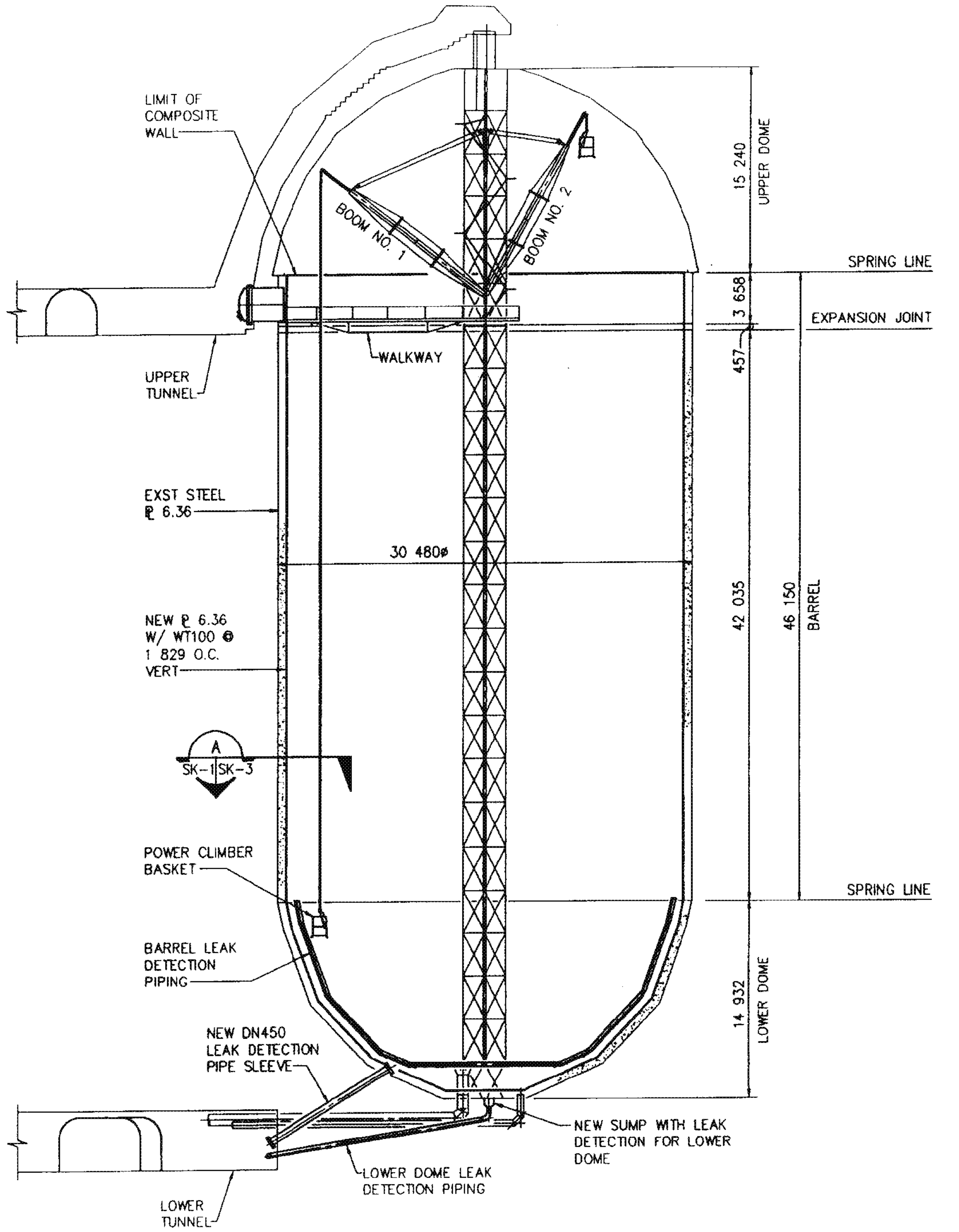
TANK REPAIR CONCEPT: COMPOSITE TANK



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GRAPHIC SCALES

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ENTERPRISE ENGINEERING, INC

YARMOUTH, ME ANCHORAGE, AK

TANK 19, REDHILL

FISC PEARL, HAWAII

CONCEPT 1:
COMPOSITE TANK

PROJ. NO. 98-2325	DWG. NO.	REV. 0

DRN. GQV	CHD. SJD	DATE 5/21/98	SHT. SK-1

DATE PLOTTED: 9 MAY 98

CAD FILE NO: 2825sk1

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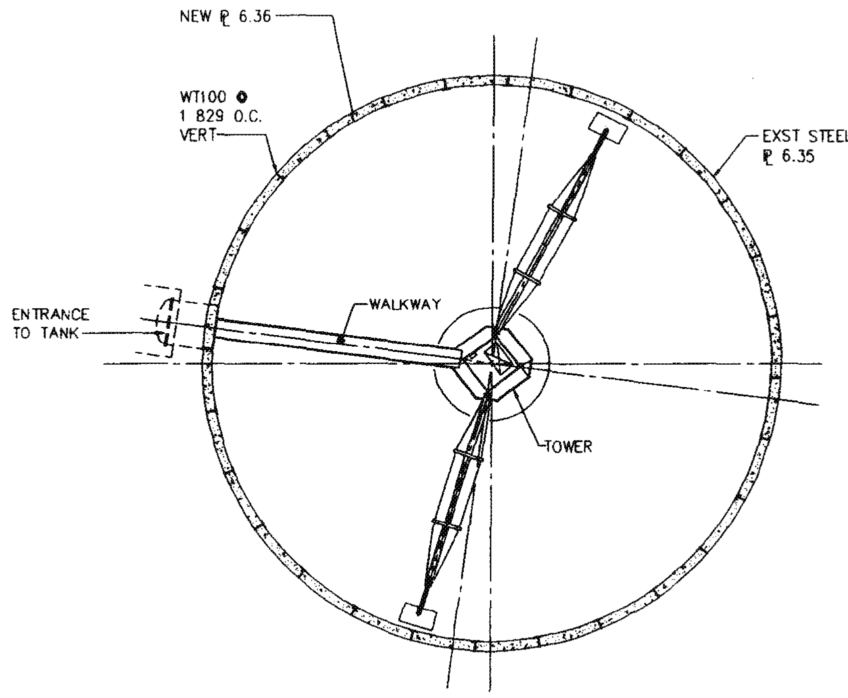

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GRAPHIC SCALES
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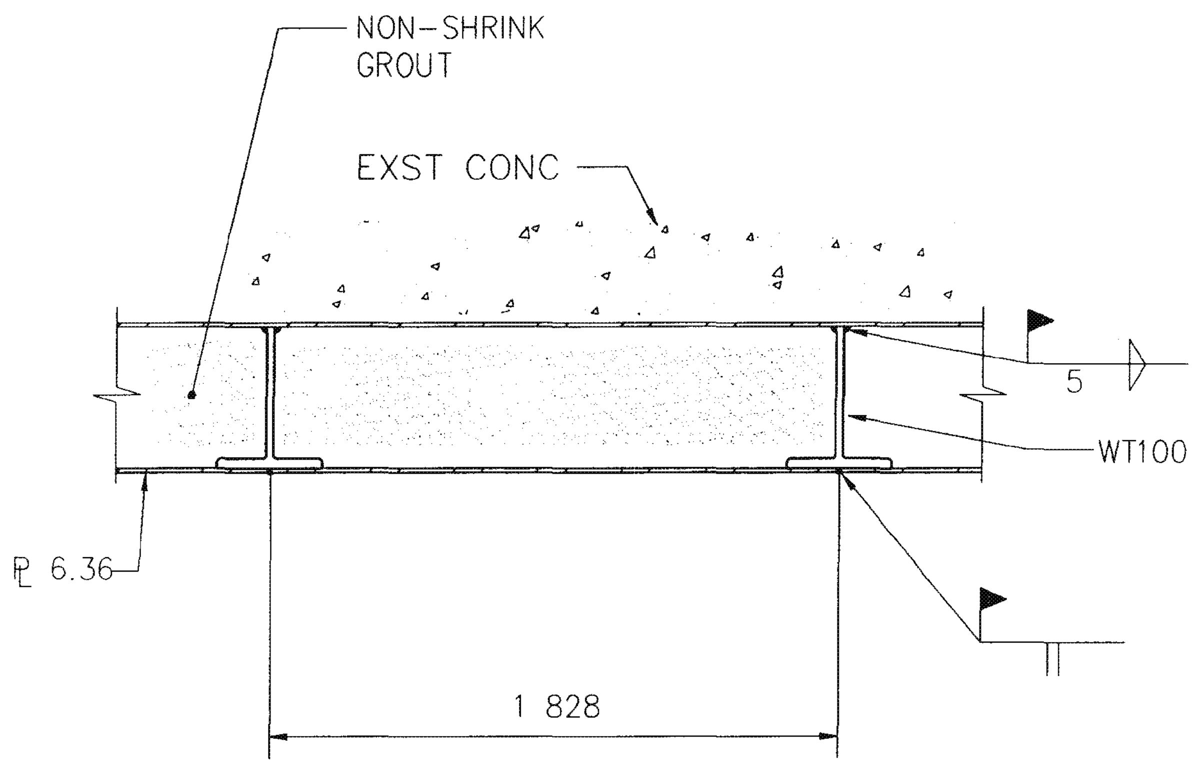
ENTERPRISE
ENGINEERING, INC
YARMOUTH, ME ANCHORAGE, AK

