIZZZZZ201	P34396	009	001761	GL	598.3	2.85	1776.09
07/26/2002	PIK248KSTNENPIZZZZZ201	P34395	011	001761	GL	330	1.70	584.34
08/13/2002	PIK248KSTNENPIZZZZZ201	P34390	017	001761	GL	605	11.42	7196.52
08/13/2002	PIK248KSTNENPIZZZZZ201	P34395	012	001761	GL	330	1.70	584.34
08/13/2002	PIK248KSTNENPIZZZZZ201	P34396	010	001761	GL	259.82	2.85	771.29
08/14/2002	PIK248KSTNENPIZZZZZ201	P34390	018	001761	GL	605	11.42	7196.52
08/20/2002	PIK248KSTNENPIZZZZZ201	P34390	015	001761	GL	605	11.42	7196.52
08/20/2002	PIK248KSTNENPIZZZZZ201	P34390	015	001761	GL	-605	11.42	-7196.52
08/20/2002	PIK248KSTNENPIZZZZZ201	P34390	015	001761	GL	605	11.42	7196.52
08/27/2002	PIK248KSTNENPIZZZZZ201	P34395	013	001761	GL	330	1.70	584.34
09/05/2002	PIK248KSTNENPIZZZZZ201	P34390	019	001761	GL	519	11.42	6173.54
09/13/2002	PIK248KSTNENPIZZZZZ201	P34395	014	001761	GL	330	1.70	584.34
09/13/2002	PIK248KSTNENPIZZZZZ201	P34390	020	001761	GL	431	11.42	5126.78
09/24/2002	PIK248KSTNENPIZZZZZ201	P34390	021	001761	GL	588	11.42	6994.30
09/30/2002	PIK248KSTNENPIZZZZZ201	P34396	011	001761	GL	326.07	2.85	967.96
10/02/2002	PIK248KSTNENPIZZZZZ201	P34396	012	001761	GL	601.41	2.85	1785.32
10/02/2002	PIK248KSTNENPIZZZZZ201	P34395	015	001761	GL	330	1.70	584.34
10/11/2002	PIK248KSTNENPIZZZZZ201	P34395	016	001761	GL	330	1.70	584.34
10/17/2002	PIK248KSTNENPIZZZZZ201	P34390	022	001761	GL	588	11.42	6994.30
10/17/2002	PIK248KSTNENPIZZZZZ201	P34395	017	001761	GL	330	1.70	584.34
10/24/2002	PIK248KSTNENPIZZZZZ201	P34396	013	001761	GL	318	2.85	944.00
10/30/2002	PIK248KSTNENPIZZZZZ201	P34390	023	001761	GL	605	11.42	7196.52
11/06/2002	PIK248KSTNENPIZZZZZ201	P34395	018	001761	GL	330	1.70	584.34
11/07/2002	PIK248KSTNENPIZZZZZ201	P44373	001	016567	EA	3	12.80	39.94
11/18/2002	PIK248KSTNENPIZZZZZ201	P34390	024	001761	GL	605	11.42	7196.52
11/18/2002	PIK248KSTNENPIZZZZZ201	P34396	014	001761	GL	600.37	2.85	1782.23
11/22/2002	PIK248KSTNENPIZZZZZ201	P34395	019	001761	GL	330	1.70	584.34
11/26/2002	PIK248KSTNENPIZZZZZ201	P34390	025	001761	GL	605	11.42	7196.52
11/26/2002	PIK248KSTNENPIZZZZZ201	P34396	015	001761	GL	318.82	2.85	946.44
12/03/2002	PIK248KSTNENPIZZZZZ201	P34395	020	001761	GL	330	1.70	584.34

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1652 Work Order Detail / Summarized Labor Report

Report Parameters

District: P *Parent WO:* * *WO Number:* HP000185 *From Date:* 200201 *To Date:* 200212 *Show Emp Info:* No

Company: **HECO**

Purchase Requisition Order Receipts

Tran Dte	Acct Code	PO No	PO Item No	Supplier No	Unit of Purch	Qty	Net Price	Tran Amt
12/09/2002	PIK248KSTNENPIZZZZZ201	P34390	026	001761	GL	605	11.42	7196.52
12/17/2002	PIK248KSTNENPIZZZZZ201	P34395	021	001761	EA	1	561.00	584.34
						Expense Element: 201	**Subtotal:**	204948.19
							Total:	204948.19

Stock Material Transactions

Tran Dte	Acct Code	Stock Code	Qty	Unit of Issue	Item Name	Description	Tran Amt
Expense Element: 201	**Matl-Issues/Purchases**						
05/07/2002	PIK248KSTNENPIZZZZZ201	000268284	1	BG	ASH, SODA, T	FOR BOILER WATER TREATMENT	16.49
						Expense Element: 201 **Subtotal:**	16.49
						Total:	16.49

Work Order Total: 239221.23 ✓

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1652 Work Order Detail / Summarized Labor Report

Report Parameters

District: P *Parent WO:* * *WO Number:* HP000185 *From Date:* 200301 *To Date:* 200312 *Show Emp Info:* No

Company: **HECO**

Parent WO: **HP000018**

Work Order: **HP000185** **Condenser Chemical Costs-Kahe Station**

Invoice Transactions

Tran Dte	Acct Code	Cat No	Supplier No	Inv No	Inv Item No	Inv Item Desc	Contract No	Portion No	Element No	Tran Amt
Expense Element: 201	**Matl-Issues/Purchases**									
09/25/2003	PIK248KSTNENPIZZZZZ201		001761	6400594	001	EMERG DLY CHG				208.33
									Expense Element: 201 Subtotal:	208.33
									Total:	208.33

Manual Journal Vouchers

Tran Dte	Acct Code	Voucher No	Description	Accountant Code	Qty Amt	Tran Amt
Expense Element: 201	**Matl-Issues/Purchases**					
01/07/2003	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 059616/001	HWB900	0	125.46
01/08/2003	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 059630/001	HWB900	0	929.79
01/10/2003	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 059902/001	HWB900	0	75.50
01/10/2003	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 059865/001	HWB900	0	929.79
01/24/2003	PIK248KSTNENPIZZZZZ201	P000019946	ON COST CHG TO: 060480/001	HWB900	0	230.12
01/29/2003	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 060658/001	HWB900	0	75.50
01/29/2003	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 060659/001	HWB900	0	929.79
01/30/2003	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 060772/001	HWB900	0	117.52
02/04/2003	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 060864/001	HWB900	0	1026.22
02/04/2003	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 060658/001	HWB900	0	83.33
02/07/2003	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 061104/001	HWB900	0	83.33
02/11/2003	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 061172/001	HWB900	0	1026.22
02/18/2003	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 060480/001	HWB900	0	0.16
02/25/2003	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 061715/001	HWB900	0	1026.22
02/27/2003	PIK248KSTNENPIZZZZZ201	P000020466	ON COST CHG TO: 061803/001	HWB900	0	253.27
03/11/2003	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 062145/001	HWB900	0	83.33
03/19/2003	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 062716/001	HWB900	0	1026.22
03/26/2003	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 062918/002	HWB900	0	83.33
03/26/2003	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 062918/001	HWB900	0	1026.22
04/03/2003	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 063320/001	HWB900	0	140.65
04/07/2003	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 063435/001	HWB900	0	1026.22
04/08/2003	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 061672/001	HWB900	0	116.92

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1652 Work Order Detail / Summarized Labor Report

Report Parameters

District: P *Parent WO:* * *WO Number:* HP000185 *From Date:* 200301 *To Date:* 200312 *Show Emp Info:* No

Company: **HECO**

Manual Journal Vouchers

Tran Dte	Acct Code	Voucher No	Description	Accountant Code	Qty Amt	Tran Amt
04/08/2003	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 063609/001	HWB900	0	83.33
04/28/2003	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 064310/001	HWB900	0	1026.22
04/28/2003	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 064310/002	HWB900	0	83.33
04/28/2003	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 064314/001	HWB900	0	1026.22
04/28/2003	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 064313/001	HWB900	0	83.33
05/06/2003	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 064796/001	HWB900	0	251.52
05/12/2003	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 064893/001	HWB900	0	139.34
05/13/2003	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 064978/001	HWB900	0	1026.22
05/22/2003	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 065157/001	HWB900	0	83.33
05/29/2003	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 065710/001	HWB900	0	1026.22
06/16/2003	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 066330/001	HWB900	0	1026.22
06/23/2003	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 066556/002	HWB900	0	83.33
06/23/2003	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 066556/001	HWB900	0	1026.22
07/10/2003	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 067208/001	HWB900	0	1026.22
07/17/2003	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 067448/003	HWB900	0	571.09
07/17/2003	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 067448/002	HWB900	0	46.37
07/17/2003	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 067448/001	HWB900	0	491.98
08/12/2003	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 068486/001	HWB900	0	135.84
08/22/2003	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 068723/001	HWB900	0	83.33
09/09/2003	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 069227/001	HWB900	0	1026.22
09/19/2003	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 069717/001	HWB900	0	1026.22
09/19/2003	PIK248KSTNENPIZZZZZ201	P000024630	ON COST CHG TO: 069718/001	HWB900	0	83.33
09/25/2003	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 070111/001	HWB900	0	1026.22
09/29/2003	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 070194/001	HWB900	0	135.71
09/29/2003	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 070193/001	HWB900	0	1026.22
10/02/2003	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 070370/001	HWB900	0	83.33
10/08/2003	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 070578/002	HWB900	0	1026.22
10/08/2003	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 070578/001	HWB900	0	244.93
10/30/2003	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 071416/001	HWB900	0	966.02
10/30/2003	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 071415/001	HWB900	0	86.76
11/03/2003	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 071506/001	HWB900	0	966.02
11/14/2003	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 071986/001	HWB900	0	86.76
11/18/2003	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 072081/001	HWB900	0	143.67

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1652 Work Order Detail / Summarized Labor Report

Report Parameters

District: P *Parent WO:* * *WO Number:* HP000185 *From Date:* 200301 *To Date:* 200312 *Show Emp Info:* No

Company: **HECO**

Manual Journal Vouchers

Tran Dte	Acct Code	Voucher No	Description	Accountant Code	Qty Amt	Tran Amt
12/26/2003	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 073681/001	HWB900	0	83.33
12/26/2003	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 073682/001	HWB900	0	1026.22
				Expense Element: 201	**Subtotal:**	28771.95
					Total:	28771.95

Purchase Requisition Order Receipts

Tran Dte	Acct Code	PO No	PO Item No	Supplier No	Unit of Purch	Qty	Net Price	Tran Amt
Expense Element: 201	**Matl-Issues/Purchases**							
12/26/2002	PIK248KSTNENPIZZZZZ201	P34396	016	001761	GL	327.1	2.85	971.02
01/03/2003	PIK248KSTNENPIZZZZZ201	P46149	002	001761	GL	605	11.42	7196.52
01/07/2003	PIK248KSTNENPIZZZZZ201	P46152	002	001761	GL	330	1.70	584.34
01/08/2003	PIK248KSTNENPIZZZZZ201	P34390	027	001761	GL	605	11.42	7196.52
01/24/2003	PIK248KSTNENPIZZZZZ201	P46153	002	001761	GL	600	2.85	1781.14
01/28/2003	PIK248KSTNENPIZZZZZ201	P46153	003	001761	GL	306.4	2.85	909.57
01/29/2003	PIK248KSTNENPIZZZZZ201	P46152	003	001761	GL	330	1.70	584.34
01/29/2003	PIK248KSTNENPIZZZZZ201	P46149	003	001761	GL	605	11.42	7196.52
02/03/2003	PIK248KSTNENPIZZZZZ201	P46152	003	001761	GL	330	1.70	584.34
02/03/2003	PIK248KSTNENPIZZZZZ201	P46149	004	001761	GL	605	11.42	7196.52
02/05/2003	PIK248KSTNENPIZZZZZ201	P46152	004	001761	GL	330	1.70	584.34
02/05/2003	PIK248KSTNENPIZZZZZ201	P46149	005	001761	GL	605	11.42	7196.52
02/18/2003	PIK248KSTNENPIZZZZZ201	P46153	004	001761	GL	598.3	2.85	1776.09
02/18/2003	PIK248KSTNENPIZZZZZ201	P46153	002	001761	GL	0.37	2.85	1.09
02/25/2003	PIK248KSTNENPIZZZZZ201	P46149	006	001761	GL	605	11.42	7196.52
03/03/2003	PIK248KSTNENPIZZZZZ201	P46152	005	001761	GL	330	1.70	584.34
03/13/2003	PIK248KSTNENPIZZZZZ201	P46149	007	001761	GL	605	11.42	7196.52
03/18/2003	PIK248KSTNENPIZZZZZ201	P46149	008	001761	GL	605	11.42	7196.52
03/18/2003	PIK248KSTNENPIZZZZZ201	P46152	006	001761	EA	1	561.00	584.34
03/31/2003	PIK248KSTNENPIZZZZZ201	P46153	005	001761	GL	332.27	2.85	986.36
04/02/2003	PIK248KSTNENPIZZZZZ201	P46149	009	001761	GL	605	11.42	7196.52
04/04/2003	PIK248KSTNENPIZZZZZ201	P46152	007	001761	EA	1	561.00	584.34
04/08/2003	PIK248KSTNENPIZZZZZ201	P49132	001	004893	EA	4	197.10	819.94
04/22/2003	PIK248KSTNENPIZZZZZ201	P46149	010	001761	GL	605	11.42	7196.52
04/22/2003	PIK248KSTNENPIZZZZZ201	P46152	008	001761	LO	1	561.00	584.34

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1652 Work Order Detail / Summarized Labor Report

Report Parameters

District: P *Parent WO:* * *WO Number:* HP000185 *From Date:* 200301 *To Date:* 200312 *Show Emp Info:* No

Company: **HECO**

Purchase Requisition Order Receipts

Tran Dte	Acct Code	PO No	PO Item No	Supplier No	Unit of Purch	Qty	Net Price	Tran Amt
04/22/2003	PIK248KSTNENPIZZZZZ201	P46149	011	001761	GL	605	11.42	7196.52
04/22/2003	PIK248KSTNENPIZZZZZ201	P46152	009	001761	LO	1	561.00	584.34
04/25/2003	PIK248KSTNENPIZZZZZ201	P46153	006	001761	GL	594.16	2.85	1763.80
05/01/2003	PIK248KSTNENPIZZZZZ201	P46153	007	001761	GL	329.17	2.85	977.16
05/06/2003	PIK248KSTNENPIZZZZZ201	P46149	012	001761	GL	605	11.42	7196.52
05/22/2003	PIK248KSTNENPIZZZZZ201	P46152	010	001761	EA	1	561.00	584.34
05/23/2003	PIK248KSTNENPIZZZZZ201	P46149	013	001761	GL	605	11.42	7196.52
06/12/2003	PIK248KSTNENPIZZZZZ201	P46149	014	001761	GL	605	11.42	7196.52
06/18/2003	PIK248KSTNENPIZZZZZ201	P46149	015	001761	GL	605	11.42	7196.52
06/18/2003	PIK248KSTNENPIZZZZZ201	P46152	011	001761	EA	1	561.00	584.34
07/07/2003	PIK248KSTNENPIZZZZZ201	P46149	016	001761	GL	605	11.42	7196.52
07/08/2003	PIK248KSTNENPIZZZZZ201	P46149	017	001761	GL	605	11.42	4004.86
07/09/2003	PIK248KSTNENPIZZZZZ201	P46146	020	001761	GT	6.4	930.00	3450.08
07/10/2003	PIK248KSTNENPIZZZZZ201	P46152	012	001761	GL	330	1.70	325.19
08/06/2003	PIK248KSTNENPIZZZZZ201	P46153	008	001761	GL	320.89	2.85	952.58
08/18/2003	PIK248KSTNENPIZZZZZ201	P46152	013	001761	GL	330	1.70	584.34
08/30/2003	PIK248KSTNENPIZZZZZ201	P46149	019	001761	GL	605	11.42	7196.52
09/11/2003	PIK248KSTNENPIZZZZZ201	P46152	014	001761	GL	330	1.70	584.34
09/11/2003	PIK248KSTNENPIZZZZZ201	P46149	020	001761	GL	605	11.42	7196.52
09/23/2003	PIK248KSTNENPIZZZZZ201	P46149	021	001761	GL	605	11.42	7196.52
09/24/2003	PIK248KSTNENPIZZZZZ201	P46153	009	001761	GL	324	2.82	951.69
09/24/2003	PIK248KSTNENPIZZZZZ201	P46149	022	001761	GL	605	11.42	7196.52
09/27/2003	PIK248KSTNENPIZZZZZ201	P46152	015	001761	GL	330	1.70	584.34
10/03/2003	PIK248KSTNENPIZZZZZ201	P46149	023	001761	GL	605	11.42	7196.52
10/03/2003	PIK248KSTNENPIZZZZZ201	P46153	010	001761	GL	578.6	2.85	1717.61
10/29/2003	PIK248KSTNENPIZZZZZ201	P46152	016	001761	GL	330	1.77	608.40
10/29/2003	PIK248KSTNENPIZZZZZ201	P46149	024	001761	GL	605	10.75	6774.31
11/03/2003	PIK248KSTNENPIZZZZZ201	P46149	025	001761	GL	605	10.75	6774.31
11/10/2003	PIK248KSTNENPIZZZZZ201	P46153	011	001761	GL	329	2.94	1007.50
11/14/2003	PIK248KSTNENPIZZZZZ201	P46152	017	001761	GL	330	1.77	608.40
12/26/2003	PIK248KSTNENPIZZZZZ201	P46152	018	001761	GL	330	1.70	584.34
12/26/2003	PIK248KSTNENPIZZZZZ201	P46149	026	001761	GL	605	11.42	7196.52

1652 Work Order Detail / Summarized Labor Report

Report Parameters

District: P *Parent WO:* * *WO Number:* HP000185 *From Date:* 200301 *To Date:* 200312 *Show Emp Info:* No

Company: **HECO**

Purchase Requisition Order Receipts

Tran Dte	Acct Code	PO No	PO Item No	Supplier No	Unit of Purch	Qty	Net Price	Tran Amt
						Expense Element: 201	Subtotal:	204249.64
							Total:	204249.64

Purchase Requisition Price Adjustments

Tran Dte	Acct Code	PO No	PO Item No	Supplier No	Price Adjusted	Qty Adj	Unit of Purchase	Tran Amt
Expense Element: 201	**Matl-Issues/Purchases**							
10/06/2003	PIK248KSTNENPIZZZZZ201	P46153	009	001761	0.03	0	GL	10.12
11/07/2003	PIK248KSTNENPIZZZZZ201	P46153	010	001761	0.09	0	GL	54.23
11/07/2003	PIK248KSTNENPIZZZZZ201	P46149	023	001761	-0.67	0	GL	-422.21
						Expense Element: 201	Subtotal:	-357.86
							Total:	-357.86

Stock Material Transactions

Tran Dte	Acct Code	Stock Code	Qty	Unit of Issue	Item Name	Description	Tran Amt
Expense Element: 201	**Matl-Issues/Purchases**						
01/09/2003	PIK248KSTNENPIZZZZZ201	000268466	1	DR	BORON NITRIT		572.67
05/06/2003	PIK248KSTNENPIZZZZZ201	000249961	0	EA	ACID, HYDRO	SIZE: 6#.	0.00
10/24/2003	PIK248KSTNENPIZZZZZ201	000618678	10	BX	TESTER, DISS		401.89
10/29/2003	PIK248KSTNENPIZZZZZ201	000618678	10	BX	TESTER, DISS		423.04
11/17/2003	PIK248KSTNENPIZZZZZ201	000268466	1	DR	BORON NITRIT		566.78
11/24/2003	PIK248KSTNENPIZZZZZ201	000250126	4	GL	AMMONIUM H	GRADE: 1'S	42.82
12/04/2003	PIK248KSTNENPIZZZZZ201	000573147	2	EA	BUCKET, PLAS		6.46
						Expense Element: 201 Subtotal:	2013.66
						Total:	2013.66

Work Order Total: 234885.72 ✓

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.abor Report

From Date: 200401 *To Date:* 200412 *Show Emp Info:* No

o	Inv No	Inv Item No	Inv Item Desc	Contract No	Portion No	Element No	Tran Amt
	2004051	001	EMPLOYEE REIMBUR				90.15
						Expense Element: 521 **Subtotal:**	90.15
						Total:	90.15

scription	Accountant Code	Qty Amt	Tran Amt
J COST CHG TO: 075170/001	HWB900	0	20.91
J COST CHG TO: 076342/001	HWB900	0	724.85
J COST CHG TO: 076342/001	HWB900	0	724.85
J COST CHG TO: 076342/001	HWB900	0	-724.85
J COST CHG TO: 076587/001	HWB900	0	107.48
J COST CHG TO: 076585/001	HWB900	0	125.80
J COST CHG TO: 077653/001	HWB900	0	65.10
J COST CHG TO: 077827/001	HWB900	0	731.12
J COST CHG TO: 079897/001	HWB900	0	65.10
J COST CHG TO: 081176/001	HWB900	0	724.85
J COST CHG TO: 081841/002	HWB900	0	76.05
J COST CHG TO: 081841/001	HWB900	0	846.79
J COST CHG TO: 082536/001	HWB900	0	76.05
J COST CHG TO: 082538/001	HWB900	0	846.79
J COST CHG TO: 082388/001	HWB900	0	229.82
J COST CHG TO: 082590/001	HWB900	0	846.79
J COST CHG TO: 083280/001	HWB900	0	846.79
J COST CHG TO: 083279/001	HWB900	0	0.23
J COST CHG TO: 083802/001	HWB900	0	128.38
J COST CHG TO: 084530/001	HWB900	0	229.02
J COST CHG TO: 084714/001	HWB900	0	846.79
J COST CHG TO: 084714/002	HWB900	0	76.05

1652 Work Order Detail / Summarized Labor Report

Report Parameters

District: P *Parent WO:* * *WO Number:* HP000185 *From Date:* 200401 *To Date:* 200412 *Show Emp Info:* No

Company: **HECO**

Manual Journal Vouchers

Tran Dte	Acct Code	Voucher No	Description	Accountant Code	Qty Amt	Tran Amt
10/06/2004	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 085667/001	HWB900	0	884.22
10/12/2004	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 085949/001	HWB900	0	927.03
10/12/2004	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 085856/001	HWB900	0	927.03
10/21/2004	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 086295/001	HWB900	0	166.86
11/04/2004	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 087123/001	HWB900	0	927.03
11/04/2004	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 087050/001	HWB900	0	139.67
11/15/2004	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 087484/001	HWB900	0	83.43
11/18/2004	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 087613/001	HWB900	0	251.58
11/26/2004	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 088088/001	HWB900	0	927.03
12/22/2004	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 089583/001	HWB900	0	927.03
12/22/2004	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 089586/001	HWB900	0	83.43
12/22/2004	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 089584/001	HWB900	0	927.03
12/28/2004	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 089191/001	HWB900	0	251.58
12/28/2004	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 089247/001	HWB900	0	5.36
				Expense Element: 201	**Subtotal:**	15043.07
					Total:	15043.07

Purchase Requisition Order Receipts

Tran Dte	Acct Code	PO No	PO Item No	Supplier No	Unit of Purch	Qty	Net Price	Tran Amt
Expense Element: 201	**Matl-Issues/Purchases**							
02/03/2004	PIK248KSTNENPIZZZZZ201	P57942	002	001761	GL	106	1.77	195.42
02/27/2004	PIK248KSTNENPIZZZZZ201	P57941	002	001761	GL	605	10.75	6774.31
03/02/2004	PIK248KSTNENPIZZZZZ201	P57941	002	001761	GL	605	10.75	6774.31
03/02/2004	PIK248KSTNENPIZZZZZ201	P57941	002	001761	GL	-605	10.75	-6774.31
03/03/2004	PIK248KSTNENPIZZZZZ201	P57941	003	001761	GL	105	10.75	1175.71
03/03/2004	PIK248KSTNENPIZZZZZ201	P57943	002	001761	GL	328	2.94	1004.44
03/24/2004	PIK248KSTNENPIZZZZZ201	P57942	003	001761	GL	330	1.77	608.40
04/01/2004	PIK248KSTNENPIZZZZZ201	P57945	005	001761	GT	16	410.00	6832.90
05/20/2004	PIK248KSTNENPIZZZZZ201	P57942	004	001761	GL	330	1.77	608.40
06/22/2004	PIK248KSTNENPIZZZZZ201	P57941	005	001761	GL	605	10.75	6774.31
07/07/2004	PIK248KSTNENPIZZZZZ201	P57941	006	001761	GL	605	10.75	6774.31
07/09/2004	PIK248KSTNENPIZZZZZ201	P57942	005	001761	GL	330	1.77	608.40
07/13/2004	PIK248KSTNENPIZZZZZ201	P57943	003	001761	GL	600.37	2.94	1838.52

ran Amt
5774.31
608.40
5774.31
5774.31
1.84
1027.04
5774.31
608.40
1832.17
5593.74
5912.94
5912.94
1244.30
5912.94
041.53
622.15
876.04
5912.94
876.04
5912.94
622.15
5912.94
39.94
763.74
763.74

ran Amt
24.06
-422.21
606.56

arized Labor Report

er: HP000185 *From Date:* 200401 *To Date:* 200412 *Show Emp Info:* No

o	PO Item No	Supplier No	Price Adjusted	Qty Adj	Unit of Purchase	Tran Amt
				Expense Element: 201	Subtotal:	208.41
					Total:	208.41
					Work Order Total:	135105.37 ✓

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1652 Work Order Detail / Summarized Labor Report

Report Parameters

District: P *Parent WO:* * *WO Number:* HP000186 *From Date:* 200201 *To Date:* 200212 *Show Emp Info:* No

Company: **HECO**

Parent WO: **HP000019**

Work Order: **HP000186** **Boiler Water Chem Costs-Kahe Station**

Manual Journal Vouchers

Tran Dte	*Acct Code*	*Voucher No*	*Description*	*Accountant Code*	*Qty Amt*	*Tran Amt*
Expense Element: 201	**Matl-Issues/Purchases**					
01/16/2002	PIK248KSTNENPIZZZZZ201	PUT10201	002110-UTAX-4571603	ADOO	0	0.91
01/16/2002	PIK248KSTNENPIZZZZZ201	PUT10201	002110-UTAX-4571603	ADOO	0	1.31
01/23/2002	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 044764/001	HWB900	0	74.76
02/08/2002	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 045852/001	HWB900	0	11.18
03/28/2002	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 047656/003	HWB900	0	8.03
03/28/2002	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 047656/002	HWB900	0	16.03
03/28/2002	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 047656/001	HWB900	0	22.36
03/28/2002	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 047656/004	HWB900	0	4.32
05/30/2002	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 050353/001	HWB900	0	14.55
06/13/2002	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 050965/001	HWB900	0	3.67
06/24/2002	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 051386/001	HWB900	0	6.23
06/27/2002	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 050364/001	HWB900	0	13.62
07/16/2002	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 052101/001	HWB900	0	6.93
07/16/2002	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 050364/001	HWB900	0	6.81
07/19/2002	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 052318/001	HWB900	0	124.61
07/30/2002	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 052466/001	HWB900	0	12.41
08/01/2002	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 052876/001	HWB900	0	3.79
08/06/2002	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 052876/002	HWB900	0	3.79
08/15/2002	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 053384/001	HWB900	0	11.44
08/21/2002	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 050364/001	HWB900	0	6.81
09/20/2002	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 054918/001	HWB900	0	149.53
10/16/2002	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 056226/002	HWB900	0	5.11
10/16/2002	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 056226/005	HWB900	0	11.36
10/16/2002	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 056226/003	HWB900	0	7.83
10/16/2002	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 056226/001	HWB900	0	5.11
10/16/2002	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 056226/004	HWB900	0	10.64
10/19/2002	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 056227/002	HWB900	0	10.39
10/19/2002	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 056227/001	HWB900	0	13.15
11/08/2002	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 057145/001	HWB900	0	6.93

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Report Parameters

District: P *Parent WO:* * *WO Number:* HP000186 *From Date:* 200201 *To Date:* 200212 *Show Emp Info:* No

Company: **HECO**

Manual Journal Vouchers

Tran Dte	Acct Code	Voucher No	Description	Accountant Code	Qty Amt	Tran Amt
11/08/2002	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 057197/001	HWB900	0	12.14
				Expense Element: 201	**Subtotal:**	585.75
					Total:	585.75

Purchase Requisition Order Receipts

Tran Dte	Acct Code	PO No	PO Item No	Supplier No	Unit of Purch	Qty	Net Price	Tran Amt
Expense Element: 201	**Matl-Issues/Purchases**							
01/18/2002	PIK248KSTNENPIZZZZZ201	P34531	001	016567	BX	15	34.55	538.98
02/08/2002	PIK248KSTNENPIZZZZZ201	P35306	001	003177	PK	1	67.35	70.15
03/27/2002	PIK248KSTNENPIZZZZZ201	P36926	004	003177	PK	2	13.00	27.08
03/27/2002	PIK248KSTNENPIZZZZZ201	P36926	001	003177	PK	2	67.35	140.30
03/27/2002	PIK248KSTNENPIZZZZZ201	P36926	002	003177	GL	4	24.13	100.54
03/27/2002	PIK248KSTNENPIZZZZZ201	P36926	003	003177	EA	4	12.09	50.37
05/30/2002	PIK248KSTNENPIZZZZZ201	P38951	001	003177	EA	6	14.61	91.31
06/12/2002	PIK248KSTNENPIZZZZZ201	P39429	001	003177	EA	2	10.17	21.15
06/20/2002	PIK248KSTNENPIZZZZZ201	P39743	001	016567	BX	1	34.55	35.93
06/24/2002	PIK248KSTNENPIZZZZZ201	P39786	001	002110	BT	2	37.75	78.52
07/12/2002	PIK248KSTNENPIZZZZZ201	P39786	001	002110	BT	1	37.75	39.26
07/13/2002	PIK248KSTNENPIZZZZZ201	P40426	001	016567	EA	3	12.80	39.94
07/18/2002	PIK248KSTNENPIZZZZZ201	P40605	001	016567	BX	20	34.55	718.64
07/30/2002	PIK248KSTNENPIZZZZZ201	P40973	001	002110	BT	2	10.50	21.84
07/30/2002	PIK248KSTNENPIZZZZZ201	P40832	001	003177	BT	4	17.17	71.54
08/02/2002	PIK248KSTNENPIZZZZZ201	P40973	002	002110	BT	2	10.50	21.84
08/14/2002	PIK248KSTNENPIZZZZZ201	P41395	001	003177	BT	4	15.84	66.00
08/21/2002	PIK248KSTNENPIZZZZZ201	P39786	001	002110	BT	1	37.75	39.26
09/19/2002	PIK248KSTNENPIZZZZZ201	P42564	001	016567	BX	24	34.55	862.37
10/15/2002	PIK248KSTNENPIZZZZZ201	P43583	004	002110	EA	1	59.00	61.36
10/15/2002	PIK248KSTNENPIZZZZZ201	P43583	005	002110	EA	1	63.00	65.52
10/15/2002	PIK248KSTNENPIZZZZZ201	P43583	001	002110	EA	3	9.45	29.48
10/15/2002	PIK248KSTNENPIZZZZZ201	P43583	003	002110	EA	4	10.85	45.14
10/15/2002	PIK248KSTNENPIZZZZZ201	P43583	002	002110	EA	3	9.45	29.48
10/18/2002	PIK248KSTNENPIZZZZZ201	P43611	001	003177	EA	3	24.30	75.82
10/18/2002	PIK248KSTNENPIZZZZZ201	P43662	001	003177	EA	3	19.21	59.94

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1652 Work Order Detail / Summarized Labor Report

Report Parameters

District: P *Parent WO:* * *WO Number:* HP000186 *From Date:* 200201 *To Date:* 200212 *Show Emp Info:* No

Company: **HECO**

Purchase Requisition Order Receipts

Tran Dte	*Acct Code*	*PO No*	*PO Item No*	*Supplier No*	*Unit of Purch*	*Qty*	*Net Price*	*Tran Amt*
11/07/2002	PIK248KSTNENPIZZZZZ201	P44373	002	016567	EA	3	12.80	39.94
11/07/2002	PIK248KSTNENPIZZZZZ201	P44477	001	003177	PG	1	67.35	70.04
					Expense Element: 201		**Subtotal:**	3511.74
							Total:	3511.74

Stock Material Transactions

Tran Dte	*Acct Code*	*Stock Code*	*Qty*	*Unit of Issue*	*Item Name*	*Description*	*Tran Amt*
Expense Element: 201	**Matl-Issues/Purchases**						
01/03/2002	PIK248KSTNENPIZZZZZ201	000268185	2	BG	PHOSPHATE,	SIZE: 50# BAG	67.60
01/04/2002	PIK248KSTNENPIZZZZZ201	000268425	1	BG	FLOCCULANT,	FOR WASTEWATER TREATMENT.	740.16
01/07/2002	PIK248KSTNENPIZZZZZ201	000268425	1	BG	FLOCCULANT,	FOR WASTEWATER TREATMENT.	740.16
01/09/2002	PIK248KSTNENPIZZZZZ201	000268466	3	DR	BORON NITRIT		1382.36
01/09/2002	PIK248KSTNENPIZZZZZ201	000268185	3	BG	PHOSPHATE,	SIZE: 50# BAG	101.41
01/09/2002	PIK248KSTNENPIZZZZZ201	000268482	0	DR	HYDRAZINE, U	SCAV-OX, 55 GAL DRUM, 460#/DRUM, FOR	0.00
01/09/2002	PIK248KSTNENPIZZZZZ201	000250126	4	GL	AMMONIUM H	GRADE: 1'S	39.85
02/01/2002	PIK248KSTNENPIZZZZZ201	000268482	1	DR	HYDRAZINE, U	SCAV-OX, 55 GAL DRUM, 460#/DRUM, FOR	1260.77
02/05/2002	PIK248KSTNENPIZZZZZ201	000249961	1	EA	ACID, HYDRO	SIZE: 6#.	28.89
02/12/2002	PIK248KSTNENPIZZZZZ201	000250126	4	GL	AMMONIUM H	GRADE: 1'S	40.58
02/13/2002	PIK248KSTNENPIZZZZZ201	000268466	1	DR	BORON NITRIT		469.16
03/04/2002	PIK248KSTNENPIZZZZZ201	000268466	1	DR	BORON NITRIT		426.03
03/04/2002	PIK248KSTNENPIZZZZZ201	000268466	1	DR	BORON NITRIT		426.03
03/04/2002	PIK248KSTNENPIZZZZZ201	000250126	4	GL	AMMONIUM H	GRADE: 1'S	40.58
03/04/2002	PIK248KSTNENPIZZZZZ201	000250126	4	GL	AMMONIUM H	GRADE: 1'S	40.58
03/06/2002	PIK248KSTNENPIZZZZZ201	000268466	1	DR	BORON NITRIT		426.03
03/06/2002	PIK248KSTNENPIZZZZZ201	000268185	1	BG	PHOSPHATE,	SIZE: 50# BAG	34.42
03/08/2002	PIK248KSTNENPIZZZZZ201	000154104	2	GL	GLYCERINE, U	4/CASE	71.50
03/08/2002	PIK248KSTNENPIZZZZZ201	000250365	1	BT	SOLUTION, SIL	2.9 LITER PACK.	21.29
03/08/2002	PIK248KSTNENPIZZZZZ201	000154104	1	GL	GLYCERINE, U	4/CASE	35.74
03/08/2002	PIK248KSTNENPIZZZZZ201	000250423	1	EA	POTASSIUM H	GRADE SIZE: 5 LB.	90.15
03/18/2002	PIK248KSTNENPIZZZZZ201	000268169	1	BG	PHOSPHATE,	SIZE: 100 LB.	132.95
04/01/2002	PIK248KSTNENPIZZZZZ201	000268185	2	BG	PHOSPHATE,	SIZE: 50# BAG	68.83
04/04/2002	PIK248KSTNENPIZZZZZ201	000268466	1	DR	BORON NITRIT		426.03

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e	Stock Code	Qty	Unit of Issue	Item Name	Description	Tran Amt
STNENPIZZZZZ201	000250126	4	GL	AMMONIUM H	GRADE: 1'S	40.58
STNENPIZZZZZ201	000249961	4	EA	ACID, HYDRO	SIZE: 6#.	115.85
STNENPIZZZZZ201	000250126	4	GL	AMMONIUM H	GRADE: 1'S	40.58
STNENPIZZZZZ201	000268482	1	DR	HYDRAZINE, U	SCAV-OX, 55 GAL DRUM, 460#/DRUM, FOR	1260.77
STNENPIZZZZZ201	000268466	1	DR	BORON NITRIT		468.56
STNENPIZZZZZ201	000268482	0	DR	HYDRAZINE, U	SCAV-OX, 55 GAL DRUM, 460#/DRUM, FOR	0.00
STNENPIZZZZZ201	000268482	1	DR	HYDRAZINE, U	SCAV-OX, 55 GAL DRUM, 460#/DRUM, FOR	1260.77
STNENPIZZZZZ201	000268466	2	DR	BORON NITRIT		948.44
STNENPIZZZZZ201	000268466	1	DR	BORON NITRIT		474.22
STNENPIZZZZZ201	000250126	4	GL	AMMONIUM H	GRADE: 1'S	41.07
STNENPIZZZZZ201	000268482	1	DR	HYDRAZINE, U	SCAV-OX, 55 GAL DRUM, 460#/DRUM, FOR	1275.99
STNENPIZZZZZ201	000268680	0	DR	HYDRAZINE, C	SCAV-OX-II, 55 GAL. DRUM, 460#/DRUM.	0.00
STNENPIZZZZZ201	000268680	0	DR	HYDRAZINE, C	SCAV-OX-II, 55 GAL. DRUM, 460#/DRUM.	0.00
STNENPIZZZZZ201	000268185	2	BG	PHOSPHATE,	SIZE: 50# BAG	69.66
STNENPIZZZZZ201	000268185	1	BG	PHOSPHATE,	SIZE: 50# BAG	34.84
STNENPIZZZZZ201	000268466	1	DR	BORON NITRIT		474.65
STNENPIZZZZZ201	000250126	12	GL	AMMONIUM H	GRADE: 1'S	123.20
STNENPIZZZZZ201	000268466	1	DR	BORON NITRIT		474.65
STNENPIZZZZZ201	000268466	2	DR	BORON NITRIT		949.30
STNENPIZZZZZ201	000268185	1	BG	PHOSPHATE,	SIZE: 50# BAG	34.84
STNENPIZZZZZ201	000250126	4	GL	AMMONIUM H	GRADE: 1'S	41.07
STNENPIZZZZZ201	000268466	1	DR	BORON NITRIT		474.65
STNENPIZZZZZ201	000268466	1	DR	BORON NITRIT		474.65
STNENPIZZZZZ201	000268466	1	DR	BORON NITRIT		562.84
STNENPIZZZZZ201	000268466	0	DR	BORON NITRIT		0.00
STNENPIZZZZZ201	000268466	0	DR	BORON NITRIT		0.00
STNENPIZZZZZ201	000268466	3	DR	BORON NITRIT		1688.52
STNENPIZZZZZ201	000268466	1	DR	BORON NITRIT		562.84
STNENPIZZZZZ201	000268466	2	DR	BORON NITRIT		1144.96
STNENPIZZZZZ201	000268466	1	DR	BORON NITRIT		572.48
STNENPIZZZZZ201	000268185	1	BG	PHOSPHATE,	SIZE: 50# BAG	34.84
STNENPIZZZZZ201	000268466	1	DR	BORON NITRIT		572.48

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1652 Work Order Detail / Summarized Labor Report

Report Parameters

District: P *Parent WO:* * *WO Number:* HP000186 *From Date:* 200201 *To Date:* 200212 *Show Emp Info:* No

Company: **HECO**

Stock Material Transactions

Tran Dte	*Acct Code*	*Stock Code*	*Qty*	*Unit of Issue*	*Item Name*	*Description*	*Tran Amt*
11/04/2002	PIK248KSTNENPIZZZZZ201	000268482	1	DR	HYDRAZINE, U	SCAV-OX, 55 GAL DRUM, 460#/DRUM, FOR	1351.77
11/12/2002	PIK248KSTNENPIZZZZZ201	000268482	1	DR	HYDRAZINE, U	SCAV-OX, 55 GAL DRUM, 460#/DRUM, FOR	1351.77
11/12/2002	PIK248KSTNENPIZZZZZ201	000250126	4	GL	AMMONIUM H	GRADE: 1'S	41.07
11/12/2002	PIK248KSTNENPIZZZZZ201	000268466	1	DR	BORON NITRIT		572.48
11/14/2002	PIK248KSTNENPIZZZZZ201	000250126	4	GL	AMMONIUM H	GRADE: 1'S	41.07
11/21/2002	PIK248KSTNENPIZZZZZ201	000268466	1	DR	BORON NITRIT		572.90
12/02/2002	PIK248KSTNENPIZZZZZ201	000268466	2	DR	BORON NITRIT		1145.81
12/04/2002	PIK248KSTNENPIZZZZZ201	000268482	1	DR	HYDRAZINE, U	SCAV-OX, 55 GAL DRUM, 460#/DRUM, FOR	1351.77
12/06/2002	PIK248KSTNENPIZZZZZ201	000268466	2	DR	BORON NITRIT		1145.81
12/10/2002	PIK248KSTNENPIZZZZZ201	000250126	4	GL	AMMONIUM H	GRADE: 1'S	41.07
12/24/2002	PIK248KSTNENPIZZZZZ201	000268466	1	DR	BORON NITRIT		572.67
12/27/2002	PIK248KSTNENPIZZZZZ201	000268466	2	DR	BORON NITRIT		1145.33
12/30/2002	PIK248KSTNENPIZZZZZ201	000268466	1	DR	BORON NITRIT		572.67

Expense Element: 201 Subtotal: 31234.59

Total: 31234.59

Work Order Total: 35332.08 ✓

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Report Parameters

District: P *Parent WO:* * *WO Number:* HP000186 *From Date:* 200301 *To Date:* 200312 *Show Emp Info:* No

Company: **HECO**

Parent WO: **HP000019**

Work Order: **HP000186** **Boiler Water Chem Costs-Kahe Station**

Invoice Transactions

Tran Dte	Acct Code	Cat No	Supplier No	Inv No	Inv Item No	Inv Item Desc	Contract No	Portion No	Element No	Tran Amt
Expense Element: 201	**Matl-Issues/Purchases**									
10/23/2003	PIK248KSTNENPIZZZZZ201		003177	3499589	001	REF CREDIT C071224				145.81
10/23/2003	PIK248KSTNENPIZZZZZ201		003177	C071224	001	REF ORIG INV 3499958				-145.81
12/12/2003	PIK248KSTNENPIZZZZZ201		006839	1676634	004	HAZARDOUS CHARGE				20.83
									Expense Element: 201 Subtotal:	20.83
									Total:	20.83

Manual Journal Vouchers

Tran Dte	Acct Code	Voucher No	Description	Accountant Code	Qty Amt	Tran Amt
Expense Element: 201	**Matl-Issues/Purchases**					
01/07/2003	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 058526/001	HWB900	0	319.10
01/15/2003	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 060022/001	HWB900	0	13.46
01/17/2003	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 059717/001	HWB900	0	47.84
02/20/2003	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 061276/001	HWB900	0	5.73
05/28/2003	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 065646/001	HWB900	0	8.45
06/20/2003	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 066343/001	HWB900	0	10.40
06/20/2003	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 066343/002	HWB900	0	10.72
06/20/2003	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 066341/001	HWB900	0	9.89
09/08/2003	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 069077/001	HWB900	0	46.27
09/08/2003	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 069077/002	HWB900	0	27.44
09/09/2003	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 069157/001	HWB900	0	9.88
09/12/2003	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 068988/001	HWB900	0	16.02
09/24/2003	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 069485/002	HWB900	0	15.16
09/24/2003	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 069485/001	HWB900	0	11.98
10/09/2003	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 070544/002	HWB900	0	1.23
10/09/2003	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 070544/001	HWB900	0	19.40
10/15/2003	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 070542/001	HWB900	0	3.11
10/15/2003	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 070542/002	HWB900	0	4.67
11/04/2003	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 071348/001	HWB900	0	10.40
11/04/2003	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 071348/002	HWB900	0	61.60

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1652 Work Order Detail / Summarized Labor Report

Report Parameters

District: P *Parent WO:* * *WO Number:* HP000186 *From Date:* 200301 *To Date:* 200312 *Show Emp Info:* No

Company: **HECO**

Manual Journal Vouchers

Tran Dte	Acct Code	Voucher No	Description	Accountant Code	Qty Amt	Tran Amt
11/04/2003	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 071348/003	HWB900	0	1.57
12/12/2003	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 071867/002	HWB900	0	4.61
12/12/2003	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 071867/001	HWB900	0	2.28
12/12/2003	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 071867/003	HWB900	0	5.74
12/29/2003	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 073319/001	HWB900	0	152.84
12/30/2003	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 073617/005	HWB900	0	1.08
12/30/2003	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 073617/004	HWB900	0	1.98
12/30/2003	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 073617/003	HWB900	0	2.63
12/30/2003	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 073617/002	HWB900	0	3.69
12/30/2003	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 073617/006	HWB900	0	4.70
12/30/2003	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 073617/001	HWB900	0	2.38
				Expense Element: 201	**Subtotal:**	836.25
					Total:	836.25

Purchase Requisition Order Receipts

Tran Dte	Acct Code	PO No	PO Item No	Supplier No	Unit of Purch	Qty	Net Price	Tran Amt
Expense Element: 201	**Matl-Issues/Purchases**							
01/07/2003	PIK248KSTNENPIZZZZZ201	P45395	001	004629	DR	2	1185.60	2469.84
01/09/2003	PIK248KSTNENPIZZZZZ201	P46381	001	016567	BX	10	35.60	370.24
01/15/2003	PIK248KSTNENPIZZZZZ201	P46615	001	003177	EA	5	20.00	104.16
02/20/2003	PIK248KSTNENPIZZZZZ201	P47692	001	003177	EA	1	38.65	40.20
05/28/2003	PIK248KSTNENPIZZZZZ201	P51109	001	002110	PK	1	57.00	59.28
06/20/2003	PIK248KSTNENPIZZZZZ201	P51873	003	003177	BT	4	18.05	75.20
06/20/2003	PIK248KSTNENPIZZZZZ201	P51873	002	003177	PK	1	70.05	72.96
06/20/2003	PIK248KSTNENPIZZZZZ201	P51873	001	003177	BT	4	16.65	69.37
09/08/2003	PIK248KSTNENPIZZZZZ201	P54361	001	006839	EA	1	312.00	324.48
09/08/2003	PIK248KSTNENPIZZZZZ201	P54390	001	003177	BT	4	16.65	69.26
09/08/2003	PIK248KSTNENPIZZZZZ201	P54361	002	006839	EA	1	185.00	192.40
09/12/2003	PIK248KSTNENPIZZZZZ201	P54395	001	002110	BT	3	36.00	112.32
09/24/2003	PIK248KSTNENPIZZZZZ201	P54774	001	003177	PG	4	20.20	84.03
09/24/2003	PIK248KSTNENPIZZZZZ201	P54774	002	003177	PG	4	25.55	106.29
10/09/2003	PIK248KSTNENPIZZZZZ201	P55372	001	004208	EA	6	21.80	136.03
10/09/2003	PIK248KSTNENPIZZZZZ201	P55372	002	004208	EA	1	8.30	8.63

1652 Work Order Detail / Summarized Labor Report

Report Parameters

District: P *Parent WO:* * *WO Number:* HP000186 *From Date:* 200301 *To Date:* 200312 *Show Emp Info:* No

Company: **HECO**

Purchase Requisition Order Receipts

Tran Dte	Acct Code	PO No	PO Item No	Supplier No	Unit of Purch	Qty	Net Price	Tran Amt
10/09/2003	PIK248KSTNENPIZZZZZ201	P55372	003	004208	EA	1	0.00	0.00
10/15/2003	PIK248KSTNENPIZZZZZ201	P55419	002	002110	EA	3	10.50	32.76
10/15/2003	PIK248KSTNENPIZZZZZ201	P55419	001	002110	EA	2	10.50	21.84
11/03/2003	PIK248KSTNENPIZZZZZ201	P56019	001	003177	PK	1	70.05	72.96
11/03/2003	PIK248KSTNENPIZZZZZ201	P56019	003	003177	PK	1	10.60	11.04
11/03/2003	PIK248KSTNENPIZZZZZ201	P56019	002	003177	EA	5	82.95	432.00
12/12/2003	PIK248KSTNENPIZZZZZ201	P56665	003	006839	EA	1	38.70	40.25
12/12/2003	PIK248KSTNENPIZZZZZ201	P56665	001	006839	EA	1	15.37	15.98
12/12/2003	PIK248KSTNENPIZZZZZ201	P56665	002	006839	PK	2	15.54	32.32
12/26/2003	PIK248KSTNENPIZZZZZ201	P57568	001	004629	EA	3	343.00	1071.81
12/30/2003	PIK248KSTNENPIZZZZZ201	P57823	002	003177	EA	1	24.90	25.90
12/30/2003	PIK248KSTNENPIZZZZZ201	P57823	003	003177	EA	1	17.70	18.41
12/30/2003	PIK248KSTNENPIZZZZZ201	P57823	006	003177	EA	1	31.70	32.97
12/30/2003	PIK248KSTNENPIZZZZZ201	P57823	001	003177	EA	1	16.05	16.69
12/30/2003	PIK248KSTNENPIZZZZZ201	P57823	005	003177	PK	1	7.25	7.54
12/30/2003	PIK248KSTNENPIZZZZZ201	P57823	004	003177	EA	1	13.35	13.88
					Expense Element:	**201**	**Subtotal:**	6141.04
							Total:	6141.04

Stock Material Transactions

Tran Dte	Acct Code	Stock Code	Qty	Unit of Issue	Item Name	Description	Tran Amt
Expense Element: 201	**Matl-Issues/Purchases**						
01/06/2003	PIK248KSTNENPIZZZZZ201	000250126	4	GL	AMMONIUM H	GRADE: 1'S	41.07
01/31/2003	PIK248KSTNENPIZZZZZ201	000268466	1	DR	BORON NITRIT		572.55
02/20/2003	PIK248KSTNENPIZZZZZ201	000250126	4	GL	AMMONIUM H	GRADE: 1'S	39.99
02/21/2003	PIK248KSTNENPIZZZZZ201	000268466	1	DR	BORON NITRIT		557.52
02/21/2003	PIK248KSTNENPIZZZZZ201	000252445	30	EA	LAMP, MINIAT	FOR PUSHBUTTON STATION.	54.98
02/24/2003	PIK248KSTNENPIZZZZZ201	000250126	4	GL	AMMONIUM H	GRADE: 1'S	39.99
02/26/2003	PIK248KSTNENPIZZZZZ201	000268185	4	BG	PHOSPHATE,	SIZE: 50# BAG	135.67
03/03/2003	PIK248KSTNENPIZZZZZ201	000268466	1	DR	BORON NITRIT		557.52
03/20/2003	PIK248KSTNENPIZZZZZ201	000268466	6	DR	BORON NITRIT		3345.11
03/25/2003	PIK248KSTNENPIZZZZZ201	000250126	4	GL	AMMONIUM H	GRADE: 1'S	39.99

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l Transactions

Acct Code	Stock Code	Qty	Unit of Issue	Item Name	Description	Tran Amt
PIK248KSTNENPIZZZZZ201	000618272	2	EA	TESTER, DISS	618678)	2.81
PIK248KSTNENPIZZZZZ201	000268482	1	DR	HYDRAZINE, U	SCAV-OX, 55 GAL DRUM, 460#/DRUM, FOR	1316.29
PIK248KSTNENPIZZZZZ201	000268482	1	DR	HYDRAZINE, U	SCAV-OX, 55 GAL DRUM, 460#/DRUM, FOR	1316.29
PIK248KSTNENPIZZZZZ201	000250126	4	GL	AMMONIUM H	GRADE: 1'S	39.99
PIK248KSTNENPIZZZZZ201	000250126	8	GL	AMMONIUM H	GRADE: 1'S	79.98
PIK248KSTNENPIZZZZZ201	000618678	30	BX	TESTER, DISS		1142.20
PIK248KSTNENPIZZZZZ201	000268466	1	DR	BORON NITRIT		564.22
PIK248KSTNENPIZZZZZ201	000268466	1	DR	BORON NITRIT		564.22
PIK248KSTNENPIZZZZZ201	000268185	1	BG	PHOSPHATE,	SIZE: 50# BAG	33.92
PIK248KSTNENPIZZZZZ201	000268185	1	BG	PHOSPHATE,	SIZE: 50# BAG	33.92
PIK248KSTNENPIZZZZZ201	000268185	2	BG	PHOSPHATE,	SIZE: 50# BAG	67.84
PIK248KSTNENPIZZZZZ201	000268466	2	DR	BORON NITRIT		1128.43
PIK248KSTNENPIZZZZZ201	000250126	4	GL	AMMONIUM H	GRADE: 1'S	42.82
PIK248KSTNENPIZZZZZ201	000268185	2	BG	PHOSPHATE,	SIZE: 50# BAG	67.84
PIK248KSTNENPIZZZZZ201	000268466	0	DR	BORON NITRIT		0.00
PIK248KSTNENPIZZZZZ201	000268466	2	DR	BORON NITRIT		1128.43
PIK248KSTNENPIZZZZZ201	000618678	10	BX	TESTER, DISS		401.89
PIK248KSTNENPIZZZZZ201	000268466	3	DR	BORON NITRIT		1692.64
PIK248KSTNENPIZZZZZ201	000268185	3	BG	PHOSPHATE,	SIZE: 50# BAG	101.76
PIK248KSTNENPIZZZZZ201	000268466	0	DR	BORON NITRIT		0.00
PIK248KSTNENPIZZZZZ201	000268466	3	DR	BORON NITRIT		1692.64
PIK248KSTNENPIZZZZZ201	000250126	4	GL	AMMONIUM H	GRADE: 1'S	42.82
PIK248KSTNENPIZZZZZ201	000250126	4	GL	AMMONIUM H	GRADE: 1'S	42.82
PIK248KSTNENPIZZZZZ201	000250308	1	PG	ACID, AMINO,	2.9 LITER PACK.	48.80
PIK248KSTNENPIZZZZZ201	000268482	1	DR	HYDRAZINE, U	SCAV-OX, 55 GAL DRUM, 460#/DRUM, FOR	1316.29
PIK248KSTNENPIZZZZZ201	000618678	30	BX	TESTER, DISS		1205.65
PIK248KSTNENPIZZZZZ201	000268466	2	DR	BORON NITRIT		1128.43
PIK248KSTNENPIZZZZZ201	000268482	1	DR	HYDRAZINE, U	SCAV-OX, 55 GAL DRUM, 460#/DRUM, FOR	1316.29
PIK248KSTNENPIZZZZZ201	000250126	4	GL	AMMONIUM H	GRADE: 1'S	42.82
PIK248KSTNENPIZZZZZ201	000268482	1	DR	HYDRAZINE, U	SCAV-OX, 55 GAL DRUM, 460#/DRUM, FOR	1316.29
PIK248KSTNENPIZZZZZ201	000268482	0	DR	HYDRAZINE, U	SCAV-OX, 55 GAL DRUM, 460#/DRUM, FOR	0.00
PIK248KSTNENPIZZZZZ201	000250126	4	GL	AMMONIUM H	GRADE: 1'S	42.82

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1652 Work Order Detail / Summarized Labor Report

Report Parameters

District: P *Parent WO:* * *WO Number:* HP000186 *From Date:* 200301 *To Date:* 200312 *Show Emp Info:* No

Company: **HECO**

Stock Material Transactions

Tran Dte	*Acct Code*	*Stock Code*	*Qty*	*Unit of Issue*	*Item Name*	*Description*	*Tran Amt*
10/06/2003	PIK248KSTNENPIZZZZZ201	000268466	4	DR	BORON NITRIT		2267.09
10/15/2003	PIK248KSTNENPIZZZZZ201	000250126	4	GL	AMMONIUM H	GRADE: 1'S	42.82
11/06/2003	PIK248KSTNENPIZZZZZ201	000268466	2	DR	BORON NITRIT		1133.55
11/07/2003	PIK248KSTNENPIZZZZZ201	000268466	0	DR	BORON NITRIT		0.00
11/15/2003	PIK248KSTNENPIZZZZZ201	000250126	4	GL	AMMONIUM H	GRADE: 1'S	42.82
11/17/2003	PIK248KSTNENPIZZZZZ201	000268466	2	DR	BORON NITRIT		1133.55
11/21/2003	PIK248KSTNENPIZZZZZ201	000613869	1	EA	PAIL, OPEN T	DOT/EPA APPROVED FOR WASTE	10.71
11/24/2003	PIK248KSTNENPIZZZZZ201	000268185	1	BG	PHOSPHATE,	SIZE: 50# BAG	33.91
12/03/2003	PIK248KSTNENPIZZZZZ201	000250126	8	GL	AMMONIUM H	GRADE: 1'S	85.66
12/05/2003	PIK248KSTNENPIZZZZZ201	000268466	2	DR	BORON NITRIT		1133.55
12/27/2003	PIK248KSTNENPIZZZZZ201	000618678	40	BX	TESTER, DISS		1522.93
12/31/2003	PIK248KSTNENPIZZZZZ201	000268466	3	DR	BORON NITRIT		1700.31

Expense Element: 201 **Subtotal:** 32412.45

Total: 32412.45

Work Order Total: 39410.57

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WO Number: HP000186 *From Date:* 200401 *To Date:* 200412 *Show Emp Info:* No

ller Water Chem Costs-Kahe Station

	Cat No	Supplier No	Inv No	Inv Item No	Inv Item Desc	Contract No	Portion No	Element No	Tran Amt
Matl-Issues/Purchases									
3TNENPIZZZZZ201		006839	1713622	011	HAZARDOUS CHARGE				20.83
3TNENPIZZZZZ201		006839	1753069	001	CREDIT FOR PD INV 1				-88.54
3TNENPIZZZZZ201		003177	WI11754	001	KPP DR/2000 SPECTR				217.03
								Expense Element: 201	**Subtotal:** 149.32
									Total: 149.32

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	Voucher No	Description	Accountant Code	Qty Amt	Tran Amt
Matl-Issues/Purchases					
TNENPIZZZZZ201		ON COST CHG TO: 073319/002	HWB900	0	6.84
TNENPIZZZZZ201		ON COST CHG TO: 073924/004	HWB900	0	7.15
TNENPIZZZZZ201		ON COST CHG TO: 073924/003	HWB900	0	2.74
TNENPIZZZZZ201		ON COST CHG TO: 073924/002	HWB900	0	2.74
TNENPIZZZZZ201		ON COST CHG TO: 073924/001	HWB900	0	103.76
TNENPIZZZZZ201		ON COST CHG TO: 073924/006	HWB900	0	0.55
TNENPIZZZZZ201		ON COST CHG TO: 073924/007	HWB900	0	1.27
TNENPIZZZZZ201	P000026826	ON COST CHG TO: 073640/010	HWB900	0	3.49
TNENPIZZZZZ201		ON COST CHG TO: 073640/003	HWB900	0	1.79
TNENPIZZZZZ201		ON COST CHG TO: 073640/001	HWB900	0	1.87
TNENPIZZZZZ201		ON COST CHG TO: 073640/009	HWB900	0	1.07
TNENPIZZZZZ201		ON COST CHG TO: 073640/002	HWB900	0	1.44
TNENPIZZZZZ201		ON COST CHG TO: 073640/007	HWB900	0	1.32
TNENPIZZZZZ201		ON COST CHG TO: 073640/008	HWB900	0	1.67
TNENPIZZZZZ201		ON COST CHG TO: 073659/002	HWB900	0	0.65
TNENPIZZZZZ201		ON COST CHG TO: 073659/001	HWB900	0	2.53
TNENPIZZZZZ201		ON COST CHG TO: 073659/007	HWB900	0	1.60
TNENPIZZZZZ201		ON COST CHG TO: 073872/001	HWB900	0	4.58
TNENPIZZZZZ201		ON COST CHG TO: 073659/004	HWB900	0	0.65
TNENPIZZZZZ201		ON COST CHG TO: 073659/010	HWB900	0	23.40

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1652 Work Order Detail / Summarized Labor Report

Report Parameters

District: P *Parent WO:* * *WO Number:* HP000186 *From Date:* 200401 *To Date:* 200412 *Show Emp Info:* No

Company: **HECO**

Manual Journal Vouchers

Tran Dte	*Acct Code*	*Voucher No*	*Description*	*Accountant Code*	*Qty Amt*	*Tran Amt*
01/20/2004	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 073659/005	HWB900	0	2.04
01/20/2004	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 073659/003	HWB900	0	0.65
01/20/2004	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 073659/008	HWB900	0	3.92
01/20/2004	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 073659/009	HWB900	0	1.35
01/20/2004	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 073659/006	HWB900	0	5.70
01/23/2004	PIK248KSTNENPIZZZZZ201	P000026853	ON COST CHG TO: 073924/008	HWB900	0	1.26
02/11/2004	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 075280/006	HWB900	0	0.30
02/11/2004	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 075280/001	HWB900	0	4.14
02/11/2004	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 075280/004	HWB900	0	1.14
02/11/2004	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 075280/002	HWB900	0	1.53
02/11/2004	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 075280/003	HWB900	0	8.03
02/11/2004	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 075280/005	HWB900	0	1.52
03/05/2004	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 076383/004	HWB900	0	1.35
03/05/2004	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 076383/003	HWB900	0	4.28
03/05/2004	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 076383/002	HWB900	0	5.82
03/05/2004	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 076473/001	HWB900	0	2.07
03/05/2004	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 076383/001	HWB900	0	3.53
03/18/2004	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 076961/002	HWB900	0	5.12
03/18/2004	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 076961/001	HWB900	0	3.84
03/23/2004	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 076950/001	HWB900	0	49.07
03/23/2004	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 076950/004	HWB900	0	2.00
03/23/2004	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 076950/003	HWB900	0	2.00
03/23/2004	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 076950/005	HWB900	0	2.00
03/23/2004	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 076950/002	HWB900	0	34.95
03/23/2004	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 076950/006	HWB900	0	24.84
03/31/2004	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 077524/004	HWB900	0	2.96
03/31/2004	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 077524/002	HWB900	0	1.07
03/31/2004	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 077524/003	HWB900	0	1.23
04/02/2004	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 077524/001	HWB900	0	1.78
04/05/2004	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 076957/001	HWB900	0	5.31
04/05/2004	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 077629/001	HWB900	0	133.88
05/11/2004	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 079037/007	HWB900	0	1.54
05/11/2004	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 079037/005	HWB900	0	1.87