TANK 19, REDHILL			FISC PEARL, HAWAII
CONCEPT 1: COMPOSITE TANK			
PROJ. NO. 98-2325	DWG. NO.	REV. 0	
DRN. GQV	CHD. SJD	DATE 5/21/98	SHT. SK-2

DATE PLOTTED: 9 MAY 98 CAD FILE NO: 2325SK2



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SK-1 SK-3 SCALE: 1:25

TANK 19, REDHILL

FISC PEARL, HAWAII

CONCEPT 1:
COMPOSITE TANK DETAIL

ENTERPRISE
ENGINEERING, INC

YARMOUTH, ME

ANCHORAGE, AK

PROJ. NO.	DWG. NO.	REV.
98-2325		0

DRN.	CHD.	DATE	SHT.
GQV	SJD	5/21/98	SK-3

DATE PLOTTED: 9 MAY 98

CAD FILE NO: 2325sk3

COMPOSITE TANK
COST ESTIMATE - BASE BID

SYSTEM REPORT
SUBMITTAL: FACD
SOFTWARE VERSION: SUCCESS 2.21
REPORT WRITER VERSION: R&R 6.0

CONSTRUCTION CONTRACT: PRL 98-9
DATABASE USED: EEI
PRINTING DATE: 05/27/1998

ESTIMATE NAMERHT19-co

PROJECT: Red Hill Tank 19 - Composite Tank
LOCATION: FISC Pearl Harbor, HI
ESTIMATOR: EEI
PROJECT SIZE: 1 LS
CONSTRUCTION FUNDS AVAILABLE:

CAT CODE: N/A
UIC:
PROJECT #: PRL 98-9
DATE OF ESTIMATE: 5/26/98
BID DATE: 4/99

WBS CODE	DESCRIPTION	COST/WBS BASED ON 1 LS	SYSTEM UNITS/ U/M	COST/WBS UNIT	TOTAL MARKED UP COSTS MATL	LABOR	EQUIP	TOTAL
	TOTAL ESTIMATED CONTRACT (ROUNDED)							**5,298,000**
			*****PROJECT SUBTOTALS****		1,322,390	3,534,039	441,147	5,297,576
	DISTRIBUTED COSTS *This level is distributed*	**529416.00/LS**	**1 LS**		**6,000**	**414,840**	**108,576**	**529,416**
0001	**-FIELD OVERHEAD** *This level is distributed*	**529416.00/LS**	**1 LS**		**6,000**	**414,840**	**108,576**	**529,416**
	BASE BID	**5297575.80/LS**	**1 LS**		**1,322,390**	**3,534,039**	**441,147**	**5,297,576**
10	**-Set-up, Prep and Demolition**	**1022993.80/LS**	**1 LS**		**361,029**	**483,070**	**178,895**	**1,022,994**
1010	MAINTENANCE	959519.05/LS	1 LS		361,027	419,599	178,893	959,519
1011	REPAIR	63474.78/LS	1 LS		2	63,471	2	63,475
11	**-Basic Tank Repairs & Appurtanen**	**527526.16/LS**	**1 LS**		**104,500**	**415,625**	**7,401**	**527,526**
1110	MAINTENANCE	265935.44/LS	1 LS		13,688	252,248	0	265,935
1111	REPAIR	222555.79/LS	1 LS		81,144	134,012	7,401	222,556
1112	MINOR CONSTRUCTION	39034.92/LS	1 LS		9,669	29,366	0	39,035
12	**-Composite Tank - Barrel**	**2129647.57/LS**	**1 LS**		**451,447**	**1,659,257**	**18,943**	**2,129,648**
1211	REPAIR	2129647.57/LS	1 LS		451,447	1,659,257	18,943	2,129,648
13	**-Composite Tank - Lower Dome**	**718820.88/LS**	**1 LS**		**155,183**	**553,856**	**9,781**	**718,821**
1311	REPAIR	718820.88/LS	1 LS		155,183	553,856	9,781	718,821
14	**-Tell-tale System**	**299561.13/LS**	**1 LS**		**47,014**	**238,515**	**14,032**	**299,561**
1411	REPAIR	299561.13/LS	1 LS		47,014	238,515	14,032	299,561
15	**-Upper Dome Repairs**	**113648.04/LS**	**1 LS**		**9,765**	**69,499**	**34,383**	**113,648**
1510	MAINTENANCE	113648.04/LS	1 LS		9,765	69,499	34,383	113,648
16	**-Existing Tank Inspection**	**40081.25/LS**	**1 LS**		**0**	**0**	**40,081**	**40,081**
1610	MAINTENANCE	40081.25/LS	1 LS		0	0	40,081	40,081
17	**-Lower Dome Coating**	**219192.40/LS**	**1 LS**		**105,516**	**0**	**113,677**	**219,192**
1710	MAINTENANCE	219192.40/LS	1 LS		105,516	0	113,677	219,192
18	**-Tank Piping - Lining**	**226104.54/LS**	**1 LS**		**87,935**	**114,217**	**23,953**	**226,105**
1810	MAINTENANCE	226104.54/LS	1 LS		87,935	114,217	23,953	226,105

SUMMARY REPORT
SUBMITTAL: FACD
SOFTWARE VERSION: SUCCESS 2.21
REPORT WRITER VERSION: R&R 6.0

CONSTRUCTION CONTRACT: PRL 98-9
DATABASE USED: EEI
PRINTING DATE: 05/27/1998
Page No. 1
ESTIMATE NAMERHT19-co

PROJECT: Red Hill Tank 19 - Composite Tank
LOCATION:FISC Pearl Harbor, HI
ESTIMATOR:EEI
PROJECT SIZE: 1 LS
CONSTRUCTION FUNDS AVAILABLE:

CAT CODE: N/A
UIC:
PROJECT #: PRL 98-9
DATE OF ESTIMATE: 5/26/98
BID DATE: 4/99

WBS CODE	DESCRIPTION	COST/WBS BASED ON 1 LS	SYSTEM UNITS/ U/M	COST/WBS UNIT	TOTAL MARKED UP COSTS MATL	LABOR	EQUIP	TOTAL
	TOTAL ESTIMATED CONTRACT (ROUNDED)							**5,298,000**
			*****PROJECT SUBTOTALS****		1,322,390	3,534,039	441,147	5,297,576
	DISTRIBUTED COSTS	529416.00/LS	1 LS		6,000	414,840	108,576	529,416
	This level is distributed							
0001	---FIELD OVERHEAD	529416.00/LS	1 LS		6,000	414,840	108,576	529,416
	This level is distributed							
	BASE BID	5297575.80/LS	1 LS		1,322,390	3,534,039	441,147	5,297,576
10	---Set-up, Prep and Demolition	1022993.80/LS	1 LS		361,029	483,070	178,895	1,022,994
11	---Basic Tank Repairs & Appurt	527526.16/LS	1 LS		104,500	415,625	7,401	527,526
12	---Composite Tank - Barrel	2129647.57/LS	1 LS		451,447	1,659,257	18,943	2,129,648
13	---Composite Tank - Lower Dome	718820.88/LS	1 LS		155,183	553,856	9,781	718,821
14	---Tell-tale System	299561.13/LS	1 LS		47,014	238,515	14,032	299,561
15	---Upper Dome Repairs	113648.04/LS	1 LS		9,765	69,499	34,383	113,648
16	---Existing Tank Inspection	40081.25/LS	1 LS		0	0	40,081	40,081
17	---Lower Dome Coating	219192.40/LS	1 LS		105,516	0	113,677	219,192
18	---Tank Piping - Lining	226104.54/LS	1 LS		87,935	114,217	23,953	226,105

CONTRACTOR MARKUP REPORT
SUBMITTAL: FACD
SOFTWARE VERSION: SUCCESS 2.1
REPORT WRITER VERSION: R&R 6.0

CONSTRUCTION CONTRACT: PRL 98-9
DATABASE USED :EEI
PRINTING DATE :05/27/98
PAGE NUMBER : 1
ESTIMATE NAME : RHT19-comp

PROJECT: Red Hill Tank 19 - Composite Tank
LOCATION: FISC Pearl Harbor, HI
ESTIMATOR: EEI
PROJECT SIZE: 1.00LS
AUTHORIZED CONSTRUCTION FUNDS:

CAT CODE:N/A
UIC:
PROJECT #:
DATE OF ESTIMATE 5/26/98
BID DATE: 4/99

CONTRACTOR	DESCRIPTION	MATERIAL	LABOR	EQUIPMENT
P	**Prime Contractor**			
	WORKER'S COMPENSATION/UNEMPL/SOC. SEC TAXES	0.00	45.00	0.00
	HAWAII COST ADJUSTMENT	0.00	31.00	0.00
	PRIME OVERHEAD	10.00	10.00	10.00
	PRIME PROFIT	6.00	6.00	6.00
	PRIME HOME OFFICE	3.00	3.00	3.00
	BOND	2.00	2.00	2.00
	ESCALATION	1.02	1.02	1.02
	ESTIMATING CONTINGENCY	5.00	5.00	5.00
	HI GET	4.17	4.17	4.17
	SALES TAX	0.50	0.00	0.50
	COMPOSITE MARKUPS FOR P			
	MATERIAL COMPOSITE MARKUP	**1.360**		
	LABOR COMPOSITE MARKUP	**2.571**		
	EQUIPMENT COMPOSITE MARKUP	**1.360**		
S	**Subcontractors**			
	SUBCONTRACTOR OVERHEAD	10.00	10.00	10.00
	SUBCONTRACTOR PROFIT	6.00	6.00	6.00
	SUBCONTRACTOR HOME OFFICE	3.00	3.00	3.00
	COMPOSITE MARKUPS FOR S			
	MATERIAL COMPOSITE MARKUP	**1.201**		
	LABOR COMPOSITE MARKUP	**1.201**		
	EQUIPMENT COMPOSITE MARKUP	**1.201**		

PROJECT: Red Hill Tank 19 - Composite Tank
LOCATION: FISC Pearl Harbor, HI
ESTIMATOR: EEI
PROJECT SIZE: 1 LS
AUTHORIZED CONSTRUCTION FUNDS:

CAT CODE: N/A
UIC:
PROJECT #: PRL 98-9
DATE OF ESTIMATE: 5/26/98
BID DATE: 4/99

DETAIL REPORT
UNBURDENED LINE ITEMS
FACD
SOFTWARE VERSION: SUCCESS 3.0
REPORT WRITER VERSION: R&R 6.0

CONSTRUCTION CONTRACTPRL 98-9

DATABASE USED: EEI
PRINTING DATE:05/27/1998

WBS CODE	DESCRIPTION	QTY	UM	MATERIAL	LABOR	EQUIPMENT	TOTAL
00							
0001							
	0001 FIELD OVERHEAD *This system is distributed*						
010000002	Project Superintendent	14.00	mos	0	5940 83,160	0	5940 83,160
010000002	Project Quality Control	14.00	mos	0	5000 70,000	0	5000 70,000
010000002	Safety	12.00	mos	0	4800 57,600	0	4800 57,600
010000002	Firewatch	12.00	mos	0	4800 57,600	0	4800 57,600
010000002	Equipment Operator (crane, fork truck)	9.00	mos	0	4800 43,200	0	4800 43,200
010000002	Boom Operator	12.00	mos	0	5300 63,600	0	5300 63,600
010000001	Pick-Up Truck #1	12.00	mos	0	0	720 8,640	720 8,640
010000001	Pick-Up Truck #2	12.00	mos	0	0	720 8,640	720 8,640
010000001	Skid Steer/fork lift #1	12.00	mos	0	0	2530 30,360	2530 30,360
010000001	Fork Lift #2	12.00	mos	0	0	2530 30,360	2530 30,360
010000001	Welding Equipment #1	12.00	mos	0	0	600 7,200	600 7,200
010000001	Welding Equipment #2	12.00	mos	0	0	600 7,200	600 7,200
010000003	Contractor Office	12.00	mos	0	0	181 2,172	181 2,172
010000003	Tool & Storage Shed	12.00	mos	0	0	90 1,080	90 1,080
010000003	Temporary Toilets	12.00	mos	0	0	80 960	80 960
010000003	Small Tools	12.00	mos	0	0	750 9,000	750 9,000
010000003	Construction Schedule	1.00	LS	0	1200 1,200	0	1200 1,200

WBS CODE	DESCRIPTION	QTY	UM	MATERIAL	LABOR	EQUIPMENT	TOTAL
	0001 FIELD OVERHEAD						
	This system is distributed						
010000003		12.00	mos		240		240
Progress Sched				0	2,880	0	2,880
010000004		12.00	mos	50			50
Photographs				600	0	0	600
010000004		6.00	wk		1500		1500
Submittals				0	9,000	0	9,000
010000004		6.00	wk	400	1500		1900
As-Built Drawings				2,400	9,000	0	11,400
010000006		12.00	mos			247	247
Communications: Telephone,Radios				0	0	2,964	2,964
010000014		12.00	mos		300		300
General Clean-up				0	3,600	0	3,600
010000014		1.00	LS	3000	7000		10000
Mobilization				3,000	7,000	0	10,000
010000014		1.00	LS		7000		7000
Demobilization				0	7,000	0	7,000
TOTAL 0001 FIELD OVERHEAD				**6,000**	**414,840**	**108,576**	**529,416**
	1.00 LS						

WBS CODE	DESCRIPTION	QTY	UM	MATERIAL	LABOR	EQUIPMENT	TOTAL
10							
1010							
101010							
	101010001 General						
	Subcontractor: S	1.00	ls	6000	9600	4500	20100
	Temp. monorail in tanks			6,000	9,600	4,500	20,100
	Subcontractor: S	24.00	mo			1025	1025
	Temp.swing staging inside tank (rented air powered, to 300' high)			0	0	24,600	24,600
	Subcontractor: S	2.00	ea		500		500
	Certify Booms			0	1,000	0	1,000
	Subcontractor: S	2.00	ea		500		500
	Certify Swing Staging			0	1,000	0	1,000
	Subcontractor: S	1.00	ls	13800	7393		21193
	Temp power to Const Trailers			13,800	7,393	0	21,193
	Subcontractor: S	1.00	ls	10357	6071		16428
	Elec - Upper Tunnel - Weld, elec, lights, small tools			10,357	6,071	0	16,428
	Subcontractor: S	1.00	ls	14964	4321		19285
	Elec - Lower Tunnel - Weld, elec, lights, small tools			14,964	4,321	0	19,285
		2.00	md		240	50	290
	Remove Exist. Aboveground Air Supply Fan at top of tank			0	480	100	580
		2.00	md		240	50	290
	Remove ductwork, Lower Tunnel			0	480	100	580
		40.00	md		240		240
	Remove Hoist Sys. / Scaffolding (4per. @ 30/hr x 8hr/day x 6 day)			0	9,600	0	9,600
		8.00	md		240		240
	Remove Lighting in Tank (2per. @ 30/hr x 8hr/day x 4 day)			0	1,920	0	1,920
		20.00	md		240		240
	Water Wash Shell & Tower (4per. @ 30/hr x 8hr/day x 5 day)			0	4,800	0	4,800
	Subcontractor: S	10.00	day		750		750
	Marine Chemist - Evaluation (subctnr quote)			0	7,500	0	7,500
	Subcontractor: S	3.00	day		750		750
	Marine Chemist - Safety Pan (subctnr quote)			0	2,250	0	2,250
	Subtotal Direct Costs			45,121	56,415	29,300	130,836
	Subcontractor Markups			9,068	7,865	5,849	22,782
	Distributions			337	27,786	17,559	45,681
	Prime Contractor P Markups			19,647	144,643	18,635	182,925
	TOTAL 101010001 General	**1.00**	**LS**	**74,173**	**236,709**	**71,342**	**382,224**
	SUBTOTAL 101010 General			45,121	56,415	29,300	130,836
	MARKUP			*1.644*	*4.196*	*2.435*	*2.921*
	TOTAL 101010 General			**74,173**	**236,709**	**71,342**	**382,224**