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1652 Work Order Detail / Summarized Labor Report

Report Parameters

District: P Parent WO: * WO Number: HP000186 From Date: 200401 To Date: 200412 Show Emp Info: No

Company: HECO

Manual Journal Vouchers

Tran Dte	Acct Code	Voucher No	Description	Accountant Code	Qty Amt	Tran Amt
05/11/2004	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 079037/001	HWB900	0	1.42
05/11/2004	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 079037/003	HWB900	0	4.33
05/11/2004	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 079037/006	HWB900	0	3.89
05/11/2004	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 079037/002	HWB900	0	1.15
05/11/2004	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 079037/004	HWB900	0	2.45
05/11/2004	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 079037/008	HWB900	0	1.54
05/17/2004	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 079215/006	HWB900	0	2.77
05/17/2004	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 079215/001	HWB900	0	3.82
05/17/2004	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 079215/007	HWB900	0	1.57
05/17/2004	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 079215/005	HWB900	0	1.98
05/17/2004	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 079215/003	HWB900	0	4.64
05/17/2004	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 079215/004	HWB900	0	5.69
05/17/2004	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 079215/009	HWB900	0	19.47
05/17/2004	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 079215/002	HWB900	0	6.68
05/17/2004	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 079215/008	HWB900	0	18.48
06/22/2004	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 080865/003	HWB900	0	4.04
06/22/2004	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 080865/004	HWB900	0	1.21
06/23/2004	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 080865/005	HWB900	0	2.24
06/23/2004	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 080865/002	HWB900	0	12.23
06/24/2004	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 080871/001	HWB900	0	6.21
06/24/2004	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 080871/003	HWB900	0	2.03
06/24/2004	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 080871/007	HWB900	0	1.69
06/24/2004	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 080871/006	HWB900	0	3.11
06/24/2004	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 080871/004	HWB900	0	1.53
06/24/2004	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 080871/002	HWB900	0	5.73
06/24/2004	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 080871/005	HWB900	0	6.68
08/11/2004	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 082875/006	HWB900	0	0.53
08/11/2004	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 082875/004	HWB900	0	2.60
08/11/2004	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 082875/007	HWB900	0	7.97
08/11/2004	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 082875/002	HWB900	0	2.71
08/11/2004	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 082875/001	HWB900	0	3.32
08/11/2004	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 082875/005	HWB900	0	2.23
08/11/2004	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 082875/008	HWB900	0	1.49

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1652 Work Order Detail / Summarized Labor Report

Report Parameters

District: P *Parent WO:* * *WO Number:* HP000186 *From Date:* 200401 *To Date:* 200412 *Show Emp Info:* No

Company: **HECO**

Manual Journal Vouchers

Tran Dte	Acct Code	Voucher No	Description	Accountant Code	Qty Amt	Tran Amt
08/11/2004	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 082875/003	HWB900	0	5.18
08/19/2004	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 083478/002	HWB900	0	6.02
08/19/2004	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 083478/001	HWB900	0	5.30
08/31/2004	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 082875/005	HWB900	0	2.23
09/16/2004	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 084656/002	HWB900	0	4.49
09/16/2004	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 084656/001	HWB900	0	2.99
09/21/2004	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 084656/003	HWB900	0	3.59
10/19/2004	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 086213/001	HWB900	0	5.82
10/19/2004	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 086213/008	HWB900	0	1.69
10/19/2004	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 086213/009	HWB900	0	1.42
10/19/2004	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 086213/007	HWB900	0	2.12
10/19/2004	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 086213/010	HWB900	0	14.04
10/19/2004	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 086213/004	HWB900	0	1.92
10/19/2004	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 086213/006	HWB900	0	3.48
10/19/2004	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 086213/002	HWB900	0	7.14
10/19/2004	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 086213/005	HWB900	0	2.79
10/19/2004	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 086213/003	HWB900	0	2.55
10/22/2004	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 086011/001	HWB900	0	45.40
10/25/2004	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 086491/002	HWB900	0	1.60
10/25/2004	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 086496/001	HWB900	0	43.58
10/25/2004	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 086496/004	HWB900	0	17.74
10/25/2004	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 086491/003	HWB900	0	1.60
10/25/2004	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 086491/001	HWB900	0	26.78
10/25/2004	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 086496/002	HWB900	0	0.81
10/26/2004	PIK248KSTNENPIZZZZZ201	P000032173	ON COST CHG TO: 086546/001	HWB900	0	8.38
10/26/2004	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 086496/005	HWB900	0	2.59
10/26/2004	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 086546/002	HWB900	0	14.21
10/29/2004	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 086647/001	HWB900	0	9.73
10/29/2004	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 086647/002	HWB900	0	11.16
10/31/2004	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 086496/003	HWB900	0	5.29
12/07/2004	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 088389/001	HWB900	0	8.51
12/07/2004	PIK248KSTNENPIZZZZZ201		ON COST CHG TO: 088389/002	HWB900	0	9.07

1652 Work Order Detail / Summarized Labor Report

Report Parameters

District: P *Parent WO:* * *WO Number:* HP000186 *From Date:* 200401 *To Date:* 200412 *Show Emp Info:* No

Company: **HECO**

Manual Journal Vouchers

Tran Dte	Acct Code	Voucher No	Description	Accountant Code	Qty Amt	Tran Amt
				Expense Element: 201	**Subtotal:**	919.85
					Total:	919.85

Purchase Requisition Order Receipts

Tran Dte	Acct Code	PO No	PO Item No	Supplier No	Unit of Purch	Qty	Net Price	Tran Amt
Expense Element: 201	**Matl-Issues/Purchases**							
01/05/2004	PIK248KSTNENPIZZZZZ201	P57568	002	004629	EA	1	52.29	54.47
01/06/2004	PIK248KSTNENPIZZZZZ201	P57960	001	002110	EA	1	795.00	826.80
01/06/2004	PIK248KSTNENPIZZZZZ201	P57960	002	002110	EA	2	10.50	21.84
01/06/2004	PIK248KSTNENPIZZZZZ201	P57960	003	002110	EA	2	10.50	21.84
01/06/2004	PIK248KSTNENPIZZZZZ201	P57960	004	002110	PK	1	54.75	56.94
01/06/2004	PIK248KSTNENPIZZZZZ201	P57960	005	002110	PK	1	4.25	4.42
01/06/2004	PIK248KSTNENPIZZZZZ201	P57960	006	002110	EA	1	9.75	10.14
01/07/2004	PIK248KSTNENPIZZZZZ201	P57792	007	004208	EA	1	26.70	27.77
01/08/2004	PIK248KSTNENPIZZZZZ201	P57792	001	004208	PG	1	14.30	14.87
01/08/2004	PIK248KSTNENPIZZZZZ201	P57792	005	004208	EA	1	12.80	13.31
01/08/2004	PIK248KSTNENPIZZZZZ201	P57792	004	004208	PG	1	10.10	10.50
01/08/2004	PIK248KSTNENPIZZZZZ201	P57792	002	004208	PG	1	11.00	11.44
01/08/2004	PIK248KSTNENPIZZZZZ201	P57792	006	004208	EA	1	8.20	8.53
01/08/2004	PIK248KSTNENPIZZZZZ201	P57792	003	004208	PG	1	13.70	14.25
01/20/2004	PIK248KSTNENPIZZZZZ201	P57893	006	006839	EA	4	10.90	45.41
01/20/2004	PIK248KSTNENPIZZZZZ201	P57893	010	006839	EA	1	179.00	186.45
01/20/2004	PIK248KSTNENPIZZZZZ201	P57893	009	006839	EA	3	3.45	10.78
01/20/2004	PIK248KSTNENPIZZZZZ201	P57893	008	006839	EA	1	30.00	31.25
01/20/2004	PIK248KSTNENPIZZZZZ201	P57893	007	006839	EA	1	12.24	12.75
01/20/2004	PIK248KSTNENPIZZZZZ201	P57893	005	006839	PK	1	15.63	16.28
01/20/2004	PIK248KSTNENPIZZZZZ201	P57893	004	006839	PK	1	4.93	5.14
01/20/2004	PIK248KSTNENPIZZZZZ201	P57893	003	006839	PK	1	4.93	5.14
01/20/2004	PIK248KSTNENPIZZZZZ201	P57893	002	006839	PK	1	4.93	5.14
01/20/2004	PIK248KSTNENPIZZZZZ201	P57893	011	006839	CS	1	35.00	36.46
01/20/2004	PIK248KSTNENPIZZZZZ201	P57893	001	006839	EA	1	19.35	20.15
01/23/2004	PIK248KSTNENPIZZZZZ201	P57960	007	002110	PK	1	9.65	10.04
02/11/2004	PIK248KSTNENPIZZZZZ201	P59279	005	003177	EA	3	4.55	14.20

1652 Work Order Detail / Summarized Labor Report

Report Parameters

District: P *Parent WO:* * *WO Number:* HP000186 *From Date:* 200401 *To Date:* 200412 *Show Emp Info:* No

Company: **HECO**

Purchase Requisition Order Receipts

Tran Dte	Acct Code	PO No	PO Item No	Supplier No	Unit of Purch	Qty	Net Price	Tran Amt
02/11/2004	PIK248KSTNENPIZZZZZ201	P59279	004	003177	EA	1	10.20	10.61
02/11/2004	PIK248KSTNENPIZZZZZ201	P59279	001	003177	EA	2	18.60	38.69
02/11/2004	PIK248KSTNENPIZZZZZ201	P59279	002	003177	EA	1	13.75	14.30
02/11/2004	PIK248KSTNENPIZZZZZ201	P59279	006	003177	EA	1	2.70	2.81
02/11/2004	PIK248KSTNENPIZZZZZ201	P59279	003	003177	PK	1	72.15	75.04
03/05/2004	PIK248KSTNENPIZZZZZ201	P60172	004	003177	EA	1	12.10	12.58
03/05/2004	PIK248KSTNENPIZZZZZ201	P60172	005	003177	EA	1	18.60	19.34
03/05/2004	PIK248KSTNENPIZZZZZ201	P60172	003	003177	EA	2	19.25	40.04
03/05/2004	PIK248KSTNENPIZZZZZ201	P60172	002	003177	EA	2	26.15	54.39
03/05/2004	PIK248KSTNENPIZZZZZ201	P60172	001	003177	EA	2	15.85	32.97
03/18/2004	PIK248KSTNENPIZZZZZ201	P60626	002	002110	EA	4	11.50	47.84
03/18/2004	PIK248KSTNENPIZZZZZ201	P60601	001	004208	EA	1	441.00	458.64
03/18/2004	PIK248KSTNENPIZZZZZ201	P60601	002	004208	EA	1	314.10	326.66
03/18/2004	PIK248KSTNENPIZZZZZ201	P60601	006	004208	EA	1	223.20	232.13
03/18/2004	PIK248KSTNENPIZZZZZ201	P60626	001	002110	EA	3	11.50	35.88
03/23/2004	PIK248KSTNENPIZZZZZ201	P60601	004	004208	EA	1	18.00	18.72
03/23/2004	PIK248KSTNENPIZZZZZ201	P60601	005	004208	EA	1	18.00	18.72
03/23/2004	PIK248KSTNENPIZZZZZ201	P60601	003	004208	EA	1	18.00	18.72
03/31/2004	PIK248KSTNENPIZZZZZ201	P61131	003	004208	EA	1	11.10	11.54
03/31/2004	PIK248KSTNENPIZZZZZ201	P61131	004	004208	EA	1	26.60	27.66
03/31/2004	PIK248KSTNENPIZZZZZ201	P61131	002	004208	EA	1	9.60	9.98
04/01/2004	PIK248KSTNENPIZZZZZ201	P61131	001	004208	EA	2	8.00	16.64
04/05/2004	PIK248KSTNENPIZZZZZ201	P60625	001	006839	EA	1	47.72	49.63
04/05/2004	PIK248KSTNENPIZZZZZ201	P61257	001	004629	DR	1	1201.20	1251.17
05/11/2004	PIK248KSTNENPIZZZZZ201	P62485	001	004208	PT	1	12.80	13.31
05/11/2004	PIK248KSTNENPIZZZZZ201	P62485	009	004208	EA	1	0.00	0.00
05/11/2004	PIK248KSTNENPIZZZZZ201	P62485	007	004208	EA	1	13.80	14.35
05/11/2004	PIK248KSTNENPIZZZZZ201	P62485	006	004208	EA	1	35.00	36.40
05/11/2004	PIK248KSTNENPIZZZZZ201	P62485	005	004208	PG	1	16.80	17.47
05/11/2004	PIK248KSTNENPIZZZZZ201	P62485	004	004208	EA	1	22.00	22.88
05/11/2004	PIK248KSTNENPIZZZZZ201	P62485	002	004208	PT	1	10.30	10.71
05/11/2004	PIK248KSTNENPIZZZZZ201	P62485	008	004208	EA	1	13.80	14.35
05/11/2004	PIK248KSTNENPIZZZZZ201	P62485	003	004208	EA	1	38.90	40.46

1652 Work Order Detail / Summarized Labor Report

Report Parameters

District: P *Parent WO:* * *WO Number:* HP000186 *From Date:* 200401 *To Date:* 200412 *Show Emp Info:* No

Company: **HECO**

Purchase Requisition Order Receipts

Tran Dte	*Acct Code*	*PO No*	*PO Item No*	*Supplier No*	*Unit of Purch*	*Qty*	*Net Price*	*Tran Amt*
05/14/2004	PIK248KSTNENPIZZZZZ201	P62557	008	003177	EA	1	166.10	172.74
05/14/2004	PIK248KSTNENPIZZZZZ201	P62557	001	003177	EA	2	17.15	35.67
05/14/2004	PIK248KSTNENPIZZZZZ201	P62557	009	003177	EA	1	174.95	181.95
05/14/2004	PIK248KSTNENPIZZZZZ201	P62557	007	003177	EA	1	14.10	14.66
05/14/2004	PIK248KSTNENPIZZZZZ201	P62557	006	003177	EA	1	24.90	25.90
05/14/2004	PIK248KSTNENPIZZZZZ201	P62557	005	003177	EA	1	17.80	18.51
05/14/2004	PIK248KSTNENPIZZZZZ201	P62557	004	003177	EA	2	25.55	53.14
05/14/2004	PIK248KSTNENPIZZZZZ201	P62557	003	003177	EA	2	20.85	43.37
05/14/2004	PIK248KSTNENPIZZZZZ201	P62557	002	003177	EA	3	20.00	62.40
06/22/2004	PIK248KSTNENPIZZZZZ201	P63875	003	002897	PK	1	10.85	11.28
06/22/2004	PIK248KSTNENPIZZZZZ201	P63875	002	002897	EA	6	6.05	37.75
06/23/2004	PIK248KSTNENPIZZZZZ201	P63875	001	002897	EA	1	109.90	114.30
06/23/2004	PIK248KSTNENPIZZZZZ201	P63875	004	002897	EA	1	20.10	20.90
06/24/2004	PIK248KSTNENPIZZZZZ201	P63957	002	003177	EA	3	17.15	53.51
06/24/2004	PIK248KSTNENPIZZZZZ201	P63957	007	003177	PK	1	15.15	15.76
06/24/2004	PIK248KSTNENPIZZZZZ201	P63957	006	003177	PK	1	27.95	29.07
06/24/2004	PIK248KSTNENPIZZZZZ201	P63957	005	003177	EA	3	20.00	62.40
06/24/2004	PIK248KSTNENPIZZZZZ201	P63957	003	003177	EA	1	18.25	18.98
06/24/2004	PIK248KSTNENPIZZZZZ201	P63957	001	003177	EA	3	18.60	58.03
06/24/2004	PIK248KSTNENPIZZZZZ201	P63957	004	003177	EA	1	13.75	14.30
08/11/2004	PIK248KSTNENPIZZZZZ201	P65815	001	003177	PK	1	25.55	26.57
08/11/2004	PIK248KSTNENPIZZZZZ201	P65815	002	003177	PK	1	20.85	21.68
08/11/2004	PIK248KSTNENPIZZZZZ201	P65815	003	003177	EA	1	39.85	41.44
08/11/2004	PIK248KSTNENPIZZZZZ201	P65815	004	003177	EA	1	20.00	20.80
08/11/2004	PIK248KSTNENPIZZZZZ201	P65815	005	003177	EA	1	17.15	17.84
08/11/2004	PIK248KSTNENPIZZZZZ201	P65815	006	003177	PG	1	4.05	4.21
08/11/2004	PIK248KSTNENPIZZZZZ201	P65815	007	003177	PK	1	61.30	63.75
08/11/2004	PIK248KSTNENPIZZZZZ201	P65815	008	003177	EA	1	11.45	11.91
08/19/2004	PIK248KSTNENPIZZZZZ201	P66193	002	016567	EA	1	46.30	48.15
08/19/2004	PIK248KSTNENPIZZZZZ201	P66193	001	016567	EA	3	13.60	42.43
08/31/2004	PIK248KSTNENPIZZZZZ201	P65815	005	003177	EA	1	17.15	17.84
09/16/2004	PIK248KSTNENPIZZZZZ201	P67405	001	002110	EA	2	11.50	23.92
09/16/2004	PIK248KSTNENPIZZZZZ201	P67405	002	002110	EA	3	11.50	35.88

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1652 Work Order Detail / Summarized Labor Report

Report Parameters

District: P *Parent WO:* * *WO Number:* HP000186 *From Date:* 200401 *To Date:* 200412 *Show Emp Info:* No

Company: **HECO**

Purchase Requisition Order Receipts

Tran Dte	Acct Code	PO No	PO Item No	Supplier No	Unit of Purch	Qty	Net Price	Tran Amt
09/20/2004	PIK248KSTNENPIZZZZZ201	P67405	003	002110	BT	1	27.60	28.70
10/19/2004	PIK248KSTNENPIZZZZZ201	P68661	005	003177	EA	1	20.00	20.83
10/19/2004	PIK248KSTNENPIZZZZZ201	P68661	010	003177	EA	1	100.50	104.68
10/19/2004	PIK248KSTNENPIZZZZZ201	P68661	009	003177	EA	1	10.20	10.62
10/19/2004	PIK248KSTNENPIZZZZZ201	P68661	008	003177	EA	1	12.10	12.60
10/19/2004	PIK248KSTNENPIZZZZZ201	P68661	006	003177	EA	1	24.90	25.94
10/19/2004	PIK248KSTNENPIZZZZZ201	P68661	004	003177	EA	1	13.75	14.32
10/19/2004	PIK248KSTNENPIZZZZZ201	P68661	003	003177	EA	1	18.25	19.01
10/19/2004	PIK248KSTNENPIZZZZZ201	P68661	002	003177	PK	2	25.55	53.23
10/19/2004	PIK248KSTNENPIZZZZZ201	P68661	001	003177	PK	2	20.85	43.43
10/19/2004	PIK248KSTNENPIZZZZZ201	P68661	007	003177	PK	1	15.15	15.78
10/21/2004	PIK248KSTNENPIZZZZZ201	P68488	001	004799	PL	1	325.50	338.52
10/25/2004	PIK248KSTNENPIZZZZZ201	P68943	002	002897	EA	1	5.81	6.05
10/25/2004	PIK248KSTNENPIZZZZZ201	P68944	001	003177	EA	3	20.00	62.50
10/25/2004	PIK248KSTNENPIZZZZZ201	P68944	002	003177	EA	1	101.75	105.98
10/25/2004	PIK248KSTNENPIZZZZZ201	P68943	004	002897	EA	1	127.02	132.30
10/25/2004	PIK248KSTNENPIZZZZZ201	P68943	001	002897	EA	1	312.00	324.98
10/25/2004	PIK248KSTNENPIZZZZZ201	P68928	003	002110	EA	1	11.50	11.96
10/25/2004	PIK248KSTNENPIZZZZZ201	P68928	001	002110	EA	1	192.00	199.68
10/25/2004	PIK248KSTNENPIZZZZZ201	P68928	002	002110	EA	1	11.50	11.96
10/26/2004	PIK248KSTNENPIZZZZZ201	P68943	005	002897	CS	1	18.55	19.32
10/28/2004	PIK248KSTNENPIZZZZZ201	P69108	001	004208	EA	1	69.80	72.59
10/28/2004	PIK248KSTNENPIZZZZZ201	P69108	002	004208	EA	1	80.00	83.20
10/29/2004	PIK248KSTNENPIZZZZZ201	P68943	003	002897	EA	1	37.90	39.48
12/03/2004	PIK248KSTNENPIZZZZZ201	P70411	003	002110	EA	1	0.00	0.00
12/03/2004	PIK248KSTNENPIZZZZZ201	P70411	001	002110	EA	1	61.00	63.44
12/03/2004	PIK248KSTNENPIZZZZZ201	P70411	002	002110	EA	1	65.00	67.60
					Expense Element:	**201**	**Subtotal:**	7800.68
							Total:	7800.68

1652 Work Order Detail / Summarized Labor Report

Report Parameters

District: P *Parent WO:* * *WO Number:* HP000186 *From Date:* 200401 *To Date:* 200412 *Show Emp Info:* No

Company: **HECO**

Purchase Requisition Price Adjustments

Tran Dte	Acct Code	PO No	PO Item No	Supplier No	Price Adjusted	Qty Adj	Unit of Purchase	Tran Amt
Expense Element: 201	**Matl-Issues/Purchases**							
12/06/2004	PIK248KSTNENPIZZZZZ201	P68488	001	004799	-74.34	0	PL	-77.31
12/07/2004	PIK248KSTNENPIZZZZZ201	P68488	001	004799	-9.66	0	PL	-10.05
						Expense Element: 201	**Subtotal:**	-87.36
							Total:	-87.36

Stock Material Transactions

Tran Dte	Acct Code	Stock Code	Qty	Unit of Issue	Item Name	Description	Tran Amt
Expense Element: 201	**Matl-Issues/Purchases**						
01/09/2004	PIK248KSTNENPIZZZZZ201	000250126	4	GL	AMMONIUM H	GRADE: 1'S	42.43
01/13/2004	PIK248KSTNENPIZZZZZ201	000268185	1	BG	PHOSPHATE,	SIZE: 50# BAG	33.40
01/16/2004	PIK248KSTNENPIZZZZZ201	000268466	1	DR	BORON NITRIT		558.29
01/16/2004	PIK248KSTNENPIZZZZZ201	000250126	4	GL	AMMONIUM H	GRADE: 1'S	42.43
01/16/2004	PIK248KSTNENPIZZZZZ201	000268466	2	DR	BORON NITRIT		1116.59
01/20/2004	PIK248KSTNENPIZZZZZ201	000268482	1	DR	HYDRAZINE, U	SCAV-OX, 55 GAL DRUM, 460#/DRUM, FOR	1340.36
01/24/2004	PIK248KSTNENPIZZZZZ201	000268466	2	DR	BORON NITRIT		1116.59
01/26/2004	PIK248KSTNENPIZZZZZ201	000268185	1	BG	PHOSPHATE,	SIZE: 50# BAG	33.40
02/05/2004	PIK248KSTNENPIZZZZZ201	000250126	4	GL	AMMONIUM H	GRADE: 1'S	41.73
02/17/2004	PIK248KSTNENPIZZZZZ201	000268185	2	BG	PHOSPHATE,	SIZE: 50# BAG	65.72
02/20/2004	PIK248KSTNENPIZZZZZ201	000268185	2	BG	PHOSPHATE,	SIZE: 50# BAG	65.72
02/25/2004	PIK248KSTNENPIZZZZZ201	000268466	2	DR	BORON NITRIT		1105.34
03/04/2004	PIK248KSTNENPIZZZZZ201	000250126	4	GL	AMMONIUM H	GRADE: 1'S	41.73
03/05/2004	PIK248KSTNENPIZZZZZ201	000268185	1	BG	PHOSPHATE,	SIZE: 50# BAG	32.86
03/08/2004	PIK248KSTNENPIZZZZZ201	000268185	2	BG	PHOSPHATE,	SIZE: 50# BAG	65.72
03/11/2004	PIK248KSTNENPIZZZZZ201	000250126	8	GL	AMMONIUM H	GRADE: 1'S	83.46
03/12/2004	PIK248KSTNENPIZZZZZ201	000268466	2	DR	BORON NITRIT		1105.34
03/31/2004	PIK248KSTNENPIZZZZZ201	000268185	2	BG	PHOSPHATE,	SIZE: 50# BAG	65.72
03/31/2004	PIK248KSTNENPIZZZZZ201	000268466	2	DR	BORON NITRIT		1105.34
04/07/2004	PIK248KSTNENPIZZZZZ201	000268466	2	DR	BORON NITRIT		1105.34
04/12/2004	PIK248KSTNENPIZZZZZ201	000268466	2	DR	BORON NITRIT		1105.34
04/13/2004	PIK248KSTNENPIZZZZZ201	000268284	4	BG	ASH, SODA, T	FOR BOILER WATER TREATMENT	62.73
04/13/2004	PIK248KSTNENPIZZZZZ201	000573147	6	EA	BUCKET, PLAS		18.63

1652 Work Order Detail / Summarized Labor Report

Report Parameters

District: P *Parent WO:* * *WO Number:* HP000186 *From Date:* 200401 *To Date:* 200412 *Show Emp Info:* No

Company: **HECO**

Stock Material Transactions

Tran Dte	Acct Code	Stock Code	Qty	Unit of Issue	Item Name	Description	Tran Amt
04/19/2004	PIK248KSTNENPIZZZZZ201	000268185	2	BG	PHOSPHATE,	SIZE: 50# BAG	65.72
04/26/2004	PIK248KSTNENPIZZZZZ201	000250126	4	GL	AMMONIUM H	GRADE: 1'S	41.73
04/26/2004	PIK248KSTNENPIZZZZZ201	000268482	1	DR	HYDRAZINE, U	SCAV-OX, 55 GAL DRUM, 460#/DRUM, FOR	1329.09
04/27/2004	PIK248KSTNENPIZZZZZ201	000250126	4	GL	AMMONIUM H	GRADE: 1'S	41.73
04/29/2004	PIK248KSTNENPIZZZZZ201	000268061	1	PL	CLEANER, LIQ	SIMPLE GREEN, SIZE: 5 GALLON PAIL	33.97
04/29/2004	PIK248KSTNENPIZZZZZ201	000250126	4	GL	AMMONIUM H	GRADE: 1'S	20.87
04/30/2004	PIK248KSTNENPIZZZZZ201	000268466	2	DR	BORON NITRIT		1106.80
05/06/2004	PIK248KSTNENPIZZZZZ201	000268185	2	BG	PHOSPHATE,	SIZE: 50# BAG	69.19
05/06/2004	PIK248KSTNENPIZZZZZ201	000268466	3	DR	BORON NITRIT		1660.20
05/10/2004	PIK248KSTNENPIZZZZZ201	000268466	0	DR	BORON NITRIT		0.00
05/10/2004	PIK248KSTNENPIZZZZZ201	000250126	4	GL	AMMONIUM H	GRADE: 1'S	41.73
05/10/2004	PIK248KSTNENPIZZZZZ201	000268185	2	BG	PHOSPHATE,	SIZE: 50# BAG	65.72
05/20/2004	PIK248KSTNENPIZZZZZ201	000268482	1	DR	HYDRAZINE, U	SCAV-OX, 55 GAL DRUM, 460#/DRUM, FOR	1329.09
06/04/2004	PIK248KSTNENPIZZZZZ201	000250126	4	GL	AMMONIUM H	GRADE: 1'S	41.73
06/04/2004	PIK248KSTNENPIZZZZZ201	000268482	1	DR	HYDRAZINE, U	SCAV-OX, 55 GAL DRUM, 460#/DRUM, FOR	1334.47
06/07/2004	PIK248KSTNENPIZZZZZ201	000250126	4	GL	AMMONIUM H	GRADE: 1'S	41.73
06/07/2004	PIK248KSTNENPIZZZZZ201	000268466	2	DR	BORON NITRIT		1106.80
06/08/2004	PIK248KSTNENPIZZZZZ201	000268466	2	DR	BORON NITRIT		1106.80
06/23/2004	PIK248KSTNENPIZZZZZ201	000250126	4	GL	AMMONIUM H	GRADE: 1'S	41.73
06/30/2004	PIK248KSTNENPIZZZZZ201	000250126	4	GL	AMMONIUM H	GRADE: 1'S	41.73
06/30/2004	PIK248KSTNENPIZZZZZ201	000268466	1	DR	BORON NITRIT		553.62
07/06/2004	PIK248KSTNENPIZZZZZ201	000250126	4	GL	AMMONIUM H	GRADE: 1'S	42.41
07/07/2004	PIK248KSTNENPIZZZZZ201	000584946	1	EA	PLIER, DIAGO		15.74
07/12/2004	PIK248KSTNENPIZZZZZ201	000268466	4	DR	BORON NITRIT		2250.48
07/12/2004	PIK248KSTNENPIZZZZZ201	000250126	8	GL	AMMONIUM H	GRADE: 1'S	84.84
07/12/2004	PIK248KSTNENPIZZZZZ201	000250126	4	GL	AMMONIUM H	GRADE: 1'S	42.41
07/12/2004	PIK248KSTNENPIZZZZZ201	000268185	2	BG	PHOSPHATE,	SIZE: 50# BAG	70.31
07/16/2004	PIK248KSTNENPIZZZZZ201	000250126	8	GL	AMMONIUM H	GRADE: 1'S	84.84
07/21/2004	PIK248KSTNENPIZZZZZ201	000268466	2	DR	BORON NITRIT		1125.25
08/10/2004	PIK248KSTNENPIZZZZZ201	000250126	8	GL	AMMONIUM H	GRADE: 1'S	84.84
08/10/2004	PIK248KSTNENPIZZZZZ201	000268466	2	DR	BORON NITRIT		1125.25
08/30/2004	PIK248KSTNENPIZZZZZ201	000250126	4	GL	AMMONIUM H	GRADE: 1'S	42.41

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1652 Work Order Detail / Summarized Labor Report

Report Parameters

District: P *Parent WO:* * *WO Number:* HP000186 *From Date:* 200401 *To Date:* 200412 *Show Emp Info:* No

Company: **HECO**

Stock Material Transactions

Tran Dte	Acct Code	Stock Code	Qty	Unit of Issue	Item Name	Description	Tran Amt
09/02/2004	PIK248KSTNENPIZZZZZ201	000268185	2	BG	PHOSPHATE,	SIZE: 50# BAG	70.31
09/02/2004	PIK248KSTNENPIZZZZZ201	000268284	3	BG	ASH, SODA, T	FOR BOILER WATER TREATMENT	47.82
09/02/2004	PIK248KSTNENPIZZZZZ201	000250126	8	GL	AMMONIUM H	GRADE: 1'S	84.84
09/02/2004	PIK248KSTNENPIZZZZZ201	000268466	2	DR	BORON NITRIT		1125.42
09/02/2004	PIK248KSTNENPIZZZZZ201	000268466	2	DR	BORON NITRIT		1125.42
09/03/2004	PIK248KSTNENPIZZZZZ201	000268185	2	BG	PHOSPHATE,	SIZE: 50# BAG	70.31
09/07/2004	PIK248KSTNENPIZZZZZ201	000268466	1	DR	BORON NITRIT		562.71
09/07/2004	PIK248KSTNENPIZZZZZ201	000250126	4	GL	AMMONIUM H	GRADE: 1'S	42.41
09/13/2004	PIK248KSTNENPIZZZZZ201	000268185	2	BG	PHOSPHATE,	SIZE: 50# BAG	70.31
09/27/2004	PIK248KSTNENPIZZZZZ201	000268466	2	DR	BORON NITRIT		1161.23
10/12/2004	PIK248KSTNENPIZZZZZ201	000250126	4	GL	AMMONIUM H	GRADE: 1'S	42.77
10/14/2004	PIK248KSTNENPIZZZZZ201	000250126	8	GL	AMMONIUM H	GRADE: 1'S	85.52
10/14/2004	PIK248KSTNENPIZZZZZ201	000268466	2	DR	BORON NITRIT		1170.62
10/18/2004	PIK248KSTNENPIZZZZZ201	000268466	2	DR	BORON NITRIT		1170.62
10/19/2004	PIK248KSTNENPIZZZZZ201	000250126	4	GL	AMMONIUM H	GRADE: 1'S	42.77
11/01/2004	PIK248KSTNENPIZZZZZ201	000268466	2	DR	BORON NITRIT		1173.24
11/10/2004	PIK248KSTNENPIZZZZZ201	000250126	8	GL	AMMONIUM H	GRADE: 1'S	85.52
11/10/2004	PIK248KSTNENPIZZZZZ201	000268466	2	DR	BORON NITRIT		1173.24
11/26/2004	PIK248KSTNENPIZZZZZ201	000268482	1	DR	HYDRAZINE, U	SCAV-OX, 55 GAL DRUM, 460#/DRUM, FOR	1369.89
11/27/2004	PIK248KSTNENPIZZZZZ201	000250126	2	GL	AMMONIUM H	GRADE: 1'S	21.38
11/27/2004	PIK248KSTNENPIZZZZZ201	000268466	2	DR	BORON NITRIT		1174.17
12/01/2004	PIK248KSTNENPIZZZZZ201	000250126	4	GL	AMMONIUM H	GRADE: 1'S	42.77
12/01/2004	PIK248KSTNENPIZZZZZ201	000268466	2	DR	BORON NITRIT		1174.17
12/06/2004	PIK248KSTNENPIZZZZZ201	000268466	1	DR	BORON NITRIT		587.08
12/07/2004	PIK248KSTNENPIZZZZZ201	000268466	2	DR	BORON NITRIT		1174.17
12/07/2004	PIK248KSTNENPIZZZZZ201	000268482	1	DR	HYDRAZINE, U	SCAV-OX, 55 GAL DRUM, 460#/DRUM, FOR	1369.89
12/07/2004	PIK248KSTNENPIZZZZZ201	000618678	30	BX	TESTER, DISS		1178.04
12/21/2004	PIK248KSTNENPIZZZZZ201	000268466	2	DR	BORON NITRIT		1174.17
12/21/2004	PIK248KSTNENPIZZZZZ201	000250126	4	GL	AMMONIUM H	GRADE: 1'S	42.77
12/27/2004	PIK248KSTNENPIZZZZZ201	000250126	4	GL	AMMONIUM H	GRADE: 1'S	42.77

Expense Element: 201 Subtotal: 44053.79

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1652 Work Order Detail / Summarized Labor Report

Report Parameters

District: P *Parent WO:* * *WO Number:* HP000186 *From Date:* 200401 *To Date:* 200412 *Show Emp Info:* No

Company: **HECO**

Total:	44053.79
Work Order Total:	52836.28 ✓

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Work Order Detail / Summarized Labor Report

meters

· P *Parent WO:* * *WO Number:* PR022709 *From Date:* 190001 *To Date:* 200412 *Show Emp Info:* No

HECO

Order: **PR022709** **Kahe 6 Corrosion Control**

Invoice Transactions

Tran Dte	Acct Code	Cat No	Supplier No	Inv No	Inv Item No	Inv Item Desc	Contract No	Portion No	Element No	Tran Amt
Expense Element: 501	**Outside Svcs-General**									
12/14/2001	PIL259K06NENPIZZZZZ501		009563	HECO01-	001	KAHE COATING & PAI				2500.00
12/17/2001	PIL259K06NENPIZZZZZ501		003563	6060	001	LABOR	PIP01009	01	01	38395.00
12/17/2001	PIL259K06NENPIZZZZZ501		003563	6058	001	LABOR	PIP01009	01	01	48349.00
12/20/2001	PIL259K06NENPIZZZZZ501		003563	06023	001	LABOR	PIP01009	01	01	70396.00
12/28/2001	PIL259K06NENPIZZZZZ501		003563	6103	001	LABOR	PIP01009	01	01	52516.00
12/28/2001	PIL259K06NENPIZZZZZ501		003563	6102	001	LABOR	PIP01009	01	01	78774.00
12/04/2004	PIL259K06NENPIZZZZZ501	01	003563	7229	001	LABOR	PIP01009	01	02	60394.20
12/04/2004	PIL259K06NENPIZZZZZ501	01	003563	7199	001	LABOR	PIP01009	01	02	71052.00
12/04/2004	PIL259K06NENPIZZZZZ501	01	003563	7178	001	LABOR	PIP01009	01	02	78157.20
12/04/2004	PIL259K06NENPIZZZZZ501	01	003563	7222	001	LABOR	PIP01009	01	02	56841.60
12/04/2004	PIL259K06NENPIZZZZZ501	01	003563	7206	001	LABOR	PIP01009	01	02	63946.80
12/04/2004	PIL259K06NENPIZZZZZ501	01	003563	7192	001	LABOR	PIP01009	01	02	92367.60
12/04/2004	PIL259K06NENPIZZZZZ501	01	003563	7189	001	LABOR	PIP01009	01	02	85262.40
12/06/2004	PIL259K06NENPIZZZZZ501		001975	50131	001	FLUSHABLE CHEMI-T				106.08
12/06/2004	PIL259K06NENPIZZZZZ501		003563	7258	001	KAHE 6 ADDITIONAL S				26190.00
12/09/2004	PIL259K06NENPIZZZZZ501		021028	3323400	001	inv#3323400. services r				150.94
12/18/2004	PIL259K06NENPIZZZZZ501		021028	3330063	001	inv.#3330063. services r				176.09
12/18/2004	PIL259K06NENPIZZZZZ501		021028	3336491	001	inv#3336491. services r				213.83
12/18/2004	PIL259K06NENPIZZZZZ501		021028	3343132	001	inv#3343132. services r				197.06
12/29/2004	PIL259K06NENPIZZZZZ501		021028	3349892	001	inv#3349892. services r				113.20
									Expense Element: 501 Subtotal:	826099.00
									Total:	826099.00

290,930

535,169

Labor Costs

Process Pd	Tran Dte	Acct Code	Emp ID	Last Name	First Name	No of Hours	Tran Amt
Expense Element: 150		**Labor Cost**					
200110	10/30/2001	PIP259K06NENPIZZZZZ150				3.00	89.73
	10/31/2001	PIP259K06NENPIZZZZZ150				1.00	29.91

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1652 Work Order Detail / Summarized Labor Report

Report Parameters

District: P *Parent WO:* * *WO Number:* PR035707 *From Date:* 190001 *To Date:* 200412 *Show Emp Info:* No

Company: **HECO**

Parent WO:

Work Order: **PR035707** **SPALL REPAIR K5/6 CWP PIT - 2003**

Invoice Transactions

Tran Dte	Acct Code	Cat No	Supplier No	Inv No	Inv Item No	Inv Item Desc	Contract No	Portion No	Element No	Tran Amt
Expense Element: 501	**Outside Svcs-General**									
12/12/2003	PIL262K06NENPIZZZZZ501		005882	3436-01	001	KAHE 5/6 CHILLER DE				46644.00 ✓
04/13/2004	PIL262K06NENPIZZZZZ501		005882	C1078	001	KAHE 5/6 CHILLER DE				4056.00
11/16/2004	PIL262K06NENPIZZZZZ501		005882	C1137	001	KPP K5/6 CW PIT SPA				99164.65
11/30/2004	PIL262K06NENPIZZZZZ501		005882	HC24110	001	KPP K5/6 CW PIT SPA				37271.06
12/14/2004	PIL262K06NENPIZZZZZ501		005882	HC24110	001	K 5&6 CHLR DECK LB				6332.00
									Expense Element: 501 Subtotal:	193467.71
									Total:	193467.71

146,824 ✓

Labor Costs

Process Pd	Tran Dte	Acct Code	Emp ID	Last Name	First Name	No of Hours	Tran Amt
Expense Element: 150		**Labor Cost**					
200403	03/29/2004	PIL262K06NENPIZZZZZ150				2.00	67.52
					Subtotal:	2.00	67.52
					Expense Element: 150 Subtotal:	2.00	67.52
Expense Element: 155		**Labor True-up**					
200403						0.00	17.11
200404						0.00	6.16
					Expense Element: 155 Subtotal:	0.00	23.27
Expense Element: 405		**Power Supply**					
200403						0.00	12.48
					Expense Element: 405 Subtotal:	0.00	12.48
Expense Element: 406		**Corp Admin Expense**					
200403						0.00	5.48
					Expense Element: 406 Subtotal:	0.00	5.48
Expense Element: 421		**Non-Productive Wages**					
200403						0.00	8.88

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1652 Work Order Detail / Summarized Labor Report

Report Parameters

District: P *Parent WO:* * *WO Number:* PR026267 *From Date:* 190001 *To Date:* 999912 *Show Emp Info:* No

Company: **HECO**

Purchase Requisition Order Receipts

Tran Dte	Acct Code	PO No	PO Item No	Supplier No	Unit of Purch	Qty	Net Price	Tran Amt
08/27/2002	PIL259K01NENPIZZZZZ201	P41603	006	003623	EA	8	11.75	97.89
						Expense Element: 201	**Subtotal:**	2226.71
							Total:	2226.71

Stock Material Transactions

Tran Dte	Acct Code	Stock Code	Qty	Unit of Issue	Item Name	Description	Tran Amt
Expense Element: 201	**Matl-Issues/Purchases**						
08/10/2002	PIL259K01NENPIZZZZZ201	000374488	1	PR	GLASSES, SAF	SIDE SHIELD	4.67
08/10/2002	PIL259K01NENPIZZZZZ201	000372888	1	EA	HARDHAT, YE	SUSPENSION	11.91
08/14/2002	PIL259K01NENPIZZZZZ201	000332908	1	EA	GASKET, FLEX	NON-ASBESTOS, VOLUTE TO BARREL, REF.	256.66
08/14/2002	PIL259K01NENPIZZZZZ201	000332965	1	EA	GASKET, SLEE	BYRON JACKSON, SIZE 1/3 X 2-3/8 X1-15/16	28.37
08/14/2002	PIL259K01NENPIZZZZZ201	000155366	3	GL	SOLVENT, THI	FOR HOUSE PAINT, VARNISH AND ENAMEL;	18.65
08/14/2002	PIL259K01NENPIZZZZZ201	000161323	2	EA	GAUGE, PRES	SAFETY GLASS.	86.91
08/14/2002	PIL259K01NENPIZZZZZ201	000332981	1	EA	GASKET, TAK	REF #744-11, BYRON JACKSON BOILER FEED	20.02
08/14/2002	PIL259K01NENPIZZZZZ201	000332940	1	EA	GASKET, BLIN	FLEXITALLIC, REF. # 744-9, SIZE 1-7/8"	37.22
08/14/2002	PIL259K01NENPIZZZZZ201	000333088	1	EA	TUBE, TAKEO	SER.#3378531, REF #620. FOR BYRON	4830.18
08/14/2002	PIL259K01NENPIZZZZZ201	000333120	1	EA	ELEMENT, RO	FOR BYRON JACKSON BOILER FEED PUMP, SIZ	149829.92
08/14/2002	PIL259K01NENPIZZZZZ201	000222406	1	EA	GASKET, SPIR	3-4-600#, FLEXITALLIC - NON-ASBESTOS	2.62
08/14/2002	PIL259K01NENPIZZZZZ201	000321489	1	EA	GASKET, O-RI	REF. S-18, DWG. 568432MG FOR BORG WARNER	28.11
08/14/2002	PIL259K01NENPIZZZZZ201	000321588	1	EA	SLEEVE, SEAL	POLYPROPOLENE O-RING, FOR 6 X 10-1/4, 14	20.68
08/14/2002	PIL259K01NENPIZZZZZ201	000332825	1	EA	O-RING 568260	MATERIAL CODE MG-ETHYLENE PROPYLENE.	11.43
08/14/2002	PIL259K01NENPIZZZZZ201	000266528	3	CN	COMPOUND, T	"FEL-PRO N-7000" BRUSH TAP.	178.05
08/14/2002	PIL259K01NENPIZZZZZ201	000155226	1	EA	SEALANT, AD	SIZE: 1.5 OZ	2.92
08/14/2002	PIL259K01NENPIZZZZZ201	000266320	1	EA	ADDITIVE, OIL	DO NOT SUBSTITUTE.	2.92
08/14/2002	PIL259K01NENPIZZZZZ201	000333302	1	EA	GASKET, FLEX	STYLE R-3, NON-ASBESTOS, 150-LB PIP SIZE	10.55
						Expense Element: 201 **Subtotal:**	155381.79 (1)
						Total:	155381.79
						Work Order Total:	175727.25

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1652 Work Order Detail / Summarized Labor Report

Report Parameters

District: P *Parent WO:* * *WO Number:* PR031116 *From Date:* 190001 *To Date:* 999912 *Show Emp Info:* No

Company: **HECO**

Stock Material Transactions

Tran Dte	Acct Code	Stock Code	Qty	Unit of Issue	Item Name	Description	Tran Amt
Expense Element: 201	**Matl-Issues/Purchases**						
12/30/2002	PIL258K06NENPIZZZZZ201	000366682	1	EA	ELEMENT, RO	MODEL#8U15 CASTING #MM74400	60932.23 (1)
04/29/2003	PIL258K06NENPIZZZZZ201	000366682	-1	EA	ELEMENT, RO	MODEL#8U15 CASTING #MM74400	-59332.85
04/29/2003	PIL258K06NENPIZZZZZ201	000366682	0	EA	ELEMENT, RO	MODEL#8U15 CASTING #MM74400	0.00
						Expense Element: 201 Subtotal:	1599.38
						Total:	1599.38
						Work Order Total:	1952.45

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ort

190001 *To Date:* 999912 *Show Emp Info:* No

upplier No	*Unit of Purch*	*Qty*	*Net Price*	*Tran Amt*
03623	EA	1	250.04	260.44
03623	EA	1	207.98	216.63
03623	EA	1	192.27	200.27
03623	EA	1	237.77	247.66
03623	EA	1	158.12	164.70
03623	EA	1	146.38	152.47
03623	EA	1	122.97	128.09
03623	EA	1	136.47	142.15
	Expense Element:	**201**	**Subtotal:**	1512.41
			Total:	1512.41

ame	*Description*	*Tran Amt*
ENT, RO	FOR BYRON JACKSON BOILER FEED PUMP, SIZ	176129.51
ENT, THI	FOR HOUSE PAINT, VARNISH AND ENAMEL;	6.35
COMPRE		83.68
DER, CO	SIZE: 300 CF. CYLINDER	249.41
DER, CO	SIZE: 300 CF. CYLINDER	-249.41
PIPE, SI	THREADED, ASME/ASTM SA-105, ASME B16.11,	1.27
ING, S	6000#, SCH. 160, CHROME MOLY A-182,	0.00
NG, E.H.	3000#, FORGED STEEL, BLACK, THREADED,	2.80
.H. SIZE	FORGED STEEL SCREWED FITTING, 3000#	3.75
E, PRES	SAFETY GLASS	89.88
ET, SPIR	3-4-600#, FLEXITALLIC - NON-ASBESTOS	2.55
ET, SUC	REF. #746-7 BYRON JACKSON BOILER FEED	0.00
COMPRE		83.68
DER, CO	SIZE: 300 CF. CYLINDER	249.41
DER, CO	SIZE: 300 CF. CYLINDER	-249.41
ET, SUC	REF. #746-7 BYRON JACKSON BOILER FEED	-20.64
E, TAKE	BYRON JACKSON BOILER FEED PUMP, SIZE 6 X	1851.97

1652 Work Order Detail / Summarized Labor Report

Report Parameters

District: P *Parent WO:* * *WO Number:* PR031098 *From Date:* 190001 *To Date:* 999912 *Show Emp Info:* No

Company: **HECO**

Labor Costs

Process Pd	Tran Dte	Acct Code	Emp ID	Last Name	First Name	No of Hours	Tran Amt
200303						0.00	17.61
200304						0.00	24.23
200305						0.00	916.15
200306						0.00	9.87
					Expense Element: 423 **Subtotal:**	0.00	967.86
					Total:	326.50	20132.90

Manual Journal Vouchers

Tran Dte	Acct Code	Voucher No	Description	Accountant Code	Qty Amt	Tran Amt
Expense Element: 201	**Matl-Issues/Purchases**					
03/21/2003	PIL258K02NENPIZZZZZ201		ON COST CHG TO: 062870/008	HWB900	0	37.14
03/21/2003	PIL258K02NENPIZZZZZ201		ON COST CHG TO: 062870/002	HWB900	0	28.56
03/21/2003	PIL258K02NENPIZZZZZ201		ON COST CHG TO: 062870/004	HWB900	0	18.27
03/21/2003	PIL258K02NENPIZZZZZ201		ON COST CHG TO: 062870/001	HWB900	0	35.32
03/21/2003	PIL258K02NENPIZZZZZ201		ON COST CHG TO: 062870/006	HWB900	0	23.49
03/21/2003	PIL258K02NENPIZZZZZ201		ON COST CHG TO: 062870/003	HWB900	0	20.27
03/21/2003	PIL258K02NENPIZZZZZ201		ON COST CHG TO: 062870/005	HWB900	0	21.74
03/21/2003	PIL258K02NENPIZZZZZ201		ON COST CHG TO: 062870/007	HWB900	0	30.89
06/02/2003	PIL258K02NENPIZZZZZ201	FA460503	ELELMENT	0000007731	0	183737.36
06/02/2003	PIL258K02NENPIZZZZZ201	FA460503	GASKET	0000007731	0	19.49
06/02/2003	PIL258K02NENPIZZZZZ201	FA460503	SEAL	0000007731	0	3844.76
06/02/2003	PIL258K02NENPIZZZZZ201	FA460503	GASKET	0000007731	0	20.64
06/02/2003	PIL258K02NENPIZZZZZ201	FA460503	SEAL	0000007731	0	3808.54
06/02/2003	PIL258K02NENPIZZZZZ201	FA460503	GASKET	0000007731	0	36.24
06/02/2003	PIL258K02NENPIZZZZZ201	FA460503	GASKET	0000007731	0	27.63
06/02/2003	PIL258K02NENPIZZZZZ201	FA460503	GASKET	0000007731	0	10.27
06/02/2003	PIL258K02NENPIZZZZZ201	FA460503	GASKET	0000007731	0	249.92
06/02/2003	PIL258K02NENPIZZZZZ201	FA460503	GASKET	0000007731	0	365.77
				Expense Element: 201	**Subtotal:**	192336.30 (2)
					Total:	192336.30

BFP OH - 2003 - E1 (2) = 641,344 ✓

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...arized Labor Report

...ber: PR031098 From Date: 190001 To Date: 999912 Show Emp Info: No

No	PO Item No	Supplier No	Unit of Purch	Qty	Net Price	Tran Amt
...es						
...968	016	003623	EA	1	250.04	260.44
...968	015	003623	EA	1	207.98	216.63
...968	010	003623	EA	1	192.27	200.27
...968	009	003623	EA	1	237.77	247.66
...968	014	003623	EA	1	158.12	164.70
...968	013	003623	EA	1	146.38	152.47
...968	012	003623	EA	1	122.97	128.09
...968	011	003623	EA	1	136.47	142.15
			Expense Element:	201	Subtotal:	1512.41 (2)
					Total:	1512.41

Code	Qty	Unit of Issue	Item Name	Description	Tran Amt
...es					
33120	1	EA	ELEMENT, RO	FOR BYRON JACKSON BOILER FEED PUMP, SIZ	176129.51 (3)
55366	1	GL	SOLVENT, THI	FOR HOUSE PAINT, VARNISH AND ENAMEL;	6.35
47668	1	CL	GAS, COMPRE		83.68
14610	1	CL	CYLINDER, CO	SIZE: 300 CF. CYLINDER	249.41
14610	-1	CL	CYLINDER, CO	SIZE: 300 CF. CYLINDER	-249.41
27868	2	EA	PLUG, PIPE, SI	THREADED, ASME/ASTM SA-105, ASME B16.11,	1.27
27280	0	EA	COUPLING, S	6000#, SCH. 160, CHROME MOLY A-182,	0.00
26985	4	EA	BUSHING, E.H.	3000#, FORGED STEEL, BLACK, THREADED,	2.80
28007	1	EA	TEE, E.H. SIZE	FORGED STEEL SCREWED FITTING, 3000#	3.75
39821	2	EA	GAUGE, PRES	SAFETY GLASS	89.88
22406	1	EA	GASKET, SPIR	3-4-600#, FLEXITALLIC - NON-ASBESTOS	2.55
32924	0	EA	GASKET, SUC	REF. #746-7 BYRON JACKSON BOILER FEED	0.00
47668	1	CL	GAS, COMPRE		83.68
14610	1	CL	CYLINDER, CO	SIZE: 300 CF. CYLINDER	249.41
14610	-1	CL	CYLINDER, CO	SIZE: 300 CF. CYLINDER	-249.41
32924	-1	EA	GASKET, SUC	REF. #746-7 BYRON JACKSON BOILER FEED	-20.64
33062	1	EA	SLEEVE, TAKE	BYRON JACKSON BOILER FEED PUMP, SIZE 6 X	1851.97

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1652 Work Order Detail / Summarized Labor Report

Report Parameters

District: P *Parent WO:* * *WO Number:* PR031098 *From Date:* 190001 *To Date:* 999912 *Show Emp Info:* No

Company: **HECO**

Stock Material Transactions

Tran Dte	Acct Code	Stock Code	Qty	Unit of Issue	Item Name	Description	Tran Amt
05/28/2003	PIL258K02NENPIZZZZZ201	000333088	1	EA	TUBE, TAKEO	SER.#3378531, REF #620. FOR BYRON	4019.07
07/30/2003	PIL258K02NENPIZZZZZ201	000155283	2	EA	ADHESIVE, SP	FOR ASBESTOS CONTAINMENT.	21.47
07/30/2003	PIL258K02NENPIZZZZZ201	000249920	1	GL	ACETONE, TE	6/CASE	16.43
						Expense Element: 201 Subtotal:	182291.77
						Total:	182291.77 (A)
						Work Order Total:	396383.13

(A) 182292
Less 2002 (B) <176,130>
6,162 (2)

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1652 Work Order Detail / Summarized Labor Report

Report Parameters

District: P *Parent WO:* * *WO Number:* PR030922 *From Date:* 190001 *To Date:* 999912 *Show Emp Info:* No

Company: **HECO**

Labor Costs

Proccess Pd	Tran Dte	Acct Code	Emp ID	Last Name	First Name	No of Hours	Tran Amt
					Expense Element: 422 Subtotal:	0.00	2704.08
Expense Element: 423		**Payroll Taxes**					
200302						0.00	827.34
200303						0.00	-0.04
					Expense Element: 423 Subtotal:	0.00	827.30
					Total:	296.50	17340.01

Manual Journal Vouchers

Tran Dte	Acct Code	Voucher No	Description	Accountant Code	Qty Amt	Tran Amt
Expense Element: 155	**Labor True-up**					
04/21/2003	PIL258K03NENPIZZZZZ155	HCC10304	Home Cost Center Adj for ppe022303	JMLEE	0	3166.63
				Expense Element: 155 Subtotal:		3166.63
Expense Element: 201	**Matl-Issues/Purchases**					
02/18/2003	PIL258KSTNENPIZZZZZ201		ON COST CHG TO: 061117/001	HWB900	0	477.54
02/19/2003	PIL258KSTNENPIZZZZZ201		ON COST CHG TO: 061128/001	HWB900	0	12.48
02/20/2003	PIL258K03NENPIZZZZZ201		ON COST CHG TO: 061684/007	HWB900	0	30.89
02/20/2003	PIL258K03NENPIZZZZZ201		ON COST CHG TO: 061684/002	HWB900	0	28.56
02/20/2003	PIL258K03NENPIZZZZZ201		ON COST CHG TO: 061684/006	HWB900	0	23.49
02/20/2003	PIL258K03NENPIZZZZZ201		ON COST CHG TO: 061684/003	HWB900	0	20.27
02/20/2003	PIL258K03NENPIZZZZZ201		ON COST CHG TO: 061684/005	HWB900	0	21.74
02/20/2003	PIL258K03NENPIZZZZZ201		ON COST CHG TO: 061684/004	HWB900	0	18.27
02/20/2003	PIL258K03NENPIZZZZZ201		ON COST CHG TO: 061684/008	HWB900	0	37.14
02/20/2003	PIL258K03NENPIZZZZZ201		ON COST CHG TO: 061684/001	HWB900	0	35.32
02/24/2003	PIL258KSTNENPIZZZZZ201		ON COST CHG TO: 061540/001	HWB900	0	336.16
09/08/2003	PIL258K03NENPIZZZZZ201	P000024610	ON COST CHG TO: 068327/001	HWB900	0	828.51
				Expense Element: 201 Subtotal:		1870.37 (2)
				Total:		5037.00

Purchase Requisition Order Receipts

Tran Dte	Acct Code	PO No	PO Item No	Supplier No	Unit of Purch	Qty	Net Price	Tran Amt
Expense Element: 201	**Matl-Issues/Purchases**							
02/18/2003	PIL258KSTNENPIZZZZZ201	P47500	001	003120	EA	4	805.00	3348.80

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1652 Work Order Detail / Summarized Labor Report

Report Parameters

District: P *Parent WO:* * *WO Number:* PR030922 *From Date:* 190001 *To Date:* 999912 *Show Emp Info:* No

Company: **HECO**

Purchase Requisition Order Receipts

Tran Dte	Acct Code	PO No	PO Item No	Supplier No	Unit of Purch	Qty	Net Price	Tran Amt
02/19/2003	PIL258KSTNENPIZZZZZ201	P47494	001	013248	EA	1	84.00	87.49
02/20/2003	PIL258K03NENPIZZZZZ201	P48002	002	003623	EA	1	192.27	200.27
02/20/2003	PIL258K03NENPIZZZZZ201	P48002	001	003623	EA	1	237.77	247.66
02/20/2003	PIL258K03NENPIZZZZZ201	P48002	004	003623	EA	1	122.97	128.09
02/20/2003	PIL258K03NENPIZZZZZ201	P48002	003	003623	EA	1	136.47	142.15
02/20/2003	PIL258K03NENPIZZZZZ201	P48002	006	003623	EA	1	158.12	164.70
02/20/2003	PIL258K03NENPIZZZZZ201	P48002	005	003623	EA	1	146.38	152.47
02/20/2003	PIL258K03NENPIZZZZZ201	P48002	008	003623	EA	1	250.04	260.44
02/20/2003	PIL258K03NENPIZZZZZ201	P48002	007	003623	EA	1	207.98	216.63
02/24/2003	PIL258KSTNENPIZZZZZ201	P47886	001	005885	EA	8	282.90	2357.35
09/08/2003	PIL258K03NENPIZZZZZ201	P48166	003	005730	EA	1	5578.00	5810.04
						Expense Element: 201	**Subtotal:**	13116.09 (2)
							Total:	13116.09

Stock Material Transactions

Tran Dte	Acct Code	Stock Code	Qty	Unit of Issue	Item Name	Description	Tran Amt
Expense Element: 201	**Matl-Issues/Purchases**						
02/19/2003	PIL258K03NENPIZZZZZ201	000332981	1	EA	GASKET, TAK	REF #744-11, BYRON JACKSON BOILER FEED	19.49
02/19/2003	PIL258K03NENPIZZZZZ201	000321588	1	EA	SLEEVE, SEAL	POLYPROPOLENE O-RING, FOR 6 X 10-1/4, 14	18.18
02/19/2003	PIL258K03NENPIZZZZZ201	000332965	0	EA	GASKET, SLEE	BYRON JACKSON, SIZE 1/3 X 2-3/8 X1-15/16	0.00
02/19/2003	PIL258K03NENPIZZZZZ201	000332940	1	EA	GASKET, BLIN	FLEXITALLIC, REF. # 744-9, SIZE 1-7/8"	36.24
02/19/2003	PIL258K03NENPIZZZZZ201	000333146	1	EA	O-RING, COVE	ETHYLENE PROPYLENE PARKER SPEC. E515-8	26.59
02/19/2003	PIL258K03NENPIZZZZZ201	000333302	1	EA	GASKET, FLEX	STYLE R-3, NON-ASBESTOS, 150-LB PIP SIZE	10.27
02/20/2003	PIL258K03NENPIZZZZZ201	000617779	1	EA	SEAL, MECH, 3	ROTATION, TYPE 48LP CARTRIDGE,	5208.02
02/20/2003	PIL258K03NENPIZZZZZ201	000617761	1	EA	SEAL, MECH, 3	TYPE 48LP CARTRIDGE, DWG HSP-1010192-1D.	5208.02
02/26/2003	PIL258K03NENPIZZZZZ201	000226985	0	EA	BUSHING, E.H.	3000#, FORGED STEEL, BLACK, THREADED,	0.00
02/26/2003	PIL258K03NENPIZZZZZ201	000228007	0	EA	TEE, E.H. SIZE	FORGED STEEL SCREWED FITTING, 3000#	0.00
02/26/2003	PIL258K03NENPIZZZZZ201	000169821	2	EA	GAUGE, PRES	SAFETY GLASS	84.61
02/26/2003	PIL258K03NENPIZZZZZ201	000155226	0	EA	SEALANT, AD	SIZE: 1.5 OZ	0.00
02/26/2003	PIL258K03NENPIZZZZZ201	000374041	1	PR	GLOVE, ANTI	FINGER WITH WRIST STRAP	18.35
02/26/2003	PIL258K03NENPIZZZZZ201	000266403	1	QT	OIL, HYDRAUL		4.14
02/26/2003	PIL258K03NENPIZZZZZ201	000231969	0	EA	CAP, PIPE, GA	CLASS 150, MALLEABLE IRON THREADED PIPE	0.00