WBS CODE	DESCRIPTION	QTY	UM	MATERIAL	LABOR	EQUIPMENT	TOTAL
101011							
	101011001 Ventilation System						
	Subcontractor: S	1.00	ea	14000	1000		15000
	Supply fan with filters, 19000 l/s, 100 hp motor (75 kw motor)			14,000	1,000	0	15,000
	Subcontractor: S	1.00	ea	16000	1500		17500
	Exhaust fan with filters, 19000 l/s, 100 hp motor (75 kw motor)			16,000	1,500	0	17,500
	Subcontractor: S	50.00	m	43	62		105
	Ductwork, 800 mm dia			2,150	3,100	0	5,250
	Subcontractor: S	200.00	m	13	16		29
	Flex duct, 300 mm dia			2,600	3,200	0	5,800
	Subcontractor: S	1.00	ea		1004	44118	45122
	Elec - Gen for Supply Fan			0	1,004	44,118	45,122
	Subcontractor: S	1.00	ea		11250		11250
	Elec - Gen Demob			0	11,250	0	11,250
	Subtotal Direct Costs			34,750	21,054	44,118	99,922
	Subcontractor Markups			6,984	4,231	8,867	20,082
	Distributions			259	10,930	26,469	37,658
	Prime Contractor P Markups			15,131	56,897	28,091	100,119
	TOTAL 101011001 Ventilation System	**1.00**	**LS**	**57,124**	**93,112**	**107,545**	**257,782**
	101011002 Baghouse Dust Collection						
	Subcontractor: S	1.00	ea	15000	1100	0.1	16100.1
	Dust collector (bag house) with filters & cleaning system			15,000	1,100	0	16,100
	Subcontractor: S	1.00	ea	9000	950		9950
	Exhaust Fan, in line centrifugal 9500 L/s, 20 hp			9,000	950	0	9,950
	Subcontractor: S	15.00	m	50	70		120
	Ductwork 900 mm dia			750	1,050	0	1,800
	Subtotal Direct Costs			24,750	3,100	0	27,850
	Subcontractor Markups			4,974	623	0	5,597
	Distributions			185	1,609	0	1,794
	Prime Contractor P Markups			10,777	8,378	0	19,154
	TOTAL 101011002 Baghouse Dust Collection	**1.00**	**LS**	**40,686**	**13,710**	**0**	**54,396**
	SUBTOTAL 101011 Ventilation			59,500	24,154	44,118	127,772
	MARKUP			*1.644*	*4.423*	*2.438*	*2.443*
	TOTAL 101011 Ventilation			**97,810**	**106,822**	**107,546**	**312,178**
101012							
	101012001 Dehumidification						
	Subcontractor: S	2.00	ea	7000	1500	1	8501
	Dehumid. - Air Handling Unit, 4750 L/S, 10 HP motor, w/reheat			14,000	3,000	2	17,002
	Subcontractor: S	2.00	ea	50000	6600		56600
	Dehumid. - Air Cooled condensing unit, 270 KW capacity			100,000	13,200	0	113,200

WBS CODE	DESCRIPTION	QTY	UM	MATERIAL	LABOR	EQUIPMENT	TOTAL
101012							
	101012001 Dehumidification						
	Subcontractor: S	1.00	ea	1000	1000		2000
	Dehumid. - Refrigerant piping & accessories			1,000	1,000	0	2,000
	Subtotal Direct Costs			115,000	17,200	2	132,202
	Subcontractor Markups			23,113	3,457	0	26,570
	Distributions			858	8,929	1	9,788
	Prime Contractor P Markups			50,074	46,482	1	96,557
	TOTAL 101012001 Dehumidification			**189,044**	**76,068**	**5**	**265,117**
	1.00 LF						
	SUBTOTAL 101012 Dehumidification			115,000	17,200	2	132,202
	MARKUP			*1.644*	*4.423*	*2.435*	*2.005*
	TOTAL 101012 Dehumidification			**189,044**	**76,068**	**5**	**265,117**
	SUBTOTAL 1010 MAINTENANCE			219,621	97,769	73,420	390,810
	MARKUP			*1.644*	*4.292*	*2.437*	*2.455*
	TOTAL 1010 MAINTENANCE			**361,027**	**419,599**	**178,893**	**959,519**
1011							
101110							
	101110001 Demo Piping & Tell-tale In Tank						
		357.00	m		8		8
	Remove Tell-tale piping, DN 20			0	2,856	0	2,856
		915.00	m		10		10
	Remove Tell-tale piping, DN 40			0	9,150	0	9,150
		163.00	ea		10		10
	Remove Tell-tale jumper pipes, DN20			0	1,630	0	1,630
		16.00	mh		25		25
	Remove gooseneck DN 800, Fill/Issue			0	400	0	400
		12.00	mh		25		25
	Remove tee, reducer & valve, DN 400			0	300	0	300
		8.00	mh		25		25
	Remove water piping in tank			0	200	0	200
		12.00	mh	0.1	25	0.1	25.2
	Remove water piping in tunnel			1	300	1	302
		8000.00	kg		0.3		0.3
	Material Disposal			0	2,400	0	2,400
	Subtotal Direct Costs			1	17,236	1	17,238
	Distributions			0	7,450	1	7,451
	Prime Contractor P Markups			0	38,784	1	38,785
	TOTAL 101110001 Demo Piping & Tell-tale In Tank			**2**	**63,471**	**2**	**63,475**
	1.00 LS						
	SUBTOTAL 101110 Demo Piping & Tell-tale In Tank			1	17,236	1	17,238
	MARKUP			*1.375*	*3.682*	*2.033*	*3.682*
	TOTAL 101110 Demo Piping & Tell-tale In Tank			**2**	**63,471**	**2**	**63,475**

WBS CODE	DESCRIPTION	QTY	UM	MATERIAL	LABOR	EQUIPMENT	TOTAL
101110							
	101110001 Demo Piping & Tell-tale In Tank						
SUBTOTAL 1011 REPAIR				1	17,236	1	17,238
MARKUP				*1.375*	*3.682*	*2.033*	*3.682*
TOTAL 1011 REPAIR				**2**	**63,471**	**2**	**63,475**

WBS CODE	DESCRIPTION	QTY	UM	MATERIAL	LABOR	EQUIPMENT	TOTAL
11							
1110							
111010							
	111010001 Basic Tank Repairs & Appurtanences						
	Remove Grout Tubes	500.00	ea	 0	15 7,500	 0	15 7,500
	Remove All Misc Clips / Debris	1.00	ls	 0	1000 1,000	 0	1000 1,000
	Patch Plate Holes at Removed Tell tale Piping / Grout Tubes	1000.00	ea	10 10,000	60 60,000	 0	70 70,000
	Subtotal Direct Costs			10,000	68,500	0	78,500
	Distributions			62	29,610	0	29,672
	Prime Contractor P Markups			3,626	154,138	0	157,763
	TOTAL 111010001 Basic Tank Repairs & Appurtanences	1.00	LF	**13,688**	**252,248**	**0**	**265,935**
	SUBTOTAL 111010 Basic Tank Repairs & Appurtanences			10,000	68,500	0	78,500
	MARKUP			*1.369*	*3.682*		*3.388*
	TOTAL 111010 Basic Tank Repairs & Appurtanences			**13,688**	**252,248**	**0**	**265,935**
	SUBTOTAL 1110 MAINTENANCE			10,000	68,500	0	78,500
	MARKUP			*1.369*	*3.682*		*3.388*
	TOTAL 1110 MAINTENANCE			**13,688**	**252,248**	**0**	**265,935**
1111							
111110							
	111110001 Basic Tank Repairs & Appurtanences						
	Subcontractor: S Tank Piping - DN 800 Diffuser	4.00	m	2300 9,200	1050 4,200	440 1,760	3790 15,160
	Subcontractor: S Tank Piping - DN 400 piping mods.	2.00	m	583 1,166	262 524	110 220	955 1,910
	Subcontractor: S Tank Piping - DN 200 piping mods.	2.00	m	146 292	66 132	28 56	240 480
	Subcontractor: S Tank Piping - Hydrotest	1.00	ls	2000 2,000	2400 2,400	 0	4400 4,400
	Subcontractor: S Tank Straping & calibration	1.00	ls	 0	12000 12,000	1000 1,000	13000 13,000
	Tower Mods. - Reinf @ Dome for Boom Operation, 4 per @ 30/hr x 8hr/day x 7 days)*	7.00	md	1000 7,000	240 1,680	 0	1240 8,680
	Tower Mods. - Provide Gauging Platform	10.00	md	1000 10,000	240 2,400	 0	1240 12,400
	Tank ATG - Remove existing gauge system	2.00	md	 0	240 480	 0	240 480
	ATG system (type to be determined)	1.00	ea	25000 25,000	1500 1,500	 0	26500 26,500