Detail / Summarized Labor Report

WO Number: PR030922 *From Date:* 190001 *To Date:* 999912 *Show Emp Info:* No

sactions

ode	Stock Code	Qty	Unit of Issue	Item Name	Description	Tran Amt
3K03NENPIZZZZZ201	000238840	0	EA	NIPPLE, PIPE,		0.00
K03NENPIZZZZZ201	000333088	1	EA	TUBE, TAKEO	SER.#3378531, REF #620. FOR BYRON	4019.08
					Expense Element: 201 Subtotal:	14652.99 (2)
					Total:	14652.99
					Work Order Total:	50146.09

1652 Work Order Detail / Summarized Labor Report

Report Parameters

District: P *Parent WO:* * *WO Number:* PR032292 *From Date:* 190001 *To Date:* 999912 *Show Emp Info:* No

Company: **HECO**

Labor Costs

Process Pd	Tran Dte	Acct Code	Emp ID	Last Name	First Name	No of Hours	Tran Amt
200303						0.00	674.01
					Expense Element: 422 Subtotal:	0.00	2151.45
Expense Element: 423		**Payroll Taxes**					
200302						0.00	513.02
200303						0.00	166.29
					Expense Element: 423 Subtotal:	0.00	679.31
					Total:	233.50	14069.35

Stock Material Transactions

Tran Dte	Acct Code	Stock Code	Qty	Unit of Issue	Item Name	Description	Tran Amt
Expense Element: 201	**Matl-Issues/Purchases**						
03/03/2003	PIL259K03NENPIZZZZZ201	000333385	1	EA	ELEMENT, RO	FOR BYRON JACKSON BOILER FEED PUMP	167935.98
03/04/2003	PIL259K03NENPIZZZZZ201	000267807	4	EA	INSECTICIDE,	CODE 592048)	62.08
03/04/2003	PIL259K03NENPIZZZZZ201	000374082	1	PR	GLOVE, ANTI	FINGER WITH WRIST STRAP	18.57
03/17/2003	PIX259K03NENPIZZZZZ201	000333385	1	EA	ELEMENT, RO	FOR BYRON JACKSON BOILER FEED PUMP	120941.68
						Expense Element: 201 Subtotal:	288958.31 (2)
						Total:	288958.31

Work Order Total: 303027.66

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1652 Work Order Detail / Summarized Labor Report

Report Parameters

District: P *Parent WO:* * *WO Number:* PR031116 *From Date:* 190001 *To Date:* 999912 *Show Emp Info:* No

Company: **HECO**

Stock Material Transactions

Tran Dte	*Acct Code*	*Stock Code*	*Qty*	*Unit of Issue*	*Item Name*	*Description*	*Tran Amt*
Expense Element: 201	**Matl-Issues/Purchases**						
12/30/2002	PIL258K06NENPIZZZZZ201	000366682	1	EA	ELEMENT, RO	MODEL#8U15 CASTING #MM74400	60932.23
04/29/2003	PIL258K06NENPIZZZZZ201	000366682	-1	EA	ELEMENT, RO	MODEL#8U15 CASTING #MM74400	-59332.85 (2)
04/29/2003	PIL258K06NENPIZZZZZ201	000366682	0	EA	ELEMENT, RO	MODEL#8U15 CASTING #MM74400	0.00
						Expense Element: 201 Subtotal:	1599.38
						Total:	1599.38
						Work Order Total:	1952.45

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1652 Work Order Detail / Summarized Labor Report

Report Parameters

District: P *Parent WO:* * *WO Number:* PR035527 *From Date:* 190001 *To Date:* 999912 *Show Emp Info:* No

Company: **HECO**

Total:	489.50	31648.83

Manual Journal Vouchers

Tran Dte	*Acct Code*	*Voucher No*	*Description*	*Accountant Code*	*Qty Amt*	*Tran Amt*
Expense Element: 201	**Matl-Issues/Purchases**					
10/08/2003	PIL258K03NENPIZZZZZ201		ON COST CHG TO: 070022/001	HWB900	0	723.80 (2)
10/08/2003	PIL258K03NENPIZZZZZ201		ON COST CHG TO: 070022/002	HWB900	0	723.80
01/22/2004	PIL258K03NENPIZZZZZ201		ON COST CHG TO: 074663/008	HWB900	0	32.27
01/22/2004	PIL258K03NENPIZZZZZ201		ON COST CHG TO: 074663/007	HWB900	0	26.56
01/22/2004	PIL258K03NENPIZZZZZ201		ON COST CHG TO: 074663/006	HWB900	0	16.98
01/22/2004	PIL258K03NENPIZZZZZ201		ON COST CHG TO: 074663/005	HWB900	0	16.65
01/22/2004	PIL258K03NENPIZZZZZ201		ON COST CHG TO: 074663/004	HWB900	0	21.27
01/22/2004	PIL258K03NENPIZZZZZ201		ON COST CHG TO: 074663/003	HWB900	0	18.89
01/22/2004	PIL258K03NENPIZZZZZ201		ON COST CHG TO: 074663/002	HWB900	0	24.44
01/22/2004	PIL258K03NENPIZZZZZ201		ON COST CHG TO: 074663/001	HWB900	0	32.15
03/04/2004	PIL258K03NENPIZZZZZ201		ON COST CHG TO: 076154/001	HWB900	0	158.22
				Expense Element: 201	**Subtotal:**	1795.03
					Total:	1795.03

Purchase Requisition Order Receipts

Tran Dte	*Acct Code*	*PO No*	*PO Item No*	*Supplier No*	*Unit of Purch*	*Qty*	*Net Price*	*Tran Amt*
Expense Element: 201	**Matl-Issues/Purchases**							
10/08/2003	PIL258K03NENPIZZZZZ201	P55114	002	014252	EA	1	4873.00	5075.72 (2)
10/08/2003	PIL258K03NENPIZZZZZ201	P55114	001	014252	EA	1	4873.00	5075.72
01/22/2004	PIL258K03NENPIZZZZZ201	P58561	004	003623	EA	1	162.75	169.52
01/22/2004	PIL258K03NENPIZZZZZ201	P58561	003	003623	EA	1	144.48	150.49
01/22/2004	PIL258K03NENPIZZZZZ201	P58561	008	003623	EA	1	246.85	257.12
01/22/2004	PIL258K03NENPIZZZZZ201	P58561	007	003623	EA	1	203.18	211.63
01/22/2004	PIL258K03NENPIZZZZZ201	P58561	006	003623	EA	1	129.88	135.28
01/22/2004	PIL258K03NENPIZZZZZ201	P58561	005	003623	EA	1	127.38	132.68
01/22/2004	PIL258K03NENPIZZZZZ201	P58561	002	003623	EA	1	186.93	194.71
01/22/2004	PIL258K03NENPIZZZZZ201	P58561	001	003623	EA	1	245.97	256.20
03/04/2004	PIL258K03NENPIZZZZZ201	P59957	001	005885	EA	6	236.60	1478.66
					Expense Element: 201		**Subtotal:**	13137.73
							Total:	13137.73

Show Emp Info: No

	Tran Amt
LER FEED PUMP	166205.52 (2)
RKER SPEC. E515-8	19.93
SIZE 1-7/8"	32.69
3, 150-LB PIP SIZE	10.27
OR BYRON	4139.27
SON BOILER FEED	15.80
X 2-3/8 X1-15/16	27.63
FOR 6 X 10-1/4, 14	18.18
FOR 6 X 10-1/4, 14	0.00
RKER SPEC. E515-8	19.64
FOR 6 X 10-1/4, 14	0.00
X 2-3/8 X1-15/16	27.21
O BARREL, REF.	0.00
O BARREL, REF.	246.21
O BARREL, REF.	0.00
RKER SPEC. E515-8	0.00
	8.49
	18.38
	-8.49
EADED	2.22
A-106, GR. B	1.54
	6.43
	0.00
RON JACKSON BFP,	0.00
RON JACKSON BFP,	1864.00
H AND ENAMEL;	6.26
CK, THREADED,	0.69
	88.10
11/16	911.26
RKER SPEC. E515-8	19.32
O BARREL, REF.	250.22

1652 Work Order Detail / Summarized Labor Report

Report Parameters

District: P *Parent WO:* * *WO Number:* PR035527 *From Date:* 190001 *To Date:* 999912 *Show Emp Info:* No

Company: **HECO**

Total:	489.50	31648.83

Manual Journal Vouchers

Tran Dte	*Acct Code*	*Voucher No*	*Description*	*Accountant Code*	*Qty Amt*	*Tran Amt*
Expense Element: 201	**Matl-Issues/Purchases**					
10/08/2003	PIL258K03NENPIZZZZZ201		ON COST CHG TO: 070022/001	HWB900	0	723.80
10/08/2003	PIL258K03NENPIZZZZZ201		ON COST CHG TO: 070022/002	HWB900	0	723.80
01/22/2004	PIL258K03NENPIZZZZZ201		ON COST CHG TO: 074663/008	HWB900	0	32.27 (3)
01/22/2004	PIL258K03NENPIZZZZZ201		ON COST CHG TO: 074663/007	HWB900	0	26.56
01/22/2004	PIL258K03NENPIZZZZZ201		ON COST CHG TO: 074663/006	HWB900	0	16.98
01/22/2004	PIL258K03NENPIZZZZZ201		ON COST CHG TO: 074663/005	HWB900	0	16.65
01/22/2004	PIL258K03NENPIZZZZZ201		ON COST CHG TO: 074663/004	HWB900	0	21.27
01/22/2004	PIL258K03NENPIZZZZZ201		ON COST CHG TO: 074663/003	HWB900	0	18.89
01/22/2004	PIL258K03NENPIZZZZZ201		ON COST CHG TO: 074663/002	HWB900	0	24.44
01/22/2004	PIL258K03NENPIZZZZZ201		ON COST CHG TO: 074663/001	HWB900	0	32.15
03/04/2004	PIL258K03NENPIZZZZZ201		ON COST CHG TO: 076154/001	HWB900	0	158.22
				Expense Element: 201	**Subtotal:**	1795.03
					Total:	1795.03

Purchase Requisition Order Receipts

Tran Dte	*Acct Code*	*PO No*	*PO Item No*	*Supplier No*	*Unit of Purch*	*Qty*	*Net Price*	*Tran Amt*
Expense Element: 201	**Matl-Issues/Purchases**							
10/08/2003	PIL258K03NENPIZZZZZ201	P55114	002	014252	EA	1	4873.00	5075.72
10/08/2003	PIL258K03NENPIZZZZZ201	P55114	001	014252	EA	1	4873.00	5075.72
01/22/2004	PIL258K03NENPIZZZZZ201	P58561	004	003623	EA	1	162.75	169.52 (3)
01/22/2004	PIL258K03NENPIZZZZZ201	P58561	003	003623	EA	1	144.48	150.49
01/22/2004	PIL258K03NENPIZZZZZ201	P58561	008	003623	EA	1	246.85	257.12
01/22/2004	PIL258K03NENPIZZZZZ201	P58561	007	003623	EA	1	203.18	211.63
01/22/2004	PIL258K03NENPIZZZZZ201	P58561	006	003623	EA	1	129.88	135.28
01/22/2004	PIL258K03NENPIZZZZZ201	P58561	005	003623	EA	1	127.38	132.68
01/22/2004	PIL258K03NENPIZZZZZ201	P58561	002	003623	EA	1	186.93	194.71
01/22/2004	PIL258K03NENPIZZZZZ201	P58561	001	003623	EA	1	245.97	256.20
03/04/2004	PIL258K03NENPIZZZZZ201	P59957	001	005885	EA	6	236.60	1478.66
					Expense Element: 201		**Subtotal:**	13137.73
							Total:	13137.73

BFP OH - 2004 - E (3) 72,711.34 ✓

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1652 Work Order Detail / Summarized Labor Report

Report Parameters

District: P *Parent WO:* * *WO Number:* PR035527 *From Date:* 190001 *To Date:* 999912 *Show Emp Info:* No

Company: **HECO**

Stock Material Transactions

Tran Dte	Acct Code	Stock Code	Qty	Unit of Issue	Item Name	Description	Tran Amt
Expense Element: 201	**Matl-Issues/Purchases**						
12/03/2003	PIL258K03NENPIZZZZZ201	000333385	1	EA	ELEMENT, RO	FOR BYRON JACKSON BOILER FEED PUMP	166205.52
12/05/2003	PIL258K03NENPIZZZZZ201	000333146	1	EA	O-RING, COVE	ETHYLENE PROPYLENE PARKER SPEC. E515-8	19.93
12/05/2003	PIL258K03NENPIZZZZZ201	000332940	1	EA	GASKET, BLIN	FLEXITALLIC, REF. # 744-9, SIZE 1-7/8"	32.69
12/05/2003	PIL258K03NENPIZZZZZ201	000333302	1	EA	GASKET, FLEX	STYLE R-3, NON-ASBESTOS, 150-LB PIP SIZE	10.27
12/05/2003	PIL258K03NENPIZZZZZ201	000333088	1	EA	TUBE, TAKEO	SER.#3378531, REF #620. FOR BYRON	4139.27
12/05/2003	PIL258K03NENPIZZZZZ201	000332981	1	EA	GASKET, TAK	REF #744-11, BYRON JACKSON BOILER FEED	15.80
12/05/2003	PIL258K03NENPIZZZZZ201	000332965	1	EA	GASKET, SLEE	BYRON JACKSON, SIZE 1/3 X 2-3/8 X1-15/16	27.63
12/05/2003	PIL258K03NENPIZZZZZ201	000321588	1	EA	SLEEVE, SEAL	POLYPROPOLENE O-RING, FOR 6 X 10-1/4, 14	18.18
01/15/2004	PIL258K03NENPIZZZZZ201	000321588	0	EA	SLEEVE, SEAL	POLYPROPOLENE O-RING, FOR 6 X 10-1/4, 14	0.00 (3)
01/15/2004	PIL258K03NENPIZZZZZ201	000333146	1	EA	O-RING, COVE	ETHYLENE PROPYLENE PARKER SPEC. E515-8	19.64
01/15/2004	PIL258K03NENPIZZZZZ201	000321588	0	EA	SLEEVE, SEAL	POLYPROPOLENE O-RING, FOR 6 X 10-1/4, 14	0.00
01/15/2004	PIL258K03NENPIZZZZZ201	000332965	1	EA	GASKET, SLEE	BYRON JACKSON, SIZE 1/3 X 2-3/8 X1-15/16	27.21
01/15/2004	PIL258K03NENPIZZZZZ201	000332908	0	EA	GASKET, FLEX	NON-ASBESTOS, VOLUTE TO BARREL, REF.	0.00
01/16/2004	PIL258K03NENPIZZZZZ201	000332908	1	EA	GASKET, FLEX	NON-ASBESTOS, VOLUTE TO BARREL, REF.	246.21
01/16/2004	PIL258K03NENPIZZZZZ201	000332908	0	EA	GASKET, FLEX	NON-ASBESTOS, VOLUTE TO BARREL, REF.	0.00
01/16/2004	PIL258K03NENPIZZZZZ201	000333146	0	EA	O-RING, COVE	ETHYLENE PROPYLENE PARKER SPEC. E515-8	0.00
01/22/2004	PIL258K03NENPIZZZZZ201	000222489	2	EA	GASKET, SPIR	2500# 1-7/8" I.D. X 2-7/8" O.D.	8.49
01/26/2004	PIL258K03NENPIZZZZZ201	000249920	1	GL	ACETONE, TE	6/CASE	18.38
01/26/2004	PIL258K03NENPIZZZZZ201	000222489	-2	EA	GASKET, SPIR	2500# 1-7/8" I.D. X 2-7/8" O.D.	-8.49
01/26/2004	PIL258K03NENPIZZZZZ201	000227363	2	EA	COUPLING, E.	3000#, FORGED STEEL, THREADED	2.22
01/26/2004	PIL258K03NENPIZZZZZ201	000229088	2	EA	NIPPLE, THRE	SCH. 80, SEAMLESS, ASTM A-106, GR. B	1.54
01/26/2004	PIL258K03NENPIZZZZZ201	000375188	1	PR	GLASSES, SAF	UVEX 3000UD	6.43
01/26/2004	PIL258K03NENPIZZZZZ201	000169821	0	EA	GAUGE, PRES	SAFETY GLASS	0.00
01/26/2004	PIL258K03NENPIZZZZZ201	000332841	0	EA	GASKET, COV	INCONEL/GRAFOIL FRO BYRON JACKSON BFP,	0.00
01/26/2004	PIL258K03NENPIZZZZZ201	000332841	4	EA	GASKET, COV	INCONEL/GRAFOIL FRO BYRON JACKSON BFP,	1864.00
01/26/2004	PIL258K03NENPIZZZZZ201	000155366	1	GL	SOLVENT, THI	FOR HOUSE PAINT, VARNISH AND ENAMEL;	6.26
01/26/2004	PIL258K03NENPIZZZZZ201	000226985	1	EA	BUSHING, E.H.	3000#, FORGED STEEL, BLACK, THREADED,	0.69
01/26/2004	PIL258K03NENPIZZZZZ201	000573261	3	EA	BAG, BUCKET		88.10
02/18/2004	PIL258K03NENPIZZZZZ201	000332866	1	EA	RING, VOLUTE	SIZE: 10" O.D. X 1-1/4" I.D. X 11/16	911.26
02/18/2004	PIL258K03NENPIZZZZZ201	000333146	1	EA	O-RING, COVE	ETHYLENE PROPYLENE PARKER SPEC. E515-8	19.32
02/18/2004	PIL258K03NENPIZZZZZ201	000332908	1	EA	GASKET, FLEX	NON-ASBESTOS, VOLUTE TO BARREL, REF.	250.22

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1652 Work Order Detail / Summarized Labor Report

Report Parameters

District: P *Parent WO:* * *WO Number:* PR035527 *From Date:* 190001 *To Date:* 999912 *Show Emp Info:* No

Company: **HECO**

Stock Material Transactions

Tran Dte	*Acct Code*	*Stock Code*	*Qty*	*Unit of Issue*	*Item Name*	*Description*	*Tran Amt*
03/15/2004	PIL258K03NENPIZZZZZ201	000332841	1	EA	GASKET, COV	INCONEL/GRAFOIL FRO BYRON JACKSON BFP,	330.93 (3)
10/05/2004	PIL258K03NENPIZZZZZ201	000332940	1	EA	GASKET, BLIN	FLEXITALLIC, REF. # 744-9, SIZE 1-7/8"	30.70
10/05/2004	PIL258K03NENPIZZZZZ201	000332981	1	EA	GASKET, TAK	REF #744-11, BYRON JACKSON BOILER FEED	15.08
01/24/2005	PIL258K03NENPIZZZZZ201	000332825	2	EA	O-RING 568260	MATERIAL CODE MG-ETHYLENE PROPYLENE.	21.31
01/24/2005	PIL258K03NENPIZZZZZ201	000617761	1	EA	SEAL, MECH, 3	TYPE 48LP CARTRIDGE, DWG HSP-1010192-1D.	2454.67
01/24/2005	PIL258K03NENPIZZZZZ201	000333005	0	EA	GASKET, COV	REF. #744-13, HSB BRP 6 X 10 1/4 X 14	0.00
01/24/2005	PIL258K03NENPIZZZZZ201	000332908	1	EA	GASKET, FLEX	NON-ASBESTOS, VOLUTE TO BARREL, REF.	247.23
01/24/2005	PIL258K03NENPIZZZZZ201	000332841	2	EA	GASKET, COV	INCONEL/GRAFOIL FRO BYRON JACKSON BFP,	653.96
01/24/2005	PIL258K03NENPIZZZZZ201	000333302	2	EA	GASKET, FLEX	STYLE R-3, NON-ASBESTOS, 150-LB PIP SIZE	21.60
01/24/2005	PIL258K03NENPIZZZZZ201	000332981	1	EA	GASKET, TAK	REF #744-11, BYRON JACKSON BOILER FEED	18.47
01/24/2005	PIL258K03NENPIZZZZZ201	000332940	1	EA	GASKET, BLIN	FLEXITALLIC, REF. # 744-9, SIZE 1-7/8"	44.43
01/24/2005	PIL258K03NENPIZZZZZ201	000332965	2	EA	GASKET, SLEE	BYRON JACKSON, SIZE 1/3 X 2-3/8 X1-15/16	52.76
01/24/2005	PIL258K03NENPIZZZZZ201	000321588	2	EA	SLEEVE, SEAL	POLYPROPOLENE O-RING, FOR 6 X 10-1/4, 14	38.09
01/24/2005	PIL258K03NENPIZZZZZ201	000617779	1	EA	SEAL, MECH, 3	ROTATION, TYPE 48LP CARTRIDGE,	2243.73
01/25/2005	PIL258K03NENPIZZZZZ201	000332866	1	EA	RING, VOLUTE	SIZE: 10" O.D. X 1-1/4" I.D. X 11/16	900.39
01/25/2005	PIL258K03NENPIZZZZZ201	000333146	1	EA	O-RING, COVE	ETHYLENE PROPYLENE PARKER SPEC. E515-8	19.09
01/25/2005	PIL258K03NENPIZZZZZ201	000333062	1	EA	SLEEVE, TAKE	BYRON JACKSON BOILER FEED PUMP, SIZE 6 X	2301.39
01/25/2005	PIL258K03NENPIZZZZZ201	000333088	1	EA	TUBE, TAKEO	SER.#3378531, REF #620. FOR BYRON	5690.81
						Expense Element: 201 Subtotal:	189015.41
						Total:	189015.41
						Work Order Total:	235872.93

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1652 Work Order Detail / Summarized Labor Report

Report Parameters

District: P *Parent WO:* * *WO Number:* PR036972 *From Date:* 190001 *To Date:* 999912 *Show Emp Info:* No

Company: **HECO**

Labor Costs

Process Pd	Tran Dte	Acct Code	Emp ID	Last Name	First Name	No of Hours	Tran Amt
Expense Element: 421		**Non-Productive Wages**					
200406						0.00	31.08
200407						0.00	847.44
					Expense Element: 421 Subtotal:	0.00	878.52
Expense Element: 422		**Employee Benefits**					
200406						0.00	41.72
200407						0.00	837.56
					Expense Element: 422 Subtotal:	0.00	879.28
Expense Element: 423		**Payroll Taxes**					
200406						0.00	24.97
200407						0.00	553.64
					Expense Element: 423 Subtotal:	0.00	578.61
					Total:	205.00	11058.70

Stock Material Transactions

Tran Dte	Acct Code	Stock Code	Qty	Unit of Issue	Item Name	Description	Tran Amt
Expense Element: 201	**Matl-Issues/Purchases**						
06/28/2004	PIL258KSTNENPIZZZZZ201	000317362	2	EA	RING, SNAP, J	FOR BOILER FEED PUMPS (PACIFIC PUMP	69.19
06/28/2004	PIL258KSTNENPIZZZZZ201	000366609	2	EA	RING, ADAPTE	FOR PACIFIC BOILER FEED PUMP 6" TYPE	153.12
06/28/2004	PIL258KSTNENPIZZZZZ201	000317248	2	EA	GASKET, JOH	SIZE: 4-1/4" SHAFT.	30.40
06/28/2004	PIL258KSTNENPIZZZZZ201	000317289	2	EA	O-RING, JC SE	FOR BOILER FEED PUMPS (PACIFIC PUMP	27.55
06/28/2004	PIL258KSTNENPIZZZZZ201	000366583	2	EA	GASKET, INTE	FOR PACIFIC BOILER FEED PUMP 6" TYPE	463.39
06/28/2004	PIL258KSTNENPIZZZZZ201	000317206	2	EA	SEAL, COMPL	DWG. #CF-SP-39870, SIZE 4 1/4" SHAFT	5024.99
06/28/2004	PIL258KSTNENPIZZZZZ201	000366021	1	EA	GASKET, HEA	FOR PACIFIC BOILER FEED PUMP 6" TYPE	296.82
06/28/2004	PIL258KSTNENPIZZZZZ201	000317404	2	EA	O-RING, JOHN	SIZE: 4-1/4" SHAFT	25.37
06/28/2004	PIL258KSTNENPIZZZZZ201	000317388	2	EA	RING, BACK-U	SIZE: 4-1/4" SHAFT	99.17
06/28/2004	PIL258KSTNENPIZZZZZ201	000366666	2	EA	O-RING, THRU	FOR PACIFIC BOILER FEED PUMP TYPE 6"	13.95
06/28/2004	PIL258KSTNENPIZZZZZ201	000366625	2	EA	RETAINER, SE	FOR PACIFIC BOILER FEED PUMP 6" TYPE	375.80
06/28/2004	PIL258KSTNENPIZZZZZ201	000366641	2	EA	O-RING, THRU	FOR PACIFIC BOILER FEED PUMP TYPE 6"	2.81
06/28/2004	PIL258KSTNENPIZZZZZ201	000366385	4	EA	GASKET, INNE	FOR PACIFIC BOILER FEED PUMP 6" TYPE	548.85
06/28/2004	PIL258KSTNENPIZZZZZ201	000366328	2	EA	GASKET, PAC	SIZE: 9-11/16 X 10-5/16 X 1/8	232.91

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1652 Work Order Detail / Summarized Labor Report

Report Parameters

District: P *Parent WO:* * *WO Number:* PR036972 *From Date:* 190001 *To Date:* 999912 *Show Emp Info:* No

Company: **HECO**

Stock Material Transactions

Tran Dte	Acct Code	Stock Code	Qty	Unit of Issue	Item Name	Description	Tran Amt
06/28/2004	PIL258KSTNENPIZZZZZ201	000366682	1	EA	ELEMENT, RO	MODEL#8U15 CASTING #MM74400	57484.22
06/28/2004	PIL258KSTNENPIZZZZZ201	000317263	2	EA	RING, PRIMAR	SIZE: 4-1/4" SHAFT	537.32
07/06/2004	PIL258KSTNENPIZZZZZ201	000247700	1	CL	GAS, COMPRE		14.88
07/06/2004	PIL258KSTNENPIZZZZZ201	000614612	-1	CL	CYLINDER, CO	SIZE: 220 CF. CYLINDER	-243.72
07/06/2004	PIL258KSTNENPIZZZZZ201	000614612	1	CL	CYLINDER, CO	SIZE: 220 CF. CYLINDER	243.72
07/21/2004	PIL258KSTNENPIZZZZZ201	000222406	0	EA	GASKET, SPIR	3-4-600#, FLEXITALLIC - NON-ASBESTOS	0.00
07/21/2004	PIL258KSTNENPIZZZZZ201	000155226	1	EA	SEALANT, AD	SIZE: 1.5 OZ	2.70
07/21/2004	PIL258KSTNENPIZZZZZ201	000366328	1	EA	GASKET, PAC	SIZE: 9-11/16 X 10-5/16 X 1/8	118.35
08/10/2004	PIL258KSTNENPIZZZZZ201	000366567	0	EA	GASKET, INTE	SIZE: 12-1/16 X 13-7/16 X 3/16	0.00
08/10/2004	PIL258KSTNENPIZZZZZ201	000366302	0	ST	RING, SHAFT	1/8SQ.	0.00
09/30/2004	PIL258KSTNENPIZZZZZ201	000317289	1	EA	O-RING, JC SE	FOR BOILER FEED PUMPS (PACIFIC PUMP	14.93
10/18/2004	PIL258KSTNENPIZZZZZ201	000155226	1	EA	SEALANT, AD	SIZE: 1.5 OZ	2.71
						Expense Element: 201 Subtotal:	65539.43 3
						Total:	65539.43
						Work Order Total:	76642.71

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1652 Work Order Detail / Summarized Labor Report

Report Parameters

District: P *Parent WO:* * *WO Number:* PR021080 *From Date:* 190001 *To Date:* 200412 *Show Emp Info:* No

Company: **HECO**

Labor Costs

Proccess Pd	Tran Dte	Acct Code	Emp ID	Last Name	First Name	No of Hours	Tran Amt
Expense Element: 406		**Corp Admin Expense**					
200204						0.00	704.34
					Expense Element: 406 Subtotal:	0.00	704.34
Expense Element: 421		**Non-Productive Wages**					
200204						0.00	1215.18
					Expense Element: 421 Subtotal:	0.00	1215.18
Expense Element: 422		**Employee Benefits**					
200204						0.00	-273.48
					Expense Element: 422 Subtotal:	0.00	-273.48
Expense Element: 423		**Payroll Taxes**					
200204						0.00	643.33
					Expense Element: 423 Subtotal:	0.00	643.33
					Total:	258.00	11367.29

Stock Material Transactions

Tran Dte	Acct Code	Stock Code	Qty	Unit of Issue	Item Name	Description	Tran Amt
Expense Element: 201	**Matl-Issues/Purchases**						
04/01/2002	PIN258H08NENPIZZZZZ201	000332742	1	EA	GASKET, FLEX	SIZE: 18.781 X 19.250 X 19.687 x .175	952.82
04/01/2002	PIN258H08NENPIZZZZZ201	000332684	1	EA	RING, VOLUTE	REF. 199, SIZE 7" ID X 9"OD X 5/8"THK.	1037.51
04/01/2002	PIN258H08NENPIZZZZZ201	000323865	1	EA	O-RING, VOLU	BYRON JACKSON, SIZE 7" X 6 3/4" X 1/8"	64.98
04/03/2002	PIN258H08NENPIZZZZZ201	000264580	1	EA	DEVELOPER,		7.41
04/03/2002	PIN258H08NENPIZZZZZ201	000264564	1	EA	PENETRANT,		7.68
04/03/2002	PIN258H08NENPIZZZZZ201	000219329	8	FT	STOCK, THRE	13 THD.,ASTM A-193, GR. B-16 ALLOY, 4' L	14.50
04/03/2002	PIN258H08NENPIZZZZZ201	000155366	2	GL	SOLVENT, THI	FOR HOUSE PAINT, VARNISH AND ENAMEL;	12.73
04/03/2002	PIN258H08NENPIZZZZZ201	000264648	1	EA	CLEANER, SP		9.08
04/09/2002	PIN258H08NENPIZZZZZ201	000219329	4	FT	STOCK, THRE	13 THD.,ASTM A-193, GR. B-16 ALLOY, 4' L	7.26
04/10/2002	PIN258H08NENPIZZZZZ201	000323865	1	EA	O-RING, VOLU	BYRON JACKSON, SIZE 7" X 6 3/4" X 1/8"	64.98
04/10/2002	PIN258H08NENPIZZZZZ201	000266221	1	EA	LUBRICANT, SI		11.59
04/12/2002	PIN258H08NENPIZZZZZ201	000332643	1	EA	GASKET, PUM	COVER TO BARREL, REF. 746, NON-ASBESTOS,	259.64
04/29/2002	PIN258H08NENPIZZZZZ201	000322347	1	EA	ELEMENT, RO	MODEL 3 X 10-1/4-12 STAGE HSB	91150.18

Show Emp Info: No

		Tran Amt
nent: 201	**Subtotal:**	93600.36
	Total:	93600.36 ✓

Work Order Total: 105358.07

1652 Work Order Detail / Summarized Labor Report

Report Parameters

District: P *Parent WO:* * *WO Number:* PR034891 *From Date:* 190001 *To Date:* 200412 *Show Emp Info:* No

Company: **HECO**

Labor Costs

Process Pd	Tran Dte	Acct Code	Emp ID	Last Name	First Name	No of Hours	Tran Amt
200307						0.00	1976.00
					Expense Element: 422 Subtotal:	0.00	1976.00
Expense Element: 423		**Payroll Taxes**					
200307						0.00	645.59
200308						0.00	8.90
					Expense Element: 423 Subtotal:	0.00	654.49
					Total:	237.50	13712.11

Stock Material Transactions

Tran Dte	Acct Code	Stock Code	Qty	Unit of Issue	Item Name	Description	Tran Amt
Expense Element: 201	**Matl-Issues/Purchases**						
07/25/2003	PIN259H09NENPIZZZZZ201	000323865	1	EA	O-RING, VOLU	BYRON JACKSON, SIZE 7" X 6 3/4" X 1/8"	31.27
07/25/2003	PIN259H09NENPIZZZZZ201	000332742	0	EA	GASKET, FLEX	SIZE: 18.781 X 19.250 X 19.687 x .175	0.00
07/25/2003	PIN259H09NENPIZZZZZ201	000332643	0	EA	GASKET, PUM	COVER TO BARREL, REF. 746, NON-ASBESTOS,	0.00
07/25/2003	PIN259H09NENPIZZZZZ201	000332684	1	EA	RING, VOLUTE	REF. 199, SIZE 7" ID X 9"OD X 5/8"THK.	910.46
07/25/2003	PIN259H09NENPIZZZZZ201	000619726	1	EA	SEAL, MECH, 3	ROTATION, TYPE 48LP CARTRIDGE, DWG HSP-	5340.44
07/25/2003	PIN259H09NENPIZZZZZ201	000619718	1	EA	SEAL, MECH, 3	TYPE 48LP CARTRIDGE, DWG HSP-1012026-1.	5340.44
07/30/2003	PIN259H09NENPIZZZZZ201	000619726	1	EA	SEAL, MECH, 3	ROTATION, TYPE 48LP CARTRIDGE, DWG HSP-	5340.44
07/30/2003	PIN259H09NENPIZZZZZ201	000619718	1	EA	SEAL, MECH, 3	TYPE 48LP CARTRIDGE, DWG HSP-1012026-1.	5340.44
07/30/2003	PIN259H09NENPIZZZZZ201	000322347	1	EA	ELEMENT, RO	MODEL 3 X 10-1/4-12 STAGE HSB	143944.11
07/31/2003	PIN259H09NENPIZZZZZ201	000373761	1	EA	HEADGEAR, F		13.33
07/31/2003	PIN259H09NENPIZZZZZ201	000619718	-1	EA	SEAL, MECH, 3	TYPE 48LP CARTRIDGE, DWG HSP-1012026-1.	-5340.44
						Expense Element: 201 Subtotal:	160920.49
						Total:	160920.49
						Work Order Total:	175383.70

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Show Emp Info: No

	No of Hours	*Tran Amt*
tal:	125.00	4452.46
tal:	125.00	4452.46
	0.00	-192.34
tal:	0.00	-192.34
	0.00	705.00
tal:	0.00	705.00
	0.00	207.50
tal:	0.00	207.50
	0.00	535.00
tal:	0.00	535.00
	0.00	528.75
tal:	0.00	528.75
	0.00	340.74
tal:	0.00	340.74
otal:	125.00	6577.11

	Tran Amt
RIDGE, DWG HSP-	2629.10
3 HSP-1012026-1.	3943.64
3 3/4" X 1/8"	30.79
. 5/8"THK.	896.42

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1652 Work Order Detail / Summarized Labor Report

Report Parameters

District: P *Parent WO:* * *WO Number:* PR041366 *From Date:* 190001 *To Date:* 200412 *Show Emp Info:* No

Company: **HECO**

Stock Material Transactions

Tran Dte	Acct Code	Stock Code	Qty	Unit of Issue	Item Name	Description	Tran Amt
07/16/2004	PIN258HSTNENPIZZZZZ201	000332700	1	EA	GASKET, PUM	VOLUTE TO BUSHING, REF.#746-2,	257.79
07/16/2004	PIN258HSTNENPIZZZZZ201	000322347	1	EA	ELEMENT, RO	MODEL 3 X 10-1/4-12 STAGE HSB	149239.87
07/16/2004	PIN258HSTNENPIZZZZZ201	000332742	1	EA	GASKET, FLEX	SIZE: 18.781 X 19.250 X 19.687 x .175	771.92
07/16/2004	PIN258HSTNENPIZZZZZ201	000332643	1	EA	GASKET, PUM	COVER TO BARREL, REF. 746, NON-ASBESTOS,	282.41
07/20/2004	PIN258HSTNENPIZZZZZ201	000615138	2	EA	GREASE, COU	FOR ALL GREASE LUBRICATING COUPLINGS	85.48
						Expense Element: 201 Subtotal:	158137.42
						Total:	158137.42 ✓
						Work Order Total:	164774.79

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200212 *Show Emp Info:* No

Contract No	*Portion No*	*Element No*	*Tran Amt*
			55600.00
pense Element: 501		**Subtotal:**	55600.00
		Total:	55600.00

uantant Code	*Qty Amt*	*Tran Amt*
0007731	0	-768.94
pense Element: 201	**Subtotal:**	-768.94
	Total:	-768.94

	Tran Amt
R 10 GALLON .001 7-10	51.39
	70.89
	31.87
	108.52
	115.25
39"	31.05
	254.96
R FOR PORCELAIN	105.01
pense Element: 201 **Subtotal:**	768.94
Total:	768.94

Work Order Total: 55600.00 (A)

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1652 Work Order Detail / Summarized Labor Report

Report Parameters

District: P *Parent WO:* * *WO Number:* HP000032 *From Date:* 200201 *To Date:* 200212 *Show Emp Info:* No

Company: **HECO**

Parent WO: **HP000010**

Work Order: **HP000032** **Honolulu PP - Clean Island Council fee**

Invoice Transactions

Tran Dte	Acct Code	Cat No	Supplier No	Inv No	Inv Item No	Inv Item Desc	Contract No	Portion No	Element No	Tran Amt
Expense Element: 501	**Outside Svcs-General**									
01/25/2002	PIO877HSTNENPIZZZZZ501		002070	A-828	001	CLEAN ISLANDS COU				27800.00
									Expense Element: 501 Subtotal:	27800.00
									Total:	27800.00
									Work Order Total:	27800.00

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1652 Work Order Detail / Summarized Labor Report

Report Parameters

District: P *Parent WO:* * *WO Number:* HP000034 *From Date:* 200201 *To Date:* 200212 *Show Emp Info:* No

Company: **HECO**

Parent WO: **HP000010**

Work Order: **HP000034** **Kahe PP-Clean Island Council Annual fee**

Invoice Transactions

Tran Dte	Acct Code	Cat No	Supplier No	Inv No	Inv Item No	Inv Item Desc	Contract No	Portion No	Element No	Tran Amt
Expense Element: 501	**Outside Svcs-General**									
01/25/2002	PIO877KSTNENPIZZZZZ501		002070	A-828	001	CLEAN ISLANDS COU				55600.00
									Expense Element: 501 Subtotal:	55600.00
									Total:	55600.00
									Work Order Total:	55600.00

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1652 Work Order Detail / Summarized Labor Report

Report Parameters

District: P *Parent WO:* * *WO Number:* HP000032 *From Date:* 200301 *To Date:* 200312 *Show Emp Info:* No

Company: **HECO**

Parent WO: **HP000010**

Work Order: **HP000032** **Honolulu PP - Clean Island Council fee**

Invoice Transactions

Tran Dte	*Acct Code*	*Cat No*	*Supplier No*	*Inv No*	*Inv Item No*	*Inv Item Desc*	*Contract No*	*Portion No*	*Element No*	*Tran Amt*
Expense Element: 501	**Outside Svcs-General**									
01/14/2003	PIO877HSTNENPIZZZZZ501		002070	A-1001	001	2003 ANNUAL DUES C				27800.00
									Expense Element: 501 Subtotal:	27800.00
									Total:	27800.00
									Work Order Total:	27800.00

(B)

2003 CIC Fees E(B) 139,000 ✓

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1652 Work Order Detail / Summarized Labor Report

Report Parameters

District: P *Parent WO:* * *WO Number:* HP000033 *From Date:* 200301 *To Date:* 200312 *Show Emp Info:* No

Company: **HECO**

Parent WO: **HP000010**

Work Order: **HP000033** **Walau PP Clean Island Council Annual fee**

Invoice Transactions

Tran Dte	Acct Code	Cat No	Supplier No	Inv No	Inv Item No	Inv Item Desc	Contract No	Portion No	Element No	Tran Amt
Expense Element: 501	**Outside Svcs-General**									
01/14/2003	PIO877WSTNENPIZZZZZ501		002070	A-1001	001	2003 ANNUAL DUES C				55600.00
									Expense Element: 501 Subtotal:	55600.00
									Total:	55600.00

(B)

Stock Material Transactions

Tran Dte	Acct Code	Stock Code	Qty	Unit of Issue	Item Name	Description	Tran Amt
Expense Element: 201	**Matl-Issues/Purchases**						
06/06/2003	PIO877WSTNENPIZZZZZ201	000615993	8	GL	CLEANER, MU		106.06
06/06/2003	PIO877WSTNENPIZZZZZ201	000267104	2	CN	CLEANSER, S		56.11
06/06/2003	PIO877WSTNENPIZZZZZ201	000369686	100	EA	BAG, POLY TR	SIZE: 55 GALLON, 43" X 48", 2 MIL.	33.80
06/06/2003	PIO877WSTNENPIZZZZZ201	000369603	400	EA	BAG, POLY TR	1.75 MIL, 33" X 39"	60.42
06/06/2003	PIO877WSTNENPIZZZZZ201	000267344	12	RL	TISSUE, TOILE		105.46
06/06/2003	PIO877WSTNENPIZZZZZ201	000267302	48	RL	TOWEL, HAND	12/CASE	248.25
						Expense Element: 201 Subtotal:	610.10
						Total:	610.10
						Work Order Total:	56210.10

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1652 Work Order Detail / Summarized Labor Report

Report Parameters

District: P *Parent WO:* * *WO Number:* HP000034 *From Date:* 200301 *To Date:* 200312 *Show Emp Info:* No

Company: **HECO**

Parent WO: **HP000010**

Work Order: **HP000034** **Kahe PP-Clean Island Council Annual fee**

Invoice Transactions

Tran Dte	*Acct Code*	*Cat No*	*Supplier No*	*Inv No*	*Inv Item No*	*Inv Item Desc*	*Contract No*	*Portion No*	*Element No*	*Tran Amt*
Expense Element: 501	**Outside Svcs-General**									
01/14/2003	PIO877KSTNENPIZZZZZ501		002070	A-1001	001	2003 ANNUAL DUES C				55600.00
									Expense Element: 501 Subtotal:	55600.00
									Total:	55600.00
									Work Order Total:	55600.00

(b)

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1652 Work Order Detail / Summarized Labor Report

Report Parameters

District: P *Parent WO:* * *WO Number:* HP000032 *From Date:* 200401 *To Date:* 200412 *Show Emp Info:* No

Company: **HECO**

Parent WO: **HP000010**

Work Order: **HP000032** **Honolulu PP - Clean Island Council fee**

Invoice Transactions

Tran Dte	Acct Code	Cat No	Supplier No	Inv No	Inv Item No	Inv Item Desc	Contract No	Portion No	Element No	Tran Amt
Expense Element: 501	**Outside Svcs-General**									
02/06/2004	PIO877HSTNENPIZZZZZ501		002070	A-1204	003	MEMBERSHIP DUES F				27800.00
									Expense Element: 501 Subtotal:	27800.00
									Total:	27800.00
									Work Order Total:	27800.00

(c)

2004 - CIC Fees & (c) $139,000 ✓

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ıbor Report

From Date: 200401 *To Date:* 200412 *Show Emp Info:* No

Inv No	*Inv Item No*	*Inv Item Desc*	*Contract No*	*Portion No*	*Element No*	*Tran Amt*
A-1204	003	MEMBERSHIP DUES F				27800.00
			Expense Element:	**501**	**Subtotal:**	27800.00
					Total:	27800.00
					Work Order Total:	27800.00

1652 Work Order Detail / Summarized Labor Report

Report Parameters

District: P *Parent WO:* * *WO Number:* HP000033 *From Date:* 200401 *To Date:* 200412 *Show Emp Info:* No

Company: **HECO**

Parent WO: **HP000010**

Work Order: **HP000033** **Walau PP Clean Island Council Annual fee**

Invoice Transactions

Tran Dte	*Acct Code*	*Cat No*	*Supplier No*	*Inv No*	*Inv Item No*	*Inv Item Desc*	*Contract No*	*Portion No*	*Element No*	*Tran Amt*
Expense Element: 501	**Outside Svcs-General**									
02/06/2004	PIO877WSTNENPIZZZZZ501		002070	A-1204	001	MEMBERSHIP DUES F				55600.00
									Expense Element: 501 Subtotal:	55600.00
									Total:	55600.00
									Work Order Total:	55600.00 (c)

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1652 Work Order Detail / Summarized Labor Report

Report Parameters

District: P *Parent WO:* * *WO Number:* HP000187 *From Date:* 200201 *To Date:* 200212 *Show Emp Info:* No

Company: **HECO**

Parent WO: **HP000016**

Work Order: **HP000187** **Wastewater Trmt Chemical Costs-Waiau Stn**

Manual Journal Vouchers

Tran Dte	Acct Code	Voucher No	Description	Accountant Code	Qty Amt	Tran Amt
Expense Element: 201	**Matl-Issues/Purchases**					
01/24/2002	PIW248WSTNENPIZZZZZ201		ON COST CHG TO: 044946/001	HWB900	0	351.93
02/19/2002	PIW248WSTNENPIZZZZZ201		ON COST CHG TO: 045496/001	HWB900	0	137.44
02/20/2002	PIW248WSTNENPIZZZZZ201	P000014390	ON COST CHG TO: 046106/001	HWB900	0	163.54
02/27/2002	PIW248WSTNENPIZZZZZ201		ON COST CHG TO: 046106/001	HWB900	0	2032.81
04/02/2002	PIW248WSTNENPIZZZZZ201		ON COST CHG TO: 047280/001	HWB900	0	1669.61
04/02/2002	PIW248WSTNENPIZZZZZ201	P000014908	ON COST CHG TO: 046893/001	HWB900	0	964.93
05/14/2002	PIW248WSTNENPIZZZZZ201		ON COST CHG TO: 049673/001	HWB900	0	295.73
07/02/2002	PIW248WSTNENPIZZZZZ201		ON COST CHG TO: 051637/001	HWB900	0	1501.98
08/27/2002	PIW248WSTNENPIZZZZZ201		ON COST CHG TO: 053845/001	HWB900	0	263.43
09/09/2002	PIW248WSTNENPIZZZZZ201	P000017867	ON COST CHG TO: 054087/001	HWB900	0	1308.07
09/24/2002	PIW248WSTNENPIZZZZZ201		ON COST CHG TO: 054830/001	HWB900	0	732.78
10/15/2002	PIW248WSTNENPIZZZZZ201		ON COST CHG TO: 055366/001	HWB900	0	1188.06
10/15/2002	PIW248WSTNENPIZZZZZ201		ON COST CHG TO: 055046/001	HWB900	0	480.48
10/16/2002	PIW248WSTNENPIZZZZZ201		ON COST CHG TO: 055366/001	HWB900	0	2.77
11/04/2002	PIW248WSTNENPIZZZZZ201		ON COST CHG TO: 056632/001	HWB900	0	1879.09
11/06/2002	PIW248WSTNENPIZZZZZ201		ON COST CHG TO: 057025/001	HWB900	0	266.08
11/14/2002	PIW248WSTNENPIZZZZZ201		ON COST CHG TO: 057549/001	HWB900	0	391.14
11/19/2002	PIW248WSTNENPIZZZZZ201	P000018909	ON COST CHG TO: 057549/002	HWB900	0	1774.15
12/05/2002	PIW248WSTNENPIZZZZZ201		ON COST CHG TO: 057989/001	HWB900	0	300.22
12/11/2002	PIW248WSTNENPIZZZZZ201		ON COST CHG TO: 058383/001	HWB900	0	303.92
12/26/2002	PIW248WSTNENPIZZZZZ201		ON COST CHG TO: 059153/001	HWB900	0	197.28
				Expense Element: 201	**Subtotal:**	16205.44
					Total:	16205.44

Purchase Requisition Order Receipts

Tran Dte	Acct Code	PO No	PO Item No	Supplier No	Unit of Purch	Qty	Net Price	Tran Amt
Expense Element: 201	**Matl-Issues/Purchases**							
01/15/2002	PIW248WSTNENPIZZZZZ201	P34155	002	001761	GT	10	1015.00	2537.34
01/29/2002	PIW248WSTNENPIZZZZZ201	P34156	004	001761	GT	9.45	365.00	862.26

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rk Order Detail / Summarized Labor Report

Parent WO: * *WO Number:* HP000187 *From Date:* 200201 *To Date:* 200212 *Show Emp Info:* No

CO

Purchase Requisition Order Receipts

Tran Dte	*Acct Code*	*PO No*	*PO Item No*	*Supplier No*	*Unit of Purch*	*Qty*	*Net Price*	*Tran Amt*
02/11/2002	PIW248WSTNENPIZZZZZ201	P34155	003	001761	GT	1	985.00	1025.98
02/27/2002	PIW248WSTNENPIZZZZZ201	P34155	003	001761	GT	12.43	985.00	12752.88
03/01/2002	PIW248WSTNENPIZZZZZ201	P34155	004	001761	GT	6.15	945.00	6053.52
03/11/2002	PIW248WSTNENPIZZZZZ201	P34155	005	001761	GT	13.47	945.00	10474.36
05/08/2002	PIW248WSTNENPIZZZZZ201	P34156	006	001761	GT	4.88	365.00	1855.30
06/26/2002	PIW248WSTNENPIZZZZZ201	P34155	006	001761	GT	9.45	880.00	8661.95
08/19/2002	PIW248WSTNENPIZZZZZ201	P34156	007	001761	GT	13.32	365.00	1519.21
08/27/2002	PIW248WSTNENPIZZZZZ201	P34155	007	001761	GT	8.23	880.00	7543.68
09/13/2002	PIW248WSTNENPIZZZZZ201	P34155	008	001761	GT	13.26	930.00	4225.94
09/26/2002	PIW248WSTNENPIZZZZZ201	P34156	010	001761	GT	9.59	365.00	2770.93
09/26/2002	PIW248WSTNENPIZZZZZ201	P34155	009	001761	GT	12.86	930.00	6851.53
10/16/2002	PIW248WSTNENPIZZZZZ201	P34155	009	001761	GT	0.03	930.00	15.98
10/23/2002	PIW248WSTNENPIZZZZZ201	P34155	011	001761	GT	12.43	930.00	10836.71
11/06/2002	PIW248WSTNENPIZZZZZ201	P34156	013	001761	GT	9.61	365.00	1534.50
11/12/2002	PIW248WSTNENPIZZZZZ201	P34156	014	001761	GT	11.41	365.00	2255.71
11/13/2002	PIW248WSTNENPIZZZZZ201	P34155	012	001761	GT	13.37	930.00	10231.57
11/22/2002	PIW248WSTNENPIZZZZZ201	P34156	015	001761	GT	10.35	365.00	1731.36
12/05/2002	PIW248WSTNENPIZZZZZ201	P34156	016	001761	GT	12.46	365.00	1752.72
12/19/2002	PIW248WSTNENPIZZZZZ201	P34156	017	001761	GT	11.51	365.00	1137.74
						Expense Element: 201	**Subtotal:**	96631.17
							Total:	96631.17

Purchase Requisition Price Adjustments

Tran Dte	*Acct Code*	*PO No*	*PO Item No*	*Supplier No*	*Price Adjusted*	*Qty Adj*	*Unit of Purchase*	*Tran Amt*
Expense Element: 201	**Matl-Issues/Purchases**							
02/06/2002	PIW248WSTNENPIZZZZZ201	P34155	002	001761	-29.64	0	GT	-74.10
						Expense Element: 201	**Subtotal:**	-74.10
							Total:	-74.10
							Work Order Total:	112762.51 ✓

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1652 Work Order Detail / Summarized Labor Report

Report Parameters

District: P *Parent WO:* * *WO Number:* HP000187 *From Date:* 200301 *To Date:* 200312 *Show Emp Info:* No

Company: **HECO**

Parent WO: **HP000016**

Work Order: **HP000187** **Wastewater Trmt Chemical Costs-Waiau Stn**

Manual Journal Vouchers

Tran Dte	Acct Code	Voucher No	Description	Accountant Code	Qty Amt	Tran Amt
Expense Element: 201	**Matl-Issues/Purchases**					
01/09/2003	PIW248WSTNENPIZZZZZ201		ON COST CHG TO: 058384/001	HWB900	0	1037.27
01/27/2003	PIW248WSTNENPIZZZZZ201		ON COST CHG TO: 059780/001	HWB900	0	77.99
01/29/2003	PIW248WSTNENPIZZZZZ201		ON COST CHG TO: 060464/001	HWB900	0	736.11
03/03/2003	PIW248WSTNENPIZZZZZ201		ON COST CHG TO: 061370/001	HWB900	0	120.90
04/02/2003	PIW248WSTNENPIZZZZZ201		ON COST CHG TO: 062208/001	HWB900	0	354.32
04/02/2003	PIW248WSTNENPIZZZZZ201		ON COST CHG TO: 062208/002	HWB900	0	975.92
05/06/2003	PIW248WSTNENPIZZZZZ201		ON COST CHG TO: 064210/001	HWB900	0	980.07
05/06/2003	PIW248WSTNENPIZZZZZ201		ON COST CHG TO: 064210/002	HWB900	0	386.51
05/30/2003	PIW248WSTNENPIZZZZZ201		ON COST CHG TO: 065783/002	HWB900	0	318.80
05/30/2003	PIW248WSTNENPIZZZZZ201		ON COST CHG TO: 065822/001	HWB900	0	48.90
05/30/2003	PIW248WSTNENPIZZZZZ201		ON COST CHG TO: 065822/002	HWB900	0	195.88
05/30/2003	PIW248WSTNENPIZZZZZ201		ON COST CHG TO: 065783/001	HWB900	0	107.79
06/06/2003	PIW248WSTNENPIZZZZZ201		ON COST CHG TO: 065376/002	HWB900	0	261.07
06/06/2003	PIW248WSTNENPIZZZZZ201		ON COST CHG TO: 065376/001	HWB900	0	1053.97
06/09/2003	PIW248WSTNENPIZZZZZ201		ON COST CHG TO: 065376/002	HWB900	0	-261.07
06/09/2003	PIW248WSTNENPIZZZZZ201		ON COST CHG TO: 065376/002	HWB900	0	253.34
09/04/2003	PIW248WSTNENPIZZZZZ201		ON COST CHG TO: 068816/001	HWB900	0	8.34
09/04/2003	PIW248WSTNENPIZZZZZ201		ON COST CHG TO: 068816/002	HWB900	0	48.72
09/04/2003	PIW248WSTNENPIZZZZZ201		ON COST CHG TO: 068779/001	HWB900	0	439.27
09/04/2003	PIW248WSTNENPIZZZZZ201		ON COST CHG TO: 068779/002	HWB900	0	281.79
09/16/2003	PIW248WSTNENPIZZZZZ201		ON COST CHG TO: 069634/001	HWB900	0	812.23
09/16/2003	PIW248WSTNENPIZZZZZ201		ON COST CHG TO: 069634/002	HWB900	0	27.63
11/13/2003	PIW248WSTNENPIZZZZZ201		ON COST CHG TO: 071817/001	HWB900	0	815.00
11/17/2003	PIW248WSTNENPIZZZZZ201		ON COST CHG TO: 072040/001	HWB900	0	1110.60
				Expense Element: 201	**Subtotal:**	10193.35
					Total:	10193.35

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1652 Work Order Detail / Summarized Labor Report

Report Parameters

District: P *Parent WO:* * *WO Number:* HP000187 *From Date:* 200301 *To Date:* 200312 *Show Emp Info:* No

Company: **HECO**

Purchase Requisition Order Receipts

Tran Dte	Acct Code	PO No	PO Item No	Supplier No	Unit of Purch	Qty	Net Price	Tran Amt
Expense Element: 201	**Matl-Issues/Purchases**							
01/09/2003	PIW248WSTNENPIZZZZZ201	P34155	013	001761	GT	12.37	930.00	8028.39
01/25/2003	PIW248WSTNENPIZZZZZ201	P34156	018	001761	GT	9.34	365.00	603.66
01/29/2003	PIW248WSTNENPIZZZZZ201	P46480	002	001761	GT	9.19	930.00	5697.43
03/03/2003	PIW248WSTNENPIZZZZZ201	P46481	003	001761	GT	2.23	365.00	847.81
04/02/2003	PIW248WSTNENPIZZZZZ201	P46480	004	001761	GT	3.42	930.00	2484.68
04/02/2003	PIW248WSTNENPIZZZZZ201	P46480	005	001761	GT	9.42	930.00	6843.78
05/06/2003	PIW248WSTNENPIZZZZZ201	P46480	008	001761	GT	9.46	930.00	6872.84
05/06/2003	PIW248WSTNENPIZZZZZ201	P46480	009	001761	GT	3.75	930.00	2724.44
05/30/2003	PIW248WSTNENPIZZZZZ201	P46481	016	001761	GT	6.98	410.00	2235.64
05/30/2003	PIW248WSTNENPIZZZZZ201	P46480	011	001761	GT	1.77	930.00	342.92
05/30/2003	PIW248WSTNENPIZZZZZ201	P46480	012	001761	GT	7.09	930.00	1373.60
05/30/2003	PIW248WSTNENPIZZZZZ201	P46481	015	001761	GT	2.36	410.00	755.89
06/06/2003	PIW248WSTNENPIZZZZZ201	P46480	014	001761	GT	2.7	930.00	1830.82
06/06/2003	PIW248WSTNENPIZZZZZ201	P46480	013	001761	GT	10.9	930.00	7391.09
06/09/2003	PIW248WSTNENPIZZZZZ201	P46480	014	001761	GT	-2.7	930.00	-1830.82
06/09/2003	PIW248WSTNENPIZZZZZ201	P46480	014	001761	GT	2.62	930.00	1776.57
09/04/2003	PIW248WSTNENPIZZZZZ201	P46481	017	001761	GT	1.37	410.00	58.51
09/04/2003	PIW248WSTNENPIZZZZZ201	P46481	018	001761	GT	8	410.00	341.65
09/04/2003	PIW248WSTNENPIZZZZZ201	P46480	015	001761	GT	5.3	930.00	3080.43
09/04/2003	PIW248WSTNENPIZZZZZ201	P46480	016	001761	GT	3.4	930.00	1976.12
09/16/2003	PIW248WSTNENPIZZZZZ201	P46480	017	001761	GT	5.88	930.00	5695.89
09/16/2003	PIW248WSTNENPIZZZZZ201	P46480	018	001761	GT	0.2	930.00	193.74
11/13/2003	PIW248WSTNENPIZZZZZ201	P46480	019	001761	GT	5.9	930.00	5715.26
11/17/2003	PIW248WSTNENPIZZZZZ201	P46480	020	001761	GT	8.04	930.00	7788.25
						Expense Element: 201	**Subtotal:**	72828.59
							Total:	72828.59

Stock Material Transactions

Tran Dte	Acct Code	Stock Code	Qty	Unit of Issue	Item Name	Description	Tran Amt
Expense Element: 201	**Matl-Issues/Purchases**						
10/28/2003	PIW248WSTNENPIZZZZZ201	000616672	1	EA	INSECTICIDE,	SPIDERS, 12 OZ SPRAY CAN	7.98

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1652 Work Order Detail / Summarized Labor Report

Report Parameters

District: P | Parent WO: * | WO Number: HP000187 | From Date: 200301 | To Date: 200312 | Show Emp Info: No

Company: HECO

Stock Material Transactions

Tran Dte	Acct Code	Stock Code	Qty	Unit of Issue	Item Name	Description		Tran Amt
						Expense Element: 201	Subtotal:	7.98
							Total:	7.98
						Work Order Total:		83029.92

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1652 Work Order Detail / Summarized Labor Report

Report Parameters

District: P *Parent WO:* * *WO Number:* HP000187 *From Date:* 200401 *To Date:* 200412 *Show Emp Info:* No

Company: **HECO**

Parent WO: **HP000016**

Work Order: **HP000187** **Wastewater Trmt Chemical Costs-Waiau Stn**

Manual Journal Vouchers

Tran Dte	*Acct Code*	*Voucher No*	*Description*	*Accountant Code*	*Qty Amt*	*Tran Amt*
Expense Element: 201	**Matl-Issues/Purchases**					
01/05/2004	PIW248WSTNENPIZZZZZ201		ON COST CHG TO: 073839/001	HWB900	0	144.71
01/05/2004	PIW248WSTNENPIZZZZZ201		ON COST CHG TO: 073839/002	HWB900	0	196.70
03/03/2004	PIW248WSTNENPIZZZZZ201		ON COST CHG TO: 076427/001	HWB900	0	159.93
03/26/2004	PIW248WSTNENPIZZZZZ201		ON COST CHG TO: 077318/001	HWB900	0	1388.90
04/30/2004	PIW248WSTNENPIZZZZZ201		ON COST CHG TO: 078854/001	HWB900	0	266.40
06/09/2004	PIW248WSTNENPIZZZZZ201	P000029750	ON COST CHG TO: 080352/001	HWB900	0	315.30
07/07/2004	PIW248WSTNENPIZZZZZ201		ON COST CHG TO: 080646/001	HWB900	0	1089.64
09/21/2004	PIW248WSTNENPIZZZZZ201	P000031580	ON COST CHG TO: 085017/001	HWB900	0	326.70
09/29/2004	PIW248WSTNENPIZZZZZ201		ON COST CHG TO: 085423/001	HWB900	0	216.20
10/08/2004	PIW248WSTNENPIZZZZZ201		ON COST CHG TO: 085967/001	HWB900	0	219.34
11/09/2004	PIW248WSTNENPIZZZZZ201		ON COST CHG TO: 087229/001	HWB900	0	169.51
11/30/2004	PIW248WSTNENPIZZZZZ201		ON COST CHG TO: 087125/001	HWB900	0	1466.58
				Expense Element: 201	**Subtotal:**	5959.91
					Total:	5959.91

Purchase Requisition Order Receipts

Tran Dte	*Acct Code*	*PO No*	*PO Item No*	*Supplier No*	*Unit of Purch*	*Qty*	*Net Price*	*Tran Amt*
Expense Element: 201	**Matl-Issues/Purchases**							
01/05/2004	PIW248WSTNENPIZZZZZ201	P46481	023	001761	GT	2.7	410.00	1153.05
01/05/2004	PIW248WSTNENPIZZZZZ201	P46481	022	001761	GT	3.67	410.00	1567.30
03/03/2004	PIW248WSTNENPIZZZZZ201	P58191	002	001761	GT	3.5	410.00	1494.70
03/26/2004	PIW248WSTNENPIZZZZZ201	P58190	002	001761	GT	13.4	930.00	12980.42
04/30/2004	PIW248WSTNENPIZZZZZ201	P58191	003	001761	GT	5.83	410.00	2489.74
06/09/2004	PIW248WSTNENPIZZZZZ201	P58191	004	001761	GT	6.9	410.00	2946.69
07/07/2004	PIW248WSTNENPIZZZZZ201	P58190	003	001761	GT	12.33	905.00	8717.14
09/21/2004	PIW248WSTNENPIZZZZZ201	P58191	005	001761	GT	6.12	410.00	2613.58
09/29/2004	PIW248WSTNENPIZZZZZ201	P58191	006	001761	GT	4.05	410.00	1729.58
10/08/2004	PIW248WSTNENPIZZZZZ201	P58191	007	001761	GT	3.83	410.00	1635.62
11/09/2004	PIW248WSTNENPIZZZZZ201	P58191	008	001761	GT	2.96	410.00	1264.09