WBS CODE	DESCRIPTION	QTY	UM	MATERIAL	LABOR	EQUIPMENT	TOTAL
111110							
	111110001 Basic Tank Repairs & Appurtanences						
	Subcontractor: S	1.00	ea		1000		1000
	Tank ATG - System testing			0	1,000	0	1,000
	Subcontractor: S	1.00	ea	1732	5000		6732
	Elec wire and conduits for ATG system			1,732	5,000	0	6,732
	Subtotal Direct Costs			56,390	31,316	3,036	90,742
	Subcontractor Markups			2,892	5,076	610	8,578
	Distributions			368	15,731	1,822	17,920
	Prime Contractor P Markups			21,493	81,889	1,933	105,315
	TOTAL 111110001 Basic Tank Repairs & Appurtanences	**1.00**	**LF**	**81,144**	**134,012**	**7,401**	**222,556**
	SUBTOTAL 111110 Basic Tank Repairs & Appurtanences			56,390	31,316	3,036	90,742
	MARKUP			*1.439*	*4.279*	*2.438*	*2.453*
	TOTAL 111110 Basic Tank Repairs & Appurtanences			**81,144**	**134,012**	**7,401**	**222,556**
	SUBTOTAL 1111 REPAIR			56,390	31,316	3,036	90,742
	MARKUP			*1.439*	*4.279*	*2.438*	*2.453*
	TOTAL 1111 REPAIR			**81,144**	**134,012**	**7,401**	**222,556**
1112							
111210							
	111210001 Basic Tank Repairs & Appurtanences						
	Subcontractor: S	1.00	ea	3500	1000		4500
	Hi level control panel, Scully system			3,500	1,000	0	4,500
	Subcontractor: S	2.00	ea	250	80		330
	Hi level alarm sensors			500	160	0	660
	Subcontractor: S	1.00	ea	150	480		630
	Hi level alarm sensor holder, tank mods			150	480	0	630
	Subcontractor: S	1.00	ea	1732	5000		6732
	Elec wire and conduits for hi level alarm system			1,732	5,000	0	6,732
	Subtotal Direct Costs			5,882	6,640	0	12,522
	Subcontractor Markups			1,182	1,335	0	2,517
	Distributions			44	3,447	0	3,491
	Prime Contractor P Markups			2,561	17,944	0	20,505
	TOTAL 111210001 Basic Tank Repairs & Appurtanences	**1.00**	**LF**	**9,669**	**29,366**	**0**	**39,035**
	SUBTOTAL 111210 Basic Tank Repairs & Appurtanences			5,882	6,640	0	12,522
	MARKUP			*1.644*	*4.423*		*3.117*
	TOTAL 111210 Basic Tank Repairs & Appurtanences			**9,669**	**29,366**	**0**	**39,035**
	SUBTOTAL 1112 MINOR CONSTRUCTION			5,882	6,640	0	12,522
	MARKUP			*1.644*	*4.423*		*3.117*
	TOTAL 1112 MINOR CONSTRUCTION			**9,669**	**29,366**	**0**	**39,035**

WBS CODE	DESCRIPTION	QTY	UM	MATERIAL	LABOR	EQUIPMENT	TOTAL
111210							
	111210001 Basic Tank Repairs & Appurtanences						

WBS CODE	DESCRIPTION	QTY	UM	MATERIAL	LABOR	EQUIPMENT	TOTAL
12							
1211							
121110	**121110001 Composite Tank - Barrel**						
		364.00	m2	21.53		25.64	47.17
	Remove exist. coating at each Tee location (150 wide vert. strip)			7,837	0	9,333	17,170
		1040.00	ea	10	60		70
	Patch Plate Thin areas in shell (20 plates/Tee)			10,400	62,400	0	72,800
		10.00	md		240		240
	Unload, shake-out steel Pl. & Tees - 2 per @ 30/hr x 8hr/day)			0	2,400	0	2,400
		10.00	md		240		240
	Water Wash Pl. & Tees into tank, Remove chlorides - 2 per @ 30/hr x 8hr/day)			0	2,400	0	2,400
		40.00	md		240		240
	Transport steel pl. & tees thru tunnel into tank - 4 per @ 30/hr x 8hr/day)			0	9,600	0	9,600
		40.00	md		240		240
	Lower steel pl & tees into tank - 4 per @ 30/hr x 8hr/day)			0	9,600	0	9,600
		23045.00	kg	1.1			1.1
	WT 100 Tees at 1829 o.c.			25,350	0	0	25,350
		4800.00	m		20		20
	Weld tees to barrel			0	96,000	0	96,000
		10.00	md		240		240
	AWS CWI inspect Tee/Barrel Welds			0	2,400	0	2,400
		222576.00	kg	1.1			1.1
	Steel Pl. - 6.34x1829 wide			244,834	0	0	244,834
		8904.00	m		20		20
	Weld Plates			0	178,080	0	178,080
		450.00	m3	92	130		222
	Grout			41,400	58,500	0	99,900
		8904.00	m		3.28		3.28
	Vacuum Box Test Weld - 2 per @ 30/hr x hr/60 ft x ft/.304m)			0	29,205	0	29,205
	Subtotal Direct Costs			329,820	450,585	9,333	789,738
	Distributions			2,048	194,770	4,662	201,481
	Prime Contractor P Markups			119,579	1,013,901	4,948	1,138,428
	TOTAL 121110001 Composite Tank - Barrel	**1.00**	**LF**	**451,447**	**1,659,257**	**18,943**	**2,129,648**
	SUBTOTAL 121110 Composite Tank - Barrel			329,820	450,585	9,333	789,738
	MARKUP			*1.369*	*3.682*	*2.030*	*2.697*
	TOTAL 121110 Composite Tank - Barrel			**451,447**	**1,659,257**	**18,943**	**2,129,648**

WBS CODE	DESCRIPTION	QTY	UM	MATERIAL	LABOR	EQUIPMENT	TOTAL
121110							
	121110001 Composite Tank - Barrel						
SUBTOTAL 1211 REPAIR				329,820	450,585	9,333	789,738
MARKUP				*1.369*	*3.682*	*2.030*	*2.697*
TOTAL 1211 REPAIR				**451,447**	**1,659,257**	**18,943**	**2,129,648**

WBS CODE	DESCRIPTION	QTY	UM	MATERIAL	LABOR	EQUIPMENT	TOTAL
13							
1311							
131110							
	131110001 Composite Tank - Lower Dome						
		186.00	m2			25.64	25.64
	Remove exist. coating at each Tee (150 wide vert. strip)			0	0	4,769	4,769
		520.00	ea	10	60		70
	Patch plate repair thin areas in Dome @ Tee (10 plates/Tee)			5,200	31,200	0	36,400
		10.00	md		240		240
	Unload, shake-out steel Pl. & Tees - 2 per @ 30/hr x 8hr day)			0	2,400	0	2,400
		4.00	md		240		240
	Water Wash Pl. & Tees into tank, Remove chlorides - 2 per @ 30/hr x 8hr day)			0	960	0	960
		20.00	md		240		240
	Transport steel pl. & tees thru tunnel into tank - 4 per @ 30/hr x 8hr day)			0	4,800	0	4,800
		40.00	md		240		240
	Lower steel pl & tees into tank - 4 per @ 30/hr x 8hr day)			0	9,600	0	9,600
		12067.00	kg	1.1			1.1
	WT 100 Tees at 1829 o.c.			13,274	0	0	13,274
		2488.00	m		20		20
	Weld tees to dome			0	49,760	0	49,760
		5.00	day		240		240
	AWS CWI inspect Tee/Dome Welds			0	1,200	0	1,200
		73577.00	kg	1.1			1.1
	Steel Pl. - 6.34x18.29 wide			80,935	0	0	80,935
		1318.00	m		20		20
	Weld Plates			0	26,360	0	26,360
		148.00	m3	92	130		222
	Grout			13,616	19,240	0	32,856
		1318.00	m		3.28		3.28
	Vacuum Box Test Weld - 2 per @ 30/hr x hr/60 ft x .304 ft/m)			0	4,323	0	4,323
		0.25	m3		325		325
	Sump - Saw cut floor - 3'x3'x1', remove concrete			0	81	0	81
		1.00	ls	350	480	50	880
	Sump - 600DN dia pipe cap, grout in place			350	480	50	880
	Subtotal Direct Costs			113,374	150,404	4,819	268,598
	Distributions			704	65,014	2,407	68,125
	Prime Contractor P Markups			41,105	338,438	2,555	382,098
	TOTAL 131110001 Composite Tank - Lower Dome	**1.00**	**LF**	**155,183**	**553,856**	**9,781**	**718,821**

WBS CODE	DESCRIPTION	QTY	UM	MATERIAL	LABOR	EQUIPMENT	TOTAL
131110							
	131110001 Composite Tank - Lower Dome						
SUBTOTAL 131110 Composite Tank - Lower Dome				113,374	150,404	4,819	268,598
MARKUP				*1.369*	*3.682*	*2.030*	*2.676*
TOTAL 131110 Composite Tank - Lower Dome				**155,183**	**553,856**	**9,781**	**718,821**
SUBTOTAL 1311 REPAIR				113,374	150,404	4,819	268,598
MARKUP				*1.369*	*3.682*	*2.030*	*2.676*
TOTAL 1311 REPAIR				**155,183**	**553,856**	**9,781**	**718,821**

WBS CODE	DESCRIPTION	QTY	UM	MATERIAL	LABOR	EQUIPMENT	TOTAL
14							
1411							
141110							
	141110001 New Tell-tale System - Piping to Sump	785.00	m	17	27	3	47
	Pipe, DN 40, Sched 80, including fittings			13,345	21,195	2,355	36,895
		26.00	m	21	34	4	59
	Pipe, DN 50, Sched 80, including fittings			546	884	104	1,534
		17.00	m	107	102	7	216
	Pipe, DN 150, Sched 80, including fittings			1,819	1,734	119	3,672
		10.00	m	660	450	31	1141
	Pipe, DN 450, Std wt, including fittings			6,600	4,500	310	11,410
		13.00	ea	150	55	6	211
	Valve, DN 40, Gate			1,950	715	78	2,743
		1.00	ea	190	70	8	268
	Valve, DN 50, Gate			190	70	8	268
	Subcontractor: S	30.00	md		240		240
	NDE welds			0	7,200	0	7,200
	Subcontractor: S	8.00	md		240		240
	Hydrotest telltale			0	1,920	0	1,920
	Subtotal Direct Costs			24,450	38,218	2,974	65,642
	Subcontractor Markups			0	1,833	0	1,833
	Distributions			152	17,312	1,486	18,950
	Prime Contractor P Markups			8,865	90,122	1,577	100,563
	TOTAL 141110001 New Tell-tale System - Piping to Sump	**1.00**	**LS**	**33,466**	**147,486**	**6,036**	**186,988**
	141110002 New Tell-tale System - Piping to Sump - Structural	1.00	ls	500	400		900
	Grout			500	400	0	900
	Subcontractor: S	17.00	m	125	250	40	415
	Drill concrete, 254 mm dia.			2,125	4,250	680	7,055
	Subcontractor: S	10.00	m	570	1600	260	2430
	Drill concrete, 610 mm dia			5,700	16,000	2,600	24,300
	Subtotal Direct Costs			8,325	20,650	3,280	32,255
	Subcontractor Markups			1,573	4,070	659	6,302
	Distributions			61	10,685	1,968	12,715
	Prime Contractor P Markups			3,588	55,624	2,088	61,301
	TOTAL 141110002 New Tell-tale System - Piping to Sump - Structural	**1.00**	**LS**	**13,548**	**91,030**	**7,996**	**112,573**
	SUBTOTAL 141110 New Tell-tale System			32,775	58,868	6,254	97,897
	MARKUP			*1.434*	*4.052*	*2.244*	*3.060*
	TOTAL 141110 New Tell-tale System			**47,014**	**238,515**	**14,032**	**299,561**

WBS CODE	DESCRIPTION	QTY	UM	MATERIAL	LABOR	EQUIPMENT	TOTAL
141110							
	141110002 New Tell-tale System - Piping to Sump - Structural						
SUBTOTAL 1411 REPAIR				32,775	58,868	6,254	97,897
MARKUP				*1.434*	*4.052*	*2.244*	*3.060*
TOTAL 1411 REPAIR				**47,014**	**238,515**	**14,032**	**299,561**

WBS CODE	DESCRIPTION	QTY	UM	MATERIAL	LABOR	EQUIPMENT	TOTAL
15							
1510							
151010							
	151010001 Upper Dome Repairs						
	Subcontractor: S	5.00	days			2821	2821
	UTscan 10% Dome			0	0	14,105	14,105
		250.00	ea	10	60		70
	Patch plate thin spots/holes			2,500	15,000	0	17,500
	Subcontractor: S	75.00	m2	51.45	43		94.45
	Spot coating repair (5% dome surface area)			3,859	3,225	0	7,084
	Subtotal Direct Costs			6,359	18,225	14,105	38,689
	Subcontractor Markups			776	648	2,835	4,259
	Distributions			44	8,158	8,463	16,665
	Prime Contractor P Markups			2,587	42,468	8,981	54,036
	TOTAL 151010001 Upper Dome Repairs	**1.00**	**LF**	**9,765**	**69,499**	**34,383**	**113,648**
	SUBTOTAL 151010 Upper Dome Repairs			6,359	18,225	14,105	38,689
	MARKUP			*1.536*	*3.813*	*2.438*	*2.937*
	TOTAL 151010 Upper Dome Repairs			**9,765**	**69,499**	**34,383**	**113,648**
	SUBTOTAL 1510 MAINTENANCE			6,359	18,225	14,105	38,689
	MARKUP			*1.536*	*3.813*	*2.438*	*2.937*
	TOTAL 1510 MAINTENANCE			**9,765**	**69,499**	**34,383**	**113,648**

WBS CODE	DESCRIPTION	QTY	UM	MATERIAL	LABOR	EQUIPMENT	TOTAL
16							
1610							
161010							
	161010001 Existing Tank Inspection						
		5.00	day			2821	2821
	UT scan barrel at each Tee (52 Tees) (subcontractor quote)			0	0	14,105	14,105
		2.00	day			2821	2821
	UT scan lower dome at each Tee (52 Tees)			0	0	5,642	5,642
	Subtotal Direct Costs			0	0	19,747	19,747
	Distributions			0	0	9,865	9,865
	Prime Contractor P Markups			0	0	10,469	10,469
	TOTAL 161010001 Existing Tank Inspection	**1.00**	**LF**	**0**	**0**	**40,081**	**40,081**
	SUBTOTAL 161010 Existing Tank Inspection			0	0	19,747	19,747
	MARKUP					*2.030*	*2.030*
	TOTAL 161010 Existing Tank Inspection			**0**	**0**	**40,081**	**40,081**
	SUBTOTAL 1610 MAINTENANCE			0	0	19,747	19,747
	MARKUP					*2.030*	*2.030*
	TOTAL 1610 MAINTENANCE			**0**	**0**	**40,081**	**40,081**

WBS CODE	DESCRIPTION	QTY	UM	MATERIAL	LABOR	EQUIPMENT	TOTAL
17							
1710							
171010							
	<u>171010001 Lower Dome Coating</u>						
		1460.00	m2	21.23		23.29	44.52
	Prep Dome for coating (quote)			30,996	0	34,003	64,999
		1460.00	m2	31.57		15.07	46.64
	NRLcoating (quote)			46,092	0	22,002	68,094
	Subtotal Direct Costs			77,088	0	56,006	133,094
	Distributions			479	0	27,978	28,457
	Prime Contractor P Markups			27,949	0	29,693	57,642
	TOTAL 171010001 Lower Dome Coating			**105,516**	**0**	**113,677**	**219,192**
	1.00 LF						
	SUBTOTAL 171010 Lower Dome Coating			77,088	0	56,006	133,094
	MARKUP			*1.369*		*2.030*	*1.647*
	TOTAL 171010 Lower Dome Coating			**105,516**	**0**	**113,677**	**219,192**
	SUBTOTAL 1710 MAINTENANCE			77,088	0	56,006	133,094
	MARKUP			*1.369*		*2.030*	*1.647*
	TOTAL 1710 MAINTENANCE			**105,516**	**0**	**113,677**	**219,192**