1652 Work Order Detail / Summarized Labor Report

Report Parameters

District: P *Parent WO:* * *WO Number:* HP000187 *From Date:* 200401 *To Date:* 200412 *Show Emp Info:* No

Company: **HECO**

Purchase Requisition Order Receipts

Tran Dte	Acct Code	PO No	PO Item No	Supplier No	Unit of Purch	Qty	Net Price	Tran Amt
11/30/2004	PIW248WSTNENPIZZZZZ201	P58190	006	001761	GT	11.29	930.00	10936.49
						Expense Element: 201	**Subtotal:**	49528.40
							Total:	49528.40

Stock Material Transactions

Tran Dte	Acct Code	Stock Code	Qty	Unit of Issue	Item Name	Description	Tran Amt
Expense Element: 201	**Matl-Issues/Purchases**						
01/15/2004	PIW248WSTNENPIZZZZZ201	000373407	1	EA	OVERALL, RAI		14.32
01/15/2004	PIW248WSTNENPIZZZZZ201	000373324	1	EA	JACKET, WITH		19.30
03/05/2004	PIW248WSTNENPIZZZZZ201	000593582	1	EA	JACKET, RAIN,		19.32
03/25/2004	PIW248WSTNENPIZZZZZ201	000593707	1	EA	OVERALL, RAI		36.15
						Expense Element: 201 **Subtotal:**	89.09
						Total:	89.09

Work Order Total: 55577.40 ✓

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1652 Work Order Detail / Summarized Labor Report

Report Parameters

District: P *Parent WO:* * *WO Number:* HP000188 *From Date:* 200201 *To Date:* 200212 *Show Emp Info:* No

Company: **HECO**

Parent WO: **HP000017**

Work Order: **HP000188** **Demineralizer Chem Costs-Waiau Station**

Manual Journal Vouchers

Tran Dte	*Acct Code*	*Voucher No*	*Description*	*Accountant Code*	*Qty Amt*	*Tran Amt*
Expense Element: 201	**Matl-Issues/Purchases**					
01/16/2002	PIW248WSTNENPIZZZZZ201		ON COST CHG TO: 044414/001	HWB900	0	228.33
01/22/2002	PIW248WSTNENPIZZZZZ201		ON COST CHG TO: 044851/001	HWB900	0	395.49
01/24/2002	PIW248WSTNENPIZZZZZ201		ON COST CHG TO: 044946/001	HWB900	0	1114.44
02/19/2002	PIW248WSTNENPIZZZZZ201		ON COST CHG TO: 045496/001	HWB900	0	435.24
03/27/2002	PIW248WSTNENPIZZZZZ201		ON COST CHG TO: 047531/001	HWB900	0	164.12
04/02/2002	PIW242WSTNENPIZZZZZ201		ON COST CHG TO: 047004/001	HWB900	0	399.97
04/02/2002	PIW248WSTNENPIZZZZZ201		ON COST CHG TO: 047280/001	HWB900	0	443.82
06/17/2002	PIW248WSTNENPIZZZZZ201		ON COST CHG TO: 051114/001	HWB900	0	46.96
08/27/2002	PIW248WSTNENPIZZZZZ201	P000017392	ON COST CHG TO: 053845/001	HWB900	0	614.68
09/11/2002	PIW248WSTNENPIZZZZZ201		ON COST CHG TO: 054448/001	HWB900	0	857.01
09/24/2002	PIW248WSTNENPIZZZZZ201		ON COST CHG TO: 054938/001	HWB900	0	492.45
09/24/2002	PIW248WSTNENPIZZZZZ201		ON COST CHG TO: 054830/001	HWB900	0	1494.51
10/15/2002	PIW248WSTNENPIZZZZZ201		ON COST CHG TO: 055366/001	HWB900	0	972.05
10/15/2002	PIW248WSTNENPIZZZZZ201		ON COST CHG TO: 055046/001	HWB900	0	151.73
10/15/2002	PIW248WSTNENPIZZZZZ201		ON COST CHG TO: 056172/001	HWB900	0	646.69
10/15/2002	PIW248WSTNENPIZZZZZ201		ON COST CHG TO: 056039/001	HWB900	0	569.58
10/16/2002	PIW248WSTNENPIZZZZZ201		ON COST CHG TO: 055366/001	HWB900	0	2.27
11/04/2002	PIW248WSTNENPIZZZZZ201		ON COST CHG TO: 056632/001	HWB900	0	208.79
11/04/2002	PIW248WSTNENPIZZZZZ201		ON COST CHG TO: 056631/001	HWB900	0	490.47
11/06/2002	PIW248WSTNENPIZZZZZ201		ON COST CHG TO: 057025/001	HWB900	0	367.45
11/14/2002	PIW248WSTNENPIZZZZZ201		ON COST CHG TO: 057549/001	HWB900	0	361.05
11/19/2002	PIW248WSTNENPIZZZZZ201		ON COST CHG TO: 057549/002	HWB900	0	471.61
12/05/2002	PIW248WSTNENPIZZZZZ201		ON COST CHG TO: 057989/001	HWB900	0	382.09
12/11/2002	PIW248WSTNENPIZZZZZ201		ON COST CHG TO: 058383/001	HWB900	0	517.49
12/17/2002	PIW248WSTNENPIZZZZZ201		ON COST CHG TO: 051114/001	HWB900	0	-46.96
12/20/2002	PIW248WSTNENPIZZZZZ201		ON COST CHG TO: 051114/001	HWB900	0	37.93
12/26/2002	PIW248WSTNENPIZZZZZ201		ON COST CHG TO: 059153/001	HWB900	0	561.50
				Expense Element: 201	**Subtotal:**	12380.76

1652 Work Order Detail / Summarized Labor Report

Report Parameters

District: P *Parent WO:* * *WO Number:* HP000188 *From Date:* 200201 *To Date:* 200212 *Show Emp Info:* No

Company: **HECO**

Total: 12380.76

Purchase Requisition Order Receipts

Tran Dte	Acct Code	PO No	PO Item No	Supplier No	Unit of Purch	Qty	Net Price	Tran Amt
Expense Element: 201	**Matl-Issues/Purchases**							
01/02/2002	PIW248WSTNENPIZZZZZ201	P34156	002	001761	GT	4.33	365.00	1646.20
01/15/2002	PIW248WSTNENPIZZZZZ201	P34156	003	001761	GT	7.5	365.00	2851.38
01/15/2002	PIW248WSTNENPIZZZZZ201	P34155	002	001761	GT	10	1015.00	8034.90
01/29/2002	PIW248WSTNENPIZZZZZ201	P34156	004	001761	GT	9.45	365.00	2730.48
03/05/2002	PIW242WSTNENPIZZZZZ201	P34156	005	001761	GT	6.6	365.00	2509.21
03/11/2002	PIW248WSTNENPIZZZZZ201	P34155	005	001761	GT	13.47	945.00	2784.32
03/18/2002	PIW248WSTNENPIZZZZZ201	P37051	001	019937	EA	5	198.00	1029.60
06/12/2002	PIW248WSTNENPIZZZZZ201	P39711	001	001761	DR	1	260.00	270.82
06/12/2002	PIW248WSTNENPIZZZZZ201	P39711	001	001761	DR	-1	260.00	-270.82
07/27/2002	PIW248WSTNENPIZZZZZ201	P46041	001	001761	DR	1	210.00	218.74
08/19/2002	PIW248WSTNENPIZZZZZ201	P34156	007	001761	GT	13.32	365.00	3544.84
09/04/2002	PIW248WSTNENPIZZZZZ201	P34156	008	001761	GT	13	365.00	4942.39
09/13/2002	PIW248WSTNENPIZZZZZ201	P34155	008	001761	GT	13.26	930.00	8618.86
09/16/2002	PIW248WSTNENPIZZZZZ201	P34156	009	001761	GT	7.47	365.00	2839.97
09/26/2002	PIW248WSTNENPIZZZZZ201	P34155	009	001761	GT	12.86	930.00	5605.80
09/26/2002	PIW248WSTNENPIZZZZZ201	P34156	010	001761	GT	9.59	365.00	875.03
10/08/2002	PIW248WSTNENPIZZZZZ201	P34156	011	001761	GT	8.64	365.00	3284.79
10/10/2002	PIW248WSTNENPIZZZZZ201	P34155	010	001761	GT	3.85	930.00	3729.45
10/16/2002	PIW248WSTNENPIZZZZZ201	P34155	009	001761	GT	0.03	930.00	13.08
10/23/2002	PIW248WSTNENPIZZZZZ201	P34155	011	001761	GT	12.43	930.00	1204.08
10/23/2002	PIW248WSTNENPIZZZZZ201	P34156	012	001761	GT	7.44	365.00	2828.57
11/06/2002	PIW248WSTNENPIZZZZZ201	P34156	013	001761	GT	9.61	365.00	2119.07
11/12/2002	PIW248WSTNENPIZZZZZ201	P34156	014	001761	GT	11.41	365.00	2082.19
11/13/2002	PIW248WSTNENPIZZZZZ201	P34155	012	001761	GT	13.37	930.00	2719.79
11/22/2002	PIW248WSTNENPIZZZZZ201	P34156	015	001761	GT	10.35	365.00	2203.54
12/05/2002	PIW248WSTNENPIZZZZZ201	P34156	016	001761	GT	12.46	365.00	2984.37
12/19/2002	PIW248WSTNENPIZZZZZ201	P34156	017	001761	GT	11.51	365.00	3238.18
						Expense Element: 201	**Subtotal:**	74638.83
							Total:	74638.83

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1652 Work Order Detail / Summarized Labor Report

Report Parameters

District: P *Parent WO:* * *WO Number:* HP000188 *From Date:* 200201 *To Date:* 200212 *Show Emp Info:* No

Company: **HECO**

Purchase Requisition Price Adjustments

Tran Dte	Acct Code	PO No	PO Item No	Supplier No	Price Adjusted	Qty Adj	Unit of Purchase	Tran Amt
Expense Element: 201	**Matl-Issues/Purchases**							
02/06/2002	PIW248WSTNENPIZZZZZ201	P34155	002	001761	-29.64	0	GT	-234.63
							Expense Element: 201 Subtotal:	-234.63
							Total:	-234.63

Stock Material Transactions

Tran Dte	Acct Code	Stock Code	Qty	Unit of Issue	Item Name	Description	Tran Amt
Expense Element: 201	**Matl-Issues/Purchases**						
03/13/2002	PIW248WSTNENPIZZZZZ201	000265306	0	BG	SALT, KILN DR	1/2 GROUND, 99.8% PURE SODIUM CHLORIDE	0.00
05/21/2002	PIW248WSTNENPIZZZZZ201	000616177	1	BG	SALT, FOR BRI	FLOW-EVER 80#/BAG	20.32
05/23/2002	PIW248WSTNENPIZZZZZ201	000616185	4	PL	ANTISCALANT,	FOR REVERSE OSMOSIS (RO) OF DEMIN.	954.97
06/05/2002	PIW248WSTNENPIZZZZZ201	000266783	0	EA	CARTRIDGE, R	FILTER. FOR USE IN CONJUCTION WITH	0.00
06/21/2002	PIW248WSTNENPIZZZZZ201	000616185	4	PL	ANTISCALANT,	FOR REVERSE OSMOSIS (RO) OF DEMIN.	966.51
09/03/2002	PIW248WSTNENPIZZZZZ201	000249961	4	EA	ACID, HYDRO	SIZE: 6#.	117.25
09/09/2002	PIW248WSTNENPIZZZZZ201	000249961	7	EA	ACID, HYDRO	SIZE: 6#.	241.26
09/10/2002	PIW248WSTNENPIZZZZZ201	000265306	2	BG	SALT, KILN DR	1/2 GROUND, 99.8% PURE SODIUM CHLORIDE	26.87
12/20/2002	PIW248WSTNENPIZZZZZ201	000250365	1	BT	SOLUTION, SIL	2.9 LITER PACK.	22.34
						Expense Element: 201 Subtotal:	2349.52
						Total:	2349.52

Work Order Total: 89134.48 ✓

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1652 Work Order Detail / Summarized Labor Report

Report Parameters

District: P *Parent WO:* * *WO Number:* HP000188 *From Date:* 200301 *To Date:* 200312 *Show Emp Info:* No

Company: **HECO**

Parent WO: **HP000017**

Work Order: **HP000188** **Demineralizer Chem Costs-Waiau Station**

Manual Journal Vouchers

Tran Dte	Acct Code	Voucher No	Description	Accountant Code	Qty Amt	Tran Amt
Expense Element: 201	**Matl-Issues/Purchases**					
01/08/2003	PIW248WSTNENPIZZZZZ201		ON COST CHG TO: 059479/001	HWB900	0	1216.49
01/08/2003	PIW248WSTNENPIZZZZZ201		ON COST CHG TO: 059479/001	HWB900	0	496.88
01/09/2003	PIW248WSTNENPIZZZZZ201		ON COST CHG TO: 058384/001	HWB900	0	510.89
01/22/2003	PIW248WSTNENPIZZZZZ201	FA160103	BREWERS ENVIRONMENTAL IND INV#61085	0000007731	0	50.00
01/27/2003	PIW248WSTNENPIZZZZZ201		ON COST CHG TO: 059780/001	HWB900	0	380.79
01/29/2003	PIW248WSTNENPIZZZZZ201		ON COST CHG TO: 060464/001	HWB900	0	414.06
01/29/2003	PIW248WSTNENPIZZZZZ201		ON COST CHG TO: 060469/001	HWB900	0	323.70
02/10/2003	PIW248WSTNENPIZZZZZ201		ON COST CHG TO: 060968/001	HWB900	0	223.78
03/07/2003	PIW248WSTNENPIZZZZZ201		ON COST CHG TO: 061371/001	HWB900	0	431.54
03/07/2003	PIW248WSTNENPIZZZZZ201		ON COST CHG TO: 062207/002	HWB900	0	127.94
03/07/2003	PIW248WSTNENPIZZZZZ201		ON COST CHG TO: 062207/001	HWB900	0	544.31
04/02/2003	PIW248WSTNENPIZZZZZ201		ON COST CHG TO: 062208/002	HWB900	0	325.31
04/02/2003	PIW248WSTNENPIZZZZZ201		ON COST CHG TO: 062208/001	HWB900	0	118.11
04/04/2003	PIW248WSTNENPIZZZZZ201		ON COST CHG TO: 062798/001	HWB900	0	355.01
04/04/2003	PIW248WSTNENPIZZZZZ201		ON COST CHG TO: 063449/001	HWB900	0	432.99
04/04/2003	PIW248WSTNENPIZZZZZ201		ON COST CHG TO: 062714/001	HWB900	0	333.42
04/15/2003	PIW248WSTNENPIZZZZZ201		ON COST CHG TO: 063794/001	HWB900	0	455.85
04/15/2003	PIW248WSTNENPIZZZZZ201		ON COST CHG TO: 063679/001	HWB900	0	852.57
04/15/2003	PIW248WSTNENPIZZZZZ201		ON COST CHG TO: 063611/001	HWB900	0	587.06
04/23/2003	PIW248WSTNENPIZZZZZ201		ON COST CHG TO: 063986/001	HWB900	0	443.95
05/02/2003	PIW248WSTNENPIZZZZZ201		ON COST CHG TO: 063794/001	HWB900	0	457.23
05/02/2003	PIW248WSTNENPIZZZZZ201		ON COST CHG TO: 063794/001	HWB900	0	-455.85
05/06/2003	PIW248WSTNENPIZZZZZ201		ON COST CHG TO: 064210/001	HWB900	0	326.69
05/06/2003	PIW248WSTNENPIZZZZZ201		ON COST CHG TO: 064210/002	HWB900	0	129.50
05/09/2003	PIW248WSTNENPIZZZZZ201		ON COST CHG TO: 064882/002	HWB900	0	135.80
05/09/2003	PIW248WSTNENPIZZZZZ201		ON COST CHG TO: 064882/001	HWB900	0	609.59
05/23/2003	PIW248WSTNENPIZZZZZ201		ON COST CHG TO: 065538/001	HWB900	0	389.54
05/30/2003	PIW248WSTNENPIZZZZZ201		ON COST CHG TO: 065783/002	HWB900	0	106.27
05/30/2003	PIW248WSTNENPIZZZZZ201		ON COST CHG TO: 065822/002	HWB900	0	783.50

1652 Work Order Detail / Summarized Labor Report

Report Parameters

District: P *Parent WO:* * *WO Number:* HP000188 *From Date:* 200301 *To Date:* 200312 *Show Emp Info:* No

Company: **HECO**

Manual Journal Vouchers

Tran Dte	Acct Code	Voucher No	Description	Accountant Code	Qty Amt	Tran Amt
05/30/2003	PIW248WSTNENPIZZZZZ201		ON COST CHG TO: 065822/001	HWB900	0	195.60
05/30/2003	PIW248WSTNENPIZZZZZ201		ON COST CHG TO: 065783/001	HWB900	0	35.93
05/30/2003	PIW248WSTNENPIZZZZZ201		ON COST CHG TO: 065387/001	HWB900	0	524.94
06/06/2003	PIW248WSTNENPIZZZZZ201		ON COST CHG TO: 065376/001	HWB900	0	451.70
06/06/2003	PIW248WSTNENPIZZZZZ201		ON COST CHG TO: 065376/002	HWB900	0	111.89
06/09/2003	PIW248WSTNENPIZZZZZ201		ON COST CHG TO: 065376/002	HWB900	0	108.57
06/09/2003	PIW248WSTNENPIZZZZZ201		ON COST CHG TO: 065376/002	HWB900	0	-111.89
09/04/2003	PIW248WSTNENPIZZZZZ201		ON COST CHG TO: 068816/001	HWB900	0	75.09
09/04/2003	PIW248WSTNENPIZZZZZ201		ON COST CHG TO: 068779/001	HWB900	0	292.85
09/04/2003	PIW248WSTNENPIZZZZZ201		ON COST CHG TO: 068816/002	HWB900	0	438.47
09/04/2003	PIW248WSTNENPIZZZZZ201		ON COST CHG TO: 068779/002	HWB900	0	187.86
11/13/2003	PIW248WSTNENPIZZZZZ201		ON COST CHG TO: 071816/002	HWB900	0	263.08
11/13/2003	PIW248WSTNENPIZZZZZ201		ON COST CHG TO: 071816/001	HWB900	0	183.91
				Expense Element: 201	**Subtotal:**	13864.92
					Total:	13864.92

Purchase Requisition Order Receipts

Tran Dte	Acct Code	PO No	PO Item No	Supplier No	Unit of Purch	Qty	Net Price	Tran Amt
Expense Element: 201	**Matl-Issues/Purchases**							
01/08/2003	PIW248WSTNENPIZZZZZ201	P34155	014	001761	GT	13.69	930.00	9415.55
01/08/2003	PIW248WSTNENPIZZZZZ201	P34155	014	001761	GT	13.69	930.00	3845.79
01/09/2003	PIW248WSTNENPIZZZZZ201	P34155	013	001761	GT	12.37	930.00	3954.28
01/25/2003	PIW248WSTNENPIZZZZZ201	P34156	018	001761	GT	9.34	365.00	2947.26
01/29/2003	PIW248WSTNENPIZZZZZ201	P46480	002	001761	GT	9.19	930.00	3204.81
01/29/2003	PIW248WSTNENPIZZZZZ201	P46481	002	001761	GT	6.59	365.00	2505.41
02/10/2003	PIW248WSTNENPIZZZZZ201	P46480	003	001761	GT	1.62	930.00	1569.27
03/07/2003	PIW248WSTNENPIZZZZZ201	P46481	006	001761	GT	2.36	365.00	897.23
03/07/2003	PIW248WSTNENPIZZZZZ201	P46481	004	001761	GT	7.96	365.00	3026.26
03/07/2003	PIW248WSTNENPIZZZZZ201	P46481	005	001761	GT	10.04	365.00	3817.05
04/02/2003	PIW248WSTNENPIZZZZZ201	P46480	004	001761	GT	3.42	930.00	828.23
04/02/2003	PIW248WSTNENPIZZZZZ201	P46480	005	001761	GT	9.42	930.00	2281.26
04/04/2003	PIW248WSTNENPIZZZZZ201	P46481	008	001761	GT	7.11	410.00	3036.37
04/04/2003	PIW248WSTNENPIZZZZZ201	P46481	007	001761	GT	6.15	365.00	2338.13

1652 Work Order Detail / Summarized Labor Report

Report Parameters

District: P *Parent WO:* * *WO Number:* HP000188 *From Date:* 200301 *To Date:* 200312 *Show Emp Info:* No

Company: **HECO**

Purchase Requisition Order Receipts

Tran Dte	Acct Code	PO No	PO Item No	Supplier No	Unit of Purch	Qty	Net Price	Tran Amt
04/04/2003	PIW248WSTNENPIZZZZZ201	P46480	006	001761	GT	2.57	930.00	2489.53
04/15/2003	PIW248WSTNENPIZZZZZ201	P46481	009	001761	GT	9.64	410.00	4116.82
04/15/2003	PIW248WSTNENPIZZZZZ201	P46481	010	001761	GT	14	410.00	5978.78
04/15/2003	PIW248WSTNENPIZZZZZ201	P46480	007	001761	GT	3.3	930.00	3196.67
04/23/2003	PIW248WSTNENPIZZZZZ201	P46481	011	001761	GT	7.29	410.00	3113.24
05/02/2003	PIW248WSTNENPIZZZZZ201	P46480	007	001761	GT	3.31	930.00	3206.36
05/02/2003	PIW248WSTNENPIZZZZZ201	P46480	007	001761	GT	-3.3	930.00	-3196.67
05/06/2003	PIW248WSTNENPIZZZZZ201	P46480	009	001761	GT	3.75	930.00	908.14
05/06/2003	PIW248WSTNENPIZZZZZ201	P46480	008	001761	GT	9.46	930.00	2290.95
05/09/2003	PIW248WSTNENPIZZZZZ201	P46481	012	001761	GT	10.01	410.00	4274.83
05/09/2003	PIW248WSTNENPIZZZZZ201	P46481	013	001761	GT	2.23	410.00	952.33
05/23/2003	PIW248WSTNENPIZZZZZ201	P46480	010	001761	GT	2.82	930.00	2731.70
05/30/2003	PIW248WSTNENPIZZZZZ201	P46481	015	001761	GT	2.36	410.00	251.96
05/30/2003	PIW248WSTNENPIZZZZZ201	P46480	011	001761	GT	1.77	930.00	1371.66
05/30/2003	PIW248WSTNENPIZZZZZ201	P46480	012	001761	GT	7.09	930.00	5494.40
05/30/2003	PIW248WSTNENPIZZZZZ201	P46481	014	001761	GT	8.62	410.00	3681.22
05/30/2003	PIW248WSTNENPIZZZZZ201	P46481	016	001761	GT	6.98	410.00	745.21
06/06/2003	PIW248WSTNENPIZZZZZ201	P46480	014	001761	GT	2.7	930.00	784.64
06/06/2003	PIW248WSTNENPIZZZZZ201	P46480	013	001761	GT	10.9	930.00	3167.61
06/09/2003	PIW248WSTNENPIZZZZZ201	P46480	014	001761	GT	-2.7	930.00	-784.64
06/09/2003	PIW248WSTNENPIZZZZZ201	P46480	014	001761	GT	2.62	930.00	761.39
09/04/2003	PIW248WSTNENPIZZZZZ201	P46480	016	001761	GT	3.4	930.00	1317.42
09/04/2003	PIW248WSTNENPIZZZZZ201	P46481	018	001761	GT	8	410.00	3074.80
09/04/2003	PIW248WSTNENPIZZZZZ201	P46480	015	001761	GT	5.3	930.00	2053.62
09/04/2003	PIW248WSTNENPIZZZZZ201	P46481	017	001761	GT	1.37	410.00	526.56
11/13/2003	PIW248WSTNENPIZZZZZ201	P46481	020	001761	GT	3.02	410.00	1289.71
11/13/2003	PIW248WSTNENPIZZZZZ201	P46481	021	001761	GT	4.32	410.00	1844.88
					Expense Element: 201		**Subtotal:**	99310.02
							Total:	99310.02

r Detail / Summarized Labor Report

O: * *WO Number:* HP000188 *From Date:* 200301 *To Date:* 200312 *Show Emp Info:* No

nsactions

Code	*Stock Code*	*Qty*	*Unit of Issue*	*Item Name*	*Description*	*Tran Amt*
201 Matl-Issues/Purchases						
248WSTNENPIZZZZZ201	000616177	1	BG	SALT, FOR BRI	FLOW-EVER 80#/BAG	20.03
248WSTNENPIZZZZZ201	000616177	6	BG	SALT, FOR BRI	FLOW-EVER 80#/BAG	120.18
248WSTNENPIZZZZZ201	000168344	2	BX	CHART, CIRCU	10-100, 24 HR.	22.82
248WSTNENPIZZZZZ201	000616177	5	BG	SALT, FOR BRI	FLOW-EVER 80#/BAG	103.20
248WSTNENPIZZZZZ201	000616177	10	BG	SALT, FOR BRI	FLOW-EVER 80#/BAG	1.26
248WSTNENPIZZZZZ201	000616185	4	PL	ANTISCALANT,	FOR REVERSE OSMOSIS (RO) OF DEMIN.	941.14
248WSTNENPIZZZZZ201	000616177	5	BG	SALT, FOR BRI	FLOW-EVER 80#/BAG	107.47
248WSTNENPIZZZZZ201	000616185	4	PL	ANTISCALANT,	FOR REVERSE OSMOSIS (RO) OF DEMIN.	941.14
248WSTNENPIZZZZZ201	000373886	0	EA	SWEATBAND,	FOR SIX STRAP BULLARD SAFETY HARD HAT.	0.00
					Expense Element: 201 Subtotal:	2257.24
					Total:	2257.24
					Work Order Total:	115432.18 ✓

1652 Work Order Detail / Summarized Labor Report

Report Parameters

District: P *Parent WO:* * *WO Number:* HP000188 *From Date:* 200401 *To Date:* 200412 *Show Emp Info:* No

Company: **HECO**

Parent WO: **HP000017**

Work Order: **HP000188** **Demineralizer Chem Costs-Waiau Station**

Manual Journal Vouchers

Tran Dte	Acct Code	Voucher No	Description	Accountant Code	Qty Amt	Tran Amt
Expense Element: 201	**Matl-Issues/Purchases**					
07/07/2004	PIW248WSTNENPIZZZZZ201		ON COST CHG TO: 080646/001	HWB900	0	363.21
09/02/2004	PIW248WSTNENPIZZZZZ201		ON COST CHG TO: 083487/001	HWB900	0	819.75
				Expense Element: 201	**Subtotal:**	1182.96
					Total:	1182.96

Purchase Requisition Order Receipts

Tran Dte	Acct Code	PO No	PO Item No	Supplier No	Unit of Purch	Qty	Net Price	Tran Amt
Expense Element: 201	**Matl-Issues/Purchases**							
07/07/2004	PIW248WSTNENPIZZZZZ201	P58190	003	001761	GT	12.33	905.00	2905.71
09/02/2004	PIW248WSTNENPIZZZZZ201	P58190	004	001761	GT	6.77	930.00	6558.02
					Expense Element: 201		**Subtotal:**	9463.73
							Total:	9463.73

Stock Material Transactions

Tran Dte	Acct Code	Stock Code	Qty	Unit of Issue	Item Name	Description	Tran Amt
Expense Element: 201	**Matl-Issues/Purchases**						
01/19/2004	PIW248WSTNENPIZZZZZ201	000616177	5	BG	SALT, FOR BRI	FLOW-EVER 80#/BAG	105.86
01/28/2004	PIW248WSTNENPIZZZZZ201	000373761	1	EA	HEADGEAR, F		13.13
02/11/2004	PIW248WSTNENPIZZZZZ201	000616177	5	BG	SALT, FOR BRI	FLOW-EVER 80#/BAG	63.42
02/18/2004	PIW248WSTNENPIZZZZZ201	000616185	6	PL	ANTISCALANT,	FOR REVERSE OSMOSIS (RO) OF DEMIN.	1367.72
03/29/2004	PIW248WSTNENPIZZZZZ201	000616177	10	BG	SALT, FOR BRI	FLOW-EVER 80#/BAG	126.84
04/08/2004	PIW248WSTNENPIZZZZZ201	000373225	2	EA	COVERALL, BL		59.96
04/28/2004	PIW248WSTNENPIZZZZZ201	000595520	2	EA	BRACKET, SQ	FOR HEADGEAR, DIELECTRIC 3000 CAP	23.10
04/28/2004	PIW248WSTNENPIZZZZZ201	000373803	1	EA	HARDHAT, GR	SUSPENSION.	11.65
05/15/2004	PIW248WSTNENPIZZZZZ201	000616177	11	BG	SALT, FOR BRI	FLOW-EVER 80#/BAG	139.52
05/17/2004	PIW248WSTNENPIZZZZZ201	000616185	2	PL	ANTISCALANT,	FOR REVERSE OSMOSIS (RO) OF DEMIN.	455.91
05/18/2004	PIW248WSTNENPIZZZZZ201	000616177	0	BG	SALT, FOR BRI	FLOW-EVER 80#/BAG	0.00
05/28/2004	PIW248WSTNENPIZZZZZ201	000616185	3	PL	ANTISCALANT,	FOR REVERSE OSMOSIS (RO) OF DEMIN.	683.86
07/12/2004	PIW248WSTNENPIZZZZZ201	000616177	10	BG	SALT, FOR BRI	FLOW-EVER 80#/BAG	179.12

1652 Work Order Detail / Summarized Labor Report

Report Parameters

District: P *Parent WO:* * *WO Number:* HP000188 *From Date:* 200401 *To Date:* 200412 *Show Emp Info:* No

Company: **HECO**

Stock Material Transactions

Tran Dte	Acct Code	Stock Code	Qty	Unit of Issue	Item Name	Description	Tran Amt
07/29/2004	PIW248WSTNENPIZZZZZ201	000616185	1	PL	ANTISCALANT,	FOR REVERSE OSMOSIS (RO) OF DEMIN.	231.66
08/16/2004	PIW248WSTNENPIZZZZZ201	000616185	3	PL	ANTISCALANT,	FOR REVERSE OSMOSIS (RO) OF DEMIN.	694.98
08/26/2004	PIW248WSTNENPIZZZZZ201	000616185	5	PL	ANTISCALANT,	FOR REVERSE OSMOSIS (RO) OF DEMIN.	1158.30
09/07/2004	PIW248WSTNENPIZZZZZ201	000373803	1	EA	HARDHAT, GR	SUSPENSION.	11.84
10/25/2004	PIW248WSTNENPIZZZZZ201	000616177	10	BG	SALT, FOR BRI	FLOW-EVER 80#/BAG	180.57
12/15/2004	PIW248WSTNENPIZZZZZ201	000616185	5	PL	ANTISCALANT,	FOR REVERSE OSMOSIS (RO) OF DEMIN.	1167.67
12/28/2004	PIW248WSTNENPIZZZZZ201	000616177	4	BG	SALT, FOR BRI	FLOW-EVER 80#/BAG	72.23
						Expense Element: 201 Subtotal:	6747.34
						Total:	6747.34

Work Order Total: 17394.03 ✓

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mp Info: No

ty Amt	*Tran Amt*
0	998.16
0	81.05
0	998.16
0	251.16
0	81.05
0	1147.13
0	93.00
0	1147.13
0	101.32
0	1247.88
0	313.30
0	1247.88
0	101.32
0	101.32
0	1247.88
0	1212.81
0	101.32
0	311.71
0	1247.88
0	101.32
0	1247.88
ptotal:	13380.66
Total:	13380.66

t Price	*Tran Amt*
11.42	7196.52
561.00	584.34

rt

00201 *To Date:* 200212 *Show Emp Info:* No

pplier No	*Unit of Purch*	*Qty*	*Net Price*	*Tran Amt*
1761	GL	605	11.42	7196.52
1761	EA	1	561.00	584.34
1761	GL	610	2.85	1810.82
1761	GL	605	11.42	7196.52
1761	EA	1	561.00	583.44
1761	GL	605	11.42	7196.52
1761	EA	1	561.00	584.34
1761	GL	605	11.42	7196.52
1761	GL	608.65	2.85	1806.81
1761	EA	1	561.00	584.34
1761	GL	605	11.42	7196.52
1761	GL	605	11.42	7196.52
1761	EA	1	561.00	584.34
1761	GL	588	11.42	6994.30
1761	GL	605.55	2.85	1797.61
1761	EA	1	561.00	584.34
1761	GL	605	11.42	7196.52
1761	EA	1	561.00	584.34
1761	GL	605	11.42	7196.52
	Expense Element: 201		**Subtotal:**	81852.04
			Total:	81852.04
			Work Order Total:	95232.70 ✓

1652 Work Order Detail / Summarized Labor Report

Report Parameters

District: P Parent WO: * WO Number: HP000189 From Date: 200301 To Date: 200312 Show Emp Info: No

Company: HECO

Parent WO: HP000018

Work Order: HP000189 Condenser Chemical Costs-Waiau Station

Labor Costs

Proccess Pd	Tran Dte	Acct Code	Emp ID	Last Name	First Name	No of Hours	Tran Amt
Expense Element: 150		**Labor Cost**					
200308	08/19/2003	PIK248WSTNENPIZZZZZ150				-8.00	-249.76
	08/19/2003	PIK248WSTNENPIZZZZZ150				8.00	249.76
					Subtotal:	0.00	0.00
					Expense Element: 150 Subtotal:	0.00	0.00
Expense Element: 405		**Power Supply**					
200308						0.00	0.00
					Expense Element: 405 Subtotal:	0.00	0.00
Expense Element: 406		**Corp Admin Expense**					
200308						0.00	0.00
					Expense Element: 406 Subtotal:	0.00	0.00
Expense Element: 421		**Non-Productive Wages**					
200308						0.00	0.00
					Expense Element: 421 Subtotal:	0.00	0.00
Expense Element: 422		**Employee Benefits**					
200308						0.00	0.00
					Expense Element: 422 Subtotal:	0.00	0.00
Expense Element: 423		**Payroll Taxes**					
200308						0.00	0.00
					Expense Element: 423 Subtotal:	0.00	0.00
					Total:	0.00	0.00

Manual Journal Vouchers

Tran Dte	Acct Code	Voucher No	Description	Accountant Code	Qty Amt	Tran Amt
Expense Element: 201	**Matl-Issues/Purchases**					
01/09/2003	PIW248WSTNENPIZZZZZ201		ON COST CHG TO: 059542/001	HWB900	0	75.50
01/29/2003	PIW248WSTNENPIZZZZZ201		ON COST CHG TO: 060198/001	HWB900	0	929.79

1652 Work Order Detail / Summarized Labor Report

Report Parameters

District: P *Parent WO:* * *WO Number:* HP000189 *From Date:* 200301 *To Date:* 200312 *Show Emp Info:* No

Company: **HECO**

Manual Journal Vouchers

Tran Dte	Acct Code	Voucher No	Description	Accountant Code	Qty Amt	Tran Amt
02/10/2003	PIW248WSTNENPIZZZZZ201		ON COST CHG TO: 061185/001	HWB900	0	83.33
03/03/2003	PIW248WSTNENPIZZZZZ201		ON COST CHG TO: 061372/001	HWB900	0	252.83
03/05/2003	PIW248WSTNENPIZZZZZ201		ON COST CHG TO: 061798/001	HWB900	0	1026.22
04/04/2003	PIW248WSTNENPIZZZZZ201		ON COST CHG TO: 063451/001	HWB900	0	1026.22
05/06/2003	PIW248WSTNENPIZZZZZ201		ON COST CHG TO: 064697/001	HWB900	0	83.33
05/30/2003	PIW248WSTNENPIZZZZZ201		ON COST CHG TO: 065639/001	HWB900	0	1026.22
05/30/2003	PIW248WSTNENPIZZZZZ201		ON COST CHG TO: 065640/001	HWB900	0	254.15
06/13/2003	PIW248WSTNENPIZZZZZ201		ON COST CHG TO: 066280/001	HWB900	0	83.33
07/08/2003	PIW248WSTNENPIZZZZZ201		ON COST CHG TO: 067024/001	HWB900	0	83.33
07/08/2003	PIW248WSTNENPIZZZZZ201		ON COST CHG TO: 067024/002	HWB900	0	1026.22
08/08/2003	PIW248WSTNENPIZZZZZ201		ON COST CHG TO: 068387/001	HWB900	0	1026.22
08/08/2003	PIW248WSTNENPIZZZZZ201		ON COST CHG TO: 068388/001	HWB900	0	209.01
09/04/2003	PIW248WSTNENPIZZZZZ201		ON COST CHG TO: 068754/001	HWB900	0	83.33
09/17/2003	PIW248WSTNENPIZZZZZ201		ON COST CHG TO: 069578/002	HWB900	0	1026.22
09/17/2003	PIW248WSTNENPIZZZZZ201		ON COST CHG TO: 069578/001	HWB900	0	83.33
11/24/2003	PIW248WSTNENPIZZZZZ201		ON COST CHG TO: 072477/001	HWB900	0	86.76
11/24/2003	PIW248WSTNENPIZZZZZ201		ON COST CHG TO: 072473/001	HWB900	0	966.02
12/03/2003	PIW248WSTNENPIZZZZZ201		ON COST CHG TO: 072538/001	HWB900	0	259.46
				Expense Element: 201	**Subtotal:**	9690.82
					Total:	9690.82

Purchase Requisition Order Receipts

Tran Dte	Acct Code	PO No	PO Item No	Supplier No	Unit of Purch	Qty	Net Price	Tran Amt
Expense Element: 201	**Matl-Issues/Purchases**							
01/09/2003	PIW248WSTNENPIZZZZZ201	P34161	009	001761	DR	1	561.00	584.34
01/29/2003	PIW248WSTNENPIZZZZZ201	P46482	002	001761	GL	605	11.42	7196.52
02/10/2003	PIW248WSTNENPIZZZZZ201	P46483	002	001761	DR	1	561.00	584.34
03/03/2003	PIW248WSTNENPIZZZZZ201	P46484	002	001761	GL	597.27	2.85	1773.03
03/05/2003	PIW248WSTNENPIZZZZZ201	P46482	003	001761	GL	605	11.42	7196.52
04/04/2003	PIW248WSTNENPIZZZZZ201	P46482	004	001761	GL	605	11.42	7196.52
05/06/2003	PIW248WSTNENPIZZZZZ201	P46483	003	001761	GT	1	561.00	584.34
05/30/2003	PIW248WSTNENPIZZZZZ201	P46484	003	001761	GL	600.37	2.85	1782.23
05/30/2003	PIW248WSTNENPIZZZZZ201	P46482	007	001761	GL	605	11.42	7196.52

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Qty	*Net Price*	*Tran Amt*
1	561.00	584.34
1	561.00	584.34
605	11.42	7196.52
93.75	2.85	1465.73
605	11.42	7196.52
1	561.00	584.34
605	11.42	7196.52
1	561.00	584.34
1	584.10	608.40
605	10.75	6774.31
94.16	2.94	1819.50
t: 201	**Subtotal:**	68689.22
	Total:	68689.22

Work Order Total: 78380.04

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	Accountant Code	*Qty Amt*	*Tran Amt*
001	HWB900	0	850.18
002	HWB900	0	76.35
001	HWB900	0	65.10
001	HWB900	0	724.85
002	HWB900	0	190.28
001	HWB900	0	65.10
001	HWB900	0	770.03
001	HWB900	0	76.05
001	HWB900	0	846.79
001	HWB900	0	846.79
001	HWB900	0	229.02
001	HWB900	0	76.05
001	HWB900	0	1608.02
001	HWB900	0	83.43
001	HWB900	0	927.03
	Expense Element: 201	**Subtotal:**	7435.07
		Total:	7435.07

lier No	*Unit of Purch*	*Qty*	*Net Price*	*Tran Amt*
761	EA	1	584.10	608.40
761	GL	605	10.75	6774.31
761	EA	1	584.10	608.40
761	GL	605	10.75	6774.31
761	GL	580.71	2.94	1778.31
761	GL	1	584.10	608.40
761	GL	605	11.42	7196.52
761	GL	330	1.77	608.40

1652 Work Order Detail / Summarized Labor Report

Report Parameters

District: P *Parent WO:* * *WO Number:* HP000189 *From Date:* 200401 *To Date:* 200412 *Show Emp Info:* No

Company: **HECO**

Purchase Requisition Order Receipts

Tran Dte	Acct Code	PO No	PO Item No	Supplier No	Unit of Purch	Qty	Net Price	Tran Amt
08/03/2004	PIW248WSTNENPIZZZZZ201	P58192	004	001761	GL	605	10.75	6774.31
08/06/2004	PIW248WSTNENPIZZZZZ201	P58192	005	001761	GL	605	10.75	6774.31
08/19/2004	PIW248WSTNENPIZZZZZ201	P58193	006	001761	GL	330	1.77	608.40
08/19/2004	PIW248WSTNENPIZZZZZ201	P58194	003	001761	GL	598.3	2.94	1832.17
09/20/2004	PIW248WSTNENPIZZZZZ201	P58190	005	001761	GT	13.28	930.00	12864.18
11/09/2004	PIW248WSTNENPIZZZZZ201	P58193	007	001761	GL	330	1.81	622.15
12/13/2004	PIW248WSTNENPIZZZZZ201	P58192	006	001761	GL	605	10.97	6912.94
						Expense Element: 201	**Subtotal:**	61345.51
							Total:	61345.51

Purchase Requisition Price Adjustments

Tran Dte	Acct Code	PO No	PO Item No	Supplier No	Price Adjusted	Qty Adj	Unit of Purchase	Tran Amt
Expense Element: 201	**Matl-Issues/Purchases**							
04/26/2004	PIW248WSTNENPIZZZZZ201	P58192	003	001761	-0.67	0	GL	-422.21
						Expense Element: 201	**Subtotal:**	-422.21
							Total:	-422.21

Stock Material Transactions

Tran Dte	Acct Code	Stock Code	Qty	Unit of Issue	Item Name	Description	Tran Amt
Expense Element: 201	**Matl-Issues/Purchases**						
04/12/2004	PIW248WSTNENPIZZZZZ201	000268284	1	BG	ASH, SODA, T	FOR BOILER WATER TREATMENT	15.69
09/28/2004	PIW248WSTNENPIZZZZZ201	000619809	20	BL	SAWDUST, W	WATERFRONT.	224.98
10/01/2004	PIW248WSTNENPIZZZZZ201	000619809	20	BL	SAWDUST, W	WATERFRONT.	226.80
						Expense Element: 201 **Subtotal:**	467.47
						Total:	467.47

Work Order Total: 68825.84 ✓

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1652 Work Order Detail / Summarized Labor Report

Report Parameters

District: P *Parent WO:* * *WO Number:* PR000256 *From Date:* 200201 *To Date:* 200212 *Show Emp Info:* No

Company: **HECO**

Parent WO:

Work Order: **PR000256** **SWO-ASBESTOS REMOVAL (WAIAU)**

Invoice Transactions

Tran Dte	Acct Code	Cat No	Supplier No	Inv No	Inv Item No	Inv Item Desc	Contract No	Portion No	Element No	Tran Amt
Expense Element: 501	**Outside Svcs-General**									
02/25/2002	PIX878WSTNENPIZZZZZ501		005015	OEC-258	001	W3 SSH DRN PIPING				682.04
02/25/2002	PIX878WSTNENPIZZZZZ501		005015	OEC-258	001	W3 PRIMARY FO PUM				256.04
02/25/2002	PIX878WSTNENPIZZZZZ501		005015	OEC-259	001	W3 PRIMARY FO PUM				365.67
02/25/2002	PIX878WSTNENPIZZZZZ501		005015	OEC-259	001	W3 PRIMARY FO PUM				2310.00
03/13/2002	PIX878WSTNENPIZZZZZ501		005015	OEC-261	001	W7 #72 GSE ASBESTO				2753.78
03/14/2002	PIX878WSTNENPIZZZZZ501		005015	OEC-261	001	W6 63 FWH ASBSEST				901.18
03/14/2002	PIX878WSTNENPIZZZZZ501		005015	OEC-261	001	W-7 ATTEMP RH CV. A				496.33
03/18/2002	PIX878WSTNENPIZZZZZ501		005015	OEC-261	001	W6 63 FWH ASBSEST				1411.14
03/19/2002	PIX878WSTNENPIZZZZZ501		005015	OEC-262	001	W3 REBLR DRIP PIPIN				2570.45
04/03/2002	PIX259W07NENPIZZZZZ501		005015	OEC-266	001	W7 71 APH STEAM CV				1800.00
05/13/2002	PIX878WSTNENPIZZZZZ501		005015	OEC-274	001	W-7 SEALING AIR LIN				12885.56
05/15/2002	PIX878WSTNENPIZZZZZ501		005015	OEC-266	001	W-7 ATTEMP RH CV. A				600.00
05/31/2002	PIX878WSTNENPIZZZZZ501		006207	0530200	001	REF FEE FOR ASBEST				200.00
06/03/2002	PIX878WSTNENPIZZZZZ501		005015	OEC-275	001	W-8 SEALING AIR LIN				11998.04
06/12/2002	PIX878WSTNENPIZZZZZ501		015414	0606200	001	FEE FOR ASBESTOS				350.00
06/25/2002	PIX878WSTNENPIZZZZZ501		005015	OEC-280	001	W-4 3RD FLOOR ASBE				1486.99
06/26/2002	PIX878WSTNENPIZZZZZ501		015414	0624200	001	FEE FOR ASBESTOS				225.00
07/08/2002	PIX259W07NENPIZZZZZ501		005015	OEC-276	001	W7 AUX STM PPG ASB				2391.37
07/26/2002	PIX878WSTNENPIZZZZZ501		005015	OEC-286	001	W-6 AIR PREHEATER				41654.74
08/15/2002	PIX878WSTNENPIZZZZZ501		005015	2899	001	W6 63 FWH ASBSEST				338.86
08/30/2002	PIX878WSTNENPIZZZZZ501		005015	OEC-294	001	W-6 AIR PREHEATER				13884.91
									Expense Element: 501 **Subtotal:**	99562.10
									Total:	99562.10 ✓

Labor Costs

Proccess Pd	Tran Dte	Acct Code	Emp ID	Last Name	First Name	No of Hours	Tran Amt
Expense Element: 150	**Labor Cost**						
200206	06/24/2002	PJW878WSTNENPIZZZZZ150				1.00	28.93
	06/28/2002	PJW878WSTNENPIZZZZZ150				1.00	28.93

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1652 Work Order Detail / Summarized Labor Report

Report Parameters

District: P *Parent WO:* * *WO Number:* PR000256 *From Date:* 200201 *To Date:* 200212 *Show Emp Info:* No

Company: **HECO**

Labor Costs

Process Pd	Tran Dte	Acct Code	Emp ID	Last Name	First Name		No of Hours	Tran Amt
						Subtotal:	2.00	57.86
					Expense Element: 150	Subtotal:	2.00	57.86
Expense Element: 155		Labor True-up						
200206							0.00	-1.14
					Expense Element: 155	Subtotal:	0.00	-1.14
Expense Element: 406		Corp Admin Expense						
200206							0.00	4.44
					Expense Element: 406	Subtotal:	0.00	4.44
Expense Element: 421		Non-Productive Wages						
200206							0.00	9.42
					Expense Element: 421	Subtotal:	0.00	9.42
Expense Element: 422		Employee Benefits						
200206							0.00	-3.30
					Expense Element: 422	Subtotal:	0.00	-3.30
Expense Element: 423		Payroll Taxes						
200206							0.00	4.74
					Expense Element: 423	Subtotal:	0.00	4.74
						Total:	2.00	72.02

Manual Journal Vouchers

Tran Dte	Acct Code	Voucher No	Description	Accountant Code	Qty Amt	Tran Amt
Expense Element: 501	**Outside Svcs-General**					
04/05/2002	PIX878WSTNENPIZZZZZ501	OSAP0203	ACCRUE O/S INVOICE AT 3/31/02 LINE249	NWATANAB	0	600.00
04/05/2002	PIX878WSTNENPIZZZZZ501	OXAP0204	REV 3/31/02 ACCR OF UNAPPROVED INVOI	NWATANAB	0	-1800.00
04/05/2002	PIX878WSTNENPIZZZZZ501	OSAP0203	ACCRUE O/S INVOICE AT 3/31/02 LINE250	NWATANAB	0	1800.00
04/05/2002	PIX878WSTNENPIZZZZZ501	OXAP0204	REV 3/31/02 ACCR OF UNAPPROVED INVOI	NWATANAB	0	-1800.00
04/05/2002	PIX878WSTNENPIZZZZZ501	OSAP0203	ACCRUE O/S INVOICE AT 3/31/02 LINE242	NWATANAB	0	1800.00
04/05/2002	PIX878WSTNENPIZZZZZ501	OXAP0204	REV 3/31/02 ACCR OF UNAPPROVED INVOI	NWATANAB	0	-600.00
07/05/2002	PIX878WSTNENPIZZZZZ501	PSOI0206	accrue unpaid invoices at quarter end	20021	0	1800.00

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1652 Work Order Detail / Summarized Labor Report

Report Parameters

District: P *Parent WO:* * *WO Number:* PR000256 *From Date:* 200201 *To Date:* 200212 *Show Emp Info:* No

Company: **HECO**

Manual Journal Vouchers

Tran Dte	Acct Code	Voucher No	Description	Accountant Code	Qty Amt	Tran Amt
07/05/2002	PIX878WSTNENPIZZZZZ501	PSOI0206	accrue unpaid invoices at quarter end	20021	0	-1800.00
07/05/2002	PIX878WSTNENPIZZZZZ501	PSOI0206	accrue unpaid invoices at quarter end	20021	0	2391.37
07/05/2002	PIX878WSTNENPIZZZZZ501	PSOI0206	accrue unpaid invoices at quarter end	20021	0	-2391.37
				Expense Element: 501	**Subtotal:**	0.00
					Total:	0.00
					Work Order Total:	99634.12

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1652 Work Order Detail / Summarized Labor Report

Report Parameters

District: P *Parent WO:* * *WO Number:* PR000256 *From Date:* 200301 *To Date:* 200312 *Show Emp Info:* No

Company: **HECO**

Parent WO:

Work Order: **PR000256** **SWO-ASBESTOS REMOVAL (WAIAU)**

Invoice Transactions

Tran Dte	Acct Code	Cat No	Supplier No	Inv No	Inv Item No	Inv Item Desc	Contract No	Portion No	Element No	Tran Amt
Expense Element: 501	**Outside Svcs-General**									
02/05/2003	PIX878WSTNENPIZZZZZ501		015414	0204200	002	ASBESTOS NOTIFICA				535.50
02/18/2003	PIX878WSTNENPIZZZZZ501		019267	0212200	002	NOTIFICATION FOR H				535.50
04/29/2003	PIX878WSTNENPIZZZZZ501		005015	OEC-342	001	WPP-SOLAR GEN EXH				3093.97
11/19/2003	PIX878WSTNENPIZZZZZ501		005015	OEC-385	001	WPP-W3 PSH TUBE A				4936.34
11/24/2003	PIX878WSTNENPIZZZZZ501		005015	OEC-387	001	WPP-W3 ASBESTOS C				3294.98
12/02/2003	PIX878WSTNENPIZZZZZ501		022381	110803-7	001	WPP-MAINTENANCE S				420.00
12/02/2003	PIX878WSTNENPIZZZZZ501		022381	110803-6	001	WPP-W3 PSH LINE AS				420.00
12/08/2003	PIX878WSTNENPIZZZZZ501		022381	111003-6	001	WPP-ASBESTOS ABA				3250.00
12/10/2003	PIX878WSTNENPIZZZZZ501		005015	OEC-380	001	WAIAU ASBESTOS BI				1250.00
									Expense Element: 501 Subtotal:	17736.29
									Total:	17736.29

Labor Costs

Process Pd	Tran Dte	Acct Code	Emp ID	Last Name	First Name	No of Hours	Tran Amt
Expense Element: 150		**Labor Cost**					
200302	02/10/2003	PIT878WSTNENPIZZZZZ150				6.50	196.30
	02/11/2003	PIT878WSTNENPIZZZZZ150				2.00	60.40
					Subtotal:	8.50	256.70
					Expense Element: 150 Subtotal:	8.50	256.70
Expense Element: 405		**Power Supply**					
200302						0.00	56.19
					Expense Element: 405 Subtotal:	0.00	56.19
Expense Element: 406		**Corp Admin Expense**					
200302						0.00	23.21
					Expense Element: 406 Subtotal:	0.00	23.21
Expense Element: 421		**Non-Productive Wages**					
200302						0.00	38.76

1652 Work Order Detail / Summarized Labor Report

Report Parameters

District: P *Parent WO:* * *WO Number:* PR000256 *From Date:* 200301 *To Date:* 200312 *Show Emp Info:* No

Company: **HECO**

Labor Costs

Process Pd	*Tran Dte*	*Acct Code*	*Emp ID*	*Last Name*	*First Name*		*No of Hours*	*Tran Amt*
					Expense Element: 421	**Subtotal:**	0.00	38.76
Expense Element: 422		**Employee Benefits**						
200302							0.00	77.52
					Expense Element: 422	**Subtotal:**	0.00	77.52
Expense Element: 423		**Payroll Taxes**						
200302							0.00	21.92
					Expense Element: 423	**Subtotal:**	0.00	21.92
						Total:	8.50	474.30
						Work Order Total:		18210.59

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1652 Work Order Detail / Summarized Labor Report

Report Parameters

District: P *Parent WO:* * *WO Number:* PR000256 *From Date:* 200401 *To Date:* 200412 *Show Emp Info:* No

Company: **HECO**

Parent WO:

Work Order: **PR000256** **SWO-ASBESTOS REMOVAL (WAIAU)**

Invoice Transactions

Tran Dte	Acct Code	Cat No	Supplier No	Inv No	Inv Item No	Inv Item Desc	Contract No	Portion No	Element No	Tran Amt
Expense Element: 501	**Outside Svcs-General**									
03/04/2004	PIX878WSTNENPIZZZZZ501		005015	OEC-409	001	WPP ASBESTOS BIN				1250.00
05/06/2004	PIX878WSTNENPIZZZZZ501		005015	OEC-427	001	WAIAU LOCKER ROO				4961.02
05/10/2004	PIX878WSTNENPIZZZZZ501		022381	04-50-1	001	WPP LOCKER RM ASB				2000.00
05/11/2004	PIX878WSTNENPIZZZZZ501		022381	04-53-1	001	WAIAU # 3 FUEL OIL T				1500.00
05/12/2004	PIX878WSTNENPIZZZZZ501		005015	OEC-428	001	W-4 FUEL OIL RECIRC				2701.78
05/20/2004	PIX878WSTNENPIZZZZZ501		022381	04-66	001	W-4 FO RECIRC LINE				1400.00
05/28/2004	PIX878WSTNENPIZZZZZ501		005015	OEC-433	001	WPP #3 FUEL OIL TAN				2461.99
05/28/2004	PIX878WSTNENPIZZZZZ501		005015	OEC-432	001	WAIAU # 3 TNKYD DIS				1669.37
05/28/2004	PIX878WSTNENPIZZZZZ501		005015	OEC-432	001	WAIAU # 3 TNKYD DIS				7828.24
06/01/2004	PIX878WSTNENPIZZZZZ501		005015	OEC-433	001	WPP #3 FUEL OIL TAN				7035.94
09/01/2004	PIX878WSTNENPIZZZZZ501		005015	OEC-448	001	WPP-ABANDONED FU				475.40
09/07/2004	PIX878WSTNENPIZZZZZ501		005015	OEC-455	001	WPP-73 SFOP ASBES				388.05
09/07/2004	PIX878WSTNENPIZZZZZ501		005015	4583	001	WAIAU STATION ASBE				1250.00
09/07/2004	PIX878WSTNENPIZZZZZ501		005015	4584	001	WAIAU STATION - ASB				2500.00
09/16/2004	PIX878WSTNENPIZZZZZ501		005015	4609	001	WAIAU STATION - ASB				1250.00
12/07/2004	PIX878WSTNENPIZZZZZ501		005015	4505	001	WAIAU STATION - ASB				1250.00
12/22/2004	PIX878WSTNENPIZZZZZ501		005015	4874	001	WAIAU STATION - ASB				1250.00
									Expense Element: 501 Subtotal:	41171.79
									Total:	41171.79

Labor Costs

Process Pd	Tran Dte	Acct Code	Emp ID	Last Name	First Name	No of Hours	Tran Amt
Expense Element: 150		**Labor Cost**					
200410	10/25/2004	PIT878WSTNENPIZZZZZ150				2.00	63.40
					Subtotal:	2.00	63.40
					Expense Element: 150 Subtotal:	2.00	63.40
Expense Element: 155		**Labor True-up**					
200410						0.00	14.43

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1652 Work Order Detail / Summarized Labor Report

Report Parameters

District: P *Parent WO:* * *WO Number:* PR000256 *From Date:* 200401 *To Date:* 200412 *Show Emp Info:* No

Company: **HECO**

Labor Costs

Proccess Pd	Tran Dte	Acct Code	Emp ID	Last Name	First Name		No of Hours	Tran Amt
					Expense Element: 155	Subtotal:	0.00	14.43
Expense Element: 405		Power Supply						
200410							0.00	13.36
					Expense Element: 405	Subtotal:	0.00	13.36
Expense Element: 406		Corp Admin Expense						
200410							0.00	3.32
					Expense Element: 406	Subtotal:	0.00	3.32
Expense Element: 421		Non-Productive Wages						
200410							0.00	8.56
					Expense Element: 421	Subtotal:	0.00	8.56
Expense Element: 422		Employee Benefits						
200410							0.00	8.46
					Expense Element: 422	Subtotal:	0.00	8.46
Expense Element: 423		Payroll Taxes						
200410							0.00	6.22
					Expense Element: 423	Subtotal:	0.00	6.22
						Total:	2.00	117.75
						Work Order Total:		41289.54

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1652 Work Order Detail / Summarized Labor Report

Report Parameters

District: P *Parent WO:* * *WO Number:* PR043419 *From Date:* 190001 *To Date:* 200412 *Show Emp Info:* No

Company: **HECO**

Parent WO:

Work Order: **PR043419** **W-7 Boiler Structure - Clean, prep,**

Invoice Transactions

Tran Dte	Acct Code	Cat No	Supplier No	Inv No	Inv Item No	Inv Item Desc	Contract No	Portion No	Element No	Tran Amt
Expense Element: 501	**Outside Svcs-General**									
11/20/2004	PIX265WSTNENPIZZZZZ501	01	003563	7190	001	10/1-8/04	PIP04010	01	01	96491.90
11/20/2004	PIX265WSTNENPIZZZZZ501	01	003563	7193	001	10/9-10/15/04	PIP04010	01	01	99009.08
11/20/2004	PIX265WSTNENPIZZZZZ501	01	003563	7223	001	10/30-11/5/04	PIP04010	01	01	95652.84
11/20/2004	PIX265WSTNENPIZZZZZ501	01	003563	7200	001	10/16-22/04	PIP04010	01	01	98170.02
11/20/2004	PIX265WSTNENPIZZZZZ501	01	003563	7177	001	PERIOD ENDING 9/28/	PIP04010	01	01	92296.60
11/20/2004	PIX265WSTNENPIZZZZZ501	01	003563	7207	001	10/23-29/04	PIP04010	01	01	97330.96
11/24/2004	PIX265WSTNENPIZZZZZ501	01	003563	7230	001	11/06-11/12/04 SERVIC	PIP04010	01	01	83906.00
12/17/2004	PIX265WSTNENPIZZZZZ501		009563	HECO04-	001	W-7 CORROSION CON				12499.92
12/27/2004	PIX265WSTNENPIZZZZZ501		009563	HECO04-	001	W-7 CORROSION CON				4687.47
									Expense Element: 501 Subtotal:	680044.79
									Total:	680044.79
									Work Order Total:	680044.79

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1652 Work Order Detail / Summarized Labor Report

Report Parameters

District: P *Parent WO:* * *WO Number:* PR026784 *From Date:* 190001 *To Date:* 200212 *Show Emp Info:* No

Company: **HECO**

Parent WO:

Work Order: **PR026784** **61 TRAVELING SCREEN INSTALL**

Manual Journal Vouchers

Tran Dte	Acct Code	Voucher No	Description	Accountant Code	Qty Amt	Tran Amt
Expense Element: 201	**Matl-Issues/Purchases**					
11/20/2002	PIX259WSTNENPIZZZZZ201		ON COST CHG TO: 053830/008	HWB900	0	1045.95
11/20/2002	PIX259WSTNENPIZZZZZ201		ON COST CHG TO: 053830/004	HWB900	0	34.62
11/20/2002	PIX259WSTNENPIZZZZZ201		ON COST CHG TO: 053830/006	HWB900	0	267.80
11/20/2002	PIX259WSTNENPIZZZZZ201		ON COST CHG TO: 053830/001	HWB900	0	357.97
11/20/2002	PIX259WSTNENPIZZZZZ201		ON COST CHG TO: 053830/007	HWB900	0	77.54
11/20/2002	PIX259WSTNENPIZZZZZ201		ON COST CHG TO: 053830/003	HWB900	0	2588.18
11/20/2002	PIX259WSTNENPIZZZZZ201		ON COST CHG TO: 053830/005	HWB900	0	1540.79
11/20/2002	PIX259WSTNENPIZZZZZ201		ON COST CHG TO: 053830/002	HWB900	0	1024.31
				Expense Element: 201	**Subtotal:**	6937.16 (1)
					Total:	6937.16