WBS CODE	DESCRIPTION	QTY	UM	MATERIAL	LABOR	EQUIPMENT	TOTAL
18							
1810							
181010							
181010001 Tank Piping - Lining							
	Subcontractor: S	17.00	m	2300	1050	440	3790
	Tank Piping - Fuel, Pipe Lining - DN 800			39,100	17,850	7,480	64,430
	Subcontractor: S	17.00	m	583	262	110	955
	Tank Piping - Fuel, Pipe Lining - DN 400			9,911	4,454	1,870	16,235
	Subcontractor: S	17.00	m	146	66	28	240
	Tank Piping - Fuel, Pipe Lining - DN 200			2,482	1,122	476	4,080
	Subcontractor: S	1.00	ls	2000	2400		4400
	Tank Piping - Hydrotest			2,000	2,400	0	4,400
	Subtotal Direct Costs			53,493	25,826	9,826	89,145
	Subcontractor Markups			10,751	5,191	1,975	17,916
	Distributions			399	13,407	5,895	19,701
	Prime Contractor P Markups			23,292	69,793	6,257	99,342
	TOTAL 181010001 Tank Piping - Lining	**1.00**	**LF**	**87,935**	**114,217**	**23,953**	**226,105**
	SUBTOTAL 181010 Tank Piping - Lining			53,493	25,826	9,826	89,145
	MARKUP			*1.644*	*4.423*	*2.438*	*2.536*
	TOTAL 181010 Tank Piping - Lining			**87,935**	**114,217**	**23,953**	**226,105**
	SUBTOTAL 1810 MAINTENANCE			53,493	25,826	9,826	89,145
	MARKUP			*1.644*	*4.423*	*2.438*	*2.536*
	TOTAL 1810 MAINTENANCE			**87,935**	**114,217**	**23,953**	**226,105**

COMPOSITE TANK
COST ESTIMATE - ADDITIVE BID ITEMS

SYSTEM REPORT
SUBMITTAL: FACD
SOFTWARE VERSION: SUCCESS 2.21
REPORT WRITER VERSION: R&R 6.0

CONSTRUCTION CONTRACT: PRL 98-9
DATABASE USED: EEI
PRINTING DATE: 05/27/1998
Page No. 1
ESTIMATE NAMERHT19-CT

PROJECT: Red Hill Tank 19 - Comp. Tank Additive Bid Items
LOCATION: FISC Pearl Harbor, HI
ESTIMATOR: EEI
PROJECT SIZE: 1 LS
CONSTRUCTION FUNDS AVAILABLE:

CAT CODE: N/A
UIC:
PROJECT #: 'PRL 98-9
DATE OF ESTIMATE: 5/26/98
BID DATE: 4/99

WBS CODE	DESCRIPTION	COST/WBS BASED ON 1 LS	SYSTEM UNITS/ U/M	COST/WBS UNIT	TOTAL MARKED UP COSTS MATL	LABOR	EQUIP	TOTAL
	TOTAL ESTIMATED CONTRACT (ROUNDED)							**1,306,000**
			*****PROJECT SUBTOTALS****		402,811	560,490	342,567	1,305,868
	Additive Bid Items	**1305867.63/LS**	**1 LS**		**402,811**	**560,490**	**342,567**	**1,305,868**
35	**-Cathodic Protection**	**550955.13/LS**	**1 LS**		**77,020**	**473,925**	**11**	**550,955**
3510	MAINTENANCE	550955.13/LS	1 LS		77,020	473,925	11	550,955
40	**-Under Tank Leak Detection**	**85311.61/LS**	**1 LS**		**0**	**0**	**85,312**	**85,312**
4010	MINOR CONSTRUCTION	85311.61/LS	1 LS		0	0	85,312	85,312
45	**-New Tell-tale System - Piping T**	**111089.06/LS**	**1 LS**		**20,861**	**86,565**	**3,663**	**111,089**
4510	REPAIR	111089.06/LS	1 LS		20,861	86,565	3,663	111,089
50	**-Composite Tank - Coat Barrel**	**558511.83/LS**	**1 LS**		**304,930**	**0**	**253,582**	**558,512**
5010	MAINTENANCE	558511.83/LS	1 LS		304,930	0	253,582	558,512

SUMMARY REPORT
SUBMITTAL: FACD
SOFTWARE VERSION: SUCCESS 2.21
REPORT WRITER VERSION: R&R 6.0

CONSTRUCTION CONTRACT: PRL 98-9
DATABASE USED: EEI
PRINTING DATE: 05/27/1998
Page No. 1
ESTIMATE NAMERHT19-CT

PROJECT: Red Hill Tank 19 - Comp. Tank Additive Bid Items
LOCATION:FISC Pearl Harbor, HI
ESTIMATOR:EEI
PROJECT SIZE: 1 LS
CONSTRUCTION FUNDS AVAILABLE:

CAT CODE: N/A
UIC:
PROJECT #: 'PRL 98-9
DATE OF ESTIMATE: 5/26/98
BID DATE: 4/99

WBS CODE	DESCRIPTION	COST/WBS BASED ON 1 LS	SYSTEM UNITS/ U/M	COST/WBS UNIT	TOTAL MARKED UP COSTS MATL	LABOR	EQUIP	TOTAL
	TOTAL ESTIMATED CONTRACT (ROUNDED)							**1,306,000**
			*****PROJECT SUBTOTALS****		402,811	560,490	342,567	1,305,868
	Additive Bid Items	**1305867.63/LS**	**1 LS**		**402,811**	**560,490**	**342,567**	**1,305,868**
35	---Cathodic Protection	550955.13/LS	1 LS		77,020	473,925	11	550,955
40	---Under Tank Leak Detection	85311.61/LS	1 LS		0	0	85,312	85,312
45	---New Tell-tale System - Pipi	111089.06/LS	1 LS		20,861	86,565	3,663	111,089
50	---Composite Tank - Coat Barre	558511.83/LS	1 LS		304,930	0	253,582	558,512

CONTRACTOR MARKUP REPORT
SUBMITTAL: FACD
SOFTWARE VERSION: SUCCESS 2.1
REPORT WRITER VERSION: R&R 6.0

CONSTRUCTION CONTRACT: PRL 98-9
DATABASE USED :EEI
PRINTING DATE :05/27/98

ESTIMATE NAME : RHT19-CT Add

PROJECT: Red Hill Tank 19 - Comp. Tank Additive Bid Items
LOCATION: FISC Pearl Harbor, HI
ESTIMATOR: EEI
PROJECT SIZE: 1.00LS
AUTHORIZED CONSTRUCTION FUNDS:

CAT CODE:N/A
UIC:
PROJECT #:
DATE OF ESTIMATE 5/26/98
BID DATE: 4/99

CONTRACTOR	DESCRIPTION	MATERIAL	LABOR	EQUIPMENT
P	**Prime Contractor**			
	WORKER'S COMPENSATION/UNEMPL/SOC. SEC TAXES	0.00	32.00	0.00
	HAWAII COST ADJUSTMENT	0.00	31.00	0.00
	PRIME OVERHEAD	10.00	10.00	10.00
	PRIME PROFIT	6.00	6.00	6.00
	PRIME HOME OFFICE	3.00	3.00	3.00
	BOND	1.00	1.00	1.00
	ESCALATION	1.02	1.02	1.02
	ESTIMATING CONTINGENCY	5.00	5.00	5.00
	HI GET	4.17	4.17	4.17
	SALES TAX	0.50	0.00	0.50
	COMPOSITE MARKUPS FOR P			
	MATERIAL COMPOSITE MARKUP	**1.347**		
	LABOR COMPOSITE MARKUP	**2.318**		
	EQUIPMENT COMPOSITE MARKUP	**1.347**		
S	**Subcontractors**			
	SUBCONTRACTOR OVERHEAD	10.00	10.00	10.00
	SUBCONTRACTOR PROFIT	6.00	6.00	6.00
	SUBCONTRACTOR HOME OFFICE	3.00	3.00	3.00
	COMPOSITE MARKUPS FOR S			
	MATERIAL COMPOSITE MARKUP	**1.201**		
	LABOR COMPOSITE MARKUP	**1.201**		
	EQUIPMENT COMPOSITE MARKUP	**1.201**		