Purchase Requisition Order Receipts

Tran Dte	Acct Code	PO No	PO Item No	Supplier No	Unit of Purch	Qty	Net Price	Tran Amt
Expense Element: 201	**Matl-Issues/Purchases**							
11/14/2002	PIX259WSTNENPIZZZZZ201	P42117	004	020598	ST	48	8.00	199.68
11/14/2002	PIX259WSTNENPIZZZZZ201	P42117	003	020598	EA	48	598.00	14926.08
11/14/2002	PIX259WSTNENPIZZZZZ201	P42117	002	020598	EA	4	2840.00	5907.20
11/14/2002	PIX259WSTNENPIZZZZZ201	P42117	001	020598	EA	2	1985.00	2064.40
11/14/2002	PIX259WSTNENPIZZZZZ201	P42117	008	020598	EA	4	2900.00	6032.00
11/14/2002	PIX259WSTNENPIZZZZZ201	P42117	007	020598	EA	4	215.00	447.20
11/14/2002	PIX259WSTNENPIZZZZZ201	P42117	006	020598	EA	2	1485.00	1544.40
11/14/2002	PIX259WSTNENPIZZZZZ201	P42117	005	020598	FT	192	89.00	8885.76
					Expense Element: 201		**Subtotal:**	40006.72 (1)
							Total:	40006.72
							Work Order Total:	46943.88

2002 Travel Screen OH - ½(1) 131,552.35 ✓

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1652 Work Order Detail / Summarized Labor Report

Report Parameters

District: P *Parent WO:* * *WO Number:* PR022761 *From Date:* 190001 *To Date:* 200212 *Show Emp Info:* No

Company: **HECO**

Labor Costs

Proccess Pd	Tran Dte	Acct Code	Emp ID	Last Name	First Name		No of Hours	Tran Amt
					Expense Element: 421	**Subtotal:**	0.00	2901.64
Expense Element: 422		**Employee Benefits**						
200112							0.00	-46.46
200204							0.00	-27.56
200205							0.00	-295.21
200206							0.00	-62.70
200207							0.00	-399.37
200208							0.00	-31.35
					Expense Element: 422	**Subtotal:**	0.00	-862.65
Expense Element: 423		**Payroll Taxes**						
200112							0.00	33.33
200204							0.00	63.10
200205							0.00	695.01
200206							0.00	103.59
200207							0.00	612.21
200208							0.00	47.24
					Expense Element: 423	**Subtotal:**	0.00	1554.48
						Total:	615.50	26885.00

Manual Journal Vouchers

Tran Dte	Acct Code	Voucher No	Description	Accountant Code	Qty Amt	Tran Amt
Expense Element: 201	**Matl-Issues/Purchases**					
12/13/2001	PIX262W05NENPIZZZZZ201		ON COST CHG TO: 041966/001	HWB900	0	1160.69
12/18/2001	PIX262W05NENPIZZZZZ201		ON COST CHG TO: 041963/001	HWB900	0	4060.21
02/07/2002	PIX262W05NENPIZZZZZ201		ON COST CHG TO: 045259/001	HWB900	0	294.75
02/07/2002	PIX262W05NENPIZZZZZ201		ON COST CHG TO: 045259/003	HWB900	0	24.87
02/07/2002	PIX262W05NENPIZZZZZ201		ON COST CHG TO: 045788/002	HWB900	0	2.65
02/07/2002	PIX262W05NENPIZZZZZ201		ON COST CHG TO: 045259/004	HWB900	0	21.22
02/07/2002	PIX262W05NENPIZZZZZ201		ON COST CHG TO: 045259/002	HWB900	0	125.99
02/08/2002	PIX262W05NENPIZZZZZ201		ON COST CHG TO: 045788/001	HWB900	0	328.24
02/11/2002	PIX262W05NENPIZZZZZ201		ON COST CHG TO: 046088/001	HWB900	0	23.53
03/01/2002	PIX262W05NENPIZZZZZ201		ON COST CHG TO: 046384/001	HWB900	0	23.21

5,229.90

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1652 Work Order Detail / Summarized Labor Report

Report Parameters

District: P *Parent WO:* * *WO Number:* PR022761 *From Date:* 190001 *To Date:* 200212 *Show Emp Info:* No

Company: **HECO**

Manual Journal Vouchers

Tran Dte	Acct Code	Voucher No	Description	Accountant Code	Qty Amt	Tran Amt
04/17/2002	PIX262W05NENPIZZZZZ201		ON COST CHG TO: 046704/004	HWB900	0	1464.13
04/17/2002	PIX262W05NENPIZZZZZ201		ON COST CHG TO: 046704/003	HWB900	0	71.28
04/17/2002	PIX262W05NENPIZZZZZ201		ON COST CHG TO: 046704/002	HWB900	0	114.39
04/17/2002	PIX262W05NENPIZZZZZ201		ON COST CHG TO: 046704/005	HWB900	0	39.79
04/17/2002	PIX262W05NENPIZZZZZ201		ON COST CHG TO: 046704/001	HWB900	0	2379.22
04/26/2002	PIX262W05NENPIZZZZZ201		ON COST CHG TO: 049102/001	HWB900	0	22.12
04/26/2002	PIX262W05NENPIZZZZZ201		ON COST CHG TO: 049102/002	HWB900	0	0.77
04/26/2002	PIX262W05NENPIZZZZZ201		ON COST CHG TO: 049102/003	HWB900	0	0.80
05/15/2002	PIX262W05NENPIZZZZZ201		ON COST CHG TO: 049496/001	HWB900	0	33.21
05/31/2002	PIX262W05NENPIZZZZZ201		ON COST CHG TO: 050511/001	HWB900	0	33.18
06/05/2002	PIX262W05NENPIZZZZZ201		ON COST CHG TO: 050527/001	HWB900	0	66.36
				Expense Element: 201	**Subtotal:**	10290.61

Expense Element: 501 **Outside Svcs-General**

04/24/2002	PIX262W05NENPIZZZZZ501		ON COST CHG TO: 047248/001	HWB900	0	941.61
04/24/2002	PIX262W05NENPIZZZZZ501		ON COST CHG TO: 047248/002	HWB900	0	961.50
04/24/2002	PIX262W05NENPIZZZZZ501		ON COST CHG TO: 047248/004	HWB900	0	220.48
04/24/2002	PIX262W05NENPIZZZZZ501		ON COST CHG TO: 047248/003	HWB900	0	329.07
				Expense Element: 501	**Subtotal:**	2452.66
					Total:	12743.27

5069.71 (1) 5220.907

Purchase Requisition Order Receipts

Tran Dte	Acct Code	PO No	PO Item No	Supplier No	Unit of Purch	Qty	Net Price	Tran Amt
Expense Element: 201	**Matl-Issues/Purchases**							
12/10/2001	PIX262W05NENPIZZZZZ201	P32297	004	005879	EA	1	22965.00	23883.60
12/13/2001	PIX262W05NENPIZZZZZ201	P32481	001	005879	EA	2	6565.00	6827.60
02/06/2002	PIX262W05NENPIZZZZZ201	P34922	002	006735	FT	19	40.00	790.40
02/06/2002	PIX262W05NENPIZZZZZ201	P34922	004	006735	EA	2	64.00	133.12
02/06/2002	PIX262W05NENPIZZZZZ201	P34922	003	006735	EA	2	75.00	156.00
02/06/2002	PIX262W05NENPIZZZZZ201	P34922	001	006735	EA	2	889.00	1849.12
02/06/2002	PIX262W05NENPIZZZZZ201	P35038	002	006735	EA	2	8.00	16.64
02/06/2002	PIX262W05NENPIZZZZZ201	P35038	001	006735	EA	2	990.00	2059.20
02/11/2002	PIX262W05NENPIZZZZZ201	P35372	001	001153	FT	1090	0.52	147.60

30,111.10

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1652 Work Order Detail / Summarized Labor Report

Report Parameters

District: P *Parent WO:* * *WO Number:* PR022761 *From Date:* 190001 *To Date:* 200212 *Show Emp Info:* No

Company: **HECO**

Purchase Requisition Order Receipts

Tran Dte	Acct Code	PO No	PO Item No	Supplier No	Unit of Purch	Qty	Net Price	Tran Amt
02/28/2002	PIX262W05NENPIZZZZZ201	P35516	001	006735	EA	8	70.00	145.60
04/03/2002	PIX262W05NENPIZZZZZ201	P38330	001	003580	LT	1	200.00	208.32
04/10/2002	PIX262W05NENPIZZZZZ201	P36141	002	005879	EA	1	690.00	717.60
04/10/2002	PIX262W05NENPIZZZZZ201	P36141	005	005879	ST	24	10.00	249.60
04/10/2002	PIX262W05NENPIZZZZZ201	P36141	001	005879	EA	24	598.00	14926.08
04/10/2002	PIX262W05NENPIZZZZZ201	P36141	003	005879	EA	2	215.00	447.20
04/10/2002	PIX262W05NENPIZZZZZ201	P36141	004	005879	ST	1	8832.00	9185.28
04/26/2002	PIX262W05NENPIZZZZZ201	P37954	001	003375	FT	20	16.65	138.74
04/26/2002	PIX262W05NENPIZZZZZ201	P37954	003	003375	EA	1	12.00	5.00
04/26/2002	PIX262W05NENPIZZZZZ201	P37954	002	003375	EA	2	5.80	4.83
05/31/2002	PIX262W05NENPIZZZZZ201	P39040	002	005879	EA	2	184.00	382.72
05/31/2002	PIX262W05NENPIZZZZZ201	P39040	001	005879	EA	1	184.00	191.36
						Expense Element: 201	**Subtotal:**	62465.61
								< 30,711.20
								31,754.41 (1)

Expense Element: 501 Outside Svcs-General

04/24/2002	PIX262W05NENPIZZZZZ501	P36567	001	005879	EA	2	2840.00	5907.20
04/24/2002	PIX262W05NENPIZZZZZ501	P36567	002	005879	EA	2	2900.00	6032.00
04/24/2002	PIX262W05NENPIZZZZZ501	P36567	003	005879	EA	1	1985.00	2064.40
04/24/2002	PIX262W05NENPIZZZZZ501	P36567	004	005879	ST	4	332.50	1383.20
						Expense Element: 501	**Subtotal:**	15386.80
							Total:	77852.41

Stock Material Transactions

Tran Dte	Acct Code	Stock Code	Qty	Unit of Issue	Item Name	Description	Tran Amt
Expense Element: 201	**Matl-Issues/Purchases**						
01/16/2002	PIX262W05NENPIZZZZZ201	000299503	1	EA	SHAFT, DRIVE,	ROUND BAR, SIZE: 3-15/16" DIA. X 109"	524.29
05/03/2002	PIX262W05NENPIZZZZZ201	000219642	12	FT	STOCK, ROUN	TYPE 304, 12 FT. RANDOM LENGHTS	31.88
05/16/2002	PIX262W05NENPIZZZZZ201	000154625	2	RL	TAPE, DUCT, S	3M HIGHLAND	15.65
05/16/2002	PIX262W05NENPIZZZZZ201	000238386	2	EA	BUSHING, PIP	THREADED	1.11
07/12/2002	PIX262W05NENPIZZZZZ201	000248583	1	CN	ELECTRODE,	STAINLESS STEEL, AWS, 8 LB. CAN	107.53
07/19/2002	PIX262W05NENPIZZZZZ201	000232181	2	EA	COUPLING, PI	GALVANIZED STEEL, MALLEABLE IRON	2.22
07/19/2002	PIX262W05NENPIZZZZZ201	000217885	1	EA	FITTING, GRE		1.22
07/19/2002	PIX262W05NENPIZZZZZ201	000155242	12	EA	SEALANT, AD	10 OZ CARTRIDGE	80.54

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1652 Work Order Detail / Summarized Labor Report

Report Parameters

District: P *Parent WO:* * *WO Number:* PR022761 *From Date:* 190001 *To Date:* 200212 *Show Emp Info:* No

Company: **HECO**

Stock Material Transactions

Tran Dte	Acct Code	Stock Code	Qty	Unit of Issue	Item Name	Description	Tran Amt
07/19/2002	PIX262W05NENPIZZZZZ201	000232207	0	EA	COUPLING, PI	GALVANIZED STEEL, MALLEABLE IRON	0.00
07/23/2002	PIX262W05NENPIZZZZZ201	000262261	4	EA	CONDULET, L	THREADED	45.38
07/23/2002	PIX262W05NENPIZZZZZ201	000262766	4	EA	COVER, COND		25.83
08/06/2002	PIX262W05NENPIZZZZZ201	000217869	5	EA	FITTING, GRE		4.82

Expense Element: 201 **Subtotal:** 840.47 (1)

Total: 840.47

Work Order Total: 132800.69

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1652 Work Order Detail / Summarized Labor Report

Report Parameters

District: P *Parent WO:* * *WO Number:* PR026781 *From Date:* 190001 *To Date:* 200212 *Show Emp Info:* No

Company: **HECO**

Parent WO:

Work Order: **PR026781** **52 TRAVELING SCREEN INSTALL**

Manual Journal Vouchers

Tran Dte	Acct Code	Voucher No	Description	Accountant Code	Qty Amt	Tran Amt
Expense Element: 201	**Matl-Issues/Purchases**					
11/20/2002	PIX259WSTNENPIZZZZZ201		ON COST CHG TO: 053830/004	HWB900	0	34.62
11/20/2002	PIX259WSTNENPIZZZZZ201		ON COST CHG TO: 053830/008	HWB900	0	1045.95
11/20/2002	PIX259WSTNENPIZZZZZ201		ON COST CHG TO: 053830/006	HWB900	0	267.80
11/20/2002	PIX259WSTNENPIZZZZZ201		ON COST CHG TO: 053830/002	HWB900	0	1024.31
11/20/2002	PIX259WSTNENPIZZZZZ201		ON COST CHG TO: 053830/007	HWB900	0	77.54
11/20/2002	PIX259WSTNENPIZZZZZ201	P000018910	ON COST CHG TO: 053830/001	HWB900	0	357.97
11/20/2002	PIX259WSTNENPIZZZZZ201		ON COST CHG TO: 053830/005	HWB900	0	1540.79
11/20/2002	PIX259WSTNENPIZZZZZ201		ON COST CHG TO: 053830/003	HWB900	0	2588.18
				Expense Element: 201	**Subtotal:**	6937.16 (1)
					Total:	6937.16

Purchase Requisition Order Receipts

Tran Dte	Acct Code	PO No	PO Item No	Supplier No	Unit of Purch	Qty	Net Price	Tran Amt
Expense Element: 201	**Matl-Issues/Purchases**							
11/14/2002	PIX259WSTNENPIZZZZZ201	P42117	004	020598	ST	48	8.00	199.68
11/14/2002	PIX259WSTNENPIZZZZZ201	P42117	003	020598	EA	48	598.00	14926.08
11/14/2002	PIX259WSTNENPIZZZZZ201	P42117	006	020598	EA	2	1485.00	1544.40
11/14/2002	PIX259WSTNENPIZZZZZ201	P42117	005	020598	FT	192	89.00	8885.76
11/14/2002	PIX259WSTNENPIZZZZZ201	P42117	008	020598	EA	4	2900.00	6032.00
11/14/2002	PIX259WSTNENPIZZZZZ201	P42117	007	020598	EA	4	215.00	447.20
11/14/2002	PIX259WSTNENPIZZZZZ201	P42117	002	020598	EA	4	2840.00	5907.20
11/14/2002	PIX259WSTNENPIZZZZZ201	P42117	001	020598	EA	2	1985.00	2064.40
					Expense Element: 201		**Subtotal:**	40006.72 (1)
							Total:	40006.72
							Work Order Total:	46943.88

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1652 Work Order Detail / Summarized Labor Report

Report Parameters

District: P Parent WO: * WO Number: PR022761 From Date: 200301 To Date: 200312 Show Emp Info: No

Company: HECO

Parent WO:

Work Order: PR022761 W5 #51 TRAVELING SCREEN-RECONDITIONING

Manual Journal Vouchers

Tran Dte	Acct Code	Voucher No	Description	Accountant Code	Qty Amt	Tran Amt
Expense Element: 150	**Labor Cost**					
11/04/2003	PIX262W05NENPIZZZZZ150	FA491003	TRANSFER TO WO# PR036585	0000007731	0	-19809.18
				Expense Element: 150	**Subtotal:**	-19809.18
Expense Element: 155	**Labor True-up**					
11/04/2003	PIX262W05NENPIZZZZZ155	FA491003	TRANSFER TO WO# PR036585	0000007731	0	1200.22
				Expense Element: 155	**Subtotal:**	1200.22
Expense Element: 201	**Matl-Issues/Purchases**					
11/04/2003	PIX262W05NENPIZZZZZ201	FA491003	TRANSFER TO WO# PR036585	0000007731	0	-10290.61
11/04/2003	PIX262W05NENPIZZZZZ201	FA491003	TRANSFER TO WO#PR36585	0000007731	0	-840.47
11/04/2003	PIX262W05NENPIZZZZZ201	FA491003	TRANSFER TO WO# PR036585	0000007731	0	-62465.61
11/04/2003	PIX262W05NENPIZZZZZ201	FA491003	TRANSFER TO WO# PR036606	0000007731	0	-5999.11
				Expense Element: 201	**Subtotal:**	-79595.80 (2)
Expense Element: 205	**Matl-Purchasing Card**					
11/04/2003	PIX262W05NENPIZZZZZ205	FA491003	TRANSFER TO WO#PR036585	0000007731	0	-2063.81
				Expense Element: 205	**Subtotal:**	-2063.81 (2)
Expense Element: 404	**Energy Delivery**					
11/04/2003	PIX262W05NENPIZZZZZ404	FA491003	TRANSFER TO WO# PR036585	0000007731	0	-57.00
				Expense Element: 404	**Subtotal:**	-57.00
Expense Element: 405	**Power Supply**					
11/04/2003	PIX262W05NENPIZZZZZ405	FA491003	TRANSFER TO WO# PR036585	0000007731	0	-3085.44
				Expense Element: 405	**Subtotal:**	-3085.44
Expense Element: 406	**Corp Admin Expense**					
11/04/2003	PIX262W05NENPIZZZZZ406	FA491003	TRANSFER TO WO# PR036585	0000007731	0	-1540.13
				Expense Element: 406	**Subtotal:**	-1540.13
Expense Element: 421	**Non-Productive Wages**					
11/04/2003	PIX262W05NENPIZZZZZ421	FA491003	TRANSFER TO WO# PR036585	0000007731	0	-2901.64

Travel Screen OH - 2003 E1 (2) = $285,189 ✓

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1652 Work Order Detail / Summarized Labor Report

Report Parameters

District: P *Parent WO:* * *WO Number:* PR022761 *From Date:* 200301 *To Date:* 200312 *Show Emp Info:* No

Company: **HECO**

Manual Journal Vouchers

Tran Dte	Acct Code	Voucher No	Description	Accountant Code	Qty Amt	Tran Amt
				Expense Element: 421	**Subtotal:**	-2901.64
Expense Element: 422	**Employee Benefits**					
11/04/2003	PIX262W05NENPIZZZZZ422	FA491003	TRANSFER TO WO# PR036585	0000007731	0	862.65
				Expense Element: 422	**Subtotal:**	862.65
Expense Element: 423	**Payroll Taxes**					
11/04/2003	PIX262W05NENPIZZZZZ423	FA491003	TRANSFER TO WO# PR036585	0000007731	0	-1554.48
				Expense Element: 423	**Subtotal:**	-1554.48
Expense Element: 501	**Outside Svcs-General**					
11/04/2003	PIX262W05NENPIZZZZZ501	FA491003	TRANSFER TO WO# PR036585	0000007731	0	-15386.80
11/04/2003	PIX262W05NENPIZZZZZ501	FA491003	TRANSFER TO WO#PR036585	0000007731	0	-6416.62
11/04/2003	PIX262W05NENPIZZZZZ501	FA491003	TRANSFER TO WO# PR036585	0000007731	0	-2452.66
				Expense Element: 501	**Subtotal:**	-24256.08
					Total:	-132800.69
					Work Order Total:	-132800.69

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1652 Work Order Detail / Summarized Labor Report

Report Parameters

District: P *Parent WO:* * *WO Number:* PR020686 *From Date:* 200301 *To Date:* 200312 *Show Emp Info:* No

Company: **HECO**

Stock Material Transactions

Tran Dte	*Acct Code*	*Stock Code*	*Qty*	*Unit of Issue*	*Item Name*	*Description*	*Tran Amt*
Expense Element: 201	**Matl-Issues/Purchases**						
10/30/2003	PIX262WSTNENPIZZZZZ201	000374447	1	PR	GLASSES, SAF	SIZE: 52M 5.0 LENS, BLACK	-10.96
10/30/2003	PIX262WSTNENPIZZZZZ201	000207647	5	SH	METAL, EXPA	6' X 8' X 3/4", 13 GAUGE, DIAMOND	-347.62
10/30/2003	PIX262WSTNENPIZZZZZ201	000208363	40	FT	IRON, ANGLE,	CARBON STEEL	-21.45
						Expense Element: 201 Subtotal:	-380.03 (2)
						Total:	-380.03
						Work Order Total:	-500.36

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1652 Work Order Detail / Summarized Labor Report

Report Parameters

District: P *Parent WO:* * *WO Number:* PR026781 *From Date:* 200301 *To Date:* 200312 *Show Emp Info:* No

Company: **HECO**

Labor Costs

Proccess Pd	Tran Dte	Acct Code	Emp ID	Last Name	First Name	No of Hours	Tran Amt
200307						0.00	79.04
200310						0.00	-1300.16
					Expense Element: 422 Subtotal:	0.00	0.00
Expense Element: 423		**Payroll Taxes**					
200305						0.00	84.50
200306						0.00	281.46
200307						0.00	26.83
200310						0.00	-392.79
					Expense Element: 423 Subtotal:	0.00	0.00
					Total:	0.00	0.00

Manual Journal Vouchers

Tran Dte	Acct Code	Voucher No	Description	Accountant Code	Qty Amt	Tran Amt
Expense Element: 201	**Matl-Issues/Purchases**					
06/17/2003	PIX259WSTNENPIZZZZZ201		ON COST CHG TO: 066210/001	HWB900	0	118.52
08/22/2003	PIX259WSTNENPIZZZZZ201		ON COST CHG TO: 068402/002	HWB900	0	24.87
08/22/2003	PIX259WSTNENPIZZZZZ201		ON COST CHG TO: 068402/003	HWB900	0	4.92
08/22/2003	PIX259WSTNENPIZZZZZ201		ON COST CHG TO: 068402/001	HWB900	0	67.96
11/04/2003	PIX259WSTNENPIZZZZZ201	P000018910	ON COST CHG TO: 053830/001	HWB900	0	-357.97
11/04/2003	PIX259WSTNENPIZZZZZ201		ON COST CHG TO: 053830/005	HWB900	0	-1540.79
11/04/2003	PIX259WSTNENPIZZZZZ201		ON COST CHG TO: 068402/001	HWB900	0	-67.96
11/04/2003	PIX259WSTNENPIZZZZZ201		ON COST CHG TO: 053830/002	HWB900	0	-1024.31
11/04/2003	PIX259WSTNENPIZZZZZ201		ON COST CHG TO: 053830/008	HWB900	0	-1045.95
11/04/2003	PIX259WSTNENPIZZZZZ201		ON COST CHG TO: 068402/003	HWB900	0	-4.92
11/04/2003	PIX259WSTNENPIZZZZZ201		ON COST CHG TO: 053830/003	HWB900	0	-2588.18
11/04/2003	PIX259WSTNENPIZZZZZ201		ON COST CHG TO: 053830/006	HWB900	0	-267.80
11/04/2003	PIX259WSTNENPIZZZZZ201		ON COST CHG TO: 068402/002	HWB900	0	-24.87
11/04/2003	PIX259WSTNENPIZZZZZ201		ON COST CHG TO: 053830/004	HWB900	0	-34.62
11/04/2003	PIX259WSTNENPIZZZZZ201		ON COST CHG TO: 053830/007	HWB900	0	-77.54
11/04/2003	PIX259WSTNENPIZZZZZ201		ON COST CHG TO: 066210/001	HWB900	0	-118.52
				Expense Element: 201	**Subtotal:**	-6937.16 (2)

Expense Element: 501 **Outside Svcs-General**

1652 Work Order Detail / Summarized Labor Report

Report Parameters

District: P *Parent WO:* * *WO Number:* PR026781 *From Date:* 200301 *To Date:* 200312 *Show Emp Info:* No

Company: **HECO**

Manual Journal Vouchers

Tran Dte	Acct Code	Voucher No	Description	Accountant Code	Qty Amt	Tran Amt
10/06/2003	PIX259WSTNENPIZZZZZ501	PSOI0309	accrue unpaid invoices at quarter end	20021	0	552.08
10/06/2003	PIX259WSTNENPIZZZZZ501	PSOI0309	accrue unpaid invoices at quarter end	20021	0	894.84
10/06/2003	PIX259WSTNENPIZZZZZ501	PSOI0309	accrue unpaid invoices at quarter end	20021	0	-894.84
10/06/2003	PIX259WSTNENPIZZZZZ501	PSOI0309	accrue unpaid invoices at quarter end	20021	0	-552.08
11/04/2003	PIX259WSTNENPIZZZZZ501	PSOI0309	accrue unpaid invoices at quarter end	20021	0	-894.84
11/04/2003	PIX259WSTNENPIZZZZZ501	PSOI0309	accrue unpaid invoices at quarter end	20021	0	-552.08
11/04/2003	PIX259WSTNENPIZZZZZ501	PSOI0309	accrue unpaid invoices at quarter end	20021	0	894.84
11/04/2003	PIX259WSTNENPIZZZZZ501	PSOI0309	accrue unpaid invoices at quarter end	20021	0	552.08
				Expense Element: 501	**Subtotal:**	0.00
					Total:	-6937.16

Purchase Requisition Order Receipts

Tran Dte	Acct Code	PO No	PO Item No	Supplier No	Unit of Purch	Qty	Net Price	Tran Amt
Expense Element: 201	**Matl-Issues/Purchases**							
06/17/2003	PIX259WSTNENPIZZZZZ201	P51787	001	006735	FT	60	40.00	831.17
08/22/2003	PIX259WSTNENPIZZZZZ201	P53669	002	002327	EA	2	250.67	174.42
08/22/2003	PIX259WSTNENPIZZZZZ201	P53669	001	002327	ST	2	685.00	476.61
08/22/2003	PIX259WSTNENPIZZZZZ201	P53669	003	002327	EA	8	12.40	34.51
11/04/2003	PIX259WSTNENPIZZZZZ201	P42117	005	020598	FT	192	89.00	-8885.76
11/04/2003	PIX259WSTNENPIZZZZZ201	P42117	002	020598	EA	4	2840.00	-5907.20
11/04/2003	PIX259WSTNENPIZZZZZ201	P42117	007	020598	EA	4	215.00	-447.20
11/04/2003	PIX259WSTNENPIZZZZZ201	P42117	008	020598	EA	4	2900.00	-6032.00
11/04/2003	PIX259WSTNENPIZZZZZ201	P51787	001	006735	FT	60	40.00	-831.17
11/04/2003	PIX259WSTNENPIZZZZZ201	P53669	001	002327	ST	2	685.00	-476.61
11/04/2003	PIX259WSTNENPIZZZZZ201	P42117	001	020598	EA	2	1985.00	-2064.40
11/04/2003	PIX259WSTNENPIZZZZZ201	P42117	004	020598	ST	48	8.00	-199.68
11/04/2003	PIX259WSTNENPIZZZZZ201	P42117	006	020598	EA	2	1485.00	-1544.40
11/04/2003	PIX259WSTNENPIZZZZZ201	P53669	002	002327	EA	2	250.67	-174.42
11/04/2003	PIX259WSTNENPIZZZZZ201	P53669	003	002327	EA	8	12.40	-34.51
11/04/2003	PIX259WSTNENPIZZZZZ201	P42117	003	020598	EA	48	598.00	-14926.08
					Expense Element: 201		**Subtotal:**	-40006.72 (2)
							Total:	-40006.72

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1652 Work Order Detail / Summarized Labor Report

Report Parameters

District: P *Parent WO:* * *WO Number:* PR026781 *From Date:* 200301 *To Date:* 200312 *Show Emp Info:* No

Company: **HECO**

Stock Material Transactions

Tran Dte	Acct Code	Stock Code	Qty	Unit of Issue	Item Name	Description	Tran Amt
Expense Element: 201	**Matl-Issues/Purchases**						
05/22/2003	PIX259WSTNENPIZZZZZ201	000265165	100	FT	POLYSHEETIN	.006 MIL, 20' X 100'	71.30
05/29/2003	PIX259WSTNENPIZZZZZ201	000227462	1	EA	COUPLING, E.	2000#, FORGED STEEL, THREADED	22.02
05/30/2003	PIX259WSTNENPIZZZZZ201	000233981	0	EA	NIPPLE, PIPE,	SCH. 40, ASTM A106, GR. A, SEAMLESS,	0.00
05/30/2003	PIX259WSTNENPIZZZZZ201	000152108	20	FT	CONDUIT, GAL	(10' LENGTHS)	25.46
06/04/2003	PIX259WSTNENPIZZZZZ201	000231845	2	EA	BUSHING, PIP	GALVANIZED, MALLEABLE IRON	3.53
06/04/2003	PIX259WSTNENPIZZZZZ201	000231720	2	EA	BUSHING, PIP	GALVANIZED, MALLEABLE IRON	1.58
06/04/2003	PIX259WSTNENPIZZZZZ201	000235028	1	EA	UNION, PIPE, 1	GALVANIZED, MALLEABLE IRON	15.48
06/04/2003	PIX259WSTNENPIZZZZZ201	000231589	20	FT	PIPE, GALV, S	ASTM A-106, GR. A, DOMESTIC OR FOREIGN,	40.56
06/04/2003	PIX259WSTNENPIZZZZZ201	000232967	2	EA	TEE, PIPE, 150	MALLEABLE IRON THREADED PIPE FITTINGS,	7.77
06/04/2003	PIX259WSTNENPIZZZZZ201	000232322	1	EA	COUPLING, PI	GALVANIZED STEEL, MALLEABLE IRON	9.26
06/05/2003	PIX259WSTNENPIZZZZZ201	000235028	1	EA	UNION, PIPE, 1	GALVANIZED, MALLEABLE IRON	15.48
06/05/2003	PIX259WSTNENPIZZZZZ201	000232728	1	EA	ELBOW, GALV	150#, MALLEABLE IRON THREADED PIPE	12.48
06/05/2003	PIX259WSTNENPIZZZZZ201	000232322	1	EA	COUPLING, PI	GALVANIZED STEEL, MALLEABLE IRON	9.26
06/05/2003	PIX259WSTNENPIZZZZZ201	000231928	1	EA	BUSHING, PIP	GALVANIZED, MALLEABLE IRON	2.65
06/05/2003	PIX259WSTNENPIZZZZZ201	000232728	1	EA	ELBOW, GALV	150#, MALLEABLE IRON THREADED PIPE	12.48
06/06/2003	PIX259WSTNENPIZZZZZ201	000232728	1	EA	ELBOW, GALV	150#, MALLEABLE IRON THREADED PIPE	12.92
06/12/2003	PIX259WSTNENPIZZZZZ201	000231928	1	EA	BUSHING, PIP	GALVANIZED, MALLEABLE IRON	3.02
06/13/2003	PIX259WSTNENPIZZZZZ201	000232165	3	EA	COUPLING, 15	GALVANIZED STEEL, MALLEABLE IRON	6.87
06/17/2003	PIX259WSTNENPIZZZZZ201	000233122	3	EA	NIPPLE, PIPE,	SCH. 40, ASTM A106, GR. A, SEAMLESS,	7.48
06/17/2003	PIX259WSTNENPIZZZZZ201	000237768	3	EA	ELBOW, PIPE,	90 DEG.	2.61
06/17/2003	PIX259WSTNENPIZZZZZ201	000234500	2	EA	NIPPLE, PIPE,	SCH. 40, ASTM A106, GR. A, SEAMLESS,	26.86
06/18/2003	PIX259WSTNENPIZZZZZ201	000233726	2	EA	NIPPLE, PIPE,	SCH. 40, ASTM A106, GR. A, SEAMLESS,	3.23
06/18/2003	PIX259WSTNENPIZZZZZ201	000233528	2	EA	NIPPLE, PIPE,	SCH. 40, ASTM A106, GR. A, SEAMLESS,	3.88
06/18/2003	PIX259WSTNENPIZZZZZ201	000231688	1	EA	BUSHING, PIP	GALVANIZED, MALLEABLE IRON	1.66
06/18/2003	PIX259WSTNENPIZZZZZ201	000231720	1	EA	BUSHING, PIP	GALVANIZED, MALLEABLE IRON	1.57
07/02/2003	PIX259WSTNENPIZZZZZ201	000154625	6	RL	TAPE, DUCT, S	3M HIGHLAND	46.41
07/08/2003	PIX259WSTNENPIZZZZZ201	000238865	2	EA	NIPPLE, PIPE,		1.81
07/08/2003	PIX259WSTNENPIZZZZZ201	000161307	3	EA	GAUGE, PRES	SAFETY GLASS	137.85
07/08/2003	PIX259WSTNENPIZZZZZ201	000237826	1	EA	ELBOW, PIPE,	90 DEG.	1.11
11/04/2003	PIX259WSTNENPIZZZZZ201	000265165	100	FT	POLYSHEETIN	.006 MIL, 20' X 100'	-71.30
11/04/2003	PIX259WSTNENPIZZZZZ201	000232165	3	EA	COUPLING, 15	GALVANIZED STEEL, MALLEABLE IRON	-6.87

1652 Work Order Detail / Summarized Labor Report

Report Parameters

District: P *Parent WO:* * *WO Number:* PR026781 *From Date:* 200301 *To Date:* 200312 *Show Emp Info:* No

Company: **HECO**

Stock Material Transactions

Tran Dte	Acct Code	Stock Code	Qty	Unit of Issue	Item Name	Description	Tran Amt
11/04/2003	PIX259WSTNENPIZZZZZ201	000237768	3	EA	ELBOW, PIPE,	90 DEG.	-2.61
11/04/2003	PIX259WSTNENPIZZZZZ201	000233122	3	EA	NIPPLE, PIPE,	SCH. 40, ASTM A106, GR. A, SEAMLESS,	-7.48
11/04/2003	PIX259WSTNENPIZZZZZ201	000234500	2	EA	NIPPLE, PIPE,	SCH. 40, ASTM A106, GR. A, SEAMLESS,	-26.86
11/04/2003	PIX259WSTNENPIZZZZZ201	000232728	1	EA	ELBOW, GALV	150#, MALLEABLE IRON THREADED PIPE	-12.48
11/04/2003	PIX259WSTNENPIZZZZZ201	000235028	1	EA	UNION, PIPE, 1	GALVANIZED, MALLEABLE IRON	-15.48
11/04/2003	PIX259WSTNENPIZZZZZ201	000231720	1	EA	BUSHING, PIP	GALVANIZED, MALLEABLE IRON	-1.57
11/04/2003	PIX259WSTNENPIZZZZZ201	000233726	2	EA	NIPPLE, PIPE,	SCH. 40, ASTM A106, GR. A, SEAMLESS,	-3.23
11/04/2003	PIX259WSTNENPIZZZZZ201	000154625	6	RL	TAPE, DUCT, S	3M HIGHLAND	-46.41
11/04/2003	PIX259WSTNENPIZZZZZ201	000227462	1	EA	COUPLING, E.	2000#, FORGED STEEL, THREADED	-22.02
11/04/2003	PIX259WSTNENPIZZZZZ201	000231589	20	FT	PIPE, GALV, S	ASTM A-106, GR. A, DOMESTIC OR FOREIGN,	-40.56
11/04/2003	PIX259WSTNENPIZZZZZ201	000232728	1	EA	ELBOW, GALV	150#, MALLEABLE IRON THREADED PIPE	-12.92
11/04/2003	PIX259WSTNENPIZZZZZ201	000232967	2	EA	TEE, PIPE, 150	MALLEABLE IRON THREADED PIPE FITTINGS,	-7.77
11/04/2003	PIX259WSTNENPIZZZZZ201	000232322	1	EA	COUPLING, PI	GALVANIZED STEEL, MALLEABLE IRON	-9.26
11/04/2003	PIX259WSTNENPIZZZZZ201	000152108	20	FT	CONDUIT, GAL	(10' LENGTHS)	-25.46
11/04/2003	PIX259WSTNENPIZZZZZ201	000232728	1	EA	ELBOW, GALV	150#, MALLEABLE IRON THREADED PIPE	-12.48
11/04/2003	PIX259WSTNENPIZZZZZ201	000231688	1	EA	BUSHING, PIP	GALVANIZED, MALLEABLE IRON	-1.66
11/04/2003	PIX259WSTNENPIZZZZZ201	000231928	1	EA	BUSHING, PIP	GALVANIZED, MALLEABLE IRON	-3.02
11/04/2003	PIX259WSTNENPIZZZZZ201	000161307	3	EA	GAUGE, PRES	SAFETY GLASS	-137.85
11/04/2003	PIX259WSTNENPIZZZZZ201	000231928	1	EA	BUSHING, PIP	GALVANIZED, MALLEABLE IRON	-2.65
11/04/2003	PIX259WSTNENPIZZZZZ201	000237826	1	EA	ELBOW, PIPE,	90 DEG.	-1.11
11/04/2003	PIX259WSTNENPIZZZZZ201	000238865	2	EA	NIPPLE, PIPE,		-1.81
11/04/2003	PIX259WSTNENPIZZZZZ201	000232322	1	EA	COUPLING, PI	GALVANIZED STEEL, MALLEABLE IRON	-9.26
11/04/2003	PIX259WSTNENPIZZZZZ201	000231845	2	EA	BUSHING, PIP	GALVANIZED, MALLEABLE IRON	-3.53
11/04/2003	PIX259WSTNENPIZZZZZ201	000231720	2	EA	BUSHING, PIP	GALVANIZED, MALLEABLE IRON	-1.58
11/04/2003	PIX259WSTNENPIZZZZZ201	000235028	1	EA	UNION, PIPE, 1	GALVANIZED, MALLEABLE IRON	-15.48
11/04/2003	PIX259WSTNENPIZZZZZ201	000233528	2	EA	NIPPLE, PIPE,	SCH. 40, ASTM A106, GR. A, SEAMLESS,	-3.88
						Expense Element: 201 Subtotal:	0.00
						Total:	0.00
						Work Order Total:	-46943.88

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1652 Work Order Detail / Summarized Labor Report

Report Parameters

District: P *Parent WO:* * *WO Number:* PR026784 *From Date:* 200301 *To Date:* 200312 *Show Emp Info:* No

Company: **HECO**

Labor Costs

Proccess Pd	Tran Dte	Acct Code	Emp ID	Last Name	First Name	No of Hours	Tran Amt
Expense Element: 406		**Corp Admin Expense**					
200305						0.00	84.65
200306						0.00	170.67
200307						0.00	36.25
200310						0.00	-291.57
					Expense Element: 406 Subtotal:	0.00	0.00
Expense Element: 421		**Non-Productive Wages**					
200305						0.00	141.36
200306						0.00	285.00
200307						0.00	80.78
200310						0.00	-507.14
					Expense Element: 421 Subtotal:	0.00	0.00
Expense Element: 422		**Employee Benefits**					
200305						0.00	295.74
200306						0.00	596.25
200307						0.00	120.64
200310						0.00	-1012.63
					Expense Element: 422 Subtotal:	0.00	0.00
Expense Element: 423		**Payroll Taxes**					
200305						0.00	88.10
200306						0.00	180.97
200307						0.00	40.13
200310						0.00	-309.20
					Expense Element: 423 Subtotal:	0.00	0.00
					Total:	0.00	0.00

Manual Journal Vouchers

Tran Dte	Acct Code	Voucher No	Description	Accountant Code	Qty Amt	Tran Amt
Expense Element: 201		**Matl-Issues/Purchases**				
06/17/2003	PIX259WSTNENPIZZZZZ201		ON COST CHG TO: 066210/001	HWB900	0	118.52
08/22/2003	PIX259WSTNENPIZZZZZ201		ON COST CHG TO: 068402/002	HWB900	0	24.80

1652 Work Order Detail / Summarized Labor Report

Report Parameters

District: P *Parent WO:* * *WO Number:* PR026784 *From Date:* 200301 *To Date:* 200312 *Show Emp Info:* No

Company: **HECO**

Manual Journal Vouchers

Tran Dte	Acct Code	Voucher No	Description	Accountant Code	Qty Amt	Tran Amt
08/22/2003	PIX259WSTNENPIZZZZZ201		ON COST CHG TO: 068402/003	HWB900	0	4.91
08/22/2003	PIX259WSTNENPIZZZZZ201		ON COST CHG TO: 068402/001	HWB900	0	67.76
11/04/2003	PIX259WSTNENPIZZZZZ201		ON COST CHG TO: 053830/003	HWB900	0	-2588.18
11/04/2003	PIX259WSTNENPIZZZZZ201		ON COST CHG TO: 053830/007	HWB900	0	-77.54
11/04/2003	PIX259WSTNENPIZZZZZ201		ON COST CHG TO: 068402/002	HWB900	0	-24.80
11/04/2003	PIX259WSTNENPIZZZZZ201		ON COST CHG TO: 053830/001	HWB900	0	-357.97
11/04/2003	PIX259WSTNENPIZZZZZ201		ON COST CHG TO: 053830/005	HWB900	0	-1540.79
11/04/2003	PIX259WSTNENPIZZZZZ201		ON COST CHG TO: 068402/003	HWB900	0	-4.91
11/04/2003	PIX259WSTNENPIZZZZZ201		ON COST CHG TO: 053830/004	HWB900	0	-34.62
11/04/2003	PIX259WSTNENPIZZZZZ201		ON COST CHG TO: 068402/001	HWB900	0	-67.76
11/04/2003	PIX259WSTNENPIZZZZZ201		ON COST CHG TO: 053830/002	HWB900	0	-1024.31
11/04/2003	PIX259WSTNENPIZZZZZ201		ON COST CHG TO: 053830/006	HWB900	0	-267.80
11/04/2003	PIX259WSTNENPIZZZZZ201		ON COST CHG TO: 066210/001	HWB900	0	-118.52
11/04/2003	PIX259WSTNENPIZZZZZ201		ON COST CHG TO: 053830/008	HWB900	0	-1045.95
				Expense Element: 201	**Subtotal:**	-6937.16

Expense Element: 501 Outside Svcs-General

10/06/2003	PIX259WSTNENPIZZZZZ501	PSOI0309	accrue unpaid invoices at quarter end	20021	0	894.84
10/06/2003	PIX259WSTNENPIZZZZZ501	PSOI0309	accrue unpaid invoices at quarter end	20021	0	-894.84
11/04/2003	PIX259WSTNENPIZZZZZ501	PSOI0309	accrue unpaid invoices at quarter end	20021	0	-894.84
11/04/2003	PIX259WSTNENPIZZZZZ501	PSOI0309	accrue unpaid invoices at quarter end	20021	0	894.84
				Expense Element: 501	**Subtotal:**	0.00
					Total:	-6937.16

Purchase Requisition Order Receipts

Tran Dte	Acct Code	PO No	PO Item No	Supplier No	Unit of Purch	Qty	Net Price	Tran Amt
Expense Element: 201	**Matl-Issues/Purchases**							
06/17/2003	PIX259WSTNENPIZZZZZ201	P51787	001	006735	FT	60	40.00	831.17
08/22/2003	PIX259WSTNENPIZZZZZ201	P53669	001	002327	ST	2	685.00	475.19
08/22/2003	PIX259WSTNENPIZZZZZ201	P53669	002	002327	EA	2	250.67	173.89
08/22/2003	PIX259WSTNENPIZZZZZ201	P53669	003	002327	EA	8	12.40	34.41
11/04/2003	PIX259WSTNENPIZZZZZ201	P42117	005	020598	FT	192	89.00	-8885.76
11/04/2003	PIX259WSTNENPIZZZZZ201	P42117	001	020598	EA	2	1985.00	-2064.40

1652 Work Order Detail / Summarized Labor Report

Report Parameters

District: P *Parent WO:* * *WO Number:* PR026784 *From Date:* 200301 *To Date:* 200312 *Show Emp Info:* No

Company: **HECO**

Purchase Requisition Order Receipts

Tran Dte	Acct Code	PO No	PO Item No	Supplier No	Unit of Purch	Qty	Net Price	Tran Amt
11/04/2003	PIX259WSTNENPIZZZZZ201	P42117	002	020598	EA	4	2840.00	-5907.20
11/04/2003	PIX259WSTNENPIZZZZZ201	P42117	004	020598	ST	48	8.00	-199.68
11/04/2003	PIX259WSTNENPIZZZZZ201	P53669	003	002327	EA	8	12.40	-34.41
11/04/2003	PIX259WSTNENPIZZZZZ201	P42117	006	020598	EA	2	1485.00	-1544.40
11/04/2003	PIX259WSTNENPIZZZZZ201	P42117	007	020598	EA	4	215.00	-447.20
11/04/2003	PIX259WSTNENPIZZZZZ201	P42117	008	020598	EA	4	2900.00	-6032.00
11/04/2003	PIX259WSTNENPIZZZZZ201	P51787	001	006735	FT	60	40.00	-831.17
11/04/2003	PIX259WSTNENPIZZZZZ201	P53669	001	002327	ST	2	685.00	-475.19
11/04/2003	PIX259WSTNENPIZZZZZ201	P53669	002	002327	EA	2	250.67	-173.89
11/04/2003	PIX259WSTNENPIZZZZZ201	P42117	003	020598	EA	48	598.00	-14926.08
					Expense Element: 201		**Subtotal:**	-40006.72 (2)
							Total:	-40006.72

Stock Material Transactions

Tran Dte	Acct Code	Stock Code	Qty	Unit of Issue	Item Name	Description	Tran Amt
Expense Element: 201	**Matl-Issues/Purchases**						
06/04/2003	PIX259WSTNENPIZZZZZ201	000232967	0	EA	TEE, PIPE, 150	MALLEABLE IRON THREADED PIPE FITTINGS,	7.77
06/04/2003	PIX259WSTNENPIZZZZZ201	000231845	0	EA	BUSHING, PIP	GALVANIZED, MALLEABLE IRON	3.53
06/04/2003	PIX259WSTNENPIZZZZZ201	000235028	0	EA	UNION, PIPE, 1	GALVANIZED, MALLEABLE IRON	15.47
06/04/2003	PIX259WSTNENPIZZZZZ201	000231589	0	FT	PIPE, GALV, S	ASTM A-106, GR. A, DOMESTIC OR FOREIGN,	40.56
06/04/2003	PIX259WSTNENPIZZZZZ201	000231720	0	EA	BUSHING, PIP	GALVANIZED, MALLEABLE IRON	1.57
06/04/2003	PIX259WSTNENPIZZZZZ201	000232322	0	EA	COUPLING, PI	GALVANIZED STEEL, MALLEABLE IRON	9.26
06/05/2003	PIX259WSTNENPIZZZZZ201	000235028	0	EA	UNION, PIPE, 1	GALVANIZED, MALLEABLE IRON	15.47
06/05/2003	PIX259WSTNENPIZZZZZ201	000232728	0	EA	ELBOW, GALV	150#, MALLEABLE IRON THREADED PIPE	12.47
06/05/2003	PIX259WSTNENPIZZZZZ201	000232322	0	EA	COUPLING, PI	GALVANIZED STEEL, MALLEABLE IRON	9.26
06/05/2003	PIX259WSTNENPIZZZZZ201	000232728	0	EA	ELBOW, GALV	150#, MALLEABLE IRON THREADED PIPE	12.48
06/05/2003	PIX259WSTNENPIZZZZZ201	000231928	0	EA	BUSHING, PIP	GALVANIZED, MALLEABLE IRON	2.65
06/06/2003	PIX259WSTNENPIZZZZZ201	000232728	0	EA	ELBOW, GALV	150#, MALLEABLE IRON THREADED PIPE	12.92
06/09/2003	PIX259WSTNENPIZZZZZ201	000170831	0	EA	GAUGE, PRES	MOUNT KIT. SAFETY GLASS.	0.00
06/09/2003	PIX259WSTNENPIZZZZZ201	000161281	1	EA	GAUGE, PRES	SAFETY GLASS	46.54
06/09/2003	PIX259WSTNENPIZZZZZ201	000238402	1	EA	BUSHING, PIP	THREADED	0.56
06/12/2003	PIX259WSTNENPIZZZZZ201	000231928	0	EA	BUSHING, PIP	GALVANIZED, MALLEABLE IRON	3.01

1652 Work Order Detail / Summarized Labor Report

Report Parameters

District: P Parent WO: * WO Number: PR026784 From Date: 200301 To Date: 200312 Show Emp Info: No

Company: HECO

Stock Material Transactions

Tran Dte	Acct Code	Stock Code	Qty	Unit of Issue	Item Name	Description	Tran Amt
07/02/2003	PIX259WSTNENPIZZZZZ201	000273540	2	EA	VALVE, GATE,	THREADED	30.54
07/02/2003	PIX259WSTNENPIZZZZZ201	000238006	2	EA	TEE, PIPE, BR		2.51
07/02/2003	PIX259WSTNENPIZZZZZ201	000238444	2	EA	BUSHING, PIP	THREADED	1.57
07/02/2003	PIX259WSTNENPIZZZZZ201	000238402	2	EA	BUSHING, PIP	THREADED	1.12
07/02/2003	PIX259WSTNENPIZZZZZ201	000273581	2	EA	VALVE, GATE,	THREADED	28.98
07/02/2003	PIX259WSTNENPIZZZZZ201	000154625	2	RL	TAPE, DUCT, S	3M HIGHLAND	15.47
07/02/2003	PIX259WSTNENPIZZZZZ201	000238709	2	EA	NIPPLE, PIPE,		1.82
07/02/2003	PIX259WSTNENPIZZZZZ201	000238907	2	EA	NIPPLE, PIPE,		3.28
07/03/2003	PIX259WSTNENPIZZZZZ201	000232249	1	EA	COUPLING, PI	GALVANIZED STEEL, MALLEABLE IRON	1.25
07/03/2003	PIX259WSTNENPIZZZZZ201	000273706	1	EA	VALVE, GATE,	THREADED	15.30
11/04/2003	PIX259WSTNENPIZZZZZ201	000231589	0	FT	PIPE, GALV, S	ASTM A-106, GR. A, DOMESTIC OR FOREIGN,	-40.56
11/04/2003	PIX259WSTNENPIZZZZZ201	000232322	0	EA	COUPLING, PI	GALVANIZED STEEL, MALLEABLE IRON	-9.26
11/04/2003	PIX259WSTNENPIZZZZZ201	000273581	2	EA	VALVE, GATE,	THREADED	-28.98
11/04/2003	PIX259WSTNENPIZZZZZ201	000273540	2	EA	VALVE, GATE,	THREADED	-30.54
11/04/2003	PIX259WSTNENPIZZZZZ201	000232249	1	EA	COUPLING, PI	GALVANIZED STEEL, MALLEABLE IRON	-1.25
11/04/2003	PIX259WSTNENPIZZZZZ201	000154625	2	RL	TAPE, DUCT, S	3M HIGHLAND	-15.47
11/04/2003	PIX259WSTNENPIZZZZZ201	000238006	2	EA	TEE, PIPE, BR		-2.51
11/04/2003	PIX259WSTNENPIZZZZZ201	000238907	2	EA	NIPPLE, PIPE,		-3.28
11/04/2003	PIX259WSTNENPIZZZZZ201	000238709	2	EA	NIPPLE, PIPE,		-1.82
11/04/2003	PIX259WSTNENPIZZZZZ201	000238444	2	EA	BUSHING, PIP	THREADED	-1.57
11/04/2003	PIX259WSTNENPIZZZZZ201	000238402	1	EA	BUSHING, PIP	THREADED	-0.56
11/04/2003	PIX259WSTNENPIZZZZZ201	000231845	0	EA	BUSHING, PIP	GALVANIZED, MALLEABLE IRON	-3.53
11/04/2003	PIX259WSTNENPIZZZZZ201	000232728	0	EA	ELBOW, GALV	150#, MALLEABLE IRON THREADED PIPE	-12.48
11/04/2003	PIX259WSTNENPIZZZZZ201	000231720	0	EA	BUSHING, PIP	GALVANIZED, MALLEABLE IRON	-1.57
11/04/2003	PIX259WSTNENPIZZZZZ201	000232967	0	EA	TEE, PIPE, 150	MALLEABLE IRON THREADED PIPE FITTINGS,	-7.77
11/04/2003	PIX259WSTNENPIZZZZZ201	000232322	0	EA	COUPLING, PI	GALVANIZED STEEL, MALLEABLE IRON	-9.26
11/04/2003	PIX259WSTNENPIZZZZZ201	000238402	2	EA	BUSHING, PIP	THREADED	-1.12
11/04/2003	PIX259WSTNENPIZZZZZ201	000231928	0	EA	BUSHING, PIP	GALVANIZED, MALLEABLE IRON	-3.01
11/04/2003	PIX259WSTNENPIZZZZZ201	000232728	0	EA	ELBOW, GALV	150#, MALLEABLE IRON THREADED PIPE	-12.92
11/04/2003	PIX259WSTNENPIZZZZZ201	000235028	0	EA	UNION, PIPE, 1	GALVANIZED, MALLEABLE IRON	-15.47
11/04/2003	PIX259WSTNENPIZZZZZ201	000231928	0	EA	BUSHING, PIP	GALVANIZED, MALLEABLE IRON	-2.65
11/04/2003	PIX259WSTNENPIZZZZZ201	000232728	0	EA	ELBOW, GALV	150#, MALLEABLE IRON THREADED PIPE	-12.47

1652 Work Order Detail / Summarized Labor Report

Report Parameters

District: P *Parent WO:* * *WO Number:* PR026784 *From Date:* 200301 *To Date:* 200312 *Show Emp Info:* No

Company: **HECO**

Stock Material Transactions

Tran Dte	Acct Code	Stock Code	Qty	Unit of Issue	Item Name	Description	Tran Amt
11/04/2003	PIX259WSTNENPIZZZZZ201	000273706	1	EA	VALVE, GATE,	THREADED	-15.30
11/04/2003	PIX259WSTNENPIZZZZZ201	000235028	0	EA	UNION, PIPE, 1	GALVANIZED, MALLEABLE IRON	-15.47
11/04/2003	PIX259WSTNENPIZZZZZ201	000161281	1	EA	GAUGE, PRES	SAFETY GLASS	-46.54
						Expense Element: 201 Subtotal:	0.00
						Total:	0.00
						Work Order Total:	-46943.88

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marized Labor Report

umber: PR022754 From Date: 200301 To Date: 200312 Show Emp Info: No

ucher No	Description	Accountant Code	Qty Amt	Tran Amt
ases				
00013428	ON COST CHG TO: 041959/001	HWB900	0	-4060.21
	ON COST CHG TO: 046088/001	HWB900	0	-23.53
	ON COST CHG TO: 041966/001	HWB900	0	-1160.69
	ON COST CHG TO: 046384/001	HWB900	0	-23.21
		Expense Element: 201	Subtotal:	-5267.64 (2)
			Total:	-5267.64

O No	PO Item No	Supplier No	Unit of Purch	Qty	Net Price	Tran Amt
ases						
35516	001	006735	EA	8	70.00	-145.60
35372	001	001153	FT	1090	0.52	-147.60
32297	001	005879	EA	1	22965.00	-23883.60
32481	001	005879	EA	2	6565.00	-6827.60
			Expense Element: 201		Subtotal:	-31004.40 (2)
					Total:	-31004.40

k Code	Qty	Unit of Issue	Item Name	Description	Tran Amt
ases					
344184	12	EA	NOZZLE, SPR	FOR REX CHAIN BELT	342.23
266403	1	QT	OIL, HYDRAUL		-4.40
614610	-1	CL	CYLINDER, CO	SIZE: 300 CF. CYLINDER	248.56
344184	12	EA	NOZZLE, SPR	FOR REX CHAIN BELT	-342.23
344184	6	EA	NOZZLE, SPR	FOR REX CHAIN BELT	-347.26
266403	-1	QT	OIL, HYDRAUL		4.40
266403	1	QT	OIL, HYDRAUL		-4.40
217869	10	EA	FITTING, GRE		-9.37
247668	1	CL	GAS, COMPRE		-84.14
614610	1	CL	CYLINDER, CO	SIZE: 300 CF. CYLINDER	-248.56
				Expense Element: 201 Subtotal:	-445.17 (2)

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To Date: 200312 *Show Emp Info:* No

*em Desc	*Contract No*	*Portion No*	*Element No*	*Tran Amt*
DIT FOR 5% DISC				-351.75
DIT FOR 5% DISC				-14.07
DIT FOR 5% DISC				351.75
§ DISCOUNT ALRE				132.00
RCHARGED ON IN				-2640.00
ISCOUNT ON INV				-158.40
ISCOUNT ON INV				-2350.55
CREDIT MEMO 44				132.00
CREDIT MEMO 44				2508.00
Expense Element: 201			**Subtotal:**	-2391.02 (2)
			Total:	-2391.02

First Name	*No of Hours*	*Tran Amt*
	2.00	70.98
	2.00	70.98
	2.00	70.98
	2.00	70.98
	2.00	70.98
	2.50	88.73
	2.00	70.98
	2.00	70.98
	1.00	35.49
	1.00	35.49
	1.00	35.49
	1.00	35.49
	2.00	70.98

rt

200301 *To Date:* 200312 *Show Emp Info:* No

	First Name		*No of Hours*	*Tran Amt*
		Subtotal:	22.50	798.53
			0.50	17.75
			2.00	70.98
			1.50	53.24
			0.50	17.75
			1.50	53.24
			1.50	53.24
			1.00	35.49
			1.00	35.49
			2.00	70.98
			2.00	70.98
			2.00	70.98
			1.00	35.49
			2.00	70.98
			1.00	35.49
			1.00	35.49
			1.00	35.49
			1.00	35.49
		Subtotal:	22.50	798.55
Expense Element: 150		**Subtotal:**	45.00	1597.08
			0.00	-18.67
			0.00	24.88
Expense Element: 155		**Subtotal:**	0.00	6.21
			0.00	161.10
			0.00	161.10
Expense Element: 405		**Subtotal:**	0.00	322.20
			0.00	61.43

1652 Work Order Detail / Summarized Labor Report

Report Parameters

District: P *Parent WO:* * *WO Number:* PR022755 *From Date:* 200301 *To Date:* 200312 *Show Emp Info:* No

Company: **HECO**

Labor Costs

Proccess Pd	Tran Dte	Acct Code	Emp ID	Last Name	First Name	No of Hours	Tran Amt
200305						0.00	61.45
					Expense Element: 406 Subtotal:	0.00	122.88
Expense Element: 421		**Non-Productive Wages**					
200304						0.00	102.60
200305						0.00	102.60
					Expense Element: 421 Subtotal:	0.00	205.20
Expense Element: 422		**Employee Benefits**					
200304						0.00	214.65
200305						0.00	214.65
					Expense Element: 422 Subtotal:	0.00	429.30
Expense Element: 423		**Payroll Taxes**					
200304						0.00	66.57
200305						0.00	70.34
					Expense Element: 423 Subtotal:	0.00	136.91
					Total:	45.00	2819.78

Manual Journal Vouchers

Tran Dte	Acct Code	Voucher No	Description	Accountant Code	Qty Amt	Tran Amt
Expense Element: 150	**Labor Cost**					
11/04/2003	PIX262W06NENPIZZZZZ150	FA501003	TRANSFER TO WO#PR036622	0000007731	0	-1875.36
				Expense Element: 150 Subtotal:		-1875.36
Expense Element: 155	**Labor True-up**					
11/04/2003	PIX262W06NENPIZZZZZ155	FA501003	TRANSFER TO WO#PR036622	0000007731	0	-6.43
				Expense Element: 155 Subtotal:		-6.43
Expense Element: 201	**Matl-Issues/Purchases**					
05/09/2003	PIX262W06NENPIZZZZZ201		ON COST CHG TO: 064149/009	HWB900	0	26.69
05/09/2003	PIX262W06NENPIZZZZZ201		ON COST CHG TO: 064149/005	HWB900	0	280.29
05/09/2003	PIX262W06NENPIZZZZZ201		ON COST CHG TO: 064149/013	HWB900	0	126.06
05/09/2003	PIX262W06NENPIZZZZZ201		ON COST CHG TO: 064149/012	HWB900	0	860.16
05/09/2003	PIX262W06NENPIZZZZZ201		ON COST CHG TO: 064149/004	HWB900	0	690.50

1652 Work Order Detail / Summarized Labor Report

Report Parameters

District: P *Parent WO:* * *WO Number:* PR022755 *From Date:* 200301 *To Date:* 200312 *Show Emp Info:* No

Company: **HECO**

Manual Journal Vouchers

Tran Dte	Acct Code	Voucher No	Description	Accountant Code	Qty Amt	Tran Amt
05/09/2003	PIX262W06NENPIZZZZZ201		ON COST CHG TO: 064149/010	HWB900	0	220.23
05/09/2003	PIX262W06NENPIZZZZZ201		ON COST CHG TO: 064149/002	HWB900	0	218.01
05/09/2003	PIX262W06NENPIZZZZZ201		ON COST CHG TO: 064149/003	HWB900	0	193.98
05/09/2003	PIX262W06NENPIZZZZZ201		ON COST CHG TO: 064149/008	HWB900	0	1267.11
05/09/2003	PIX262W06NENPIZZZZZ201		ON COST CHG TO: 064149/007	HWB900	0	2128.46
05/09/2003	PIX262W06NENPIZZZZZ201		ON COST CHG TO: 064149/006	HWB900	0	842.37
05/09/2003	PIX262W06NENPIZZZZZ201		ON COST CHG TO: 064149/011	HWB900	0	118.05
05/21/2003	PIX262W06NENPIZZZZZ201		ON COST CHG TO: 064149/001	HWB900	0	991.15
06/17/2003	PIX262W06NENPIZZZZZ201	PUT10306	020598-UTAX-4468	ADOO	0	14.07
06/17/2003	PIX262W06NENPIZZZZZ201		ON COST CHG TO: 066447/001	HWB900	0	78.30
11/04/2003	PIX262W06NENPIZZZZZ201	FA501003	TRANSFER TO WO#PR026785	0000007731	0	-46463.04
11/04/2003	PIX262W06NENPIZZZZZ201	FA501003	TRANSFER TO WO#PR036622	0000007731	0	-6697.45
11/04/2003	PIX262W06NENPIZZZZZ201	FA501003	TRANSFER TO WO#PR036622	0000007731	0	2391.02
11/04/2003	PIX262W06NENPIZZZZZ201	FA501003	TRANSFER TO WO#PR036622	0000007731	0	-40932.50
11/04/2003	PIX262W06NENPIZZZZZ201	FA501003	TRANSFER TO WO#PR026785	0000007731	0	-6625.62
11/04/2003	PIX262W06NENPIZZZZZ201	FA501003	TRANSFER TO WO#PR036622	0000007731	0	-342.23
				Expense Element: 201	**Subtotal:**	-90614.39

(2)

Expense Element: 405 Power Supply

11/04/2003	PIX262W06NENPIZZZZZ405	FA501003	TRANSFER TO WO#PR036622	0000007731	0	-370.44
				Expense Element: 405	**Subtotal:**	-370.44

Expense Element: 406 Corp Admin Expense

11/04/2003	PIX262W06NENPIZZZZZ406	FA501003	TRANSFER TO WO#PR036622	0000007731	0	-156.65
				Expense Element: 406	**Subtotal:**	-156.65

Expense Element: 421 Non-Productive Wages

11/04/2003	PIX262W06NENPIZZZZZ421	FA501003	TRANSFER TO WO#PR036622	0000007731	0	-249.48
				Expense Element: 421	**Subtotal:**	-249.48

Expense Element: 422 Employee Benefits

11/04/2003	PIX262W06NENPIZZZZZ422	FA501003	TRANSFER TO WO#PR036622	0000007731	0	-394.45
				Expense Element: 422	**Subtotal:**	-394.45

Expense Element: 423 Payroll Taxes

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1652 Work Order Detail / Summarized Labor Report

Report Parameters

District: P *Parent WO:* * *WO Number:* PR022755 *From Date:* 200301 *To Date:* 200312 *Show Emp Info:* No

Company: **HECO**

Manual Journal Vouchers

Tran Dte	Acct Code	Voucher No	Description	Accountant Code	Qty Amt	Tran Amt
11/04/2003	PIX262W06NENPIZZZZZ423	FA501003	TRANSFER TO WO#PR036622	0000007731	0	-160.52
				Expense Element: 423	**Subtotal:**	-160.52
					Total:	-93827.72

Purchase Requisition Order Receipts

Tran Dte	Acct Code	PO No	PO Item No	Supplier No	Unit of Purch	Qty	Net Price	Tran Amt
Expense Element: 201	**Matl-Issues/Purchases**							
05/09/2003	PIX262W06NENPIZZZZZ201	P50008	013	020598	EA	2	425.00	884.00
05/09/2003	PIX262W06NENPIZZZZZ201	P50008	012	020598	EA	2	2900.00	6032.00
05/09/2003	PIX262W06NENPIZZZZZ201	P50008	011	020598	EA	2	398.00	827.84
05/09/2003	PIX262W06NENPIZZZZZ201	P50008	010	020598	EA	1	1485.00	1544.40
05/09/2003	PIX262W06NENPIZZZZZ201	P50008	007	020598	EA	24	598.00	14926.08
05/09/2003	PIX262W06NENPIZZZZZ201	P50008	006	020598	EA	2	2840.00	5907.20
05/09/2003	PIX262W06NENPIZZZZZ201	P50008	005	020598	EA	1	1890.00	1965.60
05/09/2003	PIX262W06NENPIZZZZZ201	P50008	004	020598	EA	6	776.00	4842.24
05/09/2003	PIX262W06NENPIZZZZZ201	P50008	009	020598	ST	24	7.50	187.20
05/09/2003	PIX262W06NENPIZZZZZ201	P50008	008	020598	FT	96	89.00	8885.76
05/09/2003	PIX262W06NENPIZZZZZ201	P50008	003	020598	EA	6	218.00	1360.32
05/09/2003	PIX262W06NENPIZZZZZ201	P50008	002	020598	EA	6	245.00	1528.80
05/21/2003	PIX262W06NENPIZZZZZ201	P50008	001	020598	EA	3	2227.75	6950.58
06/17/2003	PIX262W06NENPIZZZZZ201	P50008	014	020598	EA	6	88.00	549.12
					Expense Element: 201	**Subtotal:**		56391.14 (2)
						Total:		56391.14

Stock Material Transactions

Tran Dte	Acct Code	Stock Code	Qty	Unit of Issue	Item Name	Description	Tran Amt
Expense Element: 201	**Matl-Issues/Purchases**						
05/22/2003	PIX262W06NENPIZZZZZ201	000344184	0	EA	NOZZLE, SPR	FOR REX CHAIN BELT	342.23
						Expense Element: 201 **Subtotal:**	342.23 (2)
						Total:	342.23

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00301 *To Date:* 200312 *Show Emp Info:* No

	First Name		*No of Hours*	*Tran Amt*
Expense Element: 423		**Subtotal:**	0.00	-23.78
		Total:	-9.00	-395.58

	Accountant Code	*Qty Amt*	*Tran Amt*
2/001	HWB900	0	-4060.21
1/001	HWB900	0	-23.21
3/001	HWB900	0	-1160.69
3/001	HWB900	0	-23.52
	Expense Element: 201	**Subtotal:**	-5267.63
		Total:	-5267.63 (2)

pplier No	*Unit of Purch*	*Qty*	*Net Price*	*Tran Amt*
5879	EA	1	22965.00	-23883.60
5879	EA	2	6565.00	-6827.60
5735	EA	8	70.00	-145.60
1153	FT	1090	0.52	-147.58
	Expense Element: 201		**Subtotal:**	-31004.38 (2)
			Total:	-31004.38

me	*Description*		*Tran Amt*
E, SPR	FOR REX CHAIN BELT		342.23
E, SPR	FOR REX CHAIN BELT		-342.23
	Expense Element: 201	**Subtotal:**	0.00
		Total:	0.00

1652 Work Order Detail / Summarized Labor Report

Report Parameters

District: P *Parent WO:* * *WO Number:* PR016109 *From Date:* 200201 *To Date:* 200412 *Show Emp Info:* No

Company: **HECO**

Parent WO:

Work Order: **PR016109** **Sludge drying beds-Cells 1-6 Refurbish**

Invoice Transactions

Tran Dte	Acct Code	Cat No	Supplier No	Inv No	Inv Item No	Inv Item Desc	Contract No	Portion No	Element No	Tran Amt
Expense Element: 201	**Matl-Issues/Purchases**									
06/24/2002	PIX266WWWNENPIZZZZZ201		012597	02-129	001	CLEAN OUT/FLUSH PI				550.48
08/01/2003	PIX266WWWNENPIZZZZZ201		007008	0029506-	001	SUPERVISION & INST				937.49
									Expense Element: 201 Subtotal:	1487.97
Expense Element: 205	**Matl-Purchasing Card**									
09/23/2002	PIX266WWWNENPIZZZZZ205		000001	1423362	003	TESORO				60.01
03/21/2003	PIX266WWWNENPIZZZZZ205		000001	1610712	009	VALVE SERVICE AND				13.71
03/21/2003	PIX266WWWNENPIZZZZZ205		000001	1610712	006	HYDRA-AIR PACIFIC				232.20
07/29/2003	PIX266WWWNENPIZZZZZ205		000001	1460021	004	HISCO				42.08
									Expense Element: 205 Subtotal:	348.00
Expense Element: 501	**Outside Svcs-General**									
05/31/2002	PIX266WWWNENPIZZZZZ501		002879	4768	001	WAIAU SLUDGE VALV				386.98
06/14/2002	PIX266WWWNENPIZZZZZ501		005786	166350	001	WAIAU SLUDGE BED				28.75
06/14/2002	PIX266WWWNENPIZZZZZ501		004690	01-01840	001	WAIAU SLUDGE VALV				134.27
06/14/2002	PIX266WWWNENPIZZZZZ501		004690	01-01838	001	WAIAU SLUDGE VALV				79.17
06/17/2002	PIX266WWWNENPIZZZZZ501		002504	22005-04	001	WAIAU SLUDGE VALV				1248.32
06/17/2002	PIX266WWWNENPIZZZZZ501		002504	22005-03	001	WAIAU SLUDGE VALV				217.10
06/17/2002	PIX266WWWNENPIZZZZZ501		014372	IMU3910	001	WAIAU SLUDGE VALV				758.00
07/08/2002	PIX266WWWNENPIZZZZZ501		002879	4837	001	WAIAU SLUDGE DRYI				386.98
07/09/2002	PIX266WWWNENPIZZZZZ501		005720	88139	001	WPP-ROLLOFF'S TO S				886.42
07/09/2002	PIX266WWWNENPIZZZZZ501		005720	87918	001	WPP-ROLLOFF'S TO S				699.34
07/09/2002	PIX266WWWNENPIZZZZZ501		005720	87278	001	WPP-ROLLOFF'S TO S				971.93
07/09/2002	PIX266WWWNENPIZZZZZ501		005720	88201	001	WPP-ROLLOFF'S TO S				1040.49
07/12/2002	PIX266WWWNENPIZZZZZ501		005786	167517	001	WAIAU SLUDGE BED				445.62
07/23/2002	PIX266WWWNENPIZZZZZ501		002879	4860	001	WAIAU SLUDGE DRYI				773.95
07/29/2002	PIX266WWWNENPIZZZZZ501		002879	4879	001	WAIAU SLUDGE DRYI				386.98
08/02/2002	PIX266WWWNENPIZZZZZ501		005786	168655	001	WAIAU SLUDGE BED				201.25
08/05/2002	PIX266WWWNENPIZZZZZ501		002879	4888	001	WAIAU SLUDGE DRYI				700.72
08/09/2002	PIX266WWWNENPIZZZZZ501		002879	4918	001	WAIAU SLUDGE DRYI				649.48

Sludge Dry Beds
2002 $ (A) 105,167.79 ✓
2003 $ (B) 59,982.72 ✓
2004 $ (C) 46,007.78 ✓

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1652 Work Order Detail / Summarized Labor Report

Report Parameters

District: P *Parent WO:* * *WO Number:* PR016109 *From Date:* 200201 *To Date:* 200412 *Show Emp Info:* No

Company: **HECO**

Invoice Transactions

Tran Dte	Acct Code	Cat No	Supplier No	Inv No	Inv Item No	Inv Item Desc	Contract No	Portion No	Element No	Tran Amt
08/13/2002	PIX266WWWNENPIZZZZZ501		004690	01-02031	001	WAIAU SLUDGE VALV				126.67
08/14/2002	PIX266WWWNENPIZZZZZ501		014372	IMU3910	001	WAIAU SLUDGE VALV				412.80
08/14/2002	PIX266WWWNENPIZZZZZ501		014372	IMU3910	001	WAIAU SLUDGE VALV				585.40
08/19/2002	PIX266WWWNENPIZZZZZ501		002879	4927	001	WAIAU SLUDGE DRYI				2408.06
08/30/2002	PIX266WWWNENPIZZZZZ501		006985	20540	001	WPP SLUDGE DRYING				6562.12
09/05/2002	PIX266WWWNENPIZZZZZ501		005720	88390	001	WPP-ROLLOFF'S TO S				1834.64
09/05/2002	PIX266WWWNENPIZZZZZ501		005720	88331	001	WPP-ROLLOFF'S TO S				1166.64
09/05/2002	PIX266WWWNENPIZZZZZ501		005720	88598	001	WPP-ROLLOFF'S TO S				1157.33
09/12/2002	PIX266WWWNENPIZZZZZ501		014372	IMU3910	001	WAIAU SLUDGE VALV				947.50
10/21/2002	PIX266WWWNENPIZZZZZ501		006985	20644	001	WAIAU SLUDGE DRY				7827.16
10/29/2002	PIX266WWWNENPIZZZZZ501		019871	10523	003	WPP-SLUDGE DRYING				7192.44
10/29/2002	PIX266WWWNENPIZZZZZ501		019871	10523	001	WPP-SLUDGE DRYING				4954.01
10/29/2002	PIX266WWWNENPIZZZZZ501		019871	10523	002	WPP-SLUDGE DRYING				8137.91
10/29/2002	PIX266WWWNENPIZZZZZ501		019871	10526	001	WPP-SLUDGE DRYING				8860.57
11/13/2002	PIX266WWWNENPIZZZZZ501		006985	20482	001	WPP SLUDGE DRYING				7827.16
12/18/2002	PIX266WWWNENPIZZZZZ501		002765	C0224	001	SLUDGE DRYING BED				17660.78
12/27/2002	PIX266WWWNENPIZZZZZ501		006985	20808	001	SLUDGE DRYING BED				7315.12
03/27/2003	PIX266WWWNENPIZZZZZ501		005720	98376	001	WAIAU SLUDGE DRYI				2419.62
03/27/2003	PIX266WWWNENPIZZZZZ501		005720	99908	001	WAIAU SLUDGE DRYI				1179.41
03/27/2003	PIX266WWWNENPIZZZZZ501		005720	99975	001	WAIAU SLUDGE DRYI				1169.17
03/27/2003	PIX266WWWNENPIZZZZZ501		005720	99996	001	WAIAU SLUDGE DRYI				2241.84
04/04/2003	PIX266WWWNENPIZZZZZ501		005720	100062	001	WAIAU SLUDGE DRYI				940.61
04/07/2003	PIX266WWWNENPIZZZZZ501		005720	100093	001	WAIAU SLUDGE DRYI				1262.29
05/27/2003	PIX266WWWNENPIZZZZZ501		002765	C0506	001	WAIAU- SLUDGE DRYI				2153.56
05/28/2003	PIX266WWWNENPIZZZZZ501		002765	C0507	001	SLUDGE DRYING BED				7316.56
07/01/2003	PIX266WWWNENPIZZZZZ501		005720	102861	001	WAIAU SLUDGE DRYI				3196.66
07/08/2003	PIX266WWWNENPIZZZZZ501		005720	104303	001	WAIAU SLUDGE DRYI				3265.10
07/08/2003	PIX266WWWNENPIZZZZZ501		005720	104730	001	WAIAU SLUDGE DRYI				1430.76
07/08/2003	PIX266WWWNENPIZZZZZ501		005720	104614	001	WAIAU SLUDGE DRYI				1222.50
07/10/2003	PIX266WWWNENPIZZZZZ501		002765	C0508	001	SLUDGE DRYING BED				2796.94
07/10/2003	PIX266WWWNENPIZZZZZ501		002765	C0509	001	SLUDGE DRYING BED				1181.77
08/05/2003	PIX266WWWNENPIZZZZZ501		005720	106025	001	WAIAU SLUDGE DRYI				399.47

2002 (A)
94,972.04

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Company: **HECO**

Invoice Transactions

Tran Dte	Acct Code	Cat No	Supplier No	Inv No	Inv Item No	Inv Item Desc	Contract No	Portion No	Element No	Tran Amt
09/05/2003	PIX266WWWNENPIZZZZZ501		002765	C0515A	001	SLUDGE DRYING BED				492.13
09/05/2003	PIX266WWWNENPIZZZZZ501		002765	C0512	001	SLUDGE DRYING BED				732.40
09/05/2003	PIX266WWWNENPIZZZZZ501		002765	C0511	001	SLUDGE DRYING BED				388.03
09/05/2003	PIX266WWWNENPIZZZZZ501		002765	C0513A	001	SLUDGE DRYING BED				1164.07
09/05/2003	PIX266WWWNENPIZZZZZ501		002765	C0514A	001	SLUDGE DRYING BED				803.24
09/05/2003	PIX266WWWNENPIZZZZZ501		002765	C0510	001	SLUDGE DRYING BED				1391.78
10/06/2003	PIX266WWWNENPIZZZZZ501		005720	108456	001	WAIAU SLUDGE DRYI				648.49
12/02/2003	PIX266WWWNENPIZZZZZ501		019871	10957	001	WPP-5/30/03 HYDROB				1373.90
12/02/2003	PIX266WWWNENPIZZZZZ501		019871	10989	001	WPP-SLUDGE DRYING				1640.30
12/02/2003	PIX266WWWNENPIZZZZZ501		019871	10980	001	WPP-7/15/03 HYDROB				1909.10
12/08/2003	PIX266WWWNENPIZZZZZ501		005720	113234	001	WAIAU SLUDGE DRYI				230.21
12/08/2003	PIX266WWWNENPIZZZZZ501		005720	107097	001	WAIAU SLUDGE DRYI				745.50
12/08/2003	PIX266WWWNENPIZZZZZ501		019871	11075	001	WPP-10/20/03 HYDRO				1150.72
02/11/2004	PIX266WWWNENPIZZZZZ501		005314	1830461	001	CT-9 OILY WATER SU				263.90
02/27/2004	PIX266WWWNENPIZZZZZ501		005314	1830471	001	WPP WWTF PUMP SL				962.00
03/03/2004	PIX266WWWNENPIZZZZZ501		005720	116059	001	WAIAU SLUDGE DRYI				293.78
03/03/2004	PIX266WWWNENPIZZZZZ501		005720	114631	001	WAIAU SLUDGE DRYI				728.90
03/11/2004	PIX266WWWNENPIZZZZZ501		005314	1830482	001	CT-9 OILY WATER SU				491.40
03/11/2004	PIX266WWWNENPIZZZZZ501		002765	D0293	001	WWTF SLUDGE DRYI				859.40
03/11/2004	PIX266WWWNENPIZZZZZ501		002765	A0516	001	SLUDGE DRYING CEL				1051.77
05/13/2004	PIX266WWWNENPIZZZZZ501		002765	D0280	001	WWTF SLUDGE DRYI				1102.75
05/27/2004	PIX266WWWNENPIZZZZZ501		002765	D0429	001	WPP CLEAR SLUDGE				3436.41
06/10/2004	PIX266WWWNENPIZZZZZ501		005720	124507A	001	WPP SLUDGE DRYING				7431.19
07/09/2004	PIX266WWWNENPIZZZZZ501		005720	126752	001	WPP SLUDGE DRYING				2584.58
10/14/2004	PIX266WWWNENPIZZZZZ501		005720	131040	001	WPP SLUDGE DRYING				932.08
10/14/2004	PIX266WWWNENPIZZZZZ501		005720	130839	001	WPP SLUDGE DRYING				596.85
10/25/2004	PIX266WWWNENPIZZZZZ501		002765	D0660	001	SLUDGE DRYING BED				3394.06
10/29/2004	PIX266WWWNENPIZZZZZ501		002765	D0683	001	SLUDGE DRYING BED				2108.83
11/09/2004	PIX266WWWNENPIZZZZZ501		005720	131585	001	WPP SLUDGE DRYING				4488.53
12/22/2004	PIX266WWWNENPIZZZZZ501		019871	11720	001	SLUDGE DRYING CEL				7344.22
									Expense Element: 501 Subtotal:	177888.84
									Total:	179724.81

2003 44,846.13 (b)

2004 38,070.65 (c)

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Date: 200201 To Date: 200412 Show Emp Info: No

	Accountant Code	Qty Amt	Tran Amt
es at quarter end	20021	0	1262.29
es at quarter end	20021	0	-1262.29
es at quarter end	20021	0	1222.50
es at quarter end	20021	0	-2796.94
es at quarter end	20021	0	1181.77
es at quarter end	20021	0	3265.10
es at quarter end	20021	0	-1181.77
es at quarter end	20021	0	1430.76
es at quarter end	20021	0	-3265.10
es at quarter end	20021	0	-1222.50
es at quarter end	20021	0	2796.94
es at quarter end	20021	0	-1430.76
es at quarter end	20021	0	-3196.66
es at quarter end	20021	0	3196.66
es at quarter end	20021	0	-648.49
es at quarter end	20021	0	648.49
	Expense Element: 501	**Subtotal:**	0.00
		Total:	4689.62

Supplier No	Unit of Purch	Qty	Net Price	Tran Amt
007008	RL	4	1781.61	7422.90
013248	PC	8	99.00	824.95
001355	EA	40	33.85	1410.33
001355	NT	18.21	20.70	392.63
002500	EA	1	193.05	201.08
002500	EA	10	20.03	208.63
002500	EA	25	18.59	484.08
003342	EA	2	6.32	13.17
003342	EA	2	4.07	8.48
003342	FT	20	1.01	21.04
003342	FT	200	1.51	314.56

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1652 Work Order Detail / Summarized Labor Report

Report Parameters

District: P *Parent WO:* * *WO Number:* PR016109 *From Date:* 200201 *To Date:* 200412 *Show Emp Info:* No

Company: **HECO**

Purchase Requisition Order Receipts

Tran Dte	Acct Code	PO No	PO Item No	Supplier No	Unit of Purch	Qty	Net Price	Tran Amt
06/24/2003	PIX266WWWNENPIZZZZZ201	P50865	001	007008	EA	2	5388.08	11224.45
06/24/2003	PIX266WWWNENPIZZZZZ201	P50865	002	007008	RL	4	624.00	2599.83
05/10/2004	PIX266WWWNENPIZZZZZ201	P61827	001	001355	NT	137.53	35.35	5063.94
07/02/2004	PIX266WWWNENPIZZZZZ201	P61827	001	001355	NT	-220	35.35	-8100.53
07/02/2004	PIX266WWWNENPIZZZZZ201	P61827	001	001355	NT	211.39	35.35	7783.50
07/02/2004	PIX266WWWNENPIZZZZZ201	P61827	001	001355	NT	82.47	35.35	3036.59
07/27/2004	PIX266WWWNENPIZZZZZ201	P65301	002	003225	EA	4	3.79	15.77
07/27/2004	PIX266WWWNENPIZZZZZ201	P65301	001	003225	EA	1	10.77	11.20
07/29/2004	PIX266WWWNENPIZZZZZ201	P65339	001	003342	LG	4	30.40	126.66
							Expense Element: 201 Subtotal:	33063.26
							Total:	33063.26

7/13/13

Purchase Requisition Price Adjustments

Tran Dte	Acct Code	PO No	PO Item No	Supplier No	Price Adjusted	Qty Adj	Unit of Purchase	Tran Amt
Expense Element: 201	**Matl-Issues/Purchases**							
03/07/2002	PIX266WWWNENPIZZZZZ201	P34852	001	007008	0.00	0	RL	-11.40
12/16/2002	PIX266WWWNENPIZZZZZ201	P44283	001	001355	-1.00	0	EA	-41.67
							Expense Element: 201 Subtotal:	-53.07
							Total:	-53.07

Stock Material Transactions

Tran Dte	Acct Code	Stock Code	Qty	Unit of Issue	Item Name	Description	Tran Amt
Expense Element: 201	**Matl-Issues/Purchases**						
06/07/2002	PIX266WWWNENPIZZZZZ201	000154625	2	RL	TAPE, DUCT, S	3M HIGHLAND	15.84
07/16/2002	PIX266WWWNENPIZZZZZ201	000265165	0	FT	POLYSHEETIN	.006 MIL, 20' X 100'	0.00
10/08/2002	PIX266WWWNENPIZZZZZ201	000614612	-2	CL	CYLINDER, CO	SIZE: 220 CF. CYLINDER	-502.29
10/08/2002	PIX266WWWNENPIZZZZZ201	000614612	2	CL	CYLINDER, CO	SIZE: 220 CF. CYLINDER	502.29
10/08/2002	PIX266WWWNENPIZZZZZ201	000614610	1	CL	CYLINDER, CO	SIZE: 300 CF. CYLINDER	256.13
10/08/2002	PIX266WWWNENPIZZZZZ201	000247700	2	CL	GAS, COMPRE		28.45
10/08/2002	PIX266WWWNENPIZZZZZ201	000247668	1	CL	GAS, COMPRE		86.41
10/08/2002	PIX266WWWNENPIZZZZZ201	000614610	-1	CL	CYLINDER, CO	SIZE: 300 CF. CYLINDER	-256.13
10/10/2002	PIX266WWWNENPIZZZZZ201	000614612	0	CL	CYLINDER, CO	SIZE: 220 CF. CYLINDER	0.00

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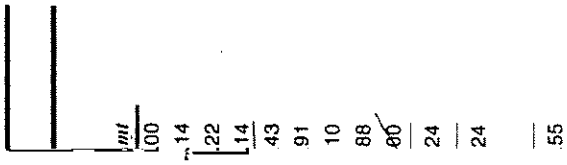
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1652 Work Order Detail / Summarized Labor Report

Report Parameters

District: P *Parent WO:* * *WO Number:* PR026815 *From Date:* 190001 *To Date:* 999912 *Show Emp Info:* No

Company: **HECO**

Parent WO: **PR000188**

Work Order: **PR026815** **K61 BFP VOLUTE CHANGEOUT**

Invoice Transactions

Tran Dte	Acct Code	Cat No	Supplier No	Inv No	Inv Item No	Inv Item Desc	Contract No	Portion No	Element No	Tran Amt
Expense Element: 205	**Matl-Purchasing Card**									
07/29/2002	PIT257K06NEP0000250205		000001	0031827	014	KAMAN INDUSTRIAL T				243.67
07/29/2002	PIT257K06NEP0000250205		000001	0031827	009	C AND F MACHINERY				189.58
									Expense Element: 205 Subtotal:	(a) 433.25
									Total:	433.25

Labor Costs

Process Pd	Tran Dte	Acct Code	Emp ID	Last Name	First Name	No of Hours	Tran Amt
Expense Element: 150	**Labor Cost**						
200205	05/20/2002	PIT257K06NEP0000250150				11.50	421.48
	05/20/2002	PIT257K06NEP0000250150				8.00	293.20
	05/20/2002	PIT257K06NEP0000250150				11.50	421.48
	05/20/2002	PIT257K06NEP0000250150				11.50	421.48
					Subtotal:	42.50	1557.64
200206	06/04/2002	PIT257K06NEP0000250150				3.00	109.95
	06/04/2002	PIT257K06NEP0000250150				8.00	293.20
	06/04/2002	PIT257K06NEP0000250150				8.00	293.20
	06/13/2002	PIT257K06NEP0000250150				1.00	36.65
	06/13/2002	PIT257K06NEP0000250150				2.00	73.30
	06/13/2002	PIT257K06NEP0000250150				2.00	73.30
	06/28/2002	PIT257K06NEP0000250150				3.00	109.95
	06/28/2002	PIT257K06NEP0000250150				4.00	146.60
	06/28/2002	PIT257K06NEP0000250150				4.00	146.60
	06/28/2002	PIT257K06NEP0000250150				4.00	146.60
					Subtotal:	39.00	1429.35
200207	07/10/2002	PIT257K06NEP0000250150				4.00	146.60
	07/10/2002	PIT257K06NEP0000250150				10.00	366.50
	07/10/2002	PIT257K06NEP0000250150				10.00	366.50

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1652 Work Order Detail / Summarized Labor Report

Report Parameters

District: P *Parent WO:* * *WO Number:* PR026815 *From Date:* 190001 *To Date:* 999912 *Show Emp Info:* No

Company: **HECO**

Labor Costs

Proccess Pd	Tran Dte	Acct Code	Emp ID	Last Name	First Name		No of Hours	Tran Amt
200205							0.00	116.04
200206							0.00	86.58
200207							0.00	297.48
					Expense Element: 406	Subtotal:	0.00	500.10
Expense Element: 421		**Non-Productive Wages**						
200205							0.00	200.19
200206							0.00	183.69
200207							0.00	631.14
					Expense Element: 421	Subtotal:	0.00	1015.02
Expense Element: 422		**Employee Benefits**						
200205							0.00	-45.05
200206							0.00	-64.35
200207							0.00	-221.10
					Expense Element: 422	Subtotal:	0.00	-330.50
Expense Element: 423		**Payroll Taxes**						
200205							0.00	121.46
200206							0.00	113.42
200207							0.00	395.67
					Expense Element: 423	Subtotal:	0.00	630.55
						Total:	215.50	10413.55

Stock Material Transactions

Tran Dte	Acct Code	Stock Code	Qty	Unit of Issue	Item Name	Description	Tran Amt
Expense Element: 201	**Matl-Issues/Purchases**						
05/11/2002	PIT257K06NEP0000250201	000366641	1	EA	O-RING, THRU	FOR PACIFIC BOILER FEED PUMP TYPE 6"	1.46
05/11/2002	PIT257K06NEP0000250201	000222406	1	EA	GASKET, SPIR	3-4-600#, FLEXITALLIC - NON-ASBESTOS	2.59
05/11/2002	PIT257K06NEP0000250201	000317206	1	EA	SEAL, COMPL	DWG. #CF-SP-39870, SIZE 4 1/4" SHAFT	2677.32
05/11/2002	PIT257K06NEP0000250201	000366385	4	EA	GASKET, INNE	FOR PACIFIC BOILER FEED PUMP 6" TYPE	545.85
05/11/2002	PIT257K06NEP0000250201	000366328	2	EA	GASKET, PAC	SIZE: 9-11/16 X 10-5/16 X 1/8	231.87
05/11/2002	PIT257K06NEP0000250201	000366666	1	EA	O-RING, THRU	FOR PACIFIC BOILER FEED PUMP TYPE 6"	7.29
05/11/2002	PIT257K06NEP0000250201	000366682	1	EA	ELEMENT, RO	MODEL#8U15 CASTING #MM74400	102174.91

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1652 Work Order Detail / Summarized Labor Report

Report Parameters

District: P *Parent WO:* * *WO Number:* PR026815 *From Date:* 190001 *To Date:* 999912 *Show Emp Info:* No

Company: **HECO**

Stock Material Transactions

Tran Dte	Acct Code	Stock Code	Qty	Unit of Issue	Item Name	Description	Tran Amt
05/11/2002	PIT257K06NEP0000250201	000366021	1	EA	GASKET, HEA	FOR PACIFIC BOILER FEED PUMP 6" TYPE	252.20
05/29/2002	PIT257K06NEP0000250201	000317206	1	EA	SEAL, COMPL	DWG. #CF-SP-39870, SIZE 4 1/4" SHAFT	2784.80
						Expense Element: 201 Subtotal: (a)	108678.29
						Total:	108678.29
						Work Order Total:	119525.09

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190001 *To Date:* 999912 *Show Emp Info:* No

No	Inv Item Desc	Contract No	Portion No	Element No	Tran Amt
	VALVE SERVICE & RE				79.04
	AIR LIQUIDE				325.87
	HYDRA-AIR PACIFIC				1587.67
	X-ERGON				296.87
	X-ERGON				249.64
	HYDRA-AIR PACIFIC				41.62
	Expense Element:		**205**	**Subtotal:**	(b) 2580.71
	K4 #41 BFP COVER, R				3216.65
	Expense Element:		**501**	**Subtotal:**	(b) 3216.65
				Total:	5797.36

First Name	No of Hours	Tran Amt
	8.00	260.72
	6.00	195.54
	2.00	65.18
	3.00	97.77
	2.00	65.18
	6.00	195.54
	4.50	146.66
	7.00	228.13
	8.00	260.72
	8.00	260.72
Subtotal:	54.50	1776.16
	8.00	274.40
	8.00	274.40

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1652 Work Order Detail / Summarized Labor Report

Report Parameters

District: P *Parent WO:* * *WO Number:* PR036464 *From Date:* 190001 *To Date:* 999912 *Show Emp Info:* No

Company: **HECO**

Labor Costs

Proccess Pd	Tran Dte	Acct Code	Emp ID	Last Name	First Name		No of Hours	Tran Amt
					Expense Element: 405	**Subtotal:**	0.00	2253.46
Expense Element: 406		**Corp Admin Expense**						
200310							0.00	136.25
200311							0.00	60.00
200401							0.00	771.65
					Expense Element: 406	**Subtotal:**	0.00	967.90
Expense Element: 421		**Non-Productive Wages**						
200310							0.00	303.57
200311							0.00	108.00
200401							0.00	1185.48
					Expense Element: 421	**Subtotal:**	0.00	1597.05
Expense Element: 422		**Employee Benefits**						
200310							0.00	453.44
200311							0.00	199.68
200401							0.00	2504.46
					Expense Element: 422	**Subtotal:**	0.00	3157.58
Expense Element: 423		**Payroll Taxes**						
200310							0.00	150.66
200311							0.00	75.28
200401							0.00	856.70
200402							0.00	10.87
					Expense Element: 423	**Subtotal:**	0.00	1093.51
						Total:	345.50	22007.25

Manual Journal Vouchers

Tran Dte	Acct Code	Voucher No	Description	Accountant Code	Qty Amt	Tran Amt
Expense Element: 201		**Matl-Issues/Purchases**				
10/22/2003	PIL259K04NEP	0000655201	ON COST CHG TO: 069110/008	HWB900	0	34.86
10/22/2003	PIL259K04NEP	0000655201	ON COST CHG TO: 069110/002	HWB900	0	24.70
10/22/2003	PIL259K04NEP	0000655201	ON COST CHG TO: 069110/001	HWB900	0	34.72
10/22/2003	PIL259K04NEP	0000655201	ON COST CHG TO: 069110/007	HWB900	0	28.37

1652 Work Order Detail / Summarized Labor Report

Report Parameters

District: P *Parent WO:* * *WO Number:* PR036464 *From Date:* 190001 *To Date:* 999912 *Show Emp Info:* No

Company: **HECO**

Manual Journal Vouchers

Tran Dte	Acct Code	Voucher No	Description	Accountant Code	Qty Amt	Tran Amt
10/22/2003	PIL259K04NEP0000655201		ON COST CHG TO: 069110/003	HWB900	0	17.79
10/22/2003	PIL259K04NEP0000655201		ON COST CHG TO: 069110/004	HWB900	0	22.37
10/22/2003	PIL259K04NEP0000655201		ON COST CHG TO: 069110/006	HWB900	0	17.91
10/22/2003	PIL259K04NEP0000655201		ON COST CHG TO: 069110/005	HWB900	0	17.54
01/15/2004	PIT259K04NEP0000655201		ON COST CHG TO: 074363/002	HWB900	0	10.04
01/15/2004	PIT259K04NEP0000655201		ON COST CHG TO: 074363/001	HWB900	0	9.65
01/15/2004	PIT259K04NEP0000655201		ON COST CHG TO: 074363/003	HWB900	0	16.28
01/23/2004	PIT259K04NEP0000655201		ON COST CHG TO: 074293/001	HWB900	0	9.93
01/28/2004	PIT259K04NEP0000655201		ON COST CHG TO: 074670/001	HWB900	0	116.91
02/03/2004	PIT259K04NEP0000655201		ON COST CHG TO: 074432/001	HWB900	0	378.93
02/20/2004	PIT259K04NEP0000655201		ON COST CHG TO: 075231/001	HWB900	0	1214.82
03/12/2004	PIT259K04NEP0000655201		ON COST CHG TO: 075233/001	HWB900	0	668.71
				Expense Element: 201	**Subtotal:**	(b) 2623.53
					Total:	2623.53

Purchase Requisition Order Receipts

Tran Dte	Acct Code	PO No	PO Item No	Supplier No	Unit of Purch	Qty	Net Price	Tran Amt
Expense Element: 201	**Matl-Issues/Purchases**							
10/22/2003	PIL259K04NEP0000655201	P54311	005	003623	EA	1	118.09	123.00
10/22/2003	PIL259K04NEP0000655201	P54311	004	003623	EA	1	150.63	156.90
10/22/2003	PIL259K04NEP0000655201	P54311	003	003623	EA	1	119.75	124.73
10/22/2003	PIL259K04NEP0000655201	P54311	006	003623	EA	1	120.59	125.61
10/22/2003	PIL259K04NEP0000655201	P54311	008	003623	EA	1	234.68	244.44
10/22/2003	PIL259K04NEP0000655201	P54311	007	003623	EA	1	191.01	198.96
10/22/2003	PIL259K04NEP0000655201	P54311	002	003623	EA	1	166.31	173.23
10/22/2003	PIL259K04NEP0000655201	P54311	001	003623	EA	1	233.77	243.49
01/15/2004	PIT259K04NEP0000655201	P58264	003	001153	LB	24	5.19	129.74
01/15/2004	PIT259K04NEP0000655201	P58264	002	001153	LB	20	3.84	79.99
01/15/2004	PIT259K04NEP0000655201	P58264	001	001153	LB	20	3.69	76.87
01/23/2004	PIT259K04NEP0000655201	P58201	001	001153	LB	20	3.80	79.16
01/28/2004	PIT259K04NEP0000655201	P58565	001	021788	EA	2	447.16	931.52
02/03/2004	PIT259K04NEP0000655201	P58332	001	005730	EA	1	3400.00	3541.44
02/20/2004	PIT259K04NEP0000655201	P59157	001	005730	EA	1	10900.00	11353.44

1652 Work Order Detail / Summarized Labor Report

Report Parameters

District: P *Parent WO:* * *WO Number:* PR036464 *From Date:* 190001 *To Date:* 999912 *Show Emp Info:* No

Company: **HECO**

Purchase Requisition Order Receipts

Tran Dte	Acct Code	PO No	PO Item No	Supplier No	Unit of Purch	Qty	Net Price	Tran Amt
02/26/2004	PIT259K04NEP0000655201	P59134	001	003580	EA	4	1500.00	6249.60
						Expense Element: 201	Subtotal:	(b) 23832.12
							Total:	23832.12

Stock Material Transactions

Tran Dte	Acct Code	Stock Code	Qty	Unit of Issue	Item Name	Description	Tran Amt
Expense Element: 201	**Matl-Issues/Purchases**						
10/22/2003	PIL259K04NEP0000655201	000617761	1	EA	SEAL, MECH, 3	TYPE 81B CARTRIDGE, FOR USE IN	4020.59
10/22/2003	PIL259K04NEP0000655201	000617779	1	EA	SEAL, MECH, 3	SEAL TYPE 8B1 FOR USE IN KAHE1 -2 -3 - 4	4029.65
11/14/2003	PIT259K04NEP0000655201	000333385	1	EA	ELEMENT, RO	FOR BYRON JACKSON BOILER FEED PUMP	166205.53
11/20/2003	PIT259K04NEP0000655201	000332981	1	EA	GASKET, TAK	REF #744-11, BYRON JACKSON BOILER FEED	15.80
11/20/2003	PIT259K04NEP0000655201	000617761	1	EA	SEAL, MECH, 3	TYPE 81B CARTRIDGE, FOR USE IN	4020.59
11/20/2003	PIT259K04NEP0000655201	000332965	1	EA	GASKET, SLEE	BYRON JACKSON, SIZE 1/3 X 2-3/8 X1-15/16	27.63
11/20/2003	PIT259K04NEP0000655201	000332940	1	EA	GASKET, BLIN	FLEXITALLIC, REF. # 744-9, SIZE 1-7/8"	32.69
11/20/2003	PIT259K04NEP0000655201	000321588	1	EA	SLEEVE, SEAL	POLYPROPOLENE O-RING, FOR 6 X 10-1/4, 14	18.18
11/20/2003	PIT259K04NEP0000655201	000617779	1	EA	SEAL, MECH, 3	SEAL TYPE 8B1 FOR USE IN KAHE1 -2 -3 - 4	4029.65
11/20/2003	PIT259K04NEP0000655201	000333302	1	EA	GASKET, FLEX	STYLE R-3, NON-ASBESTOS, 150-LB PIP SIZE	10.27
11/21/2003	PIT259K04NEP0000655201	000333146	1	EA	O-RING, COVE	ETHYLENE PROPYLENE PARKER SPEC. E515-8	19.94
11/25/2003	PIT259K04NEP0000655201	000238980	1	EA	NIPPLE, PIPE,		3.86
11/25/2003	PIT259K04NEP0000655201	000238444	2	EA	BUSHING, PIP	THREADED	1.57
11/25/2003	PIT259K04NEP0000655201	000238485	1	EA	BUSHING, PIP	THREADED	1.44
11/25/2003	PIT259K04NEP0000655201	000238022	1	EA	TEE, PIPE, BR	125 PSI, ANSI B16.15	1.82
01/09/2004	PIT259K04NEP0000655201	000333187	1	EA	ADAPTER, CO	FOR BYRON JACKSON BOILER FEED PUMP, TYP	15454.03
01/12/2004	PIT259K04NEP0000655201	000333187	-1	EA	ADAPTER, CO	FOR BYRON JACKSON BOILER FEED PUMP, TYP	-15454.03
01/15/2004	PIT259K04NEP0000655201	000333088	1	EA	TUBE, TAKEO	SER.#3378531, REF #620. FOR BYRON	4077.33
01/15/2004	PIT259K04NEP0000655201	000243709	29	FT	TUBING, 1/2" X	STEEL	95.19
01/15/2004	PIT259K04NEP0000655201	000268061	1	PL	CLEANER, LIQ	SIMPLE GREEN, SIZE: 5 GALLON PAIL	68.58
01/15/2004	PIT259K04NEP0000655201	000238147	1	EA	PLUG, PIPE, B		0.72
01/15/2004	PIT259K04NEP0000655201	000232363	3	EA	PLUG, PIPE, 1	GALVANIZED STEEL, MALLEABLE IRON	2.73
01/15/2004	PIT259K04NEP0000655201	000155200	1	EA	SEALANT, AD	SIZE: 11 OZ.	8.79
01/16/2004	PIT259K04NEP0000655201	000373266	6	EA	COVERALL, BL		182.88
01/16/2004	PIT259K04NEP0000655201	000333187	1	EA	ADAPTER, CO	FOR BYRON JACKSON BOILER FEED PUMP, TYP	15454.03

1652 Work Order Detail / Summarized Labor Report

Report Parameters

District: P *Parent WO:* * *WO Number:* PR036464 *From Date:* 190001 *To Date:* 999912 *Show Emp Info:* No

Company: **HECO**

Stock Material Transactions

Tran Dte	Acct Code	Stock Code	Qty	Unit of Issue	Item Name	Description	Tran Amt
01/17/2004	PIT259K04NEP0000655201	000224022	1	BX	INSULATION,	4' X 15'. (60 SQ FT PER BOX)	214.71
01/22/2004	PIT259K04NEP0000655201	000247925	2	PR	GLOVES, WEL	ALL LEATHER, LONG 5-FINGER	33.98
02/20/2004	PIT259K04NEP0000655201	000333187	-1	EA	ADAPTER, CO	FOR BYRON JACKSON BOILER FEED PUMP, TYP	-15200.01
02/28/2004	PIT259K04NEP0000655201	000617761	1	EA	SEAL, MECH, 3	TYPE 81B CARTRIDGE, FOR USE IN	4362.59
02/28/2004	PIT259K04NEP0000655201	000617779	1	EA	SEAL, MECH, 3	SEAL TYPE 8B1 FOR USE IN KAHE1 -2 -3 - 4	4368.43

Expense Element: 201 **Subtotal:** (b) 196109.16

Total: 196109.16

Work Order Total: 250369.42

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1652 Work Order Detail / Summarized Labor Report

Report Parameters

District: P *Parent WO:* * *WO Number:* PR037578 *From Date:* 190001 *To Date:* 999912 *Show Emp Info:* No

Company: **HECO**

Parent WO: **PR000229**

Work Order: **PR037578** **K51 BOILER FEED PUMP - Service**

Invoice Transactions

Tran Dte	Acct Code	Cat No	Supplier No	Inv No	Inv Item No	Inv Item Desc	Contract No	Portion No	Element No	Tran Amt
Expense Element: 205	**Matl-Purchasing Card**									
02/19/2004	PIT260K05NEP0000519205		000001	0031827	006	PRECISION MACHINE				421.16
									Expense Element: 205 Subtotal:	421.16
									Total:	421.16

Labor Costs

Proccess Pd	Tran Dte	Acct Code	Emp ID	Last Name	First Name	No of Hours	Tran Amt
Expense Element: 150		**Labor Cost**					
200403	03/21/2004	PIT260K05NEP0000519150				2.00	72.04
	03/21/2004	PIT260K05NEP0000519150				2.00	72.04
	03/21/2004	PIT260K05NEP0000519150				2.00	72.04
	03/21/2004	PIT260K05NEP0000519150				2.00	72.04
	03/21/2004	PIT260K05NEP0000519150				2.00	72.04
	03/22/2004	PIT260K05NEP0000519150				2.00	72.04
					Subtotal:	12.00	432.24
					Expense Element: 150 Subtotal:	12.00	432.24
Expense Element: 155		**Labor True-up**					
200403						0.00	26.87
200404						0.00	3.42
					Expense Element: 155 Subtotal:	0.00	30.29
Expense Element: 405		**Power Supply**					
200403						0.00	74.88
					Expense Element: 405 Subtotal:	0.00	74.88
Expense Element: 406		**Corp Admin Expense**					
200403						0.00	32.88
					Expense Element: 406 Subtotal:	0.00	32.88
Expense Element: 421		**Non-Productive Wages**					

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Kahe Blr Fd Pump E.(a) = 2,134
Non-Lab

1652 Work Order Detail / Summarized Labor Report

Report Parameters

District: P *Parent WO:* * *WO Number:* PR037580 *From Date:* 190001 *To Date:* 999912 *Show Emp Info:* No

Company: **HECO**

Purchase Requisition Order Receipts

Tran Dte	Acct Code	PO No	PO Item No	Supplier No	Unit of Purch	Qty	Net Price	Tran Amt
02/24/2004	PIT260K05NEP0000519201	P59372	009	010545	EA	1	112.49	116.99
02/27/2004	PIT260K05NEP0000519201	P59372	010	010545	EA	1	157.95	164.27
							Expense Element: 201 Subtotal:	1518.63
							Total:	1518.63

Stock Material Transactions

Tran Dte	Acct Code	Stock Code	Qty	Unit of Issue	Item Name	Description	Tran Amt
Expense Element: 201	**Matl-Issues/Purchases**						
05/07/2004	PIT260K05NEP0000519201	000233486	2	EA	NIPPLE, PIPE,	SCH. 40, ASTM A106, GR. A, SEAMLESS,	2.75
05/07/2004	PIT260K05NEP0000519201	000273581	2	EA	VALVE, GATE,	THREADED	28.69
						Expense Element: 201 Subtotal:	31.44
						Total:	31.44

Work Order Total: 3619.43

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1652 Work Order Detail / Summarized Labor Report

Report Parameters

District: P *Parent WO:* * *WO Number:* PR028199 *From Date:* 190001 *To Date:* 999912 *Show Emp Info:* No

Company: **HECO**

Parent WO: **PR000192**

Work Order: **PR028199** **W51 BOILER FEED PUMP - SERVICE**

Invoice Transactions

Tran Dte	Acct Code	Cat No	Supplier No	Inv No	Inv Item No	Inv Item Desc	Contract No	Portion No	Element No	Tran Amt
Expense Element: 201	**Matl-Issues/Purchases**									
11/18/2002	PIT257W05NEP0000252201		003623	0007675	009	LABOR TO ASSEMBLE				21.71
									Expense Element: 201 Subtotal:	(d) 21.71
Expense Element: 205	**Matl-Purchasing Card**									
12/16/2002	PIT257W05NEP0000252205		000001	1525857	001	HYDRA-AIR PACIFIC				454.09
04/25/2003	PIT257W05NEP0000252205		000001	0031827	001	PRECISION MACHINE				346.48
									Expense Element: 205 Subtotal:	(d) 800.57
									Total:	822.28

Labor Costs

Proccess Pd	Tran Dte	Acct Code	Emp ID	Last Name	First Name	No of Hours	Tran Amt
Expense Element: 150		**Labor Cost**					
200210	10/21/2002	PIT257W05NEP0000252150				1.00	37.58
					Subtotal:	1.00	37.58
					Expense Element: 150 Subtotal:	1.00	37.58
Expense Element: 155		**Labor True-up**					
200210						0.00	9.20
					Expense Element: 155 Subtotal:	0.00	9.20
Expense Element: 405		**Power Supply**					
200210						0.00	3.60
					Expense Element: 405 Subtotal:	0.00	3.60
Expense Element: 406		**Corp Admin Expense**					
200210						0.00	1.23
					Expense Element: 406 Subtotal:	0.00	1.23
Expense Element: 421		**Non-Productive Wages**					
200210						0.00	3.88

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Waiau BFP - 2002 - Non Labor & (d) 1,133

1652 Work Order Detail / Summarized Labor Report

Report Parameters

District: P *Parent WO:* * *WO Number:* PR028199 *From Date:* 190001 *To Date:* 999912 *Show Emp Info:* No

Company: **HECO**

Labor Costs

Proccess Pd	Tran Dte	Acct Code	Emp ID	Last Name	First Name	No of Hours	Tran Amt
					Expense Element: 421 Subtotal:	0.00	3.88
Expense Element: 422		**Employee Benefits**					
200210						0.00	-0.99
					Expense Element: 422 Subtotal:	0.00	-0.99
Expense Element: 423		**Payroll Taxes**					
200210						0.00	3.12
					Expense Element: 423 Subtotal:	0.00	3.12
					Total:	1.00	57.62

Manual Journal Vouchers

Tran Dte	Acct Code	Voucher No	Description	Accountant Code	Qty Amt	Tran Amt
Expense Element: 201	**Matl-Issues/Purchases**					
11/02/2002	PIT257W05NEP0000252201		ON COST CHG TO: 057007/008	HWB900	0	2.50
11/02/2002	PIT257W05NEP0000252201		ON COST CHG TO: 057007/006	HWB900	0	7.21
11/02/2002	PIT257W05NEP0000252201		ON COST CHG TO: 057007/002	HWB900	0	5.24
11/02/2002	PIT257W05NEP0000252201		ON COST CHG TO: 057007/005	HWB900	0	4.16
11/02/2002	PIT257W05NEP0000252201		ON COST CHG TO: 057007/003	HWB900	0	0.81
11/02/2002	PIT257W05NEP0000252201		ON COST CHG TO: 057007/004	HWB900	0	12.92
11/02/2002	PIT257W05NEP0000252201		ON COST CHG TO: 057007/007	HWB900	0	1.91
11/02/2002	PIT257W05NEP0000252201		ON COST CHG TO: 057007/001	HWB900	0	11.24
				Expense Element: 201	**Subtotal:** d	45.99
					Total:	45.99

Purchase Requisition Order Receipts

Tran Dte	Acct Code	PO No	PO Item No	Supplier No	Unit of Purch	Qty	Net Price	Tran Amt
Expense Element: 201	**Matl-Issues/Purchases**							
11/01/2002	PIT257W05NEP0000252201	P44216	004	003623	EA	8	17.88	74.50
11/01/2002	PIT257W05NEP0000252201	P44216	003	003623	EA	2	4.48	4.67
11/01/2002	PIT257W05NEP0000252201	P44216	006	003623	EA	8	9.97	41.56
11/01/2002	PIT257W05NEP0000252201	P44216	005	003623	IN	144	0.32	24.00
11/01/2002	PIT257W05NEP0000252201	P44216	002	003623	EA	6	9.67	30.21
11/01/2002	PIT257W05NEP0000252201	P44216	001	003623	IN	143	0.87	64.80

1652 Work Order Detail / Summarized Labor Report

Report Parameters

District: P *Parent WO:* * *WO Number:* PR028199 *From Date:* 190001 *To Date:* 999912 *Show Emp Info:* No

Company: **HECO**

Purchase Requisition Order Receipts

Tran Dte	Acct Code	PO No	PO Item No	Supplier No	Unit of Purch	Qty	Net Price	Tran Amt
11/01/2002	PIT257W05NEP0000252201	P44216	008	003623	EA	2	13.83	14.41
11/01/2002	PIT257W05NEP0000252201	P44216	007	003623	EA	6	3.52	11.00
						Expense Element: 201	Subtotal:	(1d) 265.15
							Total:	265.15
						Work Order Total:		1191.04

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nmarized Labor Report

O Number: PR041593 From Date: 190001 To Date: 999912 Show Emp Info: No

- SERVICE

Cat No	Supplier No	Inv No	Inv Item No	Inv Item Desc	Contract No	Portion No	Element No	Tran Amt
ng Card								
	000001	1525857	013	INDUSTRIAL HARDWA				21.29
					Expense Element: 205		Subtotal:	21.29
							Total:	(e) 21.29

Emp ID	Last Name	First Name		No of Hours	Tran Amt
0521150				1.00	36.02
0521150				1.00	36.02
			Subtotal:	2.00	72.04
0521150				8.00	288.16
0521150				8.00	253.60
0521150				8.00	288.16
0521150				8.00	288.16
0521150				8.00	288.16
0521150				5.00	180.10
0521150				10.00	360.20
0521150				8.00	253.60
0521150				10.00	360.20
0521150				10.00	360.20
0521150				4.00	135.04
			Subtotal:	87.00	3055.58
		Expense Element: 150	Subtotal:	89.00	3127.62
				0.00	0.37
				0.00	286.43

4 - Non-Labor E (e) 1,125

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1652 Work Order Detail / Summarized Labor Report

Report Parameters

District: P *Parent WO:* * *WO Number:* PR041593 *From Date:* 190001 *To Date:* 999912 *Show Emp Info:* No

Company: **HECO**

Labor Costs

Process Pd	Tran Dte	Acct Code	Emp ID	Last Name	First Name		No of Hours	Tran Amt
					Expense Element: 155	Subtotal:	0.00	286.80
Expense Element: 405		**Power Supply**						
200409							0.00	11.28
200410							0.00	581.16
					Expense Element: 405	Subtotal:	0.00	592.44
Expense Element: 406		**Corp Admin Expense**						
200409							0.00	3.32
200410							0.00	144.42
					Expense Element: 406	Subtotal:	0.00	147.74
Expense Element: 421		**Non-Productive Wages**						
200409							0.00	8.56
200410							0.00	372.36
					Expense Element: 421	Subtotal:	0.00	380.92
Expense Element: 422		**Employee Benefits**						
200409							0.00	8.46
200410							0.00	368.01
					Expense Element: 422	Subtotal:	0.00	376.47
Expense Element: 423		**Payroll Taxes**						
200409							0.00	5.79
200410							0.00	267.35
					Expense Element: 423	Subtotal:	0.00	273.14
						Total:	89.00	5185.13

Stock Material Transactions

Tran Dte	Acct Code	Stock Code	Qty	Unit of Issue	Item Name	Description	Tran Amt
Expense Element: 201	**Matl-Issues/Purchases**						
10/27/2004	PIT261W08NEP0000521201	000621599	12	EA	LUBRICANT, A		287.05
10/27/2004	PIT261W08NEP0000521201	000370007	12	EA	BRUSH, WIRE	12/BOX	199.16
10/27/2004	PIT261W08NEP0000521201	000370023	10	EA	BRUSH, CIRCU		222.87
10/27/2004	PIT261W08NEP0000521201	000247700	1	CL	GAS, COMPRE		15.07

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1652 Work Order Detail / Summarized Labor Report

Report Parameters

District: P *Parent WO:* * *WO Number:* PR041593 *From Date:* 190001 *To Date:* 999912 *Show Emp Info:* No

Company: **HECO**

Stock Material Transactions

Tran Dte	Acct Code	Stock Code	Qty	Unit of Issue	Item Name	Description	Tran Amt
10/27/2004	PIT261W08NEP0000521201	000614612	1	CL	CYLINDER, CO	SIZE: 220 CF. CYLINDER	257.13
10/27/2004	PIT261W08NEP0000521201	000161323	2	EA	GAUGE, PRES	SAFETY GLASS.	100.28
10/27/2004	PIT261W08NEP0000521201	000238402	2	EA	BUSHING, PIP	THREADED	1.11
10/28/2004	PIT261W08NEP0000521201	000595421	1	EA	HARDHAT, YE	SUSPENSION	11.90
10/31/2004	PIT261W08NEP0000521201	000229146	2	EA	NIPPLE, THRE	SCREWED, SCH. 80, SEAMLESS, ASTM A-106,	2.25
10/31/2004	PIT261W08NEP0000521201	000227363	2	EA	COUPLING, E.	3000#, FORGED STEEL, THREADED	1.59
10/31/2004	PIT261W08NEP0000521201	000237347	1	EA	GASKET, FLEX	SIZE:1-1/2" ID X 2" OD X 1/8" THK	5.19
						Expense Element: 201 Subtotal:	(e) 1103.60
						Total:	1103.60
						Work Order Total:	6310.02

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1652 Work Order Detail / Summarized Labor Report

Report Parameters

District: P *Parent WO:* * *WO Number:* PR039258 *From Date:* 190001 *To Date:* 999912 *Show Emp Info:* No

Company: **HECO**

Parent WO: **PR000227**

Work Order: **PR039258** **K5 BOILER CHEMICAL CLEANING 4/04**

Invoice Transactions

Tran Dte	Acct Code	Cat No	Supplier No	Inv No	Inv Item No	Inv Item Desc	Contract No	Portion No	Element No	Tran Amt
Expense Element: 201	**Matl-Issues/Purchases**									
04/20/2004	PIT258K05NEP0000519201		001761	6400650	001	Fill (2) Ammonia totes				312.50
05/28/2004	PIT258K05NEP0000519201		001153	1285029	001	RENTAL OF RACKS - $				176.00
05/28/2004	PIT258K05NEP0000519201		001153	1285029	004	HAZMAT CHARGES				12.50
06/17/2004	PIT258K05NEP0000519201		001761	6400672	001	ITMS RTND, ONLY PA				-981.09
06/17/2004	PIT258K05NEP0000519201		001761	6400657	001	ITEMS RTND/ONLY PA				1308.12
07/27/2004	PIT258K05NEP0000519201		003623	0012026	005	ASSY Y10 KN ASSEMB				89.51
08/16/2004	PIT258K05NEP0000519201		E08952	2004072	001	EMPLOYEE REIMBUR				206.96
						Expense Element: 201			**Subtotal:**	(f) 1124.50
Expense Element: 205	**Matl-Purchasing Card**									
05/25/2004	PIT258K05NEP0000519205		000001	1576521	003	VALVE SERVICE & RE				34.20
05/25/2004	PIT258K05NEP0000519205		000001	1197592	003	RASKO SUPPLY COM				585.79
05/25/2004	PIT258K05NEP0000519205		000001	1576521	002	MC FERNE SALES CO				255.84
05/25/2004	PIT258K05NEP0000519205		000001	1576521	005	VALVE SERVICE & RE				405.49
05/25/2004	PIT258K05NEP0000519205		000001	1576521	006	VALVE SERVICE & RE				36.40
05/25/2004	PIT258K05NEP0000519205		000001	1512486	003	VALVE SERVICE & RE				150.80
05/25/2004	PIT258K05NEP0000519205		000001	1576521	004	NAPA AUTO PARTS C				26.17
						Expense Element: 205			**Subtotal:**	(f) 1494.69
Expense Element: 501	**Outside Svcs-General**									
05/10/2004	PIT258K05NEP0000519501		003260	HECO4-0	001	K-5 OH 3 EA CONTRA				19010.47
05/13/2004	PIT258K05NEP0000519501		020777	45042	001	K-5 BCC, Q-RAE GAS				736.00
05/13/2004	PIT258K05NEP0000519501		020777	45042	001	K-5 BCC, Q-RAE GAS				29.44
06/21/2004	PIT258K05NEP0000519501		019871	11432	001	K5 BCC, (4 EA) FRAC T				10231.44
08/03/2004	PIT258K05NEP0000519501		014470	0002911	001	K5 OH BOILER CHEMI				708.40
08/03/2004	PIT258K05NEP0000519501		014470	0002911	001	K5 OH BOILER CHEMI				17710.00
08/23/2004	PIT258K05NEP0000519501		019871	11441	001	K5 HYDROBLAST CLO				727.81
08/31/2004	PIT258K05NEP0000519501		014470	0002911	001	K-5 OH BOILER CHEM				29257.63
08/31/2004	PIT258K05NEP0000519501		014470	0002911	001	K-5 OH BOILER CHEM				1170.31

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K5 Chem Cln - Σ @ 147,759
Non-Labor

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zed Labor Report

R039258 *From Date:* 190001 *To Date:* 999912 *Show Emp Info:* No

Supplier No	Inv No	Inv Item No	Inv Item Desc	Contract No	Portion No	Element No	Tran Amt
				Expense Element: 501		Subtotal:	79581.50
						Total:	82200.69

Emp ID	Last Name	First Name	No of Hours	Tran Amt
			6.00	196.44
			4.00	130.96
			6.00	196.44
			8.00	261.92
			2.00	63.40
			1.00	31.70
			2.00	63.40
			2.00	65.48
			1.00	31.70
			2.00	63.40
			2.00	65.48
			1.00	31.70
			2.00	63.40
			1.00	31.70
			1.00	31.70
			4.00	130.96
			7.00	221.90
			2.00	65.48
			5.00	158.50
			5.00	158.50
			8.00	253.60
			6.00	190.20
		Subtotal:	78.00	2507.96
			8.00	253.60
			2.00	63.40
			6.00	190.20

1652 Work Order Detail / Summarized Labor Report

Report Parameters

District: P Parent WO: * WO Number: PR039258 From Date: 190001 To Date: 999912 Show Emp Info: No

Company: HECO

Labor Costs

Proccess Pd	Tran Dte	Acct Code	Emp ID	Last Name	First Name	No of Hours	Tran Amt
200403						0.00	213.40
200404						0.00	4188.37
200405						0.00	1009.47
200406						0.00	0.03
					Expense Element: 423 Subtotal:	0.00	5411.27
					Total:	1685.00	101489.54