PROJECT: Red Hill Tank 19 - Comp. Tank Additive B
LOCATION: FISC Pearl Harbor, HI
ESTIMATOR: EEI
PROJECT SIZE: 1 LS
AUTHORIZED CONSTRUCTION FUNDS:

CAT CODE: N/A
UIC:
PROJECT #: 'PRL 98-9
DATE OF ESTIMATE: 5/26/98
BID DATE: 4/99

DETAIL REPORT
UNBURDENED LINE ITEMS
FACD
SOFTWARE VERSION: SUCCESS 3.0
REPORT WRITER VERSION: R&R 6.0

CONSTRUCTION CONTRACTPRL 98-9

DATABASE USED: EEI
PRINTING DATE:05/27/1998

WBS CODE	DESCRIPTION	QTY	UM	MATERIAL	LABOR	EQUIPMENT	TOTAL
35							
3510							
351010							
	351010001 Cathodic Protection						
		48.00	ea	150	8		158
	Anodes (MMO 19.1 mm x 1219 mm)			7,200	384	0	7,584
		48.00	ea	28	8		36
	Anode Ventralizer Assembly			1,344	384	0	1,728
		869.00	m	1.27			1.27
	Anode Lead Wire, No 4 AWG, HMWPE			1,104	0	0	1,104
	Subcontractor: S	580.00	m		255		255
	Anode Hole Drilling & Backfilling Complete			0	147,900	0	147,900
	Subcontractor: S	13581.00	kg	1.5			1.5
	Coke Backfill			20,372	0	0	20,372
	Subcontractor: S	6.67	m3	140		1	141
	Cement Grout			934	0	7	940
		580.00	m	3.56			3.56
	Anode Vent Pipe			2,065	0	0	2,065
		4.00	ea	280	295		575
	Custom Anode Junction Box (NEMA 4X)			1,120	1,180	0	2,300
		1.00	ea	3100	1500		4600
	Oil-Cooled Rectifier, 50 Volt, 200 DC Amp			3,100	1,500	0	4,600
		322.00	liters	1.58	7		8.58
	Rectifier Oil			509	2,254	0	2,763
	Subcontractor: S	1.00	ea	760	1100		1860
	240 Volt, 20 Amp AC power for rectifier			760	1,100	0	1,860
	Subcontractor: S	1.00	ea	220	120		340
	AC Disconnect Switch, Fused 3P-40 Amp			220	120	0	340
		3.00	ea	32	110		142
	Rectifier Pipe Bollards complete			96	330	0	426
	Subcontractor: S	60.00	m		32		32
	Micro Directional Drill for 5 Ref Electrodes			0	1,920	0	1,920
		10.00	ea	245			245
	Reference Electrodes (2 per hole)			2,450	0	0	2,450
		4.00	ea	190	32		222
	Concrete Electrical Pull Box			760	128	0	888
		0.72	m3	155	616		771
	Concrete Pads (inc rebar & forms)			112	444	0	555

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WBS CODE DESCRIPTION	QTY	UM	MATERIAL	LABOR	EQUIPMENT	TOTAL
351010						
351010001 Cathodic Protection						
	50.00	m	5.04	7		12.04
Cathode Header Cable, # 2/0 AWG HMP/PE			252	350	0	602
	320.00	m	5.04	2.12		7.16
Anode Header Cable, #2/0 AWG HMP/PE			1,613	678	0	2,291
	320.00	m	5	2.12		7.12
50 mm PVC conduit (anode cables)			1,600	678	0	2,278
Subcontractor: S	150.00	m		5.5		5.5
Trenching (Min. 0.1 m wide x 0.68 m deep)			0	825	0	825
Subcontractor: S	150.00	m		5.5		5.5
Trench Backfilling & Compaction			0	825	0	825
Subcontractor: S	2.40	m3	120			120
Bedding Sand (Min. 0.1 m wide x 0.16 m deep)			288	0	0	288
	256.00	hrs		20		20
Cathodic Protection construction foreman			0	5,120	0	5,120
	256.00	hrs	26.35	30		56.35
QC Specialist, Corrosion Engineer			6,746	7,680	0	14,426
Subtotal Direct Costs			52,642	173,800	7	226,449
Subcontractor Markups			4,537	30,688	1	35,226
Prime Contractor P Markups			19,840	269,437	3	289,280
TOTAL 351010001 Cathodic Protection	**1.00**	**LS**	**77,020**	**473,925**	**11**	**550,955**
SUBTOTAL 351010 Cathodic Protection			52,642	173,800	7	226,449
MARKUP			*1.463*	*2.727*	*1.610*	*2.433*
TOTAL 351010 Cathodic Protection			**77,020**	**473,925**	**11**	**550,955**
SUBTOTAL 3510 MAINTENANCE			52,642	173,800	7	226,449
MARKUP			*1.463*	*2.727*	*1.610*	*2.433*
TOTAL 3510 MAINTENANCE			**77,020**	**473,925**	**11**	**550,955**

WBS CODE	DESCRIPTION	QTY	UM	MATERIAL	LABOR	EQUIPMENT	TOTAL
40							
4010							
401010							
	401010001 Under Tank Leak Detection						
	Subcontractor: S	10.00	day			3500	3500
	Drill Rig (10) 38 to 50 DN Directional Boring x 46 long ea			0	0	35,000	35,000
	Subcontractor: S	1.00	ls			18000	18000
	Mob/Demob			0	0	18,000	18,000
	Subtotal Direct Costs			0	0	53,000	53,000
	Subcontractor Markups			0	0	10,652	10,652
	Prime Contractor P Markups			0	0	21,660	21,660
	TOTAL 401010001 Under Tank Leak Detection 1.00 LS			**0**	**0**	**85,312**	**85,312**
	SUBTOTAL 401010 Under Tank Leak Detection			0	0	53,000	53,000
	MARKUP					*1.610*	*1.610*
	TOTAL 401010 Under Tank Leak Detection			**0**	**0**	**85,312**	**85,312**
	SUBTOTAL 4010 MINOR CONSTRUCTION			0	0	53,000	53,000
	MARKUP					*1.610*	*1.610*
	TOTAL 4010 MINOR CONSTRUCTION			**0**	**0**	**85,312**	**85,312**

WBS CODE	DESCRIPTION	QTY	UM	MATERIAL	LABOR	EQUIPMENT	TOTAL
45							
4510							
	451010 New Tell-tale System - Piping to top of tank	911.00	m	17	41	3	61
Pipe, DN 40, Sched 80				15,487	37,351	2,733	55,571
	Subtotal Direct Costs			15,487	37,351	2,733	55,571
	Prime Contractor P Markups			5,374	49,214	930	55,518
	TOTAL 451010 New Tell-tale System - Piping to top of tank	**1.00**	**LS**	**20,861**	**86,565**	**3,663**	**111,089**
SUBTOTAL 4510 REPAIR				15,487	37,351	2,733	55,571
MARKUP				*1.347*	*2.318*	*1.340*	*1.999*
TOTAL 4510 REPAIR				**20,861**	**86,565**	**3,663**	**111,089**
SUBTOTAL 45 New Tell-tale System - Piping To Top Of Tank				15,487	37,351	2,733	55,571
MARKUP				*1.347*	*2.318*	*1.340*	*1.999*
TOTAL 45 New Tell-tale System - Piping To Top Of T				**20,861**	**86,565**	**3,663**	**111,089**

WBS CODE	DESCRIPTION	QTY	UM	MATERIAL	LABOR	EQUIPMENT	TOTAL
50							
5010							
501010							
	501010001 Composite Tank - Coat Barrel						
		4400.00	m2	21		25.7	46.7
Prep barrel for coating (quote)				92,400	0	113,080	205,480
		4400.00	m2	30.45		17.3	47.75
NRL coatinq (quote)				133,980	0	76,120	210,100
Subtotal Direct Costs				226,380	0	189,200	415,580
Prime Contractor P Markups				78,550	0	64,382	142,932
TOTAL 501010001 Composite Tank - Coat Barrel	**1.00 LS**			**304,930**	**0**	**253,582**	**558,512**
SUBTOTAL 501010 Composite Tank - Coat Barrel				226,380	0	189,200	415,580
MARKUP				*1.347*		*1.340*	*1.344*
TOTAL 501010 Composite Tank - Coat Barrel				**304,930**	**0**	**253,582**	**558,512**
SUBTOTAL 5010 MAINTENANCE				226,380	0	189,200	415,580
MARKUP				*1.347*		*1.340*	*1.344*
TOTAL 5010 MAINTENANCE				**304,930**	**0**	**253,582**	**558,512**