Manual Journal Vouchers

Tran Dte	Acct Code	Voucher No	Description	Accountant Code	Qty Amt	Tran Amt
Expense Element: 201	**Matl-Issues/Purchases**					
03/15/2004	PIT258K05NEP0000519201		ON COST CHG TO: 076981/001	HWB900	0	306.07
03/24/2004	PIT258K05NEP0000519201		ON COST CHG TO: 077370/002	HWB900	0	7.17
03/25/2004	PIT258K05NEP0000519201	P000027987	ON COST CHG TO: 077360/004	HWB900	0	10.20
03/25/2004	PIT258K05NEP0000519201		ON COST CHG TO: 077360/002	HWB900	0	340.52
03/25/2004	PIT258K05NEP0000519201		ON COST CHG TO: 077360/007	HWB900	0	10.32
03/25/2004	PIT258K05NEP0000519201		ON COST CHG TO: 077370/001	HWB900	0	7.96
03/25/2004	PIT258K05NEP0000519201		ON COST CHG TO: 077360/011	HWB900	0	0.91
03/25/2004	PIT258K05NEP0000519201		ON COST CHG TO: 077405/003	HWB900	0	9.23
03/25/2004	PIT258K05NEP0000519201		ON COST CHG TO: 077405/001	HWB900	0	17.57
03/25/2004	PIT258K05NEP0000519201		ON COST CHG TO: 077360/016	HWB900	0	1.91
03/25/2004	PIT258K05NEP0000519201		ON COST CHG TO: 077360/014	HWB900	0	2.95
03/25/2004	PIT258K05NEP0000519201		ON COST CHG TO: 077360/013	HWB900	0	3.65
03/25/2004	PIT258K05NEP0000519201		ON COST CHG TO: 077360/011	HWB900	0	0.91
03/25/2004	PIT258K05NEP0000519201		ON COST CHG TO: 077360/012	HWB900	0	3.75
03/25/2004	PIT258K05NEP0000519201		ON COST CHG TO: 077360/006	HWB900	0	2.22
03/25/2004	PIT258K05NEP0000519201		ON COST CHG TO: 077360/010	HWB900	0	2.54
03/25/2004	PIT258K05NEP0000519201		ON COST CHG TO: 077360/008	HWB900	0	283.18
03/25/2004	PIT258K05NEP0000519201		ON COST CHG TO: 077360/003	HWB900	0	18.51
03/25/2004	PIT258K05NEP0000519201		ON COST CHG TO: 077360/015	HWB900	0	0.79
03/25/2004	PIT258K05NEP0000519201		ON COST CHG TO: 077360/017	HWB900	0	2.31
03/25/2004	PIT258K05NEP0000519201		ON COST CHG TO: 077405/004	HWB900	0	9.82
03/25/2004	PIT258K05NEP0000519201		ON COST CHG TO: 077360/005	HWB900	0	14.16
03/25/2004	PIT258K05NEP0000519201		ON COST CHG TO: 077360/001	HWB900	0	283.76

: 999912 *Show Emp Info:* No

ccountant Code	Qty Amt	Tran Amt
WB900	0	2.51
WB900	0	316.04
WB900	0	17.00
WB900	0	1.36
WB900	0	9.93
WB900	0	0.32
WB900	0	1.09
WB900	0	2.79
WB900	0	6.22
WB900	0	2.90
WB900	0	3.68
WB900	0	539.65
WB900	0	161.60
WB900	0	91.86
WB900	0	214.10
WB900	0	91.86
WB900	0	49.48
WB900	0	38.79
WB900	0	17.00
WB900	0	9.23
WB900	0	32.83
WB900	0	91.86
WB900	0	-91.86
WB900	0	49.48
WB900	0	316.52
WB900	0	45.93
WB900	0	-45.93
WB900	0	109.97
WB900	0	73.32
WB900	0	22.97
WB900	0	-68.90
WB900	0	9.36
WB900	0	6.09

Order Detail / Summarized Labor Report

Parent WO: * *WO Number:* PR039258 *From Date:* 190001 *To Date:* 999912 *Show Emp Info:* No

l Journal Vouchers

e	Acct Code	Voucher No	Description	Accountant Code	Qty Amt	Tran Amt
004	PIT258K05NEP0000519201		ON COST CHG TO: 079226/005	HWB900	0	10.80
004	PIT258K05NEP0000519201		ON COST CHG TO: 079226/006	HWB900	0	10.80
004	PIT258K05NEP0000519201		ON COST CHG TO: 079226/003	HWB900	0	5.48
004	PIT258K05NEP0000519201		ON COST CHG TO: 078806/002	HWB900	0	3.04
004	PIT258K05NEP0000519201		ON COST CHG TO: 079226/001	HWB900	0	24.07
004	PIT258K05NEP0000519201		ON COST CHG TO: 079226/002	HWB900	0	58.85
004	PIT258K05NEP0000519201		ON COST CHG TO: 078446/002	HWB900	0	198.14
004	PIT258K05NEP0000519201	P000029169	ON COST CHG TO: 079183/001	HWB900	0	-73.32
004	PIT258K05NEP0000519201		ON COST CHG TO: 076839/001	HWB900	0	-91.86
004	PIT258K05NEP0000519201		ON COST CHG TO: 076840/001	HWB900	0	323.12
004	PIT258K05NEP0000519201		ON COST CHG TO: 079183/002	HWB900	0	73.32
004	PIT258K05NEP0000519201		ON COST CHG TO: 078446/001	HWB900	0	60.85
004	PIT258K05NEP0000519201		ON COST CHG TO: 078446/001	HWB900	0	-139.96
004	PIT258K05NEP0000519201		ON COST CHG TO: 078806/004	HWB900	0	7.16
004	PIT258K05NEP0000519201		ON COST CHG TO: 078806/003	HWB900	0	13.82
004	PIT258K05NEP0000519201		ON COST CHG TO: 078446/001	HWB900	0	36.45
004	PIT258K05NEP0000519201		ON COST CHG TO: 078806/005	HWB900	0	13.80
004	PIT258K05NEP0000519201		ON COST CHG TO: 078806/007	HWB900	0	38.80
004	PIT258K05NEP0000519201	P000030388	ON COST CHG TO: 079609/001	HWB900	0	415.83
004	PIT258K05NEP0000519201		ON COST CHG TO: 081148/001	HWB900	0	107.42
004	PIT258K05NEP0000519201		ON COST CHG TO: 081148/006	HWB900	0	19.94
004	PIT258K05NEP0000519201		ON COST CHG TO: 081148/010	HWB900	0	1.00
004	PIT258K05NEP0000519201		ON COST CHG TO: 081148/013	HWB900	0	16.09
004	PIT258K05NEP0000519201		ON COST CHG TO: 081148/007	HWB900	0	12.25
004	PIT258K05NEP0000519201		ON COST CHG TO: 081148/014	HWB900	0	3.05
004	PIT258K05NEP0000519201		ON COST CHG TO: 081148/009	HWB900	0	2.85
004	PIT258K05NEP0000519201		ON COST CHG TO: 081148/015	HWB900	0	2.98
004	PIT258K05NEP0000519201		ON COST CHG TO: 081148/011	HWB900	0	1.59
004	PIT258K05NEP0000519201		ON COST CHG TO: 081148/004	HWB900	0	5.37
004	PIT258K05NEP0000519201		ON COST CHG TO: 081148/002	HWB900	0	45.55
004	PIT258K05NEP0000519201		ON COST CHG TO: 081148/016	HWB900	0	2.57
004	PIT258K05NEP0000519201		ON COST CHG TO: 081148/012	HWB900	0	18.07
004	PIT258K05NEP0000519201		ON COST CHG TO: 081148/003	HWB900	0	26.87

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1652 Work Order Detail / Summarized Labor Report

Report Parameters

District: P *Parent WO:* * *WO Number:* PR039258 *From Date:* 190001 *To Date:* 999912 *Show Emp Info:* No

Company: **HECO**

Manual Journal Vouchers

Tran Dte	Acct Code	Voucher No	Description	Accountant Code	Qty Amt	Tran Amt
07/27/2004	PIT258K05NEP0000519201		ON COST CHG TO: 081148/008	HWB900	0	15.89
08/25/2004	PIT258K05NEP0000519201		ON COST CHG TO: 078806/010	HWB900	0	16.70
08/25/2004	PIT258K05NEP0000519201		ON COST CHG TO: 078806/012	HWB900	0	43.86
08/25/2004	PIT258K05NEP0000519201		ON COST CHG TO: 078806/011	HWB900	0	33.42
08/25/2004	PIT258K05NEP0000519201		ON COST CHG TO: 078806/009	HWB900	0	12.31
09/27/2004	PIT258K05NEP0000519201		ON COST CHG TO: 078806/012	HWB900	0	-43.86
09/27/2004	PIT258K05NEP0000519201		ON COST CHG TO: 078806/012	HWB900	0	43.86
09/27/2004	PIT258K05NEP0000519201		ON COST CHG TO: 078806/011	HWB900	0	-33.42
09/27/2004	PIT258K05NEP0000519201		ON COST CHG TO: 078806/009	HWB900	0	12.31
09/27/2004	PIT258K05NEP0000519201		ON COST CHG TO: 078806/010	HWB900	0	16.70
09/27/2004	PIT258K05NEP0000519201		ON COST CHG TO: 078806/009	HWB900	0	-12.31
09/27/2004	PIT258K05NEP0000519201		ON COST CHG TO: 078806/010	HWB900	0	-16.70
11/04/2004	PIT258K05NEP0000519201		ON COST CHG TO: 078806/011	HWB900	0	35.86
				Expense Element: 201	**Subtotal:**	4848.87

Expense Element: 501 Outside Svcs-General

04/06/2004	PIT258K05NEP0000519501	PSOI0403	accrue unpaid invoices at quarter end	GLINTERFAC	0	312.50
04/06/2004	PIT258K05NEP0000519501	PSOI0403	accrue unpaid invoices at quarter end	GLINTERFAC	0	-312.50
07/07/2004	PIT258K05NEP0000519501	P000030354	accrue unentered,unapproved invoices	0000020021	0	-51680.13
07/07/2004	PIT258K05NEP0000519501	P000030354	accrue unentered,unapproved invoices	0000020021	0	51680.13
				Expense Element: 501	**Subtotal:**	0.00
					Total:	4848.87

Purchase Requisition Order Receipts

Tran Dte	Acct Code	PO No	PO Item No	Supplier No	Unit of Purch	Qty	Net Price	Tran Amt
Expense Element: 201	**Matl-Issues/Purchases**							
03/15/2004	PIT258K05NEP0000519201	P60555	001	006778	FT	418	6.58	2860.46
03/24/2004	PIT258K05NEP0000519201	P60910	015	006778	EA	1	7.10	7.38
03/24/2004	PIT258K05NEP0000519201	P60910	021	006778	EA	8	11.03	91.77
03/24/2004	PIT258K05NEP0000519201	P60910	016	006778	EA	1	17.15	17.84
03/24/2004	PIT258K05NEP0000519201	P60910	003	006778	EA	6	15.28	95.35
03/24/2004	PIT258K05NEP0000519201	P60910	017	006778	EA	2	10.37	21.57
03/24/2004	PIT258K05NEP0000519201	P60910	007	006778	FT	261	9.75	2646.54

1652 Work Order Detail / Summarized Labor Report

Report Parameters

District: P *Parent WO:* * *WO Number:* PR039258 *From Date:* 190001 *To Date:* 999912 *Show Emp Info:* No

Company: **HECO**

Purchase Requisition Order Receipts

Tran Dte	Acct Code	PO No	PO Item No	Supplier No	Unit of Purch	Qty	Net Price	Tran Amt
03/24/2004	PIT258K05NEP0000519201	P60910	005	006778	EA	1	19.92	20.72
03/24/2004	PIT258K05NEP0000519201	P60910	010	006778	EA	1	8.20	8.53
03/24/2004	PIT258K05NEP0000519201	P60910	009	006778	EA	2	11.42	23.75
03/24/2004	PIT258K05NEP0000519201	P60910	010	006778	EA	1	8.20	8.53
03/24/2004	PIT258K05NEP0000519201	P60891	002	006778	EA	8	8.05	66.98
03/24/2004	PIT258K05NEP0000519201	P60910	018	006778	EA	2	78.93	164.17
03/24/2004	PIT258K05NEP0000519201	P60910	020	006778	EA	6	13.83	86.30
03/24/2004	PIT258K05NEP0000519201	P60910	019	006778	EA	1	22.58	23.48
03/24/2004	PIT258K05NEP0000519201	P60910	014	006778	EA	8	3.31	27.54
03/24/2004	PIT258K05NEP0000519201	P60910	013	006778	EA	6	27.72	172.97
03/24/2004	PIT258K05NEP0000519201	P60910	012	006778	EA	8	4.10	34.11
03/24/2004	PIT258K05NEP0000519201	P60910	011	006778	EA	6	5.61	35.01
03/24/2004	PIT258K05NEP0000519201	P60910	004	006778	EA	16	7.95	132.29
03/25/2004	PIT258K05NEP0000519201	P60891	001	006778	EA	1	71.55	74.41
03/25/2004	PIT258K05NEP0000519201	P60910	001	006778	EA	3	850.00	2652.00
03/25/2004	PIT258K05NEP0000519201	P60799	001	001761	EA	2	1449.60	3019.81
03/25/2004	PIT258K05NEP0000519201	P60910	002	006778	EA	4	765.00	3182.40
03/25/2004	PIT258K05NEP0000519201	P60910	006	006778	EA	2	46.35	96.41
04/02/2004	PIT258K05NEP0000519201	P60910	008	006778	FT	400	7.10	2953.60
04/16/2004	PIT258K05NEP0000519201	P60541	001	006788	BG	5	30.50	158.84
04/20/2004	PIT258K05NEP0000519201	P61513	009	002708	EA	4	6.50	27.08
04/20/2004	PIT258K05NEP0000519201	P61513	004	002708	EA	2	6.12	12.75
04/20/2004	PIT258K05NEP0000519201	P61513	003	002708	EA	2	27.90	58.12
04/20/2004	PIT258K05NEP0000519201	P61513	001	002708	EA	2	2421.00	5043.43
04/20/2004	PIT258K05NEP0000519201	P61513	002	002708	EA	2	44.55	92.81
04/20/2004	PIT258K05NEP0000519201	P61513	007	002708	EA	4	6.27	26.12
04/20/2004	PIT258K05NEP0000519201	P61513	006	002708	EA	4	8.25	34.37
04/20/2004	PIT258K05NEP0000519201	P61513	008	002708	EA	4	0.72	3.00
04/20/2004	PIT258K05NEP0000519201	P61513	005	002708	EA	4	2.45	10.21
04/22/2004	PIT258K05NEP0000519201	P60609	003	001153	RK	-4	206.06	-858.53
04/22/2004	PIT258K05NEP0000519201	P61920	001	021788	EA	1	1921.00	2000.91
04/22/2004	PIT258K05NEP0000519201	P61906	001	006667	LO	1	1450.00	1510.32
04/22/2004	PIT258K05NEP0000519201	P61920	002	021788	EA	1	444.00	462.47

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1652 Work Order Detail / Summarized Labor Report

Report Parameters

District: P *Parent WO:* * *WO Number:* PR039258 *From Date:* 190001 *To Date:* 999912 *Show Emp Info:* No

Company: **HECO**

Purchase Requisition Order Receipts

Tran Dte	Acct Code	PO No	PO Item No	Supplier No	Unit of Purch	Qty	Net Price	Tran Amt
04/22/2004	PIT258K05NEP0000519201	P60609	003	001153	RK	4	206.06	858.53
04/22/2004	PIT258K05NEP0000519201	P60609	001	001153	RK	4	206.06	858.53
04/23/2004	PIT258K05NEP0000519201	P61804	001	001761	EA	1	546.00	568.71
04/23/2004	PIT258K05NEP0000519201	P61937	001	004752	EA	120	0.69	86.24
04/23/2004	PIT258K05NEP0000519201	P60541	001	006788	BG	5	30.50	158.84
04/23/2004	PIT258K05NEP0000519201	P61804	001	001761	EA	-1	1255.80	-1308.04
04/23/2004	PIT258K05NEP0000519201	P61925	001	020777	EA	1	295.00	306.80
04/23/2004	PIT258K05NEP0000519201	P61935	001	001726	EA	120	2.90	362.48
04/26/2004	PIT258K05NEP0000519201	P60609	003	001153	RK	4	206.06	858.53
04/26/2004	PIT258K05NEP0000519201	P60609	001	001153	RK	2	206.06	429.26
04/26/2004	PIT258K05NEP0000519201	P60609	003	001153	RK	1	206.06	214.63
04/26/2004	PIT258K05NEP0000519201	P60609	005	001153	RK	2	328.91	685.19
04/26/2004	PIT258K05NEP0000519201	P60609	004	001153	RK	2	328.91	685.19
04/26/2004	PIT258K05NEP0000519201	P60609	004	001153	RK	-2	328.91	-685.19
04/26/2004	PIT258K05NEP0000519201	P60609	005	001153	RK	3	328.91	1027.78
04/27/2004	PIT258K05NEP0000519201	P61920	002	021788	EA	1	444.00	462.47
05/03/2004	PIT258K05NEP0000519201	P61804	002	001761	EA	5	568.00	2958.14
05/06/2004	PIT258K05NEP0000519201	P60609	003	001153	RK	-3	206.06	-643.90
05/06/2004	PIT258K05NEP0000519201	P60609	001	001153	RK	-2	206.06	-429.27
05/12/2004	PIT258K05NEP0000519201	P62492	006	002500	EA	6	16.15	100.93
05/12/2004	PIT258K05NEP0000519201	P62644	001	006778	EA	1	84.10	87.46
05/12/2004	PIT258K05NEP0000519201	P62644	002	006778	EA	1	27.30	28.39
05/12/2004	PIT258K05NEP0000519201	P62492	002	002500	EA	6	88.00	549.96
05/12/2004	PIT258K05NEP0000519201	P62492	001	002500	EA	3	72.00	224.99
05/12/2004	PIT258K05NEP0000519201	P62492	003	002500	EA	6	8.20	51.25
05/12/2004	PIT258K05NEP0000519201	P62492	004	002500	EA	6	9.10	56.87
05/12/2004	PIT258K05NEP0000519201	P62492	005	002500	EA	6	16.15	100.93
05/14/2004	PIT258K05NEP0000519201	P61804	002	001761	EA	3.13	568.00	1851.80
05/18/2004	PIT258K05NEP0000519201	P60609	001	001153	RK	-4	206.06	-858.52
06/04/2004	PIT258K05NEP0000519201	P62644	004	006778	EA	1	64.30	66.87
06/04/2004	PIT258K05NEP0000519201	P62644	003	006778	EA	1	124.15	129.12
06/29/2004	PIT258K05NEP0000519201	P61804	001	001761	EA	1	327.03	340.63
07/08/2004	PIT258K05NEP0000519201	P63352	001	014252	EA	1	106.00	110.41

1652 Work Order Detail / Summarized Labor Report

Report Parameters

District: P *Parent WO:* * *WO Number:* PR039258 *From Date:* 190001 *To Date:* 999912 *Show Emp Info:* No

Company: **HECO**

Purchase Requisition Order Receipts

Tran Dte	Acct Code	PO No	PO Item No	Supplier No	Unit of Purch	Qty	Net Price	Tran Amt
07/08/2004	PIT258K05NEP0000519201	P63352	002	014252	EA	1	298.00	310.40
07/21/2004	PIT258K05NEP0000519201	P64349	001	004506	EA	4	798.45	3326.66
07/27/2004	PIT258K05NEP0000519201	P64018	009	003623	EA	4	5.48	22.81
07/27/2004	PIT258K05NEP0000519201	P64018	016	003623	EA	2	9.88	20.57
07/27/2004	PIT258K05NEP0000519201	P64018	015	003623	EA	4	5.72	23.83
07/27/2004	PIT258K05NEP0000519201	P64018	011	003623	EA	8	1.53	12.73
07/27/2004	PIT258K05NEP0000519201	P64018	010	003623	EA	2	3.83	7.98
07/27/2004	PIT258K05NEP0000519201	P64018	014	003623	EA	2	11.72	24.42
07/27/2004	PIT258K05NEP0000519201	P64018	001	003623	FT	250	3.30	859.32
07/27/2004	PIT258K05NEP0000519201	P64018	013	003623	EA	2	61.78	128.69
07/27/2004	PIT258K05NEP0000519201	P64018	007	003623	EA	4	23.52	97.99
07/27/2004	PIT258K05NEP0000519201	P64018	003	003623	EA	6	34.39	214.93
07/27/2004	PIT258K05NEP0000519201	P64018	012	003623	EA	2	69.41	144.58
07/27/2004	PIT258K05NEP0000519201	P64018	006	003623	EA	4	38.29	159.53
07/27/2004	PIT258K05NEP0000519201	P64018	004	003623	EA	24	1.72	42.98
07/27/2004	PIT258K05NEP0000519201	P64018	008	003623	FT	100	1.22	127.08
07/27/2004	PIT258K05NEP0000519201	P64018	002	003623	EA	6	58.31	364.41
08/25/2004	PIT258K05NEP0000519201	P62657	004	020695	EA	1	336.85	350.86
08/25/2004	PIT258K05NEP0000519201	P62657	003	020695	EA	1	256.70	267.38
08/25/2004	PIT258K05NEP0000519201	P62657	001	020695	EA	1	94.55	98.48
08/25/2004	PIT258K05NEP0000519201	P62657	002	020695	EA	1	128.25	133.59
09/27/2004	PIT258K05NEP0000519201	P62657	001	020695	EA	-1	94.55	-98.48
09/27/2004	PIT258K05NEP0000519201	P62657	002	020695	EA	-1	128.25	-133.59
09/27/2004	PIT258K05NEP0000519201	P62657	004	020695	EA	1	336.85	350.86
09/27/2004	PIT258K05NEP0000519201	P62657	004	020695	EA	-1	336.85	-350.86
09/27/2004	PIT258K05NEP0000519201	P62657	003	020695	EA	-1	256.70	-267.38
09/27/2004	PIT258K05NEP0000519201	P62657	001	020695	EA	1	94.55	98.48
09/27/2004	PIT258K05NEP0000519201	P62657	002	020695	EA	1	128.25	133.59
11/04/2004	PIT258K05NEP0000519201	P62657	003	020695	EA	1	256.70	267.38
					Expense Element:	**201**	**Subtotal:**	44141.05
							Total:	44141.05

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1652 Work Order Detail / Summarized Labor Report

Report Parameters

District: P Parent WO: * WO Number: PR039258 From Date: 190001 To Date: 999912 Show Emp Info: No

Company: HECO

Purchase Requisition Price Adjustments

Tran Dte	Acct Code	PO No	PO Item No	Supplier No	Price Adjusted	Qty Adj	Unit of Purchase	Tran Amt
Expense Element: 201	**Matl-Issues/Purchases**							
04/27/2004	PIT258K05NEP0000519201	P61513	005	002708	19.00	0	EA	79.16
05/17/2004	PIT258K05NEP0000519201	P60609	003	001153	-0.37	-2	RK	-0.77
05/24/2004	PIT258K05NEP0000519201	P62644	001	006778	-36.00	0	EA	-37.44
06/02/2004	PIT258K05NEP0000519201	P61804	001	001761	709.80	0	EA	739.33
							Expense Element: 201 Subtotal:	780.28
							Total:	780.28

Stock Material Transactions

Tran Dte	Acct Code	Stock Code	Qty	Unit of Issue	Item Name	Description	Tran Amt
Expense Element: 201	**Matl-Issues/Purchases**						
03/16/2004	PIT258K05NEP0000519201	000224501	1	RL	CLOTH, FIBER	15 OZ. - 18 OZ. BEMCO INC.	674.54
03/17/2004	PIT258K05NEP0000519201	000592303	1	PR	BOOTS, RUBB		11.30
03/24/2004	PIT258K05NEP0000519201	000274027	1	EA	VALVE, GATE,	8 HOLES, C.S. RISING STEM	328.00
03/25/2004	PIT258K05NEP0000519201	000235242	1	EA	ELBOW, PIPE,	90 DEG., SCH. 40	6.82
03/25/2004	PIT258K05NEP0000519201	000235267	2	EA	ELBOW, PIPE,	90 DEG., SCH. 40	23.50
03/25/2004	PIT258K05NEP0000519201	000235226	1	EA	ELBOW, PIPE,	90 DEG., SCH. 40	4.03
03/26/2004	PIT258K05NEP0000519201	000235267	10	EA	ELBOW, PIPE,	90 DEG., SCH. 40	125.05
03/26/2004	PIT258K05NEP0000519201	000235242	79	EA	ELBOW, PIPE,	90 DEG., SCH. 40	596.82
03/26/2004	PIT258K05NEP0000519201	000235226	11	EA	ELBOW, PIPE,	90 DEG., SCH. 40	52.52
03/30/2004	PIT258K05NEP0000519201	000224022	2	BX	INSULATION,	4' X 15'. (60 SQ FT PER BOX)	419.60
03/30/2004	PIT258K05NEP0000519201	000224501	1	RL	CLOTH, FIBER	15 OZ. - 18 OZ. BEMCO INC.	674.54
03/31/2004	PIT258K05NEP0000519201	000224022	2	BX	INSULATION,	4' X 15'. (60 SQ FT PER BOX)	419.60
04/01/2004	PIT258K05NEP0000519201	000610766	1	BX	STAPLES, HO	FOR AIR GUN.	28.83
04/01/2004	PIT258K05NEP0000519201	000610741	1	BX	WASHERS, MI	1000/BOX	64.74
04/02/2004	PIT258K05NEP0000519201	000224527	1	RL	CLOTH, FIBER	15 OZ. - 18 OZ.	693.56
04/08/2004	PIT258K05NEP0000519201	000235085	1	EA	ELBOW, PIPE,	45 DEG., SCH. 40	5.56
04/08/2004	PIT258K05NEP0000519201	000235101	1	EA	ELBOW, PIPE,	45 DEG., SCH. 40	9.95
04/12/2004	PIT258K05NEP0000519201	000224881	20	FT	PIPE, CARBON	SEAMLESS, ASTM A106, GRADE B	77.26
04/12/2004	PIT258K05NEP0000519201	000273169	0	EA	VALVE, GLOB	1020 DEG. F., SOCKET WELD, ASTM A-182	0.00
04/13/2004	PIT258K05NEP0000519201	000371781	1	EA	CLEANER, TIP,	FOR WELDER'S TORCH.	3.45
04/13/2004	PIT258K05NEP0000519201	000243683	60	FT	TUBING, 3/8 O.	STAINLESS STEEL, SEAMLESS	145.61

To Date: 999912 *Show Emp Info:* No

ription	*Tran Amt*
ME/ASTM A-105, ANSI B16.11	7.84
E: 220 CF. CYLINDER	473.86
MLESS, ASTM A106, GRADE B	-77.26
)EG., SCH. 40	38.91
IBON STEEL	57.98
T. LENGTH, CARBON STEEL	16.84
	41.31
INLESS STEEL, SEAMLESS	145.61
)EG., SCH. 40	29.86
15'. (60 SQ FT PER BOX)	209.80
	11.07
)#, ASTM/ASME SA-105	4.98
	22.59
E: 300 CF. CYLINDER	241.64
)LE	12.30
7/8" X 1/2" X .020	50.73
E: 300 CF. CYLINDER	-241.64
	82.12
)EG., SCH. 40	25.01
ICENTRIC, BUTTWELD END E.H. SCH. 80	10.44
	34.94
	5.06
HIGHLAND	15.08
	6.07
	22.60
ASH AND IMPACT.	27.68
	38.75
	13.37
	13.38
EWED, SCH. 80, SEAMLESS, ASTM A-106,	3.69
IBON STEEL	28.99
I, GALVANIZED, MALLEABLE IRON	1.62

1652 Work Order Detail / Summarized Labor Report

Report Parameters

District: P *Parent WO:* * *WO Number:* PR039258 *From Date:* 190001 *To Date:* 999912 *Show Emp Info:* No

Company: **HECO**

Stock Material Transactions

Tran Dte	Acct Code	Stock Code	Qty	Unit of Issue	Item Name	Description	Tran Amt
04/22/2004	PIT258K05NEP0000519201	000373382	2	EA	JACKET, RAIN,	HOOD.	33.21
04/22/2004	PIT258K05NEP0000519201	000373465	2	EA	OVERALL, RAI		36.90
04/22/2004	PIT258K05NEP0000519201	000374447	1	PR	GLASSES, SAF	SIZE: 52M 5.0 LENS, BLACK	21.75
04/22/2004	PIT258K05NEP0000519201	000247925	1	PR	GLOVES, WEL	ALL LEATHER, LONG 5-FINGER	16.70
04/22/2004	PIT258K05NEP0000519201	000372508	3	EA	APRON, PROT	SIZE: 36" X 45"	33.21
04/22/2004	PIT258K05NEP0000519201	000373449	3	EA	OVERALL, RAI		40.13
04/22/2004	PIT258K05NEP0000519201	000266163	1	EA	LUBRICANT, C	SIZE: 1 LB., HI-TEMP, MAT'L C5-A.	20.32
04/22/2004	PIT258K05NEP0000519201	000369785	4	EA	BLADE, BAND-	3' 8-7/8" X 1/2" X .020	50.73
04/22/2004	PIT258K05NEP0000519201	000620328	24	EA	CARTRIDGE,	SURVIVAIR MASKS. FOR ORGANIC VAPORS,	221.39
04/22/2004	PIT258K05NEP0000519201	000375246	1	PR	GLASSES, SAF	UVEX 3000UD	10.49
04/22/2004	PIT258K05NEP0000519201	000619312	3	PR	FILTER, P100	FOR DUST AND MIST. MODEL 2097	24.24
04/22/2004	PIT258K05NEP0000519201	000375329	1	PR	GLASSES, SAF	CREWS #6115	6.34
04/22/2004	PIT258K05NEP0000519201	000230029	1	EA	NIPPLE, THRE	SCREWED, SCH. 80, SEAMLESS, ASTM A-106,	3.69
04/22/2004	PIT258K05NEP0000519201	000228387	1	EA	UNION, E.H. F	THREADED, 3000#	19.52
04/22/2004	PIT258K05NEP0000519201	000373365	3	EA	JACKET, WITH		49.82
04/22/2004	PIT258K05NEP0000519201	000268706	4	DR	SOLUTION, OR	SIZE: 450# DRUM (ORGANIC CHELANT)	4766.30
04/22/2004	PIT258K05NEP0000519201	000226704	1	EA	UNION, SOCK	ASTM A-105	17.92
04/22/2004	PIT258K05NEP0000519201	000254060	1	EA	FLASHLIGHT,		5.65
04/26/2004	PIT258K05NEP0000519201	000620294	4	EA	CARTRIDGE,	MASKS. FOR AMMONIA, ACID GASES (SULFUR,	23.78
04/27/2004	PIT258K05NEP0000519201	000301580	4	EA	GASKET, FLEX	STYLE R SIZE:16-1/16" X 17-15/16" X .175	392.37
04/27/2004	PIT258K05NEP0000519201	000268301	32	DR	CLEANER, CH	SIZE: #530 DRUM (DI-AMMONIUM EDTA)	20667.78
04/28/2004	PIT258K05NEP0000519201	000235101	0	EA	ELBOW, PIPE,	45 DEG., SCH. 40	0.00
04/29/2004	PIT258K05NEP0000519201	000207985	17	FT	IRON, ROUND,	20 FT LENGTH	9.01
04/29/2004	PIT258K05NEP0000519201	000296582	7	FT	TUBE, BOILER,	SIZE:2-1/2 OD X 0.203"MWT SA210, GR. A1,	57.58
04/29/2004	PIT258K05NEP0000519201	000268302	1	PL	ANTIFOAM, LI	SIZE: 5 GALLON PAIL (ANTIFOAM)	218.74
04/29/2004	PIT258K05NEP0000519201	000207969	20	FT	IRON, ROUND,	20 FT. LENGTH	12.30
04/30/2004	PIT258K05NEP0000519201	000230169	2	EA	NIPPLE, THRE	SCREWED, SCH. 80, SEAMLESS, ASTM A-106,	28.32
05/03/2004	PIT258K05NEP0000519201	000614612	1	CL	CYLINDER, CO	SIZE: 220 CF. CYLINDER	236.93
05/03/2004	PIT258K05NEP0000519201	000247700	1	CL	GAS, COMPRE		52.81
05/03/2004	PIT258K05NEP0000519201	000619312	5	PR	FILTER, P100	FOR DUST AND MIST. MODEL 2097	40.42
05/03/2004	PIT258K05NEP0000519201	000619312	1	PR	FILTER, P100	FOR DUST AND MIST. MODEL 2097	8.08
05/03/2004	PIT258K05NEP0000519201	000614612	-3	CL	CYLINDER, CO	SIZE: 220 CF. CYLINDER	-710.79

1652 Work Order Detail / Summarized Labor Report

Report Parameters

District: P *Parent WO:* * *WO Number:* PR039258 *From Date:* 190001 *To Date:* 999912 *Show Emp Info:* No

Company: **HECO**

Stock Material Transactions

Tran Dte	Acct Code	Stock Code	Qty	Unit of Issue	Item Name	Description	Tran Amt
05/03/2004	PIT258K05NEP0000519201	000226548	1	EA	COUPLING, S	6000#, ASME/ASTM SA-105, ASME B16.11	3.76
05/03/2004	PIT258K05NEP0000519201	000227082	1	EA	BUSHING, E.H.	3000#, FORGED STEEL, BLACK, THREADED	1.27
05/03/2004	PIT258K05NEP0000519201	000247700	2	CL	GAS, COMPRE		105.63
05/03/2004	PIT258K05NEP0000519201	000614612	2	CL	CYLINDER, CO	SIZE: 220 CF. CYLINDER	473.86
05/03/2004	PIT258K05NEP0000519201	000232082	1	EA	CAP, PIPE, GA	CLASS 150, MALLEABLE IRON THREADED PIPE	1.82
05/03/2004	PIT258K05NEP0000519201	000374785	1	EA	RESPIRATOR,		24.44
05/03/2004	PIT258K05NEP0000519201	000371781	2	EA	CLEANER, TIP,	FOR WELDER'S TORCH.	6.92
05/03/2004	PIT258K05NEP0000519201	000371807	2	EA	LIGHTER, WEL		9.22
05/03/2004	PIT258K05NEP0000519201	000227207	1	EA	BUSHING, E.H.	3000#, FORGED STEEL, BLACK, THREADED,	4.24
05/03/2004	PIT258K05NEP0000519201	000369785	4	EA	BLADE, BAND-	3' 8-7/8" X 1/2" X .020	50.73
05/03/2004	PIT258K05NEP0000519201	000264648	1	EA	CLEANER, SP		8.86
05/03/2004	PIT258K05NEP0000519201	000169821	1	EA	GAUGE, PRES	SAFETY GLASS	43.54
05/03/2004	PIT258K05NEP0000519201	000373761	2	EA	HEADGEAR, F		25.83
05/03/2004	PIT258K05NEP0000519201	000235382	1	EA	REDUCER, PIP	SCH. 40, CONCENTRIC, BUTTWELD END	2.96
05/04/2004	PIT258K05NEP0000519201	000265785	1	EA	BLUE, HI-SPO		8.13
05/04/2004	PIT258K05NEP0000519201	000268301	-25	DR	CLEANER, CH	SIZE: #530 DRUM (DI-AMMONIUM EDTA)	-16146.70
05/05/2004	PIT258K05NEP0000519201	000232140	2	EA	CAP, PIPE, GA	CLASS 150, MALLEABLE IRON THREADED PIPE	16.52
05/05/2004	PIT258K05NEP0000519201	000268508	-25	GL	INHIBITOR, LI	INHIBITOR). USED WITH VERSOL 2665 &	-1237.63
05/25/2004	PIT258K05NEP0000519201	000273722	5	EA	VALVE, GATE,	WELD.	160.12
06/08/2004	PIT258K05NEP0000519201	000226985	1	EA	BUSHING, E.H.	3000#, FORGED STEEL, BLACK, THREADED,	0.70
06/08/2004	PIT258K05NEP0000519201	000373761	1	EA	HEADGEAR, F		12.92
06/08/2004	PIT258K05NEP0000519201	000228882	1	EA	NIPPLE, THRE	SCH. 80, SEAMLESS, ASTM A-106, GR. B	0.92
06/08/2004	PIT258K05NEP0000519201	000266163	1	EA	LUBRICANT, C	SIZE: 1 LB., HI-TEMP, MAT'L C5-A.	20.32
06/08/2004	PIT258K05NEP0000519201	000374447	1	PR	GLASSES, SAF	SIZE: 52M 5.0 LENS, BLACK	21.92
06/08/2004	PIT258K05NEP0000519201	000254060	2	EA	FLASHLIGHT,		11.30

Expense Element: 201 **Subtotal:** 15787.74

Total: 15787.74

Work Order Total: 249248.17

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1652 Work Order Detail / Summarized Labor Report

Report Parameters

District: P *Parent WO:* * *WO Number:* PR026856 *From Date:* 190001 *To Date:* 999912 *Show Emp Info:* No

Company: **HECO**

Parent WO: **PR000190**

Work Order: **PR026856** **W5 BOILER CHEMICAL CLEANING - OCT 2002**

Invoice Transactions

Tran Dte	Acct Code	Cat No	Supplier No	Inv No	Inv Item No	Inv Item Desc	Contract No	Portion No	Element No	Tran Amt
Expense Element: 201	**Matl-Issues/Purchases**									
12/02/2002	PIT257W05NEP0000252201		014470	0002816	001	W5 BOILER CHEMICAL				1559.62
12/02/2002	PIT257W05NEP0000252201		014470	0002816	001	W5 BOILER CHEMICAL				38990.39
									Expense Element: 201 Subtotal: (9)	40550.01
Expense Element: 205	**Matl-Purchasing Card**									
09/23/2002	PIT257W05NEP0000252205		000001	1460021	003	VALVE SERVICE & RE				48.76
10/22/2002	PIT257W05NEP0000252205		000001	1460021	007	HYDRA-AIR PACIFIC				340.58
11/19/2002	PIT257W05NEP0000252205		000001	1455903	007	REDLINE AUTOMOTIV				36.56
11/19/2002	PIT257W05NEP0000252205		000001	1197614	002	MC FERNE SALES CO				213.88
11/19/2002	PIT257W05NEP0000252205		000001	1197614	015	AIR LIQUIDE AMERICA				358.22
11/19/2002	PIT257W05NEP0000252205		000001	1455903	009	HYDRA-AIR PACIFIC				375.27
11/19/2002	PIT257W05NEP0000252205		000001	1455903	010	BONDED MATERIALS				286.66
11/19/2002	PIT257W05NEP0000252205		000001	1197592	028	GRAINGER				111.91
11/19/2002	PIT257W05NEP0000252205		000001	1455903	008	BONDED MATERIALS				276.58
11/19/2002	PIT257W05NEP0000252205		000001	1268176	004	THE HOME DEPOT				203.66
11/19/2002	PIT257W05NEP0000252205		000001	1604201	016	HYDRA-AIR PACIFIC				63.86
11/19/2002	PIT257W05NEP0000252205		000001	1455903	013	VALVE SERVICE & RE				27.41
11/19/2002	PIT257W05NEP0000252205		000001	1290222	008	DELTA COMMUNICATI				234.37
11/19/2002	PIT257W05NEP0000252205		000001	0031827	006	ALLIED MACHINERY				24.06
11/19/2002	PIT257W05NEP0000252205		000001	1455903	012	FAMILIAN WAIPAHU				28.59
11/19/2002	PIT257W05NEP0000252205		000001	1455903	011	VALVE SERVICE & RE				93.60
11/19/2002	PIT257W05NEP0000252205		000001	1197592	022	RASKO SUPPLY COM				44.24
11/19/2002	PIT257W05NEP0000252205		000001	1197592	023	RASKO SUPPLY COM				193.50
12/16/2002	PIT257W05NEP0000252205		000001	1290222	001	DELTA COMMUNICATI				447.91
									Expense Element: 205 Subtotal: (9)	3409.62
Expense Element: 501	**Outside Svcs-General**									
09/16/2002	PIT257W05NEP0000252501		006157	0913200	002	APPLICATION FEE				100.00
09/24/2002	PIT257W05NEP0000252501		011263	D000085	001	W5 OVHL SCAFFOLD				1582.52
10/15/2002	PIT257W05NEP0000252501		011263	D000100	001	W5 BCC, REAR & BRU				1918.60

W5 Blr Chem Cln - Non-Labor Ei (9) 163,235

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26856 *From Date:* 190001 *To Date:* 999912 *Show Emp Info:* No

Supplier No	Inv No	Inv Item No	Inv Item Desc	Contract No	Portion No	Element No	Tran Amt
002878	2948	001	W-5 OVHL BCC ECON				455.21
005314	1830159	001	W-5 OVHL RENT 3 FR				3304.08
002878	2979	001	W-5 OVHL BCC ECON				635.93
001153	1105354	001	OXYGEN RACK RENT				145.98
001481	40946	001	W-5 OVHL AUMA MOV				2500.00
001481	40945	001	W-5 OVHL BCC DROP				2500.00
005314	1830181	001	W5 CHEM CLEAN VAC				5790.72
011263	R000154	001	W5 BCC, REAR & BRU				1050.41
011263	R000153	001	W5 OVHL SCAFFOLD				1582.12
001153	1115115	001	OXYGEN RACK RENT				104.73
002511	61569	001	W5 OVHL BCC TRNSP				353.50
002511	61816	001	W5 OVHL BCC TRNSP				394.09
003006	490902	001	W-5 OVHL RNTL AMM				2137.65
005314	1830233	001	W-5 OVHL RENT 3 FR				1195.92
			Expense Element: 501			**Subtotal:**	9 25751.46
014470	0002816	002	FRT CHGS FOR SERVI				55.83
			Expense Element: 640			**Subtotal:**	9 55.83
						Total:	69766.92

Emp ID	Last Name	First Name	No of Hours	Tran Amt
			2.00	61.48
		Subtotal:	2.00	61.48
			4.00	122.96
			1.50	47.88
			3.00	86.79
			1.50	47.88
			2.00	57.86

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190001 *To Date:* 999912 *Show Emp Info:* No

	Accountant Code	Qty Amt	Tran Amt
83/001	HWB900	0	110.37
83/003	HWB900	0	21.64
83/002	HWB900	0	268.70
74/028	HWB900	0	8.49
74/013	HWB900	0	8.12
74/022	HWB900	0	111.66
74/030	HWB900	0	28.85
74/032	HWB900	0	13.38
74/015	HWB900	0	4.41
74/001	HWB900	0	7.39
74/031	HWB900	0	19.94
74/027	HWB900	0	18.93
74/029	HWB900	0	35.41
74/017	HWB900	0	2.79
74/016	HWB900	0	7.13
74/018	HWB900	0	3.93
74/020	HWB900	0	3.93
74/023	HWB900	0	3.46
74/002	HWB900	0	4.24
74/003	HWB900	0	8.56
74/004	HWB900	0	197.24
74/005	HWB900	0	17.99
74/007	HWB900	0	3.96
74/010	HWB900	0	80.88
74/012	HWB900	0	3.33
74/014	HWB900	0	276.38
74/019	HWB900	0	61.60
74/021	HWB900	0	49.63
74/026	HWB900	0	196.93
74/025	HWB900	0	6.82
74/006	HWB900	0	8.84
74/009	HWB900	0	37.83

1652 Work Order Detail / Summarized Labor Report

Report Parameters

District: P *Parent WO:* * *WO Number:* PR026856 *From Date:* 190001 *To Date:* 999912 *Show Emp Info:* No

Company: **HECO**

Manual Journal Vouchers

Tran Dte	Acct Code	Voucher No	Description	Accountant Code	Qty Amt	Tran Amt
10/07/2002	PIT257W05NEP0000252201		ON COST CHG TO: 055874/011	HWB900	0	5.84
10/07/2002	PIT257W05NEP0000252201		ON COST CHG TO: 055874/024	HWB900	0	91.11
10/08/2002	PIT257W05NEP0000252201		ON COST CHG TO: 055874/008	HWB900	0	2.34
10/08/2002	PIT257W05NEP0000252201		ON COST CHG TO: 055874/029	HWB900	0	18.75
10/10/2002	PIT257W05NEP0000252201		ON COST CHG TO: 056189/003	HWB900	0	4.73
10/10/2002	PIT257W05NEP0000252201		ON COST CHG TO: 056189/004	HWB900	0	8.45
10/10/2002	PIT257W05NEP0000252201		ON COST CHG TO: 056189/005	HWB900	0	10.24
10/10/2002	PIT257W05NEP0000252201		ON COST CHG TO: 056189/006	HWB900	0	5.58
10/15/2002	PIT257W05NEP0000252201		ON COST CHG TO: 056069/002	HWB900	0	547.32
10/15/2002	PIT257W05NEP0000252201		ON COST CHG TO: 056189/002	HWB900	0	10.10
10/15/2002	PIT257W05NEP0000252201		ON COST CHG TO: 056069/001	HWB900	0	1457.48
10/15/2002	PIT257W05NEP0000252201		ON COST CHG TO: 056189/001	HWB900	0	18.03
10/15/2002	PIT257W05NEP0000252201		ON COST CHG TO: 056069/003	HWB900	0	88.73
10/17/2002	PIT257W05NEP0000252201		ON COST CHG TO: 056264/001	HWB900	0	76.45
10/22/2002	PIT257W05NEP0000252201		ON COST CHG TO: 055907/002	HWB900	0	25.90
10/22/2002	PIT257W05NEP0000252201		ON COST CHG TO: 055874/014	HWB900	0	0.29
10/22/2002	PIT257W05NEP0000252201		ON COST CHG TO: 055874/024	HWB900	0	0.18
10/22/2002	PIT257W05NEP0000252201		ON COST CHG TO: 055907/001	HWB900	0	149.17
10/23/2002	PIT257W05NEP0000252201		ON COST CHG TO: 056718/003	HWB900	0	18.30
10/23/2002	PIT257W05NEP0000252201		ON COST CHG TO: 056147/001	HWB900	0	288.98
10/23/2002	PIT257W05NEP0000252201		ON COST CHG TO: 056718/001	HWB900	0	18.94
10/23/2002	PIT257W05NEP0000252201		ON COST CHG TO: 056718/004	HWB900	0	2.89
10/23/2002	PIT257W05NEP0000252201		ON COST CHG TO: 056718/002	HWB900	0	17.53
10/23/2002	PIT257W05NEP0000252201		ON COST CHG TO: 056718/005	HWB900	0	32.82
10/25/2002	PIT257W05NEP0000252201		ON COST CHG TO: 056877/002	HWB900	0	17.99
10/25/2002	PIT257W05NEP0000252201		ON COST CHG TO: 056877/001	HWB900	0	173.12
10/29/2002	PIT257W05NEP0000252201		ON COST CHG TO: 056121/001	HWB900	0	197.23
10/29/2002	PIT257W05NEP0000252201		ON COST CHG TO: 056286/001	HWB900	0	323.88
10/29/2002	PIT257W05NEP0000252201		ON COST CHG TO: 056121/002	HWB900	0	130.04
10/29/2002	PIT257W05NEP0000252201		ON COST CHG TO: 056415/001	HWB900	0	603.07
10/30/2002	PIT257W05NEP0000252201		ON COST CHG TO: 056780/002	HWB900	0	122.45
10/30/2002	PIT257W05NEP0000252201		ON COST CHG TO: 056780/001	HWB900	0	13.34
10/31/2002	PIT257W05NEP0000252201		ON COST CHG TO: 056946/001	HWB900	0	144.49

1652 Work Order Detail / Summarized Labor Report

Report Parameters

District: P *Parent WO:* * *WO Number:* PR026856 *From Date:* 190001 *To Date:* 999912 *Show Emp Info:* No

Company: **HECO**

Manual Journal Vouchers

Tran Dte	Acct Code	Voucher No	Description	Accountant Code	Qty Amt	Tran Amt
10/31/2002	PIT257W05NEP0000252201		ON COST CHG TO: 056264/001	HWB900	0	152.89
10/31/2002	PIT257W05NEP0000252201		ON COST CHG TO: 056732/001	HWB900	0	53.22
11/04/2002	PIT257W05NEP0000252201		ON COST CHG TO: 057146/001	HWB900	0	53.56
11/04/2002	PIT257W05NEP0000252201		ON COST CHG TO: 057146/001	HWB900	0	53.56
11/07/2002	PIT257W05NEP0000252201	P000018886	ON COST CHG TO: 055907/002	HWB900	0	12.95
11/20/2002	PIT257W05NEP0000252201		ON COST CHG TO: 056877/001	HWB900	0	8.66
11/20/2002	PIT257W05NEP0000252201		ON COST CHG TO: 056780/002	HWB900	0	6.12
11/27/2002	PIT257W05NEP0000252201		ON COST CHG TO: 057919/001	HWB900	0	452.12
12/06/2002	PIT257W05NEP0000252201		ON COST CHG TO: 057146/001	HWB900	0	80.37
				Expense Element: 201	**Subtotal:**	7131.97

Expense Element: 501 Outside Svcs-General

09/17/2002	PIT257W05NEP0000252501		ON COST CHG TO: 054974/001	HWB900	0	17.75
10/02/2002	PIT257W05NEP0000252501		ON COST CHG TO: 054974/001	HWB900	0	59.15
10/23/2002	PIT257W05NEP0000252501		ON COST CHG TO: 055132/001	HWB900	0	316.07
10/23/2002	PIT257W05NEP0000252501		ON COST CHG TO: 055003/001	HWB900	0	601.56
10/23/2002	PIT257W05NEP0000252501		ON COST CHG TO: 054976/001	HWB900	0	107.37
11/02/2002	PIT257W05NEP0000252501		ON COST CHG TO: 055003/001	HWB900	0	298.88
				Expense Element: 501	**Subtotal:**	1400.78
					Total:	8532.75

Purchase Requisition Order Receipts

Tran Dte	Acct Code	PO No	PO Item No	Supplier No	Unit of Purch	Qty	Net Price	Tran Amt
Expense Element: 201	**Matl-Issues/Purchases**							
09/11/2002	PIT257W05NEP0000252201	P41909	003	006778	EA	5	24.00	124.80
09/11/2002	PIT257W05NEP0000252201	P41909	002	006778	EA	5	298.00	1549.60
09/11/2002	PIT257W05NEP0000252201	P41909	001	006778	FT	20	30.60	636.48
10/03/2002	PIT257W05NEP0000252201	P43233	014	006778	FT	0.33	4.85	1.66
10/03/2002	PIT257W05NEP0000252201	P43233	024	006778	FT	0.42	2.35	1.03
10/07/2002	PIT257W05NEP0000252201	P43233	029	006778	EA	17	11.55	204.20
10/07/2002	PIT257W05NEP0000252201	P43233	008	006778	EA	1	13.00	13.52
10/07/2002	PIT257W05NEP0000252201	P43233	019	006778	EA	1	341.59	355.25
10/07/2002	PIT257W05NEP0000252201	P43233	024	006778	FT	215	2.35	525.46

1652 Work Order Detail / Summarized Labor Report

Report Parameters

District: P *Parent WO:* * *WO Number:* PR026856 *From Date:* 190001 *To Date:* 999912 *Show Emp Info:* No

Company: **HECO**

Purchase Requisition Order Receipts

Tran Dte	Acct Code	PO No	PO Item No	Supplier No	Unit of Purch	Qty	Net Price	Tran Amt
10/07/2002	PIT257W05NEP0000252201	P43233	023	006778	EA	3	6.40	19.97
10/07/2002	PIT257W05NEP0000252201	P43233	016	006778	EA	2	19.78	41.14
10/07/2002	PIT257W05NEP0000252201	P43233	015	006778	EA	4	6.11	25.42
10/07/2002	PIT257W05NEP0000252201	P43233	007	006778	EA	2	10.97	22.82
10/07/2002	PIT257W05NEP0000252201	P43233	026	006778	EA	12	91.00	1135.68
10/07/2002	PIT257W05NEP0000252201	P43233	004	006778	FT	163	6.71	1137.48
10/07/2002	PIT257W05NEP0000252201	P43233	030	006778	EA	10	16.00	166.40
10/07/2002	PIT257W05NEP0000252201	P43233	005	006778	EA	8	12.47	103.75
10/07/2002	PIT257W05NEP0000252201	P43233	013	006778	EA	6	7.50	46.80
10/07/2002	PIT257W05NEP0000252201	P43233	014	006778	FT	316	4.85	1593.90
10/07/2002	PIT257W05NEP0000252201	P43233	020	006778	EA	4	5.45	22.67
10/07/2002	PIT257W05NEP0000252201	P43233	006	006778	EA	2	24.51	50.98
10/07/2002	PIT257W05NEP0000252201	P43233	021	006778	EA	16	17.20	286.21
10/07/2002	PIT257W05NEP0000252201	P43233	028	006778	EA	10	4.71	48.98
10/07/2002	PIT257W05NEP0000252201	P43233	031	006778	EA	2	55.30	115.02
10/07/2002	PIT257W05NEP0000252201	P43233	032	006778	EA	2	37.10	77.17
10/07/2002	PIT257W05NEP0000252201	P43233	029	006778	EA	9	11.55	108.11
10/07/2002	PIT257W05NEP0000252201	P43233	022	006778	EA	36	17.20	643.97
10/07/2002	PIT257W05NEP0000252201	P43233	025	006778	EA	8	4.73	39.35
10/07/2002	PIT257W05NEP0000252201	P43233	003	006778	EA	4	11.86	49.34
10/07/2002	PIT257W05NEP0000252201	P43233	027	006778	EA	8	13.12	109.16
10/07/2002	PIT257W05NEP0000252201	P43233	012	006778	EA	1	18.49	19.23
10/07/2002	PIT257W05NEP0000252201	P43233	002	006778	EA	1	23.49	24.43
10/07/2002	PIT257W05NEP0000252201	P43233	010	006778	EA	1	448.49	466.43
10/07/2002	PIT257W05NEP0000252201	P43233	009	006778	FT	21	9.99	218.18
10/07/2002	PIT257W05NEP0000252201	P43233	017	006778	EA	1	15.48	16.10
10/07/2002	PIT257W05NEP0000252201	P43233	018	006778	EA	4	5.45	22.67
10/07/2002	PIT257W05NEP0000252201	P43233	001	006778	EA	1	40.95	42.59
10/07/2002	PIT257W05NEP0000252201	P43233	011	006778	EA	4	8.10	33.70
10/09/2002	PIT257W05NEP0000252201	P43479	006	006778	EA	2	15.48	32.20
10/09/2002	PIT257W05NEP0000252201	P43479	005	006778	EA	2	28.38	59.03
10/09/2002	PIT257W05NEP0000252201	P43479	004	006778	EA	2	23.44	48.76
10/09/2002	PIT257W05NEP0000252201	P43479	003	006778	EA	2	13.12	27.29

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1652 Work Order Detail / Summarized Labor Report

Report Parameters

District: P *Parent WO:* * *WO Number:* PR026856 *From Date:* 190001 *To Date:* 999912 *Show Emp Info:* No

Company: **HECO**

Purchase Requisition Order Receipts

Tran Dte	Acct Code	PO No	PO Item No	Supplier No	Unit of Purch	Qty	Net Price	Tran Amt
10/15/2002	PIT257W05NEP0000252201	P43385	001	006778	EA	18	449.00	8405.28
10/15/2002	PIT257W05NEP0000252201	P43385	002	006778	EA	5	607.00	3156.40
10/15/2002	PIT257W05NEP0000252201	P43479	001	006778	EA	2	50.00	104.00
10/15/2002	PIT257W05NEP0000252201	P43385	003	006778	EA	1	492.00	511.68
10/15/2002	PIT257W05NEP0000252201	P43479	002	006778	EA	2	28.00	58.24
10/16/2002	PIT257W05NEP0000252201	P43355	002	002179	EA	5	28.72	149.34
10/16/2002	PIT257W05NEP0000252201	P43355	001	002179	EA	5	165.43	860.24
10/16/2002	PIT257W05NEP0000252201	P43579	001	019086	EA	1	423.90	440.86
10/18/2002	PIT257W05NEP0000252201	P43581	001	006778	EA	4	449.00	1867.84
10/22/2002	PIT257W05NEP0000252201	P43938	003	006778	EA	10	10.15	105.56
10/22/2002	PIT257W05NEP0000252201	P43938	005	006778	EA	2	91.00	189.28
10/22/2002	PIT257W05NEP0000252201	P43938	001	006778	EA	4	26.25	109.20
10/22/2002	PIT257W05NEP0000252201	P43938	002	006778	EA	12	8.10	101.09
10/22/2002	PIT257W05NEP0000252201	P43938	004	006778	EA	2	8.00	16.64
10/23/2002	PIT257W05NEP0000252201	P42653	002	001761	EA	1	1600.00	1666.56
10/25/2002	PIT257W05NEP0000252201	P44074	001	006778	FT	8	6.00	49.92
10/25/2002	PIT257W05NEP0000252201	P44074	001	006778	FT	160	6.00	998.40
10/25/2002	PIT257W05NEP0000252201	P44074	002	006778	EA	8	12.47	103.75
10/28/2002	PIT257W05NEP0000252201	P43427	001	004748	EA	2	546.00	1137.43
10/28/2002	PIT257W05NEP0000252201	P44121	002	001153	RK	1	296.56	308.90
10/28/2002	PIT257W05NEP0000252201	P43714	001	020530	EA	3	1113.00	3477.90
10/28/2002	PIT257W05NEP0000252201	P43427	002	004748	ST	2	360.00	749.95
10/28/2002	PIT257W05NEP0000252201	P44121	001	001153	EA	2	400.00	833.28
10/30/2002	PIT257W05NEP0000252201	P44007	002	006778	FT	7	4.85	35.31
10/30/2002	PIT257W05NEP0000252201	P44007	002	006778	FT	140	4.85	706.16
10/30/2002	PIT257W05NEP0000252201	P44007	001	006778	EA	4	18.49	76.92
10/30/2002	PIT257W05NEP0000252201	P43579	001	019086	EA	2	423.90	881.71
10/31/2002	PIT257W05NEP0000252201	P44121	002	001153	RK	1	296.56	308.90
10/31/2002	PIT257W05NEP0000252201	P43964	001	003375	EA	4	73.67	306.94
11/07/2002	PIT257W05NEP0000252201	P43355	002	002179	EA	5	14.36	74.67
11/27/2002	PIT257W05NEP0000252201	P44958	001	001761	GT	4.75	527.00	2607.39
11/28/2002	PIT257W05NEP0000252201	P44121	002	001153	RK	2	222.49	463.49

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1652 Work Order Detail / Summarized Labor Report

Report Parameters

District: P *Parent WO:* * *WO Number:* PR026856 *From Date:* 190001 *To Date:* 999912 *Show Emp Info:* No

Company: **HECO**

Purchase Requisition Order Receipts

Tran Dte	Acct Code	PO No	PO Item No	Supplier No	Unit of Purch	Qty	Net Price	Tran Amt
						Expense Element: 201	Subtotal:	(9) 41130.16
Expense Element: 501	**Outside Svcs-General**							
09/17/2002	PIT257W05NEP0000252501	P42561	001	006788	BG	3	32.75	102.34
10/02/2002	PIT257W05NEP0000252501	P42561	001	006788	BG	10	32.75	341.12
10/17/2002	PIT257W05NEP0000252501	P42568	001	001153	RK	3	198.16	619.21
10/23/2002	PIT257W05NEP0000252501	P42653	001	001761	EA	1	1750.00	1822.80
10/23/2002	PIT257W05NEP0000252501	P42789	001	001761	GT	6.32	527.00	3469.19
10/29/2002	PIT257W05NEP0000252501	P42789	001	001761	GT	3.14	527.00	1723.62
						Expense Element: 501	Subtotal:	(9) 8078.28
							Total:	49208.44

Purchase Requisition Price Adjustments

Tran Dte	Acct Code	PO No	PO Item No	Supplier No	Price Adjusted	Qty Adj	Unit of Purchase	Tran Amt
Expense Element: 201	**Matl-Issues/Purchases**							
10/15/2002	PIT257W05NEP0000252201	P43233	022	006778	-9.89	0	EA	-370.28
10/29/2002	PIT257W05NEP0000252201	P42653	002	001761	-91.00	0	EA	-94.79
11/04/2002	PIT257W05NEP0000252201	P43355	002	002179	-14.36	0	EA	-74.67
11/04/2002	PIT257W05NEP0000252201	P44121	001	001153	-214.54	0	EA	-446.93
12/06/2002	PIT257W05NEP0000252201	P44121	002	001153	-74.07	3	RK	-77.15
						Expense Element: 201	Subtotal:	(9) -1063.82
Expense Element: 501	**Outside Svcs-General**							
10/29/2002	PIT257W05NEP0000252501	P42653	001	001761	1272.00	-1	EA	1324.92
						Expense Element: 501	Subtotal:	(9) 1324.92
							Total:	261.10

Stock Material Transactions

Tran Dte	Acct Code	Stock Code	Qty	Unit of Issue	Item Name	Description	Tran Amt
Expense Element: 201	**Matl-Issues/Purchases**						
08/27/2002	PIT257W05NEP0000252201	000226241	30	EA	ELBOW, SOCK	3000#, ASTM/ASME SA-105	352.51
08/27/2002	PIT257W05NEP0000252201	000224766	252	FT	PIPE, CARBON	SEAMLESS, ASTM A106, GRADE B, PLAIN END	1098.55
08/27/2002	PIT257W05NEP0000252201	000226480	18	EA	COUPLING, S	3000#, ASME/ASTM SA-105, ASME B16.11	117.79

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1652 Work Order Detail / Summarized Labor Report

Report Parameters

District: P *Parent WO:* * *WO Number:* PR026856 *From Date:* 190001 *To Date:* 999912 *Show Emp Info:* No

Company: **HECO**

Stock Material Transactions

Tran Dte	Acct Code	Stock Code	Qty	Unit of Issue	Item Name	Description	Tran Amt
08/29/2002	PIT257W05NEP0000252201	000301580	0	EA	GASKET, FLEX	STYLE R SIZE:16-1/16" X 17-15/16" X .175	51.98
08/29/2002	PIT257W05NEP0000252201	000301580	0	EA	GASKET, FLEX	STYLE R SIZE:16-1/16" X 17-15/16" X .175	259.93
08/30/2002	PIT257W05NEP0000252201	000224766	84	FT	PIPE, CARBON	SEAMLESS, ASTM A106, GRADE B, PLAIN END	366.18
09/05/2002	PIT257W05NEP0000252201	000236307	1	EA	ELBOW, PIPE,	90 DEG., SCH. 80	54.32
09/05/2002	PIT257W05NEP0000252201	000224824	40	FT	PIPE, CARBON	SEAMLESS, ASTM A106, GRADE B, PLAIN END	487.64
09/05/2002	PIT257W05NEP0000252201	000236281	2	EA	ELBOW, PIPE,	90 DEG., SCH. 80	33.76
09/13/2002	PIT257W05NEP0000252201	000615468	1	EA	SUNCREEN	(OBSOLETE - USE CODE 580829)	8.85
09/18/2002	PIT257W05NEP0000252201	000615468	3	EA	SUNCREEN	(OBSOLETE - USE CODE 580829)	26.54
09/19/2002	PIT257W05NEP0000252201	000301580	0	EA	GASKET, FLEX	STYLE R SIZE:16-1/16" X 17-15/16" X .175	103.97
09/20/2002	PIT257W05NEP0000252201	000268508	0	GL	INHIBITOR, LI	INHIBITOR). USED WITH VERSOL 2665 &	0.00
09/30/2002	PIT257W05NEP0000252201	000389544	6	EA	FITTING, SM-1	DWG. 7145C.	0.00
10/08/2002	PIT257W05NEP0000252201	000226829	2	EA	FLANGE, WEL	SCH. 40 BORE, 8 HOLE	52.92
10/09/2002	PIT257W05NEP0000252201	000219469	12	FT	STOCK, THRE	THD. ASTM A-193, GR. B-16 ALLOY, 4' LONG	212.62
10/10/2002	PIT257W05NEP0000252201	000614612	2	CL	CYLINDER, CO	SIZE: 220 CF. CYLINDER	502.29
10/10/2002	PIT257W05NEP0000252201	000614612	-1	CL	CYLINDER, CO	SIZE: 220 CF. CYLINDER	-251.14
10/10/2002	PIT257W05NEP0000252201	000247700	2	CL	GAS, COMPRE		28.45
10/11/2002	PIT257W05NEP0000252201	000226142	2	EA	ELBOW, SOCK	3000#, ASTM/ASME SA-105	5.40
10/11/2002	PIT257W05NEP0000252201	000230029	2	EA	NIPPLE, THRE	SCREWED, SCH. 80, SEAMLESS, ASTM A-106,	8.25
10/11/2002	PIT257W05NEP0000252201	000229286	4	EA	NIPPLE, THRE	SCH. 80, SEAMLESS, ASTM A-106,	6.15
10/15/2002	PIT257W05NEP0000252201	000614612	-2	CL	CYLINDER, CO	SIZE: 220 CF. CYLINDER	-502.29
10/15/2002	PIT257W05NEP0000252201	000614612	2	CL	CYLINDER, CO	SIZE: 220 CF. CYLINDER	502.29
10/15/2002	PIT257W05NEP0000252201	000247700	2	CL	GAS, COMPRE		28.45
10/16/2002	PIT257W05NEP0000252201	000235085	9	EA	ELBOW, PIPE,	45 DEG., SCH. 40	53.08
10/16/2002	PIT257W05NEP0000252201	000168864	17	ST	GASKET, KIT,	POWER MULTI-PORT BI-COLOR GAUGE MP-3000	1379.64
10/16/2002	PIT257W05NEP0000252201	000168864	1	ST	GASKET, KIT,	POWER MULTI-PORT BI-COLOR GAUGE MP-3000	81.16
10/16/2002	PIT257W05NEP0000252201	000235085	1	EA	ELBOW, PIPE,	45 DEG., SCH. 40	5.96
10/17/2002	PIT257W05NEP0000252201	000247668	1	CL	GAS, COMPRE		86.40
10/17/2002	PIT257W05NEP0000252201	000247700	1	CL	GAS, COMPRE		14.22
10/17/2002	PIT257W05NEP0000252201	000614610	-1	CL	CYLINDER, CO	SIZE: 300 CF. CYLINDER	-256.13
10/17/2002	PIT257W05NEP0000252201	000614612	1	CL	CYLINDER, CO	SIZE: 220 CF. CYLINDER	251.14
10/17/2002	PIT257W05NEP0000252201	000614610	1	CL	CYLINDER, CO	SIZE: 300 CF. CYLINDER	256.13
10/18/2002	PIT257W05NEP0000252201	000373225	3	EA	COVERALL, BL		95.34

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Number: PR026856 *From Date:* 190001 *To Date:* 999912 *Show Emp Info:* No

tock Code	Qty	Unit of Issue	Item Name	Description	Tran Amt
00373183	3	EA	COVERALL, BL		95.33
00613869	2	EA	PAIL, OPEN T	DOT/EPA APPROVED FOR WASTE	22.00
00226803	1	EA	FLANGE, WEL	4 X 9 DIA., CLASS 8 HOLE	17.71
00236687	1	EA	REDUCER, PIP	CONCENTRIC, BUTTWELD END E.H. SCH. 80	11.90
00230029	1	EA	NIPPLE, THRE	SCREWED, SCH. 80, SEAMLESS, ASTM A-106,	4.13
00224022	3	BX	INSULATION,	4' X 15'. (60 SQ FT PER BOX)	651.92
00229286	1	EA	NIPPLE, THRE	SCH. 80, SEAMLESS, ASTM A-106,	1.54
00272864	1	EA	VALVE, GATE,	WELD, ASTM A-105.	59.89
00226209	2	EA	ELBOW, SOCK	3000#, ASTM/ASME SA-105	5.96
00226605	1	EA	COUPLING, S	6000#, ASME/ASTM SA-105, ASME B16.11	12.72
00231589	0	FT	PIPE, GALV, S	ASTM A-106, GR. A, DOMESTIC OR FOREIGN,	0.00
00223065	10	EA	GASKET, SPIR	SIZE: 1" I.D. X 1-3/4" X 1/8" THICK,	67.71
00226787	1	EA	FLANGE, WEL	4 HOLE	13.35
00226803	1	EA	FLANGE, WEL	4 X 9 DIA., CLASS 8 HOLE	17.71
00223644	1	EA	GASKET, FLAN	GARLOCK STYLE 22	0.63
00155580	1	GL	PAINT, ENAME	GALLON.	39.10
00259945	2	EA	HYLUG, BURN		14.22
00266528	1	CN	COMPOUND, T	"FEL-PRO N-7000" BRUSH TAP.	59.40
00154286	1	GL	PAINT, PRIME		31.80
00268301	0	DR	CLEANER, CH	SIZE: #530 DRUM (DI-AMMONIUM EDTA)	0.00
00236281	2	EA	ELBOW, PIPE,	90 DEG., SCH. 80	33.76
00224766	40	FT	PIPE, CARBON	SEAMLESS, ASTM A106, GRADE B, PLAIN END	174.37
00235267	1	EA	ELBOW, PIPE,	90 DEG., SCH. 40	12.58
00236265	1	EA	ELBOW, PIPE,	90 DEG., SCH. 80	10.69
00226787	1	EA	FLANGE, WEL	4 HOLE	13.35
00374900	6	EA	CARTRIDGE, F	620310)	34.79
00374900	12	EA	CARTRIDGE, F	620310)	69.59
00274142	10	EA	VALVE, GATE,	WELD, ASTM A-105.	1473.25
00229088	2	EA	NIPPLE, THRE	SCH. 80, SEAMLESS, ASTM A-106, GR. B	1.61
00373381	1	EA	JACKET, WITH		17.60
00236281	1	EA	ELBOW, PIPE,	90 DEG., SCH. 80	16.87
00373464	1	EA	OVERALL, RAI		14.17

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Item Name	Description	Tran Amt
GOGGLES, SA	SPLASH AND IMPACT.	28.56
CARTRIDGE, F	620310)	30.56
TUBING, 1/2" O	STAINLESS STEEL	708.87
NIPPLE, THRE	SCREWED, SCH. 80, SEAMLESS, ASTM A-106,	5.03
NIPPLE, THRE	SCREWED, SCH. 80, SEAMLESS, ASTM A-106,	1.64
GASKET, KIT,	POWER MULTI-PORT BI-COLOR GAUGE MP-3000	1367.56
NIPPLE, THRE	SCREWED, SCH. 80, SEAMLESS, ASTM A-106,	4.13
OVERALL, RAI		15.29
OVERALL, RAI		28.36
JACKET, WITH		35.20
NIPPLE, THRE	SCREWED, SCH. 80, SEAMLESS, ASTM A-106,	2.79
JACKET, WITH		0.00
ELBOW, 90 DE	FORGED STEEL, THREADED	13.12
BUSHING, PIP	THREADED	1.10
BUSHING, PIP	GALVANIZED, MALLEABLE IRON	6.86
BUSHING, PIP	GALVANIZED, MALLEABLE IRON	2.91
REDUCER, CO	150#, GALVANIZED, MALLEABLE IRON	2.36
ELBOW, GALV	150#, MALLEABLE IRON THREADED PIPE	1.82
TEE, PIPE, 150	MALLEABLE IRON THREADED PIPE FITTINGS,	8.67
NIPPLE, THRE	SCH. 80, SEAMLESS, ASTM A-106, GR. B	1.16
GLASSES, SAF	SIZE: 52M 5.0 LENS, BLACK	43.24
CLEANER, TIP,	FOR WELDER'S TORCH.	3.66
NIPPLE, THRE	SCREWED, SCH. 80, SEAMLESS, ASTM A-106,	8.47
NIPPLE, PIPE,	SCH. 40, ASTM A106, GR. A, SEAMLESS,	2.26
ELBOW, STRE	150#, MALLEABLE IRON THREADED PIPE	1.64
NIPPLE, PIPE,	SCH. 40, ASTM A106, GR. A, SEAMLESS,	4.21
TEE, PIPE, 150	MALLEABLE IRON THREADED PIPE FITTINGS,	4.41
BUSHING, PIP	THREADED	0.57
BUSHING, PIP	GALVANIZED, MALLEABLE IRON	2.91
VALVE, GATE,	125# STEAM, THREADED	45.22
VALVE, GATE,	125# STEAM, THREADED	20.89
NIPPLE, THRE	SCREWED, SCH. 80, SEAMLESS, ASTM A-106,	3.04

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ate: 190001 To Date: 999912 Show Emp Info: No

tem Name	Description	Tran Amt
BUSHING, PIP	GALVANIZED, MALLEABLE IRON	1.84
NIPPLE, THRE	SCREWED, SCH. 80, SEAMLESS, ASTM A-106,	8.25
ELBOW, STRE	150#, MALLEABLE IRON THREADED PIPE	2.36
BUSHING, PIP	GALVANIZED, MALLEABLE IRON	1.81
VALVE, GATE,	WELD, ASTM A-105.	147.32
NIPPLE, PIPE,	SCH. 40, ASTM A106, GR. A, SEAMLESS,	1.38
SOLUTION, OR	SIZE: 450# DRUM (ORGANIC CHELANT)	12630.48
NIPPLE, PIPE,	SCH. 40, ASTM A106, GR. A, SEAMLESS,	5.14
VALVE, GATE,	THREADED	31.41
VALVE, GATE,	WELD, ASTM A-105.	0.00
ELBOW, 90 DE	GALVANIZED, MALLEABLE IRON THREADED PIP	0.76
SEALANT, AD	10 OZ CARTRIDGE	26.85
INHIBITOR, LI	INHIBITOR). USED WITH VERSOL 2665 &	668.84
UNION, FORG	THREADED	49.21
TEE, PIPE, 150	MALLEABLE IRON THREADED PIPE FITTINGS,	5.43
PIPE, CARBON	SEAMLESS, ASTM A106, GRADE B, PLAIN END	48.75
BUSHING, PIP	GALVANIZED, MALLEABLE IRON	3.17
VALVE, GATE,	THREADED	14.68
ELBOW, MALE	1/2" PIPE	14.40
RESPIRATOR,	UNIVERSAL	207.77
CARTRIDGE, F	620310)	34.79
CONNECTOR,	1/2" PIPE	19.50
NIPPLE, PIPE,	SCH. 40, ASTM A106, GR. A, SEAMLESS,	3.06
COMPOUND, T	"FEL-PRO N-7000" BRUSH TAP.	59.40
APRON, PROT	SIZE: 36" X 45"	23.47
CARTRIDGE, F	620310)	30.56
NIPPLE, THRE	SCREWED, SCH. 80, SEAMLESS, ASTM A-106,	4.11
BUSHING, PIP	GALVANIZED, MALLEABLE IRON	3.70
NIPPLE, PIPE,	SCH. 40, ASTM A106, GR. A, SEAMLESS,	1.29
HEADGEAR, F		27.38
DRUM, OPEN	DOT/EPA APPROVED FOR WASTE	149.20
RESPIRATOR,		25.91

1652 Work Order Detail / Summarized Labor Report

Report Parameters

District: P *Parent WO:* * *WO Number:* PR026856 *From Date:* 190001 *To Date:* 999912 *Show Emp Info:* No

Company: **HECO**

Stock Material Transactions

Tran Dte	Acct Code	Stock Code	Qty	Unit of Issue	Item Name	Description	Tran Amt
10/30/2002	PIT257W05NEP0000252201	000219345	4	FT	STOCK, THRE	THD.,ASTM A-193, GR. B-16 ALLOY, 4' LONG	10.20
10/30/2002	PIT257W05NEP0000252201	000592360	2	PR	BOOTS, RUBB		23.97
10/30/2002	PIT257W05NEP0000252201	000374843	6	EA	CARTRIDGE, F	FOR DUSTS, MIST, ASBESTOS.	28.33
11/06/2002	PIT257W05NEP0000252201	000614612	2	CL	CYLINDER, CO	SIZE: 220 CF. CYLINDER	502.29
11/06/2002	PIT257W05NEP0000252201	000614612	-2	CL	CYLINDER, CO	SIZE: 220 CF. CYLINDER	-502.29
11/06/2002	PIT257W05NEP0000252201	000614610	1	CL	CYLINDER, CO	SIZE: 300 CF. CYLINDER	256.13
11/06/2002	PIT257W05NEP0000252201	000247700	2	CL	GAS, COMPRE		28.45
11/06/2002	PIT257W05NEP0000252201	000247668	1	CL	GAS, COMPRE		86.37
11/06/2002	PIT257W05NEP0000252201	000614612	-4	CL	CYLINDER, CO	SIZE: 220 CF. CYLINDER	-1004.58
11/06/2002	PIT257W05NEP0000252201	000614610	-1	CL	CYLINDER, CO	SIZE: 300 CF. CYLINDER	-256.13
11/07/2002	PIT257W05NEP0000252201	000208181	1	SH	PLATE, SIZE: 1	HECO ONLY: ASTM A-606, TYPE 4.	284.16
11/07/2002	PIT257W05NEP0000252201	000168864	11	ST	GASKET, KIT,	POWER MULTI-PORT BI-COLOR GAUGE MP-3000	1367.56
11/07/2002	PIT257W05NEP0000252201	000247684	1	CL	GAS, COMPRE		145.35
11/07/2002	PIT257W05NEP0000252201	000614611	-1	CL	CYLINDER, CO	SIZE: 336 CF CYLINDER	-399.98
11/07/2002	PIT257W05NEP0000252201	000614611	1	CL	CYLINDER, CO	SIZE: 336 CF CYLINDER	399.98
11/14/2002	PIT257W05NEP0000252201	000161307	2	EA	GAUGE, PRES	SAFETY GLASS	86.91
11/14/2002	PIT257W05NEP0000252201	000374447	1	PR	GLASSES, SAF	SIZE: 52M 5.0 LENS, BLACK	21.48
11/15/2002	PIT257W05NEP0000252201	000229302	2	EA	NIPPLE, THRE	SCH. 80, SEAMLESS, ASTM A-106, GR. B.	1.56
11/15/2002	PIT257W05NEP0000252201	000374884	2	EA	CARTRIDGE, F	620310)	10.17
11/15/2002	PIT257W05NEP0000252201	000265660	1	BX	BOOM, OIL, SE		91.67
11/15/2002	PIT257W05NEP0000252201	000227322	1	EA	COUPLING, E.	3000#, FORGED STEEL, THREADED	0.99
11/15/2002	PIT257W05NEP0000252201	000228304	1	EA	UNION, SIZE: 3	STEEL, SCREWED	5.87
11/15/2002	PIT257W05NEP0000252201	000229963	1	EA	NIPPLE, THRE	SCH. 80, SEAMLESS, ASTM A-106,	3.34
11/15/2002	PIT257W05NEP0000252201	000266080	1	GL	LUBRICANT, W	YELLOW	14.43
11/15/2002	PIT257W05NEP0000252201	000595421	1	EA	HARDHAT, YE	SUSPENSION	12.22
11/15/2002	PIT257W05NEP0000252201	000374900	2	EA	CARTRIDGE, F	620310)	11.59
11/16/2002	PIT257W05NEP0000252201	000161307	2	EA	GAUGE, PRES	SAFETY GLASS	86.91
11/20/2002	PIT257W05NEP0000252201	000208280	20	FT	IRON, ANGLE,	20 FT. LENGTH, CARBON STEEL	15.40
11/21/2002	PIT257W05NEP0000252201	000247668	1	CL	GAS, COMPRE		86.36
11/21/2002	PIT257W05NEP0000252201	000247700	1	CL	GAS, COMPRE		14.22
11/21/2002	PIT257W05NEP0000252201	000614612	-2	CL	CYLINDER, CO	SIZE: 220 CF. CYLINDER	-502.29
11/21/2002	PIT257W05NEP0000252201	000614610	-1	CL	CYLINDER, CO	SIZE: 300 CF. CYLINDER	-256.13

1652 Work Order Detail / Summarized Labor Report

Report Parameters

District: P *Parent WO:* * *WO Number:* PR026856 *From Date:* 190001 *To Date:* 999912 *Show Emp Info:* No

Company: **HECO**

Stock Material Transactions

Tran Dte	Acct Code	Stock Code	Qty	Unit of Issue	Item Name	Description	Tran Amt
11/21/2002	PIT257W05NEP0000252201	000614610	1	CL	CYLINDER, CO	SIZE: 300 CF. CYLINDER	256.13
11/21/2002	PIT257W05NEP0000252201	000614612	1	CL	CYLINDER, CO	SIZE: 220 CF. CYLINDER	251.14
11/22/2002	PIT257W05NEP0000252201	000268706	4	DR	SOLUTION, OR	SIZE: 450# DRUM (ORGANIC CHELANT)	5052.19
11/26/2002	PIT257W05NEP0000252201	000374447	2	PR	GLASSES, SAF	SIZE: 52M 5.0 LENS, BLACK	42.97
11/26/2002	PIT257W05NEP0000252201	000614611	-1	CL	CYLINDER, CO	SIZE: 336 CF CYLINDER	-399.98
11/26/2002	PIT257W05NEP0000252201	000614610	-1	CL	CYLINDER, CO	SIZE: 300 CF. CYLINDER	-256.13
12/10/2002	PIT257W05NEP0000252201	000247924	1	PR	GLOVES, WEL	ALL LEATHER, LONG 5-FINGER	16.92
12/10/2002	PIT257W05NEP0000252201	000371807	1	EA	LIGHTER, WEL		4.86
12/10/2002	PIT257W05NEP0000252201	000614612	-1	CL	CYLINDER, CO	SIZE: 220 CF. CYLINDER	-251.14
12/10/2002	PIT257W05NEP0000252201	000208363	20	FT	IRON, ANGLE,	CARBON STEEL	22.74
12/10/2002	PIT257W05NEP0000252201	000155200	1	EA	SEALANT, AD	SIZE: 11 OZ.	9.33
01/06/2003	PIT257W05NEP0000252201	000268706	4	DR	SOLUTION, OR	SIZE: 450# DRUM (ORGANIC CHELANT)	4861.88
						Expense Element: 201 Subtotal:	9 35466.15
						Total:	35466.15
						Work Order Total:	281941.21

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Detail / Summarized Labor Report

WO Number: PR041587 *From Date:* 190001 *To Date:* 999912 *Show Emp Info:* No

/3 Boiler Chemical Clean

e	Cat No	Supplier No	Inv No	Inv Item No	Inv Item Desc	Contract No	Portion No	Element No	Tran Amt
1	**Matl-Issues/Purchases**								
V03NEP0000249201		001153	1328768	003	EXCHANGE CYLINDER				2.08
V03NEP0000249201		001153	1328768	002	rack rental				33.33
								Expense Element: 201 Subtotal:	(h) 35.41
5	**Matl-Purchasing Card**								
V03NEP0000249205		000001	1634995	009	VALVE SERVICE & RE				202.70
V03NEP0000249205		000001	1576521	016	MC FERNE SALES CO				422.24
V03NEP0000249205		000001	1662565	006	THE HOME DEPOT				110.18
V03NEP0000249205		000001	1662565	004	HAWAII NUT & BOLT				132.00
/03NEP0000249205		000001	1634995	002	VALVE SERVICE & RE				192.40
/03NEP0000249205		000001	1662565	002	AIR LIQUIDE				316.86
/03NEP0000249205		000001	1737316	007	PROCESS CONTROLS				695.99
/03NEP0000249205		000001	1737316	004	MR. SANDMAN INC.				71.88
/03NEP0000249205		000001	1737316	005	BONDED MATERIALS				416.66
/03NEP0000249205		000001	1737316	003	FAMILIAN WAIPAHU				494.61
/03NEP0000249205		000001	1662565	007	WW GRAINGER				256.85
/03NEP0000249205		000001	1737316	006	BONDED MATERIALS				-20.83
								Expense Element: 205 Subtotal:	(h) 3291.54
1	**Outside Svcs-General**								
/03NEP0000249501		006157	0721200	001	WAIAU 3 MAJOR REP				100.00
/03NEP0000249501		006157	0721200	001	WAIAU 3 CHEM CLEA				100.00
/03NEP0000249501		011263	D005385	001	W3 OH SCAFFOLD FO				2136.12
/03NEP0000249501		003260	HECO8-0	001	W-3 4 CONTRACT CER				12114.88
/03NEP0000249501		020777	49772	001	Q-RAE MULTIGAS MO				322.00
/03NEP0000249501		020777	49772	001	Q-RAE MULTIGAS MO				12.88
/03NEP0000249501		014470	0002920	001	W3 CC PERSONEL/TR				1136.09
/03NEP0000249501		014470	0002920	001	W3 OH CC EQUIPMEN				281.00
/03NEP0000249501		014470	0002920	001	W3 OH CC EQUIPMEN				7025.00
/03NEP0000249501		014470	0002920	001	W3 CC PERSONEL/TR				28402.25

Blr Chem Cln. Σ(h) = 165,560
Non-Labor

1652 Work Order Detail / Summarized Labor Report

Report Parameters

District: P *Parent WO:* * *WO Number:* PR041587 *From Date:* 190001 *To Date:* 999912 *Show Emp Info:* No

Company: **HECO**

Invoice Transactions

Tran Dte	Acct Code	Cat No	Supplier No	Inv No	Inv Item No	Inv Item Desc	Contract No	Portion No	Element No	Tran Amt
09/29/2004	PIT258W03NEP0000249501		003259	0409019	001	W3-CRANE & CRANE				1822.91
10/12/2004	PIT258W03NEP0000249501		003259	0409027	001	W3-CRANE & CRANE				1276.03
10/15/2004	PIT258W03NEP0000249501		003860	3056	001	W-3 OH 5 DAYS (8 HR				3600.00
10/25/2004	PIT258W03NEP0000249501		019871	11638	001	W3 OH BLR CHEM CL				4618.72
10/25/2004	PIT258W03NEP0000249501		011263	R005840	001	W3 OH SCAFFOLD FO				228.96
11/12/2004	PIT258W03NEP0000249501		003260	HECO9-0	001	W-3 4 CONTRACT CER				23512.05
11/29/2004	PIT258W03NEP0000249501		003623	0013061	003	LABOR TO ASSEMBLE				71.61
12/23/2004	PIT258W03NEP0000249501		003623	0013082	005	1.2 HRS TO ASSY HOS				89.64
12/28/2004	PIT258W03NEP0000249501		003623	0013090	005	LABOR TO ASSEMBLE				33.39
									Expense Element: 501 Subtotal: (h)	86883.53
									Total:	90210.48

Labor Costs

Proccess Pd	Tran Dte	Acct Code	Emp ID	Last Name	First Name	No of Hours	Tran Amt
Expense Element: 150		**Labor Cost**					
200407	07/19/2004	PIB258W03NEP0000249150				6.00	196.44
	07/19/2004	PIT258W03NEP0000249150				2.50	79.25
	07/19/2004	PIT258W03NEP0000249150				7.00	221.90
	07/20/2004	PIB258W03NEP0000249150				6.00	196.44
	07/20/2004	PIT258W03NEP0000249150				5.00	158.50
	07/21/2004	PIB258W03NEP0000249150				4.00	130.96
	07/21/2004	PIT258W03NEP0000249150				4.50	142.65
	07/22/2004	PIB258W03NEP0000249150				8.00	261.92
	07/22/2004	PIT258W03NEP0000249150				6.00	190.20
	07/23/2004	PIB258W03NEP0000249150				8.00	261.92
	07/23/2004	PIT258W03NEP0000249150				8.00	253.60
	07/24/2004	PIT258W03NEP0000249150				7.00	221.90
	07/26/2004	PIB258W03NEP0000249150				6.00	196.44
	07/26/2004	PIT258W03NEP0000249150				8.00	253.60
	07/27/2004	PIB258W03NEP0000249150				6.00	196.44
	07/27/2004	PIT258W03NEP0000249150				7.00	221.90
	07/28/2004	PIB258W03NEP0000249150				4.00	130.96

652 Work Order Detail / Summarized Labor Report

ort Parameters

District: P Parent WO: * WO Number: PR041587 From Date: 190001 To Date: 999912 Show Emp Info: No

pany: HECO

				Total:	1726.00	100339.94

Manual Journal Vouchers

Tran Dte	Acct Code	Voucher No	Description	Accountant Code	Qty Amt	Tran Amt
Expense Element: 201	**Matl-Issues/Purchases**					
07/29/2004	PIT258W03NEP0000249201		ON COST CHG TO: 082678/001	HWB900	0	419.87
07/29/2004	PIT258W03NEP0000249201		ON COST CHG TO: 082678/002	HWB900	0	62.05
08/02/2004	PIT258W03NEP0000249201		ON COST CHG TO: 082881/001	HWB900	0	31.75
08/03/2004	PIT258W03NEP0000249201		ON COST CHG TO: 082903/001	HWB900	0	21.58
08/09/2004	PIT258W03NEP0000249201		ON COST CHG TO: 083169/001	HWB900	0	255.41
08/09/2004	PIT258W03NEP0000249201		ON COST CHG TO: 083169/002	HWB900	0	69.34
08/10/2004	PIT258W03NEP0000249201		ON COST CHG TO: 082795/002	HWB900	0	95.47
08/10/2004	PIT258W03NEP0000249201		ON COST CHG TO: 082795/005	HWB900	0	1.35
08/12/2004	PIT258W03NEP0000249201		ON COST CHG TO: 083236/004	HWB900	0	13.19
08/12/2004	PIT258W03NEP0000249201		ON COST CHG TO: 083236/003	HWB900	0	15.28
08/12/2004	PIT258W03NEP0000249201		ON COST CHG TO: 083236/001	HWB900	0	12.62
08/12/2004	PIT258W03NEP0000249201		ON COST CHG TO: 083236/002	HWB900	0	13.72
08/13/2004	PIT258W03NEP0000249201		ON COST CHG TO: 082903/002	HWB900	0	84.50
08/25/2004	PIT258W03NEP0000249201		ON COST CHG TO: 082326/001	HWB900	0	108.69
08/26/2004	PIT258W03NEP0000249201		ON COST CHG TO: 082325/002	HWB900	0	591.63
08/27/2004	PIT258W03NEP0000249201		ON COST CHG TO: 082651/001	HWB900	0	53.56
08/27/2004	PIT258W03NEP0000249201		ON COST CHG TO: 082325/001	HWB900	0	755.10
08/31/2004	PIT258W03NEP0000249201		ON COST CHG TO: 082651/003	HWB900	0	53.56
08/31/2004	PIT258W03NEP0000249201		ON COST CHG TO: 084247/001	HWB900	0	42.90
09/13/2004	PIT258W03NEP0000249201		ON COST CHG TO: 082795/004	HWB900	0	20.33
09/14/2004	PIT258W03NEP0000249201		ON COST CHG TO: 083926/002	HWB900	0	10.27
09/14/2004	PIT258W03NEP0000249201		ON COST CHG TO: 083926/001	HWB900	0	128.30
09/14/2004	PIT258W03NEP0000249201		ON COST CHG TO: 083926/003	HWB900	0	20.55
09/14/2004	PIT258W03NEP0000249201		ON COST CHG TO: 083926/004	HWB900	0	1.31
11/09/2004	PIT258W03NEP0000249201		ON COST CHG TO: 085306/002	HWB900	0	28.72
11/09/2004	PIT258W03NEP0000249201		ON COST CHG TO: 085306/003	HWB900	0	23.52
11/09/2004	PIT258W03NEP0000249201		ON COST CHG TO: 085306/001	HWB900	0	228.37
				Expense Element: 201	**Subtotal:**	(h) 3162.94
Expense Element: 501	**Outside Svcs-General**					
08/24/2004	PIT258W03NEP0000249501		ON COST CHG TO: 083819/001	HWB900	0	104.86

1652 Work Order Detail / Summarized Labor Report

Report Parameters

District: P *Parent WO:* * *WO Number:* PR041587 *From Date:* 190001 *To Date:* 999912 *Show Emp Info:* No

Company: **HECO**

Manual Journal Vouchers

Tran Dte	Acct Code	Voucher No	Description	Accountant Code	Qty Amt	Tran Amt
09/03/2004	PIT258W03NEP0000249501		ON COST CHG TO: 084191/001	HWB900	0	33.85
09/10/2004	PIT258W03NEP0000249501		ON COST CHG TO: 084160/002	HWB900	0	7.82
09/10/2004	PIT258W03NEP0000249501		ON COST CHG TO: 084158/002	HWB900	0	7.96
09/10/2004	PIT258W03NEP0000249501		ON COST CHG TO: 084159/002	HWB900	0	49.68
09/10/2004	PIT258W03NEP0000249501		ON COST CHG TO: 084159/006	HWB900	0	26.14
09/10/2004	PIT258W03NEP0000249501		ON COST CHG TO: 084160/003	HWB900	0	5.45
09/10/2004	PIT258W03NEP0000249501		ON COST CHG TO: 084160/001	HWB900	0	67.31
09/10/2004	PIT258W03NEP0000249501		ON COST CHG TO: 084159/004	HWB900	0	7.64
09/10/2004	PIT258W03NEP0000249501		ON COST CHG TO: 084160/004	HWB900	0	5.84
09/10/2004	PIT258W03NEP0000249501		ON COST CHG TO: 084159/001	HWB900	0	31.73
09/10/2004	PIT258W03NEP0000249501		ON COST CHG TO: 084158/001	HWB900	0	45.80
09/10/2004	PIT258W03NEP0000249501		ON COST CHG TO: 084158/004	HWB900	0	146.75
09/10/2004	PIT258W03NEP0000249501		ON COST CHG TO: 084159/003	HWB900	0	29.30
09/10/2004	PIT258W03NEP0000249501		ON COST CHG TO: 084159/005	HWB900	0	25.70
09/10/2004	PIT258W03NEP0000249501		ON COST CHG TO: 084159/007	HWB900	0	19.15
				Expense Element: 501	**Subtotal:**	614.98
					Total:	3777.92

Purchase Requisition Order Receipts

Tran Dte	Acct Code	PO No	PO Item No	Supplier No	Unit of Purch	Qty	Net Price	Tran Amt
Expense Element: 201	**Matl-Issues/Purchases**							
07/29/2004	PIT258W03NEP0000249201	P65348	001	006778	FT	420	7.69	3358.99
07/29/2004	PIT258W03NEP0000249201	P65348	002	006778	FT	43	11.10	496.39
08/02/2004	PIT258W03NEP0000249201	P65533	001	006778	FT	22	11.10	253.97
08/03/2004	PIT258W03NEP0000249201	P65621	001	006778	EA	12	13.83	172.60
08/09/2004	PIT258W03NEP0000249201	P65849	001	006778	FT	177	11.10	2043.29
08/09/2004	PIT258W03NEP0000249201	P65849	002	006778	FT	84	6.35	554.74
08/10/2004	PIT258W03NEP0000249201	P65461	005	006778	EA	1	30.45	10.77
08/10/2004	PIT258W03NEP0000249201	P65461	002	006778	EA	6	360.00	763.78
08/12/2004	PIT258W03NEP0000249201	P65922	004	005885	EA	6	16.88	105.49
08/12/2004	PIT258W03NEP0000249201	P65922	001	005885	EA	12	8.08	100.99
08/12/2004	PIT258W03NEP0000249201	P65922	002	005885	EA	12	8.78	109.74
08/12/2004	PIT258W03NEP0000249201	P65922	003	005885	EA	12	9.78	122.24

1652 Work Order Detail / Summarized Labor Report

Report Parameters

District: P *Parent WO:* * *WO Number:* PR041587 *From Date:* 190001 *To Date:* 999912 *Show Emp Info:* No

Company: **HECO**

Purchase Requisition Order Receipts

Tran Dte	Acct Code	PO No	PO Item No	Supplier No	Unit of Purch	Qty	Net Price	Tran Amt
08/13/2004	PIT258W03NEP0000249201	P65621	002	006778	EA	1	650.00	676.00
08/25/2004	PIT258W03NEP0000249201	P65876	001	003300	EA	5	166.95	869.48
08/26/2004	PIT258W03NEP0000249201	P65332	002	001761	BG	5	908.80	4733.03
08/27/2004	PIT258W03NEP0000249201	P65684	001	001153	EA	2	205.69	428.49
08/27/2004	PIT258W03NEP0000249201	P65332	001	001761	EA	4	1449.88	6040.78
08/31/2004	PIT258W03NEP0000249201	P65684	002	001153	EA	2	205.69	428.49
08/31/2004	PIT258W03NEP0000249201	P65684	004	001153	RK	1	329.50	343.21
09/13/2004	PIT258W03NEP0000249201	P65461	004	006778	EA	1	460.00	162.66
09/14/2004	PIT258W03NEP0000249201	P66665	003	006921	EA	2	79.03	164.38
09/14/2004	PIT258W03NEP0000249201	P66665	001	006921	EA	1	986.95	1026.43
09/14/2004	PIT258W03NEP0000249201	P66665	004	006921	EA	1	10.04	10.44
09/14/2004	PIT258W03NEP0000249201	P66665	002	006921	EA	1	79.03	82.19
11/09/2004	PIT258W03NEP0000249201	P67869	003	003623	EA	6	28.06	175.36
11/09/2004	PIT258W03NEP0000249201	P67869	002	003623	EA	4	51.40	214.15
11/09/2004	PIT258W03NEP0000249201	P67869	001	003623	EA	2	817.50	1703.02
					Expense Element:	**201**	**Subtotal:**	(h) 25151.10

Expense Element: 501 Outside Svcs-General

08/24/2004	PIT258W03NEP0000249501	P66481	001	020695	FT	105	7.67	838.85
09/03/2004	PIT258W03NEP0000249501	P66831	001	006666	EA	2	130.00	270.82
09/10/2004	PIT258W03NEP0000249501	P66768	004	003623	EA	6	187.85	1173.99
09/10/2004	PIT258W03NEP0000249501	P66768	002	003623	EA	32	1.91	63.66
09/10/2004	PIT258W03NEP0000249501	P66787	008	003623	EA	4	38.29	153.16
09/10/2004	PIT258W03NEP0000249501	P66789	001	003623	FT	50	10.34	538.51
09/10/2004	PIT258W03NEP0000249501	P66789	003	003623	EA	3	13.95	43.59
09/10/2004	PIT258W03NEP0000249501	P66787	003	003623	EA	8	28.13	234.40
09/10/2004	PIT258W03NEP0000249501	P66787	004	003623	EA	32	1.83	61.13
09/10/2004	PIT258W03NEP0000249501	P66789	002	003623	EA	3	20.02	62.56
09/10/2004	PIT258W03NEP0000249501	P66787	002	003623	EA	8	47.70	397.47
09/10/2004	PIT258W03NEP0000249501	P66787	001	003623	FT	142	1.72	253.81
09/10/2004	PIT258W03NEP0000249501	P66768	001	003623	FT	205	1.72	366.41
09/10/2004	PIT258W03NEP0000249501	P66787	006	003623	EA	4	51.40	205.60
09/10/2004	PIT258W03NEP0000249501	P66787	007	003623	EA	4	52.28	209.12

: Order Detail / Summarized Labor Report

Parent WO: * *WO Number:* PR041587 *From Date:* 190001 *To Date:* 999912 *Show Emp Info:* No

hase Requisition Order Receipts

Dte	Acct Code	PO No	PO Item No	Supplier No	Unit of Purch	Qty	Net Price	Tran Amt
/2004	PIT258W03NEP0000249501	P66789	004	003623	EA	12	3.74	46.75
						Expense Element: 501	Subtotal:	h 4919.83
							Total:	30070.93

hase Requisition Price Adjustments

Dte	Acct Code	PO No	PO Item No	Supplier No	Price Adjusted	Qty Adj	Unit of Purchase	Tran Amt
nse Element: 501	Outside Svcs-General							
/2004	PIT258W03NEP0000249501	P66787	008	003623	0.00	0	EA	6.13
/2004	PIT258W03NEP0000249501	P66787	007	003623	0.00	0	EA	8.36
/2004	PIT258W03NEP0000249501	P66787	006	003623	0.00	0	EA	8.22
/2004	PIT258W03NEP0000249501	P66787	004	003623	0.00	0	EA	-0.09
/2004	PIT258W03NEP0000249501	P66787	003	003623	0.00	0	EA	-0.36
/2004	PIT258W03NEP0000249501	P66787	002	003623	0.00	0	EA	-0.61
/2004	PIT258W03NEP0000249501	P66787	001	003623	0.00	0	FT	-0.39
/2004	PIT258W03NEP0000249501	P66789	003	003623	-1.49	0	EA	-4.65
						Expense Element: 501	Subtotal:	h 16.61
							Total:	16.61

k Material Transactions

Dte	Acct Code	Stock Code	Qty	Unit of Issue	Item Name	Description	Tran Amt
nse Element: 201	Matl-Issues/Purchases						
/2004	PIT258W03NEP0000249201	000225987	2	EA	TEE, SOCKET	ASME/ASTM A-105, ANSI B16.11	46.41
/2004	PIT258W03NEP0000249201	000225862	1	EA	ELBOW, SOCK	6000#, ASTM/ASME SA-105	13.93
/2004	PIT258W03NEP0000249201	000236281	3	EA	ELBOW, PIPE,	90 DEG., SCH. 80	35.94
/2004	PIT258W03NEP0000249201	000224303	30	FT	INSULATION,	JM THERMO 12, 1200 DEG. F.	326.64
/2004	PIT258W03NEP0000249201	000236885	1	EA	TEE, PIPE, BU		14.75
/2004	PIT258W03NEP0000249201	000236265	7	EA	ELBOW, PIPE,	90 DEG., SCH. 80	35.89
/2004	PIT258W03NEP0000249201	000224022	6	BX	INSULATION,	4' X 15'. (60 SQ FT PER BOX)	1298.21
/2004	PIT258W03NEP0000249201	000236885	1	EA	TEE, PIPE, BU		14.75
/2004	PIT258W03NEP0000249201	000236265	2	EA	ELBOW, PIPE,	90 DEG., SCH. 80	10.26
/2004	PIT258W03NEP0000249201	000236281	1	EA	ELBOW, PIPE,	90 DEG., SCH. 80	11.98
/2004	PIT258W03NEP0000249201	000224949	20	FT	PIPE, CARBON	SEAMLESS, ASTM A106, GRADE B	62.00

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Report Parameters

District: P *Parent WO:* * *WO Number:* PR041587 *From Date:* 190001 *To Date:* 999912 *Show Emp Info:* No

Company: **HECO**

Stock Material Transactions

Tran Dte	Acct Code	Stock Code	Qty	Unit of Issue	Item Name	Description	Tran Amt
07/31/2004	PIT258W03NEP0000249201	000231589	42	FT	PIPE, GALV, S	ASTM A-106, GR. A, DOMESTIC OR FOREIGN,	204.86
07/31/2004	PIT258W03NEP0000249201	000236901	1	EA	TEE, PIPE, BU		24.99
07/31/2004	PIT258W03NEP0000249201	000235242	1	EA	ELBOW, PIPE,	90 DEG., SCH. 40	4.16
07/31/2004	PIT258W03NEP0000249201	000236729	1	EA	REDUCER, PIP	CONCENTRIC, BUTTWELD END E.H. SCH. 80	5.31
07/31/2004	PIT258W03NEP0000249201	000225987	1	EA	TEE, SOCKET	ASME/ASTM A-105, ANSI B16.11	11.60
07/31/2004	PIT258W03NEP0000249201	000235341	2	EA	REDUCER, PIP	SCH. 40, CONCENTRIC, BUTTWELD END	7.45
07/31/2004	PIT258W03NEP0000249201	000225862	4	EA	ELBOW, SOCK	6000#, ASTM/ASME SA-105	27.86
07/31/2004	PIT258W03NEP0000249201	000236927	1	EA	TEE, PIPE, BU		15.78
07/31/2004	PIT258W03NEP0000249201	000274142	6	EA	VALVE, GATE,	WELD, ASTM A-105.	305.74
08/02/2004	PIT258W03NEP0000249201	000231589	21	FT	PIPE, GALV, S	ASTM A-106, GR. A, DOMESTIC OR FOREIGN,	102.43
08/02/2004	PIT258W03NEP0000249201	000236265	1	EA	ELBOW, PIPE,	90 DEG., SCH. 80	5.13
08/02/2004	PIT258W03NEP0000249201	000235242	2	EA	ELBOW, PIPE,	90 DEG., SCH. 40	8.31
08/02/2004	PIT258W03NEP0000249201	000301606	1	EA	GASKET, SPIR	SIZE: 12" ID X 16" ID X 1-1/4" X 3/32"	51.60
08/02/2004	PIT258W03NEP0000249201	000301648	5	EA	GASKET, MAN	SIZE: .175" X 16-1/16" X 17-9/16"	458.88
08/02/2004	PIT258W03NEP0000249201	000225987	1	EA	TEE, SOCKET	ASME/ASTM A-105, ANSI B16.11	11.60
08/03/2004	PIT258W03NEP0000249201	000301606	3	EA	GASKET, SPIR	SIZE: 12" ID X 16" ID X 1-1/4" X 3/32"	154.80
08/04/2004	PIT258W03NEP0000249201	000301648	3	EA	GASKET, MAN	SIZE: .175" X 16-1/16" X 17-9/16"	275.32
08/06/2004	PIT258W03NEP0000249201	000236240	1	EA	ELBOW, PIPE,	90 DEG., SCH. 80	8.11
08/09/2004	PIT258W03NEP0000249201	000236240	3	EA	ELBOW, PIPE,	90 DEG., SCH. 80	31.52
08/12/2004	PIT258W03NEP0000249201	000236885	1	EA	TEE, PIPE, BU		31.53
08/12/2004	PIT258W03NEP0000249201	000614611	1	CL	CYLINDER, CO	SIZE: 336 CF CYLINDER	353.40
08/12/2004	PIT258W03NEP0000249201	000247684	1	CL	GAS, COMPRE		94.06
08/12/2004	PIT258W03NEP0000249201	000221622	1	EA	GASKET, FLEX		4.13
08/12/2004	PIT258W03NEP0000249201	000622647	1	EA	GLASS, PYRE	DIAMETER, EDGES GROUND AND CHAMFERED,	14.04
08/12/2004	PIT258W03NEP0000249201	000227108	1	EA	BUSHING, E.H.	3000#, FORGED STEEL, BLACK, THREADED,	1.28
08/12/2004	PIT258W03NEP0000249201	000236901	1	EA	TEE, PIPE, BU		50.58
08/12/2004	PIT258W03NEP0000249201	000238840	1	EA	NIPPLE, PIPE,		0.68
08/12/2004	PIT258W03NEP0000249201	000370700	1	EA	FILE, HALF RO		20.32
08/12/2004	PIT258W03NEP0000249201	000614611	-1	CL	CYLINDER, CO	SIZE: 336 CF CYLINDER	-353.40
08/13/2004	PIT258W03NEP0000249201	000622647	-1	EA	GLASS, PYRE	DIAMETER, EDGES GROUND AND CHAMFERED,	-14.04
08/13/2004	PIT258W03NEP0000249201	000236885	0	EA	TEE, PIPE, BU		0.00
08/18/2004	PIT258W03NEP0000249201	000235168	2	EA	ELBOW, PIPE,	90 DEG., SCH. 40	13.46

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Report Parameters

District: P *Parent WO:* * *WO Number:* PR041587 *From Date:* 190001 *To Date:* 999912 *Show Emp Info:* No

Company: **HECO**

Stock Material Transactions

Tran Dte	Acct Code	Stock Code	Qty	Unit of Issue	Item Name	Description	Tran Amt
08/18/2004	PIT258W03NEP0000249201	000236901	1	EA	TEE, PIPE, BU		50.88
08/18/2004	PIT258W03NEP0000249201	000236786	1	EA	TEE, PIPE, BU		5.67
08/18/2004	PIT258W03NEP0000249201	000369785	3	EA	BLADE, BAND-	3' 8-7/8" X 1/2" X .020	38.67
08/18/2004	PIT258W03NEP0000249201	000155283	5	EA	ADHESIVE, SP	FOR ASBESTOS CONTAINMENT.	54.41
08/18/2004	PIT258W03NEP0000249201	000155242	4	EA	SEALANT, AD	10 OZ CARTRIDGE	27.48
08/18/2004	PIT258W03NEP0000249201	000235440	1	EA	ELBOW, PIPE,	45 DEG., SCH. 160	6.06
08/19/2004	PIT258W03NEP0000249201	000227348	2	EA	COUPLING, TH	ASTM SA-105 ASME B16.11	2.22
08/19/2004	PIT258W03NEP0000249201	000614611	-1	CL	CYLINDER, CO	SIZE: 336 CF CYLINDER	-353.40
08/19/2004	PIT258W03NEP0000249201	000614611	1	CL	CYLINDER, CO	SIZE: 336 CF CYLINDER	353.40
08/19/2004	PIT258W03NEP0000249201	000247684	1	CL	GAS, COMPRE		94.06
08/19/2004	PIT258W03NEP0000249201	000370684	2	EA	FILE, HALF RO		20.94
08/19/2004	PIT258W03NEP0000249201	000229468	1	EA	NIPPLE, THRE	SCH. 80, SEAMLESS, ASTM A-106, GR. B	2.26
08/19/2004	PIT258W03NEP0000249201	000273722	1	EA	VALVE, GATE,	WELD.	32.55
08/19/2004	PIT258W03NEP0000249201	000227066	1	EA	BUSHING, E.H.	3000#, FORGED STEEL, BLACK, THREADED,	0.86
08/19/2004	PIT258W03NEP0000249201	000613893	8	EA	DRUM, OPEN	DOT/EPA APPROVED FOR WASTE	669.60
08/21/2004	PIT258W03NEP0000249201	000226704	2	EA	UNION, SOCK	ASTM A-105	36.42
08/21/2004	PIT258W03NEP0000249201	000208363	40	FT	IRON, ANGLE,	CARBON STEEL	82.98
08/21/2004	PIT258W03NEP0000249201	000247925	1	PR	GLOVES, WEL	ALL LEATHER, LONG 5-FINGER	16.99
08/21/2004	PIT258W03NEP0000249201	000226241	1	EA	ELBOW, SOCK	3000#, ASTM/ASME SA-105	11.26
08/21/2004	PIT258W03NEP0000249201	000230029	1	EA	NIPPLE, THRE	SCREWED, SCH. 80, SEAMLESS, ASTM A-106,	3.95
08/23/2004	PIT258W03NEP0000249201	000229005	2	EA	NIPPLE, THRE	SCH. 80, SEAMLESS, ASTM A-106, GR. B	2.71
08/23/2004	PIT258W03NEP0000249201	000236265	3	EA	ELBOW, PIPE,	90 DEG., SCH. 80	43.63
08/23/2004	PIT258W03NEP0000249201	000273565	2	EA	VALVE, GATE,	THREADED	28.61
08/23/2004	PIT258W03NEP0000249201	000161307	1	EA	GAUGE, PRES	SAFETY GLASS	46.79
08/23/2004	PIT258W03NEP0000249201	000229021	2	EA	NIPPLE, THRE	SCH. 80, SEAMLESS, ASTM A-106, GR.B	2.09
08/23/2004	PIT258W03NEP0000249201	000224022	4	BX	INSULATION,	4' X 15'. (60 SQ FT PER BOX)	878.24
08/23/2004	PIT258W03NEP0000249201	000161307	2	EA	GAUGE, PRES	SAFETY GLASS	93.57
08/24/2004	PIT258W03NEP0000249201	000233825	1	EA	NIPPLE, PIPE,	SCH. 40, ASTM A106, GR. A, SEAMLESS,	7.57
08/24/2004	PIT258W03NEP0000249201	000233700	2	EA	NIPPLE, PIPE,	SCH. 40, ASTM A106, GR. A, SEAMLESS	3.40
08/24/2004	PIT258W03NEP0000249201	000234922	2	EA	UNION, PIPE, 1	GALVANIZED, MALLEABLE IRON	7.50
08/24/2004	PIT258W03NEP0000249201	000224261	72	FT	INSULATION,	JM THERMO 12, 1200 DEG. F.	558.84
08/24/2004	PIT258W03NEP0000249201	000232603	2	EA	ELBOW, 90 DE	GALVANIZED, MALLEABLE IRON THREADED PIP	1.87

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Report Parameters

District: P *Parent WO:* * *WO Number:* PR041587 *From Date:* 190001 *To Date:* 999912 *Show Emp Info:* No

Company: **HECO**

Stock Material Transactions

Tran Dte	Acct Code	Stock Code	Qty	Unit of Issue	Item Name	Description	Tran Amt
08/24/2004	PIT258W03NEP0000249201	000231787	1	EA	BUSHING, PIP	GALVANIZED, MALLEABLE IRON	1.77
08/24/2004	PIT258W03NEP0000249201	000231464	42	FT	PIPE, GALV, S	ASTM A-106, GR. A, DOMESTIC OR FOREIGN,	179.36
08/24/2004	PIT258W03NEP0000249201	000224261	72	FT	INSULATION,	JM THERMO 12, 1200 DEG. F.	558.84
08/25/2004	PIT258W03NEP0000249201	000229641	2	EA	NIPPLE, THRE	SCH. 80, SEAMLESS, ASTM A-106,	5.72
08/25/2004	PIT258W03NEP0000249201	000228049	1	EA	TEE, E.H. SIZE	FORGED STEEL SCREWED FITTING, 3000#	5.88
08/25/2004	PIT258W03NEP0000249201	000227645	1	EA	ELBOW, E.H.,	FORGED STEEL, SCREWED	4.94
08/25/2004	PIT258W03NEP0000249201	000226969	2	EA	BUSHING, E.H.	3000#, FORGED STEEL, BLACK, THREADED,	1.41
08/25/2004	PIT258W03NEP0000249201	000620310	24	EA	CARTRIDGE,	VIVAIR MASKS. FOR AMMONIA, ORGANIC	112.49
08/25/2004	PIT258W03NEP0000249201	000228106	1	EA	TEE, E.H. SIZE	FORGED STEEL SCREWED FITTING, 3000#	20.16
08/25/2004	PIT258W03NEP0000249201	000230003	3	EA	NIPPLE, THRE	SCREWED, SCH. 80, SEAMLESS, ASTM A-106,	15.36
08/25/2004	PIT258W03NEP0000249201	000233700	3	EA	NIPPLE, PIPE,	SCH. 40, ASTM A106, GR. A, SEAMLESS	5.09
08/25/2004	PIT258W03NEP0000249201	000232306	1	EA	COUPLING, PI	GALVANIZED STEEL, MALLEABLE IRON	5.10
08/25/2004	PIT258W03NEP0000249201	000169821	1	EA	GAUGE, PRES	SAFETY GLASS	44.25
08/25/2004	PIT258W03NEP0000249201	000229880	2	EA	NIPPLE, THRE	SCREWED, SCH. 80, SEAMLESS, ASTM A-106,	4.03
08/25/2004	PIT258W03NEP0000249201	000234922	1	EA	UNION, PIPE, 1	GALVANIZED, MALLEABLE IRON	3.75
08/25/2004	PIT258W03NEP0000249201	000232603	2	EA	ELBOW, 90 DE	GALVANIZED, MALLEABLE IRON THREADED PIP	1.87
08/25/2004	PIT258W03NEP0000249201	000273706	1	EA	VALVE, GATE,	THREADED	15.89
08/25/2004	PIT258W03NEP0000249201	000227686	3	EA	ELBOW, E.H.,	FORGED STEEL, SCREWED	44.71
08/26/2004	PIT258W03NEP0000249201	000227348	1	EA	COUPLING, TH	ASTM SA-105 ASME B16.11	1.11
08/26/2004	PIT258W03NEP0000249201	000273706	1	EA	VALVE, GATE,	THREADED	15.89
08/26/2004	PIT258W03NEP0000249201	000273706	1	EA	VALVE, GATE,	THREADED	15.89
08/26/2004	PIT258W03NEP0000249201	000234682	1	EA	REDUCER, CO	150#, GALVANIZED, MALLEABLE IRON	2.09
08/26/2004	PIT258W03NEP0000249201	000231787	1	EA	BUSHING, PIP	GALVANIZED, MALLEABLE IRON	1.77
08/26/2004	PIT258W03NEP0000249201	000228908	5	EA	NIPPLE, THRE	SCH. 80, SEAMLESS, ASTM A-106, GR. B	6.30
08/26/2004	PIT258W03NEP0000249201	000224766	20	FT	PIPE, CARBON	SEAMLESS, ASTM A106, GRADE B, PLAIN END	106.40
08/26/2004	PIT258W03NEP0000249201	000620625	2	LB	PACKING, VAL	SERVICE VALVE STEM, 2#.	330.87
08/26/2004	PIT258W03NEP0000249201	000620906	2	CN	SEALANT, ANT		71.53
08/26/2004	PIT258W03NEP0000249201	000234468	3	EA	NIPPLE, PIPE,	SCH. 40, ASTM A106, GR. A, SEAMLESS,	40.05
08/26/2004	PIT258W03NEP0000249201	000228924	2	EA	NIPPLE, THRE	SCH. 80, SEAMLESS, ASTM A-106, GR. B	2.01
08/26/2004	PIT258W03NEP0000249201	000272088	4	EA	VALVE, NEEDL		279.21
08/26/2004	PIT258W03NEP0000249201	000236687	1	EA	REDUCER, PIP	CONCENTRIC, BUTTWELD END E.H. SCH. 80	51.03
08/26/2004	PIT258W03NEP0000249201	000236646	1	EA	REDUCER, PIP	CONCENTRIC, BUTTWELD END E.H. SCH. 80	9.68

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	Tran Amt
TEEL, THREADED	37.00
0, SEAMLESS, ASTM A-106,	3.95
06, GR. A, SEAMLESS,	9.79
	7.48
	33.75
ACT.	61.13
	50.63
ED FOR WASTE	85.91
	18.75
	11.49
	92.60
SING, NON-STICKING	109.37
TWELD END E.H. SCH. 80	9.68
	17.15
	33.75
	713.95
	28.45
0, SEAMLESS, ASTM A-106,	3.40
	40.78
	16.88
WITH VERSOL 2665 &	1257.75
DI-AMMONIUM EDTA)	40038.57
ORGANIC CHELANT)	5031.00
00 DEG. F.	691.12
	67.49
00 DEG. F.	345.57
HREADED	2.62
L, MALLEABLE IRON	5.10
6, GR. A, SEAMLESS,	13.35
S, ASTM A-106, GR. B	1.34
S, ASTM A-106, GR. B	4.33
NDER	-2805.73

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Report Parameters

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Company: **HECO**

Stock Material Transactions

Tran Dte	Acct Code	Stock Code	Qty	Unit of Issue	Item Name	Description	Tran Amt
09/01/2004	PIT258W03NEP0000249201	000247700	16	CL	GAS, COMPRE		303.53
09/01/2004	PIT258W03NEP0000249201	000614612	16	CL	CYLINDER, CO	SIZE: 220 CF. CYLINDER	4081.06
09/01/2004	PIT258W03NEP0000249201	000614612	-3	CL	CYLINDER, CO	SIZE: 220 CF. CYLINDER	-765.20
09/02/2004	PIT258W03NEP0000249201	000301648	4	EA	GASKET, MAN	SIZE: .175" X 16-1/16" X 17-9/16"	405.47
09/02/2004	PIT258W03NEP0000249201	000301606	3	EA	GASKET, SPIR	SIZE: 12" ID X 16" ID X 1-1/4" X 3/32"	203.18
09/03/2004	PIT258W03NEP0000249201	000254060	3	EA	FLASHLIGHT,		17.22
09/06/2004	PIT258W03NEP0000249201	000614612	-1	CL	CYLINDER, CO	SIZE: 220 CF. CYLINDER	-255.07
09/06/2004	PIT258W03NEP0000249201	000264580	1	EA	DEVELOPER,		8.09
09/06/2004	PIT258W03NEP0000249201	000247700	1	CL	GAS, COMPRE		18.36
09/06/2004	PIT258W03NEP0000249201	000614612	1	CL	CYLINDER, CO	SIZE: 220 CF. CYLINDER	255.07
09/06/2004	PIT258W03NEP0000249201	000266080	1	GL	LUBRICANT, W	YELLOW	15.03
09/06/2004	PIT258W03NEP0000249201	000264648	1	EA	CLEANER, SP		8.99
09/06/2004	PIT258W03NEP0000249201	000264564	1	EA	PENETRANT,		8.09
09/07/2004	PIT258W03NEP0000249201	000208249	40	FT	IRON, ANGLE,	CARBON STEEL	16.94
09/07/2004	PIT258W03NEP0000249201	000208348	80	FT	IRON, ANGLE,	20 FT. LENGTH, CARBON STEEL	70.97
09/07/2004	PIT258W03NEP0000249201	000614611	-2	CL	CYLINDER, CO	SIZE: 336 CF CYLINDER	-706.78
09/08/2004	PIT258W03NEP0000249201	000268301	-30	DR	CLEANER, CH	SIZE: #530 DRUM (DI-AMMONIUM EDTA)	-19691.10
09/11/2004	PIT258W03NEP0000249201	000620906	1	CN	SEALANT, ANT		35.76
09/11/2004	PIT258W03NEP0000249201	000221622	1	EA	GASKET, FLEX		4.46
09/11/2004	PIT258W03NEP0000249201	000234781	1	EA	REDUCER, CO	150#, GALVANIZED, MALLEABLE IRON	7.55
09/13/2004	PIT258W03NEP0000249201	000226621	2	EA	UNION, SOCK	ASTM A-105	10.63
09/13/2004	PIT258W03NEP0000249201	000229286	1	EA	NIPPLE, THRE	SCH. 80, SEAMLESS, ASTM A-106,	1.53
09/14/2004	PIT258W03NEP0000249201	000614612	-1	CL	CYLINDER, CO	SIZE: 220 CF. CYLINDER	-255.07
09/14/2004	PIT258W03NEP0000249201	000573147	1	EA	BUCKET, PLAS		2.99
09/14/2004	PIT258W03NEP0000249201	000614610	-1	CL	CYLINDER, CO	SIZE: 300 CF. CYLINDER	-245.57
09/14/2004	PIT258W03NEP0000249201	000614612	1	CL	CYLINDER, CO	SIZE: 220 CF. CYLINDER	255.07
09/14/2004	PIT258W03NEP0000249201	000374447	1	PR	GLASSES, SAF	SIZE: 52M 5.0 LENS, BLACK	22.28
09/14/2004	PIT258W03NEP0000249201	000247925	1	PR	GLOVES, WEL	ALL LEATHER, LONG 5-FINGER	16.99
09/14/2004	PIT258W03NEP0000249201	000247700	1	CL	GAS, COMPRE		16.05
09/15/2004	PIT258W03NEP0000249201	000233924	1	EA	NIPPLE, PIPE,	SCH. 40, ASTM A106, GR. A, SEAMLESS	2.45
09/15/2004	PIT258W03NEP0000249201	000226308	1	EA	TEE, SOCKET	ASME/ASTM A-105, ANSI B16.11	4.71
09/16/2004	PIT258W03NEP0000249201	000226068	1	EA	ELBOW, SOCK	3000#, ASTM/ASME SA-105	5.06

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1652 Work Order Detail / Summarized Labor Report

Report Parameters

District: P *Parent WO:* * *WO Number:* PR041587 *From Date:* 190001 *To Date:* 999912 *Show Emp Info:* No

Company: **HECO**

Stock Material Transactions

Tran Dte	Acct Code	Stock Code	Qty	Unit of Issue	Item Name	Description	Tran Amt
09/16/2004	PIT258W03NEP0000249201	000573147	1	EA	BUCKET, PLAS		2.99
09/16/2004	PIT258W03NEP0000249201	000573162	1	EA	SEAT, BUCKE		6.98
09/20/2004	PIT258W03NEP0000249201	000370007	4	EA	BRUSH, WIRE	12/BOX	65.86
09/23/2004	PIT258W03NEP0000249201	000268706	2	DR	SOLUTION, OR	SIZE: 450# DRUM (ORGANIC CHELANT)	2515.50
09/23/2004	PIT258W03NEP0000249201	000154625	2	RL	TAPE, DUCT, S	3M HIGHLAND	14.96
09/23/2004	PIT258W03NEP0000249201	000208223	17	BG	LIME, HYDRAT	AND BOILER WATER TREATMENT	172.14
09/24/2004	PIT258W03NEP0000249201	000268706	1	DR	SOLUTION, OR	SIZE: 450# DRUM (ORGANIC CHELANT)	1257.75
09/26/2004	PIT258W03NEP0000249201	000224949	-20	FT	PIPE, CARBON	SEAMLESS, ASTM A106, GRADE B	-154.32
09/26/2004	PIT258W03NEP0000249201	000231589	-63	FT	PIPE, GALV, S	ASTM A-106, GR. A, DOMESTIC OR FOREIGN,	-914.01

Expense Element: 201 **Subtotal:** (h) 41483.77

Total: 41483.77

Work Order Total: 265899.65

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